



Maryland Development Company Pty Ltd
Detailed Site Investigation

Basin C and V6
St Mary's Development Site, NSW

20 November 2019

57591/125423 (Rev 0)

JBS&G

www.jbsg.com.au

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Abbreviations

| Term | Definition |
|---------|--------------------------------------------------------------------|
| ACM | Asbestos Containing Material |
| AF/FA | Asbestos Fines / Fibrous Asbestos |
| Bgs | Below Ground Surface |
| BTEX | Benzene, toluene, ethylbenzene and xylenes |
| B(a)P | Benzo(a)pyrene |
| DECCW | NSW Department of Environment, Climate Change and Water |
| DP | Deposited Plan |
| DQIs | Data Quality Indicators |
| DQOs | Data Quality Objectives |
| EIL/ESL | Ecological Investigation/Screening Levels |
| EPA | NSW Environmental Protection Authority |
| ESA | Environmental Site Assessment |
| HIL/HSL | Health Investigation/Screening Levels |
| LEP | Local Environmental Plan |
| LOR | Limit of Reporting |
| OCPs | Organochlorine pesticide |
| OEH | NSW Office of Environment and Heritage (includes EPA) |
| NOW | NSW Office of Water (formerly Department of Water and Energy, DWE) |
| PAHs | Polycyclic aromatic hydrocarbons |
| PCBs | Polychlorinated biphenyls |
| PID | Photo-ionisation Detector |
| QA/QC | Quality Assurance/Quality Control |
| RPD | Relative Percentage Difference |
| SEPP | State Environmental Planning Policy |
| TRH | Total Recoverable Hydrocarbons |
| TCLP | Toxicity characteristic leaching procedure |
| VOCs | Volatile organic compounds |

Executive Summary

JBS&G Australia Pty Ltd (JBS&G) was engaged by Maryland Development Company Pty Ltd (the client) to prepare a Detailed Site Investigation (DSI) for proposed Regional Detention Basin C and Basin V6 footprints.

The proposal involves the construction of two detention basins (Basins C and V6, the basins) to detain, treat and attenuate stormwater runoff from Village 3 and Village 6 of the Jordan Springs development (the development site). The basins are located within the north-western extent of the St Marys Development Site and within the Wianamatta Regional Park. Basins C and V6 will be constructed wetlands and act as water quality improvement basins with the provision for active stormwater detention during high flows.

Basin C will have a surface area of approximately 1.8 hectares and a notional depth of 1.7m. Whereas Basin V6 will be approximately 0.3 hectares and a notional depth of 1.6m

Each basin is designed to contribute to the water quantity and quality management objectives under the *Sydney Regional Environmental Plan No. 30 – St Marys* (SREP 30) and Penrith City Council's (Council) Water Sensitive Urban Design Policy (December 2013). The basins will incorporate the features for both water quality treatment and detention including a drainage inlet point, low level culvert outlet, spillway with erosion protection and vegetated slopes to provide effective nutrient removal. An access track along the side of each basin with access ramps will be constructed for regular inspection and maintenance access.

The location of the proposed Basins C and V6 footprints and the lot boundaries they fall in (Lot 4 DP1216994 and Lot 5 DP1216994 respectively) is shown on **Figure 1**.

The overall development site was subject to various environmental investigation and remediation works throughout the 1990s. Assessments ultimately lead to the property, including the subject site, being signed off (Site Audit Statement (SAS) CHK1001/1, 1999) as suitable for residential land use including substantial vegetable gardens and poultry. The SAS is included in **Appendix A**, noting that the various exclusions from the SAS, including building footprints, carparks, paved roads and stockpiles, were not located within the basins area.

It is understood that in order for the proposed basins development to proceed, an updated assessment of contamination, characterisation of soil, surface water and groundwater, and waste management is required to address Secretary's Environmental Assessment Requirements (SEARs). The updated contamination assessment will also inform the management of materials during construction of the basins.

JBS&G conducted a detailed investigation works at the basins between 4th November and 11th November 2019, including site inspection, soil sampling, surface water sampling and groundwater sampling.

Based on the site inspection, the site was described as heavily vegetated with trees, shrubs and grasses. An unsealed access track with inclusions of concrete and asphalt was observed running in an east to west direction through both basins. Concrete culverts were observed underlying the access track at a number of locations. A tributary of South Creek was observed as traversing the south/eastern portion of Basin C. Fragments of non-friable ACM were observed on the surface along the western portion of the access road in Basin C near GWM-03, as shown on **Figure 3**. No odours or staining were observed throughout the basins.

Soils across the basin were generally identified as natural soils comprising brown to grey dry silts or clays, of low plasticity with inclusions of sticks, leaves and roots at the surface underlain by clay subsoils and shales.

Fill materials were observed limited to the access road that transects both basins and was identified to include fragments of concrete, asphalt and brick. Non-friable ACM was identified in the western portion of the fill/access track as mentioned.

Soil analytical results generally identified potential contaminants of concern as within the human health and ecological criteria adopted, with the exception of one location where elevated Benzo(a)pyrene (B(a)P), B(a)P TEQ and TRH C₁₆-C₃₄ exceeded ecological and human health criteria.

A surface water assessment was conducted within the tributary which runs through the south/eastern portion of Basin C. Surface water was described as clear with slight organic floating debris. Field parameters and laboratory analysis did not identify gross contamination within surface waters and results were considered consistent with slightly disturbed systems within urban environments.

The groundwater assessment did not identify significant impacts and groundwater is anticipated to be encountered at a depth of approximately 2.5 m bgs, and below the deepest parts of the proposed basin development. It was also noted groundwater is likely to be unusable as a resource due to its saline nature.

Based on the findings of this assessment and subject to the limitations in **Section 13**, the following conclusions are made:

- Generally, no unacceptable risk to human health or the environment from potential contaminants of concern (heavy metals, TRH/BTEX, OCPs/PCBs and PFAS) was identified within the proposed basins, with the exception of the two limited locations:
 - Concentrations of B(a)P and TRH at location BC04 0-0.1 m was identified to represent a potential ecological risk;
 - Concentrations of B(a)P TEQ, also at BC04 0-0.1 m was identified to represent a potential health risk; and
 - Non friable ACM fragments identified in the western portion of the access track in Basin C was identified to present a potential health risk and an aesthetic issue;
- Surface water and groundwater were not identified to present a potential risk to the basins.

Based on the conclusions identified, it is recommended that the following actions are undertaken:

- An RAP is prepared to remediate and validate B(a)P/TRH and asbestos impacts identified at the site; and
- An unexpected finds protocol be included in the RAP (and associated waste management plan) for implementation during development works.

1. Introduction and Background

1.1 Background

JBS&G Australia Pty Ltd (JBS&G) was engaged by Maryland Development Company Pty Ltd (the client) to prepare a Detailed Site Investigation (DSI) for proposed Regional Detention Basin C and Basin V6 footprints.

The proposal involves the construction of two detention basins (Basins C and V6, the basins) to detain, treat and attenuate stormwater runoff from Village 3 and Village 6 of the Jordan Springs development (the development site). The basins are located within the north-western extent of the St Marys Development Site and within the Wianamatta Regional Park. Basins C and V6 will be constructed wetlands and act as water quality improvement basins with the provision for active stormwater detention during high flows.

Basin C will have a surface area of approximately 1.8 hectares and a notional depth of 1.7m. Whereas Basin V6 will be approximately 0.3 hectares and a notional depth of 1.6m.

Each basin is designed to contribute to the water quantity and quality management objectives under the *Sydney Regional Environmental Plan No. 30 – St Marys* (SREP 30) and Penrith City Council's (Council) Water Sensitive Urban Design Policy (December 2013). The basins will incorporate the features for both water quality treatment and detention including a drainage inlet point, low level culvert outlet, spillway with erosion protection and vegetated slopes to provide effective nutrient removal. An access track along the side of each basin with access ramps will be constructed for regular inspection and maintenance access.

The locations of the proposed Basins C and V6 footprints (the site) and the proposed lot boundaries they fall within (Lot 4 DP1216994 and Lot 5 DP1216994 respectively) are shown on **Figure 1**.

The overall development site was subject to various environmental investigation and remediation works throughout the 1990s. Assessments ultimately lead to the property, including the subject site, being signed off (Site Audit Statement (SAS) CHK1001/1, 1999) as suitable for residential land use including substantial vegetable gardens and poultry. The SAS is included in **Appendix A**, noting that the various exclusions from the SAS, including building footprints, carparks, paved roads and stockpiles, were not located within the basins area. The associated Stage 2 Decontamination Audit report for the St Marys ADI site (HLA 1999¹) has been used as background information for the current assessment.

It is understood that in order for the proposed basins development to proceed, an updated assessment of contamination, characterisation of soil, surface water and groundwater, and waste management is required to address Secretary's Environmental Assessment Requirements (SEARs). The updated contamination assessment will also inform the management of materials during construction of the basins.

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

1.2 Objectives

The objective of the investigation is to characterise potential contamination at the site to address the SEARs, and to draw conclusions regarding the suitability of the site for the proposed use or make recommendations to enable such conclusions.

¹ *Stage 2 Decontamination Audit of ADI St Marys Munitions Factory FINAL REPORT*. HLA-Envirosciences Pty Ltd, 7 June 1999 (HLA 1999)

It was a further objective to collect sufficient data to enable the preparation of a waste management plan (WMP) relating to management of excess material generated during the basin construction works which will be prepared as a separate report.

1.3 Scope of Work

The agreed scope of works include:

- Review of historical reports, records and other available sources of the former ADI property to obtain information on potential areas of concern (AECs);
- Online search of sites listed on CLM and POEO databases;
- Site inspection;
- Soil investigation;
- Surface water investigation;
- Groundwater investigation; and
- Data assessment and preparation of this DSI report.

2. Site Condition and Surrounding Environment

2.1 Site Identification

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

Table 2.1 Summary Site Details

| | |
|----------------------------------------|---------------------------------------------------------------------------|
| Lot Number | Lot 4 DP1216994 and Lot 5 DP1216994 |
| Street Address | Off Delany Circuit and Agnes Way, Jordan Springs, NSW. |
| Site Area | Basin C overall footprint – 1.8 ha, and Basin V6 overall footprint 0.3 ha |
| Local Government Authority | Penrith City Council |
| Geographic Coordinates (MGA 56) | 290288.125 E 6266927.578 N |
| Current Land-use | Vacant – grassed and woodland areas |
| Proposed Land-use | Drainage |

2.2 Site Description

On the 4th and 5th of November 2019 JBS&G conducted an inspection of the basins and the area of the lot boundaries they fall within. Based on the inspection, a description of each lot is provided below, and the general site layout is provided in **Figure 2**. Photographs referred to herein are provided in **Appendix B**.

Basin C (Lot 4 DP1216994)

This portion of the site mostly comprised low density bush as part of the Wianamatta Regional Park as seen in **Photographs 2, 3 and 4**. The site was flat with only a slight depression on the banks of a creek that runs through the southern portion of the site in an easterly direction. An unsealed access road transects east – west through this section of the site, as seen in **Photograph 1**. Other infrastructure was observed in this area related to drainage, such as a stormwater pipe (**Photograph 10**) and a drain box allowing runoff to flow under the access road (**Photograph 9**).

Basin V6 (Lot 5 DP1216994)

Basin V6 comprised low density bush with intermittent trees (**Photograph 3**) within the Wianamatta Regional Park nearby Delany Circuit and Village 6 of the Jordan Springs development. An unsealed access road runs north-south from the entrance of the site until it reaches a T-junction and extends east-west. This section of the site is mostly flat, with the exception of an access ramp at the entrance of the site.

No staining or odours were identified during the site inspection. Asbestos containing material (ACM) in the form of non-friable fragments were identified within the access track located on the western portion of Basin C as shown on **Figure 3** and **Photograph 5**.

Other notable features identified included two old wells as shown on **Figure 3** and **Photograph 12**. The wells were unserviceable, as such installation of new wells as proposed was required. An old steel pipe fragment was also observed nearby location BC-25 as shown on **Photograph 11**.

Evidence of site filling was generally not observed with the exception of the access track as shown on **Figure 3**. Soils generally comprised of natural grey to yellow topsoils and underlying clays as shown in Photographs 6, 7 and 8.

2.3 Surrounding Land Use

The basins are generally within the heavily vegetated bushland of the Wianamatta Regional Park, with specific surrounding landuses described below:

- North – Village 3 and Village 6 of the Jordan Springs development were located north of the site. The villages comprise residential housing and associated roads. Beyond the villages is characterised by rural areas of Llandilo. Xavier College (high school) was located to the north-west.
- South – Areas south of the site comprised further areas of the Wianamatta Regional park, with the eastern portion of the Jordan Springs Development located approximately 600 m to the south.
- West – a portion of bushland within the Wianamatta Regional Park was located west of the site, with the northern portion of the Jordan Springs development, the Northern Road and the residential suburb of Cranebrook were located further to the west.

2.4 Topography and Hydrology

Based on the Spatial Information Exchange SIX Maps, the site is generally flat with elevations ranging between 30 and 40 m AHD. Regional topography is anticipated to fall to the east and towards South Creek. Visual inspection found the site was mostly flat with slight topographic depressions towards nearby water courses.

Precipitation at the site is anticipated to seep into unsealed areas with excess surface waters expected to flow overland into onsite surface water bodies.

The unknown tributaries within the site flow into South Creek approximately 2 km east of the site. South Creek drains a very large catchment in western Sydney, originating at Narellan, over 30 km to the south. The catchment is a long narrow strip up to 8 km wide with an approximate area of 18,000 ha. The catchment includes residential, agricultural and industrial areas. The creek flows northwards from the development site through mainly agricultural areas before meeting the Hawkesbury River at Windsor, 18 km to the northeast.

2.5 Geology

Reference to the 1:100 000 Geological Series Sheet 9030 for Penrith (NSW Department of Minerals and Energy 1991) indicates that the site is underlain by Bringelly Shales of the Wianamatta Group. This geological unit is comprised of shales, claystones and occasional fine to medium grained sandstone.

South Creek soils are found on floodplains, valley flats and drainage depressions of the channels on the Cumberland Plane. The landscape is usually flat with incised channels. The soils are 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 clay and yellow solodic soils. Flood hazard, seasonal waterlogging, localised permanently high water tables, localised water erosion hazards, localised surface movement potential are associated limitations of the landscape.

Luddenham soils are typically characterised by undulating to rolling low hills on Wianamatta Group shales, often associated with Minchinbury Sandstone. Local relief is between 30–40 m, slopes 5–20%. The landscape is typically characterised by narrow ridges, hillcrests and valleys; extensively cleared tall open forest; shallow (<100 cm) dark podzolic soils) or massive earthy clays on crests; moderately deep (70–150 cm) red podzolic soils on upper slopes; moderately deep (<150 cm) yellow podzolic) and prairie soils on lower slopes and drainage lines. Limitations of soils in the Luddenham group are water erosion hazard, localised steep slopes, localised mass movement hazard, localised shallow soils, localised surface movement potential; localised impermeable highly plastic, moderately reactive subsoil.

2.6 Hydrogeology

A review of information obtained from the Department of Primary Industries Office of Water Groundwater Mapping Tools (NSW office of Water (OoW 2019²) indicated there are no registered bores within 1.5 km radius of the site.

Based on previous works conducted throughout the former ADI St Marys property reported in HLA (1999), groundwater was observed in an upper unconfined aquifer and a lower regional semi-confined aquifer. The shallow aquifer was understood to occur at depths between 2 m and 10 m below the surface and within quaternary alluvium and highly weathered shale. The water table occurred in the sandy to silty clay above the weathered shale and/or shale bed rock. The groundwater flow pattern on a regional scale follows the general topography of the area, which in this case is anticipated to be to the east south-east towards the tributary of South Creek.

Groundwater in the shallow upper aquifer was reported as fresh to brackish as well as saline (electrical conductivity (EC) 300 to 40 000 $\mu\text{S}/\text{cm}$). High salinity, high total dissolved solids (TDS 150 to 20 000 mg/L), slightly acidic pH and low dissolved oxygen concentrations reported, suggested groundwater in the upper aquifer is impractical for any domestic, agricultural or industrial use.

Based on regional information including limited hydraulic conductivity testing conducted in other areas of the property, permeability of the unconfined alluvial aquifer is anticipated to be low due to the high clay and silt content of the alluvium.

On a regional scale, groundwater flow was observed to follow the surface water drainage patterns. The groundwater movement was slow to very slow due to the low permeability and the gentle hydraulic gradients.

2.7 Acid Sulphate Soils

A review of the Acid Sulfate Soil Risk Map for Springwood/Riverstone (DLWC 1997³) indicated there are no known occurrence of acid sulphate soils in the vicinity of the site.

² Groundwater Monitoring Overview Map, NW Department of Planning, Industry and Environment, accessed 31 October 2019, <https://realtimedata.watarnsw.com.au/water.stm>

³ *Acid Sulfate Soil Risk Map Edition Two – Springwood/Riverstone*, Department of Land and water Conservation (DLWC 1997)

3. Site History

3.1 Summary Site History

The former St Mary's ADI Munitions facility covered an area of 1535 ha and was established in 1942 as part of a larger parcel of farmland resumed in 1941 by the Commonwealth for establishment of ammunitions factory to support the war effort (World War II). From 1955-57, a new munitions factory was constructed and a substantial part of the original factory was leased to private industry and became the present Dunheved Industrial Estate.

It is understood that the location of Basins C and V6 fall within the northern portion of the Kingswood Magazine area used for the storage of completed explosives, ordnance production components and assorted chemicals. The area was characterised by 165 single storey buildings and associated roadways. It is understood that the buildings were demolished as part of the St Marys Munitions factory decommissioning. Following demolition, UXO search, environmental investigation and associated validation, as reported in the 'Western Sector' validation report occurred. These works ultimately formed part of site audit statement (SAS) CHK1001/1 reporting the development site as suitable for residential land use including substantial vegetable gardens and poultry.

Based on the historical use and noting that remediation and UXO clearance works were conducted and signed off in CHK1001/1 (HLA 1999) the potential for gross contamination is considered to be unlikely.

3.2 Aerial Photograph Review

Given the detailed historic reports available (see **Section 3.1**), a review of aerial photographs was not undertaken.

3.3 EPA Records

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

- No transfer, variation, suspension, surrender or revocation of an environmental protection licences;
- No prevention, clean-up or prohibition notices were issued for the site; and
- A search was also conducted through the EPA's public contaminated land register (**Appendix C**). The search did not identify any current or previous records of notices by the EPA, or notification to the EPA under Section 60 of the Contaminated Land Management Act 1997 (CLM Act), in relation to the site or immediately surrounding land.

3.4 Heritage Records

A search of the Australian Heritage and NSW Heritage database was undertaken, and records are included in **Appendix D**. The search did not identify the presence of any items of state significance in the vicinity of the site. It was noted that the Former ADI site included heritage listed sites associated with Cumberland woodlands and aboriginal heritage.

It is noted that items of aboriginal heritage sites exist throughout the property. Aboriginal heritage areas identified within and nearby the basins is shown in **Figure 2**. Sampling locations were placed away from existing aboriginal heritage sites and works will be conducted in cooperation with any aboriginal heritage requirements.

4. Conceptual Site Model

4.1 Potential Areas and Substances of Environmental Concern

Based on the history review, and the investigation works conducted, general areas of environmental concern have been categorised and are presented in (Table 4.1).

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

| Area of Environmental Concern (AEC) | Contaminants of Potential Concern (COPC) |
|--------------------------------------------------------------------|--------------------------------------------------------------|
| Former ADI commercial/industrial use | Heavy metals*, OCPs, PCBs, PFAS, TPH/BTEX, PAHs and asbestos |
| Access roads including imported fill and associated infrastructure | Heavy metals*, OCPs, PCBs, PFAS, TPH/BTEX, PAHs and asbestos |
| Creeks running through the site | Heavy metals*, PFAS, Nutrients, and Major Ions |

* Heavy metals include As (Arsenic), Cu (Copper), Cr (Chromium), Cd (Cadmium), Ni (Nickel), Pb (Lead), Zn (Zinc) and Hg (Mercury).

The site has undergone unexploded ordnance (UXO) clearance in the mid 1990s, including sign off under SAS (CHK100/1) in 1999. Further, it is understood that manufacture of munition has not occurred at the site since that time. As such, UXO items are considered not to be a COPC at the site.

Based on site history information provided in the site audit report (Kidd 1999), the site potentially was part of the Kingswood Magazine used for the storage of completed explosives, ordnance production components and assorted chemicals. The area was characterised by 165 single storey buildings and associated roadways. Given this facility was demolished and environmental investigation and associated remediation has been conducted previously, risk of identified impact associated with the former use is low. However, residual impact including, remaining building materials, stockpiles and filling/burials have low potential to be present at the site.

Noting the site has generally remained vacant for a number of years it was inspected during sampling and no evidence of tipping or any other stockpiled soils were observed.

Access tracks, including drainage infrastructure (concrete culverts), were observed running through both proposed basin locations. The access tracks included asphalt, concrete and gravels. Asbestos containing materials (ACM) was observed in the western portion of the access track in Basin C as shown on **Figure 2**.

JBS&G previously completed an investigation for per/poly- fluoroalkyl substances (PFAS) at the Central Precinct development site and proposed Dunheved Precinct site as documented in JBS&G (2018⁴). The current site is located hydraulically upgradient of PFAS impacted areas identified during this investigation, including Stockpile SP30 and the Dunheved Industrial Precinct. Additionally, soil sampling confirmed PFAS was not detected in the soil samples from the site area. Trace PFAS concentrations were detected in surface water samples considered to be associated with offsite sources. Tributaries of South Creek were observed to run through the southern end of Basin V6 and, aside from the trace PFAS concentrations, no significant other contaminants of concern were detected.

4.2 Potentially Contaminated Media

Potentially contaminated media present at the site include:

- Fill material;
- Surface Water; and

⁴ PFAS Human Health and Ecological Risk Assessment, Former St Marys ADI Property, Central Precinct, Llandilo NSW, JBS&G Australia Pty Ltd, 54020/111425 (Rev D), 23 January 2018.

- Natural soils underlying impacted fill materials (if present).

Fill material across the site was contained largely to an access road and associated small windrows that cut through the site. Culverts were also observed as other anthropogenic materials on the site.

Given fill is isolated to the access track, contamination to underlying natural soils and groundwater is considered unlikely. However, as a conservative measure, assessment of natural soils and groundwater was conducted.

A small creek identified as a tributary of South Creek is located within the Basin C footprint and as such is a potentially contaminated media.

4.3 Potential Exposure Pathway

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 potential contaminants identified as part of the site history review and review of previous investigations are generally in a solid form (e.g. heavy metals, asbestos, etc). As the site is currently vegetated, there is a low potential for contaminants to have migrated via either windblown dust or surface water.

The potential for contaminants to migrate via groundwater is moderate to low, given the absence of any significant sources of contamination at the site.

Based on the contaminants of concern identified in various media as discussed above and proposed site development activities, the exposure pathways considered to be potentially complete for the site during and following development works include:

- Potential dermal and oral contact to impacted soils as present at shallow depths and/or accessible by earthworks contractors and future users of the of the site; and
- Potential leaching of contaminants into surface water and impact to surface water bodies as proposed to be present within the site. Potential secondary direct contact to surface water bodies through recreational activities.

4.4 Receptors

Potential receptors of environmental impact include:

- Future maintenance workers for the basins restricted to access areas and pathways who may potentially be exposed to COPCs through direct contact with impacted soils and/or ingestion and/or inhalation of dusts / fibres associated with impacted soils. Additional potential secondary exposures as associated with the area of surface water to be established with the site development; and/or
- Excavation / construction / maintenance workers conducting activities at or in the vicinity of the site, who may potentially be exposed to COPCs through direct contact with impacted soils present within excavations and/or inhalation of dusts / fibres associated with impacted soils; and
- Onsite ecological receptors at the site including flora and fauna, and similarly potential secondary contact to surface water as will occur within the site.

4.4.1 Preferential Pathways

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

Man-made preferential pathways identified include the access road and culverts creating drainage/sediment transport routes. Other areas of the site generally consisted on natural soils, as such migration of contaminants are more likely to occur through the alluvial materials as consistent with the South Creek soils.

5. Data Quality Objectives

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

Data quality objectives (DQOs) were developed for the investigation, as discussed in the following sections.

5.1.1 State the Problem

In order to facilitate the proposed development of Regional Detention Basins C and V6 and address the requirements of the SEARs, an assessment of the potential soil, surface water and groundwater contamination and related waste classification of surplus spoil is required.

As such preparation of a detailed site assessment was required to assess the suitability of the site for the proposed construction of regional detention basins, and to inform the management of materials during construction of the basins.

5.1.2 Identify the Decision

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

- Are there any unacceptable risks to future site users or the environment from soil contamination?
- Are there any unacceptable risks to future site users or the environment from surface water contamination?
- Are there any unacceptable health or ecological risks to offsite receptors?
- Are there any issues relating to the local area background soil concentrations that exceed appropriate soil criteria?
- Are there any impacts of chemical mixtures?
- Are there any odours or aesthetic issues?
- Is there any evidence of, or potential for, migration of contaminants from the site?
- Is a site management strategy required?

5.1.3 Identify Inputs to the Decision

Inputs to the decisions are:

- Review of historical reports and assessment results;
- Environmental soil data as collected by sampling and analysis, and site observations made during the investigation, particularly with respect to the presence of fill materials present on the site surface and the inspection of materials from sample locations to determine whether fill based soils have been used on the site;
- Assessment criteria to be achieved on the site based on the intended land-use and project objectives, as defined by assessment criteria nominated in **Section 6**; and
- Confirmation that data generated by sampling and analysis are of an acceptable quality to allow reliable comparison to assessment criteria as undertaken by assessment of quality assurance / quality control (QA/QC) as per the data quality indicators (DQIs) established in **Section 5.1.6**.

5.1.4 Define the Study Boundaries

The study boundary comprises proposed lot boundaries, Lot 4 DP1216994 and Lot 5 DP1216994 as shown on **Figure 2**. It is noted the proposed basin footprints occupy the majority of this area and the approximate basin footprints are also shown on **Figure 1** and **Figure 2**.

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

5.1.5 Develop a Decision Rule

Laboratory analytical data was assessed against EPA endorsed criteria as identified in **Section 6**.

The decision rules adopted to answer the decisions identified in **Section 5.1.2** are summarised in **Table 5.1**, as consistent with standard decision rules as adopted on urban redevelopment sites.

Table 5.1 Summary of Decision Rules

| Decision Required to be made | Decision Rule |
|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Are there any unacceptable health risks to onsite future receptors? | Soil analytical data was compared against adopted EPA endorsed criteria. Statistical analyses in accordance with relevant guidance documents were undertaken, if 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 average site concentration for each analyte was below the adopted site criterion; no single analyte concentration exceeded 250% of the adopted site criterion; and the standard deviation of the results was less than 50% of the site criteria. And: the 95% upper confidence limit (UCL) of the average concentration for each analyte was below the adopted site criterion. If the statistical criteria stated above were satisfied, and an assessment of risk indicated no unacceptable risk the decision is No. Otherwise the decision is Yes. |
| 2. Are there any unacceptable risks to future site users or the environment from surface water contamination? | Surface water analytical data was compared against adopted EPA endorsed criteria. If the criteria were satisfied, and an assessment of risk indicated no unacceptable risk the decision is No. Otherwise the decision is Yes. |
| 3. Are there any unacceptable health or ecological risks to offsite receptors? | Further to the decision rules above, data from soil sampling near site boundaries where potential receptors are located were compared against adopted EPA criteria to determine if an unacceptable risk to offsite receptors exists. If there was the answer to the decision is Yes Otherwise the decision is No. |
| 4. Are there any issues relating to the local area background soil concentrations that exceed appropriate soil criteria? | If the 95% UCL of surface soils exceed published background concentrations (NEPC 1999), the decision was Yes. Otherwise, the decision was No. |
| 5. Are there any impacts of chemical mixtures? | Were there more than one group of contaminants present which increase the risk of harm? If there was, the decision was Yes. Otherwise, the decision was No. |
| 6. Are there any soil staining, odours or aesthetic issues? | If there were any ACM fragments on the ground surface, any unacceptable odours or soil discolouration, the decision was Yes. Otherwise, the decision was No. |
| 7. Is there evidence of, or potential for, migration of contaminants from the site? | Consideration was given to whether there are any elevated contaminant concentrations in soil in proximity to or at site boundaries and where site conditions may lead to the potential to migrate off site. If yes, the decision was Yes. Otherwise, the decision was No. |
| 8. 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. |

5.1.6 Specify Limits of Decision Error

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

Specific limits for this project have been adopted in accordance with the appropriate guidance from the NSW EPA, NEPC (2013), appropriate indicators of data quality (DQIs used to assess QA/QC) and standard JBS&G’s procedures for field sampling and handling.

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

The pre-determined Data Quality Indicators (DQIs) established for the project are discussed below in relation to precision, accuracy, representativeness, comparability and completeness (PARCC parameters), and are shown 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** – is the ability for laboratory methods to reliably measure and detect concentrations is the analytical process.

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

Table 5.2 Summary of Quality Assurance / Quality Control Program

| Data Quality Objective | Frequency | Data Quality Indicator |
|-------------------------------------|----------------|------------------------|
| Precision | | |
| Blind duplicates (intra laboratory) | 1 / 20 samples | <50% RPD |
| Blind duplicates (inter laboratory) | 1 / 20 samples | <50% RPD |
| Laboratory duplicates | - | <50% RPD |

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

5.1.7 Optimise the Design for Obtaining Data

Various strategies for developing a statistically based sampling plan are identified in EPA (1995⁵), including judgemental, random, systematic and stratified sampling patterns.

For sites larger than 5 ha, EPA (1995) recommends the use of stratified sampling where the site is divided into sub-areas according to geological and geographical features, nature of the contamination, former usage pattern of the site, intended future use of the sub-area and other relevant factors. EPA (1995) further recommends that each sub-area can then be treated as an individual site and different sampling patterns and sampling densities applied.

The site is covered by the SAS (CHK1001/1) issued in 1999 as suitable for residential land-use including substantial vegetable gardens and poultry. Based on the site history review, the site has remained vacant and undeveloped land since that time.

The southern portion of the site historically was used as part of the Kingswood Magazine area which was demolished and remediated, and as such is considered to be a low risk area in relation to potential environmental contamination issues. Due to the potential for remnant impact associated with the former use, a limited number of sample locations were completed at a ratio approximately half the EPA (1995) sampling design guidelines.

In total 25 sample locations from Basin C, and 9 sample locations from Basin V6 were assessed using hand tools. Sample locations were generally placed on an evenly spaced systematic grid, with some

⁵ *Sampling Design Guidelines*. NSW EPA. September 1995. (EPA 1995)

locations targeted towards, fill, stockpiles, historical structures or any other potential area of concern identified during the site inspection. The soil sampling locations are shown on **Figure 2**.

As detailed above, groundwater has been previously investigated and signed off as part of the historical remediation and validation works conducted across the former ADI St Marys Property. However, in order to characterise groundwater at the site as necessary to satisfy SEARs, three groundwater monitoring wells (two in Basin C and one in Basin V6) were installed and sampled.

Two locations along the tributary which flows through the southern portion of Basin C were sampled in order to characterise the surface water.

5.2 Soil Sampling Methodology

Soil samples were collected at each location via shallow hand excavation using shovel or hand auger. Soil samples were collected from the surface materials and the underlying fill material and/or underlying natural subsurface soils. Samples were collected from approximate depth intervals of 0-0.1, 0.3-0.4, 0.5-0.6 m below ground surface (bgs) or until 0.3 m into natural material. A maximum depth of 0.8 m bgs was reached during the works. During the collection of soil samples, features such as seepage, discolouration, staining, odours and other indicators of contamination were noted.

Collected samples were immediately transferred to laboratory supplied sample jars. The sample jars were then transferred to a chilled ice box for sample preservation prior to and during shipment to the testing laboratory. A chain-of-custody form was completed and forwarded with the samples to the testing laboratory. Based upon field observations, samples were analysed in accordance with the laboratory schedule and results are presented in **Table 5.3** and discussed in **Section 8**.

5.3 Groundwater Installation and Sampling

A limited groundwater assessment program within Basin C and Basin V6 was conducted. A total of three groundwater monitoring wells were installed, two within Basin C and one within Basin V6.

The wells were installed to a maximum depth of 7.5 m below ground surface (bgs) or 2 m below the encountered groundwater depth where possible. The wells were constructed from 50 mm uPVC screen and casing, combined with a concreted, flush road box finish.

The monitoring wells were allowed to settle for three days after installation. Each monitoring well was then gauged and sampled. Groundwater samples were obtained using hydrasleeves. Sleeves were deployed and allowed to equilibrate for between 4 and 8 hours before sampling. Field parameters of pH, conductivity, redox and temperature were taken from recovered water from the sleeves and are presented in **Table E**. In addition to laboratory analysis for potential groundwater contamination, analysis of general groundwater quality including EC, pH, major cations and nutrients was scheduled.

Collected groundwater samples were transferred to laboratory supplied sample bottles. The sample bottles were then transferred to a chilled iced 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. Samples were filtered (as necessary) and analysed in accordance with the laboratory schedule (**Table 5.3**).

5.4 Surface Water Sampling

Surface water samples were collected from two locations in the tributary that flows through the proposed Basin C area. One sample was collected at the up-gradient, western end and one sample was collected at the down-gradient, eastern end of the tributary as shown on **Figure 2**.

Surface water samples were collected via direct filling of sample bottles, and the excess volume used to measure with a water quality meter the field parameters of pH, conductivity, redox and temperature .

Collected samples were then transferred to a chilled iced 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. Samples were analysed in accordance with the laboratory schedule (**Table 5.3**).

5.4.1 Decontamination

Prior to the commencement of sampling activities, any non-disposable sampling equipment, including sampling trowel/knife was cleaned with a water/detergent spray, rinsed with water and then air dried. The equipment was then inspected to ensure that no soil, oil, debris or other contaminants were apparent on the equipment prior to the commencement of works. Sampling equipment was subsequently decontaminated using the above process between each sampling location.

All PFAS sampling was conducted in accordance with the PFAS sampling checklist provided in **Appendix E**. Certificates for the decontamination and/or calibration for hand auger, shovel, IP and water quality meter are also provided in **Appendix E**.

5.4.2 Duplicate and Triplicate Sample Preparation

Field soil duplicate and triplicate samples were obtained during the field works. The collected samples were divided laterally into three samples with minimal disturbance to reduce the potential for loss of volatiles and placed in three clean glass jars and sample bags as appropriate. Each sample was then be labelled with a primary, duplicate or triplicate sample identification before being placed in the same chilled esky for laboratory transport.

5.5 Laboratory Analysis

JBS&G contracted Eurofins | MGT (Eurofins) as the primary laboratory for all the required analyses. The secondary laboratory for these analytes was Envirolab. All laboratories are NATA accredited for the required analyses.

In addition, the laboratories were required to meet JBS&G’s internal QA/QC requirements. Laboratory analysis of samples was conducted as summarised in **Table 5.3**.

Table 5.3 – Sampling and Analytical Program

| Sample Type | No. of Sampling Locations | Analyses (exc. QA/QC) |
|-------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Soil | Basin C – 25 Locations (3.8 ha) | Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 25 samples PAH – 25 samples TPH/BTEX – 25 samples PFAS – 12 samples Asbestos – 20 samples (500 mL per NEPC 2013) + visual OCPs/PCBs – 6 samples ASLP/TCLP (metals/PAHs) – 1 sample |
| | Basin V6 – 9 locations (0.7 ha) | Heavy metals (As, Cd, Cr, Cu, Hg, Ni, Pb, Zn) – 9 samples PAH – 9 samples TPH/BTEX – 9 samples PFAS – 4 samples Asbestos – 6 samples (500 mL per NEPC 2013) + visual OCPs/PCBs – 2 samples ASLP/TCLP (metals/PAHs) – 1 sample |
| Groundwater | 3 locations (2 Basin C, 1 Basin V6) | Heavy Metals – (As, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Ni, Zn) 3 samples PFAS – 3 samples |

| Sample Type | No. of Sampling Locations | Analyses (exc. QA/QC) |
|---------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Nutrients – Nitrate, Nitrite, Total Nitrogen, Total Kjeldahl Nitrogen, Ammonia, Reactive Phosphorus and Total Phosphorus – 3 samples Major Ions – Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Fluoride, Chloride, Carbonate, Bicarbonate, Sulphate – 3 samples Lab Measured Parameters – Temperature, Ec, pH – 3 samples |
| Surface Water | 2 locations | Heavy Metals – (As, Ba, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Ni, Zn) – 2 samples PFAS – 2 samples Nutrients – Nitrate, Nitrite, Total Nitrogen, Total Kjeldahl Nitrogen, Ammonia, Reactive Phosphorus and Total Phosphorus – 2 samples Major Ions – Calcium (Ca), Magnesium (Mg), Sodium (Na), Potassium (K), Fluoride, Chloride, Carbonate, Bicarbonate, Sulphate – 2 samples Lab Measured Parameters – Temperature, Ec, pH, TDS/TSS – 2 samples |

In addition to the above analyses, for QA/QC purposes field duplicates and triplicates were analysed at a rate of 1/20 primary samples. Rinsate samples were obtained from non-disposable sampling equipment, plus a single trip spike and single trip blank accompanied both the soil and groundwater sampling events.

6. Assessment Criteria

6.1 Regulatory Technical Guidelines

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

- National Environment Protection (Assessment of Site Contamination) Measure 1999 as amended 2013, National Environment Protection Council (NEPC 2013);
- Contaminated Sites: Sampling Design Guidelines, NSW EPA, 1995 (EPA 1995);
- Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites, NSW OEH, 2011 (OEH 2011);
- Contaminated Land Management: Guidelines for the NSW Site Auditor Scheme, 3rd Edition, NSW EPA, 2017 (EPA 2017);
- *PFAS National Environmental Management Plan 2018, Heads of the EPA*. January 2018 (NEMP 2018)
- Guidelines for the Assessment Remediation and Management of Asbestos-Contaminated Sites in Western Australia, May 2009. Western Australia Department of Health 2009 (DOH 2009); and
- Waste Classification Guidelines, NSW EPA, November 2014 (EPA 2014).

6.2 Soil Criteria

Based on the proposed regional stormwater basin land use for the site, concentrations of contaminants in the soil were compared against published levels as presented in **Table 6.1**, sourced from the following:

- Health based Investigation Levels (HILs) and Health based Screening Levels (HSLs) for Public Open Space such as parks, playgrounds, playing fields, secondary schools and footpaths – NEPC 2013, HIL-C;
- Generic ecological investigation levels (EILs) based on NEPC (2013); and
- Ecological Screening Levels (ESLs) for TPH fractions, BTEX and benzo(a)pyrene in fine grained soil for urban residential and public open space land use (NEPC 2013).

It is noted that ecological criteria were calculated using the generic, conservative values provided in NEPC (2013), with these criteria presented in **Table A**.

Where required, results will be statistically assessed in accordance with the method summarised in **Table 5.1**.

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

In addition to the land use assessment criteria above, the assessment of aesthetic considerations was conducted in accordance with (NEPC 2013) where an inspection was completed in order to assess one or more of the following;

- Highly malodourous soil;
- Hydrocarbon sheen on surface water;
- Discoloured soils or soil staining;
- Monolithic deposits;

- Non-hazardous inert materials and foreign inclusions, such as building rubble;
- Putrescible refuse; and
- Soils containing residues from animal burials.

Table 6.1 Soil Investigation Criteria (all units in mg/kg)

| | Limit of Reporting | Laboratory Method | Health Investigation/ Screening Levels Recreational/Public Open Space | Ecological Investigation/ Screening Levels Urban Residential and Public Open Space |
|-----------------------------------------------|--------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| METALS | | | | |
| Arsenic | 2.0 | ICP-AES (USEPA 200.7) | 300 | 100 ⁷ |
| Cadmium | 0.4 | ICP-AES (USEPA 200.7) | 90 | - |
| Chromium | 5.0 | ICP-AES (USEPA 200.7) | 300 ¹ | 410 ⁷ |
| Chromium (VI) | 1.0 | Alkali leach colorimetric (APHA3500-Cr/USEAP3060A) | - | - |
| Copper | 5 | ICP-AES (USEPA 200.7) | 17,000 | 230 ⁷ |
| Nickel | 5.0 | ICP-AES (USEPA 200.7) | 1200 | 270 ⁷ |
| Lead | 5.0 | ICP-AES (USEPA 200.7) | 600 | 1100 ⁷ |
| Zinc | 5.0 | ICP-AES (USEPA 200.7) | 30 000 | 770 ⁷ |
| Mercury (inorganic) | 0.05 | Cold Vapour ASS (USEPA 7471A) | 80 ² | - |
| POLYCYCLIC AROMATIC HYDROCARBONS | | | | |
| Carcinogenic PAHs (as B(a)P TPE) ³ | 0.028 | GCMS (USEPA8270) | 3 | - |
| Benzo(a)pyrene | 0.5 | GCMS (USEPA8270) | - | 0.7 ⁸ |
| Naphthalene | 0.1 | GCMS (USEPA8270) | NL ⁶ | 170 ⁷ |
| Total PAHs ⁴ | 0.4 | GCMS (USEPA8270) | 300 | - |
| BTEX | | | | |
| Benzene | 1.0 | Purge Trap-GCMS (USEPA8260) | NL ⁶ | 65 ⁸ |
| Toluene | 1.0 | Purge Trap-GCMS (USEPA8260) | NL ⁶ | 105 ⁸ |
| Ethylbenzene | 1.0 | Purge Trap-GCMS (USEPA8260) | NL ⁶ | 125 ⁸ |
| Total Xylenes | 3.0 | Purge Trap-GCMS (USEPA8260) | NL ⁶ | 45 ⁸ |
| TOTAL RECOVERABLE HYDROCARBONS | | | | |
| F1 C ₆ -C ₁₀ | 10 | TPH Purge Trap-GCMS (USEPA8260) | NL ⁵ | 180 ⁸ |
| F2 >C ₁₀ -C ₁₆ | 50 | TPH Purge Trap-GCMS (USEPA8260) | NL ⁶ | 120 ⁸ |
| F3 >C ₁₆ -C ₃₄ | 100 | Purge Trap-GCFID (USEPA8000) | NL ⁶ | 1300 ⁸ |
| F4 >C ₃₄ -C ₄₀ | 100 | Purge Trap-GCFID (USEPA8000) | NL ⁶ | 5600 ⁸ |
| ORGANOCHLORINE PESTICIDES | | | | |
| DDT + DDD + DDE | 0.3 | GCECD (USEPA8140,8080) | 400 | 180 ⁷ |
| Aldrin + Dieldrin | 0.2 | GCECD (USEPA8140,8080) | 10 | - |
| Chlordane | 0.1 | GCECD (USEPA8140,8080) | 70 | - |
| Endosulfan | 0.3 | GCECD (USEPA8140,8080) | 340 | - |
| Endrin | 0.1 | GCECD (USEPA8140,8080) | 20 | - |
| Heptachlor | 0.1 | GCECD (USEPA8140,8080) | 10 | - |
| HCB | 0.1 | GCECD (USEPA8140,8080) | 10 | - |
| Methoxychlor | 0.1 | GCECD (USEPA8140,8080) | 400 | - |
| PHENOLS | | | | |
| Phenol | 5 | Distillation-Colorimetric (APHA 5530) | 40 000 | - |
| PCBs | | | | |
| Total PCBs | 0.7 | GCECD (USEPA8140,8080) | 1 | - |
| Asbestos | | | | |
| Asbestos (<0.1 m bgs) | 0.1 g/kg | PLM / Dispersion Staining | No asbestos capable of being detected via the investigation, which comprises both visual identification and sample analysis by a NATA accredited laboratory | - |

| | Limit of Reporting | Laboratory Method | Health Investigation/ Screening Levels Recreational/Public Open Space | Ecological Investigation/ Screening Levels Urban Residential and Public Open Space |
|-----------------------------|--------------------|---------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Asbestos FA/AF (>0.1 m bgs) | 0.1 g/kg | PLM / Dispersion Staining | 0.001% | - |
| Bonded ACM (>0.1 m) | 0.1 g/kg | PLM / Dispersion Staining | 0.02% | - |
| Asbestos Fibres | 0.1 g/kg | PLM / Dispersion Staining | No respirable asbestos fibres of being detected via sample analysis by a NATA accredited laboratory | - |

Notes:

- Guideline values presented are for Chromium (VI) in absence of total Chromium values. Where total Chromium results are elevated, samples will be analysed for Chromium (VI).
 - Guideline values are for inorganic mercury. Where elevated mercury concentrations are encountered and/or site information suggests the potential presence of elemental mercury and/or methyl mercury, consideration of applicability would be needed.
 - Carcinogenic PAHs calculated as per Benzo(a)pyrene Toxicity Equivalent Factor requirements presented in NEPC 2013
 - Total PAHs calculated as per requirements presented in NEPC 2013.
 - Soil Health Screening Levels for Vapour Intrusion: Clay Soils. Values presented are those for 0 to <1 m bgs for recreational/ open space land use. Reference should be made to results tables for further detail of levels at greater depths.
 - EIL derived using assumed data using NEPC 2013 methodology, using the EIL calculator. Estimated CEC at 20 cmol/kg, pH at 7 and percentage clay content >10%.
 - ESLs for TPH fractions, BTEX and B(a)P in fine grained soil for urban residential and public open space land use.
- NL: Non-limiting.

6.3 Surface Water and Groundwater Criteria

Consideration to regulatory technical guidelines and adoption of NEPC 2013 assessment criteria was used to assess soils and are listed below:

- Groundwater Investigation Levels (GILs) for Freshwater and Drinking Water – NEPC 2013,
- GIL- Freshwater & GIL-Drinking Water;
- Recreational Water x Factor 10 (USE) – NHMRC 2015;
- Australian Drinking Water – ADWG 2015; and
- Water Quality for Irrigation and General Use – ANZECC 2000.

Assessment criteria values utilised are provided in **Tables B** and **C**.

7. Quality Assurance/Quality Control

7.1 QA/QC Results

The QA/QC results for soil samples collected at the site are summarised in **Table 7.1** and discussed in **Section 7.2** below. It is noted that the data set presented below includes 9 samples collected from within Basin V6 and 25 samples collected from within Basin C site area as detailed on **Figure 2** and the analytical summary table attached. Detailed QA/QC results are included in **Appendix F**. Laboratory reports are included in **Appendix G**.

Table 7.1 Summary of Quality Assurance / Quality Control Program

| Data Quality Indicator | Frequency | Results | DQI met? |
|----------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Precision | | | |
| Soil Blind duplicates (intra laboratory) | >1 / 20 samples | <50% RPD. | Yes |
| Soil Blind triplicates (inter laboratory) | >1 / 20 samples | 2 in 29 primary samples with RPD ranging from 0-82 % | Partial ¹ |
| Laboratory Duplicates | >1/lab batch | 0-55 % RPD | Partial ¹ |
| Accuracy | | | |
| Surrogate spikes | All organic Analysis | 25 – 195 % Recovery | Partial ¹ |
| Laboratory Control Samples | >1/lab batch | 68-131 % Recovery | Partial ¹ |
| Matrix spikes | >1/lab batch | 71-130 % Recovery | Yes |
| Representativeness | | | |
| Sampling appropriate for media and analytes | All media/Analytes | All sampling conducted in accordance with JBS&G procedures | Yes |
| Laboratory blanks | >1/lab batch | <LOR | Yes |
| Samples extracted and analysed within holding times. | N/A | All samples were extracted and analysed within holding times apart from the trip spike, trip blank and rinsate blank | Yes |
| Trip spikes | 1/lab batch | 71-118 % Recovery | Yes |
| Trip blanks | 1/lab batch | <LOR | Yes |
| Rinsate blank | 1/sampling event | <LOR | Yes |
| Comparability | | | |
| Standard operating procedures used for sample collection & handling | All samples | Field staff used same standard operating procedures throughout works | Yes |
| Standard analytical methods used | All samples | Standard analytical methods used as consistent with laboratory NATA accreditation | Yes |
| Consistent field conditions, sampling staff and laboratory analysis | All samples | Sampling was conducted by the same field staff members using standard operating procedures in the same conditions throughout the works. The laboratory remained consistent throughout the investigation. | Yes |
| Limits of reporting appropriate and consistent | All samples | Limits of reporting were consistent and appropriate. | Yes |
| Completeness | | | |
| Soil description & COCs completed | All samples | All borelogs and COCs were completed appropriately. | Yes |
| Appropriate documentation | All samples | All appropriate field documentation is included in the Appendices. | Yes |
| Satisfactory frequency/result for QA/QC samples | All samples | The QC results are considered adequate for the purposes of the investigation. | Yes |
| Data from critical samples is considered valid | All samples | Data from critical samples is considered valid. | Yes |
| Sensitivity | | | |
| Analytical methods and limits of recovery appropriate for media and the adopted site assessment criteria | All samples | Appropriate laboratory analysis methods and detection limits were considered to have been achieved during the field and laboratory phases of the investigation | Yes |

7.2 QA/QC Discussion

7.2.1 Precision

Blind (intra-laboratory) Duplicates

All Blind (intra-laboratory) duplicates RPDs were within the acceptable range of less than 50%, within the JBS&G's acceptable range, and the laboratory QC Acceptance Criteria as defined in the Internal Quality Control Review.

Split (inter-laboratory) Duplicates

Soil field split (inter-laboratory) duplicates were analysed at a rate of 2 per 29 primary samples, above the required 1/20 DQI frequency. Acceptable RPD's have generally been reported below the accepted 50% RPD with the exception of:

- TRH 10-C40 Fraction (Total) with an RPD of 82% between primary sample BV6-07 0-0.1 and split (inter-laboratory) duplicate QC20191104-DH
- Benzo(a)pyrene TEQ (upper bound) with an RPD of 82% between primary sample BV6-07 0-0.1 and split (inter-laboratory) duplicate QC20191104-DH
- Benzo(a)pyrene TEQ (upper bound) with an RPD of 82% between primary sample BC05 0-0.1 and split (inter-laboratory) duplicate QC20191104-ML

RPD's can become elevated when based on analyte levels near to detection limits, and these elevated RPDs are not considered significant in context of the levels of the analytes relative to the associated assessment criteria. Detailed RPD analysis are provided in **Appendix F**.

Laboratory duplicates

Laboratory duplicates were all below the acceptable limit of 50% RPD with the exception of:

- Arsenic with an RPD of 55% between primary sample BV6-07 0-0.1 and split (inter-laboratory) duplicate QC20191104-DH.

The elevated RPD is considered to be associated with the variable nature of metals in soils including potential gravel/rock inclusions.

7.2.2 Accuracy

Surrogate spikes

The majority of soil surrogate spike recoveries were within the NATA accredited laboratories acceptable limits of 50-150% (for PFAS) with some recoveries, however, reported outside the prescribed limits (i.e. recoveries between 10-199%). The surrogates reported outside of the ranges, or surrogates with matrix interference, are not considered to affect the accuracy of the results as other quality control results were within the acceptable criteria.

Laboratory Control Samples

Laboratory control samples were reported between 68% and 131%. A limited number of laboratory control sample recoveries were above or below the preferred JBS&G acceptable criteria (i.e 70-130%), however were within the laboratories NATA accredited limits.

Matrix Spikes

Matrix spike samples were conducted for each laboratory batch submitted and were reported across a range of 71-130% and within the JBS&Gs prescribed range of 70-130%.

7.2.3 Representativeness

Sampling appropriate for media and analytes

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

Laboratory Blanks

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

Trip Spikes

Trip spike recoveries were between 71-118% and were all within the acceptable range of 70-130%.

Trip blanks

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

Rinsate Samples

A rinsate blank sample was prepared with the field works and submitted with the sample batch for the investigation. The rinsate blank was prepared from the hand auger and shovel. Levels of all analytes were below detection limits.

Holding times

All analyses have been extracted and analysed within holding times.

7.2.4 Comparability

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

7.2.5 Completeness

Documentation

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

Frequency for QA/QC Samples

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

7.3 Soil QA/QC Conclusions

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

7.4 Water QA/QC

The QA/QC results for soil samples collected at the site are summarised in **Table 7.2** and discussed in **Section 7.5** below.

Table 7.2 Summary of Quality Assurance / Quality Control Program

| Data Quality Indicator | Frequency | Results | DQI met? |
|----------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Precision | | | |
| Blind duplicates (intra laboratory) | >1 / 20 samples | 1/3 primary samples with RPD ranging from 0-95 % | Partial ¹ |
| Blind triplicates (inter laboratory) | >1 / 20 samples | 1/3 primary samples with RPD ranging from 0-173 % | Partial ¹ |
| Laboratory Duplicates | >1/lab batch | <0-50 % RPD | Yes |
| Accuracy | | | |
| Surrogate spikes | All organic Analysis | 51-150 % Recovery | Partial ¹ |
| Laboratory Control Samples | >1/lab batch | 91-123 % Recovery | Yes |
| Matrix spikes | >1/lab batch | 100 % Recovery | Yes |
| Representativeness | | | |
| Sampling appropriate for media and analytes | All media/Analytes | All sampling conducted in accordance with JBS&G procedures | Yes |
| Laboratory blanks | >1/lab batch | <LOR | Yes |
| Samples extracted and analysed within holding times. | N/A | All samples were extracted and analysed within holding times apart from the trip spike, trip blank and rinsate blank | Yes |
| Trip spikes | 1/lab batch | <LOR | Yes |
| Trip blanks | 1/lab batch | <LOR | Yes |
| Rinsate blank | 1/sampling event | <LOR | Yes |
| Comparability | | | |
| Standard operating procedures used for sample collection & handling | All samples | Field staff used same standard operating procedures throughout works | Yes |
| Standard analytical methods used | All samples | Standard analytical methods used as consistent with laboratory NATA accreditation | Yes |
| Consistent field conditions, sampling staff and laboratory analysis | All samples | Sampling was conducted by the same field staff members using standard operating procedures in the same conditions throughout the works. The laboratory remained consistent throughout the investigation. | Yes |
| Limits of reporting appropriate and consistent | All samples | Limits of reporting were consistent and appropriate. | Yes |
| Completeness | | | |
| Soil description & COCs completed | All samples | All borelogs and COCs were completed appropriately. | Yes |
| Appropriate documentation | All samples | All appropriate field documentation is included in the Appendices. | Yes |
| Satisfactory frequency/result for QA/QC samples | All samples | The QC results are considered adequate for the purposes of the investigation. | Yes |
| Data from critical samples is considered valid | All samples | Data from critical samples is considered valid. | Yes |
| Sensitivity | | | |
| Analytical methods and limits of recovery appropriate for media and the adopted site assessment criteria | All samples | Appropriate laboratory analysis methods and detection limits were considered to have been achieved during the field and laboratory phases of the investigation | Yes |

7.5 QA/QC Discussion

7.5.1 Precision

Blind (intra-laboratory) Duplicates

Soil field Blind (intra-laboratory) duplicates were analysed at a rate of 1 per 3 primary samples, above the required 1/20 DQI frequency. Acceptable RPD's have generally been reported below the accepted 50% RPD with the exception of:

- Copper with a total RPD of 95% between primary sample GWM-02 and blind (intra-laboratory) duplicate QC20191111

Variation in concentrations of copper are attributed to additional volumes required to fill duplicate and triplicate sample containers and the requirement to redeploy hydra sleeves to obtain that volume. RPD analysis are provided in **Appendix F**.

Split (inter-laboratory) Duplicates

Soil field split (inter-laboratory) duplicates were analysed at a rate of 1 per 3 primary samples, above the required 1/20 DQI frequency. Acceptable RPD's have generally been reported below the accepted 50% RPD with the exception of:

- Copper with a total RPD of 173% between primary sample GWM-02 and split (inter-laboratory) duplicate QA20191111
- Nitrate (as N) with a total RPD of 50% between primary sample GWM-02 and split (inter-laboratory) duplicate QA20191111

Variation in concentrations of copper are attributed to additional volumes required to fill duplicate and triplicate sample containers and the requirement to redeploy hydra sleeves to obtain that volume. RPD analysis are provided in **Appendix F**.

Laboratory duplicates

Laboratory duplicates were all below the acceptable limit of 50%.

7.5.2 Accuracy

Surrogate spikes

All the surrogate spike recoveries were within the NATA accredited laboratories acceptable limits of 50-150%

Laboratory Control Samples

Laboratory control samples were conducted for each laboratory batch submitted and were reported across a range of 91-123% and within the JBS&Gs prescribed range of 70-130%.

Matrix Spikes

Matrix spike samples were conducted for each laboratory batch submitted and reported an RPD of 100% and within the JBS&Gs prescribed range of 70-130%.

7.5.3 Representativeness

Sampling appropriate for media and analytes

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

Laboratory Blanks

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

Trip Spikes

Trip spikes were not required as volatile substituents were not analysed.

Trip blanks

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

Rinsate Samples

A rinsate blank sample was prepared with the field works and submitted with the sample batch for the investigation. The rinsate blank was prepared from weights and collars used with the hydrasleeve. Levels of all analytes were below detection limits.

Holding times

All analyses have been extracted and analysed within holding times.

7.5.4 Comparability

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

7.5.5 Completeness

Documentation

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

Frequency for QA/QC Samples

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

7.6 Water QA/QC Conclusions

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

8. Soil Results

8.1 Field Observations

A detailed site inspection and soil sampling was conducted at the site on 4th and 5th November 2019, field observations have been detailed in the borelogs prepared at each location as provided as **Appendix H**.

Fill materials were observed within an access road that transects both basin areas and was characterised by grey to brown, dry, gravelly sand soils, heterogeneous and medium dense. The fill materials included fragments of concrete, asphalt and brick.

Fragments of non-friable ACM were observed on the surface along the western portion of the access road in Basin C near GWM-03, as shown on **Figure 3**. No odours or staining were observed throughout the area of the proposed basins.

Natural soils comprised brown to grey dry silts or clays, of low plasticity with inclusions of sticks, leaves and roots at the surface (0-0.1 m). These soils were underlain by clay subsoils and shales appearing at depths ranging from 1.5 m to 5.5 m below ground surface (bgs).

8.2 Soil Analytical Results

Soil summary analytical results are provided in **Table A**. Detailed laboratory reports and chain of custody documentation is provided in **Appendix G**.

8.2.1 Heavy Metals

Heavy metals concentrations were reported below the human health and ecological criteria adopted in all samples analysed.

8.2.2 PAHs

PAHs concentrations were reported below the laboratory limits of reporting and below the human health and ecological criteria adopted in all samples analysed with the following exceptions:

- Benzo(a)pyrene at sample location BC-04 0-0.1 m with a reported concentration of 22 mg/kg which exceeds the ecological criteria adopted; and
- Benzo(a)pyrene TEQ at sample location BC-04 0-0.1 m with a reported concentration of 34 mg/kg which exceeds the human health criteria adopted.

These benzo(a)pyrene concentrations are considered to be associated with asphalt gravels contained within the access road.

Toxicity characteristic leaching procedure (TCLP) and Australian standard leachate procedure (ASLP) analysis was requested on sample BC-04 0-0.1 m. TCLP and ASLP analyses reported PAH concentrations below the laboratory LOR and below the NSW EPA 2014 General Solid Waste (leached) criteria (see **Table D**).

8.2.3 TRH/BTEX

TRH/BTEX concentrations were reported below the human health and ecological criteria adopted in all samples analysed with the following exception:

- TRH C₁₆-C₃₄ Fraction at sample location BC-04 0-0.1 m with a reported concentration of 1000 mg/kg which exceeds the ecological screening criteria adopted.

Silica Gel analysis was conducted on BC04 0-0.1 m, as well as BV6-03 0-0.1 m in which minor amounts of TRH were identified below the adopted criteria, to identify the source of TRH. Silica gel results for sample BV6-03 0-0.1 was below LOR suggesting TRH may have been naturally occurring. From sample BC-04 0-0.1 the TRH concentrations with silica gel clean up remained elevated,

suggesting that the impact was from asphalt material noted in the access road gravels during visual inspection and consistent with the PAH impact identified.

8.2.4 OCPs PCBs

OCPs/PCBs concentrations were reported below the laboratory limits of reporting and below the human health and ecological criteria adopted in all samples analysed,

8.2.5 PFAS

PFAS concentrations were reported below the laboratory limits of reporting and below the human health and ecological criteria adopted in all samples analysed. It is noted that trace PFOS was detected in triplicate samples QC20191104-DH and QC20191104-ML which was below the conservative ecological and human health land use criteria adopted.

8.2.6 Asbestos

Asbestos as friable asbestos (FA) or asbestos fines (AF) was not detected in the soil samples submitted for analysis.

Visible asbestos, as multiple small (2-5 cm) non-friable asbestos fragments were identified on the surface of the access road in the western portion of Basin C (nearby BC_11, **Photograph 5**). The fragments were collected by JBS&G for appropriate disposal.

8.3 Preliminary Waste Classification

Based on observations and the soil analytical data obtained, the majority of soils at the site were identified as natural materials consistent with virgin excavated natural materials (VENM).

Where fill materials were identified, within the access track within Basin C and V6 it is considered that those materials would be classified as General Solid Waste (non-putrescible) and General Solid Waste (non-putrescible) mixed with Special waste (Asbestos) in the area where asbestos was present.

It is noted that B(a)P concentrations at BC04 exceeded the contaminant concentration limits for general solid waste and may require further sampling and/or reference to existing NSW EPA resource recovery exemptions.

Concrete culverts were also identified beneath access tracks as shown on **Figure 3**, it is anticipated these can be either be reused or sent for recycling.

Further details on waste classification of site soils will be provided in the WMP prepared by JBS&G (2019⁶) and included with the submission of this DSI. It is further noted that specific waste classification letters will be required to be prepared by an environmental consultant prior to disposing of materials offsite.

⁶ Waste Management Plan – Basin C and V6 (Rev 0) JBS&G Australia Pty Ltd 20 November 2019 (JBS&G 2019b)

9. Surface Water Analytical Results

9.1 Field Observations

The surface water samples were taken from a tributary of South Creek which runs in an easterly direction along the south of Basin C. The tributary is fed by stormwater runoff from surrounding areas and is covered in flora such as reeds making it inaccessible in most areas. The water was observed to be clear with only slight organic floating debris. Two samples (SW-01 and SW-02 as shown on **Figure 2**) were taken from the tributary and water analytical results and parameters are presented in **Table E**.

Field parameters (laboratory confirmed) collected during surface water sampling are summarised as:

- Mildly alkaline pH;
- Fluid electrical conductivity (EC) values consistent with marginally brackish water;
- Generally positive uncorrected redox potential;
- Dissolved oxygen typically indicating well oxygenated waters however reported values indicated instrument error; and
- Temperature as generally consistent with ambient temperatures at the time of sampling.

9.2 Surface Water Analytical Results

Surface water summary analytical results are provided in **Table B**. Detailed laboratory reports and chain of custody documentation is provided in **Appendix G**.

9.2.1 Heavy Metals

Heavy metals concentrations were reported below criteria adopted in all samples analysed with the following exception:

- Copper at sample location SW-01 and SW-02 with reported concentrations of 0.002 mg/kg for both samples, which exceeds the criteria adopted for 95% freshwater water quality.

As the exceedance of copper is marginal, it is considered likely to be consistent with background concentrations and therefore within acceptable water quality parameters for the site.

9.2.2 Nutrients

Nutrients concentrations were reported below the criteria adopted in all samples analysed.

9.2.3 PFAS

PFAS concentrations were reported below the NEMP (2018) criteria adopted in all samples analysed. However, it is noted that there were trace detections in levels of PFOS in both surface water samples (PFHxS, 0.03 ug/L in samples SW-01 and SW-02 and PFOS, 0.02 ug/L in samples SW-01 and SW-02). These detections are considered to be consistent with background levels within South Creek and its surrounding tributaries with potential offsite impact to the north. Concentrations were consistent with previously measured levels in JBS&G (2018⁷).

9.2.4 Major Ions

Major Ion concentrations were reported below the adopted assessment criteria in all samples

⁷ PFAS Assessment at Former ADI St Mary's Development Site – St Mary's and Llandilo, NSW (Rev B) JBS&G Australia Pty Ltd 23 November 2018 (JBS&G 2018).

10. Ground Water Analytical Results

10.1 Field Observations

A total of three groundwater monitoring wells were installed and sampled. One well (GWM-01) was installed and sampled in the Basin V6 area and two wells (GWM-02 and GWM-03) were installed and sampled in the Basin C area.

Groundwater was encountered at an indicative depth of 4.8 m bgs at GWM-01 within Basin V6 and between 2.67 m bgs (GMW-02) and 3.9 m bgs (GMW-03) within Basin C. Given short time frames for this assessment, a well survey was not conducted. Additionally, the water levels recorded in the wells may not be at equilibrium with the groundwater table noting the low hydraulic conductivity in the clay and shales observed. As such recorded water levels are indicative readings only at this stage.

Groundwater water was typically observed to be clear with slight brown/grey turbidity and no odours or sheens were observed.

Field parameters (laboratory confirmed) collected during ground water sampling and analysis are provided as **Table E**. The following has been reported:

- Neutral pH measurements;
- Fluid electrical conductivity (EC) values consistent with highly saline water;
- Generally positive uncorrected redox potential;
- Low concentrations of dissolved oxygen in GMW-01 and GMW-03 with GMW-02 indicating well oxygenated waters; and
- Temperature as generally consistent with ambient temperatures at the time of sampling.

Groundwater summary analytical results are provided in **Table C**. Detailed laboratory reports and chain of custody documentation is provided in **Appendix G**.

10.1.1 Heavy Metals

Heavy metals concentrations were reported below criteria adopted in all samples analysed with the following exception:

- Cadmium in samples GWM-01 and GWM-03 with reported concentrations of 0.0004 mg/L and 0.0003 mg/L respectively which both exceeding the criteria adopted for 95% freshwater water quality.
- Copper from sample GMW-03 with reported concentrations of 0.003 mg/L, which exceeds the criteria adopted for 95% freshwater water quality.
- Manganese which exceeded 95% freshwater water quality in all samples analysed with concentrations ranging between 3.8 and 17 mg/L;
- Manganese also exceeded the Australian drinking water criteria at GWM-01 and GWM-03 with concentrations of 17 mg/L and 7.1 mg/L; and
- Zinc concentrations at locations GMW-01, GMW-02 and GMW-03 reported concentrations of 0.034 mg/L, 0.011 mg/L and 0.04 mg/L respectively, which all exceeded the criteria adopted for 95% freshwater water quality.

10.1.2 Nutrients

Nutrients concentrations were reported below the adopted assessment criteria in all samples analysed with the exception of:

- Ammonia in the GWM-02 and associated duplicate and triplicate samples with reported concentrations of 0.93 mg/L and 1 mg/L respectively which marginally exceeds the criteria adopted for 95% freshwater water quality.

The ammonia levels identified only slightly exceed investigation levels and given concentrations are within groundwater they are not considered to pose a potential issue.

10.1.3 PFAS

PFAS concentrations were reported below the laboratory LOR and human health and ecological criteria adopted in all samples analysed.

10.1.4 Major Ions

Major Ion concentrations were reported below the assessment criteria adopted in all samples with the exception of sodium and chloride. The elevated concentrations were indicative of saline groundwater representative of Western Sydney on a regional basis.

11. Site Characterisation

The results are discussed in the following sections in relation to the identified decisions developed as part of the DQO process (**Section 5.1.2 and 5.1.5**).

11.1 Are there any unacceptable risks to future site users or the environment from soil contamination?

All concentrations of heavy metals, TRH, BTEX, PAHs, OCPs/PCBs, PFAS and asbestos were reported at concentrations below the site adopted human health and ecological criteria, with the exception of B(a)P, B(a)P TEQ and TRH C₁₆-C₃₄ reported at location BC04 0-0.1 m. ACM was also identified in the western portion of the access track in Basin C and nearby location BC11.

Impact identified at BC04 is considered to be associated with asphaltic concrete identified within the access track and generally immobile in nature.

Asbestos identified in the western portion of the access track was identified as non-friable, with multiple fragments present, including fragments embedded into the fill materials.

While the issues identified are minor in nature and limited to a small area of the proposed basin footprints, appropriate management will be required.

11.2 Are there any potential risks to future site users or the environment from surface water contamination?

Concentrations of heavy metals, Nutrients (Nitrate, Nitrite, Total Nitrogen, Total Kjeldahl Nitrogen, Ammonia, Reactive Phosphorus and Total Phosphorus) and Major Anions (Ca, Mg, Na, K, Fluoride, Chloride, Carbonate, Bicarbonate and Sulphate) were reported at concentrations below the site 95% fresh water and Australian Drinking water guidelines adopted with the exception of copper at SW01 and SW02.

As the exceedance of copper is marginal, it is considered to be consistent with background concentrations and therefore within acceptable water quality parameters for the site.

Additionally, it is noted that PFAS concentrations were reported below the NEMP (2018) criteria adopted. Trace levels reported at both surface water sampling locations are noted but are consistent with background levels within South Creek and its surrounding tributaries previously measured concentrations in JBS&G (2018).

Based on the surface water assessment completed, there is no potential risk to future site users or the environmental from surface water contamination noting the proposed basin site use.

It is also noted that groundwater is not a potential risk at the site as it is unusable as a resource due to its saline nature. It is further noted that groundwater is anticipated to be encountered at a depth, approximately 2.5 m bgs, below the current proposed depth of 1.7 m.

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

No, the concentrations of heavy metals are consistent with anticipated background levels of these constituents with natural soils.

11.4 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.

11.5 Are there any odours or aesthetic issues?

No odours or staining were observed at the site during the works program.

Fill materials including inclusions of asphalt and concrete were observed within the access tracks that were located within Basin C and V6.

Non-friable ACM was also observed within the western portion of the access track within Basin C.

Fill materials and ACM within fill materials identified at the site present an aesthetic issue and will require management.

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

Contamination issues identified in **Section 11.1**, B(a)P/TRH at location BC04 and non-friable asbestos in the western portion of the access track within Basin C, are considered immobile in nature and therefore have limited to no migration potential.

Based on the above, and noting absence of significant groundwater or surface water impact, there is no potential for migration of contaminants from the site.

11.7 Are there any unacceptable health or ecological risks to offsite receptors?

As discussed in **Section 11.6**, there is very limited potential for contaminant migration. As such there is no unacceptable risk to offsite receptors from contamination issues identified.

11.8 Is a management strategy required?

Although the basins were generally identified as free of major contamination issues, impact identified as B(a)P/TRH at location BC04 and non-friable asbestos within the western portion of the access track as discussed in **Section 11.1** require a management strategy.

It is recommended that a remedial action plan (RAP) is prepared to remediate and validate the issues identified. It is also noted that the RAP should be implemented prior to major earthworks commencing.

12. Conclusions and Recommendations

12.1 Conclusions

Based on the findings of this assessment and subject to the limitations in **Section 13**, the following conclusions are made:

- Generally, no unacceptable risk to human health or the environment from potential contaminants of concern (heavy metals, TRH/BTEX, OCPs/PCBs and PFAS) was identified within the proposed basins, with the exception of two limited locations:
 - Concentrations of B(a)P and TRH at location BC04 0-0.1 m was identified to represent a potential ecological risk;
 - Concentrations of B(a)P TEQ, also at BC04 0-0.1 m was identified to represent a potential health risk; and
 - Non friable ACM fragments identified in the western portion of the access track in Basin C was identified to present a potential health risk and an aesthetic issue;
- Surface water and groundwater were not identified to present a potential risk to the basins.

12.2 Recommendations

Based on the conclusions identified, it is recommended that the following actions are undertaken:

- An RAP is prepared to remediate and validate B(a)P/TRH and asbestos impacts identified at the site; and
- An unexpected finds protocol be included in the RAP (and associated WMP) for implementation during development works.

13. Limitations

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

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

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

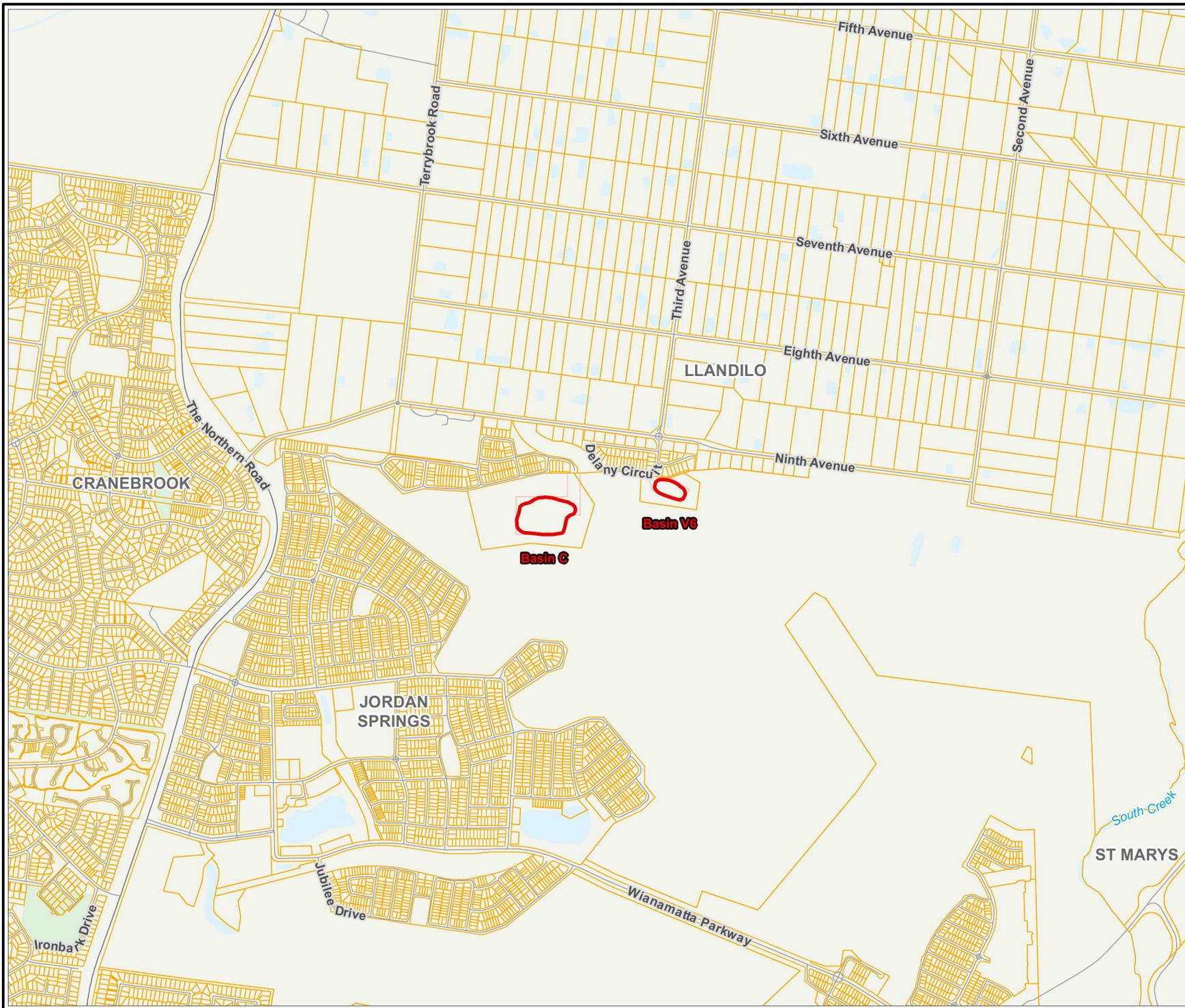
Sampling and chemical analysis of environmental media is based on appropriate guidance documents made and approved by the relevant regulatory authorities. Conclusions arising from the review and assessment of environmental data are based on the sampling and analysis considered appropriate based on the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

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

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

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

Figures



- Legend:**
- Approximate Site Boundary
 - Cadastre (NSW LPI, 2019)
 - Proposed Cadastre
 - Primary Road
 - Local Road
 - Waterbody area
 - Waterway
 - Parks and reserves



Job No: 57591
 Client: Maryland Development Company
 Version: R02 Rev A Date 18/11/2019
 Drawn By: AS Checked By: GB
 Scale 1:20,000

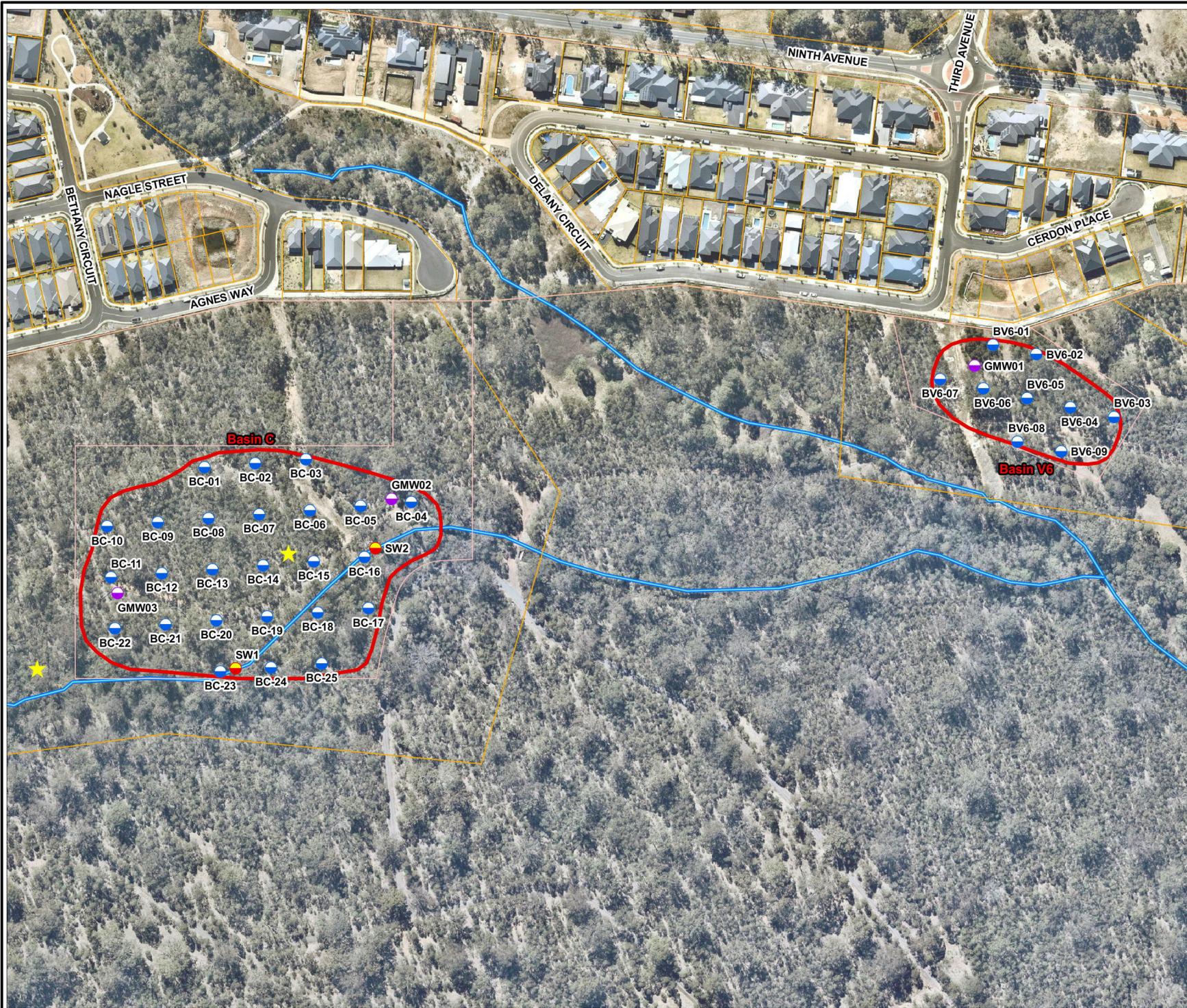
 metres

Coord. Sys. GDA 1994 MGA Zone 56

**Basin C and Basin V6
 Jordan Springs, NSW**

SITE LOCATION

FIGURE 1



- Legend:**
- Approximate Site Boundary
 - Cadastre (NSW LPI, 2019)
 - Proposed Cadastre
 - South Creek Tributary
 - ★ Aboriginal Heritage Sites
 - Sample Locations
 - Groundwater Monitoring Well
 - Surface Water Locations



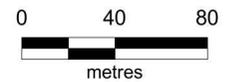
Job No: 57591

Client: Maryland Development Company

Version: R02 Rev A Date 18/11/2019

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Scale 1:3,250

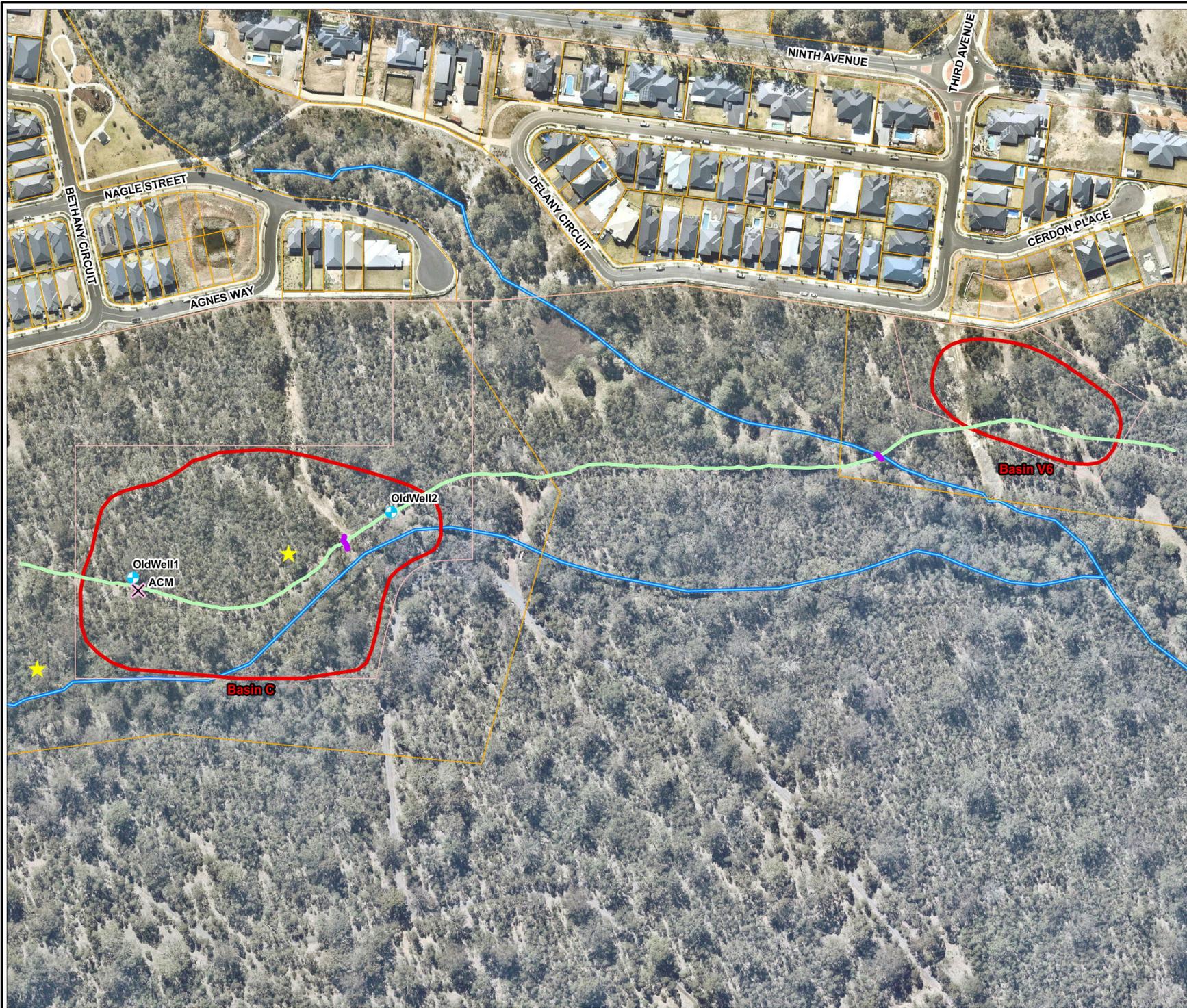


Coord. Sys. GDA 1994 MGA Zone 56

**Basin C and Basin V6
Jordan Springs, NSW**

**SITE LAYOUT AND
SAMPLE LOCATIONS**

FIGURE 2



Legend:

- ▭ Approximate Site Boundary
- ▭ Cadastre (NSW LPI, 2019)
- ▭ Proposed Cadastre
- South Creek Tributary
- ★ Aboriginal Heritage Sites
- Access Road
- Drainage Culvert
- Old Groundwater Monitoring Wells
- ✕ ACM Fragments



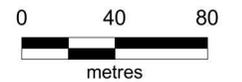
Job No: 57591

Client: Maryland Development Company

Version: R02 Rev A Date 18/11/2019

Drawn By: AS Checked By: GB

Scale 1:3,250

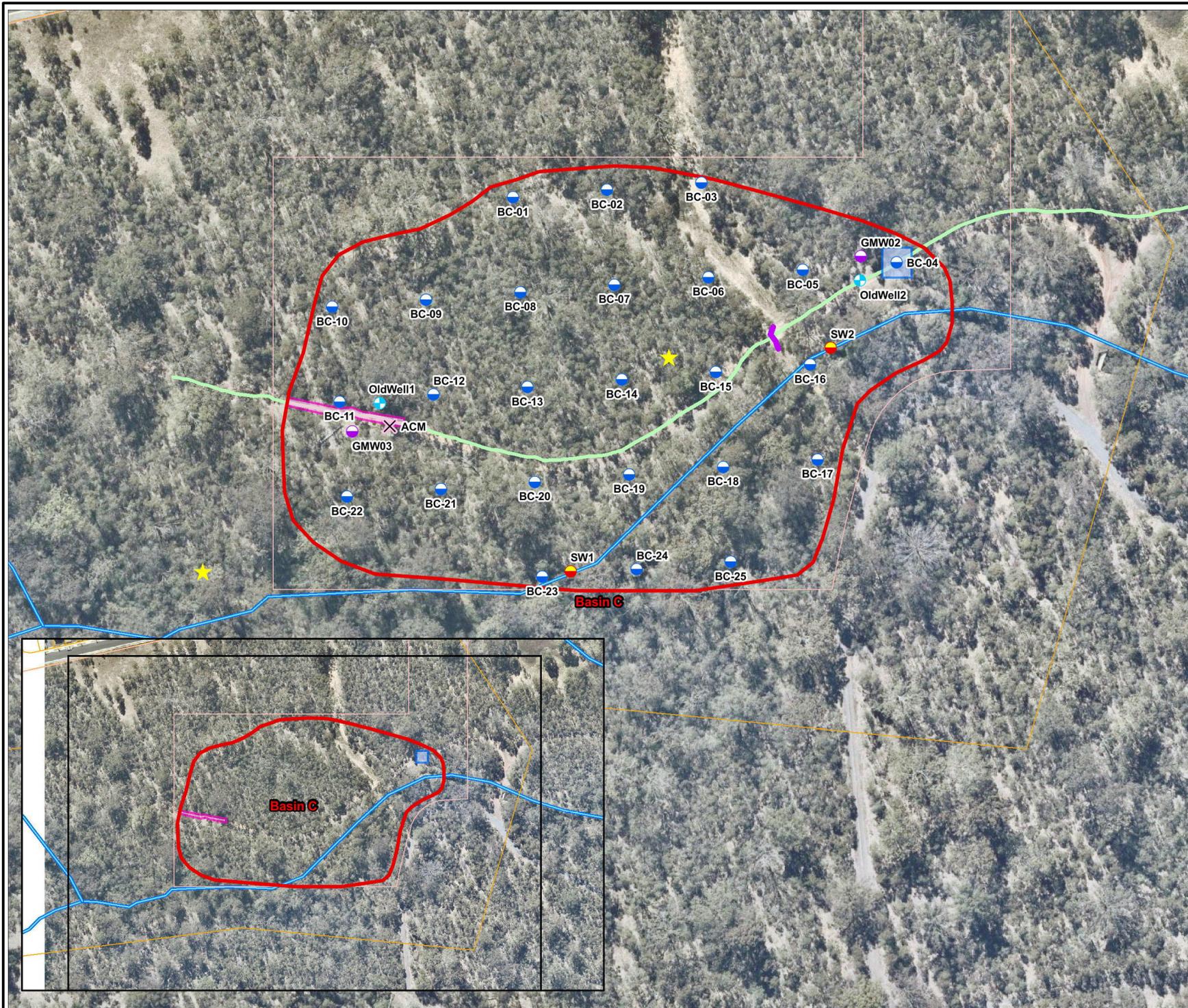


Coord. Sys. GDA 1994 MGA Zone 56

**Basin C and Basin V6
Jordan Springs, NSW**

**SITE LAYOUT AND
FEATURES**

FIGURE 3



- Legend:**
- Approximate Site Boundary
 - Cadastre (NSW LPI, 2019)
 - Proposed Cadastre
 - South Creek Tributary
 - ★ Aboriginal Heritage Sites
 - Access Road
 - Drainage Culvert
 - Sample Locations
 - Groundwater Monitoring Wells
 - Surface Water Locations
 - ⊕ Old Groundwater Monitoring Wells
 - × ACM Fragments
- Approximate Areas of Impact**
- Asbestos Impact
 - B(a)P/B(a)PTEQ and TRH Impact



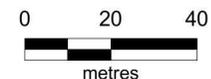
Job No: 57591

Client: Maryland Development Company

Version: R02 Rev A Date 18/11/2019

Drawn By: AS Checked By: GB

Scale 1:1,750



Coord. Sys. GDA 1994 MGA Zone 56

**Basin C and Basin V6
Jordan Springs, NSW**

**IDENTIFIED AREAS
OF IMPACT**

FIGURE 4

Tables



| | Volatile | | | | | | TPHs (NEPC 1999) - Silica Gel | | | | TRHs (NEPC 2013) - Silica Gel | | | Ionic Balance | | Other | |
|--------------------------------------------------------------------|----------|--------------|---------|------------|----------------|----------------|-------------------------------|-----------------------|-----------------------|-----------------------------------|-------------------------------|-------------------------|------------------------|------------------|------------------|--------|------------------|
| | Benzene | Ethylbenzene | Toluene | Xylene (o) | Xylene (m & p) | Xylene (Total) | Cl0-Cl4 Fraction (SG) | Cl5-Cl8 Fraction (SG) | Cl9-Cl6 Fraction (SG) | Cl10 - Cl16 Fraction (Total) (SG) | >Cl0-Cl16 Fraction (SG) | >Cl6-Cl14 Fraction (SG) | >Cl4-Cl0 Fraction (SG) | EC 1.5 soilwater | pH 1.5 soilwater | % Clay | % Moisture 109oc |
| | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | mg/kg | µS/cm | ph Units | % | % | |
| EQL | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.3 | 50 | 100 | 100 | 100 | 50 | 100 | 100 | 10 | 0.1 | 1 | 1 |
| NEPM 2013 Generic Ecologic Investigation Levels | | | | | | | | | | | | | | | | | |
| NEPM 2013 ESL Urban Residential and Public Open Space, Coarse Soil | 50 | 70 | 85 | | | 105 | | | | | | | | | | | |
| NEPM 2013 HSL Asbestos in Soil - Bonded ACM - Recreational - HSL C | | | | | | | | | | | | | | | | | |
| NEPM 2013 HSL Asbestos in Soil - FA & AF - HSL | | | | | | | | | | | | | | | | | |
| NEPM 2013 Soil HIL C | | | | | | | | | | | | | | | | | |
| NEPM (2018) PFAS - Public Open Space | | | | | | | | | | | | | | | | | |

| Sample ID | Sampled Date | Description | Benzene | Ethylbenzene | Toluene | Xylene (o) | Xylene (m & p) | Xylene (Total) | Cl0-Cl4 Fraction (SG) | Cl5-Cl8 Fraction (SG) | Cl9-Cl6 Fraction (SG) | Cl10 - Cl16 Fraction (Total) (SG) | >Cl0-Cl16 Fraction (SG) | >Cl6-Cl14 Fraction (SG) | >Cl4-Cl0 Fraction (SG) | EC 1.5 soilwater | pH 1.5 soilwater | % Clay | % Moisture 109oc |
|----------------|--------------|-----------------------------------|---------|--------------|---------|------------|----------------|----------------|-----------------------|-----------------------|-----------------------|-----------------------------------|-------------------------|-------------------------|------------------------|------------------|------------------|--------|------------------|
| BC01 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC02 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC03 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC04 0-0.1 | 04-Nov-19 | Fill materials within access path | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <50 | 170 | 140 | 310 | <50 | 280 | <100 | - | - | - | 4.6 |
| BC05 0-0.1 | 04-Nov-19 | Fill materials within access path | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| QA20191104-DH | 04-Nov-19 | Duplicate sample of BC05 0-0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| QC20191104-DH | 04-Nov-19 | Triplicate sample of BC05 0-0.2 | <0.2 | <1 | <0.5 | <1 | <2 | <3 | - | - | - | - | - | - | - | - | - | - | - |
| BC06 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC07 0.3-0.4 | 04-Nov-19 | Natural Materials | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| BC07 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC08 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC09 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC10 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC11 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC12 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC13 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC14 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC15 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC16 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC17 0-0.1 | 05-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC18 0.3-0.4 | 05-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | 42 | 6.9 | 25 | 11 |
| BC20 0-0.1 | 05-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC21 0-0.1 | 05-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC23 0-0.1 | 05-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC24 0-0.1 | 05-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BC25 0-0.1 | 05-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BV6-01 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BV6-02 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BV6-03 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | <50 | <100 | <100 | <100 | <50 | <100 | <100 | - | - | - | 23 |
| BV6-04 0.3-0.4 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | 30 | 6.4 | 13 | 8.9 |
| BV6-05 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BV6-06 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BV6-07 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| QA20191104-ML | 04-Nov-19 | Duplicate sample of BC05 0-0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| QC20191104-ML | 04-Nov-19 | Triplicate sample of BC05 0-0.2 | <0.2 | <1 | <0.5 | <1 | <2 | <3 | - | - | - | - | - | - | - | - | - | - | - |
| BV6-08 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |
| BV6-09 0-0.1 | 04-Nov-19 | Natural Materials | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 | - | - | - | - | - | - | - | - | - | - | - |

| Statistical Summary | | Benzene | Ethylbenzene | Toluene | Xylene (o) | Xylene (m & p) | Xylene (Total) |
|-----------------------------------------------|--|---------|--------------|---------|------------|----------------|----------------|
| Number of Results | | 36 | 36 | 36 | 36 | 36 | 36 |
| Number of Detects | | 0 | 0 | 0 | 0 | 0 | 0 |
| Minimum Concentration | | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.3 |
| Minimum Detect | | ND | ND | ND | ND | ND | ND |
| Maximum Concentration | | <0.2 | <1 | <0.5 | <1 | <2 | <3 |
| Maximum Detect | | ND | ND | ND | ND | ND | ND |
| Average Concentration | | 0.053 | 0.075 | 0.061 | 0.075 | 0.15 | 0.23 |
| Median Concentration | | 0.05 | 0.05 | 0.05 | 0.05 | 0.1 | 0.15 |
| Standard Deviation | | 0.012 | 0.1 | 0.046 | 0.1 | 0.21 | 0.31 |
| Number of Guideline Exceedances | | 0 | 0 | 0 | 0 | 0 | 0 |
| Number of Guideline Exceedances(Detects Only) | | 0 | 0 | 0 | 0 | 0 | 0 |



| | Non-Metallic Inorganics | | | | | Major Cations | | | | | Major Anions | | | | | Ionic Balance | | Other | | |
|---------------------------------------------------------------------------------|-------------------------|--------------------------|----------------|--------------------------|--------------------------------|-----------------------|---------|-----------|-----------|--------|------------------------|------------|-------------------|----------|-----------------------------------|---------------------------------|--------|------------------------|------------------------|-----|
| | Ammonia (as N) | Nitrate (as N) | Nitrite (as N) | Nitrate & Nitrite (as N) | Total Kjeldahl Nitrogen (as N) | Total Nitrogen (as N) | Calcium | Magnesium | Potassium | Sodium | Phosphate total (as P) | Phosphorus | Sulphate (as SO4) | Chloride | Bicarbonate Alkalinity (as CaCO3) | Carbonate Alkalinity (as CaCO3) | EC_Lab | Total Dissolved Solids | Total Suspended Solids | |
| | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µS/cm | mg/L | mg/L | |
| EQL | 0.01 | 0.02 | 0.02 | 0.05 | 0.2 | 0.2 | 0.5 | 0.5 | 0.5 | 0.5 | 0.01 | 0.01 | 5 | 1 | 20 | 10 | 10 | 10 | 1 | |
| ANZECC & ARMCANZ 2018 FW 95% | 0.9 | | | | | | | | | | | | | | | | | | | |
| Australian Drinking Water (2011) (as amended Oct 2017) (factor 10) – Aesthetics | 4.1 | - | - | | | | | | | 1800 | | | | 2500 | 2500 | | | | 6000 | |
| Australian Drinking Water (2011) (updated aug 2018) (factor 10) – Health | | 112.9 | 9.1 | | | | | | | | | | | 5000 | | | | | | |
| NEMP 2018 PFAS Tier 1 Screening Values - Freshwater 95% species protection | | | | | | | | | | | | | | | | | | | | |
| NEMP 2018 PFAS Health Based Guidance Values (Drinking Water) | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Sampled Date | Lab Report Number | | | | | | | | | | | | | | | | | | |
| BLANK-01 | 07-Nov-19 | 686884 | | | | | | | | | | | | | | | | | | |
| SW-01 | 07-Nov-19 | 0.04 | 0.33 | 0.02 | 0.35 | 0.4 | 0.75 | 39 | 9.2 | 12 | 160 | 0.04 | 0.02 | 95 | 210 | 100 | <10 | 1100 | 620 | 2.5 |
| SW-02 | 07-Nov-19 | 0.06 | 0.3 | <0.02 | 0.03 | 0.5 | 0.82 | 0.44 | 10 | 13 | 180 | 0.03 | 0.02 | 96 | 220 | 120 | <10 | 1100 | 550 | 1.6 |

Data Comments
 #1 Quantification of linear and branched isomers has been conducted as a single total response
 * Trigger value ammonia as N for pH 8.5



| | Non-Metallic Inorganics | | | | | | | | | | Major Cations | | | | | | | | | | Major Anions | | | | | | | Ionic Balance | | |
|---------------------------------------------------------------------------------|-------------------------|----------------|----------|----------------|----------------|--------------------------|--------------------------------|-----------------------|---------|--------------------|---------------|----------------------|-----------|----------------------|--------|-------------------|------------------------|------------|-------------------------------------|-------------------|--------------|-------------------------------|-----------------------------------|---------------------------------|---------------------------------|---------------|--------|-----------------------------|---|------|
| | Ammonia | Ammonia (as N) | Fluoride | Nitrate (as N) | Nitrite (as N) | Nitrate & Nitrite (as N) | Total Kjeldahl Nitrogen (as N) | Total Nitrogen (as N) | Calcium | Calcium (Filtered) | Magnesium | Magnesium (Filtered) | Potassium | Potassium (Filtered) | Sodium | Sodium (Filtered) | Phosphate total (as P) | Phosphorus | Phosphorus (soluble as phosphorous) | Sulphate (as SO4) | Chloride | Carbonate Alkalinity (as CO3) | Bicarbonate Alkalinity (as CaCO3) | Carbonate Alkalinity (as CaCO3) | Hydroxide Alkalinity (as CaCO3) | Ionic Balance | EC_Lab | Total Alkalinity (as CaCO3) | | |
| | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | MG/L | mg/L | mg/L | mg/L | % | µS/cm | mg/L | | |
| EQL | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ANZECC & ARMCANZ 2018 FW 95% | 0.9 | 0.9 | | | | | | | | | | | | | | | | | | | | | 5 | 10 | | | 10 | | | |
| Australian Drinking Water (2011) (as amended Oct 2017) (factor 10) – Aesthetics | 5 | 5 | | | | | | | | | | | | 1800 | 1800 | | | | | 2500 | 2500 | | | | | | | | | |
| Australian Drinking Water (2011) (as amended Oct 2017) (factor 10) – Health | | | 15 | 112.9 | 92 | | | | | | | | | | | | | | | 5000 | | | | | | | | | | |
| NEMP 2018 PFAS Tier 1 Screening Values - Freshwater 95% species protection | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NEMP 2018 PFAS Health Based Guidance Values (Drinking Water) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Sample ID | Sampled Date | Report Number | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GWM_01 | 11-Nov-19 | 687355 | - | 0.33 | <0.5 | 0.04 | <0.02 | 0.05 | 1.1 | 1.15 | 180 | - | 860 | - | 20 | - | 5600 | - | 0.17 | <0.05 | - | - | - | - | 1200 | <10 | - | 22,000 | - | |
| GWM_02 (Primary) | 11-Nov-19 | 687355 | - | 1 | <0.5 | 0.05 | <0.02 | <0.05 | 0.9 | 0.9 | 230 | - | 870 | - | 34 | - | 4700 | - | <0.05 | <0.05 | - | - | - | - | 1100 | <10 | - | 21,000 | - | |
| QC20191111 (duplicate) | 11-Nov-19 | 687355 | - | 1 | <0.5 | 0.08 | <0.02 | 0.08 | 1.2 | 1.28 | 240 | - | 850 | - | 34 | - | 4600 | - | 0.08 | <0.05 | - | - | - | - | 1100 | <10 | - | 20,000 | - | |
| QA20191111 (triplicate) | 11-Nov-19 | 230601 | 0.93 | - | 0.1 | 0.03 | <0.005 | - | 1.1 | 1.2 | - | 220 | - | 860 | - | 30 | - | 4400 | - | <0.05 | 0.005 | 970 | 9000 | <5 | 1200 | - | <5 | -4 | - | 1200 |
| GWM_03 | 11-Nov-19 | 687355 | - | 0.7 | <0.5 | 0.14 | <0.02 | 0.14 | 1.7 | 1.84 | 230 | - | 810 | - | 43 | - | 4200 | - | 0.11 | <0.05 | - | - | - | - | 1100 | <10 | - | 19,000 | - | |

Table D: TCLP ASLP Analysis
 Project Number: 57591
 Project Name: Basin C and V6 Investigation



| BTEXN | Polycyclic Aromatic Hydrocarbons | | | | | | | | | | | | | | | | | Ionic Balance | | | |
|--------------------------------------------|----------------------------------|--------------|----------------|------------|-------------------|----------------|------------------------|----------------------|----------------------|----------|-----------------------|--------------|----------|-------------------------|--------------|--------------|--------|--------------------------|---------------------|-----------------|---------------------|
| | Naphthalene | Acenaphthene | Acenaphthylene | Anthracene | Benz(a)anthracene | Benzo(a)pyrene | Benzo(b,j)fluoranthene | Benzo(g,h,i)perylene | Benzo(k)fluoranthene | Chrysene | Dibenz(a,h)anthracene | Fluoranthene | Fluorene | Indeno(1,2,3-c,d)pyrene | PAHs (Total) | Phenanthrene | Pyrene | pH (TCLP - HCl addition) | pH (TCLP - initial) | pH (TCLP - off) | pH (Leachate fluid) |
| | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | ph Units | ph Units | ph Units | ph Units |
| EQL | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.1 | 0.1 | 0.1 | 0.1 |
| NSW EPA 2014 General Solid Waste (leached) | | | | | | 0.04 | | | | | | | | | | | | | | | |

| Sample ID | Sampled Date | Description | Naphthalene | Acenaphthene | Acenaphthylene | Anthracene | Benz(a)anthracene | Benzo(a)pyrene | Benzo(b,j)fluoranthene | Benzo(g,h,i)perylene | Benzo(k)fluoranthene | Chrysene | Dibenz(a,h)anthracene | Fluoranthene | Fluorene | Indeno(1,2,3-c,d)pyrene | PAHs (Total) | Phenanthrene | Pyrene | pH (TCLP - HCl addition) | pH (TCLP - initial) | pH (TCLP - off) | pH (Leachate fluid) |
|-----------------|--------------|-----------------------------------|-------------|--------------|----------------|------------|-------------------|----------------|------------------------|----------------------|----------------------|----------|-----------------------|--------------|----------|-------------------------|--------------|--------------|--------|--------------------------|---------------------|-----------------|---------------------|
| BC04 0-0.1 TCLP | 04-Nov-19 | Fill materials within access path | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 1.6 | 7.2 | 5.1 | - |
| BC04 0-0.1 ASLP | 04-Nov-19 | Fill materials within access path | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | - | 7.3 | 7.9 | 6 |

Table E: Surface water and Ground water Water Quality Parameters

Project Number: 57591

Project Name: Basin C and V6 Investigation



| Surface Water | | | | | | | | |
|--------------------|-------------|---------------------|-------------|------------------|-----|-------|-------------------------|----------------------------------------|
| Sample ID | Sample Date | Distance From Shore | Temperature | Dissolved Oxygen | pH | Redox | Electrical Conductivity | Comments |
| | | mAHD | °C | mg/L | - | mV | µs/cm | |
| SW-01 (Field) | 07-11-19 | 0.5 | 19.2 | 78.2* | 8.5 | 40.1 | 980.0 | Clear water with slight organic odour. |
| SW-01 (Laboratory) | 07-11-19 | 0.5 | 25.0 | - | 8.0 | - | 1100.0 | Clear water with slight organic odour. |
| SW-02 (Field) | 07-11-19 | 0.3 | 18.9 | 68.2* | 8.3 | 18.1 | 943.0 | Clear water with slight organic odour. |
| SW-02 (Laboratory) | 07-11-19 | 0.3 | 25.0 | - | 8.2 | - | 1100.0 | Clear water with slight organic odour. |

Dissolved oxygen readings considered unrealistic, potential issue with prob during recording

| Ground Water | | | | | | | | |
|---------------------|-------------|----------------|-------------|------------------|-----|-------|-------------------------|----------------------------------------------------------------------------------------------------|
| Sample ID | Sample Date | Depth to Water | Temperature | Dissolved Oxygen | pH | Redox | Electrical Conductivity | Comments |
| | | m TOC | °C | ppm | - | mV | µs/cm | |
| GWM-01 (Field) | 11-11-19 | 4.80 | 24.2 | 1.7 | 6.6 | 128.5 | 26903 | Slight brown turbidity. No odour or sheen. |
| GWM-01 (Laboratory) | 11-11-19 | - | 25.0 | - | 7.0 | - | 22000 | Slight brown turbidity. No odour or sheen. |
| GWM-02 (Field) | 11-11-19 | 2.67 | 20.2 | 31.3 | 7.0 | 52.3 | 22270 | Slight orange/brown turbidity. No odour or sheen. QA/QA 20191111 taken - only metals and nutrients |
| GWM-02 (Laboratory) | 11-11-19 | - | 25.0 | - | 7.4 | - | 21000 | Slight orange/brown turbidity. No odour or sheen. QA/QA 20191111 taken - only metals and nutrients |
| GWM-03 (Field) | 11-11-19 | 3.90 | 20.5 | 2.4 | 7.1 | 93.4 | 19000 | Slight brow/grey turbidity. No odour or sheen |
| GWM-03 (Laboratory) | 11-11-19 | - | 25.0 | - | 7.5 | - | 19000 | Slight brow/grey turbidity. No odour or sheen |

Table E: Surface water and Ground water Water Quality Parameters
Project Number: 57591
Project Name: Basin C and V6 Investigation



Appendix A Historical Site Audit Statement



5. Validation Report for the Southern Sector East of the St Marys Property, Report No. 498810, ADI Limited 1996;
6. Validation Report for the Northern Sector of the ADI St Marys Property, Report No. 498820, ADI Limited 1996;
7. Validation Report for the Central Sector East of the ADI St Marys Property, Report No. 498840, ADI Limited 1997;
8. Validation Report for the Central Sector West of the ADI St Marys Property, Report No. 498840, ADI Limited 1996;
9. Validation Report for the North Eastern Sector of the ADI St Marys Property, Report No. 498850, ADI Limited 1996;
10. QA/Verification Survey Results, ADI St Marys Property, Report No. PG980323da ADI Limited, 1999.

Other Information reviewed:

1. Site Investigation Report of St Marys Facility Ammunition and Missiles Division, Volume 4 - Discussions and Conclusions, ADI, June 1991.
2. Remediation Action Plan for the Northern Sector, ADI St Marys Facility, Report No. 498820, ADI Limited 1996;
3. Remediation Action Plan for Central Eastern Sector, ADI St Marys Facility, Report No. 498840, ADI Limited 1996;
4. Remediation Action Plan for the Eastern Sector of the ADI St Marys Property, Report No. 498830, ADI Limited 1996;
5. Stage I Decontamination Audit, ADI St Marys CMPS&F, 1997.

Summary Site Audit Report Title:

Stage 2 Decontamination Audit Report for ADI Site, St Marys.

I have completed a site audit (as defined in the Contaminated Land Management Act 1997) and reviewed the reports and information referred to above with due regard to relevant laws and guidelines. I certify that the site (tick all appropriate boxes)

(a) is suitable for the following use(s):

- residential, including substantial vegetable garden and poultry;
- residential, including substantial vegetable garden, excluding poultry; *llll*
- residential with accessible soil, including garden (minimal home grown produce contributing less than 10% fruit and vegetable intake), excluding poultry; *llll*
- residential with minimal opportunity for soil access including units;
- daycare centre, preschool, primary school;
- secondary school;
- park, recreational open space, playing field;
- commercial/industrial use;
- Other *llll*



subject to

✓ Conditions

1. Excludes Eastern Sector, QEL, Site 6 and Site 23 which are covered by separate site audit statements, namely CHK001/2, CHK001/3, CHK001/4 and CHK001/5.
2. Excludes areas not yet investigated including the footprint of original buildings, car parks and roads, mainly around former Administration Centre Buildings CHK001/6) and the concrete stockpile in Central Sector West. (Stockpile CHK001/7)
3. An appropriate management plan, including procedures for the safe handling and disposal of any items of ordnance that may be found during earthworks, should be lodged prior to the commencement of development earthworks. This plan should be similar to the "Remnant Contamination Management Plan" submitted by ADI (see Appendix E of the Site Audit Report).

~~(b) is not suitable for any beneficial use due to risk of harm from contamination~~ *Luca*

(comments): *Luca*

I am accredited by the NSW Environment Protection Authority under the Contaminated Land Management Act, 1997 as a site auditor (Accreditation No. 9813).

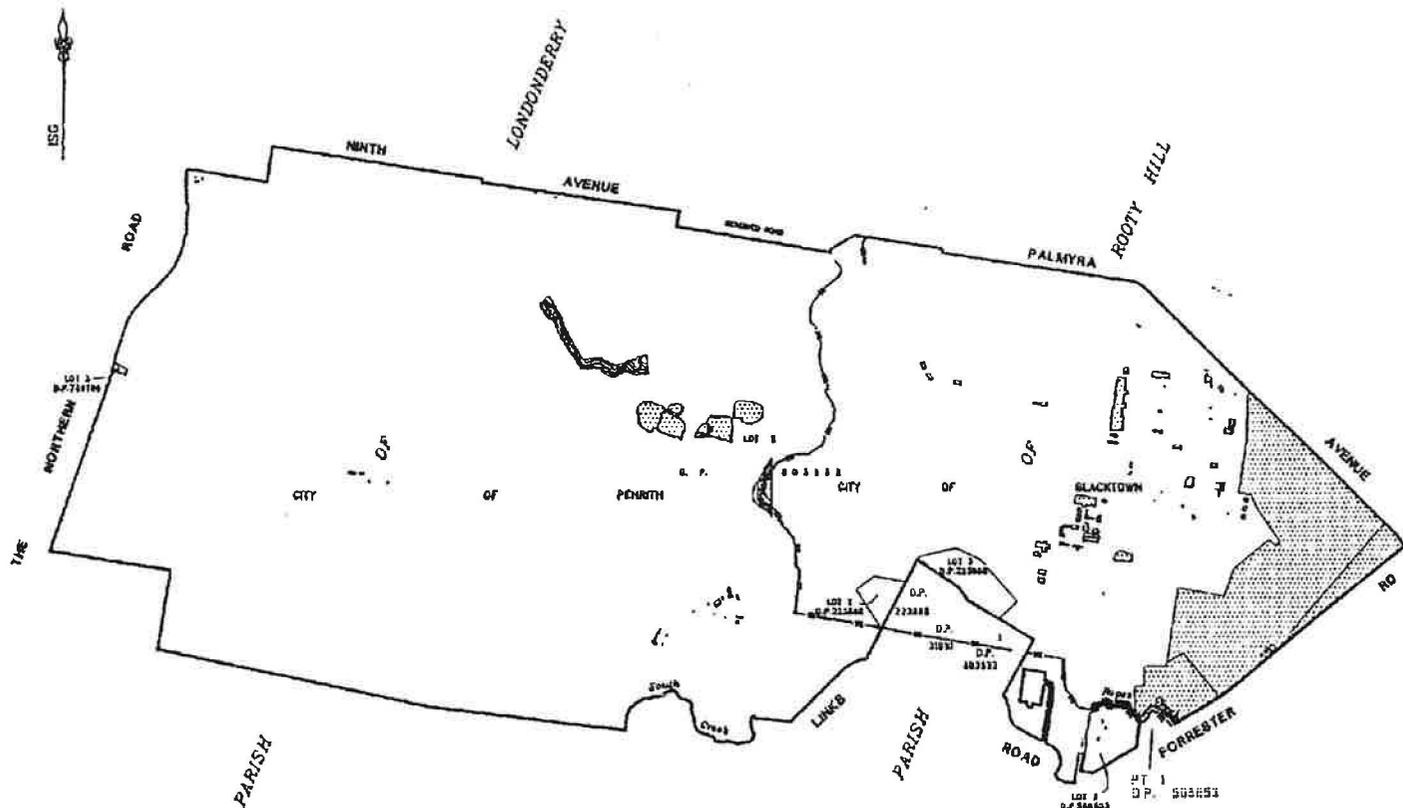
I Certify that:

- (a) I have personally examined and am familiar with the information contained in this statement, including the reports and information referred to in this statement, and
- (b) this statement is to the best of my knowledge, true, accurate and complete, and
- (c) on the basis of my inquiries made to those individuals immediately responsible for making the reports, and obtaining the information, referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties for wilfully submitting false, inaccurate or incomplete information.

Signed: *Luca*

Date: *7/6/99*



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 Telephone 02) 9630 4199
 Facsimile 02) 9630 4599

PREPARED FOR:
ADI Property

**ADI ST MARYS PROPERTY
 PLAN TO ACCOMPANY SITE
 AUDIT STATEMENT CHK001/1**

A3

| | |
|----------------------|---------------------------|
| ORIGINAL SIZE: | |
| SCALE HORZ: | 1 : 25 000 |
| SCALE VERT: | - |
| CO-ORDS: | ISG |
| DATE OF SURVEY: | DATE OF PLAN: 11 May 1999 |
| SURVEY: | - |
| CHECKED: | DATE |
| APPROVED: | DATE |
| JOB REF: | 8662 |
| CAD REF: | 5467-122.DWG |
| SHEET 1 OF 15 SHEETS | |

NOTE :

GEOMETRY SHOWN AS SUPPLIED BY ADI LIMITED TO OUR
 OFFICE 10.3.1999

FOR SITE DETAILS ON EXCLUDED AREAS PLEASE REFER TO
 DRAWINGS :

- 5467-123
- 5467-125
- 5467-126
- 5467-127
- 5467-128
- 5467-129
- 5467-130
- 5467-131
- 5467-132
- 5467-133
- 5467-134
- 5467-135

SHADED AREAS ARE EXCLUDED FROM
 AUDIT STATEMENT CHK001/1

Handwritten signature



NSW Environment Protection Authority
SITE AUDIT STATEMENT (SAS)

Site Audit Statement No.: CHK001/6

Site Auditor (accredited under NSW Contaminated Land Management Act 1997):

Name: Christopher H Kidd Company: HLA-Envirosciences Pty Limited
Address: 55-65 Grandview Street, Fybble, NSW Postcode: 2076
Phone: (02) 9988 4422 Fax: (02) 9988 4441

Site Details

ADI St. Marys Property – existing buildings and paved areas scattered about the site.
Address: Forrester Road, St. Marys Postcode: 2760
Lot and DP Number: Lot 2 in DP803832
Lot 2 and 3 in DP223888 (part of)
Lot 3 in DP789196
Lot 3 in DP598653
(see attached 7 maps)
Local Government Area: Penrith and Blacktown

Site Audit requested by:

Name: Mr P Newton Company: Department of Urban Affairs and
Planning
Address: Sydney Region West
Level 8, Signature Tower
2-10 Wentworth Street
Parramatta NSW 2150
Phone: (02) 9895 7142 - Fax: (02) 9895 6270

Name of contact person (if different from above):

Consultancy(ies) who conducted the site investigation(s) and/or remediation:

- ADI Limited Chemical and Explosives Ordnance
Investigations, Remediation and Validation 1990 -
1999
- Mackie Martin & Associates Groundwater Investigations, 1991

Title(s) of Report(s) reviewed:

11. Historical Report – St Marys Property, ADI Limited, 1996;
12. Validation Report for the Western Sector, ADI St Marys Facility, ADI Limited
November 1994;
13. Validation Report for the North Western Sector of the ADI St Marys Facility, Report No.
498300, ADI Limited 1995;
14. Validation Report for the Southern Sector West of the ADI St Marys Property, Report
No. 498310, ADI Limited 1996;

15. Validation Report for the Southern Sector East of the St Marys Property, Report No. 498810, ADI Limited 1996;
16. Validation Report for the Northern Sector of the ADI St Marys Property, Report No. 498820, ADI Limited 1996;
17. Validation Report for the Central Sector East of the ADI St Marys Property, Report No. 498840, ADI Limited 1997;
18. Validation Report for the Central Sector West of the ADI St Marys Property, Report No. 498840, ADI Limited 1996;
19. Validation Report for the North Eastern Sector of the ADI St Marys Property, Report No. 498850, ADI Limited 1996;
20. QA/Verification Survey Results, ADI St Marys Property, Report No. PG980323da ADI Limited, 1999.

Other Information reviewed:

6. Site Investigation Report of St Marys Facility Ammunition and Missiles Division, Volume 4 – Discussions and Conclusions, ADI, June 1991.
7. Remediation Action Plan for the Northern Sector, ADI St Marys Facility, Report No. 498820, ADI Limited 1996;
8. Remediation Action Plan for Central Eastern Sector, ADI St Marys Facility, Report No. 498840, ADI Limited 1996;
9. Remediation Action Plan for the Eastern Sector of the ADI St Marys Property, Report No. 498830, ADI Limited 1996;
10. Stage I Decontamination Audit, ADI St Marys CMPS&F, 1997.

Summary Site Audit Report Title:

Stage 2 Decontamination Audit Report for ADI Site, St Marys.

I have completed a site audit (as defined in the Contaminated Land Management Act 1997) and reviewed the reports and information referred to above with due regard to relevant laws and guidelines. I certify that the site (tick all appropriate boxes)

(a) is suitable for the following use(s):

- residential, including substantial vegetable garden and poultry; *msk*
- residential, including substantial vegetable garden, excluding poultry; *msk*
- residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry; *msk*
- residential with minimal opportunity for soil access including units; *msk*
- day care centre, preschool, primary school; *msk*
- secondary school; *msk*
- park, recreational open space, playing field; *msk*
- commercial/industrial use;
- Other – May continue to be used for existing commercial use and carparks, but underlying soils need to be tested for chemical and ordnance contamination after demolition.

subject to

✓ Conditions

1. Soils under existing buildings, car parks, roads and the concrete stockpile shall be tested for ordnance and/or chemical contamination when these facilities are removed; site audits statements for these areas will also be required.
2. An appropriate management plan, including procedures for the safe handling and disposal of any items of ordnance that may be found during earthworks, should be lodged prior to the commencement of development earthworks. This plan should be similar to the "Remnant Contamination Management Plan" submitted by ADI (see Appendix E of the Site Audit Report).

~~(b) is not suitable for any beneficial use due to risk of harm from contamination~~
 (comments): *yes*

I am accredited by the NSW Environment Protection Authority under the Contaminated Land Management Act, 1997 as a Site Auditor (Accreditation No. 9813).

I Certify that:

- (a) I have personally examined and am familiar with the information contained in this statement, including the reports and information referred to in this statement, and
- (b) this statement is to the best of my knowledge, true, accurate and complete, and
- (c) on the basis of my inquiries made to those individuals immediately responsible for making the reports, and obtaining the information, referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete.

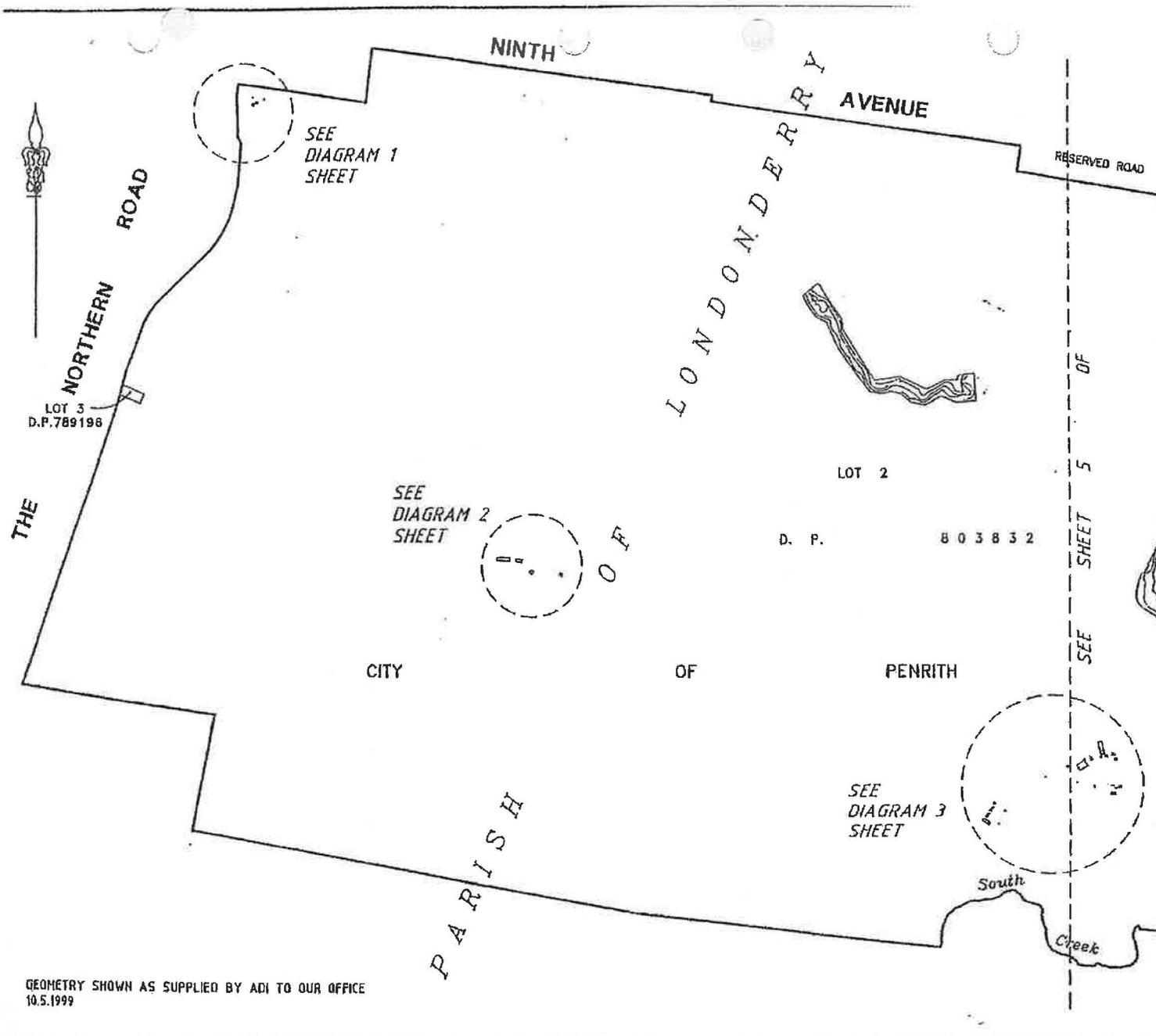
I am aware that there are penalties for wilfully submitting false, inaccurate or incomplete information.

Signed: _____

Date: _____

Lawson

7/6/99



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10.5.1999

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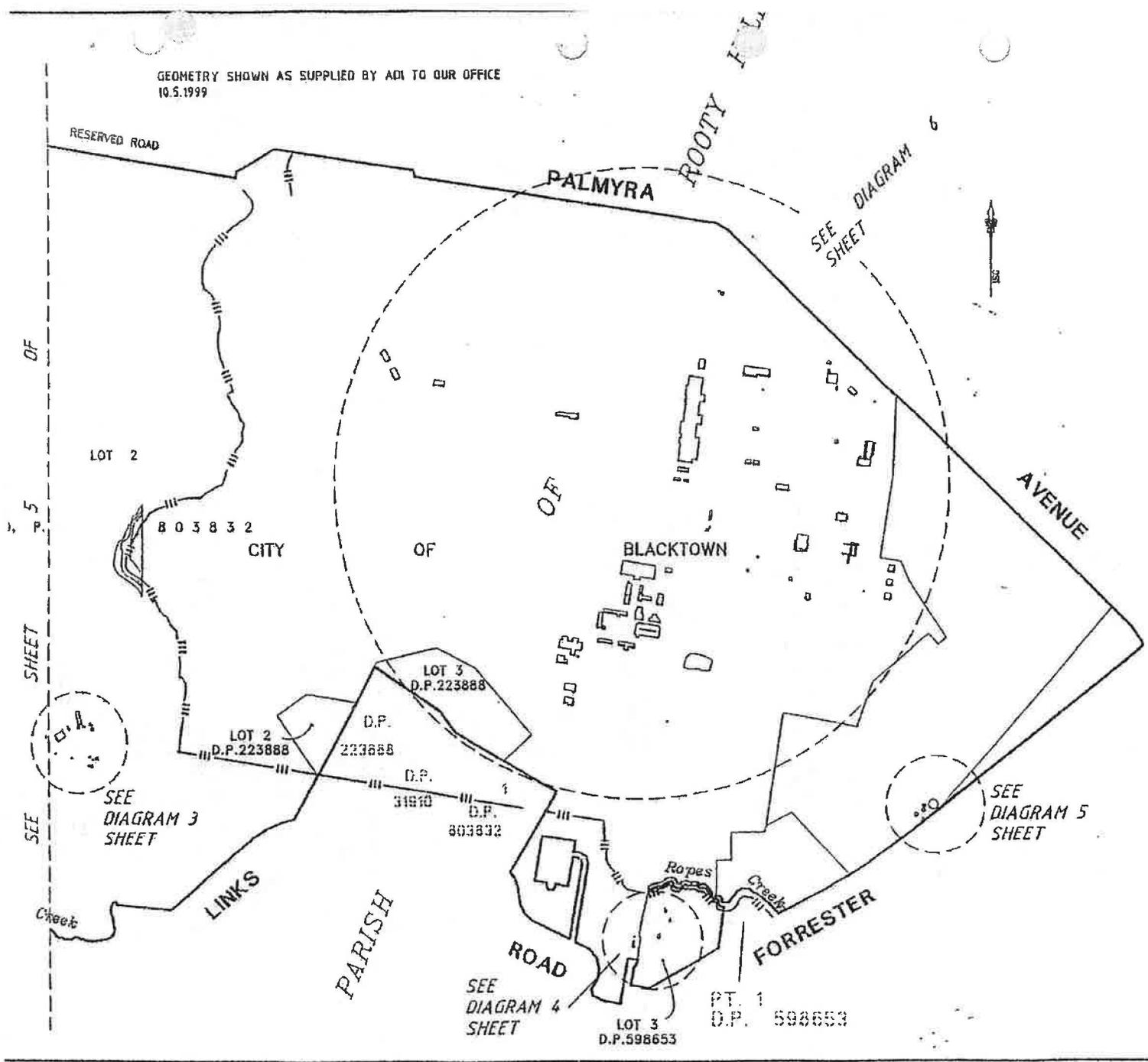
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PREPARED FOR:
ADI PROPERTY

**ADI ST MARYS PROPERTY
RETAINED BUILDINGS/PAVED AREA
PLAN TO ACCOMPANY SITE AUDIT
STATEMENT CHK001/6**

| | |
|--------------------------|---------------------------|
| ORIGINAL SIZE: A3 | |
| SCALE HOR: 12500 | VERT: |
| CO-ORDS: | DATUM: |
| DATE OF SURVEY | DATE OF PLAN: 19 MAY 1999 |
| SURVEY | DRAWN DOW |
| CHECKED: DDW | DATE 24.5.1999 |
| APPROVED: PW | DATE 24.5.1999 |
| JOB REF: 8662 | |
| CAD REF: 5467-126 | SHEET 7 OF 13 SHEETS |

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| | Planners |
| | Geomatic Engineers |

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ADI PROPERTY

**ADI ST MARYS PROPERTY
 RETAINED BUILDINGS/PAVED AREA
 PLAN TO ACCOMPANY SITE AUDIT
 STATEMENT CHK001/6**

ORIGINAL SIZE: **A3**

| | | |
|-------------------|---------------------------|----------------------|
| SCALE | HOR: 1:2500 | VERT: |
| CO-ORDS: | DATUM: | |
| DATE OF SURVEY | DATE OF PLAN: 10 MAY 1999 | |
| SURVEY | DRAWN: DDW | |
| CHECKED: DDW | DATE: 24.5.1999 | |
| APPROVED: PW | DATE: 24.5.1999 | |
| JOB REF: 8662 | | |
| CAD REF: 5487-125 | | SHEET 6 OF 13 SHEETS |

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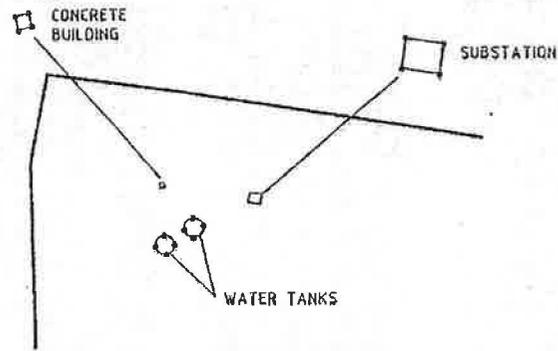


DIAGRAM 1

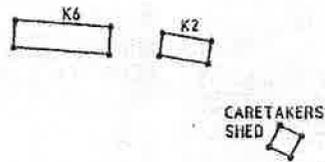


DIAGRAM 2

| | |
|-------------------|----------------------------------------------------------------------|
| CONCRETE BUILDING | 274588 1267987 274590 1267987 274590 1267985 274588 1267985 |
| SUBSTATION | 274625 1267979 274626 1267983 274631 1267982 274630 1267978 |
| WATERTANK | 274606 1267968 274603 1267964 274598 1267968 274602 1267972 |
| WATERTANK | 274589 1267965 274586 1267960 274591 1267957 274594 1267960 |
| K6 | 275465 1266407 275425 1266410 275426 1266422 275466 1266419 |
| K2 | 275507 1266403 275487 1266407 275488 1266416 275508 1266413 |
| CARETAKERS SHED | 275532 1266368 275537 1266377 275546 1266373 275541 1266364 |
| K4 | 275642 1266357 275635 1266360 275637 1266367 275645 1266364 |

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10.5.1999

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| | Geomatics Engineers |
| Whelans Australia Pty Ltd. | |

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PREPARED FOR:

ADI PROPERTY

**ADI ST MARYS PROPERTY
RETAINED BUILDINGS/PAVED AREA
PLAN TO ACCOMPANY SITE AUDIT
STATEMENT CHK001/6**

ORIGINAL SIZE:

A3

| | | |
|-------------------|------------------------|-----------|
| SCALE | HOR: 2000 | VERT: |
| CO-ORDS: | DATUM: | |
| DATE OF SURVEY | DATE OF PLAN: MAY 1999 | |
| SURVEY | DRAWN DDW | |
| CHECKED: DDW | DATE | 24.5.1999 |
| APPROVED: PW | DATE | 24.5.1999 |
| JOB REF: 8862 | | |
| CAD REF: 5467-127 | SHEET 9 OF 13 SHEETS | |

Handwritten signature

| BDD No | EASTING | NORTHING |
|--------|---------|----------|
| X7 | 277113 | 1265596 |
| | 277111 | 1265594 |
| | 277105 | 1265598 |
| | 277107 | 1265601 |
| X6 | 277106 | 1265581 |
| | 277101 | 1265585 |
| | 277091 | 1265570 |
| | 277096 | 1265566 |
| X4 | 277076 | 1265549 |
| | 277082 | 1265545 |
| | 277091 | 1265559 |
| | 277086 | 1265563 |
| X3 | 277067 | 1265535 |
| | 277072 | 1265542 |
| | 277094 | 1265527 |
| | 277089 | 1265520 |
| X9 | 277127 | 1265521 |
| | 277125 | 1265518 |
| | 277122 | 1265520 |
| | 277124 | 1265523 |
| X5 | 277142 | 1265565 |
| | 277145 | 1265563 |
| | 277150 | 1265568 |
| | 277145 | 1265571 |
| | 277399 | 1265671 |
| | 277397 | 1265674 |

| BDD No | EASTING | NORTHING |
|--------|---------|----------|
| W01 | 277452 | 1265655 |
| | 277456 | 1265654 |
| | 277457 | 1265658 |
| | 277453 | 1265658 |
| | 277475 | 1265762 |
| | 277481 | 1265760 |
| | 277479 | 1265755 |
| | 277474 | 1265756 |
| | 277493 | 1265765 |
| | 277500 | 1265764 |
| | 277499 | 1265759 |
| | 277492 | 1265760 |
| W04 | 277433 | 1265729 |
| | 277407 | 1265712 |
| | 277395 | 1265731 |
| | 277418 | 1265746 |
| | 277444 | 1265749 |
| | 277440 | 1265755 |
| | 277444 | 1265758 |
| | 277448 | 1265751 |
| W05 | 277399 | 1265671 |
| | 277397 | 1265674 |
| | 277395 | 1265672 |
| | 277396 | 1265670 |
| | 277360 | 1265728 |
| | 277365 | 1265731 |
| 277368 | 1265726 | |
| 277363 | 1265723 | |

| BDD No | EASTING | NORTHING |
|---------------|---------|----------|
| TOILET | 277519 | 1265773 |
| | 277521 | 1265766 |
| | 277516 | 1265765 |
| | 277514 | 1265772 |
| POWER | 277283 | 1265688 |
| | 277285 | 1265686 |
| | 277287 | 1265689 |
| | 277286 | 1265691 |
| W11 | 277477 | 1265767 |
| | 277468 | 1265809 |
| | 277480 | 1265811 |
| SHED | 277439 | 1265759 |
| | 277437 | 1265763 |
| | 277439 | 1265764 |
| | 277441 | 1265761 |
| CONTROL TOWER | 277453 | 1265658 |
| | 277511 | 1265634 |
| | 277527 | 1265632 |
| | 277526 | 1265626 |

| BDD No | EASTING | NORTHING |
|--------|---------|----------|
| W09 | 277529 | 1265648 |
| | 277530 | 1265651 |
| | 277524 | 1265652 |
| | 277524 | 1265650 |
| | 277513 | 1265658 |
| | 277513 | 1265661 |
| | 277520 | 1265662 |
| | 277520 | 1265659 |
| W02 | 277453 | 1265658 |
| | 277511 | 1265634 |
| | 277527 | 1265632 |
| | 277526 | 1265626 |
| | 277536 | 1265658 |
| | 277536 | 1265652 |
| | 277546 | 1265653 |
| | 277546 | 1265659 |

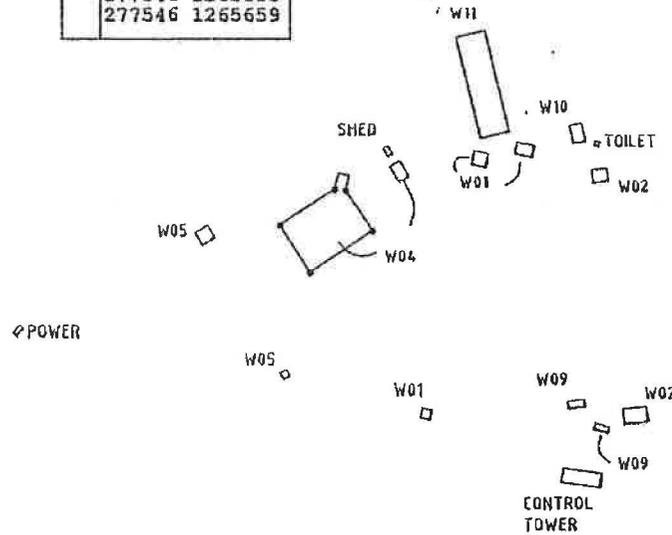


DIAGRAM 3

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PREPARED BY:

| | |
|----------------------------------|--------------------|
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| | Planners |
| | Casualty Engineers |
| Whelans Australia Pty Ltd | |

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 NSW 2150
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 Facsimile 02) 9630 4599

PREPARED FOR:

ADI PROPERTY

**ADI ST MARYS PROPERTY
 RETAINED BUILDINGS & PAVED AREA
 PLAN TO ACCOMPANY SITE
 AUDIT STATEMENT CHK001/6**

ORIGINAL SIZE:

A3

| | |
|-------------------|------------------------|
| SCALE: HOR: 2000 | VERT: |
| CD-ORIG: | DATUM: |
| DATE OF SURVEY | DATE OF PLAN: MAY 1999 |
| SURVEY | DRAWN: DDW |
| CHECKED: DDW | DATE: 21.5.1999 |
| APPROVED: PW | DATE: 24.5.1999 |
| JOB REF: 8562 | |
| CAD REF: 5467-128 | SHEET 10 OF 13 SHEETS |

Handwritten signature

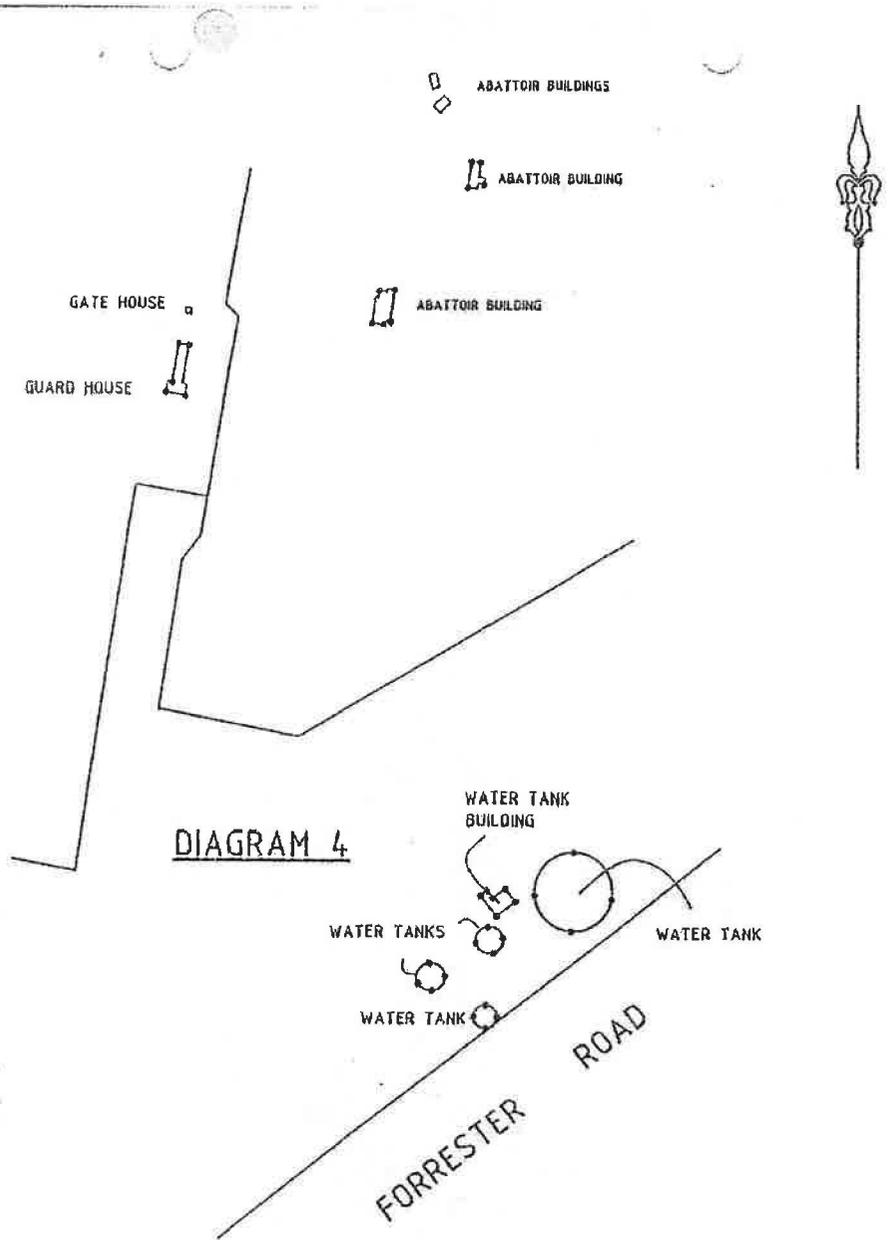


DIAGRAM 4

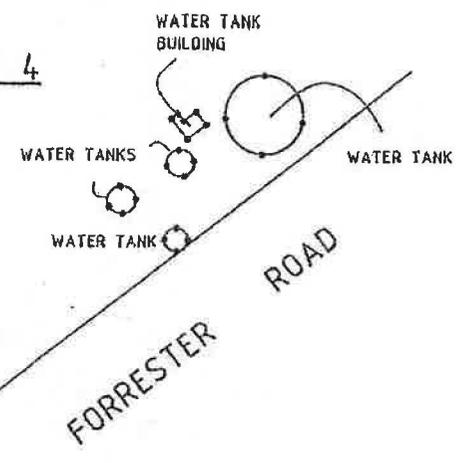


DIAGRAM 5

COORDINATES ARE APPROXIMATE ONLY
 GEOMETRY SHOWN AS SUPPLIED BY ADI TO OUR OFFICE
 10.5.1999

| BDD No | EASTING | NORTHING |
|---------------------|---------|----------|
| WATER TANK BUILDING | 280349 | 1265492 |
| | 280351 | 1265494 |
| | 280354 | 1265491 |
| | 280359 | 1265495 |
| WATER TANKS | 280389 | 1265510 |
| | 280403 | 1265494 |
| | 280385 | 1265477 |
| | 280371 | 1265496 |
| | 280357 | 1265477 |
| | 280358 | 1265474 |
| | 280350 | 1265468 |
| | 280347 | 1265475 |
| | 280326 | 1265452 |
| | 280322 | 1265458 |
| | 280334 | 1265459 |
| | 280330 | 1265464 |
| | 280354 | 1265445 |
| | 280356 | 1265441 |
| | 280347 | 1265444 |
| | 280349 | 1265436 |
| GATE HOUSE | 279372 | 1265033 |
| | 279375 | 1265032 |
| | 279372 | 1265030 |
| | 279374 | 1265030 |
| GUARD HOUSE | 279369 | 1265017 |
| | 279374 | 1265016 |
| | 279372 | 1264995 |
| | 279364 | 1264997 |
| | 279366 | 1265001 |
| ABATTOIR BUILDINGS | 279459 | 1265041 |
| | 279453 | 1265040 |
| | 279450 | 1265027 |
| | 279454 | 1265026 |
| | 279457 | 1265027 |
| | 279491 | 1265094 |
| | 279495 | 1265093 |
| | 279489 | 1265083 |
| | 279496 | 1265084 |
| | 279473 | 1265130 |
| | 279476 | 1265131 |
| | 279478 | 1265125 |
| | 279475 | 1265124 |
| | 279475 | 1265117 |
| | 279480 | 1265121 |
| | 279482 | 1265118 |
| | 279478 | 1265114 |

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| | Planners |
| | Geomatics Engineers |

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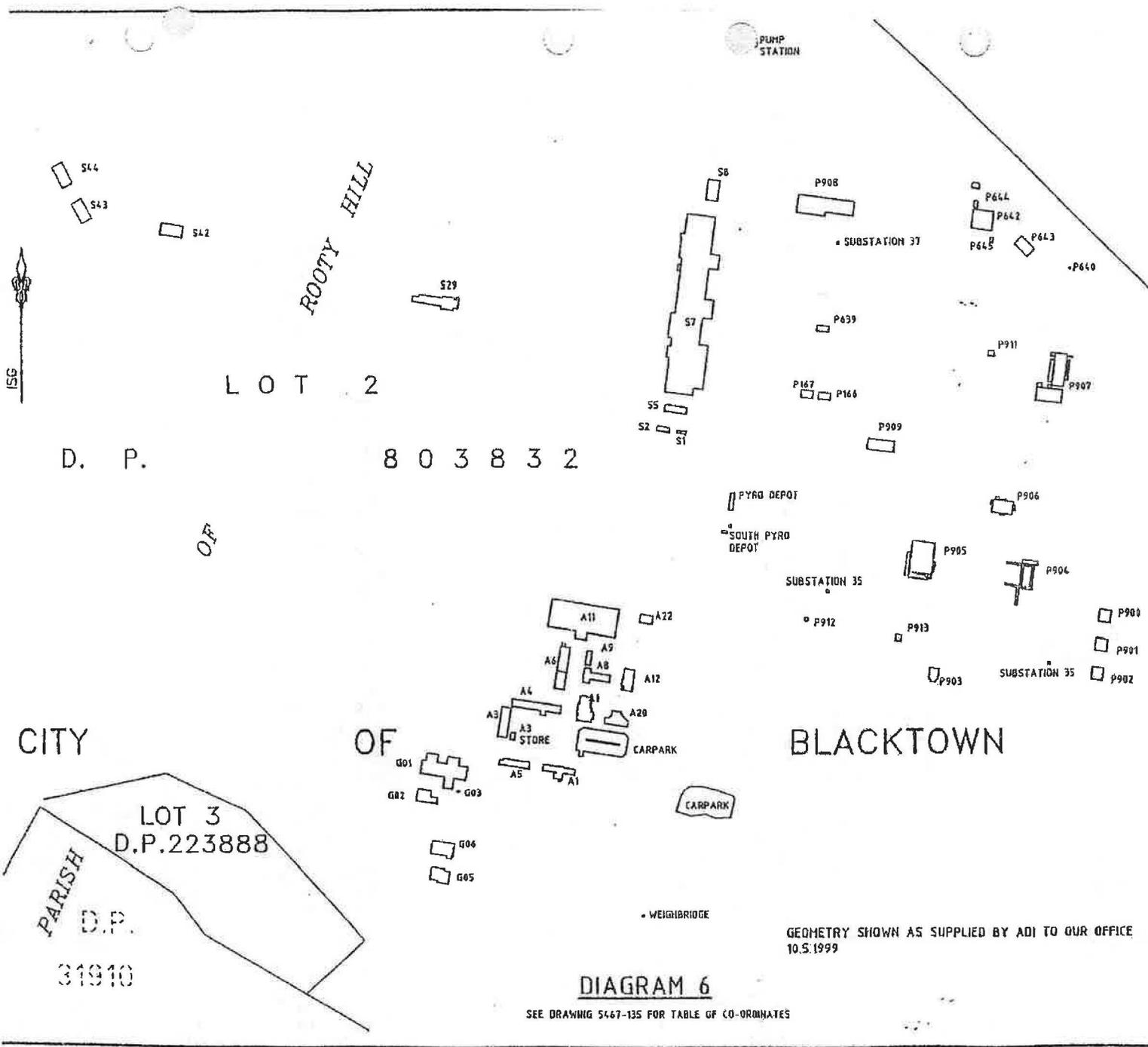
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ADI PROPERTY

**ADI ST MARYS PROPERTY
 RETAINED BUILDINGS/PAYED AREA
 PLAN TO ACCOMPANY SITE AUDIT
 STATEMENT CHK001/6**

| | |
|--------------------------|------------------------|
| ORIGINAL SIZE: A3 | |
| SCALE HOR: 2000 | VERT: |
| CO-ORDS: | BATHIM: |
| DATE OF SURVEY | DATE OF PLAN: MAY 1999 |
| SURVEY | DRAWN ACAD/ODW |
| CHECKED: DDW | DATE 24.5.1999 |
| APPROVED: PW | DATE 24.5.1999 |
| JOB REF: 8662 | |
| CAD REF: 5467-129 | SHEET 11 OF 13 SHEETS |

Welle



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 STATEMENT CHK001/6**

| | | | |
|----------------|----------|---------------|-----------------|
| ORIGINAL SIZE: | | A3 | |
| SCALE | NOR: | VERT: | |
| CO-ORDS: | | DATUM: | |
| DATE OF SURVEY | | DATE OF PLAN: | MAY 1999 |
| SURVEY | | DRAWN | ACAD/GDW |
| CHECKED: | DDW | DATE | 24.5.1999 |
| APPROVED: | PNV | DATE | 24.5.1999 |
| JOB REF: | B662 | | |
| CAD REF: | 5467-134 | SHEET | 12 OF 13 SHEETS |

DIAGRAM 6

SEE DRAWING 5467-135 FOR TABLE OF CO-ORDINATES

GEOMETRY SHOWN AS SUPPLIED BY ADI TO OUR OFFICE
 10.5.1999

Handwritten signature

| BDG NO | EASTING | NORTHING |
|----------|---------|----------|
| A11 | 279334 | 1266254 |
| | 279340 | 1266297 |
| | 279449 | 1266279 |
| | 279442 | 1266237 |
| A22 | 279484 | 1266274 |
| | 279505 | 1266270 |
| | 279503 | 1266258 |
| | 279482 | 1266261 |
| A9 | 279398 | 1266217 |
| | 279406 | 1266215 |
| | 279403 | 1266194 |
| | 279394 | 1266195 |
| A8 | 279394 | 1266191 |
| | 279435 | 1266178 |
| | 279402 | 1266172 |
| | 279390 | 1266168 |
| A6 | 279344 | 1266158 |
| | 279359 | 1266155 |
| | 279370 | 1266222 |
| | 279354 | 1266224 |
| A4 | 279276 | 1266141 |
| | 279274 | 1266129 |
| | 279353 | 1266117 |
| | 279355 | 1266128 |
| A3 | 279260 | 1266128 |
| | 279274 | 1266126 |
| | 279266 | 1266077 |
| | 279252 | 1266079 |
| A3 STORE | 279273 | 1266086 |
| | 279271 | 1266074 |
| | 279281 | 1266085 |
| | 279279 | 1266073 |
| A5 | 279302 | 1266026 |
| | 279304 | 1266037 |
| | 279262 | 1266043 |
| | 279234 | 1266033 |
| A1 | 279324 | 1266023 |
| | 279326 | 1266033 |
| | 279377 | 1266025 |
| | 279357 | 1266017 |
| A7 | 279342 | 1266010 |
| | 279380 | 1266107 |
| | 279404 | 1266108 |
| | 279405 | 1266143 |
| A22 | 279387 | 1266146 |
| | 279454 | 1266162 |
| | 279455 | 1266155 |
| | 279470 | 1266183 |
| A12 | 279475 | 1266107 |
| | 279425 | 1266100 |
| | 279462 | 1266094 |
| | 279453 | 1266119 |
| | 279437 | 1266113 |

| BDG NO | EASTING | NORTHING |
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| CAR/PARK | 279567 | 1265996 |
| | 279556 | 1265990 |
| | 279542 | 1265953 |
| | 279567 | 1265945 |
| | 279606 | 1265940 |
| | 279631 | 1265942 |
| | 279640 | 1265975 |
| | 279609 | 1265990 |
| CAR/PARK | 279391 | 1266093 |
| | 279384 | 1266089 |
| | 279379 | 1266056 |
| | 279383 | 1266046 |
| | 279453 | 1266044 |
| | 279464 | 1266076 |
| G01 | 279203 | 1266029 |
| | 279200 | 1266006 |
| | 279178 | 1265991 |
| | 279126 | 1266018 |
| G02 | 279138 | 1266052 |
| | 279144 | 1265979 |
| | 279145 | 1265989 |
| | 279122 | 1265993 |
| G06 | 279119 | 1265972 |
| | 279153 | 1265966 |
| | 279142 | 1265881 |
| | 279146 | 1265903 |
| G05 | 279182 | 1265897 |
| | 279177 | 1265871 |
| | 279174 | 1265850 |
| | 279171 | 1265829 |
| S42 | 279141 | 1265838 |
| | 279144 | 1265854 |
| | 278527 | 1267007 |
| | 278511 | 1266998 |
| S43 | 278529 | 1266966 |
| | 278545 | 1266974 |
| | 278578 | 1266916 |
| | 278560 | 1266949 |
| S44 | 278544 | 1266939 |
| | 278562 | 1266907 |
| | 278729 | 1266884 |
| | 278732 | 1266903 |
| S29 | 278696 | 1266909 |
| | 278693 | 1266890 |
| | 279324 | 1266023 |
| | 279326 | 1266033 |
| S8 | 279377 | 1266025 |
| | 279376 | 1266015 |
| | 279618 | 1266973 |
| | 279614 | 1266941 |
| S7 | 279595 | 1266944 |
| | 279600 | 1266976 |
| | 279564 | 1266923 |
| | 279611 | 1266916 |
| | 279524 | 1266631 |
| | 279588 | 1266635 |

| BDG NO | EASTING | NORTHING |
|-----------|---------|----------|
| S5 | 279525 | 1266609 |
| | 279523 | 1266598 |
| | 279560 | 1266592 |
| | 279561 | 1266604 |
| S2 | 279533 | 1266570 |
| | 279511 | 1266573 |
| | 279510 | 1266565 |
| | 279531 | 1266562 |
| S1 | 279192 | 1266788 |
| | 279189 | 1266769 |
| | 279114 | 1266781 |
| | 279115 | 1266791 |
| RAILWAY | 279599 | 1266565 |
| | 279580 | 1266465 |
| | 279575 | 1266465 |
| | 279605 | 1266652 |
| P908 | 279750 | 1266952 |
| | 279746 | 1266923 |
| | 279837 | 1266917 |
| | 279840 | 1266939 |
| SUB/ST 37 | 279010 | 1266872 |
| | 279814 | 1266872 |
| | 279814 | 1266876 |
| | 279814 | 1266876 |
| P639 | 279593 | 1266784 |
| | 279608 | 1266782 |
| | 279604 | 1266751 |
| | 279589 | 1266753 |
| P167 | 279772 | 1266631 |
| | 279770 | 1266618 |
| | 279752 | 1266621 |
| | 279753 | 1266634 |
| P166 | 279799 | 1266627 |
| | 279798 | 1266615 |
| | 279779 | 1266617 |
| | 279781 | 1266630 |
| P909 | 279860 | 1266552 |
| | 279858 | 1266533 |
| | 279900 | 1266528 |
| | 279902 | 1266546 |
| P900 | 280258 | 1266276 |
| | 280239 | 1266278 |
| | 280236 | 1266259 |
| | 280255 | 1266257 |
| P901 | 280251 | 1266231 |
| | 280232 | 1266234 |
| | 280229 | 1266215 |
| | 280248 | 1266212 |
| P902 | 280245 | 1266186 |
| | 280242 | 1266167 |
| | 280223 | 1266170 |
| | 280226 | 1266189 |
| P903 | 279973 | 1266187 |
| | 279959 | 1266189 |
| | 279971 | 1266170 |
| | 279957 | 1266172 |

| BDG NO | EASTING | NORTHING |
|------------------|---------|----------|
| SUBSTATION 35 | 280151 | 1266194 |
| | 280155 | 1266193 |
| | 280156 | 1266197 |
| | 280152 | 1266198 |
| | 279792 | 1266307 |
| P913 | 279792 | 1266311 |
| | 279796 | 1266310 |
| | 279796 | 1266306 |
| | 279910 | 1266231 |
| P912 | 279902 | 1266231 |
| | 279903 | 1266241 |
| | 279913 | 1266240 |
| | 279763 | 1266268 |
| P904 | 279763 | 1266262 |
| | 279757 | 1266263 |
| | 279758 | 1266268 |
| | 280136 | 1266352 |
| P905 | 280111 | 1266355 |
| | 280105 | 1266311 |
| | 280125 | 1266309 |
| | 279931 | 1266385 |
| P906 | 279967 | 1266380 |
| | 279924 | 1266329 |
| | 279960 | 1266327 |
| | 280063 | 1266452 |
| P907 | 280093 | 1266427 |
| | 280060 | 1266431 |
| | 280186 | 1266690 |
| | 280135 | 1266636 |
| P911 | 280178 | 1266637 |
| | 280178 | 1266637 |
| | 280135 | 1266636 |
| | 280177 | 1266631 |
| P640 | 280174 | 1266609 |
| | 280165 | 1266681 |
| | 280056 | 1266698 |
| | 280066 | 1266697 |
| P642 | 280065 | 1266687 |
| | 280055 | 1266689 |
| | 280192 | 1266831 |
| | 280190 | 1266832 |
| P643 | 280189 | 1266831 |
| | 280190 | 1266829 |
| | 280063 | 1266923 |
| | 280032 | 1266927 |
| P644 | 280028 | 1266896 |
| | 280058 | 1266892 |
| | 280111 | 1266883 |
| | 280133 | 1266862 |
| P645 | 280120 | 1266850 |
| | 280099 | 1266870 |
| | 280039 | 1266929 |
| | 280032 | 1266930 |
| PYRO DEPOT | 280034 | 1266940 |
| | 280040 | 1266939 |
| | 280041 | 1266958 |
| | 280029 | 1266960 |
| SOUTH PYRO DEPOT | 280030 | 1266966 |
| | 280031 | 1266966 |
| | 279634 | 1266408 |
| | 279631 | 1266408 |
| WEIGH/BRIDGE | 279631 | 1266413 |
| | 279635 | 1266412 |
| | 279619 | 1266399 |
| | 279628 | 1266398 |
| P645 | 279629 | 1266402 |
| | 279619 | 1266404 |
| | 280059 | 1266871 |
| | 280060 | 1266881 |
| PYRO DEPOT | 280065 | 1266880 |
| | 279799 | 1266627 |
| | 279634 | 1266465 |
| | 279630 | 1266436 |
| SOUTH PYRO DEPOT | 279637 | 1266435 |
| | 279641 | 1266464 |
| | 279487 | 1265773 |
| | 279484 | 1265774 |
| WEIGH/BRIDGE | 279485 | 1265777 |
| | 279488 | 1265776 |

| BDG NO | EASTING | NORTHING |
|------------------|---------|----------|
| P645 | 280059 | 1266871 |
| | 280060 | 1266881 |
| | 280065 | 1266880 |
| | 279799 | 1266627 |
| PYRO DEPOT | 279634 | 1266465 |
| | 279630 | 1266436 |
| | 279637 | 1266435 |
| | 279641 | 1266464 |
| SOUTH PYRO DEPOT | 279634 | 1266408 |
| | 279631 | 1266408 |
| | 279631 | 1266413 |
| | 279635 | 1266412 |
| WEIGH/BRIDGE | 279619 | 1266399 |
| | 279628 | 1266398 |
| | 279629 | 1266402 |
| | 279619 | 1266404 |
| WEIGH/BRIDGE | 279487 | 1265773 |
| | 279484 | 1265774 |
| | 279485 | 1265777 |
| | 279488 | 1265776 |

COORDINATES ARE APPROXIMATE ONLY

TABLE OF CO-ORDINATES OF RETAINED BUILDINGS AND PAVED AREA

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 Planners
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PREPARED FOR:
ADI PROPERTY

**ADI ST MARYS PROPERTY
 RETAINED BUILDINGS/PAVED AREA
 PLAN TO ACCOMPANY SITE AUDIT
 STATEMENT CHK001/6**

ORIGINAL SIZE: **A3**

| | | |
|-------------------|------------------------|-------|
| SCALE | HOR: | VERT: |
| CO-ORDS: | DATUM: | |
| DATE OF SURVEY | DATE OF PLAN: MAY 1999 | |
| SURVEY | DRAWN: ACAD/DDW | |
| CHECKED: DDW | DATE: 24.5.1999 | |
| APPROVED: PW | DATE: 24.5.1999 | |
| JOB REF: 0662 | | |
| CAD REF: 5467-135 | SHEET 13 OF 13 SHEETS | |

R.W.C.

Appendix B Photographic Log



Photo 1: Unsealed access track through Basin C.



Photo 2: Low density bush characterising Basin C



Photo 3: Low density bush with intermittent trees in Basin V6



Photo 4: Entrance access road into Basin V6.

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| Rev | Description | Drn. | Date |

JBS&G Appendix: B

Client: Maryland Development Company Pty Ltd

Project: St Marys Development Site Basin C and V6

Job No: 57591

File Name: 11/11/2019



Photo 5: ACM fragment identified in the western portion of Basin C.



Photo 6: Stratigraphy of BC-15 with topsoils and underlying clay.



Photo 7: Brown/red clay from GWM-01 at 2.5 m bgs in Basin V6.



Photo 8: Shale underlying clays from GWM-03 at 2 m bgs.

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JBS&G Appendix: B

Client: Maryland Development Company Pty Ltd

Project: St Marys Development Site Basin C and V6

Job No: 57591

File Name: 11/11/2019



Photo 9: Drain box on the side of the road for water runoff in Basin C.



Photo 10: Stormwater pipe in creek for overlying bridge in Basin C.



Photo 11: Piece of steel lined concrete found within 5m of sample location BC-25.



Photo 12: Pre-existing monitoring well in Basin C.

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| Rev | Description | Drn. | Date |

JBS&G Appendix: B

Client: Maryland Development Company Pty Ltd

Project: St Marys Development Site Basin C and V6

Job No: 57591

File Name: 11/11/2019

Appendix C EPA Records

[Home](#) [Environment protection licences](#) [POEO Public Register](#) [Search for licences, applications and notices](#)

Search results

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

Suburb - Ilandilo

returned 4 results

[Export to excel](#)

1 of 1 Pages

[Search Again](#)

| Number | Name | Location | Type | Status | Issued date |
|-------------------------|--------------------------|----------------------------------------|----------------------|--------|-------------|
| 1537654 | DIB HANNA ABDALLAH HANNA | 214 Seventh Avenue, LLANDILO, NSW 2747 | s.91 Clean Up Notice | Issued | 26 Feb 2016 |
| 1540638 | DIB HANNA ABDALLAH HANNA | 214 Seventh Avenue, LLANDILO, NSW 2747 | s.91 Clean Up Notice | Issued | 07 Sep 2016 |
| 1560558 | DINO LUPPINO | 86-112 Galvin Road, LLANDILO, NSW 2747 | s.91 Clean Up Notice | Issued | 12 Sep 2018 |
| 1583391 | PRESLAV TRENCHEV | 6 SEVENTH AVENUE, LLANDILO, NSW 2747 | s.91 Clean Up Notice | Issued | 30 Aug 2019 |

18 November 2019

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For local government ^

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☎ 131 555 (tel:131555)

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

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(<https://au.linkedin.com/company/environment-protection-authority>)

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Background

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

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

After receiving a report, the first step is to confirm that the report does not relate to a pollution incident. The *Protection of the Environment Operations Act 1997* (POEO Act) deals with pollution incidents, waste stockpiling or dumping. The EPA also has an **incident management** process to manage significant incidents.

In many cases, the information indicates the contamination is securely immobilised within the site, such as under a building or carpark, and is not currently causing any significant risks for the community or environment. Such sites may still need to be cleaned up, but this can be done in conjunction with any subsequent building or redevelopment of the land. These sites do not require intervention under the CLM Act, and are dealt with through the **planning and development consent process**. In these cases, the EPA informs the local council or other planning authority, so that the information can be recorded and considered at the appropriate time.

Where indications are that the contamination could cause actual harm to the environment or an unacceptable offsite impact (i.e. the land is 'significantly contaminated'), the EPA would apply the regulatory provisions of the CLM Act to have the responsible polluter and/or landowner investigate and remediate the site. If the reported contamination could present an immediate or long-term threat to human health NSW Health will be consulted. SafeWork NSW and Water NSW can also be consulted if there appear to be occupational health and safety risks or an impact on groundwater quality.

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

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

Frequently asked questions

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

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

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

Why does my site appear on the list?

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

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

Does the list contain all contaminated sites in NSW?

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

The EPA relies upon responsible parties to notify contaminated sites.

How are notified contaminated sites managed by the EPA?

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

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

Note: There are specific instances where contamination is managed under a specifically tailored program operated by another agency. For example the [Division of Resources & Geoscience's Derelict Mines Program](#) and the [NSW DPI Cattle tick dip site locator](#).

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

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

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

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

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

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

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

Who can I contact if I need more information about a site?

If you have questions about a site on the list of sites notified to the EPA you can contact the [Environment Line](#) at any time. By phone: 131 555 or by email: info@environment.nsw.gov.au

List of NSW Contaminated Sites Notified to the EPA

Disclaimer

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

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

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

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

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

| Site Status | Explanation |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Under assessment | The contamination is being assessed by the EPA to determine whether regulation is required. The EPA may require further information to complete the assessment. For example, the completion of management actions regulated under the planning process or <i>Protection of the Environment Operations Act 1997</i> . |
| Under Preliminary Investigation Order | The EPA has issued a Preliminary Investigation Order under s10 of the <i>Contaminated Land Management Act 1997</i> , to obtain additional information needed to complete the assessment. |
| Regulation under CLM Act not required | The EPA has completed an assessment of the contamination and decided that regulation under the <i>Contaminated Land Management Act 1997</i> is not required. |
| Regulation being finalised | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the |

| | |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <i>Contaminated Land Management Act 1997</i> . A regulatory approach is being finalised. |
| Contamination currently regulated under CLM Act | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation under the <i>Contaminated Land Management Act 1997</i> (CLM Act). Management of the contamination is regulated by the EPA under the CLM Act. Regulatory notices are available on the EPA's Contaminated Land Public Record . |
| Contamination currently regulated under POEO Act | Contamination is currently regulated under the <i>Protection of the Environment Operations Act 1997</i> (POEO Act). The EPA as <i>the appropriate regulatory authority</i> reasonably suspects that a pollution incident is occurring/ has occurred and that it requires regulation under the POEO Act. The EPA may use environment protection notices, such as clean up notices, to require clean up action to be taken. Such regulatory notices are available on the POEO public register . |
| Contamination being managed via the planning process (EP&A Act) | The EPA has completed an assessment of the contamination and decided that the contamination is significant enough to warrant regulation. The contamination of this site is managed by the consent authority under the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) planning approval process, with EPA involvement as necessary to ensure significant contamination is adequately addressed. The consent authority is typically a local council or the Department of Planning and Environment. |
| Contamination formerly regulated under the CLM Act | The EPA has determined that the contamination is no longer significant enough to warrant regulation under the <i>Contaminated Land Management Act 1997</i> (CLM Act). The contamination was addressed under the CLM Act. |
| Contamination formerly regulated under the POEO Act | The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed under the <i>Protection of the Environment Operations Act 1997</i> (POEO Act). |
| Contamination was addressed via the planning process (EP&A Act) | The EPA has determined that the contamination is no longer significant enough to warrant regulation. The contamination was addressed by the appropriate consent authority via the planning process under the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act). |

| | |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ongoing maintenance required to manage residual contamination (CLM Act) | The EPA has determined that ongoing maintenance, under the <i>Contaminated Land Management Act 1997</i> (CLM Act), is required to manage the residual contamination. Regulatory notices under the CLM Act are available on the EPA's Contaminated Land Public Record . |
|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Suburb | SiteName | Address | ContaminationActivityType | ManagementClass | Latitude | Longitude |
|------------------|-------------------------------------------------------|---------------------------------------|---------------------------|-------------------------------------------------|--------------|-------------|
| LONG JETTY | Caltex Service Station | 431 The Entrance ROAD | Service Station | Regulation under CLM Act not required | -33.36022468 | 151.4826553 |
| LONG JETTY | Westside Petroleum Service Station | 290-294 The Entrance ROAD | Service Station | Contamination currently regulated under CLM Act | -33.35688982 | 151.4862246 |
| LONG JETTY | 7-Eleven (former Mobil) Service Station | 184-186 The Entrance ROAD | Service Station | Regulation under CLM Act not required | -33.35089363 | 151.4924904 |
| LONGUEVILLE | Caltex Service Station | 5 Northwood ROAD | Service Station | Regulation under CLM Act not required | -33.82427366 | 151.1724497 |
| LUCAS HEIGHTS | Harringtons Quarry | access from Little Forest ROAD | Landfill | Contamination currently regulated under CLM Act | -34.03555347 | 150.9751826 |
| LUCAS HEIGHTS | IWC landfill | Little Forest ROAD | Landfill | Contamination currently regulated under CLM Act | -34.03214889 | 150.9753474 |
| LUDDENHAM | Caltex Service Station | 3019-3035 The Northern ROAD | Service Station | Regulation under CLM Act not required | -33.87536093 | 150.6888872 |
| MACKSVILLE | Caltex Service Station | Pacific (22-24 Cooper Street) HIGHWAY | Service Station | Regulation under CLM Act not required | -30.70977455 | 152.9198448 |
| MACLEAN | MacLean Outdoors | 255 River STREET | Service Station | Regulation under CLM Act not required | -29.45782683 | 153.1970725 |
| MACQUARIE FIELDS | Caltex Service Station | 68 Harold STREET | Service Station | Regulation under CLM Act not required | -33.98557276 | 150.8933681 |
| MACQUARIE PARK | Caltex North Ryde Service Station | 41-43 Epping ROAD | Service Station | Regulation under CLM Act not required | -33.79138236 | 151.1312248 |
| MACQUARIE PARK | 1-7 Waterloo Road, Macquarie Park | 1-7 Waterloo ROAD | Other Petroleum | Regulation under CLM Act not required | -33.78806877 | 151.1332148 |
| MACQUARIE PARK | Porters Creek Depot - Proposed Operations Centre Site | 160 Wicks ROAD | Landfill | Regulation under CLM Act not required | -33.785348 | 151.13663 |
| MACQUARIE PARK | De Burghs Cycleway - Lane Cove National Park | Riverside DRIVE | Other Petroleum | Regulation under CLM Act not required | -33.77802854 | 151.1367529 |
| MAITLAND | Maitland Gasworks | Charles STREET | Gasworks | Contamination currently regulated under CLM Act | -32.73603658 | 151.5578926 |
| MAITLAND | Hannan and High Street | Hannan Street and High STREET | Service Station | Regulation under CLM Act not required | -32.72731682 | 151.5515673 |

Appendix D Heritage Records

| | | | | |
|--------------------------------------------------------|---------------------|----------|-------------|------|
| <u>St. David's Anglican Church (Former)</u> | 257B Seventh Avenue | Llandilo | Penrit h | LGOV |
|--------------------------------------------------------|---------------------|----------|-------------|------|

There was a total of 8 records matching your search criteria.

Key:

LGA = Local Government Area

GAZ= NSW Government Gazette (statutory listings prior to 1997), HGA = Heritage Grant Application, HS = Heritage Study,

LGOV = Local Government, SGOV = State Government Agency.

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

Search Results

3 results found.

| | | |
|-----------------------------------------------------------|-----------------------------|------------------------------------------------------------------------------------|
| ADI Site Western Precinct The Northern Rd | Llandilo, NSW, Australia | (Place rejected for Emergency Listing) National Heritage List |
| Former ADI Site The Northern Rd | Llandilo, NSW, Australia | (Nomination now ineligible for PPAL) National Heritage List |
| King Family Farm Sites and Trees Links Rd | St Marys, NSW, Australia | (Nomination now ineligible for PPAL) National Heritage List |

Report Produced: Mon Nov 18 15:06:25 2019



Appendix F QA/QC Documentation

ESDAT QA Checker

Project:57591

Filter: SDG in('686320','ENVIROLAB 2019-11-06T00:00:00')

Overview Summary

[Count of Samples](#)

[Summary By Compound](#)

[Count of Results](#)

Holding Times

Holding Time Errors (0)

Blanks

[Field Blanks](#)

Detects in Lab Blanks (0)

[SDG's without Storage Blanks \(2\)](#)

SDG's without Method Blanks (0)

Duplicates

[Field and Interlab Duplicates](#)

[Lab Duplicates with high RPDs \(1\)](#)

Duplicate Samples with incorrect or missing Parent Samples (0)

Samples at the same Location/Depth/Time not specified as duplicates (0)

Surrogates

[Surrogate Variation > 30% or outside lab LCL or UCL \(135\)](#)

Lab Control Samples

SDG's without a Laboratory Control Sample (0)

[Laboratory Control Samples, Error > 30% \(2\)](#)

Certified and Standard Reference Materials

Certified Reference Materials - Error > 10% (0)

Matrix Spikes

SDG's without a Matrix Spike (0)

Trip Spikes with invalid Control Sample (0)

Less than 1 matrix spike in 20 samples (0)

Matrix Spike Recoveries less than 70% or greater than 130% or outside lab LCL or UCL (0)

Trip Spike Recoveries (70% - 130% is acceptable) (0)

Inorganic

Na + CL > TDS (0)

BOD > COD (0)

BOD > COD (0)

Other

[Unit Conversion Problems \(8\)](#)

[OriginalChemNames Requiring Validation \(2\)](#)

Samples with no Results (0)

[Samples associated with Wells which are not specified in the Well Table \(51\)](#)

[Aborted Analysis \(7\)](#)

| Matrix Type | Filter | Method Type | ChemName | Range | Num Results | | Holding Times (days) | | Lab Control Samples | | Method and Storage Blanks | | Laboratory Duplicates | | Surrogates | | Matrix, Trip and Compound Spikes | | Field, Rinse and Trip Blanks | | Field Duplicates | | | | | | | | | | | |
|----------------------------------|------------------------------------|------------------------------------|---------------------|-----------------------------------|-----------------------------------|---------------------|----------------------|----------------------|---------------------|------------|---------------------------|--------------|-----------------------|-------|--------------|------------|----------------------------------|--------------|------------------------------|------------|------------------|------------|------------|--------------|------------|---------------|--------------|------------|---|----|----|---|
| | | | | | Non QA (Normal + Composite) | Composite | Volatility Group | Sample to Extraction | Sample to Analysis | Acceptable | Recovery % | Num Reported | Acceptable | Range | Num Reported | Acceptable | Max RPD > EQL | Num Reported | Acceptable | Recovery % | Num Reported | Acceptable | Range | Num Reported | Acceptable | Max RPD > EQL | Num Reported | Acceptable | | | | |
| SOIL | Acid Extractable metals in soil | Acid Extractable metals in soil | Arsenic (Total) | 4 mg/kg | 1 | Other | 3 | 3 | Y | 107 to 107 | 1 | Y | ND | 1 | Y | 55 | 1 | N | 0 | 0 | 101 to 101 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | Cadmium | 0.4 mg/kg | 1 | Other | 3 | 3 | Y | 104 to 104 | 1 | Y | ND | 1 | Y | 0 | 1 | Y | 0 | 0 | 98 to 98 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | Chromium (Total) | 1 mg/kg | 1 | Other | 3 | 3 | Y | 113 to 113 | 1 | Y | ND | 1 | Y | 40 | 1 | Y | 0 | 0 | 102 to 102 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | Copper | 1 mg/kg | 1 | SVOC | 3 | 3 | Y | 105 to 105 | 1 | Y | ND | 1 | Y | 0 | 1 | Y | 0 | 0 | 104 to 104 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | Lead | 1 mg/kg | 1 | Other | 3 | 3 | Y | 111 to 111 | 1 | Y | ND | 1 | Y | 26 | 1 | Y | 0 | 0 | 96 to 96 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | Mercury (Inorganic) | 0.1 mg/kg | 1 | Other | 3 | 3 | Y | 88 to 88 | 1 | Y | ND | 1 | Y | 0 | 1 | Y | 0 | 0 | 92 to 92 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | Nickel | 1 mg/kg | 1 | Other | 3 | 3 | Y | 103 to 103 | 1 | Y | ND | 1 | Y | 0 | 1 | Y | 0 | 0 | 100 to 100 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | Zinc | 1 mg/kg | 1 | Other | 3 | 3 | Y | 107 to 107 | 1 | Y | ND | 1 | Y | 6 | 1 | Y | 0 | 0 | 90 to 90 | 1 | Y | 0 | 0 | N | | | | | | |
| | | | SOIL | Asbestos | Asbestos | ACM - Comment | | 17 | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | | |
| | | | | | | AF - Comment | | 17 | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y |
| Approx. Sample Mass | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | | | |
| Asbestos from ACM in Soil | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | | |
| Asbestos from FA & AF in Soil | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | | |
| Asbestos Reported Result | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | | |
| FA - Comment | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | | |
| Mass ACM | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | | |
| Mass AF | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Mass Asbestos in ACM | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Mass Asbestos in AF | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Mass Asbestos in FA & AF | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Mass Asbestos in FA & AF | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Mass FA | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Organic Fibres - Comment | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Respirable Fibres - Comment | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| Synthetic Fibres - Comment | | 17 | | | | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | Y | |
| SOIL | Asbestos ID - soils NEPM - ASB-001 | Asbestos ID - soils NEPM - ASB-001 | | | | Asbestos ID in Soil | | 0 | Other | 3 | 3 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | N | |
| | | | | | | Heavy Metal | | 32 | Other | 1 | 2 | Y | 99 to 99 | 1 | Y | ND | 1 | Y | 15 | 2 | Y | 0 | 0 | 98 to 111 | 2 | Y | 0 | 0 | 0 | 0 | 20 | 2 |
| SOIL | Heavy Metal | Heavy Metal | | | | Cadmium | 0.4 mg/kg | 32 | Other | 1 | 2 | Y | 97 to 97 | 1 | Y | ND | 1 | Y | 2 | Y | 0 | 0 | 89 to 96 | 2 | Y | 0 | 0 | 0 | 0 | 0 | 2 | Y |
| | | | Chromium (Total) | 5 mg/kg | 32 | Other | 1 | 2 | Y | 101 to 101 | 1 | Y | ND | 1 | Y | 19 | 2 | Y | 0 | 0 | 99 to 112 | 2 | Y | 0 | 0 | 0 | 0 | 14 | 2 | Y | | |
| | | | Copper | 5 mg/kg | 32 | Other | 1 | 2 | Y | 101 to 101 | 1 | Y | ND | 1 | Y | 7 | 2 | Y | 0 | 0 | 98 to 109 | 2 | Y | 0 | 0 | 0 | 0 | 18 | 2 | Y | | |
| | | | Lead | 5 mg/kg | 32 | Other | 1 | 2 | Y | 103 to 103 | 1 | Y | ND | 1 | Y | 7 | 2 | Y | 0 | 0 | 107 to 113 | 2 | Y | 0 | 0 | 0 | 0 | 32 | 2 | N | | |
| | | | Mercury (Inorganic) | 0.1 mg/kg | 32 | Other | 1 | 2 | Y | 105 to 105 | 1 | Y | ND | 1 | Y | 0 | 1 | Y | 0 | 0 | 111 to 114 | 2 | Y | 0 | 0 | 0 | 0 | 2 | 2 | Y | | |
| | | | Nickel | 5 mg/kg | 32 | Other | 1 | 2 | Y | 103 to 103 | 1 | Y | ND | 1 | Y | 3 | 2 | Y | 0 | 0 | 99 to 113 | 2 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 2 | Y |
| | | | Zinc | 5 mg/kg | 32 | Other | 1 | 2 | Y | 101 to 101 | 1 | Y | ND | 1 | Y | 9 | 2 | Y | 0 | 0 | 98 to 103 | 2 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 2 | Y |
| | | | SOIL | Inorganic | Inorganic | % Moisture 103oC | 1 % | 33 | Other | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 2 | Y |
| | | | | | | Moisture | | 0 | Other | 3 | 4 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | SOIL | Organochlorine Pesticides in soil | Organochlorine Pesticides in soil | 4,4-DDE | 0.05 mg/kg | 8 | SVOC | 1 | 2 | Y | 108 to 108 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 119 to 119 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | |
| Aldrin | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 109 to 109 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 99 to 99 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | | |
| Aldrin + Dieldrin (Sum of Total) | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 101 to 101 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | Y | | |
| alpha-BHC | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 105 to 105 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 110 to 110 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| beta-BHC | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 106 to 106 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 109 to 109 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Chlordane | 0.1 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 108 to 108 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 114 to 114 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| DDD | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 106 to 106 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 97 to 97 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| DDT | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 101 to 101 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 102 to 102 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| DDT+DDE+DDD (Sum of Total) | 0.05 mg/kg | 8 | | | | SVOC | 0 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | Y | | |
| delta-BHC | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 92 to 92 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 110 to 110 | 1 | Y | 0 | 0 | 0 | 0 | 0 | 1 | Y | |
| Dieldrin | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 108 to 108 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 117 to 117 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Endosulfan alpha | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 108 to 108 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 115 to 115 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Endosulfan beta | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 106 to 106 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 116 to 116 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Endosulfan sulphate | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 98 to 98 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 118 to 118 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Endrin | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 106 to 106 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 108 to 108 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Endrin aldehyde | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 101 to 101 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 96 to 96 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Endrin ketone | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 105 to 105 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 108 to 108 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Heptachlor | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 109 to 109 | 1 | Y | ND | 1 | Y | 0 | 0 | 0 | 0 | 0 | 0 | 99 to 99 | 1 | Y | 0 | 0 | 0 | 0 | 1 | Y | | |
| Heptachlor Epoxide | 0.05 mg/kg | 8 | | | | SVOC | 1 | 2 | Y | 110 to 110 | 1 | Y | ND | 1 | Y | | | | | | | | | | | | | | | | | |

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



| | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------|-----------|--------------------------|---|------|--------|--------|---|----------|---|---|----|---|---|---|---|---|---|----------|----|---|----|---|---|---|---|
| WATER | TPH | | 0 | SVOC | 0 | 2 | Y | 86 to 86 | 1 | Y | ND | 1 | Y | 0 | N | 0 | 0 | 0 | ND | 1 | Y | 0 | N | | |
| WATER | TPH | C10-C14 Fraction | 0 | SVOC | 0 | 2 | Y | | 0 | | 0 | 0 | | 0 | N | 0 | 0 | 0 | ND | 1 | Y | 0 | N | | |
| WATER | TPH | C10-C36 Fraction (Total) | 0 | SVOC | 0 | 2 | Y | | 0 | | 0 | 0 | | 0 | N | 0 | 0 | 0 | ND | 1 | Y | 0 | N | | |
| WATER | TPH | C15-C28 Fraction | 0 | SVOC | 0 | 2 | Y | | 0 | | ND | 1 | Y | 0 | N | 0 | 0 | 0 | ND | 1 | Y | 0 | N | | |
| WATER | TPH | C29-C36 Fraction | 0 | SVOC | 0 | 2 | Y | | 0 | | ND | 1 | Y | 0 | N | 0 | 0 | 0 | ND | 1 | Y | 0 | N | | |
| WATER | TPH | | | | | | | | | | | | | | | | | | | | | | | | |
| WATER | Volatiles | Benzenes | 0 | VOC | 0 to 2 | 2 to 3 | Y | 88 to 88 | 1 | Y | ND | 1 | Y | 0 | N | 0 | 0 | 82 to 90 | 2 | Y | ND | 2 | Y | 0 | N |
| WATER | Volatiles | Ethylbenzene | 0 | VOC | 0 to 2 | 2 to 3 | Y | 91 to 91 | 1 | Y | ND | 1 | Y | 0 | N | 0 | 0 | 83 to 91 | 2 | Y | ND | 2 | Y | 0 | N |
| WATER | Volatiles | Surrogate 4-BFB | 0 | VOC | | Y | | 0 | | | 0 | | | 0 | N | 0 | 0 | 80 to 94 | 3 | Y | | | | 0 | N |
| WATER | Volatiles | Toluene | 0 | VOC | 0 to 2 | 2 to 3 | Y | 92 to 92 | 1 | Y | ND | 1 | Y | 0 | N | 0 | 0 | 84 to 93 | 2 | Y | ND | 2 | Y | 0 | N |
| WATER | Volatiles | Xylene (m & p) | 0 | VOC | 0 to 2 | 2 to 3 | Y | 89 to 89 | 1 | Y | ND | 1 | Y | 0 | N | 0 | 0 | 83 to 94 | 2 | Y | ND | 2 | Y | 0 | N |
| WATER | Volatiles | Xylene (o) | 0 | VOC | 0 to 2 | 2 to 3 | Y | 86 to 86 | 1 | Y | ND | 1 | Y | 0 | N | 0 | 0 | 82 to 92 | 2 | Y | ND | 2 | Y | 0 | N |
| WATER | Volatiles | Xylene (Total) | 0 | VOC | 0 to 2 | 2 to 3 | Y | 88 to 88 | 1 | Y | ND | 1 | Y | 0 | N | 0 | 0 | 83 to 93 | 2 | Y | ND | 2 | Y | 0 | N |

INSERT TABLE NAME

Project Number: [Project_Number]

Project Name: [Project_Name]

Field Blanks (WATER)

Filter: SDG in('686320','ENVIROLAB 2019-11-06T00:00:00')



| | | | |
|--------------------------|----------|----------|------------|
| SDG | 686320 | 686320 | 686320 |
| Field ID | RINS-01 | BLANK-01 | TRIP BLANK |
| Sampled_Date/Time | 05-11-19 | 04-11-19 | 04-11-19 |
| Sample Type | Rinsate | Trip_B | Trip_B |

| Filter | Method_Type | ChemName | Units | EQL | | | |
|-------------|-------------|----------------------------------------------------|-------|--------|---------|-------|--|
| Heavy Metal | Heavy Metal | Arsenic (Total) | mg/l | 0.001 | <0.001 | | |
| Heavy Metal | | Cadmium | mg/l | 0.0002 | <0.0002 | | |
| Heavy Metal | | Chromium (Total) | mg/l | 0.001 | <0.001 | | |
| Heavy Metal | | Copper | mg/l | 0.001 | <0.001 | | |
| Heavy Metal | | Lead | mg/l | 0.001 | <0.001 | | |
| Heavy Metal | | Mercury (Inorganic) | mg/l | 0.0001 | <0.0001 | | |
| Heavy Metal | | Nickel | mg/l | 0.001 | <0.001 | | |
| Heavy Metal | | Zinc | mg/l | 0.005 | <0.005 | | |
| Heavy Metal | | | | | | | |
| OCP | OCP | Hexachlorobenzene | mg/l | 0.0001 | <0.0001 | | |
| OCP | | 4,4-DDE | µg/l | 0.1 | <0.1 | | |
| OCP | | Aldrin | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Aldrin + Dieldrin (Sum of Total) | mg/l | 0.0001 | <0.0001 | | |
| OCP | | alpha-BHC | mg/l | 0.0001 | <0.0001 | | |
| OCP | | beta-BHC | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Chlordane | mg/l | 0.001 | <0.001 | | |
| OCP | | DDD | mg/l | 0.0001 | <0.0001 | | |
| OCP | | DDT | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Dieldrin | mg/l | 0.0001 | <0.0001 | | |
| OCP | | DDT+DDE+DDD (Sum of Total) | mg/l | 0.0001 | <0.0001 | | |
| OCP | | delta-BHC | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Endosulfan alpha | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Endosulfan beta | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Endosulfan sulphate | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Endrin | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Endrin aldehyde | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Endrin ketone | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Heptachlor | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Heptachlor Epoxide | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Lindane | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Methoxychlor | mg/l | 0.0001 | <0.0001 | | |
| OCP | | Toxaphene | mg/l | 0.01 | <0.01 | | |
| OCP | | Organochlorine Pesticides EPAVic | µg/l | 1 | <1 | | |
| OCP | | Other Organochlorine Pesticides EPAVic | µg/l | 1 | <1 | | |
| OCP | | | | | | | |
| Organic | Organic | C6-C9 Fraction | mg/l | 0.02 | <0.02 | | |
| Organic | | >C10-C16 Fraction | mg/l | 0.05 | <0.05 | | |
| Organic | | >C16-C34 Fraction | mg/l | 0.1 | <0.1 | | |
| Organic | | >C34-C40 Fraction | mg/l | 0.1 | <0.1 | | |
| Organic | | >C10-C40 Fraction (Total) | mg/l | 0.1 | <0.1 | | |
| Organic | | >C10-C16 less Naphthalene (F2) | mg/l | 0.05 | <0.05 | | |
| Organic | | C6-C10 Fraction | mg/l | 0.02 | <0.02 | | |
| Organic | | C6-C10 less BTEX (F1) | mg/l | 0.02 | <0.02 | | |
| Organic | | Naphthalene | mg/l | 0.01 | <0.01 | | |
| Organic | | | | | | | |
| PAH | PAH | Acenaphthene | mg/l | 0.001 | <0.001 | | |
| PAH | | Acenaphthylene | mg/l | 0.001 | <0.001 | | |
| PAH | | Anthracene | mg/l | 0.001 | <0.001 | | |
| PAH | | Benz(a)anthracene | mg/l | 0.001 | <0.001 | | |
| PAH | | Benzo(a)pyrene | mg/l | 0.001 | <0.001 | | |
| PAH | | Benzo(b,j)fluoranthene | mg/l | 0.001 | <0.001 | | |
| PAH | | Benzo(g,h,i)perylene | mg/l | 0.001 | <0.001 | | |
| PAH | | Benzo(k)fluoranthene | mg/l | 0.001 | <0.001 | | |
| PAH | | Chrysene | mg/l | 0.001 | <0.001 | | |
| PAH | | Dibenz(a,h)anthracene | mg/l | 0.001 | <0.001 | | |
| PAH | | Fluoranthene | mg/l | 0.001 | <0.001 | | |
| PAH | | Fluorene | mg/l | 0.001 | <0.001 | | |
| PAH | | Indeno(1,2,3-c,d)pyrene | mg/l | 0.001 | <0.001 | | |
| PAH | | Naphthalene | mg/l | 0.001 | <0.001 | | |
| PAH | | PAHs (Total) | mg/l | 0.001 | <0.001 | | |
| PAH | | Phenanthrene | mg/l | 0.001 | <0.001 | | |
| PAH | | Pyrene | mg/l | 0.001 | <0.001 | | |
| PAH | | | | | | | |
| PCB | PCB | Aroclor 1016 | mg/l | 0.005 | <0.005 | | |
| PCB | | Aroclor 1221 | mg/l | 0.001 | <0.001 | | |
| PCB | | Aroclor 1232 | mg/l | 0.005 | <0.005 | | |
| PCB | | Aroclor 1242 | mg/l | 0.005 | <0.005 | | |
| PCB | | Aroclor 1248 | mg/l | 0.005 | <0.005 | | |
| PCB | | Aroclor 1254 | mg/l | 0.005 | <0.005 | | |
| PCB | | Aroclor 1260 | mg/l | 0.005 | <0.005 | | |
| PCB | | PCBs (Total) | mg/l | 0.001 | <0.001 | | |
| PCB | | | | | | | |
| PFAS | PFAS | 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol | µg/L | 0.05 | | <0.05 | |
| PFAS | | 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol | µg/L | 0.05 | | <0.05 | |
| PFAS | | 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTS) | µg/L | 0.01 | | <0.01 | |
| PFAS | | Perfluorobutanoic acid (PFBA) | µg/L | 0.05 | | <0.05 | |
| PFAS | | 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTS) | µg/L | 0.05 | | <0.05 | |

INSERT TABLE NAME

Project Number: [Project_Number]

Project Name: [Project_Name]

WATER Field Blanks (WATER)

Filter: SDG in('686320','ENVIROLAB 2019-11-06T00:00:00')



| | | | SDG | 686320 | 686320 | 686320 |
|----------|----------------------------------------------------|------|-------------------|----------|----------|------------|
| | | | Field ID | RINS-01 | BLANK-01 | TRIP BLANK |
| | | | Sampled_Date/Time | 05-11-19 | 04-11-19 | 04-11-19 |
| | | | Sample Type | Rinsate | Trip_B | Trip_B |
| PFAS | 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTS) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorohexanoic acid (PFHxA) | µg/L | 0.01 | | <0.01 | |
| PFAS | 1H.1H.2H.2H-perfluorododecanesulfonic acid | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluoroheptanoic acid (PFHpA) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorodecanoic acid (PFDA) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorododecanoic acid (PFDoA) | µg/L | 0.01 | | <0.01 | |
| PFAS | N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | µg/L | 0.05 | | <0.05 | |
| PFAS | Perfluoropentanoic acid (PFPeA) | µg/L | 0.01 | | <0.01 | |
| PFAS | N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | µg/L | 0.05 | | <0.05 | |
| PFAS | Perfluorooctanoic acid (PFOA) | µg/L | 0.01 | | <0.01 | |
| PFAS | N-ethyl-perfluorooctanesulfonamidoacetic acid | µg/L | 0.05 | | <0.05 | |
| PFAS | Perfluorononanoic acid (PFNA) | µg/L | 0.01 | | <0.01 | |
| PFAS | N-methyl-perfluorooctanesulfonamidoacetic acid | µg/L | 0.05 | | <0.05 | |
| PFAS | Perfluorobutanesulfonic acid (PFBS) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorooctanesulfonamide (FOSA) | µg/L | 0.05 | | <0.05 | |
| PFAS | Perfluoroheptanesulfonic acid (PFHpS) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorohexanesulfonic acid (PFHxS) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorodecanesulfonic acid (PFDS) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluoroundecanoic acid (PFUnA) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorotridecanoic acid (PFTrDA) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorotetradecanoic acid (PFTeDA) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluoropentanesulfonic acid (PFPeS) | µg/L | 0.01 | | <0.01 | |
| PFAS | Perfluorooctanesulfonic acid (PFOS) | µg/L | 0.01 | | <0.01 | |
| PFAS | Sum of PFHxS and PFOS | µg/L | 0.01 | | <0.01 | |
| PFAS | Sum of US EPA PFAS (PFOS + PFOA)* | µg/L | 0.01 | | <0.01 | |
| PFAS | Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | µg/L | 0.01 | | <0.01 | |
| PFAS | Sum of WA DER PFAS (n=10) | µg/L | 0.05 | | <0.05 | |
| PFAS | Sum of PFASs (n=28) | µg/L | 0.1 | | <0.1 | |
| TPH | TPH | | | | | |
| TPH | C10-C14 Fraction | mg/l | 0.05 | <0.05 | | |
| TPH | C15-C28 Fraction | mg/l | 0.1 | <0.1 | | |
| TPH | C29-C36 Fraction | mg/l | 0.1 | <0.1 | | |
| TPH | C10-C36 Fraction (Total) | mg/l | 0.1 | <0.1 | | |
| TPH | | | | | | |
| Volatile | Volatile | | | | | |
| Volatile | Benzene | mg/l | 0.001 | <0.001 | | <0.001 |
| Volatile | Ethylbenzene | mg/l | 0.001 | <0.001 | | <0.001 |
| Volatile | Toluene | mg/l | 0.001 | <0.001 | | <0.001 |
| Volatile | Xylene (o) | mg/l | 0.001 | <0.001 | | <0.001 |
| Volatile | Xylene (m & p) | mg/l | 0.002 | <0.002 | | <0.002 |
| Volatile | Xylene (Total) | mg/l | 0.003 | <0.003 | | <0.003 |

SOIL Field Duplicates (SOIL)
 Filter: SDG in('686320','ENVIROLAB 2019-11-06T00:00:00')

| SDG | 686320 | 686320 | 686320 | 686320 | 686320 | 686320 | ENVIROLAB 2019-11-06T00:00:00 | 686320 | ENVIROLAB 2019-11-06T00:00:00 | | | | | | | |
|------------------|--------------|------------------------------------|--------|--------------------------------|---------------|--------|-------------------------------|---------------|-------------------------------|------------|---------------|--------|----|--------|--------|----|
| Field ID | BV6-07 0-0.1 | QA20191104-DH | RPD | BC05 0-0.1 | QA20191104-ML | RPD | BV6-07 0-0.1 | QC20191104-DH | RPD | BC05 0-0.1 | QC20191104-ML | RPD | | | | |
| Sample Date/Time | 04-11-19 | 04-11-19 | | 04-11-19 | 04-11-19 | | 04-11-19 | 04-11-19 | | 04-11-19 | 04-11-19 | | | | | |
| Filter | Method | ChemName | Units | EQL | | | | | | | | | | | | |
| Heavy Meta | Heavy Meta | Arsenic (Total) | mg/kg | 2 (Primary): 4 (Interlab) | 5.8 | 6.3 | 8 | 5.5 | 6.7 | 20 | 5.8 | <4.0 | 37 | 5.5 | 5.0 | 10 |
| Heavy Meta | | Cadmium | mg/kg | 0.4 | <0.4 | <0.4 | 0 | <0.4 | <0.4 | 0 | <0.4 | <0.4 | 0 | <0.4 | <0.4 | 0 |
| Heavy Meta | | Chromium (Total) | mg/kg | 5 (Primary): 1 (Interlab) | 13.0 | 14.0 | 7 | 13.0 | 15.0 | 14 | 13.0 | 10.0 | 26 | 13.0 | 13.0 | 0 |
| Heavy Meta | | Copper | mg/kg | 5 (Primary): 1 (Interlab) | 8.3 | 9.2 | 10 | 15.0 | 18.0 | 18 | 8.3 | 8.0 | 4 | 15.0 | 15.0 | 0 |
| Heavy Meta | | Lead | mg/kg | 5 (Primary): 1 (Interlab) | 23.0 | 28.0 | 20 | 16.0 | 22.0 | 32 | 23.0 | 20.0 | 14 | 16.0 | 17.0 | 6 |
| Heavy Meta | | Mercury (Inorganic) | mg/kg | 0.1 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| Heavy Meta | | Nickel | mg/kg | 5 (Primary): 1 (Interlab) | 5.3 | 5.8 | 9 | 8.5 | 11.0 | 26 | 5.3 | 5.0 | 6 | 8.5 | 8.0 | 6 |
| Heavy Meta | | Zinc | mg/kg | 5 (Primary): 1 (Interlab) | 35.0 | 31.0 | 12 | 29.0 | 36.0 | 22 | 35.0 | 30.0 | 15 | 29.0 | 32.0 | 10 |
| Organic | Organic | C6-C9 Fraction | mg/kg | 20 (Primary): 25 (Interlab) | <20.0 | <20.0 | 0 | <20.0 | <20.0 | 0 | <20.0 | <25.0 | 0 | <20.0 | <25.0 | 0 |
| TPH | TPH | C10-C14 Fraction | mg/kg | 20 (Primary): 50 (Interlab) | 57.0 | 50.0 | 13 | <20.0 | 23.0 | 14 | 57.0 | <50.0 | 13 | <20.0 | <50.0 | 0 |
| TPH | | C15-C28 Fraction | mg/kg | 50 (Primary): 100 (Interlab) | 77.0 | 81.0 | 5 | <50.0 | <50.0 | 0 | 77.0 | <100.0 | 0 | <50.0 | <100.0 | 0 |
| TPH | | C29-C36 Fraction | mg/kg | 50 (Primary): 100 (Interlab) | 74.0 | 84.0 | 13 | <50.0 | <50.0 | 0 | 74.0 | <100.0 | 0 | <50.0 | <100.0 | 0 |
| TPH | | C10-C36 Fraction (Total) | mg/kg | 50 | 208.0 | 215.0 | 3 | <50.0 | <50.0 | 0 | 208.0 | <50.0 | 0 | <50.0 | <50.0 | 0 |
| Organic | Organic | >C10-C16 Fraction | mg/kg | 50 | <50.0 | <50.0 | 0 | <50.0 | <50.0 | 0 | <50.0 | <50.0 | 0 | <50.0 | <50.0 | 0 |
| Organic | | >C16-C34 Fraction | mg/kg | 100 | 120.0 | 140.0 | 15 | <100.0 | <100.0 | 0 | 120.0 | <100.0 | 18 | <100.0 | <100.0 | 0 |
| Organic | | >C34-C40 Fraction | mg/kg | 100 | <100.0 | <100.0 | 0 | <100.0 | <100.0 | 0 | <100.0 | <100.0 | 0 | <100.0 | <100.0 | 0 |
| Organic | | >C10-C40 Fraction (Total) | mg/kg | 100 (Primary): 50 (Interlab) | 120.0 | 140.0 | 15 | <100.0 | <100.0 | 0 | 120.0 | <50.0 | 82 | <100.0 | <50.0 | 0 |
| Organic | | >C10-C16 less Naphthalene (F2) | mg/kg | 50 | <50.0 | <50.0 | 0 | <50.0 | <50.0 | 0 | <50.0 | <50.0 | 0 | <50.0 | <50.0 | 0 |
| Organic | | C6-C10 Fraction | mg/kg | 20 (Primary): 25 (Interlab) | <20.0 | <20.0 | 0 | <20.0 | <20.0 | 0 | <20.0 | <25.0 | 0 | <20.0 | <25.0 | 0 |
| Organic | | C6-C10 less BTEX (F1) | mg/kg | 20 (Primary): 25 (Interlab) | <20.0 | <20.0 | 0 | <20.0 | <20.0 | 0 | <20.0 | <25.0 | 0 | <20.0 | <25.0 | 0 |
| Organic | | Naphthalene | mg/kg | 0.5 (Primary): 1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | PAH | Naphthalene | mg/kg | 0.5 (Primary): 1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| Volatille | Volatille | Benzene | mg/kg | 0.1 (Primary): 0.2 (Interlab) | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.2 | 0 | <0.1 | <0.2 | 0 |
| Volatille | | Ethylbenzene | mg/kg | 0.1 (Primary): 1 (Interlab) | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <1.0 | 0 | <0.1 | <1.0 | 0 |
| Volatille | | Toluene | mg/kg | 0.1 (Primary): 0.5 (Interlab) | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.5 | 0 | <0.1 | <0.5 | 0 |
| Volatille | | Xylene (o) | mg/kg | 0.1 (Primary): 1 (Interlab) | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <1.0 | 0 | <0.1 | <1.0 | 0 |
| Volatille | | Xylene (m & p) | mg/kg | 0.2 (Primary): 2 (Interlab) | <0.2 | <0.2 | 0 | <0.2 | <0.2 | 0 | <0.2 | <2.0 | 0 | <0.2 | <2.0 | 0 |
| Volatille | | Xylene (Total) | mg/kg | 0.3 (Primary): 3 (Interlab) | <0.3 | <0.3 | 0 | <0.3 | <0.3 | 0 | <0.3 | <3.0 | 0 | <0.3 | <3.0 | 0 |
| PAH | PAH | Acenaphthene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Acenaphthylene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Anthracene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Benzo(a)anthracene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Benzo(a)pyrene | mg/kg | 0.5 (Primary): 0.05 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.05 | 0 | <0.5 | <0.05 | 0 |
| PAH | | Benzo(a)pyrene TEQ (lower bound)* | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| PAH | | Benzo(a)pyrene TEQ (medium bound)* | mg/kg | 0.5 | 0.6 | 0.6 | 0 | 0.6 | 0.6 | 0 | 0.6 | <0.5 | 18 | 0.6 | <0.5 | 18 |
| PAH | | Benzo(a)pyrene TEQ (upper bound)* | mg/kg | 0.5 | 1.2 | 1.2 | 0 | 1.2 | 1.2 | 0 | 1.2 | <0.5 | 82 | 1.2 | <0.5 | 82 |
| PAH | | Benzo(b)fluoranthene | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| PAH | | Benzo(k)fluoranthene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Chrysene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Dibenz(a,h)anthracene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Fluoranthene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Fluorene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Indeno(1,2,3-c,d)pyrene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | PAHs (Total) | mg/kg | 0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 |
| PAH | | Phenanthrene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| PAH | | Pyrene | mg/kg | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | <0.5 | 0 | <0.5 | <0.1 | 0 | <0.5 | <0.1 | 0 |
| OCP | OCP | 4,4-DDE | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Aldrin | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Aldrin + Dieldrin (Sum of Total) | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | alpha-BHC | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | beta-BHC | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Chlordane | mg/kg | 0.1 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 | <0.1 | <0.1 | 0 |
| OCP | | DDD | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | DDT | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Dieldrin | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | DDT+DDE+DDD (Sum of Total) | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | delta-BHC | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Endosulfan alpha | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Endosulfan beta | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Endosulfan sulphate | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Ethion | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Ethion aldehyde | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Ethion ketone | mg/kg | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Heptachlor | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Heptachlor Epoxide | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Lindane | mg/kg | 0.05 (Primary): 0.1 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | <0.05 | 0 | <0.05 | <0.1 | 0 | <0.05 | <0.1 | 0 |
| OCP | | Methoxychlor | mg/kg | 0.2 (Primary): 0.1 (Interlab) | <0.2 | <0.2 | 0 | <0.2 | <0.2 | 0</ | | | | | | |

ESDAT QA Checker
Project:57591water
Filter: SDG in('687355')

Overview Summary

[Count of Samples](#)
[Summary By Compound](#)
[Count of Results](#)

Holding Times

Holding Time Errors (0)

Blanks

[Field Blanks](#)
Detects in Lab Blanks (0)
[SDG's without Storage Blanks \(1\)](#)
[SDG's without Method Blanks \(1\)](#)

Duplicates

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

Surrogates

[Surrogate Variation > 30% or outside lab LCL or UCL \(35\)](#)

Lab Control Samples

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

Certified and Standard Reference Materials

Certified Reference Materials - Error > 10% (0)

Matrix Spikes

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

Inorganic

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

Other

[Unit Conversion Problems \(3\)](#)
OriginalChemNames Requiring Validation (0)
Samples with no Results (0)
Samples associated with Wells which are not specified in the Well Table (0)
[Aborted Analysis \(18\)](#)

INSERT TABLE NAME

Project Number: [Project_Number]

Project Name: [Project_Name]

WATER

Field Blanks (WATER)
Filter: SDG in('687355')



| | |
|-------------------|------------|
| SDG | 687355 |
| Field ID | TRIP BLANK |
| Sampled_Date/Time | 11-11-19 |
| Sample Type | Trip_B |

| Filter | Chem_Group | ChemName | Units | EQL | |
|-------------------------|-------------------------|----------------------------------------------------|-------|--------|-------|
| Ionic Balance | Ionic Balance | EC_Lab | µS/cm | 10 | |
| Ionic Balance | | | | | |
| Major Anions | Major Anions | Phosphate total (as P) | mg/l | 0.05 | |
| Major Anions | | Phosphorus | mg/l | 0.05 | |
| Major Anions | | Bicarbonate Alkalinity (as CaCO3) | mg/l | 20 | |
| Major Anions | | Carbonate Alkalinity (as CaCO3) | mg/l | 10 | |
| Major Anions | | | | | |
| Major Cations | Major Cations | Calcium | mg/l | 0.5 | |
| Major Cations | | Calcium (Filtered) | mg/l | 0.5 | |
| Major Cations | | Magnesium | mg/l | 0.5 | |
| Major Cations | | Magnesium (Filtered) | mg/l | 0.5 | |
| Major Cations | | Potassium | mg/l | 0.5 | |
| Major Cations | | Potassium (Filtered) | mg/l | 0.5 | |
| Major Cations | | Sodium | mg/l | 0.5 | |
| Major Cations | | Sodium (Filtered) | mg/l | 0.5 | |
| Major Cations | | | | | |
| Metals & Metalloids | Metals & Metalloids | Arsenic (Total) (Filtered) | mg/l | 0.001 | |
| Metals & Metalloids | | Barium (Filtered) | mg/l | 0.02 | |
| Metals & Metalloids | | Boron (Filtered) | mg/l | 0.05 | |
| Metals & Metalloids | | Cadmium (Filtered) | mg/l | 0.0002 | |
| Metals & Metalloids | | Chromium (Total) (Filtered) | mg/l | 0.001 | |
| Metals & Metalloids | | Cobalt (Filtered) | mg/l | 0.001 | |
| Metals & Metalloids | | Copper (Filtered) | mg/l | 0.001 | |
| Metals & Metalloids | | Iron (Filtered) | mg/l | 0.05 | |
| Metals & Metalloids | | Lead (Filtered) | mg/l | 0.001 | |
| Metals & Metalloids | | Manganese (Filtered) | mg/l | 0.005 | |
| Metals & Metalloids | | Mercury (Inorganic) (Filtered) | mg/l | 0.0001 | |
| Metals & Metalloids | | Nickel (Filtered) | mg/l | 0.001 | |
| Metals & Metalloids | | Zinc (Filtered) | mg/l | 0.005 | |
| Metals & Metalloids | | | | | |
| Non-Metallic Inorganics | Non-Metallic Inorganics | Ammonia (as N) | mg/l | 0.01 | |
| Non-Metallic Inorganics | | Fluoride | mg/l | 0.5 | |
| Non-Metallic Inorganics | | Nitrate (as N) | mg/l | 0.02 | |
| Non-Metallic Inorganics | | Nitrite (as N) | mg/l | 0.02 | |
| Non-Metallic Inorganics | | Nitrate & Nitrite (as N) | mg/l | 0.05 | |
| Non-Metallic Inorganics | | Total Kjeldahl Nitrogen (as N) | mg/l | 0.2 | |
| Non-Metallic Inorganics | | Total Nitrogen (as N) | mg/l | 0.2 | |
| Non-Metallic Inorganics | | | | | |
| PFAS | PFAS | Perfluorobutanoic acid (PFBA) | µg/L | 0.05 | <0.05 |
| PFAS | | Perfluoropentanoic acid (PFPeA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorohexanoic acid (PFHxA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluoroheptanoic acid (PFHpA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorooctanoic acid (PFOA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorononanoic acid (PFNA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorodecanoic acid (PFDA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluoroundecanoic acid (PFUnA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorododecanoic acid (PFDoA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorotridecanoic acid (PFTTrDA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorotetradecanoic acid (PFTTeDA) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorooctanesulfonamide (FOSA) | µg/L | 0.05 | <0.05 |
| PFAS | | N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | µg/L | 0.05 | <0.05 |
| PFAS | | N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | µg/L | 0.05 | <0.05 |
| PFAS | | 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol | µg/L | 0.05 | <0.05 |
| PFAS | | 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol | µg/L | 0.05 | <0.05 |
| PFAS | | N-ethyl-perfluorooctanesulfonamidoacetic acid | µg/L | 0.05 | <0.05 |
| PFAS | | N-methyl-perfluorooctanesulfonamidoacetic acid | µg/L | 0.05 | <0.05 |
| PFAS | | Perfluorobutanesulfonic acid (PFBS) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluoroheptanesulfonic acid (PFHpS) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorohexanesulfonic acid (PFHxS) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluoropentanesulfonic acid (PFPeS) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorooctanesulfonic acid (PFOS) | µg/L | 0.01 | <0.01 |
| PFAS | | Perfluorodecanesulfonic acid (PFDS) | µg/L | 0.01 | <0.01 |
| PFAS | | 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTS) | µg/L | 0.01 | <0.01 |
| PFAS | | 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTS) | µg/L | 0.05 | <0.05 |
| PFAS | | 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTS) | µg/L | 0.01 | <0.01 |
| PFAS | | 1H.1H.2H.2H-perfluorododecanesulfonic acid | µg/L | 0.01 | <0.01 |
| PFAS | | Sum of PFHxS and PFOS | µg/L | 0.01 | <0.01 |
| PFAS | | Sum of US EPA PFAS (PFOS + PFOA)* | µg/L | 0.01 | <0.01 |
| PFAS | | Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | µg/L | 0.01 | <0.01 |
| PFAS | | Sum of WA DER PFAS (n=10) | µg/L | 0.05 | <0.05 |
| PFAS | | Sum of PFASs (n=28) | µg/L | 0.1 | <0.1 |

WATER Field Duplicates (WATER)
 Filter: SDG in('687355')

| SDG | 687355 | 687355 | 687355 | ENVIROLAB 2019-11-12T00:00:00 |
|-------------------|----------|------------|--------|-------------------------------|
| Field ID | GWM_02 | QC20191111 | RPD | GWM_02 |
| Sampled Date/Time | 11-11-19 | 11-11-19 | | QA20191111 |
| | | | | 11-11-19 |
| | | | | RPD |

| Filter | Chem. Group | ChemName | Units | EQL | 687355 | 687355 | 687355 | ENVIROLAB 2019-11-12T00:00:00 | RPD |
|-------------------------|---------------|---------------------------------------------------------------|-------|--------------------------------------|-----------------|-----------------|-----------|-------------------------------|-----------------|
| Metals & M | Metals & M | Arsenic (Total) (Filtered) | mg/l | 0.001 | <0.001 | <0.001 | 0 | <0.001 | 0.001 |
| Metals & M | | Barium (Filtered) | mg/l | 0.02 (Primary): 0.001 (Interlab) | 0.23 | 0.23 | 0 | 0.23 | 0.17 |
| Metals & M | | Boron (Filtered) | mg/l | 0.05 (Primary): 0.02 (Interlab) | <0.05 | <0.05 | 0 | <0.05 | 0.04 |
| Metals & M | | Cadmium (Filtered) | mg/l | 0.0002 (Primary): 0.0001 (Interlab) | <0.0002 | <0.0002 | 0 | <0.0002 | <0.0001 |
| Metals & M | | Chromium (Total) (Filtered) | mg/l | 0.001 | <0.001 | <0.001 | 0 | <0.001 | <0.001 |
| Metals & M | | Cobalt (Filtered) | mg/l | 0.001 | 0.022 | 0.021 | 5 | 0.022 | 0.021 |
| Metals & M | | Copper (Filtered) | mg/l | 0.001 | <0.001 | <0.001 | 0 | <0.001 | <0.001 |
| Metals & M | | Iron (Filtered) | mg/l | 0.05 (Primary): 0.01 (Interlab) | 0.14 | <0.05 | 95 | 0.14 | <0.01 |
| Metals & M | | Lead (Filtered) | mg/l | 0.001 | <0.001 | <0.001 | 0 | <0.001 | <0.001 |
| Metals & M | | Manganese (Filtered) | mg/l | 0.005 | 3.8 | 3.9 | 3 | 3.8 | 4.0 |
| Metals & M | | Mercury (Inorganic) (Filtered) | mg/l | 0.0001 (Primary): 0.00005 (Interlab) | <0.0001 | <0.0001 | 0 | <0.0001 | <0.0001 |
| Metals & M | | Nickel (Filtered) | mg/l | 0.001 | 0.005 | 0.005 | 0 | 0.005 | 0.006 |
| Metals & M | | Zinc (Filtered) | mg/l | 0.005 (Primary): 0.001 (Interlab) | 0.011 | 0.007 | 44 | 0.011 | 0.008 |
| Metals & Metalloids | | | | | | | | | |
| PFAS | PFAS | Perfluorobutanoic acid (PFBA) | µg/L | 0.05 (Primary): 0.02 (Interlab) | <0.05 | | | <0.05 | <0.02 |
| PFAS | | Perfluoropentanoic acid (PFPeA) | µg/L | 0.01 (Primary): 0.02 (Interlab) | <0.01 | | | <0.01 | <0.02 |
| PFAS | | Perfluorohexanoic acid (PFHxA) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Perfluoroheptanoic acid (PFHpA) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Perfluorooctanoic acid (PFOA) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Perfluorononanoic acid (PFNA) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Perfluorodecanoic acid (PFDA) | µg/L | 0.01 (Primary): 0.02 (Interlab) | <0.01 | | | <0.01 | <0.02 |
| PFAS | | Perfluoroundecanoic acid (PFUnA) | µg/L | 0.01 (Primary): 0.02 (Interlab) | <0.01 | | | <0.01 | <0.02 |
| PFAS | | Perfluorododecanoic acid (PFDoA) | µg/L | 0.01 (Primary): 0.05 (Interlab) | <0.01 | | | <0.01 | <0.05 |
| PFAS | | Perfluorotridecanoic acid (PFTeDA) | µg/L | 0.01 (Primary): 0.1 (Interlab) | <0.01 | | | <0.01 | <0.1 |
| PFAS | | Perfluorotetradecanoic acid (PFTeDA) | µg/L | 0.01 (Primary): 0.5 (Interlab) | <0.01 | | | <0.01 | <0.5 |
| PFAS | | Perfluorooctanesulfonamide (FOSA) | µg/L | 0.05 (Primary): 0.1 (Interlab) | <0.05 | | | <0.05 | <0.1 |
| PFAS | | N-methylperfluoro-1-octane sulfonamide (N-MeFOA) | µg/L | 0.05 | <0.05 | | | <0.05 | <0.05 |
| PFAS | | N-ethylperfluoro-1-octane sulfonamide (N-EtFOA) | µg/L | 0.05 (Primary): 0.1 (Interlab) | <0.05 | | | <0.05 | <0.1 |
| PFAS | | 2-(N-methylperfluoro-1-octane sulfonamido)ethanol (N-MeFOA-2) | µg/L | 0.05 | <0.05 | | | <0.05 | <0.05 |
| PFAS | | 2-(N-ethylperfluoro-1-octane sulfonamido)ethanol (N-EtFOA-2) | µg/L | 0.05 (Primary): 0.5 (Interlab) | <0.05 | | | <0.05 | <0.5 |
| PFAS | | N-ethyl-perfluorooctanesulfonamidoacetate (N-EtFOA-3) | µg/L | 0.05 (Primary): 0.02 (Interlab) | <0.05 | | | <0.05 | <0.02 |
| PFAS | | N-methyl-perfluorooctanesulfonamidoacetate (N-MeFOA-3) | µg/L | 0.05 (Primary): 0.02 (Interlab) | <0.05 | | | <0.05 | <0.02 |
| PFAS | | Perfluorobutanesulfonic acid (PFBS) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Perfluorohexanesulfonic acid (PFHxS) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Perfluorooctanesulfonic acid (PFOS) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Perfluorodecane sulfonic acid (PFDS) | µg/L | 0.01 (Primary): 0.02 (Interlab) | <0.01 | | | <0.01 | <0.02 |
| PFAS | | 1H,1H,2H,2H-perfluorohexanesulfonic acid (PFHxS) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | 1H,1H,2H,2H-perfluorooctanesulfonic acid (PFOS) | µg/L | 0.05 (Primary): 0.01 (Interlab) | <0.05 | | | <0.05 | <0.01 |
| PFAS | | 1H,1H,2H,2H-perfluorodecane sulfonic acid (PFDS) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | 1H,1H,2H,2H-perfluorododecane sulfonic acid (PFDoA) | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Sum of PFHxS and PFOS | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Sum of US EPA PFAS (PFOS + PFOA)* | µg/L | 0.01 | <0.01 | | | <0.01 | <0.01 |
| PFAS | | Sum of PFASs (n=28) | µg/L | 0.1 (Primary): 0.01 (Interlab) | <0.1 | | | <0.1 | <0.01 |
| Non-Metallic Inorganics | | | | | | | | | |
| Major Cations | Major Cation | Ammonia (as N) | mg/l | 0.01 | 1.0 | 1.0 | 0 | 1.0 | |
| Major Cations | | Fluoride | mg/l | 0.5 (Primary): 0.1 (Interlab) | <0.5 | <0.5 | 0 | <0.5 | 0.1 |
| Major Cations | | Nitrate (as N) | mg/l | 0.02 (Primary): 0.005 (Interlab) | 0.05 | 0.08 | 46 | 0.05 | 0.03 |
| Major Cations | | Nitrite (as N) | mg/l | 0.02 (Primary): 0.005 (Interlab) | <0.02 | <0.02 | 0 | <0.02 | <0.005 |
| Major Cations | | Nitrate & Nitrite (as N) | mg/l | 0.05 | <0.05 | 0.08 | 46 | <0.05 | |
| Major Cations | | Total Kjeldahl Nitrogen (as N) | mg/l | 0.2 (Primary): 0.1 (Interlab) | 0.9 | 1.2 | 29 | 0.9 | 1.1 |
| Major Cations | | Total Nitrogen (as N) | mg/l | 0.2 (Primary): 0.1 (Interlab) | 0.9 | 1.28 | 35 | 0.9 | 1.2 |
| Major Anions | Major Anion | Phosphate total (as P) | mg/l | 0.05 | <0.05 | 0.08 | 46 | <0.05 | |
| Major Anions | | Phosphorus | mg/l | 0.05 | <0.05 | <0.05 | 0 | <0.05 | <0.05 |
| Major Anions | | Bicarbonate Alkalinity (as CaCO3) | mg/l | 20 (Primary): 5 (Interlab) | 1100.0 | 1100.0 | 0 | 1100.0 | 1200.0 |
| Major Anions | | Carbonate Alkalinity (as CaCO3) | mg/l | 10 | <10.0 | <10.0 | 0 | <10.0 | |
| Ionic Balance | Ionic Balance | EC_Lab | µS/cm | 10 | 21000.0 | 20000.0 | 5 | 21000.0 | |

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

Appendix G Chain of Custody and Laboratory Reports

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



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: George Black
Report 686320-AID
Project Name JORDAN SPRINGS - MARYLANDS
Project ID 57591
Received Date Nov 05, 2019
Date Reported Nov 07, 2019

Methodology:

Asbestos Fibre Identification Conducted in accordance with the Australian Standard AS 4964 – 2004: Method for the Qualitative Identification of Asbestos in Bulk Samples and in-house Method LTM-ASB-8020 by polarised light microscopy (PLM) and dispersion staining (DS) techniques.
NOTE: Positive Trace Analysis results indicate the sample contains detectable respirable fibres.

Unknown Mineral Fibres Mineral fibres of unknown type, as determined by PLM with DS, may require another analytical technique, such as Electron Microscopy, to confirm unequivocal identity.
NOTE: While Actinolite, Anthophyllite and Tremolite asbestos may be detected by PLM with DS, due to variability in the optical properties of these materials, AS4964 requires that these are reported as UMF unless confirmed by an independent technique.

Subsampling Soil Samples The whole sample submitted is first dried and then passed through a 10mm sieve followed by a 2mm sieve. All fibrous matter greater than 10mm, greater than 2mm as well as the material passing through the 2mm sieve are retained and analysed for the presence of asbestos. If the sub 2mm fraction is greater than approximately 30 to 60g then a sub-sampling routine based on ISO 3082:2009(E) is employed.
NOTE: Depending on the nature and size of the soil sample, the sub-2 mm residue material may need to be sub-sampled for trace analysis, in accordance with AS 4964-2004.

Bonded asbestos-containing material (ACM) The material is first examined and any fibres isolated for identification by PLM and DS. Where required, interfering matrices may be removed by disintegration using a range of heat, chemical or physical treatments, possibly in combination. The resultant material is then further examined in accordance with AS 4964 - 2004.
NOTE: Even after disintegration it may be difficult to detect the presence of asbestos in some asbestos-containing bulk materials using PLM and DS. This is due to the low grade or small length or diameter of the asbestos fibres present in the material, or to the fact that very fine fibres have been distributed intimately throughout the materials. Vinyl/asbestos floor tiles, some asbestos-containing sealants and mastics, asbestos-containing epoxy resins and some ore samples are examples of these types of material, which are difficult to analyse.

Limit of Reporting The performance limitation of the AS 4964 (2004) method for non-homogeneous samples is around 0.1 g/kg (equivalent to 0.01% (w/w)). Where no asbestos is found by PLM and DS, including Trace Analysis, this is considered to be at the nominal reporting limit of 0.01% (w/w).
 The NEPM screening level of 0.001% (w/w) is intended as an on-site determination, not a laboratory Limit of Reporting (LOR), per se. Examination of a large sample size (e.g. 500 mL) may improve the likelihood of detecting asbestos, particularly AF, to aid assessment against the NEPM criteria. Gravimetric determinations to this level of accuracy are outside of AS 4964 and hence NATA Accreditation does not cover the performance of this service (non-NATA results shown with an asterisk).
NOTE: NATA News March 2014, p.7, states in relation to AS 4964: "This is a qualitative method with a nominal reporting limit of 0.01 % " and that currently in Australia "there is no validated method available for the quantification of asbestos". This report is consistent with the analytical procedures and reporting recommendations in the NEPM and the WA DoH.

Project Name JORDAN SPRINGS - MARYLANDS
Project ID 57591
Date Sampled Nov 04, 2019 to Nov 05, 2019
Report 686320-AID

| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description | Result |
|------------------|---------------------|--------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| BC02 0-0.1 | 19-No05705 | Nov 04, 2019 | Approximate Sample 471g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC04 0-0.1 | 19-No05707 | Nov 04, 2019 | Approximate Sample 641g Sample consisted of: Brown coarse-grained soil, bituminous material and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC05 0-0.1 | 19-No05708 | Nov 04, 2019 | Approximate Sample 570g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC08 0-0.1 | 19-No05712 | Nov 04, 2019 | Approximate Sample 506g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC10 0-0.1 | 19-No05714 | Nov 04, 2019 | Approximate Sample 461g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC12 0-0.1 | 19-No05716 | Nov 04, 2019 | Approximate Sample 468g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC13 0-0.1 | 19-No05717 | Nov 04, 2019 | Approximate Sample 533g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC14 0-0.1 | 19-No05718 | Nov 04, 2019 | Approximate Sample 576g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |

| Client Sample ID | Eurofins Sample No. | Date Sampled | Sample Description | Result |
|------------------|---------------------|--------------|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| BC15 0-0.1 | 19-No05719 | Nov 04, 2019 | Approximate Sample 685g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BV6-01 0-0.1 | 19-No05721 | Nov 04, 2019 | Approximate Sample 389g Sample consisted of: Brown coarse-grained soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BV6-02 0-0.1 | 19-No05722 | Nov 04, 2019 | Approximate Sample 405g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BV6-03 0-0.1 | 19-No05723 | Nov 04, 2019 | Approximate Sample 456g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BV6-06 0-0.1 | 19-No05726 | Nov 04, 2019 | Approximate Sample 452g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BV6-07 0-0.1 | 19-No05727 | Nov 04, 2019 | Approximate Sample 516g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BV6-09 0-0.1 | 19-No05729 | Nov 04, 2019 | Approximate Sample 587g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| QA20191104-DH | 19-No05730 | Nov 04, 2019 | Approximate Sample 543g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| QA20191104-ML | 19-No05731 | Nov 04, 2019 | Approximate Sample 376g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC17 0-0.1 | 19-No05732 | Nov 05, 2019 | Approximate Sample 474g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |
| BC23 0-0.1 | 19-No05736 | Nov 05, 2019 | Approximate Sample 438g Sample consisted of: Brown coarse-grained clayey soil and rocks | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected. |

Sample History

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

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

| Description | Testing Site | Extracted | Holding Time |
|-------------------------|---------------------|------------------|---------------------|
| Asbestos - LTM-ASB-8020 | Sydney | Nov 05, 2019 | Indefinite |

| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 5, 2019 1:00 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686320 | Due: Nov 7, 2019 |
| Project Name: JORDAN SPRINGS - MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------|--------------|---------------|--------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | | | |
| 1 | BC01 0-0.1 | Nov 04, 2019 | | Soil | S19-No05704 | | | | X | | X | X | X | X | X | |
| 2 | BC02 0-0.1 | Nov 04, 2019 | | Soil | S19-No05705 | X | | | X | X | X | X | X | X | X | X |
| 3 | BC03 0-0.1 | Nov 04, 2019 | | Soil | S19-No05706 | | | | X | | X | X | X | X | X | |
| 4 | BC04 0-0.1 | Nov 04, 2019 | | Soil | S19-No05707 | X | | | X | X | X | X | X | X | X | X |
| 5 | BC05 0-0.1 | Nov 04, 2019 | | Soil | S19-No05708 | X | | | X | X | X | X | X | X | X | X |
| 6 | BC06 0-0.1 | Nov 04, 2019 | | Soil | S19-No05709 | | | | X | | X | X | X | X | X | |
| 7 | BC07 0-0.1 | Nov 04, 2019 | | Soil | S19-No05710 | | | | X | | | X | X | X | | |
| 8 | BC07 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05711 | | | | | | X | | X | X | | |
| 9 | BC08 0-0.1 | Nov 04, 2019 | | Soil | S19-No05712 | X | | | X | | X | X | X | X | X | X |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
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Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | |
| 10 | BC09 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 11 | BC10 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 12 | BC11 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 13 | BC12 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 14 | BC13 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 15 | BC14 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 16 | BC15 0-0.1 | Nov 04, 2019 | X | | | X | X | X | X | X | X | X | X |
| 17 | BC16 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 18 | BV6-01 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 19 | BV6-02 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | |
| 20 | BV6-03 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 21 | BV6-04 0.3-0.4 | Nov 04, 2019 | | | | X | X | X | X | X | X | X | |

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|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|---------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 22 | BV6-05 0-0.1 | Nov 04, 2019 | | Soil | S19-No05725 | | | | X | | | X | X | X | X | |
| 23 | BV6-06 0-0.1 | Nov 04, 2019 | | Soil | S19-No05726 | X | | | X | | | X | X | X | X | |
| 24 | BV6-07 0-0.1 | Nov 04, 2019 | | Soil | S19-No05727 | X | | | X | | | X | X | X | X | X |
| 25 | BV6-08 0-0.1 | Nov 04, 2019 | | Soil | S19-No05728 | | | | X | | | X | X | X | X | |
| 26 | BV6-09 0-0.1 | Nov 04, 2019 | | Soil | S19-No05729 | X | | | X | X | X | X | X | X | X | X |
| 27 | QA20191104-DH | Nov 04, 2019 | | Soil | S19-No05730 | X | | | X | | | X | X | X | X | X |
| 28 | QA20191104-ML | Nov 04, 2019 | | Soil | S19-No05731 | X | | | X | X | X | X | X | X | X | X |
| 29 | BC17 0-0.1 | Nov 05, 2019 | | Soil | S19-No05732 | X | | | X | | | X | X | X | X | X |
| 30 | BC18 0.3-0.4 | Nov 05, 2019 | | Soil | S19-No05733 | | | | X | X | X | X | X | X | X | |
| 31 | BC20 0-0.1 | Nov 05, 2019 | | Soil | S19-No05734 | | | | X | | | X | X | X | X | |
| 32 | BC21 0-0.1 | Nov 05, 2019 | | Soil | S19-No05735 | | | | X | | | X | X | X | X | |

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| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------|--------------|--|-------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 33 | BC23 0-0.1 | Nov 05, 2019 | | Soil | S19-No05736 | X | | | X | X | X | X | X | X | X | X |
| 34 | BC24 0-0.1 | Nov 05, 2019 | | Soil | S19-No05737 | | | | X | | | X | X | X | X | |
| 35 | BC25 0-0.1 | Nov 05, 2019 | | Soil | S19-No05738 | | | | X | | | X | X | X | X | |
| 36 | RINS-01 | Nov 05, 2019 | | Water | S19-No05739 | | | | X | X | X | X | X | | X | |
| 37 | BC01 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05740 | | | X | | | | | | | | |
| 38 | BC02 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05741 | | | X | | | | | | | | |
| 39 | BC03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05742 | | | X | | | | | | | | |
| 40 | BC04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05743 | | X | | | | | | | | | |
| 41 | BC05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05744 | | | X | | | | | | | | |
| 42 | BC06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05745 | | | X | | | | | | | | |
| 43 | BC08 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05746 | | | X | | | | | | | | |
| 44 | BC09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05747 | | | X | | | | | | | | |

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|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 45 | BC10 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05748 | | | X | | | | | | | | |
| 46 | BC11 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05749 | | | X | | | | | | | | |
| 47 | BC12 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05750 | | | X | | | | | | | | |
| 48 | BC13 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05751 | | | X | | | | | | | | |
| 49 | BC14 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05752 | | | X | | | | | | | | |
| 50 | BC15 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05753 | | | X | | | | | | | | |
| 51 | BC15 0.5-0.6 | Nov 04, 2019 | | Soil | S19-No05754 | | | X | | | | | | | | |
| 52 | BC16 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05755 | | | X | | | | | | | | |
| 53 | BV6-01 0.2-0.3 | Nov 04, 2019 | | Soil | S19-No05756 | | | X | | | | | | | | |
| 54 | BV6-01 0.5-0.6 | Nov 04, 2019 | | Soil | S19-No05757 | | | X | | | | | | | | |
| 55 | BV6-02 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05758 | | | X | | | | | | | | |
| 56 | BV6-02 0.5-0.6 | Nov 04, 2019 | | Soil | S19-No05759 | | | X | | | | | | | | |

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Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 57 | BV6-03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05760 | | | X | | | | | | | | |
| 58 | BV6-04 0-0.1 | Nov 04, 2019 | | Soil | S19-No05761 | | | X | | | | | | | | |
| 59 | BV6-05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05762 | | | X | | | | | | | | |
| 60 | BV6-06 0.4-0.5 | Nov 04, 2019 | | Soil | S19-No05763 | | | X | | | | | | | | |
| 61 | BV6-06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05764 | | | X | | | | | | | | |
| 62 | BV6-07 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05765 | | | X | | | | | | | | |
| 63 | BV6-08 0.2-0.3 | Nov 04, 2019 | | Soil | S19-No05766 | | | X | | | | | | | | |
| 64 | BV6-09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05767 | | | X | | | | | | | | |
| 65 | BC17 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05768 | | | X | | | | | | | | |
| 66 | BC18 0-0.1 | Nov 04, 2019 | | Soil | S19-No05769 | | | X | | | | | | | | |
| 67 | BC19 0-0.1 | Nov 04, 2019 | | Soil | S19-No05770 | | | X | | | | | | | | |
| 68 | BC19 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05771 | | | X | | | | | | | | |

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|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Sample Detail | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|-------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | |
| 69 | BC20 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 70 | BC21 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 71 | BC22 0-0.1 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 72 | BC22 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 73 | BC23 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 74 | BC24 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 75 | BC25 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 76 | BLANK-01 | Nov 04, 2019 | Water | | | | | | | | | | | X |
| 77 | BV05 0.4-0.5 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 78 | TRIP SPIKE | Nov 04, 2019 | Water | | | | | | | | X | | | |
| 79 | TRIP BLANK | Nov 04, 2019 | Water | | | | | | | | X | | | |
| 80 | BV6-07 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | |
| Test Counts | 19 | 1 | 40 | 35 | 10 | 10 | 35 | 37 | 35 | 35 | 18 |

Internal Quality Control Review and Glossary
General

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

Holding Times

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

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

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

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

Units

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

Terms

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

Comments

S19-No05705, S19-No05714, S19-No05716, S19-No05721, S19-No05722, S19-No05723, S19-No05726, S19-No05731, S19-No05732, S19-No05733: Samples received were less than the nominal 500mL as recommended in Section 4.10 of the NEPM Schedule B1 - Guideline on Investigation Levels for Soil and Groundwater.

Sample Integrity

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

Qualifier Codes/Comments

| Code | Description |
|------|----------------|
| N/A | Not applicable |

Asbestos Counter/Identifier:

Laxman Dias Senior Analyst-Asbestos (NSW)

Authorised by:

Sayeed Abu Senior Analyst-Asbestos (NSW)



Glenn Jackson
General Manager

Final Report – this report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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



NATA Accredited
 Accreditation Number 1261
 Site Number 18217

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

Attention: **George Black**

Report **686320-S**
 Project name **JORDAN SPRINGS - MARYLANDS**
 Project ID **57591**
 Received Date **Nov 05, 2019**

| Client Sample ID | | | BC01 0-0.1 | BC02 0-0.1 | BC03 0-0.1 | BC04 0-0.1 |
|-------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05704 | S19-No05705 | S19-No05706 | S19-No05707 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | 63 | < 50 | 530 |
| TRH C29-C36 | 50 | mg/kg | < 50 | 71 | < 50 | 630 |
| TRH C10-C36 (Total) | 50 | mg/kg | < 50 | 134 | < 50 | 1160 |
| BTEX | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 89 | 53 | 88 | 93 |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1) ^{N04} | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | < 100 | 110 | < 100 | 1000 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | 360 |
| TRH >C10-C40 (total)* | 100 | mg/kg | < 100 | 110 | < 100 | 1360 |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Benzo(a)pyrene TEQ (lower bound) * | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 34 |
| Benzo(a)pyrene TEQ (medium bound) * | 0.5 | mg/kg | 0.6 | 0.6 | 0.6 | 34 |
| Benzo(a)pyrene TEQ (upper bound) * | 0.5 | mg/kg | 1.2 | 1.2 | 1.2 | 34 |
| Acenaphthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 1.1 |
| Acenaphthylene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 2.1 |
| Anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 7.0 |
| Benz(a)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 12 |
| Benzo(a)pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 22 |
| Benzo(b&j)fluoranthene ^{N07} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 11 |
| Benzo(g,h,i)perylene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 26 |
| Benzo(k)fluoranthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 17 |
| Chrysene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 12 |

| Client Sample ID | | | BC01 0-0.1 | BC02 0-0.1 | BC03 0-0.1 | BC04 0-0.1 |
|-----------------------------------------|------|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05704 | S19-No05705 | S19-No05706 | S19-No05707 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Dibenz(a,h)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 6.0 |
| Fluoranthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 26 |
| Fluorene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 1.5 |
| Indeno(1.2.3-cd)pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 18 |
| Naphthalene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 0.7 |
| Phenanthrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 11 |
| Pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 26 |
| Total PAH* | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | 199.4 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 77 | 98 | 83 | 98 |
| p-Terphenyl-d14 (surr.) | 1 | % | 114 | 114 | 116 | 99 |
| 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 | 1 | mg/kg | - | < 1 | - | < 1 |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | - | < 0.05 | - | < 0.05 |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | - | < 0.05 | - | < 0.05 |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | - | < 0.2 | - | < 0.2 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | - | < 0.2 | - | < 0.2 |
| Dibutylchloroendate (surr.) | 1 | % | - | 139 | - | 74 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 140 | - | 107 |
| 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 |
| Dibutylchloroendate (surr.) | 1 | % | - | 139 | - | 74 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 140 | - | 107 |

| Client Sample ID | | | BC01 0-0.1 | BC02 0-0.1 | BC03 0-0.1 | BC04 0-0.1 |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05704 | S19-No05705 | S19-No05706 | S19-No05707 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 5.2 | 4.5 | 8.7 | 18 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 12 | 10 | 19 | 62 |
| Copper | 5 | mg/kg | 9.5 | 17 | 9.0 | 22 |
| Lead | 5 | mg/kg | 21 | 18 | 28 | 26 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 5.4 | 8.7 | 8.1 | 20 |
| Zinc | 5 | mg/kg | 19 | 42 | 22 | 42 |
| % Moisture | 1 | % | 21 | 19 | 15 | 5.9 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorotetradecanoic acid (PFTTeDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 13C4-PFBA (surr.) | 1 | % | - | 67 | - | 101 |
| 13C5-PFPeA (surr.) | 1 | % | - | 68 | - | 118 |
| 13C5-PFHxA (surr.) | 1 | % | - | 67 | - | 95 |
| 13C4-PFHpA (surr.) | 1 | % | - | 79 | - | 115 |
| 13C8-PFOA (surr.) | 1 | % | - | 80 | - | 126 |
| 13C5-PFNA (surr.) | 1 | % | - | 78 | - | 139 |
| 13C6-PFDA (surr.) | 1 | % | - | 109 | - | 139 |
| 13C2-PFUnDA (surr.) | 1 | % | - | 116 | - | 147 |
| 13C2-PFDoDA (surr.) | 1 | % | - | 30 | - | 136 |
| 13C2-PFTTeDA (surr.) | 1 | % | - | 62 | - | 141 |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | - | < 10 | - | < 10 |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | - | < 10 | - | < 10 |
| 13C8-FOSA (surr.) | 1 | % | - | 30 | - | 100 |
| D3-N-MeFOSA (surr.) | 1 | % | - | 68 | - | 88 |
| D5-N-EtFOSA (surr.) | 1 | % | - | 76 | - | 90 |
| D7-N-MeFOSE (surr.) | 1 | % | - | 54 | - | 107 |
| D9-N-EtFOSE (surr.) | 1 | % | - | 39 | - | 76 |
| D5-N-EtFOSAA (surr.) | 1 | % | - | 50 | - | 134 |
| D3-N-MeFOSAA (surr.) | 1 | % | - | 25 | - | 103 |

| Client Sample ID | | | BC01 0-0.1 | BC02 0-0.1 | BC03 0-0.1 | BC04 0-0.1 |
|-----------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05704 | S19-No05705 | S19-No05706 | S19-No05707 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl sulfonic acids (PFASs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| 13C3-PFBS (surr.) | 1 | % | - | 124 | - | 114 |
| 18O2-PFHxS (surr.) | 1 | % | - | 127 | - | 146 |
| 13C8-PFOS (surr.) | 1 | % | - | 127 | - | 145 |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | - | < 10 | - | < 10 |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| 13C2-4:2 FTSA (surr.) | 1 | % | - | 109 | - | 112 |
| 13C2-6:2 FTSA (surr.) | 1 | % | - | INT | - | 195 |
| 13C2-8:2 FTSA (surr.) | 1 | % | - | 66 | - | 122 |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | - | < 5 | - | < 5 |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | - | < 5 | - | < 5 |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | - | < 5 | - | < 5 |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | - | < 10 | - | < 10 |
| Sum of PFASs (n=30)* | 50 | ug/kg | - | < 50 | - | < 50 |

| Client Sample ID | | | BC05 0-0.1 | BC06 0-0.1 | BC07 0-0.1 | BC07 0.3-0.4 |
|-------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05708 | S19-No05709 | S19-No05710 | S19-No05711 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | - |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | - |
| TRH C15-C28 | 50 | mg/kg | < 50 | 54 | < 50 | - |
| TRH C29-C36 | 50 | mg/kg | < 50 | 94 | < 50 | - |
| TRH C10-C36 (Total) | 50 | mg/kg | < 50 | 148 | < 50 | - |
| BTEX | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | - |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | - |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | - |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 | - |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | - |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | < 0.3 | - |
| 4-Bromofluorobenzene (surr.) | 1 | % | 87 | 83 | 101 | - |

| Client Sample ID | | | BC05 0-0.1 | BC06 0-0.1 | BC07 0-0.1 | BC07 0.3-0.4 |
|-------------------------------------------------------------|------|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05708 | S19-No05709 | S19-No05710 | S19-No05711 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | - |
| TRH C6-C10 less BTEX (F1) ^{N04} | 20 | mg/kg | < 20 | < 20 | < 20 | - |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | - |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 50 | mg/kg | < 50 | < 50 | < 50 | - |
| TRH >C16-C34 | 100 | mg/kg | < 100 | 130 | < 100 | - |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | - |
| TRH >C10-C40 (total)* | 100 | mg/kg | < 100 | 130 | < 100 | - |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Benzo(a)pyrene TEQ (lower bound) * | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Benzo(a)pyrene TEQ (medium bound) * | 0.5 | mg/kg | 0.6 | 0.6 | 0.6 | - |
| Benzo(a)pyrene TEQ (upper bound) * | 0.5 | mg/kg | 1.2 | 1.2 | 1.2 | - |
| Acenaphthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Acenaphthylene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Benz(a)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Benzo(a)pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Benzo(b&j)fluoranthene ^{N07} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Benzo(g,h,i)perylene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Benzo(k)fluoranthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Chrysene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Dibenz(a,h)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Fluoranthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Fluorene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Indeno(1,2,3-cd)pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Naphthalene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Phenanthrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| Total PAH* | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | 90 | 81 | 97 | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 121 | 114 | 114 | - |
| Organochlorine Pesticides | | | | | | |
| Chlordanes - Total | 0.1 | mg/kg | < 0.1 | - | - | - |
| 4,4'-DDD | 0.05 | mg/kg | < 0.05 | - | - | - |
| 4,4'-DDE | 0.05 | mg/kg | < 0.05 | - | - | - |
| 4,4'-DDT | 0.05 | mg/kg | < 0.05 | - | - | - |
| a-BHC | 0.05 | mg/kg | < 0.05 | - | - | - |
| Aldrin | 0.05 | mg/kg | < 0.05 | - | - | - |
| b-BHC | 0.05 | mg/kg | < 0.05 | - | - | - |
| d-BHC | 0.05 | mg/kg | < 0.05 | - | - | - |
| Dieldrin | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endosulfan I | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endosulfan II | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endosulfan sulphate | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endrin | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endrin aldehyde | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endrin ketone | 0.05 | mg/kg | < 0.05 | - | - | - |
| g-BHC (Lindane) | 0.05 | mg/kg | < 0.05 | - | - | - |
| Heptachlor | 0.05 | mg/kg | < 0.05 | - | - | - |

| Client Sample ID | | | BC05 0-0.1 | BC06 0-0.1 | BC07 0-0.1 | BC07 0.3-0.4 |
|-----------------------------------------------------|------|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05708 | S19-No05709 | S19-No05710 | S19-No05711 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Organochlorine Pesticides | | | | | | |
| Heptachlor epoxide | 0.05 | mg/kg | < 0.05 | - | - | - |
| Hexachlorobenzene | 0.05 | mg/kg | < 0.05 | - | - | - |
| Methoxychlor | 0.2 | mg/kg | < 0.2 | - | - | - |
| Toxaphene | 1 | mg/kg | < 1 | - | - | - |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | < 0.05 | - | - | - |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | < 0.05 | - | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | < 0.2 | - | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | < 0.2 | - | - | - |
| Dibutylchlorodate (surr.) | 1 | % | 138 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 122 | - | - | - |
| 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 | - | - | - |
| Dibutylchlorodate (surr.) | 1 | % | 138 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 122 | - | - | - |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 5.5 | 4.6 | - | 9.1 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | - | < 0.4 |
| Chromium | 5 | mg/kg | 13 | 11 | - | 20 |
| Copper | 5 | mg/kg | 15 | 14 | - | 11 |
| Lead | 5 | mg/kg | 16 | 23 | - | 23 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | - | < 0.1 |
| Nickel | 5 | mg/kg | 8.5 | 9.7 | - | 6.2 |
| Zinc | 5 | mg/kg | 29 | 47 | - | 15 |
| % Moisture | 1 | % | 16 | 21 | 17 | 10 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorotridecanoic acid (PFTrDA) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 13C4-PFBA (surr.) | 1 | % | 87 | - | - | - |
| 13C5-PFPeA (surr.) | 1 | % | 113 | - | - | - |
| 13C5-PFHxA (surr.) | 1 | % | 80 | - | - | - |
| 13C4-PFHpA (surr.) | 1 | % | 97 | - | - | - |
| 13C8-PFOA (surr.) | 1 | % | 108 | - | - | - |

| Client Sample ID | | | BC05 0-0.1 | BC06 0-0.1 | BC07 0-0.1 | BC07 0.3-0.4 |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05708 | S19-No05709 | S19-No05710 | S19-No05711 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| 13C5-PFNA (surr.) | 1 | % | 132 | - | - | - |
| 13C6-PFDA (surr.) | 1 | % | 122 | - | - | - |
| 13C2-PFUnDA (surr.) | 1 | % | 153 | - | - | - |
| 13C2-PFDoDA (surr.) | 1 | % | 126 | - | - | - |
| 13C2-PFTeDA (surr.) | 1 | % | 136 | - | - | - |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | - | - |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | - | - |
| 13C8-FOSA (surr.) | 1 | % | 80 | - | - | - |
| D3-N-MeFOSA (surr.) | 1 | % | 85 | - | - | - |
| D5-N-EtFOSA (surr.) | 1 | % | 80 | - | - | - |
| D7-N-MeFOSE (surr.) | 1 | % | 109 | - | - | - |
| D9-N-EtFOSE (surr.) | 1 | % | 77 | - | - | - |
| D5-N-EtFOSAA (surr.) | 1 | % | 105 | - | - | - |
| D3-N-MeFOSAA (surr.) | 1 | % | 94 | - | - | - |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| 13C3-PFBS (surr.) | 1 | % | 118 | - | - | - |
| 18O2-PFHxS (surr.) | 1 | % | 134 | - | - | - |
| 13C8-PFOS (surr.) | 1 | % | 117 | - | - | - |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | < 10 | - | - | - |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| 13C2-4:2 FTSA (surr.) | 1 | % | 108 | - | - | - |
| 13C2-6:2 FTSA (surr.) | 1 | % | 129 | - | - | - |
| 13C2-8:2 FTSA (surr.) | 1 | % | 98 | - | - | - |

| Client Sample ID | | | BC05 0-0.1 | BC06 0-0.1 | BC07 0-0.1 | BC07 0.3-0.4 |
|---------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05708 | S19-No05709 | S19-No05710 | S19-No05711 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | < 5 | - | - | - |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | < 5 | - | - | - |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | < 5 | - | - | - |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | < 10 | - | - | - |
| Sum of PFASs (n=30)* | 50 | ug/kg | < 50 | - | - | - |

| Client Sample ID | | | BC08 0-0.1 | BC09 0-0.1 | BC10 0-0.1 | BC11 0-0.1 |
|-------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05712 | S19-No05713 | S19-No05714 | S19-No05715 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C29-C36 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C10-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 | % | 90 | 93 | 94 | 57 |
| 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 |
| Dibenz(a,h)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |

| Client Sample ID | | | BC08 0-0.1 | BC09 0-0.1 | BC10 0-0.1 | BC11 0-0.1 |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05712 | S19-No05713 | S19-No05714 | S19-No05715 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| 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 | % | 96 | 95 | 85 | 81 |
| p-Terphenyl-d14 (surr.) | 1 | % | 115 | 106 | 109 | 122 |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 5.4 | 6.3 | 9.9 | 6.7 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 14 | 14 | 17 | 16 |
| Copper | 5 | mg/kg | 9.7 | 11 | 12 | 12 |
| Lead | 5 | mg/kg | 20 | 20 | 36 | 22 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 8.2 | 5.1 | 7.5 | 8.5 |
| Zinc | 5 | mg/kg | 19 | 20 | 26 | 26 |
| % Moisture | 1 | % | 14 | 14 | 16 | 16 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| 13C4-PFBA (surr.) | 1 | % | 90 | - | 92 | - |
| 13C5-PFPeA (surr.) | 1 | % | 93 | - | 99 | - |
| 13C5-PFHxA (surr.) | 1 | % | 88 | - | 82 | - |
| 13C4-PFHpA (surr.) | 1 | % | 99 | - | 107 | - |
| 13C8-PFOA (surr.) | 1 | % | 114 | - | 110 | - |
| 13C5-PFNA (surr.) | 1 | % | 121 | - | 133 | - |
| 13C6-PFDA (surr.) | 1 | % | 143 | - | 134 | - |
| 13C2-PFUnDA (surr.) | 1 | % | 136 | - | 143 | - |
| 13C2-PFDoDA (surr.) | 1 | % | 111 | - | 122 | - |
| 13C2-PFTeDA (surr.) | 1 | % | 122 | - | 135 | - |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |

| Client Sample ID | | | BC08 0-0.1 | BC09 0-0.1 | BC10 0-0.1 | BC11 0-0.1 |
|-----------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05712 | S19-No05713 | S19-No05714 | S19-No05715 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | < 10 | - |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | < 10 | - |
| 13C8-FOSA (surr.) | 1 | % | 73 | - | 83 | - |
| D3-N-MeFOSA (surr.) | 1 | % | 92 | - | 90 | - |
| D5-N-EtFOSA (surr.) | 1 | % | 89 | - | 86 | - |
| D7-N-MeFOSE (surr.) | 1 | % | 108 | - | 94 | - |
| D9-N-EtFOSE (surr.) | 1 | % | 76 | - | 79 | - |
| D5-N-EtFOSAA (surr.) | 1 | % | 107 | - | 115 | - |
| D3-N-MeFOSAA (surr.) | 1 | % | 84 | - | 96 | - |
| Perfluoroalkyl sulfonic acids (PFASs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | < 5 | - | < 5 | - |
| 13C3-PFBS (surr.) | 1 | % | 128 | - | 111 | - |
| 18O2-PFHxS (surr.) | 1 | % | 139 | - | 120 | - |
| 13C8-PFOS (surr.) | 1 | % | 139 | - | 127 | - |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | < 10 | - | < 10 | - |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | < 5 | - |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | < 5 | - | < 5 | - |
| 13C2-4:2 FTSA (surr.) | 1 | % | 167 | - | 100 | - |
| 13C2-6:2 FTSA (surr.) | 1 | % | 180 | - | 195 | - |
| 13C2-8:2 FTSA (surr.) | 1 | % | 139 | - | 106 | - |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | < 5 | - | < 5 | - |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | < 5 | - | < 5 | - |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | < 5 | - | < 5 | - |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | < 10 | - | < 10 | - |
| Sum of PFASs (n=30)* | 50 | ug/kg | < 50 | - | < 50 | - |

| Client Sample ID | | | BC12 0-0.1 | BC13 0-0.1 | BC14 0-0.1 | BC15 0-0.1 |
|-------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05716 | S19-No05717 | S19-No05718 | S19-No05719 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C29-C36 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C10-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 | % | 96 | 64 | 106 | 93 |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1) ^{N04} | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | < 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 |
| 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 | % | 68 | 103 | 76 | 65 |
| p-Terphenyl-d14 (surr.) | 1 | % | 108 | 113 | 108 | 115 |

| Client Sample ID | | | BC12 0-0.1 | BC13 0-0.1 | BC14 0-0.1 | BC15 0-0.1 |
|-------------------------------------|------|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05716 | S19-No05717 | S19-No05718 | S19-No05719 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Organochlorine Pesticides | | | | | | |
| Chlordanes - Total | 0.1 | mg/kg | - | - | - | < 0.1 |
| 4.4'-DDD | 0.05 | mg/kg | - | - | - | < 0.05 |
| 4.4'-DDE | 0.05 | mg/kg | - | - | - | < 0.05 |
| 4.4'-DDT | 0.05 | mg/kg | - | - | - | < 0.05 |
| a-BHC | 0.05 | mg/kg | - | - | - | < 0.05 |
| Aldrin | 0.05 | mg/kg | - | - | - | < 0.05 |
| b-BHC | 0.05 | mg/kg | - | - | - | < 0.05 |
| d-BHC | 0.05 | mg/kg | - | - | - | < 0.05 |
| Dieldrin | 0.05 | mg/kg | - | - | - | < 0.05 |
| Endosulfan I | 0.05 | mg/kg | - | - | - | < 0.05 |
| Endosulfan II | 0.05 | mg/kg | - | - | - | < 0.05 |
| Endosulfan sulphate | 0.05 | mg/kg | - | - | - | < 0.05 |
| Endrin | 0.05 | mg/kg | - | - | - | < 0.05 |
| Endrin aldehyde | 0.05 | mg/kg | - | - | - | < 0.05 |
| Endrin ketone | 0.05 | mg/kg | - | - | - | < 0.05 |
| g-BHC (Lindane) | 0.05 | mg/kg | - | - | - | < 0.05 |
| Heptachlor | 0.05 | mg/kg | - | - | - | < 0.05 |
| Heptachlor epoxide | 0.05 | mg/kg | - | - | - | < 0.05 |
| Hexachlorobenzene | 0.05 | mg/kg | - | - | - | < 0.05 |
| Methoxychlor | 0.2 | mg/kg | - | - | - | < 0.2 |
| Toxaphene | 1 | mg/kg | - | - | - | < 1 |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | - | - | - | < 0.05 |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | - | - | - | < 0.05 |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | - | - | - | < 0.2 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | - | - | - | < 0.2 |
| Dibutylchloroendate (surr.) | 1 | % | - | - | - | 103 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | - | - | 106 |
| 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 |
| Dibutylchloroendate (surr.) | 1 | % | - | - | - | 103 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | - | - | 106 |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 9.2 | 8.1 | 8.1 | 12 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 18 | 17 | 18 | 36 |
| Copper | 5 | mg/kg | 12 | 9.4 | 7.1 | 11 |
| Lead | 5 | mg/kg | 31 | 26 | 25 | 22 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 9.2 | 8.8 | 5.9 | 12 |
| Zinc | 5 | mg/kg | 32 | 28 | 19 | 27 |
| % Moisture | 1 | % | 16 | 16 | 14 | 9.0 |

| Client Sample ID | | | BC12 0-0.1 | BC13 0-0.1 | BC14 0-0.1 | BC15 0-0.1 |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05716 | S19-No05717 | S19-No05718 | S19-No05719 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorotridecanoic acid (PFTrDA) ^{N15} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| 13C4-PFBA (surr.) | 1 | % | 97 | 97 | 103 | 95 |
| 13C5-PFPeA (surr.) | 1 | % | 111 | 127 | 102 | 114 |
| 13C5-PFHxA (surr.) | 1 | % | 90 | 94 | 100 | 86 |
| 13C4-PFHpA (surr.) | 1 | % | 109 | 105 | 106 | 98 |
| 13C8-PFOA (surr.) | 1 | % | 123 | 122 | 124 | 97 |
| 13C5-PFNA (surr.) | 1 | % | 127 | 123 | 133 | 115 |
| 13C6-PFDA (surr.) | 1 | % | 130 | 146 | 150 | 144 |
| 13C2-PFUnDA (surr.) | 1 | % | 120 | 141 | 150 | 144 |
| 13C2-PFDoDA (surr.) | 1 | % | 119 | 119 | 125 | 130 |
| 13C2-PFTeDA (surr.) | 1 | % | 132 | 129 | 130 | 133 |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | < 10 | < 10 | < 10 | < 10 |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | < 10 | < 10 | < 10 | < 10 |
| 13C8-FOSA (surr.) | 1 | % | 90 | 79 | 82 | 96 |
| D3-N-MeFOSA (surr.) | 1 | % | 90 | 88 | 90 | 108 |
| D5-N-EtFOSA (surr.) | 1 | % | 79 | 98 | 86 | 93 |
| D7-N-MeFOSE (surr.) | 1 | % | 90 | 102 | 89 | 111 |
| D9-N-EtFOSE (surr.) | 1 | % | 74 | 75 | 74 | 98 |
| D5-N-EtFOSAA (surr.) | 1 | % | 109 | 112 | 115 | 110 |
| D3-N-MeFOSAA (surr.) | 1 | % | 96 | 93 | 94 | 92 |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| 13C3-PFBS (surr.) | 1 | % | 119 | 116 | 129 | 128 |

| Client Sample ID | | | BC12 0-0.1 | BC13 0-0.1 | BC14 0-0.1 | BC15 0-0.1 |
|------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05716 | S19-No05717 | S19-No05718 | S19-No05719 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | | |
| 18O2-PFHxS (surr.) | 1 | % | 128 | 122 | 140 | 111 |
| 13C8-PFOS (surr.) | 1 | % | 118 | 129 | 129 | 103 |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | < 10 | < 10 | < 10 | < 10 |
| 1H.1H.2H.2H-perfluorodecane sulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| 1H.1H.2H.2H-perfluorododecane sulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| 13C2-4:2 FTSA (surr.) | 1 | % | 129 | 123 | 125 | 138 |
| 13C2-6:2 FTSA (surr.) | 1 | % | INT | 176 | INT | 99 |
| 13C2-8:2 FTSA (surr.) | 1 | % | 123 | 67 | 95 | 80 |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | < 5 | < 5 | < 5 | < 5 |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | < 10 | < 10 | < 10 | < 10 |
| Sum of PFASs (n=30)* | 50 | ug/kg | < 50 | < 50 | < 50 | < 50 |

| Client Sample ID | | | BC16 0-0.1 | BV6-01 0-0.1 | BV6-02 0-0.1 | BV6-03 0-0.1 |
|-------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05720 | S19-No05721 | S19-No05722 | S19-No05723 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | < 50 | 79 |
| TRH C29-C36 | 50 | mg/kg | < 50 | < 50 | < 50 | 160 |
| TRH C10-C36 (Total) | 50 | mg/kg | < 50 | < 50 | < 50 | 239 |
| 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 | % | 93 | 74 | 94 | 88 |
| 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 | 210 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |
| TRH >C10-C40 (total)* | 100 | mg/kg | < 100 | < 100 | < 100 | 210 |

| Client Sample ID | | | BC16 0-0.1 | BV6-01 0-0.1 | BV6-02 0-0.1 | BV6-03 0-0.1 |
|-----------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05720 | S19-No05721 | S19-No05722 | S19-No05723 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| 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 |
| Benzo(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 |
| 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 | % | 105 | 91 | 66 | 91 |
| p-Terphenyl-d14 (surr.) | 1 | % | 115 | 108 | 71 | 104 |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 7.8 | 8.2 | 12 | 14 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 18 | 22 | 28 | 28 |
| Copper | 5 | mg/kg | 14 | 8.1 | 16 | 18 |
| Lead | 5 | mg/kg | 25 | 18 | 24 | 30 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 11 | 6.6 | 7.6 | 9.4 |
| Zinc | 5 | mg/kg | 29 | 26 | 32 | 41 |
| % Moisture | 1 | % | 15 | 6.5 | 16 | 25 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 13C4-PFBA (surr.) | 1 | % | - | 72 | - | 97 |
| 13C5-PFPeA (surr.) | 1 | % | - | 91 | - | 99 |
| 13C5-PFHxA (surr.) | 1 | % | - | 73 | - | 99 |
| 13C4-PFHpA (surr.) | 1 | % | - | 79 | - | 110 |

| Client Sample ID | | | BC16 0-0.1 | BV6-01 0-0.1 | BV6-02 0-0.1 | BV6-03 0-0.1 |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05720 | S19-No05721 | S19-No05722 | S19-No05723 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| 13C8-PFOA (surr.) | 1 | % | - | 84 | - | 126 |
| 13C5-PFNA (surr.) | 1 | % | - | 108 | - | 124 |
| 13C6-PFDA (surr.) | 1 | % | - | 152 | - | 141 |
| 13C2-PFUnDA (surr.) | 1 | % | - | 151 | - | 127 |
| 13C2-PFDoDA (surr.) | 1 | % | - | 135 | - | 113 |
| 13C2-PFTeDA (surr.) | 1 | % | - | 139 | - | 122 |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | - | < 10 | - | < 10 |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | - | < 10 | - | < 10 |
| 13C8-FOSA (surr.) | 1 | % | - | 99 | - | 76 |
| D3-N-MeFOSA (surr.) | 1 | % | - | 104 | - | 82 |
| D5-N-EtFOSA (surr.) | 1 | % | - | 107 | - | 84 |
| D7-N-MeFOSE (surr.) | 1 | % | - | 113 | - | 91 |
| D9-N-EtFOSE (surr.) | 1 | % | - | 101 | - | 65 |
| D5-N-EtFOSAA (surr.) | 1 | % | - | 103 | - | 111 |
| D3-N-MeFOSAA (surr.) | 1 | % | - | 91 | - | 88 |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| 13C3-PFBS (surr.) | 1 | % | - | 106 | - | 131 |
| 18O2-PFHxS (surr.) | 1 | % | - | 130 | - | 126 |
| 13C8-PFOS (surr.) | 1 | % | - | 112 | - | 127 |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H,1H,2H,2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 1H,1H,2H,2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | - | < 10 | - | < 10 |
| 1H,1H,2H,2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | - | < 5 | - | < 5 |
| 1H,1H,2H,2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | - | < 5 | - | < 5 |
| 13C2-4:2 FTSA (surr.) | 1 | % | - | 38 | - | 126 |
| 13C2-6:2 FTSA (surr.) | 1 | % | - | 104 | - | INT |
| 13C2-8:2 FTSA (surr.) | 1 | % | - | 91 | - | 124 |

| Client Sample ID | | | BC16 0-0.1 | BV6-01 0-0.1 | BV6-02 0-0.1 | BV6-03 0-0.1 |
|---------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05720 | S19-No05721 | S19-No05722 | S19-No05723 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | - | < 5 | - | < 5 |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | - | < 5 | - | < 5 |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | - | < 5 | - | < 5 |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | - | < 10 | - | < 10 |
| Sum of PFASs (n=30)* | 50 | ug/kg | - | < 50 | - | < 50 |

| Client Sample ID | | | BV6-04 0.3-0.4 | BV6-05 0-0.1 | BV6-06 0-0.1 | BV6-07 0-0.1 |
|-------------------------------------------------------------|-----|-------|----------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05724 | S19-No05725 | S19-No05726 | S19-No05727 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | < 20 | 48 | 57 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | 82 | 77 |
| TRH C29-C36 | 50 | mg/kg | < 50 | < 50 | 83 | 74 |
| TRH C10-C36 (Total) | 50 | mg/kg | < 50 | < 50 | 213 | 208 |
| BTEX | | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | < 0.3 | < 0.3 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 98 | 95 | 80 | 95 |
| 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 | 140 | 120 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |
| TRH >C10-C40 (total)* | 100 | mg/kg | < 100 | < 100 | 140 | 120 |
| 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 |
| Dibenz(a,h)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |

| Client Sample ID | | | BV6-04 0.3-0.4 | BV6-05 0-0.1 | BV6-06 0-0.1 | BV6-07 0-0.1 |
|-----------------------------------------|------|-------|----------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05724 | S19-No05725 | S19-No05726 | S19-No05727 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| 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 | % | 95 | 92 | 95 | 82 |
| p-Terphenyl-d14 (surr.) | 1 | % | 110 | 105 | 108 | 114 |
| Organochlorine Pesticides | | | | | | |
| Chlordanes - Total | 0.1 | mg/kg | < 0.1 | - | - | - |
| 4.4'-DDD | 0.05 | mg/kg | < 0.05 | - | - | - |
| 4.4'-DDE | 0.05 | mg/kg | < 0.05 | - | - | - |
| 4.4'-DDT | 0.05 | mg/kg | < 0.05 | - | - | - |
| a-BHC | 0.05 | mg/kg | < 0.05 | - | - | - |
| Aldrin | 0.05 | mg/kg | < 0.05 | - | - | - |
| b-BHC | 0.05 | mg/kg | < 0.05 | - | - | - |
| d-BHC | 0.05 | mg/kg | < 0.05 | - | - | - |
| Dieldrin | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endosulfan I | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endosulfan II | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endosulfan sulphate | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endrin | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endrin aldehyde | 0.05 | mg/kg | < 0.05 | - | - | - |
| Endrin ketone | 0.05 | mg/kg | < 0.05 | - | - | - |
| g-BHC (Lindane) | 0.05 | mg/kg | < 0.05 | - | - | - |
| Heptachlor | 0.05 | mg/kg | < 0.05 | - | - | - |
| Heptachlor epoxide | 0.05 | mg/kg | < 0.05 | - | - | - |
| Hexachlorobenzene | 0.05 | mg/kg | < 0.05 | - | - | - |
| Methoxychlor | 0.2 | mg/kg | < 0.2 | - | - | - |
| Toxaphene | 1 | mg/kg | < 1 | - | - | - |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | < 0.05 | - | - | - |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | < 0.05 | - | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | < 0.2 | - | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | < 0.2 | - | - | - |
| Dibutylchloroendate (surr.) | 1 | % | 81 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 125 | - | - | - |
| 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 | - | - | - |
| Dibutylchloroendate (surr.) | 1 | % | 81 | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 125 | - | - | - |

| Client Sample ID | | | BV6-04 0.3-0.4 | BV6-05 0-0.1 | BV6-06 0-0.1 | BV6-07 0-0.1 |
|------------------------------------------------------------------------------|-----|-------|----------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05724 | S19-No05725 | S19-No05726 | S19-No05727 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 7.7 | 7.9 | 6.0 | 5.8 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 20 | 18 | 14 | 13 |
| Copper | 5 | mg/kg | 11 | 12 | 14 | 8.3 |
| Lead | 5 | mg/kg | 17 | 22 | 23 | 23 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 5.2 | 7.2 | 7.8 | 5.3 |
| Zinc | 5 | mg/kg | 16 | 22 | 40 | 35 |
| % Moisture | 1 | % | 8.3 | 14 | 22 | 22 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorotetradecanoic acid (PFTTeDA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| 13C4-PFBA (surr.) | 1 | % | - | - | - | 42 |
| 13C5-PFPeA (surr.) | 1 | % | - | - | - | 47 |
| 13C5-PFHxA (surr.) | 1 | % | - | - | - | 59 |
| 13C4-PFHpA (surr.) | 1 | % | - | - | - | 67 |
| 13C8-PFOA (surr.) | 1 | % | - | - | - | 82 |
| 13C5-PFNA (surr.) | 1 | % | - | - | - | 94 |
| 13C6-PFDA (surr.) | 1 | % | - | - | - | 118 |
| 13C2-PFUnDA (surr.) | 1 | % | - | - | - | 136 |
| 13C2-PFDoDA (surr.) | 1 | % | - | - | - | 99 |
| 13C2-PFTTeDA (surr.) | 1 | % | - | - | - | 114 |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | - | - | - | < 10 |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | - | - | - | < 10 |
| 13C8-FOSA (surr.) | 1 | % | - | - | - | 71 |
| D3-N-MeFOSA (surr.) | 1 | % | - | - | - | 77 |
| D5-N-EtFOSA (surr.) | 1 | % | - | - | - | 64 |
| D7-N-MeFOSE (surr.) | 1 | % | - | - | - | 85 |
| D9-N-EtFOSE (surr.) | 1 | % | - | - | - | 60 |
| D5-N-EtFOSAA (surr.) | 1 | % | - | - | - | 88 |
| D3-N-MeFOSAA (surr.) | 1 | % | - | - | - | 69 |

| Client Sample ID | | | BV6-04 0.3-0.4 | BV6-05 0-0.1 | BV6-06 0-0.1 | BV6-07 0-0.1 |
|-----------------------------------------------------------------------|-----|-------|----------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05724 | S19-No05725 | S19-No05726 | S19-No05727 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl sulfonic acids (PFASs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | - | - | - | < 5 |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | - | - | - | < 5 |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | - | - | - | < 5 |
| 13C3-PFBS (surr.) | 1 | % | - | - | - | 128 |
| 18O2-PFHxS (surr.) | 1 | % | - | - | - | 134 |
| 13C8-PFOS (surr.) | 1 | % | - | - | - | 129 |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | - | - | - | < 10 |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | - | - | - | < 5 |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | - | - | - | < 5 |
| 13C2-4:2 FTSA (surr.) | 1 | % | - | - | - | 84 |
| 13C2-6:2 FTSA (surr.) | 1 | % | - | - | - | 80 |
| 13C2-8:2 FTSA (surr.) | 1 | % | - | - | - | 95 |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | - | - | - | < 5 |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | - | - | - | < 5 |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | - | - | - | < 5 |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | - | - | - | < 10 |
| Sum of PFASs (n=30)* | 50 | ug/kg | - | - | - | < 50 |

| Client Sample ID | | | BV6-08 0-0.1 | BV6-09 0-0.1 | QA20191104-DH | QA20191104-ML |
|-------------------------------------------------------------|-----|-------|--------------|--------------|---------------|---------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05728 | S19-No05729 | S19-No05730 | S19-No05731 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | 32 | 21 | 50 | 23 |
| TRH C15-C28 | 50 | mg/kg | 52 | < 50 | 81 | < 50 |
| TRH C29-C36 | 50 | mg/kg | 68 | < 50 | 84 | < 50 |
| TRH C10-C36 (Total) | 50 | mg/kg | 152 | < 50 | 215 | < 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 | % | 84 | 88 | 85 | 73 |

| Client Sample ID | | | BV6-08 0-0.1 | BV6-09 0-0.1 | QA20191104-DH | QA20191104-ML |
|-------------------------------------------------------------|------|-------|--------------|--------------|---------------|---------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05728 | S19-No05729 | S19-No05730 | S19-No05731 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1) ^{N04} | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | < 100 | < 100 | 140 | < 100 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 | < 100 |
| TRH >C10-C40 (total)* | 100 | mg/kg | < 100 | < 100 | 140 | < 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 |
| 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 | 92 | 92 | 97 |
| p-Terphenyl-d14 (surr.) | 1 | % | 100 | 104 | 105 | 113 |
| 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 |

| Client Sample ID | | | BV6-08 0-0.1 | BV6-09 0-0.1 | QA20191104-DH | QA20191104-ML |
|-----------------------------------------------------|------|-------|--------------|--------------|---------------|---------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05728 | S19-No05729 | S19-No05730 | S19-No05731 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Organochlorine Pesticides | | | | | | |
| 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 | 1 | mg/kg | - | < 1 | - | < 1 |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | - | < 0.05 | - | < 0.05 |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | - | < 0.05 | - | < 0.05 |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | - | < 0.2 | - | < 0.2 |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | - | < 0.2 | - | < 0.2 |
| Dibutylchloroendate (surr.) | 1 | % | - | 110 | - | 131 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 117 | - | 121 |
| 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 |
| Dibutylchloroendate (surr.) | 1 | % | - | 110 | - | 131 |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 117 | - | 121 |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 6.5 | 4.1 | 6.3 | 6.7 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 15 | 12 | 14 | 15 |
| Copper | 5 | mg/kg | 15 | 14 | 9.2 | 18 |
| Lead | 5 | mg/kg | 19 | 19 | 28 | 22 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 9.1 | 8.9 | 5.8 | 11 |
| Zinc | 5 | mg/kg | 29 | 32 | 31 | 36 |
| % Moisture | | | | | | |
| % Moisture | 1 | % | 17 | 14 | 22 | 13 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| 13C4-PFBA (surr.) | 1 | % | - | 106 | 34 | 90 |
| 13C5-PFPeA (surr.) | 1 | % | - | 118 | 50 | 90 |
| 13C5-PFHxA (surr.) | 1 | % | - | 101 | 53 | 88 |
| 13C4-PFHpA (surr.) | 1 | % | - | 118 | 66 | 102 |

| Client Sample ID | | | BV6-08 0-0.1 | BV6-09 0-0.1 | QA20191104-DH | QA20191104-ML |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|---------------|---------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05728 | S19-No05729 | S19-No05730 | S19-No05731 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| 13C8-PFOA (surr.) | 1 | % | - | 115 | 69 | 121 |
| 13C5-PFNA (surr.) | 1 | % | - | 127 | 71 | 134 |
| 13C6-PFDA (surr.) | 1 | % | - | 151 | 110 | 144 |
| 13C2-PFUnDA (surr.) | 1 | % | - | 144 | 120 | 154 |
| 13C2-PFDoDA (surr.) | 1 | % | - | 134 | 89 | 120 |
| 13C2-PFTeDA (surr.) | 1 | % | - | 130 | 110 | 140 |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | - | < 10 | < 10 | < 10 |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | - | < 10 | < 10 | < 10 |
| 13C8-FOSA (surr.) | 1 | % | - | 87 | 85 | 95 |
| D3-N-MeFOSA (surr.) | 1 | % | - | 100 | 97 | 90 |
| D5-N-EtFOSA (surr.) | 1 | % | - | 106 | 98 | 90 |
| D7-N-MeFOSE (surr.) | 1 | % | - | 98 | 103 | 106 |
| D9-N-EtFOSE (surr.) | 1 | % | - | 83 | 84 | 72 |
| D5-N-EtFOSAA (surr.) | 1 | % | - | 122 | 66 | 117 |
| D3-N-MeFOSAA (surr.) | 1 | % | - | 92 | 45 | 90 |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| 13C3-PFBS (surr.) | 1 | % | - | 126 | 105 | 127 |
| 18O2-PFHxS (surr.) | 1 | % | - | 135 | 122 | 144 |
| 13C8-PFOS (surr.) | 1 | % | - | 117 | 132 | 135 |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | - | < 10 | < 10 | < 10 |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| 13C2-4:2 FTSA (surr.) | 1 | % | - | 129 | 50 | 122 |
| 13C2-6:2 FTSA (surr.) | 1 | % | - | 134 | 94 | 167 |
| 13C2-8:2 FTSA (surr.) | 1 | % | - | 100 | 66 | 150 |

| Client Sample ID | | | BV6-08 0-0.1 | BV6-09 0-0.1 | QA20191104-DH | QA20191104-ML |
|---------------------------------------------|-----|-------|--------------|--------------|---------------|---------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05728 | S19-No05729 | S19-No05730 | S19-No05731 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | - | < 5 | < 5 | < 5 |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | - | < 10 | < 10 | < 10 |
| Sum of PFASs (n=30)* | 50 | ug/kg | - | < 50 | < 50 | < 50 |

| Client Sample ID | | | BC17 0-0.1 | BC18 0.3-0.4 | BC20 0-0.1 | BC21 0-0.1 |
|-------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05732 | S19-No05733 | S19-No05734 | S19-No05735 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | < 20 | 21 | 31 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | < 50 | < 50 | < 50 |
| TRH C29-C36 | 50 | mg/kg | < 50 | < 50 | 51 | < 50 |
| TRH C10-C36 (Total) | 50 | mg/kg | < 50 | < 50 | 82 | < 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 | % | 75 | 78 | 79 | 80 |
| 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 | | | BC17 0-0.1 | BC18 0.3-0.4 | BC20 0-0.1 | BC21 0-0.1 |
|-----------------------------------------|------|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05732 | S19-No05733 | S19-No05734 | S19-No05735 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| 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 | % | 77 | 111 | 76 | 101 |
| p-Terphenyl-d14 (surr.) | 1 | % | 86 | 131 | 90 | 114 |
| Organochlorine Pesticides | | | | | | |
| Chlordanes - Total | 0.1 | mg/kg | - | < 0.1 | - | - |
| 4,4'-DDD | 0.05 | mg/kg | - | < 0.05 | - | - |
| 4,4'-DDE | 0.05 | mg/kg | - | < 0.05 | - | - |
| 4,4'-DDT | 0.05 | mg/kg | - | < 0.05 | - | - |
| a-BHC | 0.05 | mg/kg | - | < 0.05 | - | - |
| Aldrin | 0.05 | mg/kg | - | < 0.05 | - | - |
| b-BHC | 0.05 | mg/kg | - | < 0.05 | - | - |
| d-BHC | 0.05 | mg/kg | - | < 0.05 | - | - |
| Dieldrin | 0.05 | mg/kg | - | < 0.05 | - | - |
| Endosulfan I | 0.05 | mg/kg | - | < 0.05 | - | - |
| Endosulfan II | 0.05 | mg/kg | - | < 0.05 | - | - |
| Endosulfan sulphate | 0.05 | mg/kg | - | < 0.05 | - | - |
| Endrin | 0.05 | mg/kg | - | < 0.05 | - | - |
| Endrin aldehyde | 0.05 | mg/kg | - | < 0.05 | - | - |
| Endrin ketone | 0.05 | mg/kg | - | < 0.05 | - | - |
| g-BHC (Lindane) | 0.05 | mg/kg | - | < 0.05 | - | - |
| Heptachlor | 0.05 | mg/kg | - | < 0.05 | - | - |
| Heptachlor epoxide | 0.05 | mg/kg | - | < 0.05 | - | - |
| Hexachlorobenzene | 0.05 | mg/kg | - | < 0.05 | - | - |
| Methoxychlor | 0.2 | mg/kg | - | < 0.2 | - | - |
| Toxaphene | 1 | mg/kg | - | < 1 | - | - |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | - | < 0.05 | - | - |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | - | < 0.05 | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | - | < 0.2 | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | - | < 0.2 | - | - |
| Dibutylchloroendate (surr.) | 1 | % | - | 98 | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 107 | - | - |
| 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 | - | - |
| Dibutylchloroendate (surr.) | 1 | % | - | 98 | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | - | 107 | - | - |

| Client Sample ID | | | BC17 0-0.1 | BC18 0.3-0.4 | BC20 0-0.1 | BC21 0-0.1 |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05732 | S19-No05733 | S19-No05734 | S19-No05735 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Heavy Metals | | | | | | |
| Arsenic | 2 | mg/kg | 5.6 | 15 | 5.4 | 8.3 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 15 | 21 | 16 | 21 |
| Copper | 5 | mg/kg | 14 | 25 | 13 | 13 |
| Lead | 5 | mg/kg | 16 | 20 | 20 | 26 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 8.0 | 11 | 9.7 | 6.4 |
| Zinc | 5 | mg/kg | 23 | 46 | 27 | 20 |
| % Moisture | 1 | % | 9.1 | 12 | 11 | 12 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 13C4-PFBA (surr.) | 1 | % | 38 | - | - | - |
| 13C5-PFPeA (surr.) | 1 | % | 52 | - | - | - |
| 13C5-PFHxA (surr.) | 1 | % | 60 | - | - | - |
| 13C4-PFHpA (surr.) | 1 | % | 63 | - | - | - |
| 13C8-PFOA (surr.) | 1 | % | 68 | - | - | - |
| 13C5-PFNA (surr.) | 1 | % | 84 | - | - | - |
| 13C6-PFDA (surr.) | 1 | % | 115 | - | - | - |
| 13C2-PFUnDA (surr.) | 1 | % | 137 | - | - | - |
| 13C2-PFDoDA (surr.) | 1 | % | 111 | - | - | - |
| 13C2-PFTeDA (surr.) | 1 | % | 127 | - | - | - |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | - | - |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | - | - |
| 13C8-FOSA (surr.) | 1 | % | 99 | - | - | - |
| D3-N-MeFOSA (surr.) | 1 | % | 102 | - | - | - |
| D5-N-EtFOSA (surr.) | 1 | % | 112 | - | - | - |
| D7-N-MeFOSE (surr.) | 1 | % | 113 | - | - | - |
| D9-N-EtFOSE (surr.) | 1 | % | 82 | - | - | - |
| D5-N-EtFOSAA (surr.) | 1 | % | 83 | - | - | - |
| D3-N-MeFOSAA (surr.) | 1 | % | 67 | - | - | - |

| Client Sample ID | | | BC17 0-0.1 | BC18 0.3-0.4 | BC20 0-0.1 | BC21 0-0.1 |
|-----------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05732 | S19-No05733 | S19-No05734 | S19-No05735 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl sulfonic acids (PFASs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| 13C3-PFBS (surr.) | 1 | % | 111 | - | - | - |
| 18O2-PFHxS (surr.) | 1 | % | 143 | - | - | - |
| 13C8-PFOS (surr.) | 1 | % | 111 | - | - | - |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | < 10 | - | - | - |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | - | - |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | < 5 | - | - | - |
| 13C2-4:2 FTSA (surr.) | 1 | % | 55 | - | - | - |
| 13C2-6:2 FTSA (surr.) | 1 | % | 90 | - | - | - |
| 13C2-8:2 FTSA (surr.) | 1 | % | 60 | - | - | - |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | < 5 | - | - | - |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | < 5 | - | - | - |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | < 5 | - | - | - |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | < 10 | - | - | - |
| Sum of PFASs (n=30)* | 50 | ug/kg | < 50 | - | - | - |

| Client Sample ID | | | BC23 0-0.1 | BC24 0-0.1 | BC25 0-0.1 |
|-------------------------------------------------------------|-----|-------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05736 | S19-No05737 | S19-No05738 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | |
| TRH C6-C9 | 20 | mg/kg | < 20 | < 20 | < 20 |
| TRH C10-C14 | 20 | mg/kg | 23 | 41 | < 20 |
| TRH C15-C28 | 50 | mg/kg | < 50 | 69 | < 50 |
| TRH C29-C36 | 50 | mg/kg | < 50 | 63 | < 50 |
| TRH C10-C36 (Total) | 50 | mg/kg | < 50 | 173 | < 50 |
| BTEX | | | | | |
| Benzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 |
| Toluene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 |
| Ethylbenzene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 |
| m&p-Xylenes | 0.2 | mg/kg | < 0.2 | < 0.2 | < 0.2 |
| o-Xylene | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 |
| Xylenes - Total | 0.3 | mg/kg | < 0.3 | < 0.3 | < 0.3 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 76 | 79 | 77 |

| Client Sample ID | | | BC23 0-0.1 | BC24 0-0.1 | BC25 0-0.1 |
|-------------------------------------------------------------|------|-------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05736 | S19-No05737 | S19-No05738 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | |
| Naphthalene ^{N02} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| TRH C6-C10 | 20 | mg/kg | < 20 | < 20 | < 20 |
| TRH C6-C10 less BTEX (F1) ^{N04} | 20 | mg/kg | < 20 | < 20 | < 20 |
| TRH >C10-C16 | 50 | mg/kg | < 50 | < 50 | < 50 |
| TRH >C10-C16 less Naphthalene (F2) ^{N01} | 50 | mg/kg | < 50 | < 50 | < 50 |
| TRH >C16-C34 | 100 | mg/kg | < 100 | 110 | < 100 |
| TRH >C34-C40 | 100 | mg/kg | < 100 | < 100 | < 100 |
| TRH >C10-C40 (total)* | 100 | mg/kg | < 100 | 110 | < 100 |
| Polycyclic Aromatic Hydrocarbons | | | | | |
| Benzo(a)pyrene TEQ (lower bound) * | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Benzo(a)pyrene TEQ (medium bound) * | 0.5 | mg/kg | 0.6 | 0.6 | 0.6 |
| Benzo(a)pyrene TEQ (upper bound) * | 0.5 | mg/kg | 1.2 | 1.2 | 1.2 |
| Acenaphthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Acenaphthylene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Benz(a)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Benzo(a)pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Benzo(b&j)fluoranthene ^{N07} | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Benzo(g,h,i)perylene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Benzo(k)fluoranthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Chrysene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Dibenz(a,h)anthracene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Fluoranthene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Fluorene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Indeno(1.2.3-cd)pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Naphthalene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Phenanthrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Pyrene | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| Total PAH* | 0.5 | mg/kg | < 0.5 | < 0.5 | < 0.5 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 106 | 69 | 126 |
| p-Terphenyl-d14 (surr.) | 1 | % | 123 | 85 | 144 |
| Organochlorine Pesticides | | | | | |
| Chlordanes - Total | 0.1 | mg/kg | < 0.1 | - | - |
| 4,4'-DDD | 0.05 | mg/kg | < 0.05 | - | - |
| 4,4'-DDE | 0.05 | mg/kg | < 0.05 | - | - |
| 4,4'-DDT | 0.05 | mg/kg | < 0.05 | - | - |
| a-BHC | 0.05 | mg/kg | < 0.05 | - | - |
| Aldrin | 0.05 | mg/kg | < 0.05 | - | - |
| b-BHC | 0.05 | mg/kg | < 0.05 | - | - |
| d-BHC | 0.05 | mg/kg | < 0.05 | - | - |
| Dieldrin | 0.05 | mg/kg | < 0.05 | - | - |
| Endosulfan I | 0.05 | mg/kg | < 0.05 | - | - |
| Endosulfan II | 0.05 | mg/kg | < 0.05 | - | - |
| Endosulfan sulphate | 0.05 | mg/kg | < 0.05 | - | - |
| Endrin | 0.05 | mg/kg | < 0.05 | - | - |
| Endrin aldehyde | 0.05 | mg/kg | < 0.05 | - | - |
| Endrin ketone | 0.05 | mg/kg | < 0.05 | - | - |
| g-BHC (Lindane) | 0.05 | mg/kg | < 0.05 | - | - |
| Heptachlor | 0.05 | mg/kg | < 0.05 | - | - |

| Client Sample ID | | | BC23 0-0.1 | BC24 0-0.1 | BC25 0-0.1 |
|-----------------------------------------------------|------|-------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05736 | S19-No05737 | S19-No05738 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | |
| Organochlorine Pesticides | | | | | |
| Heptachlor epoxide | 0.05 | mg/kg | < 0.05 | - | - |
| Hexachlorobenzene | 0.05 | mg/kg | < 0.05 | - | - |
| Methoxychlor | 0.2 | mg/kg | < 0.2 | - | - |
| Toxaphene | 1 | mg/kg | < 1 | - | - |
| Aldrin and Dieldrin (Total)* | 0.05 | mg/kg | < 0.05 | - | - |
| DDT + DDE + DDD (Total)* | 0.05 | mg/kg | < 0.05 | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.1 | mg/kg | < 0.2 | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.1 | mg/kg | < 0.2 | - | - |
| Dibutylchloroendate (surr.) | 1 | % | 109 | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 109 | - | - |
| 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 | - | - |
| Dibutylchloroendate (surr.) | 1 | % | 109 | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 109 | - | - |
| Heavy Metals | | | | | |
| Arsenic | 2 | mg/kg | 18 | 7.4 | 6.9 |
| Cadmium | 0.4 | mg/kg | < 0.4 | < 0.4 | < 0.4 |
| Chromium | 5 | mg/kg | 26 | 17 | 18 |
| Copper | 5 | mg/kg | 17 | 16 | 16 |
| Lead | 5 | mg/kg | 26 | 21 | 15 |
| Mercury | 0.1 | mg/kg | < 0.1 | < 0.1 | < 0.1 |
| Nickel | 5 | mg/kg | 11 | 8.9 | 13 |
| Zinc | 5 | mg/kg | 43 | 33 | 34 |
| % Moisture | | | | | |
| | 1 | % | 14 | 20 | 9.0 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorooctanoic acid (PFOA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorononanoic acid (PFNA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorodecanoic acid (PFDA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorotridecanoic acid (PFTrDA) ^{N15} | 5 | ug/kg | < 5 | - | - |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| 13C4-PFBA (surr.) | 1 | % | 91 | - | - |
| 13C5-PFPeA (surr.) | 1 | % | 87 | - | - |
| 13C5-PFHxA (surr.) | 1 | % | 95 | - | - |
| 13C4-PFHpA (surr.) | 1 | % | 93 | - | - |
| 13C8-PFOA (surr.) | 1 | % | 108 | - | - |

| Client Sample ID | | | BC23 0-0.1 | BC24 0-0.1 | BC25 0-0.1 |
|------------------------------------------------------------------------------|-----|-------|--------------|--------------|--------------|
| Sample Matrix | | | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05736 | S19-No05737 | S19-No05738 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | |
| 13C5-PFNA (surr.) | 1 | % | 119 | - | - |
| 13C6-PFDA (surr.) | 1 | % | 122 | - | - |
| 13C2-PFUnDA (surr.) | 1 | % | 128 | - | - |
| 13C2-PFDoDA (surr.) | 1 | % | 98 | - | - |
| 13C2-PFTeDA (surr.) | 1 | % | 115 | - | - |
| Perfluoroalkyl sulfonamido substances | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 5 | ug/kg | < 5 | - | - |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 5 | ug/kg | < 5 | - | - |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | - |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 10 | ug/kg | < 10 | - | - |
| 13C8-FOSA (surr.) | 1 | % | 71 | - | - |
| D3-N-MeFOSA (surr.) | 1 | % | 82 | - | - |
| D5-N-EtFOSA (surr.) | 1 | % | 72 | - | - |
| D7-N-MeFOSE (surr.) | 1 | % | 93 | - | - |
| D9-N-EtFOSE (surr.) | 1 | % | 66 | - | - |
| D5-N-EtFOSAA (surr.) | 1 | % | 102 | - | - |
| D3-N-MeFOSAA (surr.) | 1 | % | 84 | - | - |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 5 | ug/kg | < 5 | - | - |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 5 | ug/kg | < 5 | - | - |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 5 | ug/kg | < 5 | - | - |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 5 | ug/kg | < 5 | - | - |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 5 | ug/kg | < 5 | - | - |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 5 | ug/kg | < 5 | - | - |
| 13C3-PFBS (surr.) | 1 | % | 119 | - | - |
| 18O2-PFHxS (surr.) | 1 | % | 130 | - | - |
| 13C8-PFOS (surr.) | 1 | % | 138 | - | - |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 10 | ug/kg | < 10 | - | - |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 5 | ug/kg | < 5 | - | - |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 5 | ug/kg | < 5 | - | - |
| 13C2-4:2 FTSA (surr.) | 1 | % | 134 | - | - |
| 13C2-6:2 FTSA (surr.) | 1 | % | INT | - | - |
| 13C2-8:2 FTSA (surr.) | 1 | % | 106 | - | - |

| Client Sample ID | | | BC23 0-0.1 | BC24 0-0.1 | BC25 0-0.1 |
|---------------------------------------------|-----|-------|---------------------|---------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No05736 | S19-No05737 | S19-No05738 |
| Date Sampled | | | Nov 05, 2019 | Nov 05, 2019 | Nov 05, 2019 |
| Test/Reference | LOR | Unit | | | |
| PFASs Summations | | | | | |
| Sum (PFHxS + PFOS)* | 5 | ug/kg | < 5 | - | - |
| Sum of US EPA PFAS (PFOS + PFOA)* | 5 | ug/kg | < 5 | - | - |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 5 | ug/kg | < 5 | - | - |
| Sum of WA DWER PFAS (n=10)* | 10 | ug/kg | < 10 | - | - |
| Sum of PFASs (n=30)* | 50 | ug/kg | < 50 | - | - |

Sample History

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

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

| Description | Testing Site | Extracted | Holding Time |
|--------------------------------------------------------------------------------------------------------------------------|---------------------|------------------|---------------------|
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 06, 2019 | 14 Days |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 06, 2019 | 14 Days |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 06, 2019 | 14 Days |
| BTEX - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 06, 2019 | 14 Days |
| Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | Sydney | Nov 06, 2019 | 14 Days |
| Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | Sydney | Nov 06, 2019 | 14 Days |
| Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | Sydney | Nov 06, 2019 | 28 Days |
| Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Nov 06, 2019 | 180 Days |
| % Moisture - Method: LTM-GEN-7080 Moisture | Sydney | Nov 05, 2019 | 14 Days |
| Per- and Polyfluoroalkyl Substances (PFASs) | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 180 Days |
| Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 180 Days |
| Perfluoroalkyl sulfonic acids (PFASs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 180 Days |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 180 Days |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | |
| 10 | BC09 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 11 | BC10 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 12 | BC11 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 13 | BC12 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 14 | BC13 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 15 | BC14 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 16 | BC15 0-0.1 | Nov 04, 2019 | X | | | X | X | X | X | X | X | X | X |
| 17 | BC16 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 18 | BV6-01 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 19 | BV6-02 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | |
| 20 | BV6-03 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 21 | BV6-04 0.3-0.4 | Nov 04, 2019 | | | | X | X | X | X | X | X | X | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|---------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 22 | BV6-05 0-0.1 | Nov 04, 2019 | | Soil | S19-No05725 | | | | X | | | X | X | X | X | |
| 23 | BV6-06 0-0.1 | Nov 04, 2019 | | Soil | S19-No05726 | X | | | X | | | X | X | X | X | |
| 24 | BV6-07 0-0.1 | Nov 04, 2019 | | Soil | S19-No05727 | X | | | X | | | X | X | X | X | X |
| 25 | BV6-08 0-0.1 | Nov 04, 2019 | | Soil | S19-No05728 | | | | X | | | X | X | X | X | |
| 26 | BV6-09 0-0.1 | Nov 04, 2019 | | Soil | S19-No05729 | X | | | X | X | X | X | X | X | X | X |
| 27 | QA20191104-DH | Nov 04, 2019 | | Soil | S19-No05730 | X | | | X | | | X | X | X | X | X |
| 28 | QA20191104-ML | Nov 04, 2019 | | Soil | S19-No05731 | X | | | X | X | X | X | X | X | X | X |
| 29 | BC17 0-0.1 | Nov 05, 2019 | | Soil | S19-No05732 | X | | | X | | | X | X | X | X | X |
| 30 | BC18 0.3-0.4 | Nov 05, 2019 | | Soil | S19-No05733 | | | | X | X | X | X | X | X | X | |
| 31 | BC20 0-0.1 | Nov 05, 2019 | | Soil | S19-No05734 | | | | X | | | X | X | X | X | |
| 32 | BC21 0-0.1 | Nov 05, 2019 | | Soil | S19-No05735 | | | | X | | | X | X | X | X | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------|--------------|--|-------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 33 | BC23 0-0.1 | Nov 05, 2019 | | Soil | S19-No05736 | X | | | X | X | X | X | X | X | X | X |
| 34 | BC24 0-0.1 | Nov 05, 2019 | | Soil | S19-No05737 | | | | X | | | X | X | X | X | |
| 35 | BC25 0-0.1 | Nov 05, 2019 | | Soil | S19-No05738 | | | | X | | | X | X | X | X | |
| 36 | RINS-01 | Nov 05, 2019 | | Water | S19-No05739 | | | | X | X | X | X | X | | X | |
| 37 | BC01 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05740 | | | X | | | | | | | | |
| 38 | BC02 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05741 | | | X | | | | | | | | |
| 39 | BC03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05742 | | | X | | | | | | | | |
| 40 | BC04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05743 | | X | | | | | | | | | |
| 41 | BC05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05744 | | | X | | | | | | | | |
| 42 | BC06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05745 | | | X | | | | | | | | |
| 43 | BC08 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05746 | | | X | | | | | | | | |
| 44 | BC09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05747 | | | X | | | | | | | | |

| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 5, 2019 1:00 PM |
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| Project Name: JORDAN SPRINGS - MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | |
| 45 | BC10 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 46 | BC11 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 47 | BC12 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 48 | BC13 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 49 | BC14 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 50 | BC15 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 51 | BC15 0.5-0.6 | Nov 04, 2019 | | | X | | | | | | | | |
| 52 | BC16 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 53 | BV6-01 0.2-0.3 | Nov 04, 2019 | | | X | | | | | | | | |
| 54 | BV6-01 0.5-0.6 | Nov 04, 2019 | | | X | | | | | | | | |
| 55 | BV6-02 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 56 | BV6-02 0.5-0.6 | Nov 04, 2019 | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
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Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 57 | BV6-03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05760 | | | X | | | | | | | | |
| 58 | BV6-04 0-0.1 | Nov 04, 2019 | | Soil | S19-No05761 | | | X | | | | | | | | |
| 59 | BV6-05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05762 | | | X | | | | | | | | |
| 60 | BV6-06 0.4-0.5 | Nov 04, 2019 | | Soil | S19-No05763 | | | X | | | | | | | | |
| 61 | BV6-06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05764 | | | X | | | | | | | | |
| 62 | BV6-07 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05765 | | | X | | | | | | | | |
| 63 | BV6-08 0.2-0.3 | Nov 04, 2019 | | Soil | S19-No05766 | | | X | | | | | | | | |
| 64 | BV6-09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05767 | | | X | | | | | | | | |
| 65 | BC17 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05768 | | | X | | | | | | | | |
| 66 | BC18 0-0.1 | Nov 04, 2019 | | Soil | S19-No05769 | | | X | | | | | | | | |
| 67 | BC19 0-0.1 | Nov 04, 2019 | | Soil | S19-No05770 | | | X | | | | | | | | |
| 68 | BC19 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05771 | | | X | | | | | | | | |

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|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|-------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | |
| 69 | BC20 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 70 | BC21 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 71 | BC22 0-0.1 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 72 | BC22 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 73 | BC23 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 74 | BC24 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 75 | BC25 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 76 | BLANK-01 | Nov 04, 2019 | Water | | | | | | | | | | | X |
| 77 | BV05 0.4-0.5 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 78 | TRIP SPIKE | Nov 04, 2019 | Water | | | | | | | | X | | | |
| 79 | TRIP BLANK | Nov 04, 2019 | Water | | | | | | | | X | | | |
| 80 | BV6-07 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|-------------------------------------------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | |
| Test Counts | 19 | 1 | 40 | 35 | 10 | 10 | 35 | 37 | 35 | 35 | 18 |

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|-------------------------------------------------------------|-------|----------|--|--|-------------------|-------------|-----------------|
| Method Blank | | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | | |
| TRH C6-C9 | mg/kg | < 20 | | | 20 | Pass | |
| TRH C10-C14 | mg/kg | < 20 | | | 20 | Pass | |
| TRH C15-C28 | mg/kg | < 50 | | | 50 | Pass | |
| TRH C29-C36 | mg/kg | < 50 | | | 50 | Pass | |
| Method Blank | | | | | | | |
| BTEX | | | | | | | |
| Benzene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| Toluene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| Ethylbenzene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| m&p-Xylenes | mg/kg | < 0.2 | | | 0.2 | Pass | |
| o-Xylene | mg/kg | < 0.1 | | | 0.1 | Pass | |
| Xylenes - Total | mg/kg | < 0.3 | | | 0.3 | Pass | |
| Method Blank | | | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | | | |
| Naphthalene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| TRH C6-C10 | mg/kg | < 20 | | | 20 | Pass | |
| TRH >C10-C16 | mg/kg | < 50 | | | 50 | Pass | |
| TRH >C16-C34 | mg/kg | < 100 | | | 100 | Pass | |
| TRH >C34-C40 | mg/kg | < 100 | | | 100 | Pass | |
| Method Blank | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | | |
| Acenaphthene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Acenaphthylene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Anthracene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Benz(a)anthracene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Benzo(a)pyrene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Benzo(b&j)fluoranthene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Benzo(g,h,i)perylene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Benzo(k)fluoranthene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Chrysene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Dibenz(a,h)anthracene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Fluoranthene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Fluorene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Indeno(1,2,3-cd)pyrene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Naphthalene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Phenanthrene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Pyrene | mg/kg | < 0.5 | | | 0.5 | Pass | |
| Method Blank | | | | | | | |
| Organochlorine Pesticides | | | | | | | |
| Chlordanes - Total | mg/kg | < 0.1 | | | 0.1 | Pass | |
| 4,4'-DDD | mg/kg | < 0.05 | | | 0.05 | Pass | |
| 4,4'-DDE | mg/kg | < 0.05 | | | 0.05 | Pass | |
| 4,4'-DDT | mg/kg | < 0.05 | | | 0.05 | Pass | |
| a-BHC | mg/kg | < 0.05 | | | 0.05 | Pass | |
| Aldrin | mg/kg | < 0.05 | | | 0.05 | Pass | |
| b-BHC | mg/kg | < 0.05 | | | 0.05 | Pass | |
| d-BHC | mg/kg | < 0.05 | | | 0.05 | Pass | |
| Dieldrin | mg/kg | < 0.05 | | | 0.05 | Pass | |
| Endosulfan I | mg/kg | < 0.05 | | | 0.05 | Pass | |
| Endosulfan II | mg/kg | < 0.05 | | | 0.05 | Pass | |

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|-------|----------|-------------------|-------------|-----------------|
| Endosulfan sulphate | mg/kg | < 0.05 | 0.05 | Pass | |
| Endrin | mg/kg | < 0.05 | 0.05 | Pass | |
| Endrin aldehyde | mg/kg | < 0.05 | 0.05 | Pass | |
| Endrin ketone | mg/kg | < 0.05 | 0.05 | Pass | |
| g-BHC (Lindane) | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor | mg/kg | < 0.05 | 0.05 | Pass | |
| Heptachlor epoxide | mg/kg | < 0.05 | 0.05 | Pass | |
| Hexachlorobenzene | mg/kg | < 0.05 | 0.05 | Pass | |
| Methoxychlor | mg/kg | < 0.2 | 0.2 | Pass | |
| Toxaphene | mg/kg | < 1 | 1 | Pass | |
| Method Blank | | | | | |
| Polychlorinated Biphenyls | | | | | |
| Aroclor-1016 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1221 | mg/kg | < 0.1 | 0.1 | Pass | |
| Aroclor-1232 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1242 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1248 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1254 | mg/kg | < 0.5 | 0.5 | Pass | |
| Aroclor-1260 | mg/kg | < 0.5 | 0.5 | Pass | |
| Total PCB* | mg/kg | < 0.5 | 0.5 | Pass | |
| Method Blank | | | | | |
| Heavy Metals | | | | | |
| Arsenic | mg/kg | < 2 | 2 | Pass | |
| Cadmium | mg/kg | < 0.4 | 0.4 | Pass | |
| Chromium | mg/kg | < 5 | 5 | Pass | |
| Copper | mg/kg | < 5 | 5 | Pass | |
| Lead | mg/kg | < 5 | 5 | Pass | |
| Mercury | mg/kg | < 0.1 | 0.1 | Pass | |
| Nickel | mg/kg | < 5 | 5 | Pass | |
| Zinc | mg/kg | < 5 | 5 | Pass | |
| Method Blank | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | |
| Perfluorobutanoic acid (PFBA) | ug/kg | < 5 | 5 | Pass | |
| Perfluoropentanoic acid (PFPeA) | ug/kg | < 5 | 5 | Pass | |
| Perfluorohexanoic acid (PFHxA) | ug/kg | < 5 | 5 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | ug/kg | < 5 | 5 | Pass | |
| Perfluorooctanoic acid (PFOA) | ug/kg | < 5 | 5 | Pass | |
| Perfluorononanoic acid (PFNA) | ug/kg | < 5 | 5 | Pass | |
| Perfluorodecanoic acid (PFDA) | ug/kg | < 5 | 5 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | ug/kg | < 5 | 5 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | ug/kg | < 5 | 5 | Pass | |
| Perfluorotridecanoic acid (PFTTrDA) | ug/kg | < 5 | 5 | Pass | |
| Perfluorotetradecanoic acid (PFTTeDA) | ug/kg | < 5 | 5 | Pass | |
| Method Blank | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | |
| Perfluorooctane sulfonamide (FOSA) | ug/kg | < 5 | 5 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | ug/kg | < 5 | 5 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | ug/kg | < 5 | 5 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | ug/kg | < 5 | 5 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | ug/kg | < 5 | 5 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | ug/kg | < 10 | 10 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | ug/kg | < 10 | 10 | Pass | |
| Method Blank | | | | | |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | | |

| Test | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|-------------------------------------------------------------|-------|----------|--|-------------------|-------------|-----------------|
| Perfluorobutanesulfonic acid (PFBS) | ug/kg | < 5 | | 5 | Pass | |
| Perfluorononanesulfonic acid (PFNS) | ug/kg | < 5 | | 5 | Pass | |
| Perfluoropropanesulfonic acid (PFPrS) | ug/kg | < 5 | | 5 | Pass | |
| Perfluoropentanesulfonic acid (PFPeS) | ug/kg | < 5 | | 5 | Pass | |
| Perfluorohexanesulfonic acid (PFHxS) | ug/kg | < 5 | | 5 | Pass | |
| Perfluoroheptanesulfonic acid (PFHpS) | ug/kg | < 5 | | 5 | Pass | |
| Perfluorooctanesulfonic acid (PFOS) | ug/kg | < 5 | | 5 | Pass | |
| Perfluorodecanesulfonic acid (PFDS) | ug/kg | < 5 | | 5 | Pass | |
| Method Blank | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | ug/kg | < 5 | | 5 | Pass | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | ug/kg | < 10 | | 10 | Pass | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | ug/kg | < 5 | | 5 | Pass | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | ug/kg | < 5 | | 5 | Pass | |
| LCS - % Recovery | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | % | 93 | | 70-130 | Pass | |
| TRH C10-C14 | % | 96 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| BTEX | | | | | | |
| Benzene | % | 96 | | 70-130 | Pass | |
| Toluene | % | 99 | | 70-130 | Pass | |
| Ethylbenzene | % | 94 | | 70-130 | Pass | |
| m&p-Xylenes | % | 95 | | 70-130 | Pass | |
| o-Xylene | % | 96 | | 70-130 | Pass | |
| Xylenes - Total | % | 95 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | | |
| Naphthalene | % | 121 | | 70-130 | Pass | |
| TRH C6-C10 | % | 93 | | 70-130 | Pass | |
| TRH >C10-C16 | % | 94 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Acenaphthene | % | 93 | | 70-130 | Pass | |
| Acenaphthylene | % | 92 | | 70-130 | Pass | |
| Anthracene | % | 92 | | 70-130 | Pass | |
| Benz(a)anthracene | % | 80 | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 94 | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 78 | | 70-130 | Pass | |
| Benzo(g,h,i)perylene | % | 83 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 107 | | 70-130 | Pass | |
| Chrysene | % | 71 | | 70-130 | Pass | |
| Dibenz(a,h)anthracene | % | 76 | | 70-130 | Pass | |
| Fluoranthene | % | 95 | | 70-130 | Pass | |
| Fluorene | % | 91 | | 70-130 | Pass | |
| Indeno(1,2,3-cd)pyrene | % | 89 | | 70-130 | Pass | |
| Naphthalene | % | 92 | | 70-130 | Pass | |
| Phenanthrene | % | 86 | | 70-130 | Pass | |
| Pyrene | % | 97 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Organochlorine Pesticides | | | | | | |
| Chlordanes - Total | % | 108 | | 70-130 | Pass | |
| 4,4'-DDD | % | 106 | | 70-130 | Pass | |
| 4,4'-DDE | % | 108 | | 70-130 | Pass | |

| Test | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|-------|----------|--|-------------------|-------------|-----------------|
| 4,4'-DDT | % | 101 | | 70-130 | Pass | |
| a-BHC | % | 105 | | 70-130 | Pass | |
| Aldrin | % | 109 | | 70-130 | Pass | |
| b-BHC | % | 106 | | 70-130 | Pass | |
| d-BHC | % | 92 | | 70-130 | Pass | |
| Dieldrin | % | 108 | | 70-130 | Pass | |
| Endosulfan I | % | 108 | | 70-130 | Pass | |
| Endosulfan II | % | 106 | | 70-130 | Pass | |
| Endosulfan sulphate | % | 98 | | 70-130 | Pass | |
| Endrin | % | 106 | | 70-130 | Pass | |
| Endrin aldehyde | % | 101 | | 70-130 | Pass | |
| Endrin ketone | % | 105 | | 70-130 | Pass | |
| g-BHC (Lindane) | % | 107 | | 70-130 | Pass | |
| Heptachlor | % | 109 | | 70-130 | Pass | |
| Heptachlor epoxide | % | 110 | | 70-130 | Pass | |
| Hexachlorobenzene | % | 106 | | 70-130 | Pass | |
| Methoxychlor | % | 99 | | 70-130 | Pass | |
| Toxaphene | % | 105 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Polychlorinated Biphenyls | | | | | | |
| Aroclor-1260 | % | 87 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Heavy Metals | | | | | | |
| Arsenic | % | 99 | | 70-130 | Pass | |
| Cadmium | % | 97 | | 70-130 | Pass | |
| Chromium | % | 101 | | 70-130 | Pass | |
| Copper | % | 101 | | 70-130 | Pass | |
| Lead | % | 103 | | 70-130 | Pass | |
| Mercury | % | 105 | | 70-130 | Pass | |
| Nickel | % | 103 | | 70-130 | Pass | |
| Zinc | % | 101 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) | % | 103 | | 50-150 | Pass | |
| Perfluoropentanoic acid (PFPeA) | % | 131 | | 50-150 | Pass | |
| Perfluorohexanoic acid (PFHxA) | % | 107 | | 50-150 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | % | 105 | | 50-150 | Pass | |
| Perfluorooctanoic acid (PFOA) | % | 105 | | 50-150 | Pass | |
| Perfluorononanoic acid (PFNA) | % | 96 | | 50-150 | Pass | |
| Perfluorodecanoic acid (PFDA) | % | 103 | | 50-150 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | % | 105 | | 50-150 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | % | 116 | | 50-150 | Pass | |
| Perfluorotridecanoic acid (PFTrDA) | % | 113 | | 50-150 | Pass | |
| Perfluorotetradecanoic acid (PFTeDA) | % | 117 | | 50-150 | Pass | |
| LCS - % Recovery | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) | % | 107 | | 50-150 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | % | 94 | | 50-150 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | % | 98 | | 50-150 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | % | 93 | | 50-150 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | % | 109 | | 50-150 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | % | 99 | | 50-150 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | % | 99 | | 50-150 | Pass | |
| LCS - % Recovery | | | | | | |

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code | | |
|-------------------------------------------------------------|---------------|-----------|-------------------|-------------|-------------------|-------------|-----------------|
| Perfluoroalkyl sulfonic acids (PFASs) | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | % | 89 | 50-150 | Pass | | | |
| Perfluorononanesulfonic acid (PFNS) | % | 132 | 50-150 | Pass | | | |
| Perfluoropropanesulfonic acid (PFPrS) | % | 85 | 50-150 | Pass | | | |
| Perfluoropentanesulfonic acid (PFPeS) | % | 120 | 50-150 | Pass | | | |
| Perfluorohexanesulfonic acid (PFHxS) | % | 89 | 50-150 | Pass | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | % | 89 | 50-150 | Pass | | | |
| Perfluorooctanesulfonic acid (PFOS) | % | 104 | 50-150 | Pass | | | |
| Perfluorodecane sulfonic acid (PFDS) | % | 96 | 50-150 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | % | 112 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | % | 73 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorodecane sulfonic acid (8:2 FTSA) | % | 76 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorododecane sulfonic acid (10:2 FTSA) | % | 100 | 50-150 | Pass | | | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
| Spike - % Recovery | | | | | | | |
| Organochlorine Pesticides | | | | Result 1 | | | |
| Chlordanes - Total | S19-No05705 | CP | % | 114 | 70-130 | Pass | |
| 4,4'-DDD | S19-No07341 | NCP | % | 97 | 70-130 | Pass | |
| 4,4'-DDE | S19-No05705 | CP | % | 119 | 70-130 | Pass | |
| 4,4'-DDT | S19-No07341 | NCP | % | 102 | 70-130 | Pass | |
| a-BHC | S19-No05705 | CP | % | 110 | 70-130 | Pass | |
| Aldrin | S19-No07341 | NCP | % | 99 | 70-130 | Pass | |
| b-BHC | S19-No05705 | CP | % | 109 | 70-130 | Pass | |
| d-BHC | S19-No05705 | CP | % | 110 | 70-130 | Pass | |
| Dieldrin | S19-No05705 | CP | % | 117 | 70-130 | Pass | |
| Endosulfan I | S19-No05705 | CP | % | 115 | 70-130 | Pass | |
| Endosulfan II | S19-No05705 | CP | % | 116 | 70-130 | Pass | |
| Endosulfan sulphate | S19-No05705 | CP | % | 118 | 70-130 | Pass | |
| Endrin | S19-No05705 | CP | % | 108 | 70-130 | Pass | |
| Endrin aldehyde | S19-No05705 | CP | % | 90 | 70-130 | Pass | |
| Endrin ketone | S19-No05705 | CP | % | 108 | 70-130 | Pass | |
| g-BHC (Lindane) | S19-No05705 | CP | % | 105 | 70-130 | Pass | |
| Heptachlor | S19-No05705 | CP | % | 99 | 70-130 | Pass | |
| Heptachlor epoxide | S19-No05705 | CP | % | 115 | 70-130 | Pass | |
| Hexachlorobenzene | S19-No05705 | CP | % | 116 | 70-130 | Pass | |
| Methoxychlor | S19-No07341 | NCP | % | 92 | 70-130 | Pass | |
| Toxaphene | S19-No05705 | CP | % | 100 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Polychlorinated Biphenyls | | | | Result 1 | | | |
| Aroclor-1260 | S19-No05705 | CP | % | 98 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Heavy Metals | | | | Result 1 | | | |
| Arsenic | S19-No05711 | CP | % | 98 | 70-130 | Pass | |
| Cadmium | S19-No05711 | CP | % | 96 | 70-130 | Pass | |
| Chromium | S19-No05711 | CP | % | 99 | 70-130 | Pass | |
| Copper | S19-No05711 | CP | % | 98 | 70-130 | Pass | |
| Lead | S19-No05711 | CP | % | 107 | 70-130 | Pass | |
| Mercury | S19-No05711 | CP | % | 117 | 70-130 | Pass | |
| Nickel | S19-No05711 | CP | % | 99 | 70-130 | Pass | |
| Zinc | S19-No05711 | CP | % | 98 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | Result 1 | | | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|-------------------------------------------------------------|---------------|-----------|-------|----------|-------------------|-------------|-----------------|
| TRH C6-C9 | S19-No05712 | CP | % | 70 | 70-130 | Pass | |
| TRH C10-C14 | S19-No05712 | CP | % | 97 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| BTEX | | | | Result 1 | | | |
| Benzene | S19-No05712 | CP | % | 81 | 70-130 | Pass | |
| Toluene | S19-No05712 | CP | % | 83 | 70-130 | Pass | |
| Ethylbenzene | S19-No05712 | CP | % | 79 | 70-130 | Pass | |
| m&p-Xylenes | S19-No05712 | CP | % | 73 | 70-130 | Pass | |
| o-Xylene | S19-No05712 | CP | % | 73 | 70-130 | Pass | |
| Xylenes - Total | S19-No05712 | CP | % | 73 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | Result 1 | | | |
| Naphthalene | S19-No05712 | CP | % | 85 | 70-130 | Pass | |
| TRH C6-C10 | S19-No05712 | CP | % | 71 | 70-130 | Pass | |
| TRH >C10-C16 | S19-No05712 | CP | % | 97 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | Result 1 | | | |
| Acenaphthene | S19-No05712 | CP | % | 98 | 70-130 | Pass | |
| Acenaphthylene | S19-No05712 | CP | % | 91 | 70-130 | Pass | |
| Anthracene | S19-No05712 | CP | % | 95 | 70-130 | Pass | |
| Benz(a)anthracene | S19-No05712 | CP | % | 88 | 70-130 | Pass | |
| Benzo(a)pyrene | S19-No05712 | CP | % | 98 | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S19-No05712 | CP | % | 86 | 70-130 | Pass | |
| Benzo(g,h,i)perylene | S19-No05712 | CP | % | 104 | 70-130 | Pass | |
| Benzo(k)fluoranthene | S19-No05712 | CP | % | 100 | 70-130 | Pass | |
| Chrysene | S19-No05712 | CP | % | 72 | 70-130 | Pass | |
| Dibenz(a,h)anthracene | S19-No05712 | CP | % | 85 | 70-130 | Pass | |
| Fluoranthene | S19-No05712 | CP | % | 98 | 70-130 | Pass | |
| Fluorene | S19-No05712 | CP | % | 92 | 70-130 | Pass | |
| Indeno(1,2,3-cd)pyrene | S19-No05712 | CP | % | 91 | 70-130 | Pass | |
| Naphthalene | S19-No05712 | CP | % | 94 | 70-130 | Pass | |
| Phenanthrene | S19-No05712 | CP | % | 96 | 70-130 | Pass | |
| Pyrene | S19-No05712 | CP | % | 99 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | | | |
| Perfluorobutanoic acid (PFBA) | S19-No05727 | CP | % | 102 | 50-150 | Pass | |
| Perfluoropentanoic acid (PFPeA) | S19-No05727 | CP | % | 80 | 50-150 | Pass | |
| Perfluorohexanoic acid (PFHxA) | S19-No05727 | CP | % | 106 | 50-150 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | S19-No05727 | CP | % | 104 | 50-150 | Pass | |
| Perfluorooctanoic acid (PFOA) | S19-No05727 | CP | % | 99 | 50-150 | Pass | |
| Perfluorononanoic acid (PFNA) | S19-No05727 | CP | % | 101 | 50-150 | Pass | |
| Perfluorodecanoic acid (PFDA) | S19-No05727 | CP | % | 95 | 50-150 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | S19-No05727 | CP | % | 101 | 50-150 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | S19-No05727 | CP | % | 113 | 50-150 | Pass | |
| Perfluorotridecanoic acid (PFTTrDA) | S19-No05727 | CP | % | 100 | 50-150 | Pass | |
| Perfluorotetradecanoic acid (PFTeDA) | S19-No05727 | CP | % | 120 | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | | | |
| Perfluorooctane sulfonamide (FOSA) | S19-No05727 | CP | % | 108 | 50-150 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | S19-No05727 | CP | % | 108 | 50-150 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|---------------|-----------|-------|----------|-------------------|-------------|-----------------|
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | S19-No05727 | CP | % | 92 | 50-150 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | S19-No05727 | CP | % | 92 | 50-150 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | S19-No05727 | CP | % | 97 | 50-150 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | S19-No05727 | CP | % | 112 | 50-150 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | S19-No05727 | CP | % | 104 | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA's) | | | | Result 1 | | | |
| Perfluorobutanesulfonic acid (PFBS) | S19-No05727 | CP | % | 78 | 50-150 | Pass | |
| Perfluorononanesulfonic acid (PFNS) | S19-No05727 | CP | % | 93 | 50-150 | Pass | |
| Perfluoropropanesulfonic acid (PFPrS) | S19-No05727 | CP | % | 76 | 50-150 | Pass | |
| Perfluoropentanesulfonic acid (PFPeS) | S19-No05727 | CP | % | 90 | 50-150 | Pass | |
| Perfluorohexanesulfonic acid (PFHxS) | S19-No05727 | CP | % | 105 | 50-150 | Pass | |
| Perfluoroheptanesulfonic acid (PFHpS) | S19-No05727 | CP | % | 99 | 50-150 | Pass | |
| Perfluorooctanesulfonic acid (PFOS) | S19-No05727 | CP | % | 94 | 50-150 | Pass | |
| Perfluorodecanesulfonic acid (PFDS) | S19-No05727 | CP | % | 105 | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA's) | | | | Result 1 | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | S19-No05727 | CP | % | 111 | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | S19-No05727 | CP | % | 71 | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | S19-No05727 | CP | % | 89 | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | S19-No05727 | CP | % | 100 | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | |
| Heavy Metals | | | | Result 1 | | | |
| Arsenic | S19-No05731 | CP | % | 111 | 70-130 | Pass | |
| Cadmium | S19-No05731 | CP | % | 89 | 70-130 | Pass | |
| Chromium | S19-No05731 | CP | % | 112 | 70-130 | Pass | |
| Copper | S19-No05731 | CP | % | 109 | 70-130 | Pass | |
| Lead | S19-No05731 | CP | % | 113 | 70-130 | Pass | |
| Mercury | S19-No05731 | CP | % | 111 | 70-130 | Pass | |
| Nickel | S19-No05731 | CP | % | 113 | 70-130 | Pass | |
| Zinc | S19-No05731 | CP | % | 103 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | Result 1 | | | |
| TRH C6-C9 | S19-No05732 | CP | % | 84 | 70-130 | Pass | |
| TRH C10-C14 | S19-No05732 | CP | % | 89 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| BTEX | | | | Result 1 | | | |
| Benzene | S19-No05732 | CP | % | 80 | 70-130 | Pass | |
| Toluene | S19-No05732 | CP | % | 102 | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|-------------------------------------------------------------|---------------|-----------|-------|----------|----------|-------------------|-------------|-----------------|
| Ethylbenzene | S19-No05732 | CP | % | 99 | | 70-130 | Pass | |
| m&p-Xylenes | S19-No05732 | CP | % | 104 | | 70-130 | Pass | |
| o-Xylene | S19-No05732 | CP | % | 102 | | 70-130 | Pass | |
| Xylenes - Total | S19-No05732 | CP | % | 103 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | Result 1 | | | | |
| Naphthalene | S19-No05732 | CP | % | 87 | | 70-130 | Pass | |
| TRH C6-C10 | S19-No05732 | CP | % | 82 | | 70-130 | Pass | |
| TRH >C10-C16 | S19-No05732 | CP | % | 87 | | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | Result 1 | | | | |
| Acenaphthene | S19-No05732 | CP | % | 97 | | 70-130 | Pass | |
| Acenaphthylene | S19-No05732 | CP | % | 92 | | 70-130 | Pass | |
| Anthracene | S19-No05732 | CP | % | 89 | | 70-130 | Pass | |
| Benz(a)anthracene | S19-No05732 | CP | % | 97 | | 70-130 | Pass | |
| Benzo(a)pyrene | S19-No05732 | CP | % | 99 | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | S19-No05732 | CP | % | 106 | | 70-130 | Pass | |
| Benzo(g,h,i)perylene | S19-No05732 | CP | % | 95 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | S19-No05732 | CP | % | 84 | | 70-130 | Pass | |
| Dibenz(a,h)anthracene | S19-No05732 | CP | % | 97 | | 70-130 | Pass | |
| Fluoranthene | S19-No05732 | CP | % | 97 | | 70-130 | Pass | |
| Fluorene | S19-No05732 | CP | % | 97 | | 70-130 | Pass | |
| Indeno(1,2,3-cd)pyrene | S19-No05732 | CP | % | 99 | | 70-130 | Pass | |
| Naphthalene | S19-No05732 | CP | % | 96 | | 70-130 | Pass | |
| Phenanthrene | S19-No05732 | CP | % | 93 | | 70-130 | Pass | |
| Pyrene | S19-No05732 | CP | % | 95 | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | |
| Polychlorinated Biphenyls | | | | Result 1 | Result 2 | RPD | | |
| Aroclor-1016 | S19-No07340 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Aroclor-1221 | S19-No07340 | NCP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Aroclor-1232 | S19-No07340 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Aroclor-1242 | S19-No07340 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Aroclor-1248 | S19-No07340 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Aroclor-1254 | S19-No07340 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Aroclor-1260 | S19-No07340 | NCP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanoic acid (PFBA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoropentanoic acid (PFPeA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorohexanoic acid (PFHxA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoroheptanoic acid (PFHpA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorooctanoic acid (PFOA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorononanoic acid (PFNA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorodecanoic acid (PFDA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoroundecanoic acid (PFUnDA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorododecanoic acid (PFDoDA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorotridecanoic acid (PFTrDA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorotetradecanoic acid (PFTeDA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|---------------------------------------------------------------|-------------|----|-------|----------|----------|-----|-----|------|
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | Result 2 | RPD | | |
| Perfluorooctane sulfonamide (FOSA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | S19-No05705 | CP | ug/kg | < 10 | < 10 | <1 | 30% | Pass |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | S19-No05705 | CP | ug/kg | < 10 | < 10 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanesulfonic acid (PFBS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorononanesulfonic acid (PFNS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoropropanesulfonic acid (PFPrS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoropentanesulfonic acid (PFPeS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorohexanesulfonic acid (PFHxS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoroheptanesulfonic acid (PFHpS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorooctanesulfonic acid (PFOS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorodecanesulfonic acid (PFDS) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | Result 1 | Result 2 | RPD | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | S19-No05705 | CP | ug/kg | < 10 | < 10 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | S19-No05705 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | |
| Arsenic | S19-No05709 | CP | mg/kg | 4.6 | 4.5 | 3.0 | 30% | Pass |
| Cadmium | S19-No05709 | CP | mg/kg | < 0.4 | < 0.4 | <1 | 30% | Pass |
| Chromium | S19-No05709 | CP | mg/kg | 11 | 11 | <1 | 30% | Pass |
| Copper | S19-No05709 | CP | mg/kg | 14 | 13 | 2.0 | 30% | Pass |
| Lead | S19-No05709 | CP | mg/kg | 23 | 22 | 4.0 | 30% | Pass |
| Mercury | S19-No05709 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Nickel | S19-No05709 | CP | mg/kg | 9.7 | 9.4 | 4.0 | 30% | Pass |
| Zinc | S19-No05709 | CP | mg/kg | 47 | 43 | 10 | 30% | Pass |
| Duplicate | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | |
| % Moisture | S19-No05709 | CP | % | 21 | 22 | 4.0 | 30% | Pass |

| Duplicate | | | | | | | | |
|-------------------------------------------------------------|-------------|----|-------|----------|----------|-----|-----|------|
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | |
| TRH C6-C9 | S19-No05710 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH C10-C14 | S19-No05710 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH C15-C28 | S19-No05710 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| TRH C29-C36 | S19-No05710 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| BTEX | | | | Result 1 | Result 2 | RPD | | |
| Benzene | S19-No05710 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Toluene | S19-No05710 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Ethylbenzene | S19-No05710 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| m&p-Xylenes | S19-No05710 | CP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass |
| o-Xylene | S19-No05710 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Xylenes - Total | S19-No05710 | CP | mg/kg | < 0.3 | < 0.3 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | |
| Naphthalene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| TRH C6-C10 | S19-No05710 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH >C10-C16 | S19-No05710 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| TRH >C16-C34 | S19-No05710 | CP | mg/kg | < 100 | < 100 | <1 | 30% | Pass |
| TRH >C34-C40 | S19-No05710 | CP | mg/kg | < 100 | < 100 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | Result 1 | Result 2 | RPD | | |
| Acenaphthene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Acenaphthylene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Anthracene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benz(a)anthracene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(a)pyrene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(b&j)fluoranthene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(g,h,i)perylene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(k)fluoranthene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Chrysene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Dibenz(a,h)anthracene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Fluoranthene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Fluorene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Indeno(1,2,3-cd)pyrene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Naphthalene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Phenanthrene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Pyrene | S19-No05710 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| % Moisture | S19-No05719 | CP | % | 9.0 | 9.0 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | |
| TRH C6-C9 | S19-No05721 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH C10-C14 | S19-No05721 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH C15-C28 | S19-No05721 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| TRH C29-C36 | S19-No05721 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| BTEX | | | | Result 1 | Result 2 | RPD | | |
| Benzene | S19-No05721 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Toluene | S19-No05721 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Ethylbenzene | S19-No05721 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| m&p-Xylenes | S19-No05721 | CP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass |
| o-Xylene | S19-No05721 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Xylenes - Total | S19-No05721 | CP | mg/kg | < 0.3 | < 0.3 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|---------------------------------------------------------------|-------------|----|-------|----------|----------|-----|-----|------|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | |
| Naphthalene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| TRH C6-C10 | S19-No05721 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH >C10-C16 | S19-No05721 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| TRH >C16-C34 | S19-No05721 | CP | mg/kg | < 100 | < 100 | <1 | 30% | Pass |
| TRH >C34-C40 | S19-No05721 | CP | mg/kg | < 100 | < 100 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | Result 1 | Result 2 | RPD | | |
| Acenaphthene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Acenaphthylene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Anthracene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benz(a)anthracene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(a)pyrene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(b&j)fluoranthene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(g,h,i)perylene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(k)fluoranthene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Chrysene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Dibenz(a,h)anthracene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Fluoranthene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Fluorene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Indeno(1,2,3-cd)pyrene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Naphthalene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Phenanthrene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Pyrene | S19-No05721 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanoic acid (PFBA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoropentanoic acid (PFPeA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorohexanoic acid (PFHxA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoroheptanoic acid (PFHpA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorooctanoic acid (PFOA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorononanoic acid (PFNA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorodecanoic acid (PFDA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoroundecanoic acid (PFUnDA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorododecanoic acid (PFDoDA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorotridecanoic acid (PFTrDA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorotetradecanoic acid (PFTeDA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | Result 2 | RPD | | |
| Perfluorooctane sulfonamide (FOSA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | S19-No05723 | CP | ug/kg | < 10 | < 10 | <1 | 30% | Pass |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | S19-No05723 | CP | ug/kg | < 10 | < 10 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|-------------------------------------------------------------|-------------|----|-------|----------|----------|-----|-----|------|
| Perfluoroalkyl sulfonic acids (PFSA) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanesulfonic acid (PFBS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorononanesulfonic acid (PFNS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoropropanesulfonic acid (PFPrS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoropentanesulfonic acid (PFPeS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorohexanesulfonic acid (PFHxS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluoroheptanesulfonic acid (PFHpS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorooctanesulfonic acid (PFOS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Perfluorodecanesulfonic acid (PFDS) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | Result 1 | Result 2 | RPD | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | S19-No05723 | CP | ug/kg | < 10 | < 10 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | S19-No05723 | CP | ug/kg | < 5 | < 5 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | |
| % Moisture | S19-No05729 | CP | % | 14 | 14 | 2.0 | 30% | Pass |
| Duplicate | | | | | | | | |
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | |
| Arsenic | S19-No05730 | CP | mg/kg | 6.3 | 7.3 | 15 | 30% | Pass |
| Cadmium | S19-No05730 | CP | mg/kg | < 0.4 | < 0.4 | <1 | 30% | Pass |
| Chromium | S19-No05730 | CP | mg/kg | 14 | 17 | 16 | 30% | Pass |
| Copper | S19-No05730 | CP | mg/kg | 9.2 | 9.2 | <1 | 30% | Pass |
| Lead | S19-No05730 | CP | mg/kg | 28 | 30 | 6.0 | 30% | Pass |
| Mercury | S19-No05730 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Nickel | S19-No05730 | CP | mg/kg | 5.8 | 5.7 | 2.0 | 30% | Pass |
| Zinc | S19-No05730 | CP | mg/kg | 31 | 30 | 1.0 | 30% | Pass |
| Duplicate | | | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | |
| TRH C6-C9 | S19-No05731 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH C10-C14 | S19-No05731 | CP | mg/kg | 23 | 27 | 19 | 30% | Pass |
| TRH C15-C28 | S19-No05731 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| TRH C29-C36 | S19-No05731 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| BTEX | | | | Result 1 | Result 2 | RPD | | |
| Benzene | S19-No05731 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Toluene | S19-No05731 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Ethylbenzene | S19-No05731 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| m&p-Xylenes | S19-No05731 | CP | mg/kg | < 0.2 | < 0.2 | <1 | 30% | Pass |
| o-Xylene | S19-No05731 | CP | mg/kg | < 0.1 | < 0.1 | <1 | 30% | Pass |
| Xylenes - Total | S19-No05731 | CP | mg/kg | < 0.3 | < 0.3 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|-------------------------------------------------------------|-------------|----|-------|----------|----------|-----|-----|------|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | |
| Naphthalene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| TRH C6-C10 | S19-No05731 | CP | mg/kg | < 20 | < 20 | <1 | 30% | Pass |
| TRH >C10-C16 | S19-No05731 | CP | mg/kg | < 50 | < 50 | <1 | 30% | Pass |
| TRH >C16-C34 | S19-No05731 | CP | mg/kg | < 100 | < 100 | <1 | 30% | Pass |
| TRH >C34-C40 | S19-No05731 | CP | mg/kg | < 100 | < 100 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | Result 1 | Result 2 | RPD | | |
| Acenaphthene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Acenaphthylene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Anthracene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benz(a)anthracene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(a)pyrene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(b&j)fluoranthene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(g,h,i)perylene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Benzo(k)fluoranthene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Chrysene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Dibenz(a,h)anthracene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Fluoranthene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Fluorene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Indeno(1,2,3-cd)pyrene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Naphthalene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Phenanthrene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |
| Pyrene | S19-No05731 | CP | mg/kg | < 0.5 | < 0.5 | <1 | 30% | Pass |

Comments
Sample Integrity

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

Qualifier Codes/Comments

| Code | Description |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 |
| N11 | Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds. |
| N15 | Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation). |

Authorised By

| | |
|------------------|-------------------------------|
| Ursula Long | Analytical Services Manager |
| Andrew Sullivan | Senior Analyst-Organic (NSW) |
| Bryan Wilson | Senior Analyst-PFAS (QLD) |
| Gabriele Cordero | Senior Analyst-Metal (NSW) |
| Nibha Vaidya | Senior Analyst-Asbestos (NSW) |


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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 Site Number 18217

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

Attention: **George Black**

Report **686320-W**
 Project name **JORDAN SPRINGS - MARYLANDS**
 Project ID **57591**
 Received Date **Nov 05, 2019**

| Client Sample ID | | | RINS-01 | BLANK-01 | R ²⁰ TRIP SPIKE | TRIP BLANK |
|-------------------------------------------------------------|-------|------|--------------|--------------|----------------------------|--------------|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-No05739 | S19-No05801 | S19-No05919 | S19-No05920 |
| Date Sampled | | | Nov 05, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | 0.02 | mg/L | < 0.02 | - | - | - |
| TRH C10-C14 | 0.05 | mg/L | < 0.05 | - | - | - |
| TRH C15-C28 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH C29-C36 | 0.1 | mg/L | < 0.1 | - | - | - |
| TRH C10-C36 (Total) | 0.1 | mg/L | < 0.1 | - | - | - |
| BTEX | | | | | | |
| Benzene | 0.001 | mg/L | < 0.001 | - | 82 | < 0.001 |
| Toluene | 0.001 | mg/L | < 0.001 | - | 84 | < 0.001 |
| Ethylbenzene | 0.001 | mg/L | < 0.001 | - | 83 | < 0.001 |
| m&p-Xylenes | 0.002 | mg/L | < 0.002 | - | 83 | < 0.002 |
| o-Xylene | 0.001 | mg/L | < 0.001 | - | 82 | < 0.001 |
| Xylenes - Total | 0.003 | mg/L | < 0.003 | - | 83 | < 0.003 |
| 4-Bromofluorobenzene (surr.) | 1 | % | 80 | - | 91 | 94 |
| 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 | | | RINS-01 | BLANK-01 | R20TRIP SPIKE | TRIP BLANK |
|-----------------------------------------|--------|------|--------------|--------------|---------------|--------------|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-No05739 | S19-No05801 | S19-No05919 | S19-No05920 |
| Date Sampled | | | Nov 05, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Indeno(1.2.3-cd)pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Naphthalene | 0.001 | mg/L | < 0.001 | - | - | - |
| Phenanthrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Pyrene | 0.001 | mg/L | < 0.001 | - | - | - |
| Total PAH* | 0.001 | mg/L | < 0.001 | - | - | - |
| 2-Fluorobiphenyl (surr.) | 1 | % | INT | - | - | - |
| p-Terphenyl-d14 (surr.) | 1 | % | 72 | - | - | - |
| Organochlorine Pesticides | | | | | | |
| Chlordanes - Total | 0.001 | mg/L | < 0.001 | - | - | - |
| 4.4'-DDD | 0.0001 | mg/L | < 0.0001 | - | - | - |
| 4.4'-DDE | 0.0001 | mg/L | < 0.0001 | - | - | - |
| 4.4'-DDT | 0.0001 | mg/L | < 0.0001 | - | - | - |
| a-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Aldrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| b-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| d-BHC | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Dieldrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan I | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan II | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endosulfan sulphate | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin aldehyde | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Endrin ketone | 0.0001 | mg/L | < 0.0001 | - | - | - |
| g-BHC (Lindane) | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Heptachlor | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Heptachlor epoxide | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Hexachlorobenzene | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Methoxychlor | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Toxaphene | 0.01 | mg/L | < 0.01 | - | - | - |
| Aldrin and Dieldrin (Total)* | 0.0001 | mg/L | < 0.0001 | - | - | - |
| DDT + DDE + DDD (Total)* | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Vic EPA IWRG 621 OCP (Total)* | 0.001 | mg/L | < 0.001 | - | - | - |
| Vic EPA IWRG 621 Other OCP (Total)* | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibutylchlorodate (surr.) | 1 | % | INT | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 148 | - | - | - |
| Polychlorinated Biphenyls | | | | | | |
| Aroclor-1016 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1221 | 0.001 | mg/L | < 0.001 | - | - | - |
| Aroclor-1232 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1242 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1248 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1254 | 0.005 | mg/L | < 0.005 | - | - | - |
| Aroclor-1260 | 0.005 | mg/L | < 0.005 | - | - | - |
| Total PCB* | 0.001 | mg/L | < 0.001 | - | - | - |
| Dibutylchlorodate (surr.) | 1 | % | INT | - | - | - |
| Tetrachloro-m-xylene (surr.) | 1 | % | 148 | - | - | - |

| Client Sample ID | | | RINS-01 | BLANK-01 | R ²⁰ TRIP SPIKE | TRIP BLANK |
|------------------------------------------------------------------------------|--------|------|--------------|--------------|----------------------------|--------------|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-No05739 | S19-No05801 | S19-No05919 | S19-No05920 |
| Date Sampled | | | Nov 05, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Heavy Metals | | | | | | |
| Arsenic | 0.001 | mg/L | < 0.001 | - | - | - |
| Cadmium | 0.0002 | mg/L | < 0.0002 | - | - | - |
| Chromium | 0.001 | mg/L | < 0.001 | - | - | - |
| Copper | 0.001 | mg/L | < 0.001 | - | - | - |
| Lead | 0.001 | mg/L | < 0.001 | - | - | - |
| Mercury | 0.0001 | mg/L | < 0.0001 | - | - | - |
| Nickel | 0.001 | mg/L | < 0.001 | - | - | - |
| Zinc | 0.005 | mg/L | < 0.005 | - | - | - |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorooctanoic acid (PFOA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorononanoic acid (PFNA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorodecanoic acid (PFDA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| 13C4-PFBA (surr.) | 1 | % | - | 83 | - | - |
| 13C5-PFPeA (surr.) | 1 | % | - | 95 | - | - |
| 13C5-PFHxA (surr.) | 1 | % | - | 94 | - | - |
| 13C4-PFHpA (surr.) | 1 | % | - | 92 | - | - |
| 13C8-PFOA (surr.) | 1 | % | - | 99 | - | - |
| 13C5-PFNA (surr.) | 1 | % | - | 100 | - | - |
| 13C6-PFDA (surr.) | 1 | % | - | 86 | - | - |
| 13C2-PFUnDA (surr.) | 1 | % | - | 82 | - | - |
| 13C2-PFDoDA (surr.) | 1 | % | - | 77 | - | - |
| 13C2-PFTeDA (surr.) | 1 | % | - | 43 | - | - |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| 13C8-FOSA (surr.) | 1 | % | - | 65 | - | - |
| D3-N-MeFOSA (surr.) | 1 | % | - | 65 | - | - |
| D5-N-EtFOSA (surr.) | 1 | % | - | 56 | - | - |
| D7-N-MeFOSE (surr.) | 1 | % | - | 62 | - | - |
| D9-N-EtFOSE (surr.) | 1 | % | - | 50 | - | - |
| D5-N-EtFOSAA (surr.) | 1 | % | - | 29 | - | - |
| D3-N-MeFOSAA (surr.) | 1 | % | - | 30 | - | - |

| Client Sample ID | | | RINS-01 | BLANK-01 | ^{R20} TRIP SPIKE | TRIP BLANK |
|-----------------------------------------------------------------------|------|------|---------------------|---------------------|----------------------------------|---------------------|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-No05739 | S19-No05801 | S19-No05919 | S19-No05920 |
| Date Sampled | | | Nov 05, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl sulfonic acids (PFASs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 0.01 | ug/L | - | < 0.01 | - | - |
| 13C3-PFBS (surr.) | 1 | % | - | 105 | - | - |
| 18O2-PFHxS (surr.) | 1 | % | - | 96 | - | - |
| 13C8-PFOS (surr.) | 1 | % | - | 100 | - | - |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 0.05 | ug/L | - | < 0.05 | - | - |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 0.01 | ug/L | - | < 0.01 | - | - |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 0.01 | ug/L | - | < 0.01 | - | - |
| 13C2-4:2 FTSA (surr.) | 1 | % | - | 166 | - | - |
| 13C2-6:2 FTSA (surr.) | 1 | % | - | 183 | - | - |
| 13C2-8:2 FTSA (surr.) | 1 | % | - | 142 | - | - |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 0.01 | ug/L | - | < 0.01 | - | - |
| Sum of US EPA PFAS (PFOS + PFOA)* | 0.01 | ug/L | - | < 0.01 | - | - |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 0.01 | ug/L | - | < 0.01 | - | - |
| Sum of WA DWER PFAS (n=10)* | 0.05 | ug/L | - | < 0.05 | - | - |
| Sum of PFASs (n=30)* | 0.1 | ug/L | - | < 0.1 | - | - |

Sample History

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

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

| Description | Testing Site | Extracted | Holding Time |
|-------------------------------------------------------------------------------------------------------------------|---------------------|------------------|---------------------|
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 05, 2019 | 7 Days |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 05, 2019 | 7 Days |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 05, 2019 | |
| BTEX - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 06, 2019 | 14 Days |
| Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | Sydney | Nov 05, 2019 | 7 Days |
| Organochlorine Pesticides - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | Sydney | Nov 05, 2019 | 7 Days |
| Polychlorinated Biphenyls - Method: LTM-ORG-2220 OCP & PCB in Soil and Water | Sydney | Nov 05, 2019 | 7 Days |
| Metals M8 - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Nov 05, 2019 | 180 Days |
| Per- and Polyfluoroalkyl Substances (PFASs) | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 14 Days |
| Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 14 Days |
| Perfluoroalkyl sulfonic acids (PFASs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 14 Days |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 06, 2019 | 14 Days |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | |
| 10 | BC09 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 11 | BC10 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 12 | BC11 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 13 | BC12 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 14 | BC13 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 15 | BC14 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 16 | BC15 0-0.1 | Nov 04, 2019 | X | | | X | X | X | X | X | X | X | X |
| 17 | BC16 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 18 | BV6-01 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 19 | BV6-02 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | |
| 20 | BV6-03 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 21 | BV6-04 0.3-0.4 | Nov 04, 2019 | | | | X | X | X | X | X | X | X | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|---------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 22 | BV6-05 0-0.1 | Nov 04, 2019 | | Soil | S19-No05725 | | | | X | | | X | X | X | X | |
| 23 | BV6-06 0-0.1 | Nov 04, 2019 | | Soil | S19-No05726 | X | | | X | | | X | X | X | X | |
| 24 | BV6-07 0-0.1 | Nov 04, 2019 | | Soil | S19-No05727 | X | | | X | | | X | X | X | X | X |
| 25 | BV6-08 0-0.1 | Nov 04, 2019 | | Soil | S19-No05728 | | | | X | | | X | X | X | X | |
| 26 | BV6-09 0-0.1 | Nov 04, 2019 | | Soil | S19-No05729 | X | | | X | X | X | X | X | X | X | X |
| 27 | QA20191104-DH | Nov 04, 2019 | | Soil | S19-No05730 | X | | | X | | | X | X | X | X | X |
| 28 | QA20191104-ML | Nov 04, 2019 | | Soil | S19-No05731 | X | | | X | X | X | X | X | X | X | X |
| 29 | BC17 0-0.1 | Nov 05, 2019 | | Soil | S19-No05732 | X | | | X | | | X | X | X | X | X |
| 30 | BC18 0.3-0.4 | Nov 05, 2019 | | Soil | S19-No05733 | | | | X | X | X | X | X | X | X | |
| 31 | BC20 0-0.1 | Nov 05, 2019 | | Soil | S19-No05734 | | | | X | | | X | X | X | X | |
| 32 | BC21 0-0.1 | Nov 05, 2019 | | Soil | S19-No05735 | | | | X | | | X | X | X | X | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------|--------------|--|-------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 33 | BC23 0-0.1 | Nov 05, 2019 | | Soil | S19-No05736 | X | | | X | X | X | X | X | X | X | X |
| 34 | BC24 0-0.1 | Nov 05, 2019 | | Soil | S19-No05737 | | | | X | | | X | X | X | X | |
| 35 | BC25 0-0.1 | Nov 05, 2019 | | Soil | S19-No05738 | | | | X | | | X | X | X | X | |
| 36 | RINS-01 | Nov 05, 2019 | | Water | S19-No05739 | | | | X | X | X | X | X | | X | |
| 37 | BC01 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05740 | | | X | | | | | | | | |
| 38 | BC02 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05741 | | | X | | | | | | | | |
| 39 | BC03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05742 | | | X | | | | | | | | |
| 40 | BC04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05743 | | X | | | | | | | | | |
| 41 | BC05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05744 | | | X | | | | | | | | |
| 42 | BC06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05745 | | | X | | | | | | | | |
| 43 | BC08 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05746 | | | X | | | | | | | | |
| 44 | BC09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05747 | | | X | | | | | | | | |

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|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 5, 2019 1:00 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686320 | Due: Nov 7, 2019 |
| Project Name: JORDAN SPRINGS - MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | |
| 45 | BC10 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 46 | BC11 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 47 | BC12 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 48 | BC13 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 49 | BC14 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 50 | BC15 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 51 | BC15 0.5-0.6 | Nov 04, 2019 | | | X | | | | | | | | |
| 52 | BC16 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 53 | BV6-01 0.2-0.3 | Nov 04, 2019 | | | X | | | | | | | | |
| 54 | BV6-01 0.5-0.6 | Nov 04, 2019 | | | X | | | | | | | | |
| 55 | BV6-02 0.3-0.4 | Nov 04, 2019 | | | X | | | | | | | | |
| 56 | BV6-02 0.5-0.6 | Nov 04, 2019 | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 57 | BV6-03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05760 | | | X | | | | | | | | |
| 58 | BV6-04 0-0.1 | Nov 04, 2019 | | Soil | S19-No05761 | | | X | | | | | | | | |
| 59 | BV6-05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05762 | | | X | | | | | | | | |
| 60 | BV6-06 0.4-0.5 | Nov 04, 2019 | | Soil | S19-No05763 | | | X | | | | | | | | |
| 61 | BV6-06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05764 | | | X | | | | | | | | |
| 62 | BV6-07 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05765 | | | X | | | | | | | | |
| 63 | BV6-08 0.2-0.3 | Nov 04, 2019 | | Soil | S19-No05766 | | | X | | | | | | | | |
| 64 | BV6-09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05767 | | | X | | | | | | | | |
| 65 | BC17 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05768 | | | X | | | | | | | | |
| 66 | BC18 0-0.1 | Nov 04, 2019 | | Soil | S19-No05769 | | | X | | | | | | | | |
| 67 | BC19 0-0.1 | Nov 04, 2019 | | Soil | S19-No05770 | | | X | | | | | | | | |
| 68 | BC19 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05771 | | | X | | | | | | | | |

| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 5, 2019 1:00 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686320 | Due: Nov 7, 2019 |
| Project Name: JORDAN SPRINGS - MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|-------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | |
| 69 | BC20 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 70 | BC21 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 71 | BC22 0-0.1 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 72 | BC22 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 73 | BC23 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 74 | BC24 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 75 | BC25 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 76 | BLANK-01 | Nov 04, 2019 | Water | | | | | | | | | | | X |
| 77 | BV05 0.4-0.5 | Nov 04, 2019 | Soil | | | X | | | | | | | | |
| 78 | TRIP SPIKE | Nov 04, 2019 | Water | | | | | | | X | | | | |
| 79 | TRIP BLANK | Nov 04, 2019 | Water | | | | | | | X | | | | |
| 80 | BV6-07 0.3-0.4 | Nov 04, 2019 | Soil | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | |
| Test Counts | 19 | 1 | 40 | 35 | 10 | 10 | 35 | 37 | 35 | 35 | 18 |

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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 | | | | | | | |
| Organochlorine Pesticides | | | | | | | |
| Chlordanes - Total | mg/L | < 0.001 | | | 0.001 | Pass | |
| 4,4'-DDD | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4,4'-DDE | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| 4,4'-DDT | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| a-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Aldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| b-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| d-BHC | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Dieldrin | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan I | mg/L | < 0.0001 | | | 0.0001 | Pass | |
| Endosulfan II | mg/L | < 0.0001 | | | 0.0001 | Pass | |

| Test | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|-------|----------|--|-------------------|-------------|-----------------|
| Endosulfan sulphate | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Endrin | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Endrin aldehyde | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Endrin ketone | mg/L | < 0.0001 | | 0.0001 | Pass | |
| g-BHC (Lindane) | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Heptachlor | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Heptachlor epoxide | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Hexachlorobenzene | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Methoxychlor | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Toxaphene | mg/L | < 0.01 | | 0.01 | Pass | |
| Method Blank | | | | | | |
| Polychlorinated Biphenyls | | | | | | |
| Aroclor-1016 | mg/L | < 0.005 | | 0.005 | Pass | |
| Aroclor-1221 | mg/L | < 0.001 | | 0.001 | Pass | |
| Aroclor-1232 | mg/L | < 0.005 | | 0.005 | Pass | |
| Aroclor-1242 | mg/L | < 0.005 | | 0.005 | Pass | |
| Aroclor-1248 | mg/L | < 0.005 | | 0.005 | Pass | |
| Aroclor-1254 | mg/L | < 0.005 | | 0.005 | Pass | |
| Aroclor-1260 | mg/L | < 0.005 | | 0.005 | Pass | |
| Total PCB* | mg/L | < 0.001 | | 0.001 | Pass | |
| Method Blank | | | | | | |
| Heavy Metals | | | | | | |
| Arsenic | mg/L | < 0.001 | | 0.001 | Pass | |
| Cadmium | mg/L | < 0.0002 | | 0.0002 | Pass | |
| Chromium | mg/L | < 0.001 | | 0.001 | Pass | |
| Copper | mg/L | < 0.001 | | 0.001 | Pass | |
| Lead | mg/L | < 0.001 | | 0.001 | Pass | |
| Mercury | mg/L | < 0.0001 | | 0.0001 | Pass | |
| Nickel | mg/L | < 0.001 | | 0.001 | Pass | |
| Zinc | mg/L | < 0.005 | | 0.005 | Pass | |
| Method Blank | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) | ug/L | < 0.05 | | 0.05 | Pass | |
| Perfluoropentanoic acid (PFPeA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorohexanoic acid (PFHxA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorooctanoic acid (PFOA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorononanoic acid (PFNA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorodecanoic acid (PFDA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorotridecanoic acid (PFTrDA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorotetradecanoic acid (PFTeDA) | ug/L | < 0.01 | | 0.01 | Pass | |
| Method Blank | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) | ug/L | < 0.05 | | 0.05 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | ug/L | < 0.05 | | 0.05 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | ug/L | < 0.05 | | 0.05 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | ug/L | < 0.05 | | 0.05 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | ug/L | < 0.05 | | 0.05 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | ug/L | < 0.05 | | 0.05 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | ug/L | < 0.05 | | 0.05 | Pass | |
| Method Blank | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | | |

| Test | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
|-------------------------------------------------------------|-------|----------|--|-------------------|-------------|-----------------|
| Perfluorobutanesulfonic acid (PFBS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorononanesulfonic acid (PFNS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluoropropanesulfonic acid (PFPrS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluoropentanesulfonic acid (PFPeS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorohexanesulfonic acid (PFHxS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluoroheptanesulfonic acid (PFHpS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorooctanesulfonic acid (PFOS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Perfluorodecanesulfonic acid (PFDS) | ug/L | < 0.01 | | 0.01 | Pass | |
| Method Blank | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | ug/L | < 0.01 | | 0.01 | Pass | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | ug/L | < 0.05 | | 0.05 | Pass | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | ug/L | < 0.01 | | 0.01 | Pass | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | ug/L | < 0.01 | | 0.01 | Pass | |
| LCS - % Recovery | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | | | |
| TRH C6-C9 | % | 112 | | 70-130 | Pass | |
| TRH C10-C14 | % | 86 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| BTEX | | | | | | |
| Benzene | % | 88 | | 70-130 | Pass | |
| Toluene | % | 92 | | 70-130 | Pass | |
| Ethylbenzene | % | 91 | | 70-130 | Pass | |
| m&p-Xylenes | % | 89 | | 70-130 | Pass | |
| o-Xylene | % | 86 | | 70-130 | Pass | |
| Xylenes - Total | % | 88 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | | | |
| Naphthalene | % | 106 | | 70-130 | Pass | |
| TRH C6-C10 | % | 112 | | 70-130 | Pass | |
| TRH >C10-C16 | % | 86 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | |
| Acenaphthene | % | 80 | | 70-130 | Pass | |
| Acenaphthylene | % | 87 | | 70-130 | Pass | |
| Anthracene | % | 101 | | 70-130 | Pass | |
| Benz(a)anthracene | % | 101 | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 90 | | 70-130 | Pass | |
| Benzo(b&j)fluoranthene | % | 111 | | 70-130 | Pass | |
| Benzo(g,h,i)perylene | % | 83 | | 70-130 | Pass | |
| Benzo(k)fluoranthene | % | 75 | | 70-130 | Pass | |
| Dibenz(a,h)anthracene | % | 93 | | 70-130 | Pass | |
| Fluoranthene | % | 101 | | 70-130 | Pass | |
| Fluorene | % | 95 | | 70-130 | Pass | |
| Indeno(1,2,3-cd)pyrene | % | 89 | | 70-130 | Pass | |
| Naphthalene | % | 77 | | 70-130 | Pass | |
| Phenanthrene | % | 98 | | 70-130 | Pass | |
| Pyrene | % | 99 | | 70-130 | Pass | |
| LCS - % Recovery | | | | | | |
| Organochlorine Pesticides | | | | | | |
| Chlordanes - Total | % | 77 | | 70-130 | Pass | |
| 4,4'-DDD | % | 78 | | 70-130 | Pass | |
| 4,4'-DDE | % | 71 | | 70-130 | Pass | |
| 4,4'-DDT | % | 74 | | 70-130 | Pass | |

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|-------|----------|-------------------|-------------|-----------------|
| a-BHC | % | 73 | 70-130 | Pass | |
| Aldrin | % | 75 | 70-130 | Pass | |
| b-BHC | % | 81 | 70-130 | Pass | |
| d-BHC | % | 78 | 70-130 | Pass | |
| Dieldrin | % | 81 | 70-130 | Pass | |
| Endosulfan I | % | 80 | 70-130 | Pass | |
| Endosulfan II | % | 80 | 70-130 | Pass | |
| Endosulfan sulphate | % | 82 | 70-130 | Pass | |
| Endrin | % | 73 | 70-130 | Pass | |
| Endrin aldehyde | % | 71 | 70-130 | Pass | |
| Endrin ketone | % | 82 | 70-130 | Pass | |
| g-BHC (Lindane) | % | 70 | 70-130 | Pass | |
| Heptachlor epoxide | % | 82 | 70-130 | Pass | |
| Hexachlorobenzene | % | 72 | 70-130 | Pass | |
| Methoxychlor | % | 83 | 70-130 | Pass | |
| Toxaphene | % | 80 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Polychlorinated Biphenyls | | | | | |
| Aroclor-1260 | % | 104 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Heavy Metals | | | | | |
| Arsenic | % | 103 | 70-130 | Pass | |
| Cadmium | % | 104 | 70-130 | Pass | |
| Chromium | % | 109 | 70-130 | Pass | |
| Copper | % | 109 | 70-130 | Pass | |
| Lead | % | 107 | 70-130 | Pass | |
| Mercury | % | 102 | 70-130 | Pass | |
| Nickel | % | 110 | 70-130 | Pass | |
| Zinc | % | 105 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | |
| Perfluorobutanoic acid (PFBA) | % | 87 | 50-150 | Pass | |
| Perfluoropentanoic acid (PFPeA) | % | 89 | 50-150 | Pass | |
| Perfluorohexanoic acid (PFHxA) | % | 96 | 50-150 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | % | 89 | 50-150 | Pass | |
| Perfluorooctanoic acid (PFOA) | % | 89 | 50-150 | Pass | |
| Perfluorononanoic acid (PFNA) | % | 90 | 50-150 | Pass | |
| Perfluorodecanoic acid (PFDA) | % | 94 | 50-150 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | % | 92 | 50-150 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | % | 102 | 50-150 | Pass | |
| Perfluorotridecanoic acid (PFTrDA) | % | 104 | 50-150 | Pass | |
| Perfluorotetradecanoic acid (PFTeDA) | % | 79 | 50-150 | Pass | |
| LCS - % Recovery | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | |
| Perfluorooctane sulfonamide (FOSA) | % | 83 | 50-150 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | % | 80 | 50-150 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | % | 80 | 50-150 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | % | 68 | 50-150 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | % | 89 | 50-150 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | % | 98 | 50-150 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | % | 82 | 50-150 | Pass | |
| LCS - % Recovery | | | | | |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | % | 78 | 50-150 | Pass | |

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code | | |
|-------------------------------------------------------------|---------------|-----------|-------------------|-------------|-------------------|-------------|-----------------|
| Perfluorononanesulfonic acid (PFNS) | % | 87 | 50-150 | Pass | | | |
| Perfluoropropanesulfonic acid (PFPrS) | % | 88 | 50-150 | Pass | | | |
| Perfluoropentanesulfonic acid (PFPeS) | % | 88 | 50-150 | Pass | | | |
| Perfluorohexanesulfonic acid (PFHxS) | % | 95 | 50-150 | Pass | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | % | 94 | 50-150 | Pass | | | |
| Perfluorooctanesulfonic acid (PFOS) | % | 100 | 50-150 | Pass | | | |
| Perfluorodecanesulfonic acid (PFDS) | % | 83 | 50-150 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | % | 93 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | % | 94 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | % | 110 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | % | 104 | 50-150 | Pass | | | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
| Spike - % Recovery | | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | Result 1 | | | |
| TRH C6-C9 | S19-No05285 | NCP | % | 98 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| BTEX | | | | Result 1 | | | |
| Benzene | S19-No05285 | NCP | % | 90 | 70-130 | Pass | |
| Toluene | S19-No05285 | NCP | % | 93 | 70-130 | Pass | |
| Ethylbenzene | S19-No05285 | NCP | % | 91 | 70-130 | Pass | |
| m&p-Xylenes | S19-No05285 | NCP | % | 94 | 70-130 | Pass | |
| o-Xylene | S19-No05285 | NCP | % | 92 | 70-130 | Pass | |
| Xylenes - Total | S19-No05285 | NCP | % | 93 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | Result 1 | | | |
| Naphthalene | S19-No05285 | NCP | % | 104 | 70-130 | Pass | |
| TRH C6-C10 | S19-No05285 | NCP | % | 98 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Heavy Metals | | | | Result 1 | | | |
| Arsenic | S19-No05810 | NCP | % | 95 | 70-130 | Pass | |
| Cadmium | S19-No05810 | NCP | % | 96 | 70-130 | Pass | |
| Chromium | S19-No05810 | NCP | % | 102 | 70-130 | Pass | |
| Copper | S19-No05810 | NCP | % | 103 | 70-130 | Pass | |
| Lead | S19-No05810 | NCP | % | 98 | 70-130 | Pass | |
| Mercury | S19-No05810 | NCP | % | 95 | 70-130 | Pass | |
| Nickel | S19-No05810 | NCP | % | 104 | 70-130 | Pass | |
| Zinc | S19-No05810 | NCP | % | 100 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | | | |
| Perfluorobutanoic acid (PFBA) | S19-No05801 | CP | % | 95 | 50-150 | Pass | |
| Perfluoropentanoic acid (PFPeA) | S19-No05801 | CP | % | 99 | 50-150 | Pass | |
| Perfluorohexanoic acid (PFHxA) | S19-No05801 | CP | % | 101 | 50-150 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | S19-No05801 | CP | % | 91 | 50-150 | Pass | |
| Perfluorooctanoic acid (PFOA) | S19-No05801 | CP | % | 93 | 50-150 | Pass | |
| Perfluorononanoic acid (PFNA) | S19-No05801 | CP | % | 98 | 50-150 | Pass | |
| Perfluorodecanoic acid (PFDA) | S19-No05801 | CP | % | 105 | 50-150 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | S19-No05801 | CP | % | 92 | 50-150 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | S19-No05801 | CP | % | 93 | 50-150 | Pass | |
| Perfluorotridecanoic acid (PFTrDA) | S19-No05801 | CP | % | 75 | 50-150 | Pass | |
| Perfluorotetradecanoic acid (PFTeDA) | S19-No05801 | CP | % | 89 | 50-150 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|---------------|-----------|-------|----------|----------|-----|-------------------|-------------|-----------------|
| Spike - % Recovery | | | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | | | | | |
| Perfluorooctane sulfonamide (FOSA) | S19-No05801 | CP | % | 91 | | | 50-150 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | S19-No05801 | CP | % | 88 | | | 50-150 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | S19-No05801 | CP | % | 88 | | | 50-150 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | S19-No05801 | CP | % | 87 | | | 50-150 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | S19-No05801 | CP | % | 92 | | | 50-150 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | S19-No05801 | CP | % | 90 | | | 50-150 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | S19-No05801 | CP | % | 88 | | | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA's) | | | | Result 1 | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | S19-No05801 | CP | % | 85 | | | 50-150 | Pass | |
| Perfluorononanesulfonic acid (PFNS) | S19-No05801 | CP | % | 91 | | | 50-150 | Pass | |
| Perfluoropropanesulfonic acid (PFPrS) | S19-No05801 | CP | % | 99 | | | 50-150 | Pass | |
| Perfluoropentanesulfonic acid (PFPeS) | S19-No05801 | CP | % | 98 | | | 50-150 | Pass | |
| Perfluorohexanesulfonic acid (PFHxS) | S19-No05801 | CP | % | 103 | | | 50-150 | Pass | |
| Perfluoroheptanesulfonic acid (PFHpS) | S19-No05801 | CP | % | 104 | | | 50-150 | Pass | |
| Perfluorooctanesulfonic acid (PFOS) | S19-No05801 | CP | % | 99 | | | 50-150 | Pass | |
| Perfluorodecanesulfonic acid (PFDS) | S19-No05801 | CP | % | 71 | | | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA's) | | | | Result 1 | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | S19-No05801 | CP | % | 106 | | | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | S19-No05801 | CP | % | 114 | | | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | S19-No05801 | CP | % | 101 | | | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | S19-No05801 | CP | % | 100 | | | 50-150 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | | |
| Total Recoverable Hydrocarbons - 1999 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | | |
| TRH C6-C9 | S19-No05284 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| BTEX | | | | Result 1 | Result 2 | RPD | | | |
| Benzene | S19-No05284 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Toluene | S19-No05284 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Ethylbenzene | S19-No05284 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| m&p-Xylenes | S19-No05284 | NCP | mg/L | < 0.002 | < 0.002 | <1 | 30% | Pass | |
| o-Xylene | S19-No05284 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Xylenes - Total | S19-No05284 | NCP | mg/L | < 0.003 | < 0.003 | <1 | 30% | Pass | |

| Duplicate | | | | | | | | |
|---------------------------------------------------------------|-------------|-----|------|----------|----------|-----|-----|------|
| Total Recoverable Hydrocarbons - 2013 NEPM Fractions | | | | Result 1 | Result 2 | RPD | | |
| Naphthalene | S19-No05284 | NCP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| TRH C6-C10 | S19-No05284 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | |
| Arsenic | S19-No05739 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass |
| Cadmium | S19-No05739 | CP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass |
| Chromium | S19-No05739 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass |
| Copper | S19-No05739 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass |
| Lead | S19-No05739 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass |
| Mercury | S19-No05739 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass |
| Nickel | S19-No05739 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass |
| Zinc | S19-No05739 | CP | mg/L | < 0.005 | < 0.005 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanoic acid (PFBA) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Perfluoropentanoic acid (PFPeA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanoic acid (PFHxA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroheptanoic acid (PFHpA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanoic acid (PFOA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanoic acid (PFNA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorodecanoic acid (PFDA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroundecanoic acid (PFUnDA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorododecanoic acid (PFDoDA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotridecanoic acid (PFTrDA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotetradecanoic acid (PFTeDA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | Result 2 | RPD | | |
| Perfluorooctane sulfonamide (FOSA) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanesulfonic acid (PFBS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanesulfonic acid (PFNS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropropanesulfonic acid (PFPrS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropentanesulfonic acid (PFPeS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanesulfonic acid (PFHxS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|--------------------------------------------------------|-------------|----|------|----------|----------|-----|-----|------|
| Perfluoroalkyl sulfonic acids (PFSA) | | | | Result 1 | Result 2 | RPD | | |
| Perfluoroheptanesulfonic acid (PFHpS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanesulfonic acid (PFOS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorodecanesulfonic acid (PFDS) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | Result 1 | Result 2 | RPD | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | S19-No05801 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | S19-No05801 | CP | ug/L | < 0.01 | < 0.01 | <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 |
| N11 | Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds. |
| N15 | Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation). |
| R20 | This sample is a Trip Spike and therefore all results are reported as a percentage |

Authorised By

| | |
|------------------|------------------------------|
| Ursula Long | Analytical Services Manager |
| Andrew Sullivan | Senior Analyst-Organic (NSW) |
| Bryan Wilson | Senior Analyst-PFAS (QLD) |
| Gabriele Cordero | Senior Analyst-Metal (NSW) |


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------|--------------|---------------|--------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | | | |
| 1 | BC01 0-0.1 | Nov 04, 2019 | | Soil | S19-No05704 | | | | X | | X | X | X | X | X | |
| 2 | BC02 0-0.1 | Nov 04, 2019 | | Soil | S19-No05705 | X | | | X | X | X | X | X | X | X | X |
| 3 | BC03 0-0.1 | Nov 04, 2019 | | Soil | S19-No05706 | | | | X | | X | X | X | X | X | |
| 4 | BC04 0-0.1 | Nov 04, 2019 | | Soil | S19-No05707 | X | | | X | X | X | X | X | X | X | X |
| 5 | BC05 0-0.1 | Nov 04, 2019 | | Soil | S19-No05708 | X | | | X | X | X | X | X | X | X | X |
| 6 | BC06 0-0.1 | Nov 04, 2019 | | Soil | S19-No05709 | | | | X | | X | X | X | X | X | |
| 7 | BC07 0-0.1 | Nov 04, 2019 | | Soil | S19-No05710 | | | | X | | | X | X | X | | |
| 8 | BC07 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05711 | | | | | | X | | X | X | | |
| 9 | BC08 0-0.1 | Nov 04, 2019 | | Soil | S19-No05712 | X | | | X | | X | X | X | X | X | X |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | |
| 10 | BC09 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 11 | BC10 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 12 | BC11 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 13 | BC12 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 14 | BC13 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 15 | BC14 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 16 | BC15 0-0.1 | Nov 04, 2019 | X | | | X | X | X | X | X | X | X | X |
| 17 | BC16 0-0.1 | Nov 04, 2019 | | | | X | | | X | X | X | X | |
| 18 | BV6-01 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 19 | BV6-02 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | |
| 20 | BV6-03 0-0.1 | Nov 04, 2019 | X | | | X | | | X | X | X | X | X |
| 21 | BV6-04 0.3-0.4 | Nov 04, 2019 | | | | X | X | X | X | X | X | X | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|---------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 22 | BV6-05 0-0.1 | Nov 04, 2019 | | Soil | S19-No05725 | | | | X | | | X | X | X | X | |
| 23 | BV6-06 0-0.1 | Nov 04, 2019 | | Soil | S19-No05726 | X | | | X | | | X | X | X | X | |
| 24 | BV6-07 0-0.1 | Nov 04, 2019 | | Soil | S19-No05727 | X | | | X | | | X | X | X | X | X |
| 25 | BV6-08 0-0.1 | Nov 04, 2019 | | Soil | S19-No05728 | | | | X | | | X | X | X | X | |
| 26 | BV6-09 0-0.1 | Nov 04, 2019 | | Soil | S19-No05729 | X | | | X | X | X | X | X | X | X | X |
| 27 | QA20191104-DH | Nov 04, 2019 | | Soil | S19-No05730 | X | | | X | | | X | X | X | X | X |
| 28 | QA20191104-ML | Nov 04, 2019 | | Soil | S19-No05731 | X | | | X | X | X | X | X | X | X | X |
| 29 | BC17 0-0.1 | Nov 05, 2019 | | Soil | S19-No05732 | X | | | X | | | X | X | X | X | X |
| 30 | BC18 0.3-0.4 | Nov 05, 2019 | | Soil | S19-No05733 | | | | X | X | X | X | X | X | X | |
| 31 | BC20 0-0.1 | Nov 05, 2019 | | Soil | S19-No05734 | | | | X | | | X | X | X | X | |
| 32 | BC21 0-0.1 | Nov 05, 2019 | | Soil | S19-No05735 | | | | X | | | X | X | X | X | |

| | | | | | |
|-----------------------------------------------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |
| Eurofins Analytical Services Manager : Ursula Long | | | | | |

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|--------------|--------------|--|-------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 33 | BC23 0-0.1 | Nov 05, 2019 | | Soil | S19-No05736 | X | | | X | X | X | X | X | X | X | X |
| 34 | BC24 0-0.1 | Nov 05, 2019 | | Soil | S19-No05737 | | | | X | | | X | X | X | X | |
| 35 | BC25 0-0.1 | Nov 05, 2019 | | Soil | S19-No05738 | | | | X | | | X | X | X | X | |
| 36 | RINS-01 | Nov 05, 2019 | | Water | S19-No05739 | | | | X | X | X | X | X | | X | |
| 37 | BC01 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05740 | | | X | | | | | | | | |
| 38 | BC02 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05741 | | | X | | | | | | | | |
| 39 | BC03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05742 | | | X | | | | | | | | |
| 40 | BC04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05743 | | X | | | | | | | | | |
| 41 | BC05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05744 | | | X | | | | | | | | |
| 42 | BC06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05745 | | | X | | | | | | | | |
| 43 | BC08 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05746 | | | X | | | | | | | | |
| 44 | BC09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05747 | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 5, 2019 1:00 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 45 | BC10 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05748 | | | X | | | | | | | | |
| 46 | BC11 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05749 | | | X | | | | | | | | |
| 47 | BC12 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05750 | | | X | | | | | | | | |
| 48 | BC13 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05751 | | | X | | | | | | | | |
| 49 | BC14 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05752 | | | X | | | | | | | | |
| 50 | BC15 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05753 | | | X | | | | | | | | |
| 51 | BC15 0.5-0.6 | Nov 04, 2019 | | Soil | S19-No05754 | | | X | | | | | | | | |
| 52 | BC16 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05755 | | | X | | | | | | | | |
| 53 | BV6-01 0.2-0.3 | Nov 04, 2019 | | Soil | S19-No05756 | | | X | | | | | | | | |
| 54 | BV6-01 0.5-0.6 | Nov 04, 2019 | | Soil | S19-No05757 | | | X | | | | | | | | |
| 55 | BV6-02 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05758 | | | X | | | | | | | | |
| 56 | BV6-02 0.5-0.6 | Nov 04, 2019 | | Soil | S19-No05759 | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--|------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 57 | BV6-03 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05760 | | | X | | | | | | | | |
| 58 | BV6-04 0-0.1 | Nov 04, 2019 | | Soil | S19-No05761 | | | X | | | | | | | | |
| 59 | BV6-05 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05762 | | | X | | | | | | | | |
| 60 | BV6-06 0.4-0.5 | Nov 04, 2019 | | Soil | S19-No05763 | | | X | | | | | | | | |
| 61 | BV6-06 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05764 | | | X | | | | | | | | |
| 62 | BV6-07 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05765 | | | X | | | | | | | | |
| 63 | BV6-08 0.2-0.3 | Nov 04, 2019 | | Soil | S19-No05766 | | | X | | | | | | | | |
| 64 | BV6-09 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05767 | | | X | | | | | | | | |
| 65 | BC17 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05768 | | | X | | | | | | | | |
| 66 | BC18 0-0.1 | Nov 04, 2019 | | Soil | S19-No05769 | | | X | | | | | | | | |
| 67 | BC19 0-0.1 | Nov 04, 2019 | | Soil | S19-No05770 | | | X | | | | | | | | |
| 68 | BC19 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05771 | | | X | | | | | | | | |

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|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|----------------|--------------|--|-------|-------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | |
| 69 | BC20 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05772 | | | X | | | | | | | | |
| 70 | BC21 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05773 | | | X | | | | | | | | |
| 71 | BC22 0-0.1 | Nov 04, 2019 | | Soil | S19-No05774 | | | X | | | | | | | | |
| 72 | BC22 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05775 | | | X | | | | | | | | |
| 73 | BC23 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05776 | | | X | | | | | | | | |
| 74 | BC24 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05777 | | | X | | | | | | | | |
| 75 | BC25 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05778 | | | X | | | | | | | | |
| 76 | BLANK-01 | Nov 04, 2019 | | Water | S19-No05801 | | | X | | | | | | | | |
| 77 | BV05 0.4-0.5 | Nov 04, 2019 | | Soil | S19-No05911 | | | X | | | | | | | | |
| 78 | TRIP SPIKE | Nov 04, 2019 | | Water | S19-No05919 | | | X | | | | | | | | |
| 79 | TRIP BLANK | Nov 04, 2019 | | Water | S19-No05920 | | | X | | | | | | | | |
| 80 | BV6-07 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No05997 | | | X | | | | | | | | |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|---------------------|
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| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 686320 | Due: | Nov 7, 2019 |
| Project Name: | JORDAN SPRINGS - MARYLANDS | Phone: | 02 8245 0300 | Priority: | 2 Day |
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Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | Asbestos - WA guidelines | CANCELLED | HOLD | Polycyclic Aromatic Hydrocarbons | Organochlorine Pesticides | Polychlorinated Biphenyls | Metals M8 | BTEX | Moisture Set | Total Recoverable Hydrocarbons | Per- and Polyfluoroalkyl Substances (PFASs) |
|-------------------------------------------------|--------------------------|-----------|------|----------------------------------|---------------------------|---------------------------|-----------|------|--------------|--------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | X | X | X | X | X | X | X | X | X | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | X |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | |
| Test Counts | 19 | 1 | 43 | 35 | 10 | 10 | 35 | 35 | 35 | 35 | 17 |

016573

Ernst & Young

CHAIN OF CUSTODY

1 of 3



PROJECT NO.: 57591
 PROJECT NAME: Jordan Springs - Margaret
 DATE NEEDED BY: ~~4/11/19~~ 4/8/19 TAT
 PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
 SEND REPORT & INVOICE TO: (1) adminsw@jbsg.com.au; (2) ~~Ernst & Young~~
 COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

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

@jbsg.com.au; (3) ~~Ernst & Young~~
 @jbsg.com.au

| SAMPLE ID | MATRIX | DATE | TIME | TYPE & PRESERVATIVE | PH | IDENTIFICATION | | | | | | NOTES | |
|------------|--------|---------|------|------------------------------|----|----------------|------|----------|----------|----------|------|-------|---------|
| | | | | | | HEAVY METALS | PAHs | TRH/BTEX | OCB/PCBS | ASBESTOS | PFAS | | NEPM/NA |
| BC01-0-0-1 | Soil | 4-11-19 | | PRAs + BA ₅ + Jar | | X | X | X | X | X | | | |
| BC02-0-0-1 | | | | Jar | | X | X | X | X | X | | | |
| BC03-0-0-1 | | | | " | | X | X | X | X | X | | | |
| BC04-0-0-1 | | | | " | | X | X | X | X | X | | | |
| BC05-0-0-1 | | | | " | | X | X | X | X | X | | | |
| BC06-0-0-1 | | | | " | | X | X | X | X | X | | | |
| BC07-0-0-1 | | | | " | | X | X | X | X | X | | | |
| BC08-0-0-1 | | | | " | | X | X | X | X | X | | | |
| BC09-0-0-1 | | | | " | | X | X | X | X | X | | | |
| BC10-0-0-1 | | | | " | | X | X | X | X | X | | | |

REUNQUISHED BY: ~~Ernst & Young~~ DATE: 4/11/19
 METHOD OF SHIPMENT: PRAs + BA₅ + Jar

TRANSPORT CO. TRANSPORT NO. CONSIGNMENT NOTE NO.
 NAME: Lisa D DATE: 05/11
 OF: JBSG DATE: 11/00 PM
 NAME: ~~Ernst & Young~~ DATE: 11/00 PM

FOR RECEIVING LAB USE ONLY:
 COOLER SEAL - Yes..... No..... Intact..... Broken.....
 COOLER TEMP deg C 47.0
 COOLER SEAL - Yes..... No..... Intact..... Broken.....
 COOLER TEMP deg C

016572

Environ

CHAIN OF CUSTODY

2 of 3



PROJECT NO.: 57591
 PROJECT NAME: Jordan Springs - Marsland
 DATE NEEDED BY: ~~48hr TAT~~
 PHONE: Sydney: 02 8245 0300 | Perth: 08 9488 0100 | Brisbane: 07 3112 2688
 SEND REPORT & INVOICE TO: (1) admin@jbsg.com.au (2) ~~to Dick~~
 COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL:

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

| SAMPLE ID | MATRIX | DATE | TIME | TYPE & PRESERVATIVE | PH | ANALYSIS | | | | | | | | |
|----------------|--------|---------|------|---------------------|----|--------------|------|----------|----------|----------|------|--|--|--|
| | | | | | | HEAVY METALS | PAHs | TRH/BTEX | OCB/PCBs | ASBESTOS | PFAS | | | |
| BC10 - 0.3-0.4 | Soil | 4-11-19 | | Jar + PFAS + Bag | | X | X | X | X | X | | | | |
| BC11 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC12 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC13 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC14 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC15 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.4 | | | | Jar | | X | X | X | X | X | | | | |
| BC16 - 0.3-0.1 | | | | Jar | | X | X | X | X | X | | | | |

016574

Eurofins

CHAIN OF CUSTODY

1 of 1



PROJECT NO.: 57591

LABORATORY BATCH NO.:

PROJECT NAME: *Jackson Springs - mOry land*

SAMPLES: *Q1-01-01 M Lnz*

DATE NEEDED BY: *TBC*

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

SEND REPORT & INVOICE TO: (1) *admin@jbsg.com.au*, (2) *admin@jbsg.com.au*, (3) *admin@jbsg.com.au*

| SAMPLE ID | MATRIX | DATE | TIME | TYPE & PRESERVATIVE | PH | ANALYSIS | | | | | IDENTIFICATION | NOTES | |
|-------------|--------|---------|------|---------------------|----|--------------|------|----------|----------|----------|----------------|-------|------|
| | | | | | | HEAVY METALS | PAHs | TRH/BTEX | OCs/PCBs | ASBESTOS | | | PFAS |
| BCL7-0-0-1 | S01 | 5/11/19 | | PFAS 150ml + bag | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | <i>Star</i> | | X | X | X | X | X | | | |
| BCL8-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL9-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL20-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL21-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL22-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL23-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL24-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL25-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |
| BCL26-0-0-1 | | | | | | X | X | X | X | X | | | |
| ↓ -0.3-0.4 | | | | | | X | X | X | X | X | | | |

RELINQUISHED BY: _____ DATE: *5/11/19* METHOD OF SHIPMENT: _____ RECEIVED BY: *huu D* DATE: *05/11/19*

NAME: _____ DATE: _____ CONSIGNMENT NOTE NO. _____ NAME: *huu D* DATE: *05/11/19*

OF: JBS&G DATE: _____ TRANSPORT CO. _____ CONSIGNMENT NOTE NO. _____ NAME: *Eurofins* DATE: *1:00 PM*

OF: _____ TRANSPORT CO. _____ CONSIGNMENT NOTE NO. _____ NAME: _____ DATE: _____

COOLER SEAL - Yes..... No..... Intact..... Broken.....

COOLER SEAL - Yes..... No..... Intact..... Broken.....

COOLER TEMP deg C

COOLER TEMP deg C

FOR RECEIVING LAB USE ONLY:

COOLER SEAL - Yes..... No..... Intact..... Broken.....

COOLER SEAL - Yes..... No..... Intact..... Broken.....

COOLER TEMP deg C

COOLER TEMP deg C

IMS0 Form013 - Chain of Custody - Generic

017960

CHAIN OF CUSTODY



| | | | | | | | | | | | | | | |
|-----------------------------------------------------------------------------------------------|--------|--------------------------------------|------|---------------------|----|-----------------------------|------|----------|----------|----------|------|----------------|---------------------------|--------|
| PROJECT NO.: 57591 | | LABORATORY BATCH NO.: | | | | | | | | | | | | |
| PROJECT NAME: Jordan Services | | SAMPLERS: DH ML | | | | | | | | | | | | |
| DATE NEEDED BY: 48 hr TAT | | QC LEVEL: NEPM (2013) | | | | | | | | | | | | |
| PHONE: Sydney: 02 8245 0300 Perth: 08 9488 0100 Brisbane: 07 3112 2688 | | | | | | | | | | | | | | |
| SEND REPORT & INVOICE TO: (1) admin@jbsg.com.au; (2) admin@jbsg.com.au; (3) admin@jbsg.com.au | | | | | | | | | | | | | | |
| COMMENTS / SPECIAL HANDLING / STORAGE OR DISPOSAL: | | | | | | | | | | | | | | |
| SAMPLE ID | MATRIX | DATE | TIME | TYPE & PRESERVATIVE | pH | HEAVY METALS | PAHs | TRH/BTEX | OCs/PCBs | ASBESTOS | PFAS | IDENTIFICATION | TYPE OF ASBESTOS ANALYSIS | NOTES: |
| QC 20191104 - DH | Soil | 4/11/2019 | ✓ | PFAS + SAG + BAG | ✓ | X | X | X | X | X | X | NEPM/WA | | |
| QC 20191104 - ML | ↓ | ↓ | | | | X | X | X | X | X | X | | | |
| PLEASE SEND TO ENVIROCAR. | | | | | | | | | | | | | | |
| REINQUISHED BY: | | METHOD OF SHIPMENT: | | RECEIVED BY: | | FOR RECEIVING LAB USE ONLY: | | | | | | | | |
| NAME: G. B. A. C. H. DATE: 4/11/2019 | | CONSIGNMENT NOTE NO. / TRANSPORT CO. | | NAME: DATE: | | COOLER SEAL - Yes/No | | | | | | | | |
| NAME: DATE: | | CONSIGNMENT NOTE NO. / TRANSPORT CO. | | NAME: DATE: | | COOLER SEAL - Yes/No | | | | | | | | |
| NAME: DATE: | | CONSIGNMENT NOTE NO. / TRANSPORT CO. | | NAME: DATE: | | COOLER SEAL - Yes/No | | | | | | | | |

IMSO Form SOI3 - Chain of Custody - Generic

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**
Contact name: George Black
Project name: JORDAN SPRINGS - MARYLANDS
Project ID: 57591
COC number: Not provided
Turn around time: 2 Day
Date/Time received: Nov 5, 2019 1:00 PM
Eurofins reference: **686320**

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 : 4.7 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- Some samples have been subcontracted.

Notes^{N/A} Custody Seals intact (if used).

QC20191104-DH & QC20191104-ML sent to Envirolab for analysis. Only one Jar received for sample BC18 0.3-0.4 and BV6-04 0.3-0.4, PFAS and asbestos analysis cancelled. Water PFAS received for sample BLANK-01 placed on hold. Jar for sample BC04 0.3-0.4 not received, analysis cancelled. BV05 0.4-0.5, trip spike and trip blank extra samples received placed on hold.

Contact notes

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

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

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

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

Global Leader - Results you can trust

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



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **George Black**

Report **686899-L**
 Project name **ADDITIONAL - JORDAN SPRINGS - MARYLANDS**
 Project ID **57591**
 Received Date **Nov 07, 2019**

| Client Sample ID | | | BC04 0-0.1 | BC04 0-0.1 |
|-----------------------------------------|-------|----------|---------------------|-------------------------------------|
| Sample Matrix | | | US Leachate | AUS Leachate - Reagent Water |
| Eurofins Sample No. | | | S19-No09890 | S19-No09891 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | |
| Polycyclic Aromatic Hydrocarbons | | | | |
| Acenaphthene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Acenaphthylene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Anthracene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Benz(a)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Benzo(a)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Benzo(b&j)fluoranthene ^{N07} | 0.001 | mg/L | < 0.001 | < 0.001 |
| Benzo(g,h,i)perylene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Benzo(k)fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Chrysene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Dibenz(a,h)anthracene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Fluoranthene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Fluorene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Indeno(1,2,3-cd)pyrene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Naphthalene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Phenanthrene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Pyrene | 0.001 | mg/L | < 0.001 | < 0.001 |
| Total PAH* | 0.002 | mg/L | < 0.001 | < 0.001 |
| 2-Fluorobiphenyl (surr.) | 1 | % | 75 | INT |
| p-Terphenyl-d14 (surr.) | 1 | % | INT | INT |
| AUS Leaching Procedure | | | | |
| Leachate Fluid ^{C01} | | comment | - | 4.0 |
| pH (initial) | 0.1 | pH Units | - | 7.3 |
| pH (Leachate fluid) | 0.1 | pH Units | - | 6.0 |
| pH (off) | 0.1 | pH Units | - | 7.9 |
| USA Leaching Procedure | | | | |
| Leachate Fluid ^{C01} | | comment | 1.0 | - |
| pH (initial) | 0.1 | pH Units | 7.2 | - |
| pH (off) | 0.1 | pH Units | 5.1 | - |
| pH (USA HCl addition) | 0.1 | pH Units | 1.6 | - |

Sample History

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

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

| Description | Testing Site | Extracted | Holding Time |
|----------------------------------------------------------------------------------------------|---------------------|------------------|---------------------|
| Polycyclic Aromatic Hydrocarbons - Method: LTM-ORG-2130 PAH and Phenols in Soil and Water | Sydney | Nov 08, 2019 | 7 Days |
| AUS Leaching Procedure - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes | Sydney | Nov 08, 2019 | 7 Days |
| USA Leaching Procedure - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes | Sydney | Nov 08, 2019 | 14 Days |

| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 7, 2019 5:18 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686899 | Due: Nov 11, 2019 |
| Project Name: ADDITIONAL - JORDAN SPRINGS - MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |
| Eurofins Analytical Services Manager : Ursula Long | | |

| Sample Detail | | | | | | % Clay | CANCELLED | Conductivity (1:5 aqueous extract at 25°C as rec.) | pH (1:5 Aqueous extract at 25°C as rec.) | Polycyclic Aromatic Hydrocarbons | AUS Leaching Procedure | USA Leaching Procedure | TRH (after Silica Gel cleanup) | Moisture Set |
|------------------------------------------------------------|----------------|--------------|---------------|------------------------------|-------------|--------|-----------|----------------------------------------------------|------------------------------------------|----------------------------------|------------------------|------------------------|--------------------------------|--------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | | X | X | X | X | X | X | X | X |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | X | | | | | | | | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | |
| 1 | BC04 0-0.1 | Nov 04, 2019 | | US Leachate | S19-No09890 | | | | | X | | X | | |
| 2 | BC04 0-0.1 | Nov 04, 2019 | | AUS Leachate - Reagent Water | S19-No09891 | | | | | X | X | | | |
| 3 | BC04 0-0.1 | Nov 04, 2019 | | Soil | S19-No09892 | | | | | | | | X | X |
| 4 | BC04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09893 | | X | | | | | | | |
| 5 | BV6-03 0.0-0.1 | Nov 04, 2019 | | Soil | S19-No09894 | | | | | | | | X | X |
| 6 | BV6-04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09895 | X | | X | X | | | | | X |
| 7 | BC18 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09896 | X | | X | X | | | | | X |
| Test Counts | | | | | | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 4 |

Eurofins Environment Testing Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia
 ABN : 50 005 085 521 Telephone: +61 2 9900 8400
 Date Reported: Nov 11, 2019

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

| Test | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|-----------------------------------------|-------|----------|--|--|-------------------|-------------|-----------------|
| Method Blank | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | | |
| Acenaphthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Acenaphthylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(a)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(a)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(b&j)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(g,h,i)perylene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Benzo(k)fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Chrysene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Dibenz(a,h)anthracene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluoranthene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Fluorene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Indeno(1,2,3-cd)pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Naphthalene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Phenanthrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| Pyrene | mg/L | < 0.001 | | | 0.001 | Pass | |
| LCS - % Recovery | | | | | | | |
| Polycyclic Aromatic Hydrocarbons | | | | | | | |
| Acenaphthene | % | 108 | | | 70-130 | Pass | |
| Acenaphthylene | % | 114 | | | 70-130 | Pass | |
| Benzo(a)pyrene | % | 71 | | | 70-130 | Pass | |
| Fluoranthene | % | 76 | | | 70-130 | Pass | |
| Fluorene | % | 100 | | | 70-130 | Pass | |
| Naphthalene | % | 111 | | | 70-130 | Pass | |
| Phenanthrene | % | 78 | | | 70-130 | Pass | |
| Pyrene | % | 76 | | | 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 |

Qualifier Codes/Comments

| Code | Description |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C01 | Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other |
| N07 | Please note:- These two PAH isomers closely co-elute using the most contemporary analytical methods and both the reported concentration (and the TEQ) apply specifically to the total of the two co-eluting PAHs |

Authorised By

| | |
|-----------------|------------------------------|
| Ursula Long | Analytical Services Manager |
| Andrew Sullivan | Senior Analyst-Organic (NSW) |


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **George Black**

Report **686899-S**
 Project name **ADDITIONAL - JORDAN SPRINGS - MARYLANDS**
 Project ID **57591**
 Received Date **Nov 07, 2019**

| Client Sample ID | | | BC04 0-0.1 | BV6-03 0.0-0.1 | BV6-04 0.3-0.4 | BC18 0.3-0.4 |
|--------------------------------------------------------------|-----|----------|---------------------|-----------------------|-----------------------|---------------------|
| Sample Matrix | | | Soil | Soil | Soil | Soil |
| Eurofins Sample No. | | | S19-No09892 | S19-No09894 | S19-No09895 | S19-No09896 |
| Date Sampled | | | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 | Nov 04, 2019 |
| Test/Reference | LOR | Unit | | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | 50 | mg/kg | < 50 | < 50 | - | - |
| TRH >C16-C34 (after silica gel clean-up) | 100 | mg/kg | 280 | < 100 | - | - |
| TRH >C34-C40 (after silica gel clean-up) | 100 | mg/kg | < 100 | < 100 | - | - |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | | | | | | |
| TRH C10-C36 (Total) (after silica gel clean-up) | 100 | mg/kg | 310 | < 100 | - | - |
| TRH C10-C14 (after silica gel clean-up) | 50 | mg/kg | < 50 | < 50 | - | - |
| TRH C15-C28 (after silica gel clean-up) | 100 | mg/kg | 170 | < 100 | - | - |
| TRH C29-C36 (after silica gel clean-up) | 100 | mg/kg | 140 | < 100 | - | - |
| % Clay | | | | | | |
| | 1 | % | - | - | 13 | 25 |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | | | | | | |
| | 10 | uS/cm | - | - | 30 | 42 |
| pH (1:5 Aqueous extract at 25°C as rec.) | | | | | | |
| | 0.1 | pH Units | - | - | 6.4 | 6.9 |
| % Moisture | | | | | | |
| | 1 | % | 4.6 | 23 | 8.9 | 11 |

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 |
|--------------------------------------------------------------------------------------------|---------------------|------------------|---------------------|
| TRH - 2013 NEPM Fractions (after silica gel clean-up) - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 08, 2019 | 14 Days |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) - Method: LTM-ORG-2010 TRH C6-C40 | Sydney | Nov 08, 2019 | 14 Days |
| % Clay - Method: LTM-GEN-7040 | Brisbane | Nov 08, 2019 | 0 Days |
| Conductivity (1:5 aqueous extract at 25°C as rec.) - Method: LTM-INO-4030 Conductivity | Sydney | Nov 08, 2019 | 7 Days |
| pH (1:5 Aqueous extract at 25°C as rec.) - Method: LTM-GEN-7090 pH in soil by ISE | Sydney | Nov 08, 2019 | 7 Days |
| % Moisture - Method: LTM-GEN-7080 Moisture | Sydney | Nov 07, 2019 | 14 Days |

| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 7, 2019 5:18 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686899 | Due: Nov 11, 2019 |
| Project Name: ADDITIONAL - JORDAN SPRINGS - MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |
| Eurofins Analytical Services Manager : Ursula Long | | |

| Sample Detail | | | | | | % Clay | CANCELLED | Conductivity (1:5 aqueous extract at 25°C as rec.) | pH (1:5 Aqueous extract at 25°C as rec.) | Polycyclic Aromatic Hydrocarbons | AUS Leaching Procedure | USA Leaching Procedure | TRH (after Silica Gel cleanup) | Moisture Set |
|------------------------------------------------------------|----------------|--------------|---------------|------------------------------|-------------|--------|-----------|----------------------------------------------------|------------------------------------------|----------------------------------|------------------------|------------------------|--------------------------------|--------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | | X | X | X | X | X | X | X | X |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | X | | | | | | | | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | |
| 1 | BC04 0-0.1 | Nov 04, 2019 | | US Leachate | S19-No09890 | | | | | X | | X | | |
| 2 | BC04 0-0.1 | Nov 04, 2019 | | AUS Leachate - Reagent Water | S19-No09891 | | | | | X | X | | | |
| 3 | BC04 0-0.1 | Nov 04, 2019 | | Soil | S19-No09892 | | | | | | | | X | X |
| 4 | BC04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09893 | | X | | | | | | | |
| 5 | BV6-03 0.0-0.1 | Nov 04, 2019 | | Soil | S19-No09894 | | | | | | | | X | X |
| 6 | BV6-04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09895 | X | | X | X | | | | | X |
| 7 | BC18 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09896 | X | | X | X | | | | | X |
| Test Counts | | | | | | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 4 |

Eurofins Environment Testing Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia
 ABN : 50 005 085 521 Telephone: +61 2 9900 8400

Date Reported: Nov 11, 2019

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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 | | | | | | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | mg/kg | < 50 | | | 50 | Pass | | |
| TRH >C16-C34 (after silica gel clean-up) | mg/kg | < 100 | | | 100 | Pass | | |
| TRH >C34-C40 (after silica gel clean-up) | mg/kg | < 100 | | | 100 | Pass | | |
| Method Blank | | | | | | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | mg/kg | < 50 | | | 50 | Pass | | |
| TRH C15-C28 (after silica gel clean-up) | mg/kg | < 100 | | | 100 | Pass | | |
| TRH C29-C36 (after silica gel clean-up) | mg/kg | < 100 | | | 100 | Pass | | |
| Method Blank | | | | | | | | |
| % Clay | % | < 1 | | | 1 | Pass | | |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | uS/cm | < 10 | | | 10 | Pass | | |
| LCS - % Recovery | | | | | | | | |
| TRH - 2013 NEPM Fractions (after silica gel clean-up) | | | | | | | | |
| TRH >C10-C16 (after silica gel clean-up) | % | 106 | | | 70-130 | Pass | | |
| LCS - % Recovery | | | | | | | | |
| TRH - 1999 NEPM Fractions (after silica gel clean-up) | | | | | | | | |
| TRH C10-C14 (after silica gel clean-up) | % | 108 | | | 70-130 | Pass | | |
| LCS - % Recovery | | | | | | | | |
| % Clay | % | 100 | | | 70-130 | Pass | | |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | % | 94 | | | 70-130 | Pass | | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | |
| % Moisture | S19-No09892 | CP | % | 4.6 | 5.0 | 9.0 | 30% | Pass |
| Duplicate | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | |
| % Clay | M19-Jn06233 | NCP | % | 8.8 | 8.8 | <1 | 30% | Pass |
| Conductivity (1:5 aqueous extract at 25°C as rec.) | S19-No09895 | CP | uS/cm | 30 | 29 | 4.0 | 30% | Pass |
| pH (1:5 Aqueous extract at 25°C as rec.) | S19-No09895 | CP | pH Units | 6.4 | 6.2 | Pass | 30% | Pass |

Comments
Sample Integrity

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

Authorised By

| | |
|------------------|--------------------------------|
| Ursula Long | Analytical Services Manager |
| Andrew Sullivan | Senior Analyst-Organic (NSW) |
| Gabriele Cordero | Senior Analyst-Inorganic (NSW) |
| Jonathon Angell | Senior Analyst-Inorganic (QLD) |


**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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| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 7, 2019 5:18 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686899 | Due: Nov 11, 2019 |
| Project Name: ADDITIONAL - JORDAN SPRINGS - MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | % Clay | CANCELLED | Conductivity/ (1:5 aqueous extract at 25°C as rec.) | pH (1:5 Aqueous extract at 25°C as rec.) | Polycyclic Aromatic Hydrocarbons | AUS Leaching Procedure | USA Leaching Procedure | TRH (after Silica Gel cleanup) | Moisture Set |
|------------------------------------------------------------|----------------|--------------|---------------|------------------------------|-------------|--------|-----------|-----------------------------------------------------|------------------------------------------|----------------------------------|------------------------|------------------------|--------------------------------|--------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | | X | X | X | X | X | X | X | X |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | X | | | | | | | | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | |
| 1 | BC04 0-0.1 | Nov 04, 2019 | | US Leachate | S19-No09890 | | | | | X | | X | | |
| 2 | BC04 0-0.1 | Nov 04, 2019 | | AUS Leachate - Reagent Water | S19-No09891 | | | | | X | X | | | |
| 3 | BC04 0-0.1 | Nov 04, 2019 | | Soil | S19-No09892 | | | | | | | | X | X |
| 4 | BC04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09893 | | X | | | | | | | |
| 5 | BV6-03 0.0-0.1 | Nov 04, 2019 | | Soil | S19-No09894 | | | | | | | | X | X |
| 6 | BV6-04 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09895 | X | | X | X | | | | | X |
| 7 | BC18 0.3-0.4 | Nov 04, 2019 | | Soil | S19-No09896 | X | | X | X | | | | | X |
| Test Counts | | | | | | 2 | 1 | 2 | 2 | 2 | 1 | 1 | 2 | 4 |

#AU04_Enviro_Sample_NSW

To: Ursula Long
Subject: RE: 2 DAY TAT Additional Analysis FW: Eurofins Test Results - Report 686320 : Site JORDAN SPRINGS - MARYLANDS (57591)

From: George Black [<mailto:GBlack@jbsg.com.au>]
Sent: Thursday, 7 November 2019 5:16 PM
To: Asim Khan
Cc: Dominic Hoban
Subject: RE: Eurofins Test Results - Report 686320 : Site JORDAN SPRINGS - MARYLANDS (57591)

EXTERNAL EMAIL*

Thanks Asim,

May I request the following additional analysis:

- ASLP/TCLP PAHs on sample BC04_0-0.1
- TRH Silica gel clean up on BC04_0-0.1, and BV6-03 0-0.1
- HM, PAHs and TRH/BTEX on sample BC04_0.3-0.4
- EC, pH and Clay% on BC18_0.3-0.4 and BV6-04 0.3-0.4

All on 48 hour TAT

Kind Regards

From: AsimKhan@eurofins.com <AsimKhan@eurofins.com>
Sent: Thursday, November 7, 2019 4:33 PM
To: George Black <GBlack@jbsg.com.au>
Cc: Dominic Hoban <dhoban@jbsg.com.au>
Subject: Eurofins Test Results - Report 686320 : Site JORDAN SPRINGS - MARYLANDS (57591)

Dear George,

Please find attached results for your project in the subject header.

Please note: My office hours are 12 pm to 8 pm.

Kind regards,

Asim Khan
Analytical Services Manager

Eurofins | Environment Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA

Phone : +61 2 9900 8432

Phone : +61 429 051 456

Email : AsimKhan@eurofins.com

Website : www.eurofins.com.au/environmental-testing

[EnviroNote 1079 - PFAS Fingerprinting](#)

[EnviroNote 1080 - Total Organofluorine Analysis & PFAS Investigations](#)

Click [here](#) to report this email as spam.

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* WARNING - EXTERNAL: This email originated from outside of Eurofins. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**
Contact name: George Black
Project name: **ADDITIONAL - JORDAN SPRINGS - MARYLANDS**
Project ID: 57591
COC number: Not provided
Turn around time: 2 Day
Date/Time received: Nov 7, 2019 5:18 PM
Eurofins reference: **686899**

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 : 4.7 degrees Celsius.
 - All samples have been received as described on the above COC.
 - COC has been completed correctly.
 - Attempt to chill was evident.
 - Appropriately preserved sample containers have been used.
 - All samples were received in good condition.
 - Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
 - Appropriate sample containers have been used.
 - Split sample sent to requested external lab.
 - Some samples have been subcontracted.
- N/A Custody Seals intact (if used).

Notes

Sample BC04 0.3-0.4 was not received, analysis cancelled

Contact notes

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

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

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

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



CERTIFICATE OF ANALYSIS 230177

Client Details

| | |
|------------------|--------------------------------------------|
| Client | JBS & G (NSW & WA) Pty Ltd |
| Attention | George Black, D Hoban |
| Address | Level 1, 50 Margaret St, Sydney, NSW, 2000 |

Sample Details

| | |
|---------------------------------------------|------------------------------|
| Your Reference | 57591, Jordan Springs |
| Number of Samples | 2 Soil |
| Date samples received | 06/11/2019 |
| Date completed instructions received | 06/11/2019 |

Analysis Details

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

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

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

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

Report Details

| | |
|----------------------------------|------------|
| Date results requested by | 08/11/2019 |
| Date of Issue | 08/11/2019 |

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Asbestos Approved By

Analysed by Asbestos Approved Identifier: Lucy Zhu

Authorised by Asbestos Approved Signatory: Lucy Zhu

Results Approved By

Fiona Tan, LC Supervisor

Jaimie Loa-Kum-Cheung, Metals Supervisor

Josh Williams, Senior Chemist

Lucy Zhu, Senior Asbestos Analyst

Steven Luong, Organics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

| vTRH(C6-C10)/BTEXN in Soil | | | |
|------------------------------------------------------|-------|---------------|---------------|
| Our Reference | | 230177-1 | 230177-2 |
| Your Reference | UNITS | QC20191104-DH | QC20191104-ML |
| Date Sampled | | 04/11/2019 | 04/11/2019 |
| Type of sample | | Soil | Soil |
| Date extracted | - | 07/11/2019 | 07/11/2019 |
| Date analysed | - | 07/11/2019 | 07/11/2019 |
| TRH C ₆ - C ₉ | mg/kg | <25 | <25 |
| TRH C ₆ - C ₁₀ | mg/kg | <25 | <25 |
| vTPH C ₆ - C ₁₀ less BTEX (F1) | mg/kg | <25 | <25 |
| Benzene | mg/kg | <0.2 | <0.2 |
| Toluene | mg/kg | <0.5 | <0.5 |
| Ethylbenzene | mg/kg | <1 | <1 |
| m+p-xylene | mg/kg | <2 | <2 |
| o-Xylene | mg/kg | <1 | <1 |
| naphthalene | mg/kg | <1 | <1 |
| Total +ve Xylenes | mg/kg | <3 | <3 |
| Surrogate aaa-Trifluorotoluene | % | 97 | 99 |

| svTRH (C10-C40) in Soil | | | |
|--------------------------------------------------------------|-------|---------------|---------------|
| Our Reference | | 230177-1 | 230177-2 |
| Your Reference | UNITS | QC20191104-DH | QC20191104-ML |
| Date Sampled | | 04/11/2019 | 04/11/2019 |
| Type of sample | | Soil | Soil |
| Date extracted | - | 07/11/2019 | 07/11/2019 |
| Date analysed | - | 07/11/2019 | 07/11/2019 |
| TRH C ₁₀ - C ₁₄ | mg/kg | <50 | <50 |
| TRH C ₁₅ - C ₂₈ | mg/kg | <100 | <100 |
| TRH C ₂₉ - C ₃₆ | mg/kg | <100 | <100 |
| TRH >C ₁₀ -C ₁₆ | mg/kg | <50 | <50 |
| TRH >C ₁₀ - C ₁₆ less Naphthalene (F2) | mg/kg | <50 | <50 |
| TRH >C ₁₆ -C ₃₄ | mg/kg | <100 | <100 |
| TRH >C ₃₄ -C ₄₀ | mg/kg | <100 | <100 |
| Total +ve TRH (>C10-C40) | mg/kg | <50 | <50 |
| Surrogate o-Terphenyl | % | 84 | 82 |

| PAHs in Soil | | | |
|-----------------------------------|-------|---------------|---------------|
| Our Reference | | 230177-1 | 230177-2 |
| Your Reference | UNITS | QC20191104-DH | QC20191104-ML |
| Date Sampled | | 04/11/2019 | 04/11/2019 |
| Type of sample | | Soil | Soil |
| Date extracted | - | 07/11/2019 | 07/11/2019 |
| Date analysed | - | 07/11/2019 | 07/11/2019 |
| Naphthalene | mg/kg | <0.1 | <0.1 |
| Acenaphthylene | mg/kg | <0.1 | <0.1 |
| Acenaphthene | mg/kg | <0.1 | <0.1 |
| Fluorene | mg/kg | <0.1 | <0.1 |
| Phenanthrene | mg/kg | <0.1 | <0.1 |
| Anthracene | mg/kg | <0.1 | <0.1 |
| Fluoranthene | mg/kg | <0.1 | <0.1 |
| Pyrene | mg/kg | <0.1 | <0.1 |
| Benzo(a)anthracene | mg/kg | <0.1 | <0.1 |
| Chrysene | mg/kg | <0.1 | <0.1 |
| Benzo(b,j+k)fluoranthene | mg/kg | <0.2 | <0.2 |
| Benzo(a)pyrene | mg/kg | <0.05 | <0.05 |
| Indeno(1,2,3-c,d)pyrene | mg/kg | <0.1 | <0.1 |
| Dibenzo(a,h)anthracene | mg/kg | <0.1 | <0.1 |
| Benzo(g,h,i)perylene | mg/kg | <0.1 | <0.1 |
| Total +ve PAH's | mg/kg | <0.05 | <0.05 |
| Benzo(a)pyrene TEQ calc (zero) | mg/kg | <0.5 | <0.5 |
| Benzo(a)pyrene TEQ calc(half) | mg/kg | <0.5 | <0.5 |
| Benzo(a)pyrene TEQ calc(PQL) | mg/kg | <0.5 | <0.5 |
| Surrogate <i>p</i> -Terphenyl-d14 | % | 100 | 96 |

| Organochlorine Pesticides in soil | | |
|-----------------------------------|-------|---------------|
| Our Reference | | 230177-2 |
| Your Reference | UNITS | QC20191104-ML |
| Date Sampled | | 04/11/2019 |
| Type of sample | | Soil |
| Date extracted | - | 07/11/2019 |
| Date analysed | - | 07/11/2019 |
| 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 | % | 82 |

| PCBs in Soil | | |
|----------------------------|-------|---------------|
| Our Reference | | 230177-2 |
| Your Reference | UNITS | QC20191104-ML |
| Date Sampled | | 04/11/2019 |
| Type of sample | | Soil |
| Date extracted | - | 07/11/2019 |
| Date analysed | - | 07/11/2019 |
| Aroclor 1016 | mg/kg | <0.1 |
| Aroclor 1221 | mg/kg | <0.1 |
| Aroclor 1232 | mg/kg | <0.1 |
| Aroclor 1242 | mg/kg | <0.1 |
| Aroclor 1248 | mg/kg | <0.1 |
| Aroclor 1254 | mg/kg | <0.1 |
| Aroclor 1260 | mg/kg | <0.1 |
| Total +ve PCBs (1016-1260) | mg/kg | <0.1 |
| Surrogate TCMX | % | 82 |

Client Reference: 57591, Jordan Springs

| Acid Extractable metals in soil | | | | |
|---------------------------------|-------|---------------|---------------|---------------------------------|
| Our Reference | | 230177-1 | 230177-2 | 230177-3 |
| Your Reference | UNITS | QC20191104-DH | QC20191104-ML | QC20191104-DH - [TRIPLICATE] |
| Date Sampled | | 04/11/2019 | 04/11/2019 | 04/11/2019 |
| Type of sample | | Soil | Soil | Soil |
| Date prepared | - | 07/11/2019 | 07/11/2019 | 07/11/2019 |
| Date analysed | - | 07/11/2019 | 07/11/2019 | 07/11/2019 |
| Arsenic | mg/kg | <4 | 5 | 5 |
| Cadmium | mg/kg | <0.4 | <0.4 | <0.4 |
| Chromium | mg/kg | 10 | 13 | 13 |
| Copper | mg/kg | 8 | 15 | 8 |
| Lead | mg/kg | 20 | 17 | 23 |
| Mercury | mg/kg | <0.1 | <0.1 | <0.1 |
| Nickel | mg/kg | 5 | 8 | 5 |
| Zinc | mg/kg | 30 | 32 | 30 |

Client Reference: 57591, Jordan Springs

| Moisture | | | |
|----------------|-------|---------------|---------------|
| Our Reference | | 230177-1 | 230177-2 |
| Your Reference | UNITS | QC20191104-DH | QC20191104-ML |
| Date Sampled | | 04/11/2019 | 04/11/2019 |
| Type of sample | | Soil | Soil |
| Date prepared | - | 07/11/2019 | 07/11/2019 |
| Date analysed | - | 08/11/2019 | 08/11/2019 |
| Moisture | % | 24 | 19 |

| Asbestos ID - soils NEPM - ASB-001 | | | |
|---------------------------------------|--------|----------------------------------------------------|----------------------------------------------------|
| Our Reference | | 230177-1 | 230177-2 |
| Your Reference | UNITS | QC20191104-DH | QC20191104-ML |
| Date Sampled | | 04/11/2019 | 04/11/2019 |
| Type of sample | | Soil | Soil |
| Date analysed | - | 07/11/2019 | 07/11/2019 |
| Sample mass tested | g | 476.52 | 529.63 |
| Sample Description | - | Brown clayey soil & rocks | Brown coarse-grained soil & rocks |
| Asbestos ID in soil (AS4964) >0.1g/kg | - | No asbestos detected at reporting limit of 0.1g/kg | No asbestos detected at reporting limit of 0.1g/kg |
| | | Organic fibres detected | Organic fibres detected |
| Trace Analysis | - | No asbestos detected | No asbestos detected |
| Total Asbestos#1 | g/kg | <0.1 | <0.1 |
| Asbestos ID in soil <0.1g/kg* | - | No visible asbestos detected | No visible asbestos detected |
| ACM >7mm Estimation* | g | - | - |
| FA and AF Estimation* | g | - | - |
| ACM >7mm Estimation* | %(w/w) | <0.01 | <0.01 |
| FA and AF Estimation*#2 | %(w/w) | <0.001 | <0.001 |

| PFAS in Soils Short | | | |
|----------------------------------------------------|-------|---------------|---------------|
| Our Reference | | 230177-1 | 230177-2 |
| Your Reference | UNITS | QC20191104-DH | QC20191104-ML |
| Date Sampled | | 04/11/2019 | 04/11/2019 |
| Type of sample | | Soil | Soil |
| Date prepared | - | 07/11/2019 | 07/11/2019 |
| Date analysed | - | 07/11/2019 | 07/11/2019 |
| Perfluorohexanesulfonic acid - PFHxS | µg/kg | <0.1 | <0.1 |
| Perfluorooctanesulfonic acid PFOS | µg/kg | 0.5 | 0.2 |
| Perfluorooctanoic acid PFOA | µg/kg | <0.1 | <0.1 |
| 6:2 FTS | µg/kg | <0.1 | <0.1 |
| 8:2 FTS | µg/kg | <0.1 | <0.1 |
| Surrogate ¹³ C ₈ PFOS | % | 89 | 86 |
| Surrogate ¹³ C ₂ PFOA | % | 103 | 112 |
| Extracted ISTD ¹⁸ O ₂ PFHxS | % | 81 | 80 |
| Extracted ISTD ¹³ C ₄ PFOS | % | 75 | 77 |
| Extracted ISTD ¹³ C ₄ PFOA | % | 74 | 74 |
| Extracted ISTD ¹³ C ₂ 6:2FTS | % | 102 | 105 |
| Extracted ISTD ¹³ C ₂ 8:2FTS | % | 106 | 104 |
| Total Positive PFHxS & PFOS | µg/kg | 0.5 | 0.2 |
| Total Positive PFOS & PFOA | µg/kg | 0.5 | 0.2 |
| Total Positive PFAS | µg/kg | 0.5 | 0.2 |

Client Reference: 57591, Jordan Springs

| 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 | <p>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.</p> <p>Results reported denoted with * are outside our scope of NATA accreditation.</p> <p>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)</p> <p>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.</p> <p>Estimation = Estimated asbestos weight</p> <p>Results reported with "--" is equivalent to no visible asbestos identified using Polarised Light microscopy and Dispersion Staining Techniques.</p> |
| Inorg-008 | Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours. |
| Metals-020 | Determination of various metals by ICP-AES. |
| Metals-021 | Determination of Mercury by Cold Vapour AAS. |
| Org-003 | Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID. F2 = (>C10-C16)-Naphthalene as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater (HSLs Tables 1A (3, 4)). Note Naphthalene is determined from the VOC analysis. |
| Org-003 | <p>Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-FID.</p> <p>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.</p> <p>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).</p> |
| Org-006 | Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. |

Client Reference: 57591, Jordan Springs

| Method ID | Methodology Summary |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Org-006 | Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs. |
| Org-012/017 | Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. |
| Org-012/017 | Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-MS and/or GC-MS/MS. |
| | Note, the Total +ve reported DDD+DDE+DDT PQL is reflective of the lowest individual PQL and is therefore simply a sum of the positive individually report DDD+DDE+DDT. |
| Org-012/017 | Soil samples are extracted with Dichloromethane/Acetone and waters with Dichloromethane and analysed by GC-MS and/or GC-MS/MS. Benzo(a)pyrene TEQ as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater - 2013. For soil results:- 1. 'EQ PQL' values are assuming all contributing PAHs reported as <PQL are actually at the PQL. This is the most conservative approach and can give false positive TEQs given that PAHs that contribute to the TEQ calculation may not be present. 2. 'EQ zero' values are assuming all contributing PAHs reported as <PQL are zero. This is the least conservative approach and is more susceptible to false negative TEQs when PAHs that contribute to the TEQ calculation are present but below PQL. 3. 'EQ half PQL' values are assuming all contributing PAHs reported as <PQL are half the stipulated PQL. Hence a mid-point between the most and least conservative approaches above. Note, the Total +ve PAHs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PAHs" is simply a sum of the positive individual PAHs. |
| Org-014 | Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. |
| Org-016 | Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. |
| Org-016 | Soil samples are extracted with methanol and spiked into water prior to analysing by purge and trap GC-MS. Water samples are analysed directly by purge and trap GC-MS. F1 = (C6-C10)-BTEX as per NEPM B1 Guideline on Investigation Levels for Soil and Groundwater. Note, the Total +ve Xylene PQL is reflective of the lowest individual PQL and is therefore "Total +ve Xylenes" is simply a sum of the positive individual Xylenes. |

Client Reference: 57591, Jordan Springs

| Method ID | Methodology Summary |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Org-035 | <p>Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. Analysis is undertaken with LC-MS/MS.</p> <p>PFAS results include the sum of branched and linear isomers where applicable.</p> <p>Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components.</p> <p>Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.</p> |

Client Reference: 57591, Jordan Springs

| QUALITY CONTROL: vTRH(C6-C10)/BTEXN in Soil | | | | Duplicate | | | Spike Recovery % | | | |
|---------------------------------------------|-------|-----|---------|------------|---|------------|------------------|-----|------------|------------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-5 | 230177-2 |
| Date extracted | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Date analysed | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| TRH C ₆ - C ₉ | mg/kg | 25 | Org-016 | <25 | 1 | <25 | <25 | 0 | 100 | 89 |
| TRH C ₆ - C ₁₀ | mg/kg | 25 | Org-016 | <25 | 1 | <25 | <25 | 0 | 100 | 89 |
| Benzene | mg/kg | 0.2 | Org-016 | <0.2 | 1 | <0.2 | <0.2 | 0 | 91 | 79 |
| Toluene | mg/kg | 0.5 | Org-016 | <0.5 | 1 | <0.5 | <0.5 | 0 | 105 | 95 |
| Ethylbenzene | mg/kg | 1 | Org-016 | <1 | 1 | <1 | <1 | 0 | 104 | 92 |
| m+p-xylene | mg/kg | 2 | Org-016 | <2 | 1 | <2 | <2 | 0 | 101 | 90 |
| o-Xylene | mg/kg | 1 | Org-016 | <1 | 1 | <1 | <1 | 0 | 100 | 110 |
| naphthalene | mg/kg | 1 | Org-014 | <1 | 1 | <1 | <1 | 0 | [NT] | [NT] |
| Surrogate aaa-Trifluorotoluene | % | | Org-016 | 109 | 1 | 97 | 94 | 3 | 112 | 120 |

Client Reference: 57591, Jordan Springs

| QUALITY CONTROL: svTRH (C10-C40) in Soil | | | | Duplicate | | | Spike Recovery % | | | |
|------------------------------------------|-------|-----|---------|------------|---|------------|------------------|-----|------------|------------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-5 | 230177-2 |
| Date extracted | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Date analysed | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| TRH C ₁₀ - C ₁₄ | mg/kg | 50 | Org-003 | <50 | 1 | <50 | <50 | 0 | 95 | 81 |
| TRH C ₁₅ - C ₂₈ | mg/kg | 100 | Org-003 | <100 | 1 | <100 | <100 | 0 | 99 | 85 |
| TRH C ₂₉ - C ₃₆ | mg/kg | 100 | Org-003 | <100 | 1 | <100 | <100 | 0 | 106 | 130 |
| TRH >C ₁₀ -C ₁₆ | mg/kg | 50 | Org-003 | <50 | 1 | <50 | <50 | 0 | 95 | 81 |
| TRH >C ₁₆ -C ₃₄ | mg/kg | 100 | Org-003 | <100 | 1 | <100 | <100 | 0 | 99 | 85 |
| TRH >C ₃₄ -C ₄₀ | mg/kg | 100 | Org-003 | <100 | 1 | <100 | <100 | 0 | 106 | 130 |
| Surrogate o-Terphenyl | % | | Org-003 | 82 | 1 | 84 | 86 | 2 | 97 | 92 |

Client Reference: 57591, Jordan Springs

| QUALITY CONTROL: PAHs in Soil | | | | Duplicate | | | | Spike Recovery % | | |
|-------------------------------|-------|------|-------------|------------|---|------------|------------|------------------|------------|------------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-5 | 230177-2 |
| Date extracted | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Date analysed | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Naphthalene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | 124 | 108 |
| Acenaphthylene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | [NT] | [NT] |
| Acenaphthene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | [NT] | [NT] |
| Fluorene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | 112 | 96 |
| Phenanthrene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | 112 | 106 |
| Anthracene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | [NT] | [NT] |
| Fluoranthene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | 110 | 102 |
| Pyrene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | 112 | 106 |
| Benzo(a)anthracene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | [NT] | [NT] |
| Chrysene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | 116 | 102 |
| Benzo(b,j+k)fluoranthene | mg/kg | 0.2 | Org-012/017 | <0.2 | 1 | <0.2 | <0.2 | 0 | [NT] | [NT] |
| Benzo(a)pyrene | mg/kg | 0.05 | Org-012/017 | <0.05 | 1 | <0.05 | <0.05 | 0 | 112 | 98 |
| Indeno(1,2,3-c,d)pyrene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | [NT] | [NT] |
| Dibenzo(a,h)anthracene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | [NT] | [NT] |
| Benzo(g,h,i)perylene | mg/kg | 0.1 | Org-012/017 | <0.1 | 1 | <0.1 | <0.1 | 0 | [NT] | [NT] |
| Surrogate p-Terphenyl-d14 | % | | Org-012/017 | 95 | 1 | 100 | 98 | 2 | 110 | 103 |

Client Reference: 57591, Jordan Springs

| QUALITY CONTROL: Organochlorine Pesticides in soil | | | | | Duplicate | | | Spike Recovery % | | |
|----------------------------------------------------|-------|-----|-------------|------------|-----------|------|------|------------------|------------|------------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-5 | 230177-2 |
| Date extracted | - | | | 07/11/2019 | [NT] | [NT] | [NT] | [NT] | 07/11/2019 | 07/11/2019 |
| Date analysed | - | | | 07/11/2019 | [NT] | [NT] | [NT] | [NT] | 07/11/2019 | 07/11/2019 |
| alpha-BHC | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 122 | 106 |
| HCB | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| beta-BHC | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 104 | 94 |
| gamma-BHC | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Heptachlor | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 100 | 94 |
| delta-BHC | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aldrin | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 110 | 102 |
| Heptachlor Epoxide | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 102 | 98 |
| gamma-Chlordane | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| alpha-chlordane | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Endosulfan I | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| pp-DDE | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 108 | 102 |
| Dieldrin | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 118 | 96 |
| Endrin | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 104 | 100 |
| Endosulfan II | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| pp-DDD | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 106 | 100 |
| Endrin Aldehyde | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| pp-DDT | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Endosulfan Sulphate | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | 110 | 100 |
| Methoxychlor | mg/kg | 0.1 | Org-012/017 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Surrogate TCMX | % | | Org-012/017 | 79 | [NT] | [NT] | [NT] | [NT] | 110 | 95 |

Client Reference: 57591, Jordan Springs

| QUALITY CONTROL: PCBs in Soil | | | | | Duplicate | | | Spike Recovery % | | |
|-------------------------------|-------|-----|---------|------------|-----------|------|------|------------------|------------|------------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-5 | 230177-2 |
| Date extracted | - | | | 07/11/2019 | [NT] | [NT] | [NT] | [NT] | 07/11/2019 | 07/11/2019 |
| Date analysed | - | | | 07/11/2019 | [NT] | [NT] | [NT] | [NT] | 07/11/2019 | 07/11/2019 |
| Aroclor 1016 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1221 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1232 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1242 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1248 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1254 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | 83 | 71 |
| Aroclor 1260 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Surrogate TCMX | % | | Org-006 | 79 | [NT] | [NT] | [NT] | [NT] | 110 | 95 |

Client Reference: 57591, Jordan Springs

| QUALITY CONTROL: Acid Extractable metals in soil | | | | Duplicate | | | | Spike Recovery % | | |
|--------------------------------------------------|-------|-----|------------|------------|---|------------|------------|------------------|------------|------------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-6 | 230177-2 |
| Date prepared | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Date analysed | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Arsenic | mg/kg | 4 | Metals-020 | <4 | 1 | <4 | 7 | 55 | 107 | 101 |
| Cadmium | mg/kg | 0.4 | Metals-020 | <0.4 | 1 | <0.4 | <0.4 | 0 | 104 | 98 |
| Chromium | mg/kg | 1 | Metals-020 | <1 | 1 | 10 | 15 | 40 | 113 | 102 |
| Copper | mg/kg | 1 | Metals-020 | <1 | 1 | 8 | 8 | 0 | 105 | 104 |
| Lead | mg/kg | 1 | Metals-020 | <1 | 1 | 20 | 26 | 26 | 111 | 96 |
| Mercury | mg/kg | 0.1 | Metals-021 | <0.1 | 1 | <0.1 | <0.1 | 0 | 88 | 92 |
| Nickel | mg/kg | 1 | Metals-020 | <1 | 1 | 5 | 5 | 0 | 103 | 100 |
| Zinc | mg/kg | 1 | Metals-020 | <1 | 1 | 30 | 32 | 6 | 107 | 90 |

Client Reference: 57591, Jordan Springs

| QUALITY CONTROL: PFAS in Soils Short | | | | | Duplicate | | | Spike Recovery % | | |
|----------------------------------------------------|-------|-----|---------|------------|-----------|------------|------------|------------------|------------|------------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-5 | 230177-2 |
| Date prepared | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Date analysed | - | | | 07/11/2019 | 1 | 07/11/2019 | 07/11/2019 | | 07/11/2019 | 07/11/2019 |
| Perfluorohexanesulfonic acid - PFHxS | µg/kg | 0.1 | Org-035 | <0.1 | 1 | <0.1 | <0.1 | 0 | 94 | 98 |
| Perfluorooctanesulfonic acid PFOS | µg/kg | 0.1 | Org-035 | <0.1 | 1 | 0.5 | 0.5 | 0 | 111 | 105 |
| Perfluorooctanoic acid PFOA | µg/kg | 0.1 | Org-035 | <0.1 | 1 | <0.1 | <0.1 | 0 | 95 | 97 |
| 6:2 FTS | µg/kg | 0.1 | Org-035 | <0.1 | 1 | <0.1 | <0.1 | 0 | 102 | 105 |
| 8:2 FTS | µg/kg | 0.1 | Org-035 | <0.1 | 1 | <0.1 | <0.1 | 0 | 96 | 90 |
| Surrogate ¹³ C ₈ PFOS | % | | Org-035 | 91 | 1 | 89 | 89 | 0 | 94 | 90 |
| Surrogate ¹³ C ₂ PFOA | % | | Org-035 | 92 | 1 | 103 | 99 | 4 | 103 | 98 |
| Extracted ISTD ¹⁸ O ₂ PFHxS | % | | Org-035 | 90 | 1 | 81 | 81 | 0 | 86 | 78 |
| Extracted ISTD ¹³ C ₄ PFOS | % | | Org-035 | 85 | 1 | 75 | 76 | 1 | 81 | 78 |
| Extracted ISTD ¹³ C ₄ PFOA | % | | Org-035 | 88 | 1 | 74 | 75 | 1 | 80 | 73 |
| Extracted ISTD ¹³ C ₂ 6:2FTS | % | | Org-035 | 92 | 1 | 102 | 103 | 1 | 86 | 97 |
| Extracted ISTD ¹³ C ₂ 8:2FTS | % | | Org-035 | 81 | 1 | 106 | 110 | 4 | 84 | 117 |

Result Definitions

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

Quality Control Definitions

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Blank | This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples. |
| Duplicate | This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable. |
| Matrix Spike | A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist. |
| LCS (Laboratory Control Sample) | This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample. |
| Surrogate Spike | Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples. |
| Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011. | |

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (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 same. 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.

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.

Acid Extractable Metals in Soil: The laboratory RPD acceptance criteria has been exceeded for 230177-1 for Cr. Therefore a triplicate result has been issued as laboratory sample number 230177-3.



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

SAMPLE RECEIPT ADVICE

Client Details

| | |
|------------------|----------------------------|
| Client | JBS & G (NSW & WA) Pty Ltd |
| Attention | George Black, D Hoban |

Sample Login Details

| | |
|---------------------------------------------|-----------------------|
| Your reference | 57591, Jordan Springs |
| Envirolab Reference | 230177 |
| Date Sample Received | 06/11/2019 |
| Date Instructions Received | 06/11/2019 |
| Date Results Expected to be Reported | 08/11/2019 |

Sample Condition

| | |
|---------------------------------------------------------------|----------|
| Samples received in appropriate condition for analysis | Yes |
| No. of Samples Provided | 2 Soil |
| Turnaround Time Requested | 2 days |
| Temperature on Receipt (°C) | 19.7 |
| Cooling Method | Ice Pack |
| Sampling Date Provided | YES |

Comments

Nil

Please direct any queries to:

Aileen Hie

Phone: 02 9910 6200

Fax: 02 9910 6201

Email: ahie@envirolab.com.au

Jacinta Hurst

Phone: 02 9910 6200

Fax: 02 9910 6201

Email: jhurst@envirolab.com.au

Analysis Underway, details on the following page:



| Sample ID | VTRH(C6-C10)/BTEXN in Soil | svTRH (C10-C40) in Soil | PAHs in Soil | Organochlorine Pesticides in soil | PCBs in Soil | Acid Extractable metals in soil | Asbestos ID - soils NEPM - ASB-001 | PFAS in Soils Short |
|---------------|----------------------------|-------------------------|--------------|-----------------------------------|--------------|---------------------------------|------------------------------------|---------------------|
| QC20191104-DH | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ |
| QC20191104-ML | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

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.

017960

CHAIN OF CUSTODY



| | |
|----------------------------------------------------------------------------------------------------|-----------------------|
| PROJECT NO.: 57591 | LABORATORY BATCH NO.: |
| PROJECT NAME: JORDAN SPRINGS | SAMPLERS: DH ML |
| DATE NEEDED BY: 48 hr TAT | QC LEVEL: NEPM (2013) |
| PHONE: Sydney: 02 8245 0300 Perth: 08 9488 0100 Brisbane: 07 3112 2688 | |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) glask@jbsg.com.au; (3) dhoonan@jbsg.com.au | |

| SAMPLE ID | MATRIX | DATE | TIME | TYPE & PRESERVATIVE | pH | HEAVY METALS | PAHs | TOH/BTEX | OCs/PCBs | ASBESTOS | PFAS | TYPE OF ASBESTOS ANALYSIS | | NOTES: |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------|------|---------------------|----|--------------|------|----------|----------|----------|------|---------------------------|---------|--------|
| | | | | | | | | | | | | IDENTIFICATION | NEPM/NA | |
| QC 20191104 - DH (1) | Soil | 4/11/2019 | / | PEAS + JAR - 82g | / | X | X | X | | X | X | | | |
| QC 20191104 - ML (2) | L | ↓ | / | ↓ | | X | X | X | X | X | X | | | |
| <p>PLEASE SEND TO ENVIROLAB</p> <div style="display: flex; justify-content: center; align-items: center;"> <div> <p>Envirolab Services 12 Ashby St Chatswood NSW 2067 Ph: (02) 9910 6200</p> <p>Job No: 230177</p> <p>Date Received: 06/11/2019</p> <p>Time Received: 1305</p> <p>Received by: KG</p> <p>Temp: Cool/Ambient</p> <p>Coating: Ice/Inspeck</p> <p>Security: Intact/Broken/None</p> </div> </div> | | | | | | | | | | | | | | |

| RELINQUISHED BY: | METHOD OF SHIPMENT: | RECEIVED BY: | FOR RECEIVING LAB USE ONLY: |
|---------------------------------|------------------------|--------------------------------|--------------------------------------------------------|
| NAME: G. Blatch DATE: 4/11/2019 | CONSIGNMENT NOTE NO. / | NAME: G. Blatch DATE: 05/11/19 | COOLER SEAL - Yes..... No..... Intact..... Broken..... |
| OF: JBS&G | TRANSPORT CO. / | OF: G. Blatch DATE: 1:00 PM | COOLER TEMP deg C 4.7°C |
| NAME: / DATE: / | CONSIGNMENT NOTE NO. / | NAME: K. Coire DATE: 06/11/19 | COOLER SEAL - Yes..... No..... Intact..... Broken..... |
| OF: / | TRANSPORT CO. / | OF: ELS Syd DATE: / | COOLER TEMP deg C 19.7°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

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



NATA Accredited
 Accreditation Number 1261
 Site Number 18217

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

Attention: **George Black**

Report **686884-W**
 Project name **MARYLANDS**
 Project ID **57591**
 Received Date **Nov 07, 2019**

| Client Sample ID | | | SW-01 | SW-02 | BLANK-01 |
|---------------------------------------------|--------|----------|--------------|--------------|--------------|
| Sample Matrix | | | Water | Water | Water |
| Eurofins Sample No. | | | S19-No09771 | S19-No09772 | S19-No09773 |
| Date Sampled | | | Nov 07, 2019 | Nov 07, 2019 | Nov 07, 2019 |
| Test/Reference | LOR | Unit | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.04 | - | - |
| Chloride | 1 | mg/L | 210 | - | - |
| Conductivity (at 25°C) | 10 | uS/cm | 1100 | - | - |
| Nitrate & Nitrite (as N) | 0.05 | mg/L | 0.35 | - | - |
| Nitrate (as N) | 0.02 | mg/L | 0.33 | - | - |
| Nitrite (as N) | 0.02 | mg/L | 0.02 | - | - |
| pH (at 25°C) | 0.1 | pH Units | 8.0 | - | - |
| Phosphate total (as P) | 0.01 | mg/L | 0.04 | - | - |
| Phosphorus reactive (as P) | 0.01 | mg/L | 0.02 | - | - |
| Sulphate (as SO4) | 5 | mg/L | 95 | - | - |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 620 | - | - |
| Total Kjeldahl Nitrogen (as N) | 0.2 | mg/L | 0.4 | - | - |
| Total Nitrogen (as N)* | 0.2 | mg/L | 0.75 | - | - |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 2.5 | - | - |
| Alkalinity (speciated) | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 100 | - | - |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | - | - |
| Alkali Metals | | | | | |
| Calcium | 0.5 | mg/L | 39 | - | - |
| Magnesium | 0.5 | mg/L | 9.2 | - | - |
| Potassium | 0.5 | mg/L | 12 | - | - |
| Sodium | 0.5 | mg/L | 160 | - | - |
| Heavy Metals | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.001 | 0.001 | - |
| Barium (filtered) | 0.02 | mg/L | 0.04 | 0.04 | - |
| Boron (filtered) | 0.05 | mg/L | 0.05 | < 0.05 | - |
| Cadmium (filtered) | 0.0002 | mg/L | < 0.0002 | < 0.0002 | - |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | - |
| Cobalt (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | - |
| Copper (filtered) | 0.001 | mg/L | 0.002 | 0.002 | - |
| Iron (filtered) | 0.05 | mg/L | < 0.05 | < 0.05 | - |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | - |
| Manganese (filtered) | 0.005 | mg/L | 0.045 | 0.051 | - |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | - |
| Nickel (filtered) | 0.001 | mg/L | 0.001 | 0.001 | - |
| Zinc (filtered) | 0.005 | mg/L | < 0.005 | < 0.005 | - |

| Client Sample ID | | | SW-01 Water S19-No09771 Nov 07, 2019 | SW-02 Water S19-No09772 Nov 07, 2019 | BLANK-01 Water S19-No09773 Nov 07, 2019 |
|------------------------------------------------------------------------------|------|------|-----------------------------------------------|-----------------------------------------------|--------------------------------------------------|
| Sample Matrix | | | | | |
| Eurofins Sample No. | | | | | |
| Date Sampled | | | | | |
| Test/Reference | LOR | Unit | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 0.01 | ug/L | 0.02 | 0.01 | < 0.01 |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 0.01 | ug/L | 0.03 | 0.03 | < 0.01 |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorooctanoic acid (PFOA) ^{N11} | 0.01 | ug/L | 0.01 | 0.01 | < 0.01 |
| Perfluorononanoic acid (PFNA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorodecanoic acid (PFDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| 13C4-PFBA (surr.) | 1 | % | 31 | 29 | 34 |
| 13C5-PFPeA (surr.) | 1 | % | 28 | 30 | 27 |
| 13C5-PFHxA (surr.) | 1 | % | 32 | 32 | 31 |
| 13C4-PFHpA (surr.) | 1 | % | 40 | 38 | 38 |
| 13C8-PFOA (surr.) | 1 | % | 39 | 39 | 35 |
| 13C5-PFNA (surr.) | 1 | % | 38 | 37 | 36 |
| 13C6-PFDA (surr.) | 1 | % | 34 | 32 | 38 |
| 13C2-PFUnDA (surr.) | 1 | % | 30 | 26 | 32 |
| 13C2-PFDoDA (surr.) | 1 | % | 25 | 22 | 27 |
| 13C2-PFTeDA (surr.) | 1 | % | 48 | 41 | 41 |
| Perfluoroalkyl sulfonamido substances | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| 13C8-FOSA (surr.) | 1 | % | 24 | 22 | 17 |
| D3-N-MeFOSA (surr.) | 1 | % | 27 | 21 | 15 |
| D5-N-EtFOSA (surr.) | 1 | % | 19 | 17 | 13 |
| D7-N-MeFOSE (surr.) | 1 | % | 33 | 23 | 23 |
| D9-N-EtFOSE (surr.) | 1 | % | 29 | 23 | 23 |
| D5-N-EtFOSAA (surr.) | 1 | % | 15 | 11 | 13 |
| D3-N-MeFOSAA (surr.) | 1 | % | 18 | 14 | 18 |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 0.01 | ug/L | ^{N090} 0.03 | ^{N090} 0.03 | < 0.01 |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 0.01 | ug/L | ^{N090} 0.02 | ^{N090} 0.02 | < 0.01 |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| 13C3-PFBS (surr.) | 1 | % | 30 | 30 | 30 |

| Client Sample ID | | | SW-01 | SW-02 | BLANK-01 |
|-----------------------------------------------------------------------|------|------|--------------|--------------|--------------|
| Sample Matrix | | | Water | Water | Water |
| Eurofins Sample No. | | | S19-No09771 | S19-No09772 | S19-No09773 |
| Date Sampled | | | Nov 07, 2019 | Nov 07, 2019 | Nov 07, 2019 |
| Test/Reference | LOR | Unit | | | |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | |
| 18O2-PFHxS (surr.) | 1 | % | 35 | 35 | 31 |
| 13C8-PFOS (surr.) | 1 | % | 31 | 31 | 31 |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 |
| 13C2-4:2 FTSA (surr.) | 1 | % | 30 | 30 | 29 |
| 13C2-6:2 FTSA (surr.) | 1 | % | 40 | 33 | 29 |
| 13C2-8:2 FTSA (surr.) | 1 | % | 15 | 15 | 11 |
| PFASs Summations | | | | | |
| Sum (PFHxS + PFOS)* | 0.01 | ug/L | 0.05 | 0.05 | < 0.01 |
| Sum of US EPA PFAS (PFOS + PFOA)* | 0.01 | ug/L | 0.03 | 0.03 | < 0.01 |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 0.01 | ug/L | 0.06 | 0.06 | < 0.01 |
| Sum of WA DWER PFAS (n=10)* | 0.05 | ug/L | 0.11 | 0.1 | < 0.05 |
| Sum of PFASs (n=30)* | 0.1 | ug/L | 0.11 | 0.1 | < 0.1 |

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 |
|-------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|
| Eurofins mgt Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P | | | |
| Ammonia (as N) - Method: LTM-INO-4200 Ammonia by Discrete Analyser | Melbourne | Nov 08, 2019 | 28 Days |
| Nitrate & Nitrite (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 08, 2019 | 28 Days |
| Nitrate (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 08, 2019 | 28 Days |
| Nitrite (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 08, 2019 | 2 Days |
| Phosphate total (as P) - Method: APHA 4500-P E. Phosphorus | Melbourne | Nov 08, 2019 | 28 Days |
| Phosphorus reactive (as P) - Method: APHA 4500-P | Melbourne | Nov 08, 2019 | 2 Days |
| Total Kjeldahl Nitrogen (as N) - Method: LTM-INO-4310 TKN in Waters & Soils by FIA | Melbourne | Nov 08, 2019 | 7 Days |
| Major Anions | | | |
| Chloride - Method: LTM-INO-4090 Chloride by Discrete Analyser | Melbourne | Nov 08, 2019 | 28 Days |
| Sulphate (as SO4) - Method: LTM-INO-4110 Sulfate by Discrete Analyser | Melbourne | Nov 08, 2019 | 28 Days |
| Alkalinity (speciated) - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | Melbourne | Nov 08, 2019 | 14 Days |
| Conductivity (at 25°C) - Method: LTM-INO-4030 Conductivity | Melbourne | Nov 08, 2019 | 28 Days |
| pH (at 25°C) - Method: LTM-GEN-7090 pH in water by ISE | Melbourne | Nov 08, 2019 | 0 Hours |
| Total Dissolved Solids Dried at 180°C ± 2°C - Method: LTM-INO-4170 Total Dissolved Solids in Water | Melbourne | Nov 08, 2019 | 7 Days |
| Total Suspended Solids Dried at 103–105°C - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | Melbourne | Nov 11, 2019 | 7 Days |
| Metals M8 filtered | Sydney | Nov 07, 2019 | 28 Days |
| - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | | | |
| Heavy Metals (filtered) - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Nov 08, 2019 | 180 Days |
| Major Cations | | | |
| Alkali Metals - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES | Melbourne | Nov 08, 2019 | 180 Days |
| Per- and Polyfluoroalkyl Substances (PFASs) | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 08, 2019 | 14 Days |
| Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 08, 2019 | 14 Days |
| Perfluoroalkyl sulfonic acids (PFSA)s - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 08, 2019 | 14 Days |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 08, 2019 | 14 Days |

| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 7, 2019 5:10 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686884 | Due: Nov 11, 2019 |
| Project Name: MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |
| Eurofins Analytical Services Manager : Ursula Long | | |

| Sample Detail | | | | | | Barium (filtered) | Boron (filtered) | Cobalt (filtered) | Conductivity (at 25°C) | Iron (filtered) | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 filtered | Major Cations Sulfate, Nitrate, Chloride, Ammonium | Major Cations Sulfate, Nitrate, Chloride, Ammonium | Per- and Polyfluoroalkyl Substances (PFASs) | |
|------------------------------------------------------------|-----------|--------------|---------------|--------|-------------|-------------------|------------------|-------------------|------------------------|-----------------|----------------------|--------------|---------------------------------------------|-------------------------------------------|--------------------|-------------------------------------------------------|-------------------------------------------------------|---------------------------------------------|---|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | X | | | X | X | X | X | X | X | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | | X | X | | | | X | | | | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | | | X | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | | | | | | |
| 1 | SW-01 | Nov 07, 2019 | | Water | S19-No09771 | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 2 | SW-02 | Nov 07, 2019 | | Water | S19-No09772 | X | X | X | | X | X | | | | X | | | X | |
| 3 | BLANK-01 | Nov 07, 2019 | | Water | S19-No09773 | | | | | | | | | | | | | X | |
| Test Counts | | | | | | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 |

Eurofins Environment Testing Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia
 Phone: +61 2 9900 8400
 Date Reported: Nov 11, 2019

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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 | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Chloride | mg/L | < 1 | | | 1 | Pass | |
| Conductivity (at 25°C) | uS/cm | < 10 | | | 10 | Pass | |
| Nitrate & Nitrite (as N) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Nitrite (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Phosphate total (as P) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Phosphorus reactive (as P) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Sulphate (as SO ₄) | mg/L | < 5 | | | 5 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | mg/L | < 10 | | | 10 | Pass | |
| Total Kjeldahl Nitrogen (as N) | mg/L | < 0.2 | | | 0.2 | Pass | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 1 | | | 1 | Pass | |
| Method Blank | | | | | | | |
| Alkali Metals | | | | | | | |
| Calcium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Magnesium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Potassium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Sodium | mg/L | < 0.5 | | | 0.5 | Pass | |
| Method Blank | | | | | | | |
| Heavy Metals | | | | | | | |
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Barium (filtered) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Boron (filtered) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Cobalt (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Iron (filtered) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | 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 | |
| Method Blank | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | | |
| Perfluorobutanoic acid (PFBA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| Perfluoropentanoic acid (PFPeA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorohexanoic acid (PFHxA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorooctanoic acid (PFOA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorononanoic acid (PFNA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorodecanoic acid (PFDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorotridecanoic acid (PFTTrDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorotetradecanoic acid (PFTTeDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Method Blank | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | | | |
| Perfluorooctane sulfonamide (FOSA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | ug/L | < 0.05 | | | 0.05 | Pass | |

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|-------|----------|-------------------|-------------|-----------------|
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | ug/L | < 0.05 | 0.05 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | ug/L | < 0.05 | 0.05 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | ug/L | < 0.05 | 0.05 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | ug/L | < 0.05 | 0.05 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | ug/L | < 0.05 | 0.05 | Pass | |
| Method Blank | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA's) | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluorononanesulfonic acid (PFNS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluoropropanesulfonic acid (PFPrS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluoropentanesulfonic acid (PFPeS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluorohexanesulfonic acid (PFHxS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluoroheptanesulfonic acid (PFHpS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluorooctanesulfonic acid (PFOS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluorodecanesulfonic acid (PFDS) | ug/L | < 0.01 | 0.01 | Pass | |
| Method Blank | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA's) | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | ug/L | < 0.01 | 0.01 | Pass | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | ug/L | < 0.05 | 0.05 | Pass | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | ug/L | < 0.01 | 0.01 | Pass | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | ug/L | < 0.01 | 0.01 | Pass | |
| LCS - % Recovery | | | | | |
| Ammonia (as N) | % | 103 | 70-130 | Pass | |
| Chloride | % | 105 | 70-130 | Pass | |
| Conductivity (at 25°C) | % | 98 | 70-130 | Pass | |
| Nitrate & Nitrite (as N) | % | 104 | 70-130 | Pass | |
| Nitrate (as N) | % | 104 | 70-130 | Pass | |
| Nitrite (as N) | % | 98 | 70-130 | Pass | |
| Phosphate total (as P) | % | 91 | 70-130 | Pass | |
| Phosphorus reactive (as P) | % | 96 | 70-130 | Pass | |
| Sulphate (as SO ₄) | % | 103 | 70-130 | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | % | 94 | 70-130 | Pass | |
| Total Kjeldahl Nitrogen (as N) | % | 82 | 70-130 | Pass | |
| Total Suspended Solids Dried at 103–105°C | % | 103 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Alkalinity (speciated) | | | | | |
| Carbonate Alkalinity (as CaCO ₃) | % | 96 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Alkali Metals | | | | | |
| Calcium | % | 102 | 70-130 | Pass | |
| Magnesium | % | 98 | 70-130 | Pass | |
| Potassium | % | 99 | 70-130 | Pass | |
| Sodium | % | 111 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Heavy Metals | | | | | |
| Arsenic (filtered) | % | 92 | 70-130 | Pass | |
| Barium (filtered) | % | 93 | 70-130 | Pass | |
| Boron (filtered) | % | 95 | 70-130 | Pass | |
| Cadmium (filtered) | % | 93 | 70-130 | Pass | |
| Chromium (filtered) | % | 96 | 70-130 | Pass | |
| Cobalt (filtered) | % | 93 | 70-130 | Pass | |
| Copper (filtered) | % | 96 | 70-130 | Pass | |
| Iron (filtered) | % | 94 | 70-130 | Pass | |
| Lead (filtered) | % | 95 | 70-130 | Pass | |

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code | | |
|---------------------------------------------------------------|---------------|-----------|-------------------|-------------|-------------------|-------------|-----------------|
| Manganese (filtered) | % | 96 | 70-130 | Pass | | | |
| Mercury (filtered) | % | 89 | 70-130 | Pass | | | |
| Nickel (filtered) | % | 96 | 70-130 | Pass | | | |
| Zinc (filtered) | % | 95 | 70-130 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | | |
| Perfluorobutanoic acid (PFBA) | % | 117 | 50-150 | Pass | | | |
| Perfluoropentanoic acid (PFPeA) | % | 100 | 50-150 | Pass | | | |
| Perfluorohexanoic acid (PFHxA) | % | 114 | 50-150 | Pass | | | |
| Perfluoroheptanoic acid (PFHpA) | % | 115 | 50-150 | Pass | | | |
| Perfluorooctanoic acid (PFOA) | % | 107 | 50-150 | Pass | | | |
| Perfluorononanoic acid (PFNA) | % | 97 | 50-150 | Pass | | | |
| Perfluorodecanoic acid (PFDA) | % | 106 | 50-150 | Pass | | | |
| Perfluoroundecanoic acid (PFUnDA) | % | 95 | 50-150 | Pass | | | |
| Perfluorododecanoic acid (PFDoDA) | % | 105 | 50-150 | Pass | | | |
| Perfluorotridecanoic acid (PFTrDA) | % | 94 | 50-150 | Pass | | | |
| Perfluorotetradecanoic acid (PFTeDA) | % | 104 | 50-150 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | | | |
| Perfluorooctane sulfonamide (FOSA) | % | 107 | 50-150 | Pass | | | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | % | 103 | 50-150 | Pass | | | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | % | 99 | 50-150 | Pass | | | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | % | 117 | 50-150 | Pass | | | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | % | 111 | 50-150 | Pass | | | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | % | 116 | 50-150 | Pass | | | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | % | 116 | 50-150 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | % | 92 | 50-150 | Pass | | | |
| Perfluorononanesulfonic acid (PFNS) | % | 90 | 50-150 | Pass | | | |
| Perfluoropropanesulfonic acid (PFPrS) | % | 91 | 50-150 | Pass | | | |
| Perfluoropentanesulfonic acid (PFPeS) | % | 93 | 50-150 | Pass | | | |
| Perfluorohexanesulfonic acid (PFHxS) | % | 98 | 50-150 | Pass | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | % | 79 | 50-150 | Pass | | | |
| Perfluorooctanesulfonic acid (PFOS) | % | 73 | 50-150 | Pass | | | |
| Perfluorodecanesulfonic acid (PFDS) | % | 78 | 50-150 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | % | 113 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | % | 105 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | % | 102 | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | % | 92 | 50-150 | Pass | | | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
| Spike - % Recovery | | | | | | | |
| | | | | Result 1 | | | |
| Ammonia (as N) | M19-Oc49751 | NCP | % | 100 | 70-130 | Pass | |
| Chloride | M19-No08073 | NCP | % | 105 | 70-130 | Pass | |
| Nitrate & Nitrite (as N) | M19-Oc49751 | NCP | % | 101 | 70-130 | Pass | |
| Nitrate (as N) | M19-Oc49751 | NCP | % | 100 | 70-130 | Pass | |
| Nitrite (as N) | M19-Oc49751 | NCP | % | 103 | 70-130 | Pass | |
| Phosphate total (as P) | M19-No10967 | NCP | % | 88 | 70-130 | Pass | |
| Sulphate (as SO ₄) | M19-No06538 | NCP | % | 99 | 70-130 | Pass | |
| Total Kjeldahl Nitrogen (as N) | B19-No00763 | NCP | % | 88 | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|---------------|-----------|-------|----------|-------------------|-------------|-----------------|
| Spike - % Recovery | | | | | | | |
| Alkali Metals | | | | Result 1 | | | |
| Calcium | M19-No06440 | NCP | % | 119 | 70-130 | Pass | |
| Magnesium | M19-No06440 | NCP | % | 115 | 70-130 | Pass | |
| Potassium | M19-No06440 | NCP | % | 108 | 70-130 | Pass | |
| Sodium | M19-No06440 | NCP | % | 118 | 70-130 | Pass | |
| Spike - % Recovery | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | | | |
| Perfluorobutanoic acid (PFBA) | B19-No08884 | NCP | % | 103 | 50-150 | Pass | |
| Perfluoropentanoic acid (PFPeA) | B19-No08884 | NCP | % | 104 | 50-150 | Pass | |
| Perfluorohexanoic acid (PFHxA) | B19-No08884 | NCP | % | 110 | 50-150 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | B19-No08884 | NCP | % | 90 | 50-150 | Pass | |
| Perfluorooctanoic acid (PFOA) | B19-No08884 | NCP | % | 110 | 50-150 | Pass | |
| Perfluorononanoic acid (PFNA) | B19-No08884 | NCP | % | 96 | 50-150 | Pass | |
| Perfluorodecanoic acid (PFDA) | B19-No08884 | NCP | % | 105 | 50-150 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | B19-No08884 | NCP | % | 98 | 50-150 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | B19-No08884 | NCP | % | 101 | 50-150 | Pass | |
| Perfluorotridecanoic acid (PFTrDA) | B19-No08884 | NCP | % | 78 | 50-150 | Pass | |
| Perfluorotetradecanoic acid (PFTeDA) | B19-No08884 | NCP | % | 109 | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | | | |
| Perfluorooctane sulfonamide (FOSA) | B19-No08884 | NCP | % | 110 | 50-150 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | B19-No08884 | NCP | % | 117 | 50-150 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | B19-No08884 | NCP | % | 92 | 50-150 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | B19-No08884 | NCP | % | 93 | 50-150 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | B19-No08884 | NCP | % | 93 | 50-150 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | B19-No08884 | NCP | % | 111 | 50-150 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | B19-No08884 | NCP | % | 110 | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA's) | | | | Result 1 | | | |
| Perfluorobutanesulfonic acid (PFBS) | B19-No08884 | NCP | % | 88 | 50-150 | Pass | |
| Perfluorononanesulfonic acid (PFNS) | B19-No08884 | NCP | % | 88 | 50-150 | Pass | |
| Perfluoropropanesulfonic acid (PFPrS) | B19-No08884 | NCP | % | 96 | 50-150 | Pass | |
| Perfluoropentanesulfonic acid (PFPeS) | B19-No08884 | NCP | % | 92 | 50-150 | Pass | |
| Perfluorohexanesulfonic acid (PFHxS) | B19-No08884 | NCP | % | 77 | 50-150 | Pass | |
| Perfluoroheptanesulfonic acid (PFHpS) | B19-No08884 | NCP | % | 76 | 50-150 | Pass | |
| Perfluorooctanesulfonic acid (PFOS) | B19-No08884 | NCP | % | 81 | 50-150 | Pass | |
| Perfluorodecanesulfonic acid (PFDS) | B19-No08884 | NCP | % | 66 | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA's) | | | | Result 1 | | | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|--------------------------------------------------------|---------------|-----------|-------|----------|----------|-----|-------------------|-------------|-----------------|
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | B19-No08884 | NCP | % | 118 | | | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | B19-No08884 | NCP | % | 109 | | | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | B19-No08884 | NCP | % | 87 | | | 50-150 | Pass | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | B19-No08884 | NCP | % | 84 | | | 50-150 | Pass | |
| Spike - % Recovery | | | | | | | | | |
| Heavy Metals | | | | Result 1 | | | | | |
| Arsenic (filtered) | S19-No09772 | CP | % | 98 | | | 70-130 | Pass | |
| Barium (filtered) | S19-No09772 | CP | % | 89 | | | 70-130 | Pass | |
| Boron (filtered) | S19-No09772 | CP | % | 86 | | | 70-130 | Pass | |
| Cadmium (filtered) | S19-No09772 | CP | % | 94 | | | 70-130 | Pass | |
| Chromium (filtered) | S19-No09772 | CP | % | 87 | | | 70-130 | Pass | |
| Cobalt (filtered) | S19-No09772 | CP | % | 84 | | | 70-130 | Pass | |
| Copper (filtered) | S19-No09772 | CP | % | 85 | | | 70-130 | Pass | |
| Iron (filtered) | S19-No09772 | CP | % | 81 | | | 70-130 | Pass | |
| Lead (filtered) | S19-No09772 | CP | % | 90 | | | 70-130 | Pass | |
| Manganese (filtered) | S19-No09772 | CP | % | 81 | | | 70-130 | Pass | |
| Mercury (filtered) | S19-No09772 | CP | % | 88 | | | 70-130 | Pass | |
| Nickel (filtered) | S19-No09772 | CP | % | 85 | | | 70-130 | Pass | |
| Zinc (filtered) | S19-No09772 | CP | % | 90 | | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | M19-Oc49751 | NCP | mg/L | < 0.01 | < 0.01 | <1 | 30% | Pass | |
| Chloride | P19-No06229 | NCP | mg/L | 3600 | 3600 | 1.0 | 30% | Pass | |
| Nitrate & Nitrite (as N) | M19-Oc49751 | NCP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass | |
| Nitrate (as N) | M19-Oc49751 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Nitrite (as N) | M19-Oc49751 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| Phosphate total (as P) | N19-No05661 | NCP | mg/L | 0.63 | 0.67 | 6.0 | 30% | Pass | |
| Sulphate (as SO4) | P19-No06229 | NCP | mg/L | 440 | 460 | 4.0 | 30% | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | M19-No02926 | NCP | mg/L | 300 | 330 | 10 | 30% | Pass | |
| Total Kjeldahl Nitrogen (as N) | S19-No07237 | NCP | mg/L | 50 | 49 | 1.9 | 30% | Pass | |
| Total Suspended Solids Dried at 103–105°C | S19-No04499 | NCP | mg/L | 170 | 170 | 1.0 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Alkali Metals | | | | Result 1 | Result 2 | RPD | | | |
| Potassium | M19-No04069 | NCP | mg/L | rerun | ** | 3.0 | 30% | Pass | |
| Sodium | M19-No04069 | NCP | mg/L | 29 | 29 | 1.0 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | | |
| Arsenic (filtered) | S19-No09049 | NCP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass | |
| Barium (filtered) | S19-No09049 | NCP | mg/L | 0.31 | 0.26 | 15 | 30% | Pass | |
| Boron (filtered) | S19-No09049 | NCP | mg/L | 0.20 | 0.17 | 16 | 30% | Pass | |
| Cadmium (filtered) | S19-No09049 | NCP | mg/L | < 0.0002 | < 0.0002 | <1 | 30% | Pass | |
| Chromium (filtered) | S19-No09049 | NCP | mg/L | 0.002 | 0.001 | 16 | 30% | Pass | |
| Cobalt (filtered) | S19-No09049 | NCP | mg/L | 0.009 | 0.008 | 16 | 30% | Pass | |
| Copper (filtered) | S19-No09049 | NCP | mg/L | 0.028 | 0.024 | 16 | 30% | Pass | |
| Iron (filtered) | S19-No09049 | NCP | mg/L | 38 | 32 | 15 | 30% | Pass | |
| Lead (filtered) | S19-No09049 | NCP | mg/L | 0.004 | 0.003 | 10 | 30% | Pass | |

| Duplicate | | | | | | | | |
|---------------------------------------------------------------|-------------|-----|------|----------|----------|-----|-----|------|
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | |
| Manganese (filtered) | S19-No09049 | NCP | mg/L | 0.70 | 0.60 | 15 | 30% | Pass |
| Mercury (filtered) | S19-No09049 | NCP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass |
| Nickel (filtered) | S19-No09049 | NCP | mg/L | 0.016 | 0.014 | 14 | 30% | Pass |
| Zinc (filtered) | S19-No09049 | NCP | mg/L | 0.055 | 0.046 | 18 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanoic acid (PFBA) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Perfluoropentanoic acid (PFPeA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanoic acid (PFHxA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroheptanoic acid (PFHpA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanoic acid (PFOA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanoic acid (PFNA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorodecanoic acid (PFDA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroundecanoic acid (PFUnDA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorododecanoic acid (PFDoDA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotridecanoic acid (PFTrDA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotetradecanoic acid (PFTeDA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | Result 2 | RPD | | |
| Perfluorooctane sulfonamide (FOSA) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanesulfonic acid (PFBS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanesulfonic acid (PFNS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropropanesulfonic acid (PFPrS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropentanesulfonic acid (PFPeS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanesulfonic acid (PFHxS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroheptanesulfonic acid (PFHpS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanesulfonic acid (PFOS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorodecanesulfonic acid (PFDS) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|--------------------------------------------------------|-------------|-----|------|----------|----------|-----|-----|------|
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | Result 1 | Result 2 | RPD | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | B19-No08883 | NCP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | B19-No08883 | NCP | ug/L | < 0.01 | < 0.01 | <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 |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N09 | Quantification of linear and branched isomers has been conducted as a single total response using the relative response factor for the corresponding linear/branched standard. |
| N11 | Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds. |
| N15 | Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation). |

Authorised By

| | |
|------------------|--------------------------------|
| Ursula Long | Analytical Services Manager |
| Bryan Wilson | Senior Analyst-PFAS (QLD) |
| Emily Rosenberg | Senior Analyst-Metal (VIC) |
| Gabriele Cordero | Senior Analyst-Metal (NSW) |
| Julie Kay | Senior Analyst-Inorganic (VIC) |


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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| | | |
|---------------------------------------------------------------|----------------------------|--------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 7, 2019 5:10 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 686884 | Due: Nov 11, 2019 |
| Project Name: MARYLANDS | Phone: 02 8245 0300 | Priority: 2 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Barium (filtered) | Boron (filtered) | Cobalt (filtered) | Conductivity (at 25°C) | Iron (filtered) | Manganese (filtered) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Metals M8 filtered | Major Anions | Major Cations | Eurofins mg/L Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P | Per- and Polyfluoroalkyl Substances (PFASs) |
|------------------------------------------------------------|-----------|--------------|---------------|--------|-------------|-------------------|------------------|-------------------|------------------------|-----------------|----------------------|--------------|---------------------------------------------|-------------------------------------------|--------------------|--------------|---------------|-----------------------------------------------------------------------------------|---------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | | | | | | X | X | X | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | X | X | X | X | X | X | | | | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | | | X | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | | | | | | |
| 1 | SW-01 | Nov 07, 2019 | | Water | S19-No09771 | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| 2 | SW-02 | Nov 07, 2019 | | Water | S19-No09772 | X | X | X | | X | X | | | | X | | | | X |
| 3 | BLANK-01 | Nov 07, 2019 | | Water | S19-No09773 | | | | | | | | | | | | | | X |
| Test Counts | | | | | | 2 | 2 | 2 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 3 |

016575

Eurofins

CHAIN OF CUSTODY

1 of 1



| | |
|----------------------------------------------------------------------------------------------------|-----------------------|
| PROJECT NO.: 57591 | LABORATORY BATCH NO.: |
| PROJECT NAME: Marylands - | SAMPLERS: J Hoban |
| DATE NEEDED BY: 48 hr TAT | QC LEVEL: NEPM (2013) |
| PHONE: Sydney: 02 8245 0300 Perth: 08 9488 0100 Brisbane: 07 3112 2688 | |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) gblack@jbsg.com.au; (3) dhoban@jbsg.com.au | |

| SAMPLE ID | MATRIX | DATE | TIME | TYPE & PRESERVATIVE | pH | PFAS | Heavy Metals | Nutrients | Major Ions | Temp, EC, TDS | TYPE OF ASBESTOS ANALYSIS | | NOTES: |
|-----------|--------|---------|------|-------------------------------|----|------|--------------|-----------|------------|---------------|---------------------------|---------|------------|
| | | | | | | | | | | | IDENTIFICATION | NEPM/WA | |
| SW-01 | water | 7/11/19 | — | RFAS bottle, HM, Green bottle | | X | X | X | X | X | | | |
| SW-02 | ↓ | ↓ | ↓ | ↓ | | X | X | ↓ | ↓ | ↓ | | | |
| BLANK-01 | ↓ | ↓ | ↓ | ↓ | | X | X | ↓ | ↓ | ↓ | | | PFAS only. |

| | | | |
|-----------------------------------------------------|---------------------------------------------|---------------------------------------------|------------------------------------------------------------------------------------------|
| RELINQUISHED BY: NAME: [Signature] DATE: 7/11/19 | METHOD OF SHIPMENT: CONSIGNMENT NOTE NO. | RECEIVED BY: NAME: Luca D DATE: 07/11/19 | FOR RECEIVING LAB USE ONLY: COOLER SEAL - Yes..... No Intact Broken |
| OF: JBS&G | TRANSPORT CO. | OF: Eurofins DATE: 5:10 AM | COOLER TEMP deg C 10.8°C |
| NAME: | CONSIGNMENT NOTE NO. | NAME: | COOLER SEAL - Yes..... No Intact Broken |
| DATE: | TRANSPORT CO. | DATE: | COOLER TEMP deg C |

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

IMSO FormsO13 - Chain of Custody - Generic

686884

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**
Contact name: George Black
Project name: MARYLANDS
Project ID: 57591
COC number: 016575
Turn around time: 2 Day
Date/Time received: Nov 7, 2019 5:10 PM
Eurofins reference: **686884**

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 : 18.8 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

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

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

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

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

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



NATA Accredited
Accreditation Number 1261
Site Number 18217

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

Attention: **George Black**

Report **687617-W**
 Project name **ADDITIONAL - MARYLANDS**
 Project ID **57591**
 Received Date **Nov 12, 2019**

| Client Sample ID | | | SW-02 |
|---------------------------------------------|------|----------|---------------------|
| Sample Matrix | | | Water |
| Eurofins Sample No. | | | S19-No16292 |
| Date Sampled | | | Nov 07, 2019 |
| Test/Reference | LOR | Unit | |
| Ammonia (as N) | 0.01 | mg/L | 0.06 |
| Chloride | 1 | mg/L | 220 |
| Conductivity (at 25°C) | 10 | uS/cm | 1100 |
| Nitrate & Nitrite (as N) | 0.05 | mg/L | 0.32 |
| Nitrate (as N) | 0.02 | mg/L | 0.30 |
| Nitrite (as N) | 0.02 | mg/L | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | 8.2 |
| Phosphate total (as P) | 0.01 | mg/L | 0.03 |
| Phosphorus reactive (as P) | 0.01 | mg/L | 0.02 |
| Sulphate (as SO4) | 5 | mg/L | 96 |
| Total Dissolved Solids Dried at 180°C ± 2°C | 10 | mg/L | 550 |
| Total Kjeldahl Nitrogen (as N) | 0.2 | mg/L | 0.5 |
| Total Nitrogen (as N)* | 0.2 | mg/L | 0.82 |
| Total Suspended Solids Dried at 103–105°C | 1 | mg/L | 1.6 |
| Alkalinity (speciated) | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 120 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 |
| Alkali Metals | | | |
| Calcium (filtered) | 0.5 | mg/L | 44 |
| Magnesium (filtered) | 0.5 | mg/L | 10 |
| Potassium (filtered) | 0.5 | mg/L | 13 |
| Sodium (filtered) | 0.5 | mg/L | 180 |

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 |
|--------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|
| Eurofins mgt Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P | | | |
| Ammonia (as N) - Method: LTM-INO-4200 Ammonia by Discrete Analyser | Melbourne | Nov 12, 2019 | 28 Days |
| Nitrate & Nitrite (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 12, 2019 | 28 Days |
| Nitrate (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 12, 2019 | 28 Days |
| Nitrite (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 12, 2019 | 2 Days |
| Phosphate total (as P) - Method: APHA 4500-P E. Phosphorus | Melbourne | Nov 12, 2019 | 28 Days |
| Phosphorus reactive (as P) - Method: APHA 4500-P | Melbourne | Nov 12, 2019 | 2 Days |
| Total Kjeldahl Nitrogen (as N) - Method: LTM-INO-4310 TKN in Waters & Soils by FIA | Melbourne | Nov 12, 2019 | 7 Days |
| Major Anions | | | |
| Chloride - Method: LTM-INO-4090 Chloride by Discrete Analyser | Melbourne | Nov 12, 2019 | 28 Days |
| Sulphate (as SO4) - Method: LTM-INO-4110 Sulfate by Discrete Analyser | Melbourne | Nov 12, 2019 | 28 Days |
| Alkalinity (speciated) - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | Melbourne | Nov 12, 2019 | 14 Days |
| Conductivity (at 25°C) - Method: LTM-INO-4030 Conductivity | Melbourne | Nov 12, 2019 | 28 Days |
| pH (at 25°C) - Method: LTM-GEN-7090 pH in water by ISE | Melbourne | Nov 12, 2019 | 0 Hours |
| Total Dissolved Solids Dried at 180°C ± 2°C - Method: LTM-INO-4170 Total Dissolved Solids in Water | Melbourne | Nov 13, 2019 | 7 Days |
| Total Suspended Solids Dried at 103–105°C - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry | Melbourne | Nov 12, 2019 | 7 Days |
| Alkali Metals (filtered) - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Nov 13, 2019 | 180 Days |

ABN – 50 005 085 521
 e.mail : EnviroSales@eurofins.com
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 Phone : +61 3 8564 5000
 NATA # 1261
 Site # 1254 & 14271

Sydney
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 Lane Cove West NSW 2066
 Phone : +61 2 9900 8400
 NATA # 1261 Site # 18217

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

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

| | | |
|---------------------------------------------------------------|----------------------------|---------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 12, 2019 4:18 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 687617 | Due: Nov 13, 2019 |
| Project Name: ADDITIONAL - MARYLANDS | Phone: 02 8245 0300 | Priority: 1 Day |
| Project ID: 57591 | Fax: | Contact Name: George Black |
| Eurofins Analytical Services Manager : Ursula Long | | |

| Sample Detail | | | | | | Conductivity (at 25°C) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Major Anions | Major Cations | Eurofins mg/L Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P |
|------------------------------------------------------------|-----------|--------------|---------------|--------|-------------|------------------------|--------------|---------------------------------------------|-------------------------------------------|--------------|---------------|-----------------------------------------------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | X | X | X | X | X | X | X |
| Sydney Laboratory - NATA Site # 18217 | | | | | | | | | | | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | SW-02 | Nov 07, 2019 | | Water | S19-No16292 | X | X | X | X | X | X | X |
| Test Counts | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Eurofins Environment Testing Unit F3, Building F, 16 Mars Road, Lane Cove West, NSW, Australia
 ABN : 50 005 085 521 Telephone: +61 2 9900 8400

Date Reported: Nov 13, 2019

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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 | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | 0.01 | Pass | | | |
| Chloride | mg/L | < 1 | 1 | Pass | | | |
| Conductivity (at 25°C) | uS/cm | < 10 | 10 | Pass | | | |
| Nitrate & Nitrite (as N) | mg/L | < 0.05 | 0.05 | Pass | | | |
| Nitrate (as N) | mg/L | < 0.02 | 0.02 | Pass | | | |
| Nitrite (as N) | mg/L | < 0.02 | 0.02 | Pass | | | |
| Phosphate total (as P) | mg/L | < 0.01 | 0.01 | Pass | | | |
| Phosphorus reactive (as P) | mg/L | < 0.01 | 0.01 | Pass | | | |
| Sulphate (as SO4) | mg/L | < 5 | 5 | Pass | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | mg/L | < 10 | 10 | Pass | | | |
| Total Kjeldahl Nitrogen (as N) | mg/L | < 0.2 | 0.2 | Pass | | | |
| Total Suspended Solids Dried at 103–105°C | mg/L | < 1 | 1 | Pass | | | |
| Method Blank | | | | | | | |
| Alkali Metals | | | | | | | |
| Calcium (filtered) | mg/L | < 0.5 | 0.5 | Pass | | | |
| Magnesium (filtered) | mg/L | < 0.5 | 0.5 | Pass | | | |
| Potassium (filtered) | mg/L | < 0.5 | 0.5 | Pass | | | |
| Sodium (filtered) | mg/L | < 0.5 | 0.5 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| Ammonia (as N) | % | 95 | 70-130 | Pass | | | |
| Chloride | % | 104 | 70-130 | Pass | | | |
| Conductivity (at 25°C) | % | 99 | 70-130 | Pass | | | |
| Nitrate & Nitrite (as N) | % | 96 | 70-130 | Pass | | | |
| Nitrate (as N) | % | 96 | 70-130 | Pass | | | |
| Nitrite (as N) | % | 113 | 70-130 | Pass | | | |
| Phosphate total (as P) | % | 106 | 70-130 | Pass | | | |
| Phosphorus reactive (as P) | % | 100 | 70-130 | Pass | | | |
| Sulphate (as SO4) | % | 102 | 70-130 | Pass | | | |
| Total Dissolved Solids Dried at 180°C ± 2°C | % | 99 | 70-130 | Pass | | | |
| Total Kjeldahl Nitrogen (as N) | % | 87 | 70-130 | Pass | | | |
| Total Suspended Solids Dried at 103–105°C | % | 101 | 70-130 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| Alkalinity (speciated) | | | | | | | |
| Carbonate Alkalinity (as CaCO3) | % | 97 | 70-130 | Pass | | | |
| LCS - % Recovery | | | | | | | |
| Alkali Metals | | | | | | | |
| Calcium (filtered) | % | 103 | 70-130 | Pass | | | |
| Magnesium (filtered) | % | 103 | 70-130 | Pass | | | |
| Potassium (filtered) | % | 100 | 70-130 | Pass | | | |
| Sodium (filtered) | % | 106 | 70-130 | Pass | | | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
| Spike - % Recovery | | | | | | | |
| | | | | Result 1 | | | |
| Ammonia (as N) | M19-No08022 | NCP | % | 93 | 70-130 | Pass | |
| Chloride | M19-No16774 | NCP | % | 96 | 70-130 | Pass | |
| Nitrate & Nitrite (as N) | M19-No08022 | NCP | % | 96 | 70-130 | Pass | |
| Nitrate (as N) | M19-No08022 | NCP | % | 96 | 70-130 | Pass | |
| Nitrite (as N) | M19-No08022 | NCP | % | 103 | 70-130 | Pass | |
| Sulphate (as SO4) | M19-No15978 | NCP | % | 110 | 70-130 | Pass | |
| Total Kjeldahl Nitrogen (as N) | M19-Oc45205 | NCP | % | 91 | 70-130 | Pass | |

| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------|---------------|-----------|----------|----------|----------|------|-------------------|-------------|-----------------|
| Spike - % Recovery | | | | | | | | | |
| Alkali Metals | | | | Result 1 | | | | | |
| Calcium (filtered) | S19-No15118 | NCP | % | 94 | | | 70-130 | Pass | |
| Magnesium (filtered) | S19-No15118 | NCP | % | 97 | | | 70-130 | Pass | |
| Potassium (filtered) | S19-No15118 | NCP | % | 101 | | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | | |
| Ammonia (as N) | M19-No08022 | NCP | mg/L | 0.29 | 0.29 | 2.0 | 30% | Pass | |
| Chloride | M19-No12687 | NCP | mg/L | 330 | 360 | 7.0 | 30% | Pass | |
| Conductivity (at 25°C) | M19-No16332 | NCP | uS/cm | 4700 | 4900 | 5.0 | 30% | Pass | |
| Nitrate & Nitrite (as N) | M19-No08022 | NCP | mg/L | 0.13 | 0.14 | 3.0 | 30% | Pass | |
| Nitrate (as N) | M19-No08022 | NCP | mg/L | 0.13 | 0.14 | 3.0 | 30% | Pass | |
| Nitrite (as N) | M19-No08022 | NCP | mg/L | < 0.02 | < 0.02 | <1 | 30% | Pass | |
| pH (at 25°C) | M19-No16332 | NCP | pH Units | 8.3 | 8.3 | pass | 30% | Pass | |
| Sulphate (as SO ₄) | M19-No12687 | NCP | mg/L | 190 | 190 | 1.0 | 30% | Pass | |
| Total Dissolved Solids Dried at 180°C ± 2°C | M19-No10336 | NCP | mg/L | 1100 | 1000 | 11 | 30% | Pass | |
| Total Suspended Solids Dried at 103–105°C | M19-No16908 | NCP | mg/L | 35 | 44 | 22 | 30% | Pass | |
| Duplicate | | | | | | | | | |
| Alkali Metals | | | | Result 1 | Result 2 | RPD | | | |
| Calcium (filtered) | S19-No14038 | NCP | mg/L | 180 | 190 | 1.0 | 30% | Pass | |
| Magnesium (filtered) | S19-No14038 | NCP | mg/L | 820 | 820 | <1 | 30% | Pass | |
| Potassium (filtered) | S19-No14038 | NCP | mg/L | 19 | 19 | 1.0 | 30% | Pass | |
| Sodium (filtered) | S19-No14038 | NCP | mg/L | 5400 | 5400 | <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 |

Authorised By

| | |
|------------------|--------------------------------|
| Ursula Long | Analytical Services Manager |
| Gabriele Cordero | Senior Analyst-Metal (NSW) |
| Julie Kay | Senior Analyst-Inorganic (VIC) |

**Glenn Jackson**
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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.

| | | |
|---------------------------------------------------------------|----------------------------|---------------------------------------|
| Company Name: JBS & G Australia (NSW) P/L | Order No.: | Received: Nov 12, 2019 4:18 PM |
| Address: Level 1, 50 Margaret St Sydney NSW 2000 | Report #: 687617 | Due: Nov 13, 2019 |
| | Phone: 02 8245 0300 | Priority: 1 Day |
| | Fax: | Contact Name: George Black |
| Project Name: ADDITIONAL - MARYLANDS | | |
| Project ID: 57591 | | |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Conductivity (at 25°C) | pH (at 25°C) | Total Dissolved Solids Dried at 180°C ± 2°C | Total Suspended Solids Dried at 103–105°C | Major Anions | Major Cations | Eurofins mg/L Suite B19E: Total N, TKN, NOx, NO2, NO3, NH3, Total P, Reactive P |
|------------------------------------------------------------|-----------|--------------|---------------|--------|-------------|------------------------|--------------|---------------------------------------------|-------------------------------------------|--------------|---------------|-----------------------------------------------------------------------------------|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | X | X | X | X | X | X | X |
| Sydney Laboratory - NATA Site # 18217 | | | | | | | | | | | X | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | |
| 1 | SW-02 | Nov 07, 2019 | | Water | S19-No16292 | X | X | X | X | X | X | X |
| Test Counts | | | | | | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

#AU04_Enviro_Sample_NSW

To: Ursula Long
Subject: RE: Eurofins Test Results - Report 686884 : Site MARYLANDS (57591)

From: Dominic Hoban [<mailto:dhoban@jbsg.com.au>]
Sent: Tuesday, 12 November 2019 4:18 PM
To: Asim Khan; Ursula Long; #AU04_Enviro_Sample_NSW
Cc: George Black
Subject: RE: Eurofins Test Results - Report 686884 : Site MARYLANDS (57591)

EXTERNAL EMAIL*

Hello,

Is it possible to please schedule sample SW-02 for the following analysis:

- Nutrient (as per the COC)
- Heavy Metals (as per COC0)
- Major Ions (as per COC)

Thanks so much,

Dom

From: AsimKhan@eurofins.com <AsimKhan@eurofins.com>
Sent: Monday, November 11, 2019 5:32 PM
To: George Black <GBlack@jbsg.com.au>
Cc: Dominic Hoban <dhoban@jbsg.com.au>
Subject: Eurofins Test Results - Report 686884 : Site MARYLANDS (57591)

Dear George,

Please find attached results for your project in the subject header.

Please note: My office hours are 12 pm to 8 pm.

Kind regards,

Asim Khan
Analytical Services Manager

Eurofins | Environment Testing
Unit F3, Parkview Building
16 Mars Road
LANE COVE WEST NSW 2066
AUSTRALIA
Phone : +61 2 9900 8432
Phone : +61 429 051 456
Email : AsimKhan@eurofins.com

Website : www.eurofins.com.au/environmental-testing

[EnviroNote 1079 - PFAS Fingerprinting](#)

[EnviroNote 1080 - Total Organofluorine Analysis & PFAS Investigations](#)

Click [here](#) to report this email as spam.

ScannedByWebsenseForEurofins

* WARNING - EXTERNAL: This email originated from outside of Eurofins. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**
Contact name: George Black
Project name: ADDITIONAL - MARYLANDS
Project ID: 57591
COC number: 016575
Turn around time: 1 Day
Date/Time received: Nov 12, 2019 4:18 PM
Eurofins reference: **687617**

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 : 18.8 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- Some samples have been subcontracted.

N/A Custody Seals intact (if used).

Contact notes

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

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

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

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

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



NATA Accredited
 Accreditation Number 1261
 Site Number 18217

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

Attention: **George Black**

Report **687355-W**
 Project name **JORDAN SPRINGS - BASINS**
 Project ID **57591**
 Received Date **Nov 11, 2019**

| Client Sample ID | | | GWM_01 | ^{R09} GWM_02 | GWM_03 | RINSATE |
|-----------------------------------|--------|----------|--------------|-----------------------|--------------|--------------|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-No14038 | S19-No14039 | S19-No14040 | S19-No14041 |
| Date Sampled | | | Nov 11, 2019 | Nov 11, 2019 | Nov 11, 2019 | Nov 11, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Ammonia (as N) | 0.01 | mg/L | 0.33 | 1.0 | 0.70 | - |
| Chloride | 1 | mg/L | 10000 | 9800 | 8900 | - |
| Conductivity (at 25°C) | 10 | uS/cm | 22000 | 21000 | 19000 | - |
| Fluoride (Total) | 0.5 | mg/L | < 0.5 | < 0.5 | < 0.5 | - |
| Nitrate & Nitrite (as N) | 0.05 | mg/L | 0.05 | < 0.05 | 0.14 | - |
| Nitrate (as N) | 0.02 | mg/L | 0.04 | 0.05 | 0.14 | - |
| Nitrite (as N) | 0.02 | mg/L | < 0.02 | < 0.02 | < 0.02 | - |
| pH (at 25°C) | 0.1 | pH Units | 7.0 | 7.4 | 7.5 | - |
| Phosphate total (as P) | 0.05 | mg/L | 0.17 | < 0.05 | 0.11 | - |
| Phosphorus reactive (as P) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | - |
| Sulphate (as SO4) | 5 | mg/L | 580 | 870 | 1000 | - |
| Total Kjeldahl Nitrogen (as N) | 0.2 | mg/L | 1.1 | 0.9 | 1.7 | - |
| Total Nitrogen (as N)* | 0.2 | mg/L | 1.15 | 0.9 | 1.84 | - |
| Alkalinity (speciated) | | | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | 1200 | 1100 | 1100 | - |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | < 10 | < 10 | < 10 | - |
| Alkali Metals | | | | | | |
| Calcium | 0.5 | mg/L | 180 | 230 | 230 | - |
| Magnesium | 0.5 | mg/L | 860 | 870 | 810 | - |
| Potassium | 0.5 | mg/L | 20 | 34 | 43 | - |
| Sodium | 0.5 | mg/L | 5600 | 4700 | 4200 | - |
| Heavy Metals | | | | | | |
| Arsenic (filtered) | 0.001 | mg/L | 0.002 | < 0.001 | 0.002 | - |
| Barium (filtered) | 0.02 | mg/L | 0.34 | 0.23 | 0.22 | - |
| Boron (filtered) | 0.05 | mg/L | < 0.05 | < 0.05 | < 0.05 | - |
| Cadmium (filtered) | 0.0002 | mg/L | 0.0004 | < 0.0002 | 0.0003 | - |
| Chromium (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Cobalt (filtered) | 0.001 | mg/L | 0.050 | 0.022 | 0.013 | - |
| Copper (filtered) | 0.001 | mg/L | 0.001 | < 0.001 | 0.003 | - |
| Iron (filtered) | 0.05 | mg/L | < 0.05 | 0.14 | < 0.05 | - |
| Lead (filtered) | 0.001 | mg/L | < 0.001 | < 0.001 | < 0.001 | - |
| Manganese (filtered) | 0.005 | mg/L | 17 | 3.8 | 7.1 | - |
| Mercury (filtered) | 0.0001 | mg/L | < 0.0001 | < 0.0001 | < 0.0001 | - |
| Nickel (filtered) | 0.001 | mg/L | 0.009 | 0.005 | 0.007 | - |
| Zinc (filtered) | 0.005 | mg/L | 0.034 | 0.011 | 0.040 | - |

| Client Sample ID | | | GWM_01 | ^{RO9} GWM_02 | GWM_03 | RINSATE |
|------------------------------------------------------------------------------|------|------|--------------|-----------------------|--------------|--------------|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-No14038 | S19-No14039 | S19-No14040 | S19-No14041 |
| Date Sampled | | | Nov 11, 2019 | Nov 11, 2019 | Nov 11, 2019 | Nov 11, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorooctanoic acid (PFOA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorononanoic acid (PFNA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorodecanoic acid (PFDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorotridecanoic acid (PFTTrDA) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 13C4-PFBA (surr.) | 1 | % | 68 | 90 | 86 | 100 |
| 13C5-PFPeA (surr.) | 1 | % | 107 | 123 | 113 | 115 |
| 13C5-PFHxA (surr.) | 1 | % | 101 | 104 | 109 | 109 |
| 13C4-PFHpA (surr.) | 1 | % | 110 | 101 | 117 | 103 |
| 13C8-PFOA (surr.) | 1 | % | 130 | 128 | 134 | 126 |
| 13C5-PFNA (surr.) | 1 | % | 122 | 115 | 122 | 117 |
| 13C6-PFDA (surr.) | 1 | % | INT | 87 | INT | 95 |
| 13C2-PFUnDA (surr.) | 1 | % | 99 | INT | INT | INT |
| 13C2-PFDoDA (surr.) | 1 | % | 107 | 96 | 112 | 101 |
| 13C2-PFTeDA (surr.) | 1 | % | 88 | INT | 86 | 84 |
| Perfluoroalkyl sulfonamido substances | | | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 13C8-FOSA (surr.) | 1 | % | 100 | 90 | 101 | 89 |
| D3-N-MeFOSA (surr.) | 1 | % | 65 | 59 | 72 | 65 |
| D5-N-EtFOSA (surr.) | 1 | % | 71 | 65 | 78 | 70 |
| D7-N-MeFOSE (surr.) | 1 | % | 66 | 61 | 75 | 72 |
| D9-N-EtFOSE (surr.) | 1 | % | 62 | 61 | 68 | 71 |
| D5-N-EtFOSAA (surr.) | 1 | % | INT | INT | INT | INT |
| D3-N-MeFOSAA (surr.) | 1 | % | INT | INT | INT | INT |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 13C3-PFBS (surr.) | 1 | % | 115 | 115 | 111 | 114 |

| Client Sample ID | | | GWM_01 | ^{RO9} GWM_02 | GWM_03 | RINSATE |
|------------------------------------------------------------------------|------|------|--------------|-----------------------|--------------|--------------|
| Sample Matrix | | | Water | Water | Water | Water |
| Eurofins Sample No. | | | S19-No14038 | S19-No14039 | S19-No14040 | S19-No14041 |
| Date Sampled | | | Nov 11, 2019 | Nov 11, 2019 | Nov 11, 2019 | Nov 11, 2019 |
| Test/Reference | LOR | Unit | | | | |
| Perfluoroalkyl sulfonic acids (PFSA) | | | | | | |
| 18O2-PFHxS (surr.) | 1 | % | 113 | 108 | 105 | 111 |
| 13C8-PFOS (surr.) | 1 | % | 111 | 103 | 118 | 112 |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| 1H.1H.2H.2H-perfluorodecane sulfonic acid (8:2 FTSA) ^{N11} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 1H.1H.2H.2H-perfluorododecane sulfonic acid (10:2 FTSA) ^{N15} | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| 13C2-4:2 FTSA (surr.) | 1 | % | 78 | 116 | 93 | 130 |
| 13C2-6:2 FTSA (surr.) | 1 | % | 96 | 100 | 106 | 107 |
| 13C2-8:2 FTSA (surr.) | 1 | % | 109 | 108 | 150 | 117 |
| PFASs Summations | | | | | | |
| Sum (PFHxS + PFOS)* | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Sum of US EPA PFAS (PFOS + PFOA)* | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 0.01 | ug/L | < 0.01 | < 0.01 | < 0.01 | < 0.01 |
| Sum of WA DWER PFAS (n=10)* | 0.05 | ug/L | < 0.05 | < 0.05 | < 0.05 | < 0.05 |
| Sum of PFASs (n=30)* | 0.1 | ug/L | < 0.1 | < 0.1 | < 0.1 | < 0.1 |

| Client Sample ID | | | TRIP BLANK | QC20191111 |
|-----------------------------------|------|----------|--------------|--------------|
| Sample Matrix | | | Water | Water |
| Eurofins Sample No. | | | S19-No14042 | S19-No14043 |
| Date Sampled | | | Nov 11, 2019 | Nov 11, 2019 |
| Test/Reference | LOR | Unit | | |
| Ammonia (as N) | 0.01 | mg/L | - | 1.0 |
| Chloride | 1 | mg/L | - | 9900 |
| Conductivity (at 25°C) | 10 | uS/cm | - | 20000 |
| Fluoride (Total) | 0.5 | mg/L | - | < 0.5 |
| Nitrate & Nitrite (as N) | 0.05 | mg/L | - | 0.08 |
| Nitrate (as N) | 0.02 | mg/L | - | 0.08 |
| Nitrite (as N) | 0.02 | mg/L | - | < 0.02 |
| pH (at 25°C) | 0.1 | pH Units | - | 7.4 |
| Phosphate total (as P) | 0.05 | mg/L | - | 0.08 |
| Phosphorus reactive (as P) | 0.05 | mg/L | - | < 0.05 |
| Sulphate (as SO4) | 5 | mg/L | - | 850 |
| Total Kjeldahl Nitrogen (as N) | 0.2 | mg/L | - | 1.2 |
| Total Nitrogen (as N)* | 0.2 | mg/L | - | 1.28 |
| Alkalinity (speciated) | | | | |
| Bicarbonate Alkalinity (as CaCO3) | 20 | mg/L | - | 1100 |
| Carbonate Alkalinity (as CaCO3) | 10 | mg/L | - | < 10 |
| Alkali Metals | | | | |
| Calcium | 0.5 | mg/L | - | 240 |
| Magnesium | 0.5 | mg/L | - | 850 |
| Potassium | 0.5 | mg/L | - | 34 |
| Sodium | 0.5 | mg/L | - | 4600 |

| Client Sample ID | | | TRIP BLANK | QC20191111 |
|------------------------------------------------------------------------------|--------|------|--------------|--------------|
| Sample Matrix | | | Water | Water |
| Eurofins Sample No. | | | S19-No14042 | S19-No14043 |
| Date Sampled | | | Nov 11, 2019 | Nov 11, 2019 |
| Test/Reference | LOR | Unit | | |
| Heavy Metals | | | | |
| Arsenic (filtered) | 0.001 | mg/L | - | < 0.001 |
| Barium (filtered) | 0.02 | mg/L | - | 0.23 |
| Boron (filtered) | 0.05 | mg/L | - | < 0.05 |
| Cadmium (filtered) | 0.0002 | mg/L | - | < 0.0002 |
| Chromium (filtered) | 0.001 | mg/L | - | < 0.001 |
| Cobalt (filtered) | 0.001 | mg/L | - | 0.021 |
| Copper (filtered) | 0.001 | mg/L | - | < 0.001 |
| Iron (filtered) | 0.05 | mg/L | - | < 0.05 |
| Lead (filtered) | 0.001 | mg/L | - | < 0.001 |
| Manganese (filtered) | 0.005 | mg/L | - | 3.9 |
| Mercury (filtered) | 0.0001 | mg/L | - | < 0.0001 |
| Nickel (filtered) | 0.001 | mg/L | - | 0.005 |
| Zinc (filtered) | 0.005 | mg/L | - | 0.007 |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | |
| Perfluorobutanoic acid (PFBA) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| Perfluoropentanoic acid (PFPeA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorohexanoic acid (PFHxA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluoroheptanoic acid (PFHpA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorooctanoic acid (PFOA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorononanoic acid (PFNA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorodecanoic acid (PFDA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluoroundecanoic acid (PFUnDA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorododecanoic acid (PFDoDA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorotridecanoic acid (PFTrDA) ^{N15} | 0.01 | ug/L | < 0.01 | - |
| Perfluorotetradecanoic acid (PFTeDA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| 13C4-PFBA (surr.) | 1 | % | 103 | - |
| 13C5-PFPeA (surr.) | 1 | % | 122 | - |
| 13C5-PFHxA (surr.) | 1 | % | 115 | - |
| 13C4-PFHpA (surr.) | 1 | % | 113 | - |
| 13C8-PFOA (surr.) | 1 | % | 132 | - |
| 13C5-PFNA (surr.) | 1 | % | 118 | - |
| 13C6-PFDA (surr.) | 1 | % | 100 | - |
| 13C2-PFUnDA (surr.) | 1 | % | INT | - |
| 13C2-PFDoDA (surr.) | 1 | % | 103 | - |
| 13C2-PFTeDA (surr.) | 1 | % | INT | - |
| Perfluoroalkyl sulfonamido substances | | | | |
| Perfluorooctane sulfonamide (FOSA) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| 13C8-FOSA (surr.) | 1 | % | 89 | - |
| D3-N-MeFOSA (surr.) | 1 | % | 51 | - |
| D5-N-EtFOSA (surr.) | 1 | % | 53 | - |

| Client Sample ID | | | TRIP BLANK | QC20191111 |
|-----------------------------------------------------------------------|------|------|--------------|--------------|
| Sample Matrix | | | Water | Water |
| Eurofins Sample No. | | | S19-No14042 | S19-No14043 |
| Date Sampled | | | Nov 11, 2019 | Nov 11, 2019 |
| Test/Reference | LOR | Unit | | |
| Perfluoroalkyl sulfonamido substances | | | | |
| D7-N-MeFOSE (surr.) | 1 | % | 67 | - |
| D9-N-EtFOSE (surr.) | 1 | % | 70 | - |
| D5-N-EtFOSAA (surr.) | 1 | % | INT | - |
| D3-N-MeFOSAA (surr.) | 1 | % | INT | - |
| Perfluoroalkyl sulfonic acids (PFASs) | | | | |
| Perfluorobutanesulfonic acid (PFBS) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorononanesulfonic acid (PFNS) ^{N15} | 0.01 | ug/L | < 0.01 | - |
| Perfluoropropanesulfonic acid (PFPrS) ^{N15} | 0.01 | ug/L | < 0.01 | - |
| Perfluoropentanesulfonic acid (PFPeS) ^{N15} | 0.01 | ug/L | < 0.01 | - |
| Perfluorohexanesulfonic acid (PFHxS) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluoroheptanesulfonic acid (PFHpS) ^{N15} | 0.01 | ug/L | < 0.01 | - |
| Perfluorooctanesulfonic acid (PFOS) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| Perfluorodecanesulfonic acid (PFDS) ^{N15} | 0.01 | ug/L | < 0.01 | - |
| 13C3-PFBS (surr.) | 1 | % | 119 | - |
| 18O2-PFHxS (surr.) | 1 | % | 113 | - |
| 13C8-PFOS (surr.) | 1 | % | 111 | - |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) ^{N11} | 0.05 | ug/L | < 0.05 | - |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) ^{N11} | 0.01 | ug/L | < 0.01 | - |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) ^{N15} | 0.01 | ug/L | < 0.01 | - |
| 13C2-4:2 FTSA (surr.) | 1 | % | 131 | - |
| 13C2-6:2 FTSA (surr.) | 1 | % | 101 | - |
| 13C2-8:2 FTSA (surr.) | 1 | % | 120 | - |
| PFASs Summations | | | | |
| Sum (PFHxS + PFOS)* | 0.01 | ug/L | < 0.01 | - |
| Sum of US EPA PFAS (PFOS + PFOA)* | 0.01 | ug/L | < 0.01 | - |
| Sum of enHealth PFAS (PFHxS + PFOS + PFOA)* | 0.01 | ug/L | < 0.01 | - |
| Sum of WA DWER PFAS (n=10)* | 0.05 | ug/L | < 0.05 | - |
| Sum of PFASs (n=30)* | 0.1 | ug/L | < 0.1 | - |

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 |
|-------------------------------------------------------------------------------------------------------------------|--------------|--------------|--------------|
| Major Cations | | | |
| Ammonia (as N) - Method: LTM-INO-4200 Ammonia by Discrete Analyser | Melbourne | Nov 12, 2019 | 28 Days |
| Alkali Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Nov 12, 2019 | 180 Days |
| Major Anions | | | |
| Chloride - Method: LTM-INO-4090 Chloride by Discrete Analyser | Melbourne | Nov 13, 2019 | 28 Days |
| Nitrate (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 12, 2019 | 28 Days |
| Sulphate (as SO4) - Method: LTM-INO-4110 Sulfate by Discrete Analyser | Melbourne | Nov 13, 2019 | 28 Days |
| Alkalinity (speciated) - Method: LTM-INO-4250 Alkalinity by Electrometric Titration | Melbourne | Nov 12, 2019 | 14 Days |
| Conductivity (at 25°C) - Method: LTM-INO-4030 Conductivity | Sydney | Nov 13, 2019 | 28 Days |
| Fluoride (Total) - Method: APHA 4500 F-C Fluoride by Ion Selective Electrode | Melbourne | Nov 12, 2019 | 28 Days |
| Nitrite (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 12, 2019 | 2 Days |
| pH (at 25°C) - Method: LTM-GEN-7090 pH in water by ISE | Sydney | Nov 11, 2019 | 1 Days |
| Phosphate total (as P) - Method: E052 Total Phosphate (as P) | Sydney | Nov 13, 2019 | 28 Days |
| Phosphorus reactive (as P) - Method: E052 Reactive phosphate (as P) | Sydney | Nov 13, 2019 | 28 Days |
| Metals M8 filtered - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Nov 11, 2019 | 28 Days |
| Heavy Metals (filtered) - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS | Sydney | Nov 11, 2019 | 180 Days |
| Total Nitrogen Set (as N) | | | |
| Nitrate & Nitrite (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA | Melbourne | Nov 12, 2019 | 28 Days |
| Total Kjeldahl Nitrogen (as N) - Method: LTM-INO-4310 TKN in Waters & Soils by FIA | Melbourne | Nov 12, 2019 | 7 Days |
| Per- and Polyfluoroalkyl Substances (PFASs) | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 12, 2019 | 14 Days |
| Perfluoroalkyl sulfonamido substances - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 12, 2019 | 14 Days |
| Perfluoroalkyl sulfonic acids (PFSAAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 12, 2019 | 14 Days |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSAs) - Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS) | Brisbane | Nov 12, 2019 | 14 Days |

| | | | | | |
|----------------------|-----------------------------------------------|-------------------|--------------|----------------------|----------------------|
| Company Name: | JBS & G Australia (NSW) P/L | Order No.: | | Received: | Nov 11, 2019 1:39 PM |
| Address: | Level 1, 50 Margaret St Sydney NSW 2000 | Report #: | 687355 | Due: | Nov 14, 2019 |
| Project Name: | JORDAN SPRINGS - BASINS | Phone: | 02 8245 0300 | Priority: | 3 Day |
| Project ID: | 57591 | Fax: | | Contact Name: | George Black |

Eurofins Analytical Services Manager : Ursula Long

| Sample Detail | | | | | | Barium (filtered) | Boron (filtered) | Cobalt (filtered) | Conductivity (at 25°C) | Fluoride (Total) | Iron (filtered) | Manganese (filtered) | Nitrite (as N) | pH (at 25°C) | Phosphate total (as P) | Phosphorus reactive (as P) | Temperature (°C)* | Metals M8 filtered | Total Nitrogen Set (as N) | Major Anions | Major Cations | Per- and Polyfluoroalkyl Substances (PFASs) | |
|------------------------------------------------------------|------------|--------------|---------------|--------|-------------|-------------------|------------------|-------------------|------------------------|------------------|-----------------|----------------------|----------------|--------------|------------------------|----------------------------|-------------------|--------------------|---------------------------|--------------|---------------|---------------------------------------------|---|
| Melbourne Laboratory - NATA Site # 1254 & 14271 | | | | | | | | | | X | | | X | | | | | X | X | X | | | |
| Sydney Laboratory - NATA Site # 18217 | | | | | | X | X | X | X | | X | X | | X | X | X | X | X | | X | X | | |
| Brisbane Laboratory - NATA Site # 20794 | | | | | | | | | | | | | | | | | | | | | | X | |
| Perth Laboratory - NATA Site # 23736 | | | | | | | | | | | | | | | | | | | | | | | |
| External Laboratory | | | | | | | | | | | | | | | | | | | | | | | |
| No | Sample ID | Sample Date | Sampling Time | Matrix | LAB ID | | | | | | | | | | | | | | | | | | |
| 1 | GWM_01 | Nov 11, 2019 | | Water | S19-No14038 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 2 | GWM_02 | Nov 11, 2019 | | Water | S19-No14039 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 3 | GWM_03 | Nov 11, 2019 | | Water | S19-No14040 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| 4 | RINSATE | Nov 11, 2019 | | Water | S19-No14041 | | | | | | | | | | | | | | | | | X | |
| 5 | TRIP BLANK | Nov 11, 2019 | | Water | S19-No14042 | | | | | | | | | | | | | | | | | X | |
| 6 | QC20191111 | Nov 11, 2019 | | Water | S19-No14043 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | |
| Test Counts | | | | | | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 |

Internal Quality Control Review and Glossary
General

- 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.
- All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
- All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
- Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
- Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
- SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
- Samples were analysed on an 'as received' basis.
- Information identified on this report with blue colour, indicates data provided by customer, that may have an impact on the results.
- 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

- 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.
- 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.
- Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
- Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
- 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.
- 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.
- Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
- Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
- For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
- 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 | | | | | | | |
| Ammonia (as N) | mg/L | < 0.01 | | | 0.01 | Pass | |
| Conductivity (at 25°C) | uS/cm | < 10 | | | 10 | Pass | |
| Nitrate & Nitrite (as N) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Nitrate (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Nitrite (as N) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Phosphate total (as P) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Phosphorus reactive (as P) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Total Kjeldahl Nitrogen (as N) | mg/L | < 0.2 | | | 0.2 | Pass | |
| Method Blank | | | | | | | |
| Heavy Metals | | | | | | | |
| Arsenic (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Barium (filtered) | mg/L | < 0.02 | | | 0.02 | Pass | |
| Boron (filtered) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Cadmium (filtered) | mg/L | < 0.0002 | | | 0.0002 | Pass | |
| Chromium (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Cobalt (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Copper (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Iron (filtered) | mg/L | < 0.05 | | | 0.05 | Pass | |
| Lead (filtered) | mg/L | < 0.001 | | | 0.001 | Pass | |
| Manganese (filtered) | mg/L | < 0.005 | | | 0.005 | 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 | |
| Method Blank | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | | | |
| Perfluorobutanoic acid (PFBA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| Perfluoropentanoic acid (PFPeA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorohexanoic acid (PFHxA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorooctanoic acid (PFOA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorononanoic acid (PFNA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorodecanoic acid (PFDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorotridecanoic acid (PFTrDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorotetradecanoic acid (PFTeDA) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Method Blank | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | | | |
| Perfluorooctane sulfonamide (FOSA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | ug/L | < 0.05 | | | 0.05 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | ug/L | < 0.05 | | | 0.05 | Pass | |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | ug/L | < 0.05 | | | 0.05 | Pass | |
| Method Blank | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSAAs) | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluorononanesulfonic acid (PFNS) | ug/L | < 0.01 | | | 0.01 | Pass | |
| Perfluoropropanesulfonic acid (PFPrS) | ug/L | < 0.01 | | | 0.01 | Pass | |

| Test | Units | Result 1 | Acceptance Limits | Pass Limits | Qualifying Code |
|---------------------------------------------------------------|-------|----------|-------------------|-------------|-----------------|
| Perfluoropentanesulfonic acid (PFPeS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluorohexanesulfonic acid (PFHxS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluoroheptanesulfonic acid (PFHpS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluorooctanesulfonic acid (PFOS) | ug/L | < 0.01 | 0.01 | Pass | |
| Perfluorodecanesulfonic acid (PFDS) | ug/L | < 0.01 | 0.01 | Pass | |
| Method Blank | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | ug/L | < 0.01 | 0.01 | Pass | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | ug/L | < 0.05 | 0.05 | Pass | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | ug/L | < 0.01 | 0.01 | Pass | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | ug/L | < 0.01 | 0.01 | Pass | |
| LCS - % Recovery | | | | | |
| Ammonia (as N) | % | 96 | 70-130 | Pass | |
| Conductivity (at 25°C) | % | 92 | 70-130 | Pass | |
| Nitrate & Nitrite (as N) | % | 99 | 70-130 | Pass | |
| Nitrate (as N) | % | 99 | 70-130 | Pass | |
| Nitrite (as N) | % | 101 | 70-130 | Pass | |
| Phosphate total (as P) | % | 83 | 70-130 | Pass | |
| Phosphorus reactive (as P) | % | 113 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Heavy Metals | | | | | |
| Arsenic (filtered) | % | 98 | 70-130 | Pass | |
| Barium (filtered) | % | 96 | 70-130 | Pass | |
| Boron (filtered) | % | 87 | 70-130 | Pass | |
| Cadmium (filtered) | % | 94 | 70-130 | Pass | |
| Chromium (filtered) | % | 94 | 70-130 | Pass | |
| Cobalt (filtered) | % | 93 | 70-130 | Pass | |
| Copper (filtered) | % | 91 | 70-130 | Pass | |
| Iron (filtered) | % | 94 | 70-130 | Pass | |
| Lead (filtered) | % | 96 | 70-130 | Pass | |
| Manganese (filtered) | % | 94 | 70-130 | Pass | |
| Mercury (filtered) | % | 109 | 70-130 | Pass | |
| Nickel (filtered) | % | 92 | 70-130 | Pass | |
| Zinc (filtered) | % | 93 | 70-130 | Pass | |
| LCS - % Recovery | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | | |
| Perfluorobutanoic acid (PFBA) | % | 108 | 50-150 | Pass | |
| Perfluoropentanoic acid (PFPeA) | % | 99 | 50-150 | Pass | |
| Perfluorohexanoic acid (PFHxA) | % | 103 | 50-150 | Pass | |
| Perfluoroheptanoic acid (PFHpA) | % | 108 | 50-150 | Pass | |
| Perfluorooctanoic acid (PFOA) | % | 108 | 50-150 | Pass | |
| Perfluorononanoic acid (PFNA) | % | 117 | 50-150 | Pass | |
| Perfluorodecanoic acid (PFDA) | % | 108 | 50-150 | Pass | |
| Perfluoroundecanoic acid (PFUnDA) | % | 104 | 50-150 | Pass | |
| Perfluorododecanoic acid (PFDoDA) | % | 99 | 50-150 | Pass | |
| Perfluorotridecanoic acid (PFTTrDA) | % | 95 | 50-150 | Pass | |
| Perfluorotetradecanoic acid (PFTTeDA) | % | 119 | 50-150 | Pass | |
| LCS - % Recovery | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | | |
| Perfluorooctane sulfonamide (FOSA) | % | 101 | 50-150 | Pass | |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | % | 115 | 50-150 | Pass | |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | % | 115 | 50-150 | Pass | |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | % | 123 | 50-150 | Pass | |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | % | 113 | 50-150 | Pass | |

| Test | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code | | |
|------------------------------------------------------------|---------------|-----------|-------|-------------------|-------------|-------------------|-------------|-----------------|
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | % | 149 | | 50-150 | Pass | | | |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | % | 139 | | 50-150 | Pass | | | |
| LCS - % Recovery | | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSA's) | | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | % | 106 | | 50-150 | Pass | | | |
| Perfluorononanesulfonic acid (PFNS) | % | 108 | | 50-150 | Pass | | | |
| Perfluoropropanesulfonic acid (PFPrS) | % | 97 | | 50-150 | Pass | | | |
| Perfluoropentanesulfonic acid (PFPeS) | % | 105 | | 50-150 | Pass | | | |
| Perfluorohexanesulfonic acid (PFHxS) | % | 114 | | 50-150 | Pass | | | |
| Perfluoroheptanesulfonic acid (PFHpS) | % | 104 | | 50-150 | Pass | | | |
| Perfluorooctanesulfonic acid (PFOS) | % | 108 | | 50-150 | Pass | | | |
| Perfluorodecanesulfonic acid (PFDS) | % | 96 | | 50-150 | Pass | | | |
| LCS - % Recovery | | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA's) | | | | | | | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | % | 121 | | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | % | 119 | | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | % | 106 | | 50-150 | Pass | | | |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | % | 113 | | 50-150 | Pass | | | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
| Spike - % Recovery | | | | | | | | |
| Alkali Metals | | | | Result 1 | | | | |
| Potassium | S19-No14043 | CP | % | 100 | | 70-130 | Pass | |
| Test | Lab Sample ID | QA Source | Units | Result 1 | | Acceptance Limits | Pass Limits | Qualifying Code |
| Duplicate | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | |
| Phosphate total (as P) | S19-No14038 | CP | mg/L | 0.17 | 0.18 | 7.0 | 30% | Pass |
| Phosphorus reactive (as P) | S19-No14038 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Heavy Metals | | | | Result 1 | Result 2 | RPD | | |
| Arsenic (filtered) | S19-No14038 | CP | mg/L | 0.002 | 0.002 | 15 | 30% | Pass |
| Barium (filtered) | S19-No14038 | CP | mg/L | 0.34 | 0.35 | 5.0 | 30% | Pass |
| Boron (filtered) | S19-No14038 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Cadmium (filtered) | S19-No14038 | CP | mg/L | 0.0004 | 0.0003 | 12 | 30% | Pass |
| Chromium (filtered) | S19-No14038 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass |
| Cobalt (filtered) | S19-No14038 | CP | mg/L | 0.050 | 0.048 | 5.0 | 30% | Pass |
| Copper (filtered) | S19-No14038 | CP | mg/L | 0.001 | 0.002 | 3.0 | 30% | Pass |
| Iron (filtered) | S19-No14038 | CP | mg/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Lead (filtered) | S19-No14038 | CP | mg/L | < 0.001 | < 0.001 | <1 | 30% | Pass |
| Manganese (filtered) | S19-No14038 | CP | mg/L | 17 | 17 | <1 | 30% | Pass |
| Mercury (filtered) | S19-No14038 | CP | mg/L | < 0.0001 | < 0.0001 | <1 | 30% | Pass |
| Nickel (filtered) | S19-No14038 | CP | mg/L | 0.009 | 0.009 | 5.0 | 30% | Pass |
| Zinc (filtered) | S19-No14038 | CP | mg/L | 0.034 | 0.033 | 5.0 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanoic acid (PFBA) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Perfluoropentanoic acid (PFPeA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanoic acid (PFHxA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroheptanoic acid (PFHpA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanoic acid (PFOA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanoic acid (PFNA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorodecanoic acid (PFDA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroundecanoic acid (PFUnDA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|---------------------------------------------------------------|-------------|----|------|----------|----------|-----|-----|------|
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorododecanoic acid (PFDoDA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotridecanoic acid (PFTrDA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotetradecanoic acid (PFTeDA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | Result 2 | RPD | | |
| Perfluorooctane sulfonamide (FOSA) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanesulfonic acid (PFBS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanesulfonic acid (PFNS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropropanesulfonic acid (PFPrS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropentanesulfonic acid (PFPeS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanesulfonic acid (PFHxS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroheptanesulfonic acid (PFHpS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanesulfonic acid (PFOS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorodecanesulfonic acid (PFDS) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | Result 1 | Result 2 | RPD | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | S19-No14041 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | S19-No14041 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanoic acid (PFBA) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Perfluoropentanoic acid (PFPeA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanoic acid (PFHxA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroheptanoic acid (PFHpA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanoic acid (PFOA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanoic acid (PFNA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |

| Duplicate | | | | | | | | |
|---------------------------------------------------------------|-------------|----|------|----------|----------|-----|-----|------|
| Perfluoroalkyl carboxylic acids (PFCAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorodecanoic acid (PFDA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroundecanoic acid (PFUnDA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorododecanoic acid (PFDoDA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotridecanoic acid (PFTrDA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorotetradecanoic acid (PFTeDA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonamido substances | | | | Result 1 | Result 2 | RPD | | |
| Perfluorooctane sulfonamide (FOSA) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methylperfluoro-1-octane sulfonamide (N-MeFOSA) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| Perfluoroalkyl sulfonic acids (PFSAs) | | | | Result 1 | Result 2 | RPD | | |
| Perfluorobutanesulfonic acid (PFBS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorononanesulfonic acid (PFNS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropropanesulfonic acid (PFPrS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoropentanesulfonic acid (PFPeS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorohexanesulfonic acid (PFHxS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluoroheptanesulfonic acid (PFHpS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorooctanesulfonic acid (PFOS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Perfluorodecanesulfonic acid (PFDS) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| n:2 Fluorotelomer sulfonic acids (n:2 FTSA) | | | | Result 1 | Result 2 | RPD | | |
| 1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA) | S19-No14042 | CP | ug/L | < 0.05 | < 0.05 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| 1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA) | S19-No14042 | CP | ug/L | < 0.01 | < 0.01 | <1 | 30% | Pass |
| Duplicate | | | | | | | | |
| | | | | Result 1 | Result 2 | RPD | | |
| Ammonia (as N) | S19-No14043 | CP | mg/L | 1.0 | 1.0 | <1 | 30% | Pass |
| Nitrate & Nitrite (as N) | S19-No14043 | CP | mg/L | 0.08 | 0.08 | 1.0 | 30% | Pass |
| Nitrate (as N) | S19-No14043 | CP | mg/L | 0.08 | 0.08 | 1.0 | 30% | Pass |
| Nitrite (as N) | S19-No14043 | CP | mg/L | < 0.02 | < 0.02 | <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 |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N11 | Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds. |
| N15 | Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation). |
| R09 | Theoretically the TKN result should be greater or equal to ammonia concentration. However the difference reported is within the uncertainty of the individual tests |

Authorised By

| | |
|------------------|--------------------------------|
| Ursula Long | Analytical Services Manager |
| Bryan Wilson | Senior Analyst-PFAS (QLD) |
| Gabriele Cordero | Senior Analyst-Inorganic (NSW) |
| Gabriele Cordero | Senior Analyst-Metal (NSW) |
| Julie Kay | Senior Analyst-Inorganic (VIC) |


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

Measurement uncertainty of test data is available on request or please [click here](#).

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016576

Ebrofens

CHAIN OF CUSTODY

1 of 1



| | |
|---------------------------------------------------------------------------------------------------------------------|-------------------------|
| PROJECT NO.: <i>57591</i> | LABORATORY BATCH NO.: |
| PROJECT NAME: <i>Mangroves - Jordan Springs - basins</i> | SAMPLERS: <i>EB D.H</i> |
| DATE NEEDED BY: <i>48 hrs</i> | QC LEVEL: NEPM (2013) |
| PHONE: Sydney: 02 8245 0300 Perth: 08 9488 0100 Brisbane: 07 3112 2688 | |
| SEND REPORT & INVOICE TO: (1) adminnsw@jbsg.com.au; (2) <i>g.black</i> @jbsg.com.au; (3) <i>dhoban</i> @jbsg.com.au | |

| SAMPLE ID | MATRIX | DATE | TIME | PRESERVATIVE | pH | ANALYSIS | | | | | | | | | | IDENTIFICATION | NEPM/WA | NOTES: | | | |
|--------------------|--------------|-----------------|------|--------------------------------|----|----------|--------------|-----------|-------------|----------|----|--|--|--|--|----------------|---------|---------------|-----------------------------|--|--|
| | | | | | | PFAS | Heavy Metals | Nutrients | Majors ions | temp | pH | | | | | | | | | | |
| <i>GWM-01</i> | <i>water</i> | <i>11/11/19</i> | | <i>PFAS, Metals, Nutrients</i> | | <i>x</i> | <i>x</i> | <i>x</i> | <i>x</i> | <i>x</i> | | | | | | | | <i>687355</i> | <i>Please Filter Metals</i> | | |
| <i>GWM-02</i> | <i>↓</i> | <i>↓</i> | | <i>↓</i> | | <i>↓</i> | <i>↓</i> | <i>↓</i> | <i>x</i> | <i>x</i> | | | | | | | | | | | |
| <i>GWM-03</i> | <i>↓</i> | <i>↓</i> | | <i>PFAS</i> | | <i>↓</i> | <i>↓</i> | <i>↓</i> | <i>x</i> | <i>x</i> | | | | | | | | | | | |
| <i>Rin sate</i> | <i>↓</i> | <i>↓</i> | | <i>PFAS</i> | | <i>↓</i> | <i>↓</i> | <i>↓</i> | <i>x</i> | <i>x</i> | | | | | | | | | | | |
| <i>Trip Blank</i> | <i>↓</i> | <i>↓</i> | | <i>PFAS</i> | | <i>↓</i> | <i>↓</i> | <i>↓</i> | <i>x</i> | <i>x</i> | | | | | | | | | | | |
| <i>QA 20191111</i> | <i>↓</i> | <i>↓</i> | | <i>PFAS, Metals, Nutrients</i> | | <i>x</i> | <i>x</i> | <i>x</i> | <i>x</i> | <i>x</i> | | | | | | | | | | | |
| <i>QC 20191111</i> | <i>↓</i> | <i>↓</i> | | <i>↓</i> | | <i>x</i> | <i>x</i> | <i>x</i> | <i>x</i> | <i>x</i> | | | | | | | | | | | |

| | | | |
|------------------------------------------------|----------------------|-----------------------------------------------|-----------------------------------------------------------|
| RELINQUISHED BY: | METHOD OF SHIPMENT: | RECEIVED BY: | FOR RECEIVING LAB USE ONLY: |
| NAME: <i>[Signature]</i> DATE: <i>11/11/19</i> | CONSIGNMENT NOTE NO. | NAME: <i>Rupam</i> DATE: <i>11/11 1:39 PM</i> | COOLER SEAL - Yes..... No Intact Broken |
| OF: JBS&G | TRANSPORT CO. | OF: | COOLER TEMP deg C <i>17.30°C</i> |
| NAME: | CONSIGNMENT NOTE NO. | NAME: | COOLER SEAL - Yes..... No Intact Broken |
| DATE: | TRANSPORT CO. | DATE: | 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

Sample Receipt Advice

Company name: **JBS & G Australia (NSW) P/L**
Contact name: George Black
Project name: JORDAN SPRINGS - BASINS
Project ID: 57591
COC number: Not provided
Turn around time: 2 Day
Date/Time received: Nov 11, 2019 1:39 PM
Eurofins reference: **687355**

Sample information

- A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- Sample Temperature of a random sample selected from the batch as recorded by Eurofins Sample Receipt : 17.3 degrees Celsius.
- All samples have been received as described on the above COC.
- COC has been completed correctly.
- Attempt to chill was evident.
- Appropriately preserved sample containers have been used.
- All samples were received in good condition.
- Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- Appropriate sample containers have been used.
- Sample containers for volatile analysis received with zero headspace.
- Split sample sent to requested external lab.
- Some samples have been subcontracted.

Notes N/A Custody Seals intact (if used).

QA20191111(500mL, 50ml Plastics) forwarded to ENVIROLAB.

Contact notes

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

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

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

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



Envirolab Services Pty Ltd

ABN 37 112 535 645

12 Ashley St Chatswood NSW 2067

ph 02 9910 6200 fax 02 9910 6201

customerservice@envirolab.com.au

www.envirolab.com.au

CERTIFICATE OF ANALYSIS 230601

Client Details

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

Sample Details

| | |
|---------------------------------------------|-------------------------------------|
| Your Reference | 57591, Jordan Springs Basins |
| Number of Samples | 1 water |
| Date samples received | 12/11/2019 |
| Date completed instructions received | 12/11/2019 |

Analysis Details

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

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

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

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

Report Details

Date results requested by 14/11/2019

Date of Issue 14/11/2019

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

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

Results Approved By

Fiona Tan, LC Supervisor

Greta Petzold, Senior Chemist

Jaimie Loa-Kum-Cheung, Metals Supervisor

Nick Sarlamis, Inorganics Supervisor

Authorised By

Nancy Zhang, Laboratory Manager

Envirolab Reference: 230601

Revision No: R00



| HM in water - dissolved | | |
|-------------------------|-------|------------|
| Our Reference | | 230601-1 |
| Your Reference | UNITS | QA20191111 |
| Date Sampled | | 11/11/2019 |
| Type of sample | | water |
| Date prepared | - | 13/11/2019 |
| Date analysed | - | 13/11/2019 |
| Arsenic-Dissolved | µg/L | 1 |
| Boron-Dissolved | µg/L | 40 |
| Barium-Dissolved | µg/L | 170 |
| Cadmium-Dissolved | µg/L | <0.1 |
| Chromium-Dissolved | µg/L | <1 |
| Cobalt-Dissolved | µg/L | 21 |
| Copper-Dissolved | µg/L | <1 |
| Iron-Dissolved | µg/L | <10 |
| Lead-Dissolved | µg/L | <1 |
| Manganese-Dissolved | µg/L | 4,000 |
| Mercury-Dissolved | µg/L | <0.05 |
| Nickel-Dissolved | µg/L | 6 |
| Zinc-Dissolved | µg/L | 8 |

| Metals in Waters - Acid extractable | | |
|-------------------------------------|-------|------------|
| Our Reference | | 230601-1 |
| Your Reference | UNITS | QA20191111 |
| Date Sampled | | 11/11/2019 |
| Type of sample | | water |
| Date prepared | - | 13/11/2019 |
| Date analysed | - | 13/11/2019 |
| Phosphorus - Total | mg/L | <0.05 |

| PFAS in Waters Extended | | |
|---------------------------------------------------|-------|------------|
| Our Reference | | 230601-1 |
| Your Reference | UNITS | QA20191111 |
| Date Sampled | | 11/11/2019 |
| Type of sample | | water |
| Date prepared | - | 13/11/2019 |
| Date analysed | - | 13/11/2019 |
| Perfluorobutanesulfonic acid | µg/L | <0.01 |
| Perfluoropentanesulfonic acid | µg/L | <0.01 |
| Perfluorohexanesulfonic acid - PFHxS | µg/L | <0.01 |
| Perfluoroheptanesulfonic acid | µg/L | <0.01 |
| Perfluorooctanesulfonic acid PFOS | µg/L | <0.01 |
| Perfluorodecanesulfonic acid | µg/L | <0.02 |
| Perfluorobutanoic acid | µg/L | <0.02 |
| Perfluoropentanoic acid | µg/L | <0.02 |
| Perfluorohexanoic acid | µg/L | <0.01 |
| Perfluoroheptanoic acid | µg/L | <0.01 |
| Perfluorooctanoic acid PFOA | µg/L | <0.01 |
| Perfluorononanoic acid | µg/L | <0.01 |
| Perfluorodecanoic acid | µg/L | <0.02 |
| Perfluoroundecanoic acid | µg/L | <0.02 |
| Perfluorododecanoic acid | µg/L | <0.05 |
| Perfluorotridecanoic acid | µg/L | <0.1 |
| Perfluorotetradecanoic acid | µg/L | <0.5 |
| 4:2 FTS | µg/L | <0.01 |
| 6:2 FTS | µg/L | <0.01 |
| 8:2 FTS | µg/L | <0.01 |
| 10:2 FTS | µg/L | <0.01 |
| Perfluorooctane sulfonamide | µg/L | <0.1 |
| N-Methyl perfluorooctane sulfonamide | µg/L | <0.05 |
| N-Ethyl perfluorooctanesulfonamide | µg/L | <0.1 |
| N-Me perfluorooctanesulfonamid oethanol | µg/L | <0.05 |
| N-Et perfluorooctanesulfonamid oethanol | µg/L | <0.5 |
| MePerfluorooctanesulf- amid oacetic acid | µg/L | <0.02 |
| EtPerfluorooctanesulf- amid oacetic acid | µg/L | <0.02 |
| Surrogate ¹³ C ₈ PFOS | % | 102 |
| Surrogate ¹³ C ₂ PFOA | % | 98 |
| Extracted ISTD ¹³ C ₃ PFBS | % | 99 |
| Extracted ISTD ¹⁸ O ₂ PFHxS | % | 90 |
| Extracted ISTD ¹³ C ₄ PFOS | % | 105 |
| Extracted ISTD ¹³ C ₄ PFBA | % | 65 |

| PFAS in Waters Extended | | |
|----------------------------------------------------|-------|------------|
| Our Reference | | 230601-1 |
| Your Reference | UNITS | QA20191111 |
| Date Sampled | | 11/11/2019 |
| Type of sample | | water |
| Extracted ISTD ¹³ C ₃ PFPeA | % | 97 |
| Extracted ISTD ¹³ C ₂ PFHxA | % | 98 |
| Extracted ISTD ¹³ C ₄ PFHpA | % | 90 |
| Extracted ISTD ¹³ C ₄ PFOA | % | 99 |
| Extracted ISTD ¹³ C ₅ PFNA | % | 96 |
| Extracted ISTD ¹³ C ₂ PFDA | % | 96 |
| Extracted ISTD ¹³ C ₂ PFUnDA | % | 90 |
| Extracted ISTD ¹³ C ₂ PFDoDA | % | 95 |
| Extracted ISTD ¹³ C ₂ PFTeDA | % | 85 |
| Extracted ISTD ¹³ C ₂ 4:2FTS | % | 79 |
| Extracted ISTD ¹³ C ₂ 6:2FTS | % | 92 |
| Extracted ISTD ¹³ C ₂ 8:2FTS | % | 75 |
| Extracted ISTD ¹³ C ₈ FOSA | % | 83 |
| Extracted ISTD d ₃ N MeFOSA | % | 98 |
| Extracted ISTD d ₅ N EtFOSA | % | 99 |
| Extracted ISTD d ₇ N MeFOSE | % | 111 |
| Extracted ISTD d ₉ N EtFOSE | % | 105 |
| Extracted ISTD d ₃ N MeFOSAA | % | 79 |
| Extracted ISTD d ₅ N EtFOSAA | % | 86 |
| Total Positive PFHxS & PFOS | µg/L | <0.01 |
| Total Positive PFOA & PFOS | µg/L | <0.01 |
| Total Positive PFAS | µg/L | <0.01 |

| Miscellaneous Inorganics | | |
|--------------------------|----------|------------|
| Our Reference | | 230601-1 |
| Your Reference | UNITS | QA20191111 |
| Date Sampled | | 11/11/2019 |
| Type of sample | | water |
| Date prepared | - | 12/11/2019 |
| Date analysed | - | 12/11/2019 |
| pH | pH Units | 7.4 |
| Electrical Conductivity | µS/cm | 25,000 |
| Fluoride, F | mg/L | 0.1 |
| Nitrate as N in water | mg/L | 0.03 |
| Nitrite as N in water | mg/L | <0.005 |
| Total Nitrogen in water | mg/L | 1.2 |
| TKN in water | mg/L | 1.1 |
| Ammonia as N in water | mg/L | 0.93 |
| Phosphate as P in water | mg/L | 0.005 |

| Ion Balance | | |
|--------------------------------------------------------------|-------|------------|
| Our Reference | | 230601-1 |
| Your Reference | UNITS | QA20191111 |
| Date Sampled | | 11/11/2019 |
| Type of sample | | water |
| Date prepared | - | 13/11/2019 |
| Date analysed | - | 13/11/2019 |
| Calcium - Dissolved | mg/L | 220 |
| Potassium - Dissolved | mg/L | 30 |
| Sodium - Dissolved | mg/L | 4,400 |
| Magnesium - Dissolved | mg/L | 860 |
| Hydroxide Alkalinity (OH ⁻) as CaCO ₃ | mg/L | <5 |
| Bicarbonate Alkalinity as CaCO ₃ | mg/L | 1,200 |
| Carbonate Alkalinity as CaCO ₃ | mg/L | <5 |
| Total Alkalinity as CaCO ₃ | mg/L | 1,200 |
| Sulphate, SO ₄ | mg/L | 970 |
| Chloride, Cl | mg/L | 9,000 |
| Ionic Balance | % | -4.0 |

| Method ID | Methodology Summary |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inorg-001 | pH - Measured using pH meter and electrode in accordance with APHA latest edition, 4500-H+. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times. |
| Inorg-002 | Conductivity and Salinity - measured using a conductivity cell at 25°C in accordance with APHA latest edition 2510 and Rayment & Lyons. |
| Inorg-006 | Alkalinity - determined titrimetrically in accordance with APHA latest edition, 2320-B. |
| Inorg-026 | Fluoride determined by ion selective electrode (ISE) in accordance with APHA latest edition, 4500-F-C. |
| Inorg-040 | The concentrations of the major ions (mg/L) are converted to milliequivalents and summed. The ionic balance should be within +/- 10% ie total anions = total cations +/-10%. |
| Inorg-055 | Nitrate - determined colourimetrically. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction. |
| Inorg-055 | Nitrite - determined colourimetrically based on APHA latest edition NO2- B. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction. |
| Inorg-055/062/127 | Total Nitrogen - Calculation sum of TKN and oxidised Nitrogen. Alternatively analysed by combustion and chemiluminescence. |
| Inorg-057 | Ammonia - determined colourimetrically, based on APHA latest edition 4500-NH3 F. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a KCl extraction. |
| Inorg-060 | Phosphate determined colourimetrically based on EPA365.1 and APHA latest edition 4500 P E. Waters samples are filtered on receipt prior to analysis. Soils are analysed following a water extraction. |
| Inorg-062 | TKN - determined colourimetrically based on APHA latest edition 4500 Norg. Alternatively, TKN can be derived from calculation (Total N - NOx). |
| Inorg-081 | Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser. |
| Metals-020 | Determination of various metals by ICP-AES. |
| Metals-021 | Determination of Mercury by Cold Vapour AAS. |
| Metals-022 | Determination of various metals by ICP-MS. |

Client Reference: 57591, Jordan Springs Basins

| Method ID | Methodology Summary |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Org-035 | <p>Soil samples are extracted with basified Methanol. Waters and soil extracts are directly injected and/or concentrated/extracted using SPE. Analysis is undertaken with LC-MS/MS.</p> <p>PFAS results include the sum of branched and linear isomers where applicable.</p> <p>Please note that PFAS results are corrected for Extracted Internal Standards (QSM 5.3 Table B-15 terminology), which are mass labelled analytes added prior to sample preparation to assess matrix effects and verify processing of the sample. PFAS analytes without a commercially available mass labelled analogue are corrected vs a closely eluting mass labelled PFAS compound. Surrogates are also reported, in this context they are mass labelled PFAS compounds added prior to extraction but are used as monitoring compounds only (not used for result correction). Envicarb (or similar) is used discretionally to remove interfering matrix components.</p> <p>Please contact the laboratory if estimates of Measurement Uncertainty are required as per WA DER.</p> |

Client Reference: 57591, Jordan Springs Basins

| QUALITY CONTROL: HM in water - dissolved | | | | | Duplicate | | | Spike Recovery % | | |
|------------------------------------------|-------|------|------------|------------|-----------|------|------|------------------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W3 | [NT] |
| Date prepared | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Date analysed | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Arsenic-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 97 | [NT] |
| Boron-Dissolved | µg/L | 20 | Metals-022 | <20 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Barium-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 94 | [NT] |
| Cadmium-Dissolved | µg/L | 0.1 | Metals-022 | <0.1 | [NT] | [NT] | [NT] | [NT] | 98 | [NT] |
| Chromium-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Cobalt-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Copper-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Iron-Dissolved | µg/L | 10 | Metals-022 | <10 | [NT] | [NT] | [NT] | [NT] | 112 | [NT] |
| Lead-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 107 | [NT] |
| Manganese-Dissolved | µg/L | 5 | Metals-022 | <5 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Mercury-Dissolved | µg/L | 0.05 | Metals-021 | <0.05 | [NT] | [NT] | [NT] | [NT] | 99 | [NT] |
| Nickel-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 100 | [NT] |
| Zinc-Dissolved | µg/L | 1 | Metals-022 | <1 | [NT] | [NT] | [NT] | [NT] | 99 | [NT] |

Client Reference: 57591, Jordan Springs Basins

| QUALITY CONTROL: Metals in Waters - Acid extractable | | | | | Duplicate | | | Spike Recovery % | | |
|------------------------------------------------------|-------|------|------------|------------|-----------|------|------|------------------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W1 | [NT] |
| Date prepared | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Date analysed | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Phosphorus - Total | mg/L | 0.05 | Metals-020 | <0.05 | [NT] | [NT] | [NT] | [NT] | 102 | [NT] |

Client Reference: 57591, Jordan Springs Basins

| QUALITY CONTROL: PFAS in Waters Extended | | | | | Duplicate | | | Spike Recovery % | | |
|---------------------------------------------|-------|------|---------|------------|-----------|------|------|------------------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W1 | [NT] |
| Date prepared | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Date analysed | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Perfluorobutanesulfonic acid | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 99 | [NT] |
| Perfluoropentanesulfonic acid | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 106 | [NT] |
| Perfluorohexanesulfonic acid - PFHxS | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 105 | [NT] |
| Perfluoroheptanesulfonic acid | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Perfluorooctanesulfonic acid PFOS | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 98 | [NT] |
| Perfluorodecanesulfonic acid | µg/L | 0.02 | Org-035 | <0.02 | [NT] | [NT] | [NT] | [NT] | 89 | [NT] |
| Perfluorobutanoic acid | µg/L | 0.02 | Org-035 | <0.02 | [NT] | [NT] | [NT] | [NT] | 100 | [NT] |
| Perfluoropentanoic acid | µg/L | 0.02 | Org-035 | <0.02 | [NT] | [NT] | [NT] | [NT] | 96 | [NT] |
| Perfluorohexanoic acid | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 96 | [NT] |
| Perfluoroheptanoic acid | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 95 | [NT] |
| Perfluorooctanoic acid PFOA | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 91 | [NT] |
| Perfluorononanoic acid | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 95 | [NT] |
| Perfluorodecanoic acid | µg/L | 0.02 | Org-035 | <0.02 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Perfluoroundecanoic acid | µg/L | 0.02 | Org-035 | <0.02 | [NT] | [NT] | [NT] | [NT] | 86 | [NT] |
| Perfluorododecanoic acid | µg/L | 0.05 | Org-035 | <0.05 | [NT] | [NT] | [NT] | [NT] | 94 | [NT] |
| Perfluorotridecanoic acid | µg/L | 0.1 | Org-035 | <0.1 | [NT] | [NT] | [NT] | [NT] | 92 | [NT] |
| Perfluorotetradecanoic acid | µg/L | 0.5 | Org-035 | <0.5 | [NT] | [NT] | [NT] | [NT] | 97 | [NT] |
| 4:2 FTS | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 101 | [NT] |
| 6:2 FTS | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 92 | [NT] |
| 8:2 FTS | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 96 | [NT] |
| 10:2 FTS | µg/L | 0.01 | Org-035 | <0.01 | [NT] | [NT] | [NT] | [NT] | 109 | [NT] |
| Perfluorooctane sulfonamide | µg/L | 0.1 | Org-035 | <0.1 | [NT] | [NT] | [NT] | [NT] | 91 | [NT] |
| N-Methyl perfluorooctane sulfonamide | µg/L | 0.05 | Org-035 | <0.05 | [NT] | [NT] | [NT] | [NT] | 105 | [NT] |
| N-Ethyl perfluorooctanesulfonamide | µg/L | 0.1 | Org-035 | <0.1 | [NT] | [NT] | [NT] | [NT] | 90 | [NT] |
| N-Me perfluorooctanesulfonamidethanol | µg/L | 0.05 | Org-035 | <0.05 | [NT] | [NT] | [NT] | [NT] | 108 | [NT] |
| N-Et perfluorooctanesulfonamidethanol | µg/L | 0.5 | Org-035 | <0.5 | [NT] | [NT] | [NT] | [NT] | 114 | [NT] |
| MePerfluorooctanesulfonamidacetic acid | µg/L | 0.02 | Org-035 | <0.02 | [NT] | [NT] | [NT] | [NT] | 98 | [NT] |
| EtPerfluorooctanesulfonamidacetic acid | µg/L | 0.02 | Org-035 | <0.02 | [NT] | [NT] | [NT] | [NT] | 95 | [NT] |
| Surrogate ¹³ C ₈ PFOS | % | | Org-035 | 104 | [NT] | [NT] | [NT] | [NT] | 98 | [NT] |
| Surrogate ¹³ C ₂ PFOA | % | | Org-035 | 105 | [NT] | [NT] | [NT] | [NT] | 93 | [NT] |

Client Reference: 57591, Jordan Springs Basins

| QUALITY CONTROL: PFAS in Waters Extended | | | | | Duplicate | | | Spike Recovery % | | |
|----------------------------------------------------|-------|-----|---------|-------|-----------|------|------|------------------|--------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W1 | [NT] |
| Extracted ISTD ¹³ C ₃ PFBS | % | | Org-035 | 97 | [NT] | [NT] | [NT] | [NT] | 91 | [NT] |
| Extracted ISTD ¹⁸ O ₂ PFHxS | % | | Org-035 | 95 | [NT] | [NT] | [NT] | [NT] | 90 | [NT] |
| Extracted ISTD ¹³ C ₄ PFOS | % | | Org-035 | 102 | [NT] | [NT] | [NT] | [NT] | 103 | [NT] |
| Extracted ISTD ¹³ C ₄ PFBA | % | | Org-035 | 100 | [NT] | [NT] | [NT] | [NT] | 105 | [NT] |
| Extracted ISTD ¹³ C ₃ PFPeA | % | | Org-035 | 100 | [NT] | [NT] | [NT] | [NT] | 101 | [NT] |
| Extracted ISTD ¹³ C ₂ PFHxA | % | | Org-035 | 96 | [NT] | [NT] | [NT] | [NT] | 92 | [NT] |
| Extracted ISTD ¹³ C ₄ PFHpA | % | | Org-035 | 93 | [NT] | [NT] | [NT] | [NT] | 91 | [NT] |
| Extracted ISTD ¹³ C ₄ PFOA | % | | Org-035 | 93 | [NT] | [NT] | [NT] | [NT] | 98 | [NT] |
| Extracted ISTD ¹³ C ₅ PFNA | % | | Org-035 | 103 | [NT] | [NT] | [NT] | [NT] | 98 | [NT] |
| Extracted ISTD ¹³ C ₂ PFDA | % | | Org-035 | 108 | [NT] | [NT] | [NT] | [NT] | 96 | [NT] |
| Extracted ISTD ¹³ C ₂ PFUnDA | % | | Org-035 | 104 | [NT] | [NT] | [NT] | [NT] | 108 | [NT] |
| Extracted ISTD ¹³ C ₂ PFDoDA | % | | Org-035 | 110 | [NT] | [NT] | [NT] | [NT] | 115 | [NT] |
| Extracted ISTD ¹³ C ₂ PFTeDA | % | | Org-035 | 74 | [NT] | [NT] | [NT] | [NT] | 135 | [NT] |
| Extracted ISTD ¹³ C ₂ 4:2FTS | % | | Org-035 | 107 | [NT] | [NT] | [NT] | [NT] | 111 | [NT] |
| Extracted ISTD ¹³ C ₂ 6:2FTS | % | | Org-035 | 112 | [NT] | [NT] | [NT] | [NT] | 105 | [NT] |
| Extracted ISTD ¹³ C ₂ 8:2FTS | % | | Org-035 | 76 | [NT] | [NT] | [NT] | [NT] | 96 | [NT] |
| Extracted ISTD ¹³ C ₈ FOSA | % | | Org-035 | 88 | [NT] | [NT] | [NT] | [NT] | 88 | [NT] |
| Extracted ISTD d ₃ N MeFOSA | % | | Org-035 | 104 | [NT] | [NT] | [NT] | [NT] | 110 | [NT] |
| Extracted ISTD d ₅ N EtFOSA | % | | Org-035 | 97 | [NT] | [NT] | [NT] | [NT] | 111 | [NT] |
| Extracted ISTD d ₇ N MeFOSE | % | | Org-035 | 104 | [NT] | [NT] | [NT] | [NT] | 114 | [NT] |

Client Reference: 57591, Jordan Springs Basins

| QUALITY CONTROL: PFAS in Waters Extended | | | | | Duplicate | | | Spike Recovery % | | |
|-----------------------------------------------|-------|-----|---------|-------|-----------|------|------|------------------|--------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W1 | [NT] |
| <i>Extracted ISTD d₉ N EtFOSE</i> | % | | Org-035 | 89 | [NT] | [NT] | [NT] | [NT] | 117 | [NT] |
| <i>Extracted ISTD d₃ N MeFOSAA</i> | % | | Org-035 | 97 | [NT] | [NT] | [NT] | [NT] | 109 | [NT] |
| <i>Extracted ISTD d₅ N EtFOSAA</i> | % | | Org-035 | 97 | [NT] | [NT] | [NT] | [NT] | 91 | [NT] |

Client Reference: 57591, Jordan Springs Basins

| QUALITY CONTROL: Miscellaneous Inorganics | | | | Duplicate | | | | Spike Recovery % | | |
|-------------------------------------------|----------|-------|-------------------|------------|---|------------|------------|------------------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W1 | [NT] |
| Date prepared | - | | | 12/11/2019 | 1 | 12/11/2019 | 12/11/2019 | | 12/11/2019 | [NT] |
| Date analysed | - | | | 12/11/2019 | 1 | 12/11/2019 | 12/11/2019 | | 12/11/2019 | [NT] |
| pH | pH Units | | Inorg-001 | [NT] | 1 | 7.4 | [NT] | | 102 | [NT] |
| Electrical Conductivity | µS/cm | 1 | Inorg-002 | <1 | 1 | 25000 | [NT] | | 108 | [NT] |
| Fluoride, F | mg/L | 0.1 | Inorg-026 | <0.1 | 1 | 0.1 | 0.1 | 0 | 97 | [NT] |
| Nitrate as N in water | mg/L | 0.005 | Inorg-055 | <0.005 | 1 | 0.03 | [NT] | | [NT] | [NT] |
| Nitrite as N in water | mg/L | 0.005 | Inorg-055 | <0.005 | 1 | <0.005 | [NT] | | [NT] | [NT] |
| Total Nitrogen in water | mg/L | 0.1 | Inorg-055/062/127 | <0.1 | 1 | 1.2 | [NT] | | 97 | [NT] |
| TKN in water | mg/L | 0.1 | Inorg-062 | <0.1 | 1 | 1.1 | [NT] | | 97 | [NT] |
| Ammonia as N in water | mg/L | 0.005 | Inorg-057 | <0.005 | 1 | 0.93 | [NT] | | [NT] | [NT] |
| Phosphate as P in water | mg/L | 0.005 | Inorg-060 | <0.005 | 1 | 0.005 | [NT] | | [NT] | [NT] |

| QUALITY CONTROL: Miscellaneous Inorganics | | | | Duplicate | | | | Spike Recovery % | | |
|-------------------------------------------|-------|-------|-----------|-----------|------|------|------|------------------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W2 | [NT] |
| Date prepared | - | | | [NT] | [NT] | [NT] | [NT] | [NT] | 12/11/2019 | [NT] |
| Date analysed | - | | | [NT] | [NT] | [NT] | [NT] | [NT] | 12/11/2019 | [NT] |
| Nitrate as N in water | mg/L | 0.005 | Inorg-055 | [NT] | [NT] | [NT] | [NT] | [NT] | 99 | [NT] |
| Nitrite as N in water | mg/L | 0.005 | Inorg-055 | [NT] | [NT] | [NT] | [NT] | [NT] | 118 | [NT] |
| Ammonia as N in water | mg/L | 0.005 | Inorg-057 | [NT] | [NT] | [NT] | [NT] | [NT] | 104 | [NT] |
| Phosphate as P in water | mg/L | 0.005 | Inorg-060 | [NT] | [NT] | [NT] | [NT] | [NT] | 102 | [NT] |

Client Reference: 57591, Jordan Springs Basins

| QUALITY CONTROL: Ion Balance | | | | | Duplicate | | | Spike Recovery % | | |
|--------------------------------------------------------------|-------|-----|------------|------------|-----------|------|------|------------------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-W1 | [NT] |
| Date prepared | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Date analysed | - | | | 13/11/2019 | [NT] | [NT] | [NT] | [NT] | 13/11/2019 | [NT] |
| Calcium - Dissolved | mg/L | 0.5 | Metals-020 | <0.5 | [NT] | [NT] | [NT] | [NT] | 101 | [NT] |
| Potassium - Dissolved | mg/L | 0.5 | Metals-020 | <0.5 | [NT] | [NT] | [NT] | [NT] | 97 | [NT] |
| Sodium - Dissolved | mg/L | 0.5 | Metals-020 | <0.5 | [NT] | [NT] | [NT] | [NT] | 80 | [NT] |
| Magnesium - Dissolved | mg/L | 0.5 | Metals-020 | <0.5 | [NT] | [NT] | [NT] | [NT] | 99 | [NT] |
| Hydroxide Alkalinity (OH ⁻) as CaCO ₃ | mg/L | 5 | Inorg-006 | <5 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Bicarbonate Alkalinity as CaCO ₃ | mg/L | 5 | Inorg-006 | <5 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Carbonate Alkalinity as CaCO ₃ | mg/L | 5 | Inorg-006 | <5 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Total Alkalinity as CaCO ₃ | mg/L | 5 | Inorg-006 | <5 | [NT] | [NT] | [NT] | [NT] | 102 | [NT] |
| Sulphate, SO ₄ | mg/L | 1 | Inorg-081 | <1 | [NT] | [NT] | [NT] | [NT] | 108 | [NT] |
| Chloride, Cl | mg/L | 1 | Inorg-081 | <1 | [NT] | [NT] | [NT] | [NT] | 100 | [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. |
| <p>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.</p> | |

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 same sample will be re-analysed. 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 received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

Report Comments

Samples received in good order: Incorrect Container

Dissolved Metals: no filtered, preserved sample was received, therefore the unpreserved sample was filtered through 0.45µm filter at the lab. Note: there is a possibility some elements may be underestimated.



Envirolab Services Pty Ltd
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www.envirolab.com.au

TAX INVOICE

JBS & G Australia Pty Ltd
Level 1, 50 Margaret St
Sydney NSW 2000
Attention: Grace Ng

Invoice No: SY 554734
Invoicing Date: 14/11/2019
Payment Due Date: 14/12/2019

Project Details

| | |
|------------------------------------|------------------------------|
| Project No. and Description | 57591, Jordan Springs Basins |
| Envirolab Report Number | 230601 |
| Purchase Order Number | |

Testing Performed / Description of Service

| | Unit Cost | Qty | Total Cost |
|-----------------------------------------------|-----------|-----|------------|
| Admin Fee | \$25.00 | 1 | \$25.00 |
| 13 HM in water - dissolved | \$28.00 | 1 | \$28.00 |
| 1 Metals in Waters - total | \$16.00 | 1 | \$16.00 |
| Perfluoroalkylated Substances water | \$140.00 | 1 | \$140.00 |
| pH in Water | \$5.00 | 1 | \$5.00 |
| Electrical Conductivity in water | \$5.00 | 1 | \$5.00 |
| Fluoride in water | \$9.00 | 1 | \$9.00 |
| Nitrate as N in water | \$9.00 | 1 | \$9.00 |
| Nitrite as N in water | \$9.00 | 1 | \$9.00 |
| Total Nitrogen in water | \$0.00 | 1 | \$0.00 |
| TKN in water | \$26.00 | 1 | \$26.00 |
| Ammonia as N in water | \$9.00 | 1 | \$9.00 |
| Phosphate as P in water | \$9.00 | 1 | \$9.00 |
| Cations (Na, K, Ca, Mg) | \$12.00 | 1 | \$12.00 |
| Anions (Major - Cl, SO4, Alkalinity) in water | \$27.00 | 1 | \$27.00 |

| Testing Performed / Description of Service | | | |
|--------------------------------------------|-----------|-----|-----------------|
| | Unit Cost | Qty | Total Cost |
| Filtration | \$15.00 | 1 | \$15.00 |
| 25% Surcharge for 2 Day Turnaround | \$76.00 | 1 | \$76.00 |
| Invoice and GST Summary Details | | | |
| Total Amount: | | | \$420.00 |
| GST (10%): | | | \$42.00 |
| Total Invoice Amount: | | | \$462.00 |

| Invoice Payment Options | |
|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Please Make Cheques Payable To | Envirolab Services Pty Ltd |
| Please EFT To | <i>Account Name:</i> Envirolab Services <i>NAB Swift Code:</i> NATAAU3303M <i>Bank:</i> National Australia Bank <i>Branch:</i> Marrickville NSW <i>BSB:</i> 082 356 <i>Account No:</i> 57981 3018 |
| Remittance Advices To | <i>Fax No:</i> 02 9910 6299 <i>Email:</i> accounts@envirolab.com.au |
| VISA and Mastercard are accepted | |
| PLEASE NOTE: OUR PAYMENT TERMS ARE STRICTLY 30 DAYS FROM DATE OF INVOICE | |

Appendix H Borelogs



BC-01

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff, dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-01 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-01 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-01 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-02

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff, dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-02 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-02 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-02 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-03

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-03 0-0.1 | No odours, staining or asbestos observed |
| | 0.20 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-03 0.3-0.4 | |
| | 0.40 | | | | Borehole BC-03 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE_JBSG_BOREHOLE_-2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-04

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.1
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------|
| Hand Auger | | | | Fill | Sandy GRAVLES (roadbase), heterogeneous, grey/brown, medium dense, dry, medium grained, poorly graded. | BC-04 0-0.1 | No odours, staining or asbestos observed. Refusal on access road gravels. |
| | 0.10 | | | | Borehole BC-04 terminated at 0.1m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-05

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------|
| Hand Auger | | | | ML | SILT, red, heterogeneous, dry, low plasticity, soft with inclusions of leaves, rootlets and twigs. | BC-05 0-0.1 | No odours, staining or asbestos observed. QA/QC20191104-ML |
| | 0.10 | |  | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-05 0.3-0.4 | |
| | 0.40 | | | | Borehole BC-05 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-06

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-06 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-06 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-06 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-07

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-07 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-07 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-07 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-08

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff, damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-08 0-0.1 | No odours, staining or asbestos observed |
| | 0.20 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-08 0.3-0.4 | |
| | 0.40 | | | | Borehole BC-08 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE_JBSG_BOREHOLE_-2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-09

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-09 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-09 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-09 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-10

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-10 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-10 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-10 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-11

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-11 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-11 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-11 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-12

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-12 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-12 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-12 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-13

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-13 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-13 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-13 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-14

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-14 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-14 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-14 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-15

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.6
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown/red, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves, gravels and twigs. | BC-15 0-0.1 | No odours, staining or asbestos observed |
| | | 0.30 | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-15 0.3-0.4 | No odours, staining or asbestos observed |
| | | 0.5 | | | | BC-15 0.5-0.6 | No odours, staining or asbestos observed. Sample location next to road in wind row material. |
| | | 0.60 | | | Borehole BC-15 terminated at 0.6m | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-16

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-16 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-16 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-16 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-17

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-17 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | |  | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-17 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-17 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-18

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-18 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | |  | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-18 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-18 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-19

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), red/brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-19 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-19 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-19 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-20

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-20 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | |  | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-20 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-20 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-21

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-21 0-0.1 | No odours, staining or asbestos observed |
| | 0.05 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-21 0.3-0.4 | |
| | 0.40 | | | | Borehole BC-21 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-22

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.45
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-22 0-0.1 | No odours, staining or asbestos observed |
| | 0.15 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-22 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.45 | | | | Borehole BC-22 terminated at 0.45m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-23

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|------------------------------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-23 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | |  | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-23 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-23 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-24

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-24 0-0.1 | No odours, staining or asbestos observed |
| | 0.15 | | | CL | CLAY, light brown/red, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BC-24 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-24 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BC-25

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 05-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff,dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BC-25 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | CLAY, light brown/grey, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BC-25 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BC-25 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE -2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-01

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.8
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), light brown, heterogeneous, stiff, dry-damp, non-plastic with inclusions of rootlets, leaves and twigs. | BV6-01 0-0.1 | No odours, staining or asbestos observed |
| | | | | | | BV6-01 0.2-0.3 | No odours, staining or asbestos observed |
| | 0.30 | | | CL | Silty CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BV6-01 0.5-0.6 | No odours, staining or asbestos observed |
| | 0.80 | | | | Borehole BV6-01 terminated at 0.8m | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-02

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.6
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), light brown, heterogeneous, stiff, dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-02 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | Silty CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BV6-02 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.5 | | | | | BV6-02 0.5-0.6 | No odours, staining or asbestos observed |
| | 0.60 | | | | Borehole BV6-02 terminated at 0.6m | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-03

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), light brown, heterogeneous, stiff, dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-03 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | Silty CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BV6-03 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BV6-03 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE_JBSG_BOREHOLE_-2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-04

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), light brown, heterogeneous, stiff, dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-04 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | Silty CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BV6-04 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BV6-04 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE_JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-05

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.5
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff, damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-05 0-0.1 | No odours, staining or asbestos observed |
| | 0.20 | |  | CL | CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BV6-05 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.5 | 0.50 | | | Borehole BV6-05 terminated at 0.5m | | |
| | 1.0 | | | | | | |

BOREHOLE JBSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-06

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.5
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff, damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-06 0-0.1 | No odours, staining or asbestos observed |
| | 0.20 | | | CL | Silty CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | BV6-06 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.5 | 0.50 | | | Borehole BV6-06 terminated at 0.5m | | |
| | 1.0 | | | | | | |

BOREHOLE JBSSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-07

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff, dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-07 0-0.1 | No odours, staining or asbestos observed. QA/QC20191104-DH |
| | 0.10 | | | CL | Silty CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BV6-07 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BV6-07 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE JBSSG BOREHOLE - 2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-08

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.3
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), dark brown, heterogeneous, stiff, damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-08 0-0.1 | No odours, staining or asbestos observed |
| | 0.20 | | | CL | CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | 0.30 | | | | Borehole BV6-08 terminated at 0.3m | BV6-08 0.3-0.4 | |
| | 1.0 | | | | | | |

BOREHOLE_JBSG_BOREHOLE_-2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



BV6-09

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 04-Nov-19
Logged By: DH,ML
Contractor:
Total Hole Depth (mbgs): 0.4
Bore Diameter (mm):

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

| Method | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|------------|--------------|----------------|-------------|--------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------|
| Hand Auger | | | | ML | SILT (topsoil), brown, heterogeneous, stiff, dry-damp, low plasticity with inclusions of rootlets, leaves and twigs. | BV6-09 0-0.1 | No odours, staining or asbestos observed |
| | 0.10 | | | CL | Silty CLAY, light brown, homogeneous, dry, very stiff, low plasticity, medium to high density with no inclusions. | | |
| | | | | | | BV6-09 0.3-0.4 | No odours, staining or asbestos observed |
| | 0.40 | | | | Borehole BV6-09 terminated at 0.4m | | |
| | 0.5 | | | | | | |
| | 1.0 | | | | | | |

BOREHOLE_JBSG_BOREHOLE_-2017.GPJ GINT STD AUSTRALIA.GDT 6-11-19



GWM-01

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 07-Nov-19
Logged By: DH
Contractor: Terratest
Total Hole Depth (mbgs): 6
Bore Diameter (mm): 50

Eastings:
Northings:
Coordinate System:
Permit#:
Elevation (m):

Water Level Initial (mbgs): 3.5
Surface Finish:
Casing / Screen Type: Class18 uPVC
Casing Bottom Depth (mbgs): 3
Screen Bottom Depth (mbgs): 6

| Method | Water (mbgs) | Well Details | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|--------------------|--------------|--------------|--------------|----------------|-------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------|
| Solid Flight Auger | | | 1 | | | CL-ML | Silty CLAY, brown/grey, homogeneous, dy, low plasticity, firm with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 2 | | | CL-ML | Silty CLAY, brown/grey, homogeneous, dy, low plasticity, firm with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 2.50 | | | CL-ML | Silty CLAY, brown/grey, homogeneous, dy, low plasticity, firm with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 3 | | | CL | CLAY, brown/red, homogeneous, dry-damp, low plasticity, soft with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 4 | | | CL | CLAY, brown/red, homogeneous, dry-damp, low plasticity, soft with no inclusions. | | No odours, staining or asbestos observed. |
| | | 5 | | | CL | CLAY, brown/red, homogeneous, dry-damp, low plasticity, soft with no inclusions. | | No odours, staining or asbestos observed. | |
| | | 5.30 | | | CL | CLAY, grey, homogeneous, dry, low plasticity, soft with no inclusions. | | No odours, staining or asbestos observed. | |
| | | 5.50 | | | SHALE | SHALE, grey, homogeneous, dry, fine grained with no inclusions. | | No odours, staining or asbestos observed. | |
| | | 6 | | | SHALE | SHALE, grey, homogeneous, dry, fine grained with no inclusions. | | No odours, staining or asbestos observed. | |
| | | 6.00 | | | | | Borehole GWM-01 terminated at 6m | | |
| | | | 7 | | | | | | |
| | | | 8 | | | | | | |

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GWM-02

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 07-Nov-19
Logged By: DH
Contractor: Terratest
Total Hole Depth (mbgs): 7.5
Bore Diameter (mm): 50

Eastings:
Northings:
Coordinate System:
Permit#:
Elevation (m):

Water Level Initial (mbgs): 5.7
Surface Finish:
Casing / Screen Type: Class18 uPVC
Casing Bottom Depth (mbgs): 4.5
Screen Bottom Depth (mbgs): 7.5

| Method | Water (mbgs) | Well Details | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|--------------------|--------------|--------------|--------------|----------------|-------------|--------------------|-----------------------------------------------------------------------------------|-----------------------|-------------------------------------------|
| Solid Flight Auger | | | 1 | | | CL-ML | Silty CLAY, brown/grey, homogeneous, dy, low plasticity, firm with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 2 | 1.70 | | CL | CLAY, brown/red, homogeneous, dry-damp, low plasticity, firm with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 5 | 5.00 | | SHALE | SHALE, grey, homogeneous, dry, fine grained with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 7.50 | | | | Borehole GWM-02 terminated at 7.5m | | No odours, staining or asbestos observed. |

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GWM-03

Project Number: 57591
Client: Maryland Development
Project Name: St Marys Basin C and V6
Site Address: Delany Circuit, Jordan Springs

Date: 07-Nov-19
Logged By: DH
Contractor: Terratest
Total Hole Depth (mbgs): 5.5
Bore Diameter (mm): 50

Eastings:
Northings:
Coordinate System:
Permit#:
Elevation (m):

Water Level Initial (mbgs): 3
Surface Finish:
Casing / Screen Type: Class18 uPVC
Casing Bottom Depth (mbgs): 2.5
Screen Bottom Depth (mbgs): 5.5

| Method | Water (mbgs) | Well Details | Depth (mbgs) | Contact (mbgs) | Graphic Log | Lithological Class | Lithological Description | Samples Tests Remarks | Additional Observations |
|--------------------|--------------|--------------|--------------|----------------|-------------|--------------------|-----------------------------------------------------------------------------------|-----------------------|-------------------------------------------|
| Solid Flight Auger | | | 1 | | | CL-ML | Silty CLAY, brown/grey, homogeneous, dy, low plasticity, firm with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 1.50 | | | SHALE | SHALE, grey, homogeneous, dry, fine grained with no inclusions. | | No odours, staining or asbestos observed. |
| | | | 5.50 | | | | Borehole GWM-03 terminated at 5.5m | | |

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