

Appendix A Sampling Plan



Huntly Common
Huntly Common Project - DELWP Sampling Plan
Huntly Streamside Reserve
Victoria

3 July 2020
58207 - 128,101 Rev1
JBS&G Australia Pty Ltd

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1. Introduction

JBS&G Australia Pty Ltd (JBS&G) has been engaged by Huntly Common Pty Ltd (Huntly Common, the 'Client') to undertake soil, sediment and water sampling at the Huntly Streamside Reserve, Huntly, Victoria (the 'site'). JBS&G have obtained DELWP permission to undertake the works on Crown Land. The works will be undertaken on Wednesday 8 July and Thursday 9 July 2020.

1.1 Background

The site comprises most of the Huntly Streamside Reserve and is on Crown Land in Huntly, Victoria. It is an artificial landform created from the deposition of sediment derived from historic mining activity in the Bendigo area. As result of migration of tailings downstream, the original course of the Bendigo Creek has been altered and the original location is covered by up to 3 m of tailings. Based on experience at other areas with historical tailings deposits, it is anticipated that the presence of the tailings onsite may be having a detrimental environmental impact due to the elevated concentrations of arsenic and mercury.

Huntly Common hold two mining licences for the site, MIN5512 and MIN5515 which enclose a total area of 164.8 Ha extending for approximately 3.9 km along Bendigo Creek between Leans Road and Millwood Road. Huntly Common propose to reclaim the deposited tailings, re-process them offsite and rehabilitate the Creek to its original location and natural form.

To understand the current baseline environmental condition of the site, JBS&G on behalf of Huntly Common propose the sampling program described in this document to collect soil, sediment and surface water data.

1.2 Objectives

The objectives of the proposed sampling program are:

- To understand the current risk to the environment and members of the public from the existing site contamination
- To understand the potential for any site contaminants to be mobilised during excavation works as part of the project, and to identify any control measures that will be required to protect the environment and human health
- To identify the extent to which the natural soil below the tailings has been impacted by leaching of contaminants from the overlying tailings and, consequently, to identify any measures that will be needed during site rehabilitation to manage this contamination.

1.3 Scope of works

The following sampling program is proposed:

- Soil sampling: Up to 10 test pit locations within the tailings material. Three soil samples from each test pit (ie 30 samples in total) will be obtained as well as three bulk samples
- Sediment sampling: Three sediment samples will be obtained (downstream, mid-stream and upstream)
- Surface water sampling: Three surface water samples will be obtained (downstream, mid-stream and upstream).

2. Sampling Locations

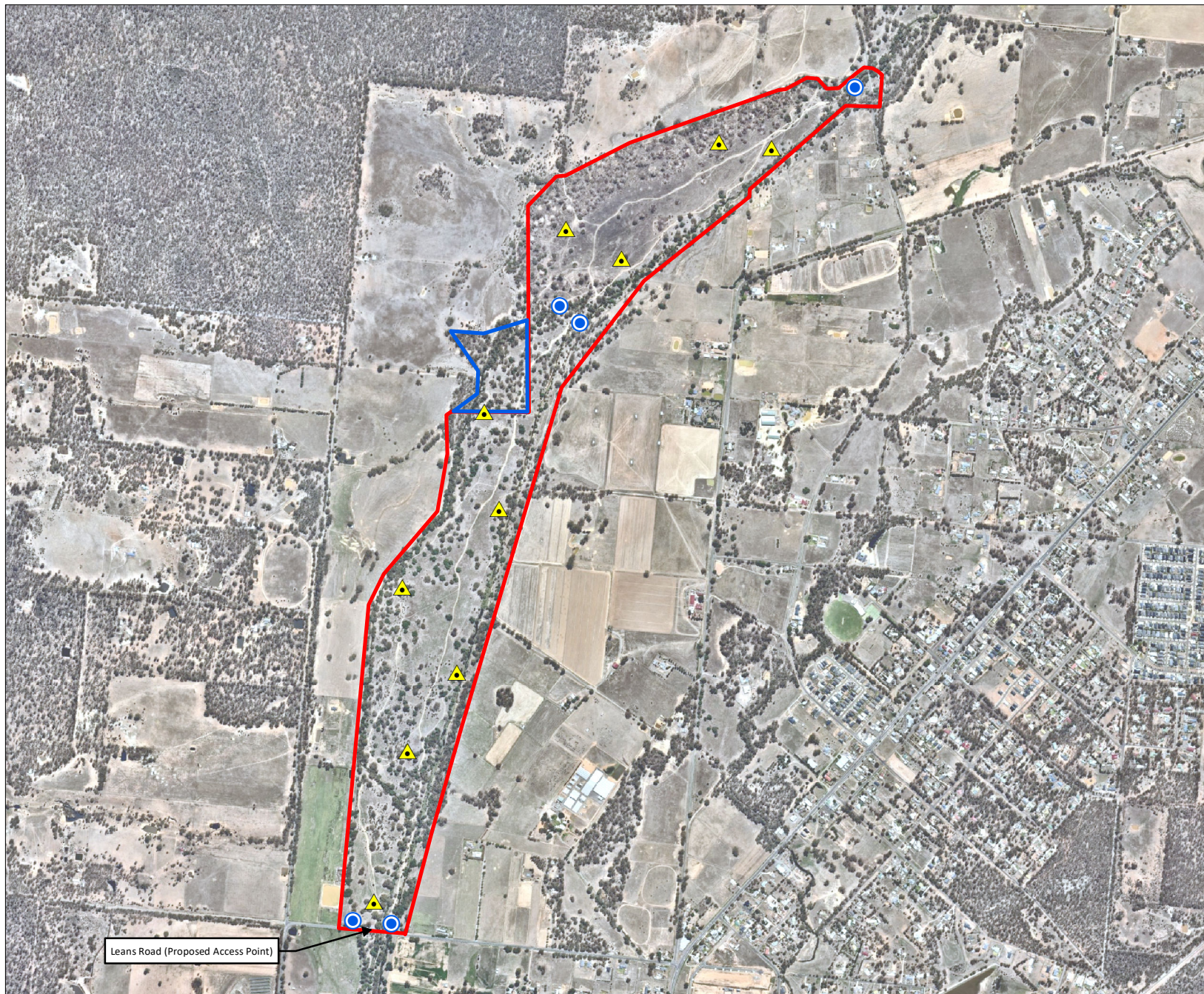
A total of 30 soil samples, 3 bulk soil samples, three surface water samples and three stream-bed sediment samples will be collected from the potential sampling locations presented on **Figure 1**. The specific location of the samples may be adjusted based on field observations.

Test pits will be located to achieve the greatest possible representation of the site. Soil samples within the test pit will be taken from tailings material and underlying natural soil where possible.

Surface water and sediment samples will be collected from three locations within close proximity to the tailings material on the site, upstream, midstream and downstream.

Due to the shallow nature of onsite watercourses, water samples will be collected from the middle of the water column and the depth of the water will be recorded.

Sediment samples will be collected within the creek in the same location as surface water samples.



- Legend:**
- Potential Surface Water & Sediment Samples
 - ▲ Potential Test Pits
- Licence**
- MIN5512
 - MIN5515



Job No: 58207

Client: Twenty Seventh Yeneb

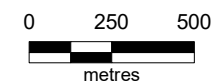
Version: Rev0

Date: 16-Mar-2020

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Checked By: DB

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Coord. Sys. GDA 1994 MGA Zone 55

**Huntly Streamside Reserve
MIN5515 & MIN5512**

SAMPLING LOCATION PLAN

FIGURE 1

3. Sample Method

Soil and water assessment work will be undertaken in accordance with the specific requirements for industrial waste in Victoria and is detailed in the EPA IWRG, specifically Publications IWRG621, IWRG702 and IWRG701.

The assessment of soil, sediment and water will also be completed in general accordance with National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 (NEPM) and relevant Australian Standards (AS4482.1, AS4482.2, AS4439.3 and AS5667.1).

3.1 Equipment

The sampling program will be conducted utilising the least amount of equipment possible to decrease the degree of environmental impact imposed by the works.

The works is anticipated to require the following equipment:

- 4-tonne excavator
- Mitsubishi Triton
- YSI multi-parameter water quality meter
- PID (photoionizing detector)
- Swing sampler (extendable sampling pole)
- Stericup and hand vacuum pump
- AMS Multi-Stage Sediment Sampler
- Waders
- Water sampling bottles
- Soil sampling jars
- Trowel
- Sample eskies

3.2 Soil sampling

Up to 10 test pits will be excavated throughout the site. The sampling plan above will be input into the ArcGIS Collector App so that the GPS coordinates of each sampling location can be tracked and recorded while onsite. The site condition of the test pit location will be photographed prior to and following backfilling to record any disturbance that occurs.

A 4-tonne excavator with a 0.5 m claw bucket will be used to progress each test pit to approximately 2 to 3 m deep, 3 m long and approximately 0.5 m wide (depending on depth of tailings material).

Excavated material will be excavated per horizon, and backfilled in the correct order.

The test pits will be sequentially advanced with constant visual assessment of the onsite Field Scientist. A log of the material observed will be maintained during excavation of the test pit. At least three samples will be collected from each test pit, from even depth intervals or where noticeable changes occur in the soil profile. The objective is to get at least one sample from the overlying sediment and one from natural material.

The samples (a couple of hundred grams each) will be placed in laboratory sample jars. A separate PID sample will be collected from each sample location in a zip lock bag for PID sampling. This soil will be returned to where it was collected after PID readings have been recorded.

Two sets of QA/QC samples will be collected from the site. The QA/QC material of each set will be mixed so that the samples are identical.

Three bulk samples will be collected, from three testpits, in the south, middle and north of the site. The bulk samples will include material from all points of the soil profile and will be mixed to ensure a representative sample of the soil horizon. The three bulk samples will be submitted for laboratory fractionation into the three following particle size groups: <100, 100-250 and >250 microns.

No onsite personnel will enter the test pits, with samples being collected from excavated material stockpiled at the edges of the test pit.

The excavator will be situated at the safest position in the event of wall slumping. This will be at the narrow edge of the test pit offset as far as practicable.

Test pits will be open for the shortest time practicable. It is expected that most pits will be completed within 30 minutes and no pit will take longer than 50 minutes. Once the soil profile has been logged and samples collected, the test pit will be progressively backfilled in the same order in which it was excavated.

The re-instated surface of each test pit will be lightly compacted through compression with the excavator bucket.

3.3 Surface water sampling

Surface water will be collected by hand methods only – there is no requirement to sample from a boat.

Surface water will be collected from a sample bottle fastened to a swing sampler (extendable sampling pole) into the direction of flow. Due to the shallow nature of onsite watercourses, water samples will be collected from the middle of the water column and the depth of the water will be recorded.

A 500 mL water sampling bottle will be secured to a swing sampling pole and transferred to an open water sampling bottle so that field water quality measurements of temperature, dissolved oxygen, pH and conductivity can be recorded through use of a multiparameter field meter. After this, a full water sample bottle will be collected for laboratory analysis.

The swing sampler will also be used to collect water for field metals filtering. A small amount of water will be poured into a stericup and a hand help vacuum pump will be used to pull the water through the stericup filter. The filtered water will be transferred to 50 mL metal bottles with preservatives for laboratory analysis.

It is anticipated that surface water sampling will take 30 minutes at each sample location.

3.4 Sediment sampling

Sediment will be collected by hand methods only – there is no requirement to sample from boat.

A sediment core will be collected from three sample locations using an AMS Multi-Stage Sediment Sampler (hand core sampler). Sample size will be in the order of hundreds of grams.

The hand core sampler requires vertical force to penetrate the sediment surface, therefore waders will be required as the sample will be obtained from within the creek.

Each sediment core will be approximately 20 cm in depth and approximately 6 cm in diameter. It is anticipated that sample collection will cause only minimal and very short term, localised turbidity impacts. Sample size will be in the order of hundreds of grams.

A photograph of the core will be collected and then subsampled through the collection of a portion of the core for laboratory analysis.

It is anticipated that sediment sampling will take 45 minutes at each sample location.

3.5 Quality Assurance / Quality Control

As described in NEPM 2013, the applicable QA/QC measures will be implemented to ensure all results are quality assured.

Two duplicates and laboratory spilt samples will be collected for the soil samples.

One duplication and split samples will be collected for the sediment and water samples.

A triplicate blank vial will be present in each esky to ensure that all samples have been sealed correctly.

4. Analytical Program

4.1 Soil sampling

Analysis of the soil samples will include:

- pH
- Extended heavy metal suite
- Leachability on selected samples, up to 10 samples in total.

A total of 9 soil samples will be sent for analysis: 7 primary samples, one duplicate and one split sample.

Three bulk samples will be sent for fractionation in the three following particle size groups: <100, 100-250 and >250 microns

4.2 Surface water sampling

Analysis of the surface water samples will include:

- Field parameters
- Laboratory electrical conductivity (EC)
- Total Suspended Solids (TSS) and Total Dissolved Solids (TDS)
- Major cations and anions
- Extended heavy metals suite (field filtered).

A total of three surface water samples will be sent for laboratory analysis.

4.3 Sediment sampling

Analysis of the sediment samples will include:

- pH
- Extended heavy metal suite

A total of three sediment samples will be sent for laboratory analysis.

4.4 Adopted criteria

Adopted soil quality criteria:

- EPA Publication IWRG621 (2009) Soil hazard categorisation and management.
- National Environment Protection Council (2013) National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1).

Adopted water quality criteria:

- State Environment Protection Policy Waters of Victoria, October 2018, (SEPP, October 2018).
- Australian and New Zealand Environment Conservation Council, 2000, Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Volume 1, (ANZECC, 2000).
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG) (2018) Australian and New Zealand Governments and Australian State and Territory Governments, Canberra ACT, Australia

5. Logistics

5.1 Timing

The sampling program will be undertaken over two full consecutive days between the hours of 8 am and 5 pm.

Test pitting work will start on Wednesday 8 July at 9 am and are expected to end at 5 pm

Sediment and surface water sampling with start 8 am Thursday 9 July and are expected to end at 4 pm.

All samples will be submitted for laboratory analysis in Melbourne at the end of works on Thursday.

There will be no night works.

5.2 Access

Access to the site will be gained from the Huntly Streamside reserve entrance from Leans Road.

The excavator will be transported to site on a trailer and will be transported long distances around site on trailer to enhance time efficacy.

The excavator operator will make the ultimate decision as to whether it is more efficient to float or track from each test pit location.

5.3 JRA / SWMS

JBS&G will prepare a Job Risk Analysis (JRA)/ Safe Work Method Statements (SWMS) and meet relevant Occupational Health and Safety (OH&S) requirements prior to undertaking works at the site.

5.4 Personnel

A total of three people will be required onsite to complete these works. These are two JBS&G field scientists, Anna Tuncks and Sequoia Weitman and one excavator operator.

Heritage works will be undertaken simultaneously by Justin Shiner from ACHM accompanied by Jamie from ACHM. In addition, two members of the Dja Dja Wurrung, Ron and Jackson, will also be attending site. Lastly, David Wright from Huntly Common will also attend site to collect some metallurgical samples.

5.5 Refuelling

There will be no refuelling onsite.

No fuels, oils or lubricants will be stored onsite.

5.6 Amenities

There will be no amenities onsite.

5.7 Environment protection and rehabilitation

JBS&G Field Scientists have undertaken similar works on sites across Australia, including in highly sensitive natural environments. Environmental risks will be managed as outlined in **Table 5.1**.

Table 5.1: Environmental management

Environmental risks	Proposed management
Damage to native vegetation	No test pitting will occur within 10 m of large trees to avoid interaction and damage of root zones. Sampling will avoid damage to native vegetation. Test pits will be located on areas dominated by exotic pasture species.

Environmental risks	Proposed management
Inversion of soil profile during backfilling	Topsoil will be separately stockpiled during test pit excavation so that proceeding soil profiles can be initially used to backfill the test pit and topsoil placed at the surface.
Erosion and sedimentation	The re-instated surface of each test pit will be smoothed and lightly compacted through compression with the excavator bucket to ensure it matches the adjoining landform and minimise any potential for erosion. Given the small footprint of each test pit and the proposed replacement of topsoil, reseeding of disturbed areas is not considered necessary. Test pitting will not be undertaken on steep banks and care will be taken in placing spoil material to ensure it does not enter waterways. If rain occurs, works will cease once the current open test pit has been backfilled and the natural surface reinstated.
Water quality	Care will be taken in placing spoil material to ensure it does not enter waterways. If rain occurs, works will cease once the current open test pit has been backfilled and the natural surface reinstated.
Cultural heritage	As excavation will be mainly within tailings material with limited disturbance to the natural soil, there is a low likelihood that archaeological artefacts will be encountered. If any material is found, work will cease, and the Dja Dja Wurrung consulted.
Waste management	All waste will be removed from site
Fire prevention	Subject to DELWP approval, the works will be undertaken in April – June 2020 when fire risk is low. A fire extinguisher will be available on site.
Hydrocarbon spills or leaks	There will be no refuelling on site. Equipment to be used on site will be well maintained. In the event of any leaks of hydrocarbons from the excavator or vehicle, a clean-up kit will be available.

5.8 Reporting

Following technical analysis of the results from the soil, sediment and surface water samples, a letter report will be drafted in the context of the approvals processes. This will identify the current risk from site contamination and any control measures considered necessary during excavation and processing of tailings material to manage risks from contaminants.

Appropriate criteria will be identified given the proposed future use of the site (following completion of the rehabilitation works).

The report will also provide photos of test pit locations before excavation and after backfilling and assess the success of environmental management measures. If necessary, remedial measures will be proposed for discussion with DELWP.

A copy of the report will be provided to DELWP.



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1	1 x Electronic copy	Huntly Common	3 July 2020

Document Status

Rev No.	Author	Reviewer	Approved for Issue		
		Name	Name	Signature	Date
0	Anna Tuncks Environmental Scientist	Dave Blair State Lead – Environmental Impact Assessments	Dave Blair State Lead – Environmental Impact Assessments		16 March 2020
1	Anna Tuncks	Lachlan Wilkinson Principal	Lachlan Wilkinson Principal		3 July 2020



Appendix B Groundwater Resource Report

Groundwater Resource Report

Groundwater catchment: Campaspe

VICGRID94 Easting: 2438604 Northing: 2537686

Depth to water table: < 5m

Water table salinity (mg/L): 1001 - 3500

Groundwater layers (Aquifers and Aquitards)	Depth below surface (m)	Groundwater salinity (mg/L)
UTQA Upper Tertiary / Quaternary Aquifer layered clay, sands and silt	0 - 7	1001 - 3500
BSE Mesozoic and Palaeozoic Bedrock (basement) sedimentary (fractured rock): Sandstone, siltstone, mudstone, shale. Igneous (fractured rock): includes volcanics, granites, granodiorites.	7 - 207	1001 - 3500

There are no GMUs at this location

For further information about this report contact:

Department of Environment, Land, Water & Planning

Email: ground.water@delwp.vic.gov.au

For further information on groundwater licensing in this area contact:

Goulburn Murray Water

Phone: 1800 013 357

Email: reception@g-mwater.com.au

Website: <http://www.g-mwater.com.au/water-resources/ground-water>

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Environment,
Land, Water
and Planning

Introduction

Groundwater is part of the water cycle. When rain or snow falls on land, some of it evaporates, some flows to streams and rivers, and some seeps into the soil. Some of the water in the soil is used by plants but some continues to move down through the soil and rock until all the pores and cracks are full of water. This is known as the water table and this water is called groundwater.

Groundwater is a finite resource that, like surface water, is allocated under the Water Act (1989). A Bore Construction Licence is required to drill for groundwater including for domestic and stock purposes. Taking and using groundwater for commercial or irrigation purposes requires an additional licence.

Purpose of this report

This report has been prepared to provide potential groundwater users with basic information about groundwater beneath their property. This includes the different geological layers, the depths of the layers and the salinity of groundwater in the layers. Information on the groundwater management units (GMU) and any associated caps on the volume that can be licensed (the PCV) are also provided.

Definitions and context

Term	Description
Groundwater Catchment	An identified area of the State within which groundwater resources are connected.
Easting / Northing	The VICGRID 94 coordinates of the spot that was selected on the interactive map.
Groundwater Salinity	Indicates the possible concentration of salts within the groundwater. The salt content indicates the possible uses of the water (see the Beneficial Use Table below). Fertilisers and other contaminants can also enter groundwater and affect its use. It is up to you to make sure that the groundwater you use is suitable for your purpose.
Aquifer	An aquifer is a layer of soil or rock which stores usable volumes of groundwater. Aquifers are generally limestones, gravels and sands, as well as some fractured rocks where the cracks in the rock are open and connected (some basalts, sandstones and limestones). How much water can be pumped from an aquifer depends on how much water is stored in pores and cracks, how well connected the pores and cracks are, and how thick the layer is. It is more likely that volumes of water for irrigation and urban water supply will come from gravels, sands, limestones and basalts that are at least 30 metres thick. Low volumes of water for domestic and stock use are likely from any aquifer greater than 10 metres thick. The advice above is a guide only, as the amount of water available can be highly variable. Actual pumping volumes can only be determined from drilling, appropriate construction and testing of a bore.
Aquitard	An aquitard is a layer of rock or soil that does not allow water to move through it easily, limiting its capacity to supply water. Aquitards are generally silts, clays and fractured rocks (where there are few cracks in the rock or the cracks are poorly connected).
Groundwater Management Unit (GMU)	A collective term for groundwater management areas (GMAs) and water supply protection areas (WSPAs). GMAs and WSPAs are defined areas and depths below the surface where rules for groundwater use may apply. WSPAs often have caps on groundwater use and plans describing how the resource is managed. GMAs usually have caps on groundwater use and may have local plans and rules. All other areas are managed directly through the Water Act (1989). Always check with your local Rural Water Corporation to be sure that the information on the GMU is correct for your specific location.
Permissible Consumptive Volume (PCV)	A cap that is set under the Water Act (1989) declaring the total volume of groundwater that may be taken from the area. Once the PCV is reached, no additional extraction can be licensed for use within the area unless traded from another groundwater licence holder.
Depth to Water Table	This is an indication of the depth at which groundwater might first be encountered when drilling a bore. The depth can vary from year to year, and from place to place and may vary significantly from that indicated in this report.

Beneficial Use Table

Salinity range (mg/L TDS)	Beneficial use as described by State Environment Protection Policy (Groundwaters of Victoria) s160							
	Potable water - preferred	Potable water - acceptable	Potable mineral water	Irrigation	Stock water	Industry	Ecosystem protection	Buildings and structures
<500	✓	✓	✓	✓	✓	✓	✓	✓
501-1000		✓	✓	✓	✓	✓	✓	✓
1001-3500			✓	✓	✓	✓	✓	✓
3501-13000					✓	✓	✓	✓
13001+						✓	✓	✓

Accessibility

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Appendix C Photograph Log

BEFORE – TP01



TP01 - DAMP BROWN CLAYEY SILT TO 0.5 M



TP01 – VERY LOOSE SOFT AND FINE SANDY SILT 0.5 – 1.6 M



TP01 – LOOSE COARSE SAND WITH GRAVELLY LAYER BETWEEN 1.6 – 2 M



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

C1

TP01 – NATURAL MATERIAL (A LAYER OF COARSE SAND AT TOP) - DARKER MORE ORANGE SILTY SAND WITH CLAYEY SLUM CHUNKS



TP01 – NATURAL MATERIAL - DARKER SILTY SAND WITH CLAYEY SLUM CHUNKS



TP01



AFTER - TP01



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

**Huntly Streamside Reserve, Huntly,
Victoria, 3551**

BEFORE – TP02



TP02 – DARK BROWN RICH ORGANIC SILT 0 TO 0.2 M



TP02 – LOOSE SOFT SILTY SAND 0.2 – 1.1 M



TP02 – LIGHTER VERY LOOSE SOFT SANDY SILT 1.1 – 1.8 M



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Version: Rev A

Date: 10-08-2020

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Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

TP02 – LIGHTER VERY LOOSE SOFT SANDY SILT WITH GRAVEL LAYER 1.8 – 2.2 M



TP02 – CONSISTENT SANDY SILT PRIOR TO NATURAL MATERIAL AT 3.0 M



TP02 – NATURAL MATERIAL - RED/ORANGE SILTY SAND



TP02



Job No: 58207

Client: Huntly Common

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Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

BEFORE – TP03



TP03 – DARK BROWN RICH ORGANIC SILT 0 TO 0.4 M



TP03 – LOOSE SOFT COARSE SILTY SAND WITH GRAVELS 0.4 – 1.6 M



TP03 – FINE VERY LOOSE SOFT SANDY SILT WITH LESS GRAVEL 1.6 – 2.0 M



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Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

TP03 – LAYER OF DARKER CLAYEY SILT MARKING NATURAL MATERIAL 2.0 M



TP03 – ROOTS FROM SURROUNDING DEAD TREES



TP03 – QUARTZ AND LAYERED TAILINGS BETWEEN 0.4 – 1.6 M



AFTER - TP03



Job No: 58207	
Client: Huntly Common	
Version: Rev A	Date: 10-08-2020
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Not to Scale	
Coord. Sys n/a	
Testpitting undertaken on 08 July 2020	
Huntly Streamside Reserve, Huntly, Victoria, 3551	
C6	

BEFORE – TP04



TP04 – DARK BROWN RICH ORGANIC SILT 0 TO 0.1 M



TP04 – BROWN LOOSE COARSE SILTY SAND 0.1 – 0.9 M



TP04 –VERY FINE VERY LOOSE SILT WITH SOME GRAVEL 0.9– 1.5 M



Job No: 58207

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Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

TP04 – VERY FINE VERY LOOSE SILT WITH SOME GRAVEL 1.5 – 2.1 M



TP04 – COMPARISON OF FINE SILT AT 1.2 M AND COARSE SILTY SAND AT 0.5 M



TP04 – NATURAL MATERIAL – ORANGE/RED SANDY SILT WITH CLAYEY CLUMPS 2.1 M



AFTER - TP04



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
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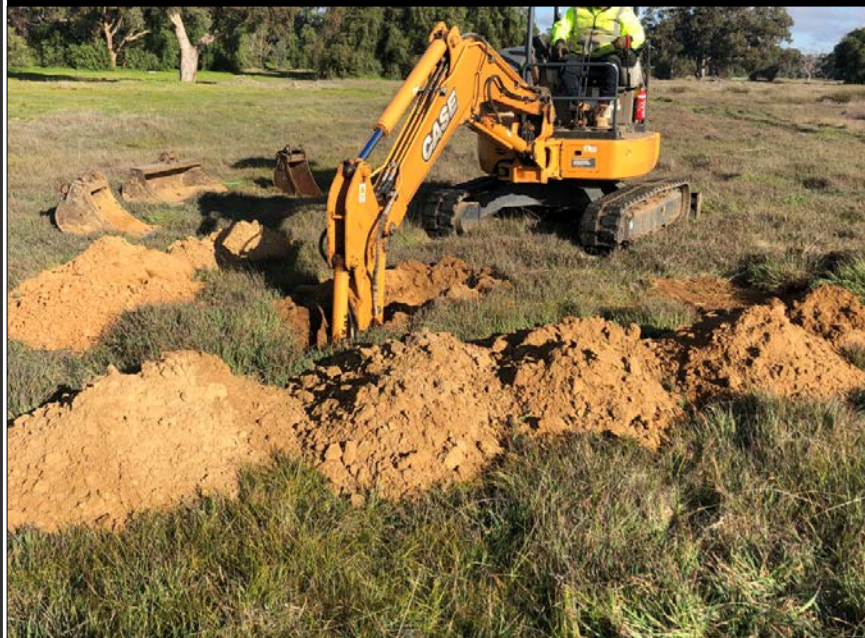
BEFORE – TP05



TP05 – BROWN CLAYEY SILT 0 TO 0.4 M



TP05 – SOFT DRY SANDY SILT WITH CLAYEY CLUMPS 0.5– 1.8 M



AFTER - TP05



Job No: 58207

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Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

BEFORE – TP06



TP06 – DAMP BROWN COARSE CLAYEY SAND 0 – 1.0 M



TP06 – VERY SOFT FINE SANDY SILT WITH GRAVEL 1.0 – 1.6 M



TP06 – VERY LOOSE FINE SOFT SILT 1.6 – 2.5 M



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

BEFORE - TP07



TP07 – DAMP BROWN COARSE CLAYEY SAND 0 – 0.7 M



TP07 – VERY SOFT FINE SANDY SILT 0.9 – 1.6 M



AFTER - TP07



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Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

Huntly Streamside Reserve, Huntly,
Victoria, 3551

BEFORE - TP08



TP08 – LOOSE SILTY COARSE SAND WITH SLUM CHUNKS 0 – 0.7 M



TP08 – NATURAL ORANGE/RED SANDY SILT WITH CLAYEY CLUMPS 0.7M



AFTER - TP08



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Testpitting undertaken on 08 July 2020

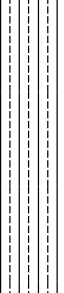


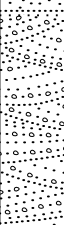

Huntly Streamside Reserve, Huntly,
Victoria, 3551

Appendix D Test pit Logs

ENVIRONMENTAL BOREHOLE / TESTPIT TP01

PROJECT NUMBER 58207	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P	COORDINATES 36; 40;17.790, 144;18;31.160
PROJECT NAME Huntly Common Contamination	EXCAVATION COMPANY Eastern Plant Hire	COORD SYS MGA 55
CLIENT Huntly Common Pty Ltd	EXCAVATOR OPERATOR Manny	SURFACE ELEVATION 144
ADDRESS Huntly Streamside Reserve	PLANT Excavator	LOGGED BY Anna Tuncks
	TOTAL DEPTH 2.4	CHECKED BY Lachlan Wilkinson



COMMENTS Time: 10:30

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
0.5	TP01_0.5	0.0	N		TOPSOIL: Brown organic silty clay material, damp, loose sandy silt, soft	Damp
1.0	TP01_1.0	0.0	Y		SILTY SAND: Very loose, soft, silty sand	Dry
1.5					GRAVELLY SILTY SAND: 10 mm diameter rocks, very soft, loose, non plastic	
2.0					GRAVEL LAYER: Conglomerate cobble gravel layer 5 cm diameter rocks	
2.4	TP01_2.4	0.0	N		NATURAL: Darker silty clayey slum chunks, damp.	Damp

ENVIRONMENTAL BOREHOLE / TESTPIT TP02

PROJECT NUMBER 58207 PROJECT NAME Huntly Common Contamination CLIENT Huntly Common Pty Ltd ADDRESS Huntly Streamside Reserve	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P EXCAVATION COMPANY Eastern Plant Hire EXCAVATOR OPERATOR Manny PLANT Excavator TOTAL DEPTH 3	COORDINATES 36; 39;56.870, 144;18;38.410 COORD SYS MGA 55 SURFACE ELEVATION 191 LOGGED BY Anna Tuncks CHECKED BY Lachlan Wilkinson
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


COMMENTS Time: 11:36, Bulk sample 01

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
					TOPSOIL: rich darker organic silt, loose, damp, low plasticity SILTY SAND: light brown, low plasticity, homogeneous, very loose ORGANIC: Old tree roots, highly degraded GRAVELY SILTY SAND: 5 cm diameter rocks, lighter, very soft, loose, non plastic, sandy colour.	Rich earth odor Damp Dry
0.5						
1	TP02 0.8	0.0				
1.5						
2						
2.5	TP02 2.4	0.0	Y			DUP & SPLIT
3	TP02 3.0	0.0			NATURAL: red/orange silty clay with clayey slum chunks, dry, heterogeneous	No odor Damp

ENVIRONMENTAL BOREHOLE / TESTPIT TP03

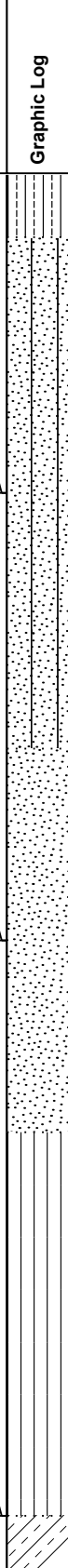
PROJECT NUMBER 58207	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P	COORDINATES 36;39;47.800, 144;18;45.490
PROJECT NAME Huntly Common Contamination	EXCAVATION COMPANY Eastern Plant Hire	COORD SYS MGA 55
CLIENT Huntly Common Pty Ltd	EXCAVATOR OPERATOR Manny	SURFACE ELEVATION 174
ADDRESS Huntly Streamside Reserve	PLANT Excavator	LOGGED BY Anna Tuncks
	TOTAL DEPTH 2	CHECKED BY Lachlan Wilkinson

COMMENTS Time: 12:33

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
					TOPSOIL: Organic dark grey brown, very loose silt	Roots from surrounding old trees in testpit
0.5	TP03_0.4	0.0	Y		SILTY SAND: Light orange-brown sandy silt, with gravel	
1	TP03_1.0	0.0	N		SILTY SAND: Same as TP02, but more quartz gravel 5 cm in diameter. Non plastic, very loose, damp, soft but dense	More Damp
1.5						
2	TP03_2.0	0.0	N		NATURAL: silty clay topsoil, dark brown material, clay clumps sticking together, moderate plasticity	

PROJECT NUMBER 58207	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P	COORDINATES 36;39;37.360, 144;18;40.440
PROJECT NAME Huntly Common Contamination	EXCAVATION COMPANY Eastern Plant Hire	COORD SYS MGA 55
CLIENT Huntly Common Pty Ltd	EXCAVATOR OPERATOR Manny	SURFACE ELEVATION 186
ADDRESS Huntly Streamside Reserve	PLANT Excavator	LOGGED BY Anna Tuncks
	TOTAL DEPTH 2.1	CHECKED BY Lachlan Wilkinson




COMMENTS Time: 14:14

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
0.5	TP04_0.5	0.0	Y		TOPSOIL: Organic material rich topsoil	Heterogeneity throughout profile
					SILTY SAND: Light orange-brown coarse silty sand. Moderate plasticity, very loose, heterogeneous clayey clumps, damp, soft.	Damp
1	TP04_1.2	0.0	Y		FINE SILTY SAND: soft very fine sand. Lighter and drier version of above layer.	Dry
1.5					FINE SILT: Very fine, lighter and drier than above. Intrusion of the 5 cm diameter gravel band.	Dry
2	TP04_2.1	0.0	N		NATURAL: Red/ orange heterogeneous silt with clayey clumps	

ENVIRONMENTAL BOREHOLE / TESTPIT TP05

PROJECT NUMBER 58207	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P	COORDINATES 36;39;25.520, 144;18;52.09
PROJECT NAME Huntly Common Contamination	EXCAVATION COMPANY Eastern Plant Hire	COORD SYS MGA 55
CLIENT Huntly Common Pty Ltd	EXCAVATOR OPERATOR Manny	SURFACE ELEVATION 169
ADDRESS Huntly Streamside Reserve	PLANT Excavator	LOGGED BY Anna Tuncks
	TOTAL DEPTH 1.8	CHECKED BY Lachlan Wilkinson

COMMENTS Time: 14:45 Bulk Sample 02

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
					TOPSOIL: Brown clayey silt, coarse, damp, medium plasticity, heterogeneous, soft, loose	Damp
0.5	TP05_0.4	0.0	N		SILTY CLAY: Lighter coarse clayey silt with clayey clumps.	Dry
1.0	TP05_1.2	0.0	N		SILTY SANDY CLAY: Lighter very soft, dry silty sand with clayey clumps.	
1.5	TP05_1.8	0.0	N		NATURAL: Same as above, but more orange in colour. Not a clear interface, but colour change indicates natural around 1.2 m.	
						Refusal due to hard bottom

ENVIRONMENTAL BOREHOLE / TESTPIT TP06




PROJECT NUMBER 58207	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P	COORDINATES 36;39;14.110, 144;18;52.800
PROJECT NAME Huntly Common Contamination	EXCAVATION COMPANY Eastern Plant Hire	COORD SYS MGA 55
CLIENT Huntly Common Pty Ltd	EXCAVATOR OPERATOR Manny	SURFACE ELEVATION 178
ADDRESS Huntly Streamside Reserve	PLANT Excavator	LOGGED BY Anna Tuncks
	TOTAL DEPTH 2.5	CHECKED BY Lachlan Wilkinson

COMMENTS Time: 15:20

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
				~ ~ ~ ~ ~	TOPSOIL: Mosey soft grass surface, rich organic layer	Damp
				/ / / / /	SANDY CLAY: Coarse clayey sand, light brown and damp, moderate plasticity, loose.	
0.5	TP06_0.5	0.0	Y	SANDY CLAY: Coarse clayey sand, lighter than above, damp, moderate plasticity.	
1				FINE SILTY SAND: Very soft, fine silty sand, light sand colour, some gravel intrusions.	
1.5	TP06_1.3	0.0	N		
2	TP06_2.0	0.0	N		FINE SILT: Less damp, very soft, lighter, very loose silt, less gravel.	Dry
2.5						
						Refusal due to hard bottom



PROJECT NUMBER 58207	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P	COORDINATES 36;38;54.180, 144;19;11.700
PROJECT NAME Huntly Common Contamination	EXCAVATION COMPANY Eastern Plant Hire	COORD SYS MGA 55
CLIENT Huntly Common Pty Ltd	EXCAVATOR OPERATOR Manny	SURFACE ELEVATION 173
ADDRESS Huntly Streamside Reserve	PLANT Excavator	LOGGED BY Anna Tuncks
	TOTAL DEPTH 1.6	CHECKED BY Lachlan Wilkinson

COMMENTS Time: 16:10 Bulk Sample 03

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
0.0	TP07_0.3	0.0	N		SANDY CLAY: Coarse clayey sand, light brown and damp, moderate plasticity, loose.	Damp
0.5						
1.0	TP07_1.2	0.0	N		FINE SILTY SAND: Very soft, fine silty sand, light sand colour.	Dry
1.5	TP07_1.6	0.0	N		NATURAL: silty clay, dark brown material, clay clumps sticking together, moderate plasticity.	

PROJECT NUMBER 58207	TESTPITTING DATE 08/07/2020 9:00 AM- 6:00 P	COORDINATES 36;38;51.380, 144;19;18.400
PROJECT NAME Huntly Common Contamination	EXCAVATION COMPANY Eastern Plant Hire	COORD SYS MGA 55
CLIENT Huntly Common Pty Ltd	EXCAVATOR OPERATOR Manny	SURFACE ELEVATION 174
ADDRESS Huntly Streamside Reserve	PLANT Excavator	LOGGED BY Anna Tuncks
	TOTAL DEPTH 0.7	CHECKED BY Lachlan Wilkinson

COMMENTS Time: 16:30

Depth (m)	Samples	PID	Is Analysed?	Graphic Log	Material Description	Additional Observations
	TP08_0.2	0.0	N		SILTY SAND: Light orange-brown coarse silty sand. Moderate plasticity, very loose, heterogeneous clayey clumps, damp, soft.	Damp
0.5						
	TP08_0.7	0.0	Y		NATURAL: Red/ orange heterogeneous sandy silt with clayey clumps	

Appendix E Soil Laboratory Results

JBS & G Australia (VIC) P/L
PO Box 3166
Norwood
SA 5067



NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Anna Tuncks**

Report **731111-S**
 Project name **HUNTLY COMMON**
 Project ID **58207**
 Received Date **Jul 10, 2020**

Client Sample ID			DS-01	US-01	MS-01	TP01-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI18800	M20-JI18801	M20-JI18802	M20-JI18803
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020	Jul 08, 2020
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.1	8.0	7.2	7.5
% Moisture	1	%	16	21	19	3.5
Heavy Metals						
Aluminium	10	mg/kg	4500	7600	1900	2100
Antimony	10	mg/kg	< 10	< 10	< 10	< 10
Arsenic	2	mg/kg	43	59	39	230
Barium	10	mg/kg	25	65	26	25
Beryllium	2	mg/kg	< 2	< 2	< 2	< 2
Bismuth	10	mg/kg	< 10	< 10	< 10	< 10
Boron	10	mg/kg	< 10	< 10	< 10	< 10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	19	16	13	7.7
Cobalt	5	mg/kg	< 5	7.1	< 5	< 5
Copper	5	mg/kg	5.7	11	5.2	8.0
Iron	20	mg/kg	23000	19000	21000	14000
Lead	5	mg/kg	12	19	11	16
Manganese	5	mg/kg	56	160	35	110
Mercury	0.1	mg/kg	< 0.1	0.2	< 0.1	0.7
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	6.5	9.4	< 5	6.7
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	10	mg/kg	< 10	< 10	< 10	< 10
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Titanium	10	mg/kg	49	83	37	28
Uranium	10	mg/kg	< 10	< 10	< 10	< 10
Vanadium	10	mg/kg	31	22	22	< 10
Zinc	5	mg/kg	19	40	26	26
Alkali Metals						
Calcium	5	mg/kg	340	1000	470	650
Magnesium	5	mg/kg	470	1200	420	800
Potassium	5	mg/kg	560	1200	220	240
Sodium	5	mg/kg	110	170	110	28

Client Sample ID			DS-01	US-01	MS-01	TP01-1.0
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI18800	M20-JI18801	M20-JI18802	M20-JI18803
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020	Jul 08, 2020
Test/Reference	LOR	Unit				
Extended Metals Suite						
Phosphorus	5	mg/kg	110	150	210	150
Silicon	2	mg/kg	400	330	430	340
Sulphur	5	mg/kg	21	230	52	33

Client Sample ID			TP02-2.4	TP03-0.4	TP04-0.5	TP04-1.2
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI18804	M20-JI18805	M20-JI18806	M20-JI18807
Date Sampled			Jul 08, 2020	Jul 08, 2020	Jul 08, 2020	Jul 08, 2020
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	8.2	7.9	6.3	8.4
% Moisture	1	%	5.9	23	11	4.3
Heavy Metals						
Aluminium	10	mg/kg	5500	4900	3300	2700
Antimony	10	mg/kg	< 10	< 10	< 10	< 10
Arsenic	2	mg/kg	890	1100	180	210
Barium	10	mg/kg	53	51	32	38
Beryllium	2	mg/kg	< 2	< 2	< 2	< 2
Bismuth	10	mg/kg	< 10	< 10	< 10	< 10
Boron	10	mg/kg	< 10	< 10	< 10	< 10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	12	10	7.0
Cobalt	5	mg/kg	9.4	9.8	6.1	< 5
Copper	5	mg/kg	21	28	10	7.0
Iron	20	mg/kg	30000	23000	17000	11000
Lead	5	mg/kg	100	44	23	14
Manganese	5	mg/kg	230	240	130	82
Mercury	0.1	mg/kg	2.8	4.1	0.6	1.2
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	15	18	8.5	5.2
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	10	mg/kg	< 10	< 10	< 10	< 10
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Titanium	10	mg/kg	45	41	40	52
Uranium	10	mg/kg	< 10	< 10	< 10	< 10
Vanadium	10	mg/kg	18	13	12	11
Zinc	5	mg/kg	65	79	39	21
Alkali Metals						
Calcium	5	mg/kg	2400	2600	490	1700
Magnesium	5	mg/kg	2400	3500	1300	1000
Potassium	5	mg/kg	580	650	460	410
Sodium	5	mg/kg	100	38	22	82
Extended Metals Suite						
Phosphorus	5	mg/kg	290	350	180	110
Silicon	2	mg/kg	250	280	320	280
Sulphur	5	mg/kg	240	160	44	70

Client Sample ID			TP06-0.5	TP08-0.7	DUP01
Sample Matrix			Soil	Soil	Soil
Eurofins Sample No.			M20-JI18808	M20-JI18809	M20-JI18810
Date Sampled			Jul 08, 2020	Jul 08, 2020	Jul 08, 2020
Test/Reference	LOR	Unit			
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	5.7	7.9	-
% Moisture	1	%	4.1	13	17
Heavy Metals					
Aluminium	10	mg/kg	1800	10000	5000
Antimony	10	mg/kg	< 10	< 10	< 10
Arsenic	2	mg/kg	110	47	720
Barium	10	mg/kg	20	32	48
Beryllium	2	mg/kg	< 2	< 2	< 2
Bismuth	10	mg/kg	< 10	< 10	< 10
Boron	10	mg/kg	< 10	< 10	< 10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	6.0	20	12
Cobalt	5	mg/kg	< 5	< 5	7.2
Copper	5	mg/kg	7.2	11	15
Iron	20	mg/kg	12000	22000	19000
Lead	5	mg/kg	12	16	34
Manganese	5	mg/kg	130	52	160
Mercury	0.1	mg/kg	0.3	0.2	2.0
Molybdenum	5	mg/kg	< 5	< 5	< 5
Nickel	5	mg/kg	6.3	7.7	11
Selenium	2	mg/kg	< 2	< 2	< 2
Silver	0.2	mg/kg	< 0.2	< 0.2	< 0.2
Thallium	10	mg/kg	< 10	< 10	< 10
Tin	10	mg/kg	< 10	< 10	< 10
Titanium	10	mg/kg	27	93	51
Uranium	10	mg/kg	< 10	< 10	< 10
Vanadium	10	mg/kg	< 10	31	14
Zinc	5	mg/kg	26	18	50
Alkali Metals					
Calcium	5	mg/kg	780	730	2300
Magnesium	5	mg/kg	1400	1600	2900
Potassium	5	mg/kg	230	1400	820
Sodium	5	mg/kg	31	190	110
Extended Metals Suite					
Phosphorus	5	mg/kg	210	87	250
Silicon	2	mg/kg	320	260	480
Sulphur	5	mg/kg	51	53	170

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
pH (1:5 Aqueous extract at 25°C as rec.) - Method: LTM-GEN-7090 pH in soil by ISE	Melbourne	Jul 13, 2020	7 Days
Extended Metals Suite - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon and Phosphorus by ICP-AES	Melbourne	Jul 13, 2020	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Jul 10, 2020	14 Days

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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

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

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

New Zealand

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

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

Company Name: JBS & G Australia (VIC) P/L
Address: PO Box 3166
Norwood
SA 5067

Project Name: HUNTLY COMMON
Project ID: 58207

Order No.:
Report #: 731111
Phone: 03 9642 0599
Fax:

Received: Jul 10, 2020 2:38 PM
Due: Jul 17, 2020
Priority: 5 Day
Contact Name: Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Extended Metals Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
External Laboratory									
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID				
1	DS-01	Jul 09, 2020		Soil	M20-JI18800		X	X	X
2	US-01	Jul 09, 2020		Soil	M20-JI18801		X	X	X
3	MS-01	Jul 09, 2020		Soil	M20-JI18802		X	X	X
4	TP01-1.0	Jul 08, 2020		Soil	M20-JI18803		X	X	X
5	TP02-2.4	Jul 08, 2020		Soil	M20-JI18804		X	X	X
6	TP03-0.4	Jul 08, 2020		Soil	M20-JI18805		X	X	X
7	TP04-0.5	Jul 08, 2020		Soil	M20-JI18806		X	X	X
8	TP04-1.2	Jul 08, 2020		Soil	M20-JI18807		X	X	X
9	TP06-0.5	Jul 08, 2020		Soil	M20-JI18808		X	X	X
10	TP08-0.7	Jul 08, 2020		Soil	M20-JI18809		X	X	X

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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

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

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

New Zealand

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

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

Company Name: JBS & G Australia (VIC) P/L
Address: PO Box 3166
Norwood
SA 5067

Project Name: HUNTLY COMMON
Project ID: 58207

Order No.:
Report #: 731111
Phone: 03 9642 0599
Fax:

Received: Jul 10, 2020 2:38 PM
Due: Jul 17, 2020
Priority: 5 Day
Contact Name: Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Extended Metals Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
11	DUP01	Jul 08, 2020		Soil	M20-JI18810			X	X
12	TP01-0.5	Jul 08, 2020		Soil	M20-JI18811	X			
13	TP01-2.4	Jul 08, 2020		Soil	M20-JI18812	X			
14	TP02-0.8	Jul 08, 2020		Soil	M20-JI18813	X			
15	TP02-3.0	Jul 08, 2020		Soil	M20-JI18814	X			
16	TP03-1.0	Jul 08, 2020		Soil	M20-JI18815	X			
17	TP03-2.0	Jul 08, 2020		Soil	M20-JI18816	X			
18	TP04-2.1	Jul 08, 2020		Soil	M20-JI18817	X			
19	TP05-0.4	Jul 08, 2020		Soil	M20-JI18818	X			
20	TP05-1.2	Jul 08, 2020		Soil	M20-JI18819	X			
21	TP05-1.8	Jul 08, 2020		Soil	M20-JI18820	X			
22	TP06-1.3	Jul 08, 2020		Soil	M20-JI18821	X			
23	TP06-2.0	Jul 08, 2020		Soil	M20-JI18822	X			

Australia

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NATA # 1261 Site # 18217

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NATA # 1261 Site # 20794

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Project Name: HUNTLY COMMON
Project ID: 58207

Order No.:
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Received: Jul 10, 2020 2:38 PM
Due: Jul 17, 2020
Priority: 5 Day
Contact Name: Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Extended Metals Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X
Sydney Laboratory - NATA Site # 18217									
Brisbane Laboratory - NATA Site # 20794									
Perth Laboratory - NATA Site # 23736									
24	TP07-0.3	Jul 08, 2020		Soil	M20-JI18823	X			
25	TP07-1.2	Jul 08, 2020		Soil	M20-JI18824	X			
26	TP07-1.6	Jul 08, 2020		Soil	M20-JI18825	X			
27	TP08-0.2	Jul 08, 2020		Soil	M20-JI18826	X			
28	TB-02	Jul 08, 2020		Soil	M20-JI18827	X			
Test Counts						17	10	11	11

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							
Heavy Metals							
Aluminium	mg/kg	< 10			10	Pass	
Antimony	mg/kg	< 10			10	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Bismuth	mg/kg	< 10			10	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 20			20	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 0.2			0.2	Pass	
Thallium	mg/kg	< 10			10	Pass	
Tin	mg/kg	< 10			10	Pass	
Titanium	mg/kg	< 10			10	Pass	
Uranium	mg/kg	< 10			10	Pass	
Vanadium	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/kg	< 5			5	Pass	
Magnesium	mg/kg	< 5			5	Pass	
Potassium	mg/kg	< 5			5	Pass	
Sodium	mg/kg	< 5			5	Pass	
Method Blank							
Extended Metals Suite							
Phosphorus	mg/kg	< 5			5	Pass	
Silicon	mg/kg	< 2			2	Pass	
Sulphur	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Heavy Metals							
Aluminium	%	101			80-120	Pass	
Antimony	%	102			80-120	Pass	
Arsenic	%	101			80-120	Pass	
Barium	%	101			80-120	Pass	
Beryllium	%	114			80-120	Pass	
Bismuth	%	105			80-120	Pass	
Boron	%	119			80-120	Pass	
Cadmium	%	93			80-120	Pass	
Chromium	%	105			80-120	Pass	
Cobalt	%	107			80-120	Pass	
Copper	%	105			80-120	Pass	
Iron	%	104			80-120	Pass	

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code		
Lead	%	107	80-120	Pass			
Manganese	%	104	80-120	Pass			
Mercury	%	95	75-125	Pass			
Molybdenum	%	102	80-120	Pass			
Nickel	%	104	80-120	Pass			
Selenium	%	97	80-120	Pass			
Silver	%	94	80-120	Pass			
Thallium	%	105	80-120	Pass			
Tin	%	101	80-120	Pass			
Titanium	%	105	80-120	Pass			
Uranium	%	102	80-120	Pass			
Vanadium	%	102	80-120	Pass			
Zinc	%	102	80-120	Pass			
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery							
Heavy Metals				Result 1			
Antimony	M20-JI18802	CP	%	100	70-130	Pass	
Arsenic	M20-JI18802	CP	%	84	75-125	Pass	
Barium	M20-JI18802	CP	%	85	75-125	Pass	
Beryllium	M20-JI18802	CP	%	74	75-125	Fail	Q08
Bismuth	M20-JI18802	CP	%	113	75-125	Pass	
Boron	M20-JI18802	CP	%	91	75-125	Pass	
Cadmium	M20-JI18802	CP	%	96	75-125	Pass	
Chromium	M20-JI18802	CP	%	109	75-125	Pass	
Cobalt	M20-JI18802	CP	%	117	75-125	Pass	
Copper	M20-JI18802	CP	%	103	75-125	Pass	
Lead	M20-JI18802	CP	%	114	75-125	Pass	
Manganese	M20-JI18802	CP	%	106	75-125	Pass	
Mercury	M20-JI18802	CP	%	102	70-130	Pass	
Molybdenum	M20-JI18802	CP	%	105	75-125	Pass	
Nickel	M20-JI18802	CP	%	99	75-125	Pass	
Selenium	M20-JI18802	CP	%	100	75-125	Pass	
Silver	M20-JI18802	CP	%	98	75-125	Pass	
Thallium	M20-JI18802	CP	%	106	75-125	Pass	
Tin	M20-JI18802	CP	%	105	75-125	Pass	
Titanium	M20-JI18802	CP	%	87	75-125	Pass	
Uranium	M20-JI18802	CP	%	110	75-125	Pass	
Vanadium	M20-JI18802	CP	%	105	75-125	Pass	
Zinc	M20-JI18802	CP	%	98	75-125	Pass	
Spike - % Recovery							
Heavy Metals				Result 1			
Aluminium	M20-JI18805	CP	%	145	75-125	Fail	Q08
Antimony	M20-JI18805	CP	%	106	70-130	Pass	
Barium	M20-JI18805	CP	%	107	75-125	Pass	
Beryllium	M20-JI18805	CP	%	92	75-125	Pass	
Bismuth	M20-JI18805	CP	%	108	75-125	Pass	
Boron	M20-JI18805	CP	%	93	75-125	Pass	
Cadmium	M20-JI18805	CP	%	96	75-125	Pass	
Chromium	M20-JI18805	CP	%	112	75-125	Pass	
Cobalt	M20-JI18805	CP	%	118	75-125	Pass	
Copper	M20-JI18805	CP	%	104	75-125	Pass	
Lead	M20-JI18805	CP	%	110	75-125	Pass	
Manganese	M20-JI18805	CP	%	125	75-125	Pass	
Molybdenum	M20-JI18805	CP	%	107	75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel	M20-JI18805	CP	%	101			75-125	Pass	
Selenium	M20-JI18805	CP	%	96			75-125	Pass	
Silver	M20-JI18805	CP	%	98			75-125	Pass	
Thallium	M20-JI18805	CP	%	103			75-125	Pass	
Tin	M20-JI18805	CP	%	105			75-125	Pass	
Titanium	M20-JI18805	CP	%	94			75-125	Pass	
Uranium	M20-JI18805	CP	%	107			75-125	Pass	
Vanadium	M20-JI18805	CP	%	115			75-125	Pass	
Zinc	M20-JI18805	CP	%	99			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium	M20-JI18801	CP	mg/kg	7600	8000	6.0	30%	Pass	
Antimony	M20-JI18801	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M20-JI18801	CP	mg/kg	59	59	<1	30%	Pass	
Barium	M20-JI18801	CP	mg/kg	65	60	8.0	30%	Pass	
Beryllium	M20-JI18801	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Bismuth	M20-JI18801	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Boron	M20-JI18801	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	M20-JI18801	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M20-JI18801	CP	mg/kg	16	20	26	30%	Pass	
Cobalt	M20-JI18801	CP	mg/kg	7.1	7.5	5.0	30%	Pass	
Copper	M20-JI18801	CP	mg/kg	11	12	7.0	30%	Pass	
Iron	M20-JI18801	CP	mg/kg	19000	20000	3.0	30%	Pass	
Lead	M20-JI18801	CP	mg/kg	19	20	4.0	30%	Pass	
Manganese	M20-JI18801	CP	mg/kg	160	150	4.0	30%	Pass	
Mercury	M20-JI18801	CP	mg/kg	0.2	0.2	1.0	30%	Pass	
Molybdenum	M20-JI18801	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M20-JI18801	CP	mg/kg	9.4	10	9.0	30%	Pass	
Selenium	M20-JI18801	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M20-JI18801	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Thallium	M20-JI18801	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Tin	M20-JI18801	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Titanium	M20-JI18801	CP	mg/kg	83	94	13	30%	Pass	
Uranium	M20-JI18801	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Vanadium	M20-JI18801	CP	mg/kg	22	19	11	30%	Pass	
Zinc	M20-JI18801	CP	mg/kg	40	39	3.0	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M20-JI18801	CP	mg/kg	1000	850	20	30%	Pass	
Magnesium	M20-JI18801	CP	mg/kg	1200	1100	2.0	30%	Pass	
Potassium	M20-JI18801	CP	mg/kg	1200	1200	8.0	30%	Pass	
Sodium	M20-JI18801	CP	mg/kg	170	160	3.0	30%	Pass	
Duplicate									
Extended Metals Suite				Result 1	Result 2	RPD			
Phosphorus	M20-JI18801	CP	mg/kg	150	150	<1	30%	Pass	
Silicon	M20-JI18801	CP	mg/kg	330	330	<1	30%	Pass	
Sulphur	M20-JI18801	CP	mg/kg	230	110	72	30%	Fail	Q15
Duplicate									
				Result 1	Result 2	RPD			
pH (1:5 Aqueous extract at 25°C as rec.)	M20-JI18802	CP	pH Units	7.2	7.1	pass	30%	Pass	

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium	M20-JI18802	CP	mg/kg	1900	1900	1.0	30%	Pass	
Antimony	M20-JI18802	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M20-JI18802	CP	mg/kg	39	39	1.0	30%	Pass	
Barium	M20-JI18802	CP	mg/kg	26	26	2.0	30%	Pass	
Beryllium	M20-JI18802	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Bismuth	M20-JI18802	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Boron	M20-JI18802	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	M20-JI18802	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M20-JI18802	CP	mg/kg	13	13	<1	30%	Pass	
Cobalt	M20-JI18802	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Copper	M20-JI18802	CP	mg/kg	5.2	5.1	2.0	30%	Pass	
Iron	M20-JI18802	CP	mg/kg	21000	20000	<1	30%	Pass	
Lead	M20-JI18802	CP	mg/kg	11	11	2.0	30%	Pass	
Manganese	M20-JI18802	CP	mg/kg	35	34	1.0	30%	Pass	
Mercury	M20-JI18802	CP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M20-JI18802	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M20-JI18802	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Selenium	M20-JI18802	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M20-JI18802	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Thallium	M20-JI18802	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Tin	M20-JI18802	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Titanium	M20-JI18802	CP	mg/kg	37	37	<1	30%	Pass	
Uranium	M20-JI18802	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Vanadium	M20-JI18802	CP	mg/kg	22	22	<1	30%	Pass	
Zinc	M20-JI18802	CP	mg/kg	26	26	<1	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M20-JI18803	CP	%	3.5	3.4	5.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium	M20-JI18804	CP	mg/kg	5500	5200	5.0	30%	Pass	
Antimony	M20-JI18804	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Arsenic	M20-JI18804	CP	mg/kg	890	930	4.0	30%	Pass	
Barium	M20-JI18804	CP	mg/kg	53	52	2.0	30%	Pass	
Beryllium	M20-JI18804	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Bismuth	M20-JI18804	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Boron	M20-JI18804	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Cadmium	M20-JI18804	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M20-JI18804	CP	mg/kg	14	13	7.0	30%	Pass	
Cobalt	M20-JI18804	CP	mg/kg	9.4	8.6	8.0	30%	Pass	
Copper	M20-JI18804	CP	mg/kg	21	18	11	30%	Pass	
Iron	M20-JI18804	CP	mg/kg	30000	24000	21	30%	Pass	
Lead	M20-JI18804	CP	mg/kg	100	41	85	30%	Fail	Q15
Manganese	M20-JI18804	CP	mg/kg	230	220	5.0	30%	Pass	
Mercury	M20-JI18804	CP	mg/kg	2.8	3.0	5.0	30%	Pass	
Molybdenum	M20-JI18804	CP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M20-JI18804	CP	mg/kg	15	14	4.0	30%	Pass	
Selenium	M20-JI18804	CP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M20-JI18804	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Thallium	M20-JI18804	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Tin	M20-JI18804	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Titanium	M20-JI18804	CP	mg/kg	45	47	6.0	30%	Pass	
Uranium	M20-JI18804	CP	mg/kg	< 10	< 10	<1	30%	Pass	
Vanadium	M20-JI18804	CP	mg/kg	18	17	10	30%	Pass	
Zinc	M20-JI18804	CP	mg/kg	65	63	3.0	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Aluminium	M20-JI18805	CP	mg/kg	4900	5000	2.0	30%	Pass
Antimony	M20-JI18805	CP	mg/kg	< 10	< 10	<1	30%	Pass
Arsenic	M20-JI18805	CP	mg/kg	1100	1100	3.0	30%	Pass
Barium	M20-JI18805	CP	mg/kg	51	53	3.0	30%	Pass
Beryllium	M20-JI18805	CP	mg/kg	< 2	< 2	<1	30%	Pass
Bismuth	M20-JI18805	CP	mg/kg	< 10	< 10	<1	30%	Pass
Boron	M20-JI18805	CP	mg/kg	< 10	< 10	<1	30%	Pass
Cadmium	M20-JI18805	CP	mg/kg	< 0.4	< 0.4	<1	30%	Pass
Chromium	M20-JI18805	CP	mg/kg	12	12	3.0	30%	Pass
Cobalt	M20-JI18805	CP	mg/kg	9.8	10	3.0	30%	Pass
Copper	M20-JI18805	CP	mg/kg	28	28	2.0	30%	Pass
Iron	M20-JI18805	CP	mg/kg	23000	23000	3.0	30%	Pass
Lead	M20-JI18805	CP	mg/kg	44	45	2.0	30%	Pass
Manganese	M20-JI18805	CP	mg/kg	240	250	4.0	30%	Pass
Mercury	M20-JI18805	CP	mg/kg	4.1	3.9	5.0	30%	Pass
Molybdenum	M20-JI18805	CP	mg/kg	< 5	< 5	<1	30%	Pass
Nickel	M20-JI18805	CP	mg/kg	18	18	2.0	30%	Pass
Selenium	M20-JI18805	CP	mg/kg	< 2	< 2	<1	30%	Pass
Silver	M20-JI18805	CP	mg/kg	< 0.2	< 0.2	<1	30%	Pass
Thallium	M20-JI18805	CP	mg/kg	< 10	< 10	<1	30%	Pass
Tin	M20-JI18805	CP	mg/kg	< 10	< 10	<1	30%	Pass
Titanium	M20-JI18805	CP	mg/kg	41	42	2.0	30%	Pass
Uranium	M20-JI18805	CP	mg/kg	< 10	< 10	<1	30%	Pass
Vanadium	M20-JI18805	CP	mg/kg	13	13	3.0	30%	Pass
Zinc	M20-JI18805	CP	mg/kg	79	81	2.0	30%	Pass

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Michael Cassidy	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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CERTIFICATE OF ANALYSIS 21808

Client Details

Client	JBS & G Australia Pty Ltd
Attention	Sequoia Weitman
Address	Level 2, 155 Queen Street, Melbourne, VIC, 3000

Sample Details

Your Reference	<u>58207 Huntly Common</u>
Number of Samples	1 Soil
Date samples received	13/07/2020
Date completed instructions received	13/07/2020

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
Samples were analysed as received from the client. Results relate specifically to the samples as received.
Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	20/07/2020
Date of Issue	15/07/2020
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Chris De Luca, Operations Manager

Authorised By

Pamela Adams, Laboratory Manager

Acid Extractable metals in soil		
Our Reference		21808-1
Your Reference	UNITS	Split01
Date Sampled		08/07/2020
Type of sample		Soil
Date digested	-	13/07/2020
Date analysed	-	13/07/2020
Aluminium	mg/kg	5,200
Antimony	mg/kg	<7
Arsenic	mg/kg	830
Barium	mg/kg	53
Beryllium	mg/kg	<1
Bismuth	mg/kg	<1
Boron	mg/kg	<3
Cadmium	mg/kg	3
Chromium	mg/kg	11
Cobalt	mg/kg	7
Copper	mg/kg	19
Iron	mg/kg	23,000
Mercury	mg/kg	2.7
Manganese	mg/kg	240
Molybdenum	mg/kg	<1
Nickel	mg/kg	14
Lead	mg/kg	38
Phosphorus	mg/kg	260
Selenium	mg/kg	<2
Silicon*	mg/kg	130
Silver	mg/kg	<1
Sulphur	mg/kg	230
Tin	mg/kg	3
Thallium	mg/kg	<2
Titanium	mg/kg	9
Uranium	mg/kg	1
Vanadium	mg/kg	13
Zinc	mg/kg	64

Cations in soil		
Our Reference		21808-1
Your Reference	UNITS	Split01
Date Sampled		08/07/2020
Type of sample		Soil
Date digested	-	13/07/2020
Date analysed	-	13/07/2020
Calcium	mg/kg	2,900
Potassium	mg/kg	450
Magnesium	mg/kg	2,800
Sodium	mg/kg	110

Client Reference: 58207 Huntly Common

Moisture		
Our Reference		21808-1
Your Reference	UNITS	Split01
Date Sampled		08/07/2020
Type of sample		Soil
Date prepared	-	13/07/2020
Date analysed	-	14/07/2020
Moisture	%	5.7

Client Reference: 58207 Huntly Common

Method ID	Methodology Summary
Inorg-008	Moisture content determined by heating at 105 deg C for a minimum of 12 hours.
Metals-020 ICP-AES	Determination of various metals by ICP-AES.
Metals-021 CV-AAS	Determination of Mercury by Cold Vapour AAS.
Metals-022 ICP-MS	Determination of various metals by ICP-MS.

Client Reference: 58207 Huntly Common

QUALITY CONTROL: Acid Extractable metals in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			13/07/2020	[NT]	[NT]	[NT]	[NT]	13/07/2020	[NT]
Date analysed	-			13/07/2020	[NT]	[NT]	[NT]	[NT]	13/07/2020	[NT]
Aluminium	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	107	[NT]
Antimony	mg/kg	7	Metals-020 ICP-AES	<7	[NT]	[NT]	[NT]	[NT]	104	[NT]
Arsenic	mg/kg	4	Metals-020 ICP-AES	<4	[NT]	[NT]	[NT]	[NT]	113	[NT]
Barium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Beryllium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Bismuth	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	107	[NT]
Boron	mg/kg	3	Metals-020 ICP-AES	<3	[NT]	[NT]	[NT]	[NT]	110	[NT]
Cadmium	mg/kg	0.4	Metals-020 ICP-AES	<0.4	[NT]	[NT]	[NT]	[NT]	107	[NT]
Chromium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Cobalt	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Copper	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	109	[NT]
Iron	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	105	[NT]
Mercury	mg/kg	0.1	Metals-021 CV-AAS	<0.1	[NT]	[NT]	[NT]	[NT]	102	[NT]
Manganese	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Molybdenum	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Nickel	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]
Lead	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Phosphorus	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	86	[NT]
Selenium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	[NT]	[NT]	105	[NT]

Client Reference: 58207 Huntly Common

QUALITY CONTROL: Acid Extractable metals in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Silicon*	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	115	[NT]
Silver	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Sulphur	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	98	[NT]
Tin	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	101	[NT]
Thallium	mg/kg	2	Metals-020 ICP-AES	<2	[NT]	[NT]	[NT]	[NT]	101	[NT]
Titanium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	105	[NT]
Uranium	mg/kg	1	Metals-022 ICP-MS	<1	[NT]	[NT]	[NT]	[NT]	100	[NT]
Vanadium	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	106	[NT]
Zinc	mg/kg	1	Metals-020 ICP-AES	<1	[NT]	[NT]	[NT]	[NT]	104	[NT]

Client Reference: 58207 Huntly Common

QUALITY CONTROL: Cations in soil				Duplicate				Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date digested	-			13/07/2020	[NT]	[NT]	[NT]	[NT]	13/07/2020	[NT]
Date analysed	-			13/07/2020	[NT]	[NT]	[NT]	[NT]	13/07/2020	[NT]
Calcium	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	104	[NT]
Potassium	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	95	[NT]
Magnesium	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	92	[NT]
Sodium	mg/kg	10	Metals-020 ICP-AES	<10	[NT]	[NT]	[NT]	[NT]	95	[NT]

Result Definitions

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

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.
Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011.	
The recommended maximums for analytes in urine are taken from "2018 TLVs and BEIs", as published by ACGIH (where available). Limit provided for Nickel is a precautionary guideline as per Position Paper prepared by AIOH Exposure Standards Committee, 2016.	
Guideline limits for Rinse Water Quality reported as per analytical requirements and specifications of AS 4187, Amdt 2 2019, Table 7.2	

Laboratory Acceptance Criteria

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

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

Spikes for Physical and Aggregate Tests are not applicable.

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

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

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

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

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

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

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Samples for Microbiological analysis (not Amoeba forms) received outside of the 2-8°C temperature range do not meet the ideal cooling conditions as stated in AS2031-2012.

JBS & G Australia (VIC) P/L
PO Box 3166
Norwood
SA 5067



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 to Australian/national standards.

Attention: **Anna Tuncks**

Report **731071-S**
 Project name **HUNTLY COMMON**
 Project ID **58207**
 Received Date **Jul 10, 2020**

Client Sample ID			TP02 (<100 um)	TP02 (100-250 um)	TP02 (>250 um)	TP05 (<100 um)
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI18580	M20-JI18581	M20-JI18582	M20-JI18583
Date Sampled			Jul 08, 2020	Jul 08, 2020	Jul 08, 2020	Jul 08, 2020
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	8.0	7.6	7.5	7.7
% Moisture	1	%	7.5	-	-	8.7
Particle Size by Sieve analysis*						
<63 Micron	0.1	% w/w	39	-	-	64
>2000 Micron	0.1	% w/w	4.5	-	-	0.5
1000-2000 Micron	0.1	% w/w	2.3	-	-	0.2
125-250 Micron	0.1	% w/w	25	-	-	17
250-500 Micron	0.1	% w/w	8.8	-	-	3.9
500-1000 Micron	0.1	% w/w	5.5	-	-	2.4
63-125 Micron	0.1	% w/w	15	-	-	13
Heavy Metals						
Aluminium	10	mg/kg	4200	4500	4200	6300
Antimony	10	mg/kg	< 10	< 10	< 10	< 10
Arsenic	2	mg/kg	470	440	290	330
Barium	10	mg/kg	36	38	61	62
Beryllium	2	mg/kg	< 2	< 2	< 2	< 2
Bismuth	10	mg/kg	< 10	< 10	< 10	< 10
Boron	10	mg/kg	< 10	< 10	< 10	< 10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	9.1	9.0	10	13
Cobalt	5	mg/kg	5.4	6.3	7.0	7.4
Copper	5	mg/kg	21	18	21	22
Iron	20	mg/kg	18000	17000	20000	18000
Lead	5	mg/kg	26	24	18	23
Manganese	5	mg/kg	180	190	190	200
Mercury	0.1	mg/kg	1.4	1.5	1.0	1.4
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	12	11	11	12
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	10	mg/kg	< 10	< 10	< 10	< 10
Tin	10	mg/kg	< 10	< 10	< 10	< 10
Titanium	10	mg/kg	40	36	40	63
Uranium	10	mg/kg	< 10	< 10	< 10	< 10
Vanadium	10	mg/kg	< 10	10	14	15
Zinc	5	mg/kg	49	43	34	37

Client Sample ID			TP02 (<100 um)	TP02 (100-250 um)	TP02 (>250 um)	TP05 (<100 um)
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI18580	M20-JI18581	M20-JI18582	M20-JI18583
Date Sampled			Jul 08, 2020	Jul 08, 2020	Jul 08, 2020	Jul 08, 2020
Test/Reference	LOR	Unit				
Alkali Metals						
Calcium	5	mg/kg	2700	2900	3300	2200
Magnesium	5	mg/kg	2900	2100	1700	1500
Potassium	5	mg/kg	410	460	580	730
Sodium	5	mg/kg	65	55	78	64
Extended Metals Suite						
Phosphorus	5	mg/kg	280	200	130	150
Silicon	2	mg/kg	340	250	420	320
Sulphur	5	mg/kg	140	100	1200	88

Client Sample ID			TP05 (100-250 um)	TP05 (>250 um)	TP07 (<100 um)	TP07 (100-250 um)
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI18584	M20-JI18585	M20-JI18586	M20-JI18587
Date Sampled			Jul 08, 2020	Jul 08, 2020	Jul 08, 2020	Jul 08, 2020
Test/Reference	LOR	Unit				
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.8	7.7	7.4	7.4
% Moisture	1	%	-	-	11	-
Particle Size by Sieve analysis*						
<63 Micron	0.1	% w/w	-	-	18	-
>2000 Micron	0.1	% w/w	-	-	1.6	-
1000-2000 Micron	0.1	% w/w	-	-	0.5	-
125-250 Micron	0.1	% w/w	-	-	46	-
250-500 Micron	0.1	% w/w	-	-	11	-
500-1000 Micron	0.1	% w/w	-	-	5.2	-
63-125 Micron	0.1	% w/w	-	-	17	-
Heavy Metals						
Aluminium	10	mg/kg	7200	8500	4300	2500
Antimony	10	mg/kg	< 10	< 10	< 10	< 10
Arsenic	2	mg/kg	270	120	730	350
Barium	10	mg/kg	71	120	43	21
Beryllium	2	mg/kg	< 2	< 2	< 2	< 2
Bismuth	10	mg/kg	< 10	< 10	< 10	< 10
Boron	10	mg/kg	< 10	< 10	< 10	< 10
Cadmium	0.4	mg/kg	< 0.4	< 0.4	< 0.4	< 0.4
Chromium	5	mg/kg	14	18	8.6	5.7
Cobalt	5	mg/kg	10	17	5.8	< 5
Copper	5	mg/kg	19	23	29	15
Iron	20	mg/kg	19000	25000	19000	14000
Lead	5	mg/kg	25	30	25	16
Manganese	5	mg/kg	350	1100	230	150
Mercury	0.1	mg/kg	1.1	0.4	1.5	0.8
Molybdenum	5	mg/kg	< 5	< 5	< 5	< 5
Nickel	5	mg/kg	13	14	12	8.5
Selenium	2	mg/kg	< 2	< 2	< 2	< 2
Silver	0.2	mg/kg	< 0.2	< 0.2	< 0.2	< 0.2
Thallium	10	mg/kg	< 10	< 10	< 10	< 10
Tin	10	mg/kg	< 10	< 10	< 10	< 10

Client Sample ID			TP05 (100-250 um)	TP05 (>250 um)	TP07 (<100 um)	TP07 (100-250 um)
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI18584	M20-JI18585	M20-JI18586	M20-JI18587
Date Sampled			Jul 08, 2020	Jul 08, 2020	Jul 08, 2020	Jul 08, 2020
Test/Reference	LOR	Unit				
Heavy Metals						
Titanium	10	mg/kg	55	87	38	24
Uranium	10	mg/kg	< 10	< 10	< 10	< 10
Vanadium	10	mg/kg	18	29	< 10	< 10
Zinc	5	mg/kg	35	29	60	39
Alkali Metals						
Calcium	5	mg/kg	3000	3700	2500	1700
Magnesium	5	mg/kg	1700	1700	3400	2200
Potassium	5	mg/kg	920	1300	390	260
Sodium	5	mg/kg	64	96	32	21
Extended Metals Suite						
Phosphorus	5	mg/kg	150	130	310	230
Silicon	2	mg/kg	200	480	270	260
Sulphur	5	mg/kg	97	120	120	91

Client Sample ID			TP07 (>250 um)
Sample Matrix			Soil
Eurofins Sample No.			M20-JI18588
Date Sampled			Jul 08, 2020
Test/Reference	LOR	Unit	
pH (1:5 Aqueous extract at 25°C as rec.)	0.1	pH Units	7.8
Heavy Metals			
Aluminium	10	mg/kg	1900
Antimony	10	mg/kg	< 10
Arsenic	2	mg/kg	290
Barium	10	mg/kg	17
Beryllium	2	mg/kg	< 2
Bismuth	10	mg/kg	< 10
Boron	10	mg/kg	< 10
Cadmium	0.4	mg/kg	< 0.4
Chromium	5	mg/kg	5.7
Cobalt	5	mg/kg	< 5
Copper	5	mg/kg	13
Iron	20	mg/kg	12000
Lead	5	mg/kg	14
Manganese	5	mg/kg	98
Mercury	0.1	mg/kg	0.7
Molybdenum	5	mg/kg	< 5
Nickel	5	mg/kg	7.8
Selenium	2	mg/kg	< 2
Silver	0.2	mg/kg	< 0.2
Thallium	10	mg/kg	< 10
Tin	10	mg/kg	< 10
Titanium	10	mg/kg	21
Uranium	10	mg/kg	< 10
Vanadium	10	mg/kg	< 10
Zinc	5	mg/kg	35

Client Sample ID			TP07 (>250 um)
Sample Matrix			Soil
Eurofins Sample No.			M20-JI18588
Date Sampled			Jul 08, 2020
Test/Reference	LOR	Unit	
Alkali Metals			
Calcium	5	mg/kg	1300
Magnesium	5	mg/kg	1000
Potassium	5	mg/kg	200
Sodium	5	mg/kg	20
Extended Metals Suite			
Phosphorus	5	mg/kg	180
Silicon	2	mg/kg	260
Sulphur	5	mg/kg	79

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
pH (1:5 Aqueous extract at 25°C as rec.) - Method: LTM-GEN-7090 pH in soil by ISE	Melbourne	Jul 16, 2020	7 Days
Particle Size by Sieve analysis* - Method: AS1289.C6.1-1977 Determination of Particle Size by Sieving	Melbourne	Jul 16, 2020	28 Days
Extended Metals Suite - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon and Phosphorus by ICP-AES	Melbourne	Jul 16, 2020	28 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Jul 10, 2020	14 Days

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

Sydney
Unit F3, Building F
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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

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35 O'Rorke Road
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IANZ # 1327

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

Company Name: JBS & G Australia (VIC) P/L
Address: PO Box 3166
Norwood
SA 5067

Project Name: HUNTLY COMMON
Project ID: 58207

Order No.:
Report #: 731071
Phone: 03 9642 0599
Fax:

Received: Jul 10, 2020 2:38 PM
Due: Jul 17, 2020
Priority: 5 Day
Contact Name: Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Particle Size by Sieve analysis*	Extended Metals Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
External Laboratory										
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID					
1	TP02 (<100 um)	Jul 08, 2020		Soil	M20-JI18580		X	X	X	X
2	TP02 (100-250 um)	Jul 08, 2020		Soil	M20-JI18581		X		X	X
3	TP02 (>250 um)	Jul 08, 2020		Soil	M20-JI18582		X		X	X
4	TP05 (<100 um)	Jul 08, 2020		Soil	M20-JI18583		X	X	X	X
5	TP05 (100-250 um)	Jul 08, 2020		Soil	M20-JI18584		X		X	X
6	TP05 (>250 um)	Jul 08, 2020		Soil	M20-JI18585		X		X	X

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43 Detroit Drive
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Received: Jul 10, 2020 2:38 PM
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Contact Name: Anna Tuncks

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Sample Detail						HOLD	pH (1:5 Aqueous extract at 25°C as rec.)	Particle Size by Sieve analysis*	Extended Metals Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X
Sydney Laboratory - NATA Site # 18217										
Brisbane Laboratory - NATA Site # 20794										
Perth Laboratory - NATA Site # 23736										
7	TP07 (<100 um)	Jul 08, 2020		Soil	M20-JI18586		X	X	X	X
8	TP07 (100-250 um)	Jul 08, 2020		Soil	M20-JI18587		X		X	X
9	TP07 (>250 um)	Jul 08, 2020		Soil	M20-JI18588		X		X	X
10	TB03	Jul 08, 2020		Soil	M20-JI18589	X				
Test Counts						1	9	3	9	9

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							
Heavy Metals							
Aluminium	mg/kg	< 10			10	Pass	
Antimony	mg/kg	< 10			10	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Bismuth	mg/kg	< 10			10	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 20			20	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 0.2			0.2	Pass	
Thallium	mg/kg	< 10			10	Pass	
Tin	mg/kg	< 10			10	Pass	
Titanium	mg/kg	< 10			10	Pass	
Uranium	mg/kg	< 10			10	Pass	
Vanadium	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/kg	< 5			5	Pass	
Magnesium	mg/kg	< 5			5	Pass	
Potassium	mg/kg	< 5			5	Pass	
Sodium	mg/kg	< 5			5	Pass	
Method Blank							
Extended Metals Suite							
Phosphorus	mg/kg	< 5			5	Pass	
Silicon	mg/kg	< 2			2	Pass	
Sulphur	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Heavy Metals							
Aluminium	%	80			80-120	Pass	
Antimony	%	106			80-120	Pass	
Arsenic	%	106			80-120	Pass	
Barium	%	106			80-120	Pass	
Beryllium	%	91			80-120	Pass	
Bismuth	%	84			80-120	Pass	
Boron	%	96			80-120	Pass	
Cadmium	%	97			80-120	Pass	
Chromium	%	82			80-120	Pass	
Cobalt	%	84			80-120	Pass	
Copper	%	86			80-120	Pass	
Iron	%	85			80-120	Pass	

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code		
Lead	%	86	80-120	Pass			
Manganese	%	82	80-120	Pass			
Mercury	%	93	75-125	Pass			
Molybdenum	%	106	80-120	Pass			
Nickel	%	105	80-120	Pass			
Selenium	%	109	80-120	Pass			
Silver	%	99	80-120	Pass			
Thallium	%	108	80-120	Pass			
Tin	%	106	80-120	Pass			
Titanium	%	85	80-120	Pass			
Uranium	%	81	80-120	Pass			
Vanadium	%	80	80-120	Pass			
Zinc	%	105	80-120	Pass			
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery							
Heavy Metals				Result 1			
Aluminium	M20-JI27593	NCP	%	46	75-125	Fail	Q08
Antimony	M20-JI25845	NCP	%	103	70-130	Pass	
Arsenic	M20-JI25845	NCP	%	98	75-125	Pass	
Barium	M20-JI25845	NCP	%	89	75-125	Pass	
Beryllium	M20-JI25845	NCP	%	94	75-125	Pass	
Bismuth	M20-JI25845	NCP	%	105	75-125	Pass	
Boron	M20-JI25845	NCP	%	84	75-125	Pass	
Cadmium	M20-JI25845	NCP	%	97	75-125	Pass	
Chromium	M20-JI25845	NCP	%	100	75-125	Pass	
Cobalt	M20-JI25845	NCP	%	103	75-125	Pass	
Copper	M20-JI25845	NCP	%	98	75-125	Pass	
Lead	M20-JI25845	NCP	%	118	75-125	Pass	
Manganese	M20-JI26213	NCP	%	109	75-125	Pass	
Mercury	M20-JI25845	NCP	%	93	70-130	Pass	
Molybdenum	M20-JI25845	NCP	%	107	75-125	Pass	
Nickel	M20-JI25845	NCP	%	61	75-125	Fail	Q08
Selenium	M20-JI25845	NCP	%	97	75-125	Pass	
Silver	M20-JI25845	NCP	%	100	75-125	Pass	
Thallium	M20-JI25845	NCP	%	98	75-125	Pass	
Tin	M20-JI25845	NCP	%	105	75-125	Pass	
Uranium	M20-JI25845	NCP	%	103	75-125	Pass	
Vanadium	M20-JI25845	NCP	%	113	75-125	Pass	
Zinc	M20-JI25845	NCP	%	87	75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate							
				Result 1	Result 2	RPD	
pH (1:5 Aqueous extract at 25°C as rec.)	M20-JI26917	NCP	pH Units	7.9	7.9	pass	30%
% Moisture	B20-JI28488	NCP	%	1.8	1.8	<1	30%
Duplicate							
Heavy Metals				Result 1	Result 2	RPD	
Aluminium	M20-JI25057	NCP	mg/kg	9100	9900	9.0	30%
Antimony	M20-JI25844	NCP	mg/kg	< 10	< 10	<1	30%
Arsenic	M20-JI25844	NCP	mg/kg	2.6	4.3	49	30%
Barium	M20-JI25844	NCP	mg/kg	120	110	12	30%
Beryllium	M20-JI25844	NCP	mg/kg	< 2	< 2	<1	30%
Bismuth	M20-JI25844	NCP	mg/kg	< 10	< 10	<1	30%

Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Boron	M20-JI25844	NCP	mg/kg	11	10	10	30%	Pass	
Cadmium	M20-JI25844	NCP	mg/kg	< 0.4	< 0.4	<1	30%	Pass	
Chromium	M20-JI25844	NCP	mg/kg	35	39	12	30%	Pass	
Cobalt	M20-JI25844	NCP	mg/kg	26	24	10	30%	Pass	
Copper	M20-JI25844	NCP	mg/kg	39	34	13	30%	Pass	
Iron	M20-JI25057	NCP	mg/kg	6300	5000	22	30%	Pass	
Lead	M20-JI25844	NCP	mg/kg	140	100	30	30%	Pass	
Manganese	M20-JI25844	NCP	mg/kg	620	540	14	30%	Pass	
Mercury	M20-JI25844	NCP	mg/kg	0.3	0.4	45	30%	Fail	Q15
Molybdenum	M20-JI25844	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M20-JI25844	NCP	mg/kg	110	99	7.0	30%	Pass	
Selenium	M20-JI25844	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M20-JI25844	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Thallium	M20-JI25844	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Tin	M20-JI25844	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Titanium	M20-JI25844	NCP	mg/kg	840	790	6.0	30%	Pass	
Uranium	M20-JI25844	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Vanadium	M20-JI25844	NCP	mg/kg	35	61	55	30%	Fail	Q15
Zinc	M20-JI25844	NCP	mg/kg	98	83	17	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	B20-JI28488	NCP	mg/kg	340	350	4.0	30%	Pass	
Magnesium	B20-JI28488	NCP	mg/kg	250	250	2.0	30%	Pass	
Potassium	B20-JI28488	NCP	mg/kg	520	530	2.0	30%	Pass	
Sodium	B20-JI28488	NCP	mg/kg	26	26	2.0	30%	Pass	
Duplicate									
Extended Metals Suite				Result 1	Result 2	RPD			
Phosphorus	B20-JI28488	NCP	mg/kg	59	59	<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
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Michael Cassidy	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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JBS & G Australia (VIC) P/L
 PO Box 3166
 Norwood
 SA 5067



NATA Accredited
 Accreditation Number 1261
 Site Number 1254

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

Attention: **Anna Tuncks**

Report **733690-L**
 Project name **HUNTLY COMMON**
 Project ID **58207**
 Received Date **Jul 23, 2020**

Client Sample ID			TP07(<100 um) AUS Leachate M20-JI39384 Jul 09, 2020	TP07(<100-250 um) AUS Leachate M20-JI39385 Jul 09, 2020	TP03-0.4 AUS Leachate M20-JI39387 Jul 09, 2020	TP02-2.4 AUS Leachate M20-JI39388 Jul 09, 2020
Sample Matrix						
Eurofins Sample No.						
Date Sampled						
Test/Reference	LOR	Unit				
Heavy Metals						
Arsenic	0.01	mg/L	0.59	0.47	0.37	0.23
AUS Leaching Procedure						
Leachate Fluid ^{C01}		comment	1.0	1.0	1.0	1.0
pH (initial)	0.1	pH Units	6.8	6.8	5.8	5.7
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.1	5.1	5.2	5.2

Client Sample ID			TP08-0.7 AUS Leachate M20-JI39389 Jul 09, 2020	TP05(<100 um) AUS Leachate M20-JI39390 Jul 09, 2020	TP05(<100-250 um) AUS Leachate M20-JI39391 Jul 09, 2020
Sample Matrix					
Eurofins Sample No.					
Date Sampled					
Test/Reference	LOR	Unit			
Heavy Metals					
Chromium	0.01	mg/L	0.01	< 0.01	< 0.01
AUS Leaching Procedure					
Leachate Fluid ^{C01}		comment	1.0	1.0	1.0
pH (initial)	0.1	pH Units	7.3	6.7	6.9
pH (Leachate fluid)	0.1	pH Units	5.0	5.0	5.0
pH (off)	0.1	pH Units	5.3	5.1	5.1
Chromium (hexavalent)					
Chromium (hexavalent)	0.05	mg/L	< 0.05	< 0.05	< 0.05
Chromium (trivalent)					
Chromium (trivalent)	0.05	mg/L	< 0.05	< 0.05	< 0.05

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
Heavy Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	Jul 29, 2020	180 Days
AUS Leaching Procedure			
pH (initial) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Jul 29, 2020	0 Days
pH (Leachate fluid) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Jul 29, 2020	0 Days
pH (off) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Jul 29, 2020	0 Days
Chromium (speciated)			
Chromium (hexavalent) - Method: APHA 3500-Cr Hexavalent Chromium- (Extraction:- USEPA3060)	Melbourne	Jul 28, 2020	28 Days

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Address: PO Box 3166
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SA 5067

Project Name: HUNTLY COMMON
Project ID: 58207

Order No.:
Report #: 733690
Phone: 03 9642 0599
Fax:

Received: Jul 23, 2020 5:15 PM
Due: Jul 30, 2020
Priority: 5 Day
Contact Name: Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Arsenic	CANCELLED	Total Organic Carbon	AUS Leaching Procedure	Chromium (speciated)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
External Laboratory											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	TP08-0.7	Jul 09, 2020		Soil	M20-JI39368					X	X
2	TP05(<100 um)	Jul 09, 2020		Soil	M20-JI39369					X	X
3	TP05(<100-250 um)	Jul 09, 2020		Soil	M20-JI39370					X	X
4	TP05(>250 um)	Jul 09, 2020		Soil	M20-JI39371					X	X
5	DS-01	Jul 09, 2020		Soil	M20-JI39372			X			X
6	MS-01	Jul 09, 2020		Soil	M20-JI39373			X			X
7	US-01	Jul 09, 2020		Soil	M20-JI39374			X			X
8	TP08-0.7	Jul 09, 2020		Soil	M20-JI39375			X			X

Australia

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Company Name:	JBS & G Australia (VIC) P/L	Order No.:		Received:	Jul 23, 2020 5:15 PM
Address:	PO Box 3166 Norwood SA 5067	Report #:	733690	Due:	Jul 30, 2020
Project Name:	HUNTLY COMMON	Phone:	03 9642 0599	Priority:	5 Day
Project ID:	58207	Fax:		Contact Name:	Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Arsenic	CANCELLED	Total Organic Carbon	AUS Leaching Procedure	Chromium (speciated)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
9	TP03-0.4	Jul 09, 2020		Soil	M20-JI39376			X			X
10	TP06-0.5	Jul 09, 2020		Soil	M20-JI39377			X			X
11	TP07(<100 um)	Jul 09, 2020		Soil	M20-JI39378			X			X
12	TP07(<100-250 um)	Jul 09, 2020		Soil	M20-JI39379			X			X
13	TP07(>250 um)	Jul 09, 2020		Soil	M20-JI39380			X			X
14	TP05(<100 um)	Jul 09, 2020		Soil	M20-JI39381			X			X
15	TP05(<100-250 um)	Jul 09, 2020		Soil	M20-JI39382			X			X
16	TP05(>250 um)	Jul 09, 2020		Soil	M20-JI39383			X			X
17	TP07(<100	Jul 09, 2020		AUS Leachate	M20-JI39384	X			X		

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Perth Laboratory - NATA Site # 23736											
17	TP07(<100 um)	Jul 09, 2020		AUS Leachate	M20-JI39384						
18	TP07(<100-250 um)	Jul 09, 2020		AUS Leachate	M20-JI39385	X			X		
19	TP07(>250 um)	Jul 09, 2020		AUS Leachate	M20-JI39386		X				
20	TP03-0.4	Jul 09, 2020		AUS Leachate	M20-JI39387	X			X		
21	TP02-2.4	Jul 09, 2020		AUS Leachate	M20-JI39388	X			X		
22	TP08-0.7	Jul 09, 2020		AUS Leachate	M20-JI39389				X	X	
23	TP05(<100 um)	Jul 09, 2020		AUS Leachate	M20-JI39390				X	X	
24	TP05(<100-250 um)	Jul 09, 2020		AUS Leachate	M20-JI39391				X	X	
25	TP05(>250 um)	Jul 09, 2020		AUS Leachate	M20-JI39392		X				

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Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Test Counts	4	2	12	7	7	16

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											
Heavy Metals											
Arsenic				mg/L	< 0.01			0.01	Pass		
Chromium				mg/L	< 0.01			0.01	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code	
Spike - % Recovery											
Heavy Metals											
Arsenic				M20-JI47739	NCP	%	106	75-125	Pass		
Spike - % Recovery											
Heavy Metals											
Chromium				M20-JI43690	NCP	%	99	75-125	Pass		
Spike - % Recovery											
Heavy Metals											
Chromium (hexavalent)				S20-JI46286	NCP	%	80	70-130	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1				Acceptance Limits	Pass Limits	Qualifying Code	
Duplicate											
Heavy Metals											
Arsenic				M20-JI47739	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate											
Heavy Metals											
Chromium				M20-JI43690	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass
Duplicate											
Heavy Metals											
Chromium (hexavalent)				M20-JI41728	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other

Authorised By

Michael Cassidy	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)


Glenn Jackson
General Manager

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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JBS & G Australia (VIC) P/L
PO Box 3166
Norwood
SA 5067



NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Anna Tuncks**

Report **733690-S**
 Project name **HUNTLY COMMON**
 Project ID **58207**
 Received Date **Jul 23, 2020**

Client Sample ID			TP08-0.7	TP05(<100 um)	TP05(<100-250 um)	TP05(>250 um)
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI39368	M20-JI39369	M20-JI39370	M20-JI39371
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit				
Chromium (hexavalent)	1	mg/kg	< 1	< 1	< 1	< 1
Chromium (trivalent)	5	mg/kg	21	13	12	12
% Moisture	1	%	12	7.6	7.7	7.6
Heavy Metals						
Chromium	5	mg/kg	21	13	12	12

Client Sample ID			DS-01	MS-01	US-01	TP08-0.7
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI39372	M20-JI39373	M20-JI39374	M20-JI39375
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit				
% Moisture	1	%	16	20	24	13
Total Organic Carbon	0.1	%	0.5	0.7	0.6	0.2

Client Sample ID			TP03-0.4	TP06-0.5	TP07(<100 um)	TP07(<100-250 um)
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI39376	M20-JI39377	M20-JI39378	M20-JI39379
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit				
% Moisture	1	%	22	4.0	16	3.9
Total Organic Carbon	0.1	%	0.5	< 0.1	0.4	0.4

Client Sample ID			TP07(>250 um)	TP05(<100 um)	TP05(<100-250 um)	TP05(>250 um)
Sample Matrix			Soil	Soil	Soil	Soil
Eurofins Sample No.			M20-JI39380	M20-JI39381	M20-JI39382	M20-JI39383
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit				
% Moisture	1	%	5.5	6.2	5.9	6.4
Total Organic Carbon	0.1	%	0.5	0.3	0.3	0.4

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
Chromium (speciated)			
Chromium (hexavalent) - Method: APHA 3500-Cr Hexavalent Chromium- (Extraction:- USEPA3060)	Melbourne	Jul 28, 2020	28 Days
Heavy Metals - Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS	Melbourne	Jul 28, 2020	180 Days
% Moisture - Method: LTM-GEN-7080 Moisture	Melbourne	Jul 23, 2020	14 Days
Total Organic Carbon - Method: LTM-INO-4060 Total Organic Carbon in water and soil	Melbourne	Jul 30, 2020	28 Days

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Project ID: 58207

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Fax:

Received: Jul 23, 2020 5:15 PM
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Priority: 5 Day
Contact Name: Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Arsenic	CANCELLED	Total Organic Carbon	AUS Leaching Procedure	Chromium (speciated)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
External Laboratory											
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID						
1	TP08-0.7	Jul 09, 2020		Soil	M20-JI39368					X	X
2	TP05(<100 um)	Jul 09, 2020		Soil	M20-JI39369					X	X
3	TP05(<100-250 um)	Jul 09, 2020		Soil	M20-JI39370					X	X
4	TP05(>250 um)	Jul 09, 2020		Soil	M20-JI39371					X	X
5	DS-01	Jul 09, 2020		Soil	M20-JI39372			X			X
6	MS-01	Jul 09, 2020		Soil	M20-JI39373			X			X
7	US-01	Jul 09, 2020		Soil	M20-JI39374			X			X
8	TP08-0.7	Jul 09, 2020		Soil	M20-JI39375			X			X

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10	TP06-0.5	Jul 09, 2020		Soil	M20-JI39377			X			X
11	TP07(<100 um)	Jul 09, 2020		Soil	M20-JI39378			X			X
12	TP07(<100-250 um)	Jul 09, 2020		Soil	M20-JI39379			X			X
13	TP07(>250 um)	Jul 09, 2020		Soil	M20-JI39380			X			X
14	TP05(<100 um)	Jul 09, 2020		Soil	M20-JI39381			X			X
15	TP05(<100-250 um)	Jul 09, 2020		Soil	M20-JI39382			X			X
16	TP05(>250 um)	Jul 09, 2020		Soil	M20-JI39383			X			X
17	TP07(<100	Jul 09, 2020		AUS Leachate	M20-JI39384	X			X		

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Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217											
Brisbane Laboratory - NATA Site # 20794											
Perth Laboratory - NATA Site # 23736											
17	TP07(<100 um)	Jul 09, 2020		AUS Leachate	M20-JI39384						
18	TP07(<100-250 um)	Jul 09, 2020		AUS Leachate	M20-JI39385	X			X		
19	TP07(>250 um)	Jul 09, 2020		AUS Leachate	M20-JI39386		X				
20	TP03-0.4	Jul 09, 2020		AUS Leachate	M20-JI39387	X			X		
21	TP02-2.4	Jul 09, 2020		AUS Leachate	M20-JI39388	X			X		
22	TP08-0.7	Jul 09, 2020		AUS Leachate	M20-JI39389				X	X	
23	TP05(<100 um)	Jul 09, 2020		AUS Leachate	M20-JI39390				X	X	
24	TP05(<100-250 um)	Jul 09, 2020		AUS Leachate	M20-JI39391				X	X	
25	TP05(>250 um)	Jul 09, 2020		AUS Leachate	M20-JI39392		X				

Australia

Melbourne
 6 Monterey Road
 Dandenong South VIC 3175
 Phone : +61 3 8564 5000
 NATA # 1261
 Site # 1254 & 14271

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

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

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

New Zealand

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

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

Company Name: JBS & G Australia (VIC) P/L
Address: PO Box 3166
 Norwood
 SA 5067
Project Name: HUNTLY COMMON
Project ID: 58207

Order No.:
Report #: 733690
Phone: 03 9642 0599
Fax:

Received: Jul 23, 2020 5:15 PM
Due: Jul 30, 2020
Priority: 5 Day
Contact Name: Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail	Arsenic	CANCELLED	Total Organic Carbon	AUS Leaching Procedure	Chromium (speciated)	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217						
Brisbane Laboratory - NATA Site # 20794						
Perth Laboratory - NATA Site # 23736						
Test Counts	4	2	12	7	7	16

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											
Chromium (hexavalent)				mg/kg	< 1			1	Pass		
Total Organic Carbon				%	< 0.1			0.1	Pass		
Method Blank											
Heavy Metals											
Chromium				mg/kg	< 5			5	Pass		
LCS - % Recovery											
Chromium (hexavalent)				%	99			70-130	Pass		
Total Organic Carbon				%	104			70-130	Pass		
LCS - % Recovery											
Heavy Metals											
Chromium				%	84			80-120	Pass		
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code		
Spike - % Recovery											
Heavy Metals											
Chromium				M20-JI38728	NCP	%	83		75-125	Pass	
Spike - % Recovery											
Heavy Metals											
Chromium (hexavalent)				M20-JI39371	CP	%	82		70-130	Pass	
Duplicate											
							Result 1	Result 2	RPD		
Chromium (hexavalent)				M20-JI40674	NCP	mg/kg	< 1	< 1	< 1	30%	Pass
Duplicate											
Heavy Metals											
Chromium				M20-JI37762	NCP	mg/kg	20	21	5.0	30%	Pass
Duplicate											
							Result 1	Result 2	RPD		
% Moisture				M20-JI39375	CP	%	13	13	2.0	30%	Pass
Duplicate											
							Result 1	Result 2	RPD		
Total Organic Carbon				M20-JI39383	CP	%	0.4	0.4	6.1	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

Michael Cassidy	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)

**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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

JBS & G Australia (VIC) P/L
PO Box 3166
Norwood
SA 5067



NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Anna Tuncks**

Report **737860-L**
 Project name **HUNTLY COMMON**
 Project ID **58207**
 Received Date **Aug 14, 2020**

Client Sample ID			G01 TP02-3.0	G01 TP04-2.1
Sample Matrix			AUS Leachate - pH 5.0	AUS Leachate - pH 5.0
Eurofins Sample No.			M20-Au20869	M20-Au20870
Date Sampled			Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit		
Heavy Metals				
Aluminium	0.05	mg/L	0.22	0.25
Antimony	0.05	mg/L	< 0.05	< 0.05
Arsenic	0.01	mg/L	< 0.01	< 0.01
Barium	0.5	mg/L	< 0.5	< 0.5
Beryllium	0.01	mg/L	< 0.01	< 0.01
Bismuth	0.005	mg/L	< 0.005	< 0.005
Boron	0.05	mg/L	< 1	< 1
Cadmium	0.01	mg/L	< 0.01	< 0.01
Chromium	0.01	mg/L	< 0.01	< 0.01
Cobalt	0.01	mg/L	< 0.01	< 0.01
Copper	0.01	mg/L	< 0.01	< 0.01
Iron	0.01	mg/L	0.17	0.16
Lead	0.01	mg/L	< 0.01	< 0.01
Manganese	0.05	mg/L	< 0.05	< 0.05
Mercury	0.001	mg/L	< 0.001	< 0.001
Molybdenum	0.01	mg/L	< 0.01	< 0.01
Nickel	0.01	mg/L	< 0.01	< 0.01
Selenium	0.05	mg/L	< 0.05	< 0.05
Silver	0.05	mg/L	< 0.05	< 0.05
Thallium	0.05	mg/L	< 0.05	< 0.05
Tin	0.05	mg/L	< 0.05	< 0.05
Titanium	0.05	mg/L	< 0.05	< 0.05
Uranium	0.005	mg/L	< 0.005	< 0.005
Vanadium	0.05	mg/L	< 0.05	< 0.05
Zinc	0.01	mg/L	0.10	0.09
Alkali Metals				
Calcium	0.5	mg/L	< 20	< 20
Magnesium	0.5	mg/L	< 20	< 20
Potassium	0.5	mg/L	< 10	< 10
Extended Metals Suite				
Phosphorus	0.5	mg/L	< 10	< 10
Silicon	0.5	mg/L	< 10	< 10
Sulphur	0.5	mg/L	< 10	< 10

Client Sample ID			^{G01} TP02-3.0	^{G01} TP04-2.1
Sample Matrix			AUS Leachate - pH 5.0	AUS Leachate - pH 5.0
Eurofins Sample No.			M20-Au20869	M20-Au20870
Date Sampled			Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit		
AUS Leaching Procedure				
Leachate Fluid ^{C01}		comment	1.0	1.0
pH (Leachate fluid)	0.1	pH Units	5.1	5.1
pH (off)	0.1	pH Units	5.1	5.1

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
Extended Metals Suite - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon and Phosphorus by ICP-AES	Melbourne	Aug 14, 2020	28 Days
AUS Leaching Procedure pH (Leachate fluid) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Aug 14, 2020	0 Days
pH (off) - Method: LTM-GEN-7010 Leaching Procedure for Soils & Solid Wastes	Melbourne	Aug 14, 2020	0 Days

Australia

Melbourne
 6 Monterey Road
 Dandenong South VIC 3175
 Phone : +61 3 8564 5000
 NATA # 1261
 Site # 1254 & 14271

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

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

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

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

Company Name:	JBS & G Australia (VIC) P/L	Order No.:		Received:	Aug 14, 2020 10:46 AM
Address:	PO Box 3166 Norwood SA 5067	Report #:	737860	Due:	Aug 21, 2020
Project Name:	HUNTLY COMMON	Phone:	03 9642 0599	Priority:	5 Day
Project ID:	58207	Fax:		Contact Name:	Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						AUS Leaching Procedure	Extended Metals Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Newcastle Laboratory								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	TP02-3.0	Jul 09, 2020		Soil	M20-Au20867		X	X
2	TP04-2.1	Jul 09, 2020		Soil	M20-Au20868		X	X
3	TP02-3.0	Jul 09, 2020		AUS Leachate - pH 5.0	M20-Au20869	X	X	
4	TP04-2.1	Jul 09, 2020		AUS Leachate - pH 5.0	M20-Au20870	X	X	
Test Counts						2	4	2

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.
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- 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.
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Holding Times

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

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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
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CP	Client Parent - QC was performed on samples pertaining to this report
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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								
Heavy Metals								
Aluminium			mg/L	< 0.05		0.05	Pass	
Antimony			mg/L	< 0.05		0.05	Pass	
Arsenic			mg/L	< 0.01		0.01	Pass	
Barium			mg/L	< 0.5		0.5	Pass	
Beryllium			mg/L	< 0.01		0.01	Pass	
Bismuth			mg/L	< 0.005		0.005	Pass	
Boron			mg/L	< 0.05		0.05	Pass	
Cadmium			mg/L	< 0.01		0.01	Pass	
Chromium			mg/L	< 0.01		0.01	Pass	
Cobalt			mg/L	< 0.01		0.01	Pass	
Copper			mg/L	< 0.01		0.01	Pass	
Iron			mg/L	< 0.01		0.01	Pass	
Lead			mg/L	< 0.01		0.01	Pass	
Manganese			mg/L	< 0.05		0.05	Pass	
Mercury			mg/L	< 0.001		0.001	Pass	
Molybdenum			mg/L	< 0.01		0.01	Pass	
Nickel			mg/L	< 0.01		0.01	Pass	
Selenium			mg/L	< 0.05		0.05	Pass	
Silver			mg/L	< 0.05		0.05	Pass	
Thallium			mg/L	< 0.05		0.05	Pass	
Tin			mg/L	< 0.05		0.05	Pass	
Titanium			mg/L	< 0.05		0.05	Pass	
Uranium			mg/L	< 0.005		0.005	Pass	
Vanadium			mg/L	< 0.05		0.05	Pass	
Zinc			mg/L	< 0.01		0.01	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1		Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery								
Heavy Metals				Result 1				
Aluminium	M20-Au20818	NCP	%	93		75-125	Pass	
Antimony	M20-Au20818	NCP	%	94		75-125	Pass	
Arsenic	M20-Au20818	NCP	%	97		75-125	Pass	
Barium	M20-Au20818	NCP	%	92		75-125	Pass	
Beryllium	M20-Au20818	NCP	%	93		75-125	Pass	
Bismuth	M20-Au20818	NCP	%	99		75-125	Pass	
Cadmium	M20-Au20818	NCP	%	96		75-125	Pass	
Chromium	M20-Au20818	NCP	%	96		75-125	Pass	
Cobalt	M20-Au20818	NCP	%	95		75-125	Pass	
Copper	M20-Au20818	NCP	%	95		75-125	Pass	
Iron	M20-Au20818	NCP	%	99		75-125	Pass	
Lead	M20-Au20818	NCP	%	93		75-125	Pass	
Manganese	M20-Au20818	NCP	%	95		75-125	Pass	
Mercury	M20-Au20818	NCP	%	96		75-125	Pass	
Molybdenum	M20-Au20818	NCP	%	97		75-125	Pass	
Nickel	M20-Au20818	NCP	%	94		75-125	Pass	
Selenium	M20-Au20818	NCP	%	94		75-125	Pass	
Silver	M20-Au20818	NCP	%	89		75-125	Pass	
Thallium	M20-Au20818	NCP	%	97		75-125	Pass	
Tin	M20-Au20818	NCP	%	93		75-125	Pass	
Titanium	M20-Au20818	NCP	%	96		75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Uranium	M20-Au20818	NCP	%	99			75-125	Pass	
Vanadium	M20-Au20818	NCP	%	99			75-125	Pass	
Zinc	M20-Au20818	NCP	%	96			75-125	Pass	
Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium	M20-Au20818	NCP	mg/L	0.42	0.35	18	30%	Pass	
Antimony	M20-Au20818	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Arsenic	M20-Au20818	NCP	mg/L	0.04	0.04	3.0	30%	Pass	
Barium	M20-Au20818	NCP	mg/L	0.5	0.5	2.0	30%	Pass	
Beryllium	M20-Au20818	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Bismuth	M20-Au20818	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Cadmium	M20-Au20818	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Chromium	M20-Au20818	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Cobalt	M20-Au20818	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Copper	M20-Au20818	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Iron	M20-Au20818	NCP	mg/L	0.08	0.09	6.0	30%	Pass	
Lead	M20-Au20818	NCP	mg/L	0.03	0.03	3.0	30%	Pass	
Manganese	M20-Au20818	NCP	mg/L	0.19	0.18	3.0	30%	Pass	
Mercury	M20-Au20818	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Molybdenum	M20-Au20818	NCP	mg/L	< 0.01	< 0.01	<1	30%	Pass	
Nickel	M20-Au20818	NCP	mg/L	0.02	0.02	6.0	30%	Pass	
Selenium	M20-Au20818	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Silver	M20-Au20818	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Thallium	M20-Au20818	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Tin	M20-Au20818	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Titanium	M20-Au20818	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Uranium	M20-Au20818	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Vanadium	M20-Au20818	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Zinc	M20-Au20818	NCP	mg/L	0.33	0.33	1.0	30%	Pass	

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
C01	Leachate Fluid Key: 1 - pH 5.0; 2 - pH 2.9; 3 - pH 9.2; 4 - Reagent (DI) water; 5 - Client sample, 6 - other
G01	The LORs have been raised due to matrix interference

Authorised By

Michael Cassidy	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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JBS & G Australia (VIC) P/L
PO Box 3166
Norwood
SA 5067



NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Anna Tuncks**

Report **737860-S**
 Project name **HUNTLY COMMON**
 Project ID **58207**
 Received Date **Aug 14, 2020**

Client Sample ID			TP02-3.0	TP04-2.1
Sample Matrix			Soil	Soil
Eurofins Sample No.			M20-Au20867	M20-Au20868
Date Sampled			Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit		
Heavy Metals				
Aluminium	10	mg/kg	7100	13000
Antimony	10	mg/kg	< 10	< 10
Arsenic	2	mg/kg	70	32
Barium	10	mg/kg	71	30
Beryllium	2	mg/kg	< 2	< 2
Bismuth	10	mg/kg	< 10	< 10
Boron	10	mg/kg	< 10	< 10
Cadmium	0.4	mg/kg	< 0.4	< 0.4
Chromium	5	mg/kg	13	20
Cobalt	5	mg/kg	7.6	< 5
Copper	5	mg/kg	12	10
Iron	20	mg/kg	20000	21000
Lead	5	mg/kg	13	15
Manganese	5	mg/kg	180	37
Mercury	0.1	mg/kg	0.2	< 0.1
Molybdenum	5	mg/kg	< 5	< 5
Nickel	5	mg/kg	9.1	6.6
Selenium	2	mg/kg	< 2	< 2
Silver	0.2	mg/kg	< 0.2	< 0.2
Thallium	10	mg/kg	< 10	< 10
Tin	10	mg/kg	< 10	< 10
Titanium	10	mg/kg	54	96
Uranium	10	mg/kg	< 10	< 10
Vanadium	10	mg/kg	17	30
Zinc	5	mg/kg	22	16
Alkali Metals				
Calcium	5	mg/kg	810	670
Magnesium	5	mg/kg	1700	1800
Potassium	5	mg/kg	760	1200
Sodium	5	mg/kg	460	580
Extended Metals Suite				
Phosphorus	5	mg/kg	120	82
Sulphur	5	mg/kg	500	170
% Moisture				
	1	%	10	9.8

Sample History

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

A recent review of our LIMS has resulted in the correction or clarification of some method identifications. Due to this, some of the method reference information on reports has changed. However, no substantive change has been made to our laboratory methods, and as such there is no change in the validity of current or previous results.

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

Extended Metals Suite

- Method: LTM-MET-3010 Alkali Metals Sulfur Silicon and Phosphorus by ICP-AES

% Moisture

- Method: LTM-GEN-7080 Moisture

Testing Site

Melbourne

Melbourne

Extracted

Aug 14, 2020

Aug 14, 2020

Holding Time

28 Days

14 Days

Australia

Melbourne
6 Monterey Road
Dandenong South VIC 3175
Phone : +61 3 8564 5000
NATA # 1261
Site # 1254 & 14271

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

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

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

Newcastle
4/52 Industrial Drive
Mayfield East NSW 2304
PO Box 60 Wickham 2293
Phone : +61 2 4968 8448

New Zealand

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

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

Company Name:	JBS & G Australia (VIC) P/L	Order No.:		Received:	Aug 14, 2020 10:46 AM
Address:	PO Box 3166 Norwood SA 5067	Report #:	737860	Due:	Aug 21, 2020
Project Name:	HUNTLY COMMON	Phone:	03 9642 0599	Priority:	5 Day
Project ID:	58207	Fax:		Contact Name:	Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						AUS Leaching Procedure	Extended Metals Suite	Moisture Set
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X
Sydney Laboratory - NATA Site # 18217								
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Newcastle Laboratory								
External Laboratory								
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID			
1	TP02-3.0	Jul 09, 2020		Soil	M20-Au20867		X	X
2	TP04-2.1	Jul 09, 2020		Soil	M20-Au20868		X	X
3	TP02-3.0	Jul 09, 2020		AUS Leachate - pH 5.0	M20-Au20869	X	X	
4	TP04-2.1	Jul 09, 2020		AUS Leachate - pH 5.0	M20-Au20870	X	X	
Test Counts						2	4	2

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							
Heavy Metals							
Aluminium	mg/kg	< 10			10	Pass	
Antimony	mg/kg	< 10			10	Pass	
Arsenic	mg/kg	< 2			2	Pass	
Barium	mg/kg	< 10			10	Pass	
Beryllium	mg/kg	< 2			2	Pass	
Bismuth	mg/kg	< 10			10	Pass	
Boron	mg/kg	< 10			10	Pass	
Cadmium	mg/kg	< 0.4			0.4	Pass	
Chromium	mg/kg	< 5			5	Pass	
Cobalt	mg/kg	< 5			5	Pass	
Copper	mg/kg	< 5			5	Pass	
Iron	mg/kg	< 20			20	Pass	
Lead	mg/kg	< 5			5	Pass	
Manganese	mg/kg	< 5			5	Pass	
Mercury	mg/kg	< 0.1			0.1	Pass	
Molybdenum	mg/kg	< 5			5	Pass	
Nickel	mg/kg	< 5			5	Pass	
Selenium	mg/kg	< 2			2	Pass	
Silver	mg/kg	< 0.2			0.2	Pass	
Thallium	mg/kg	< 10			10	Pass	
Tin	mg/kg	< 10			10	Pass	
Titanium	mg/kg	< 10			10	Pass	
Uranium	mg/kg	< 10			10	Pass	
Vanadium	mg/kg	< 10			10	Pass	
Zinc	mg/kg	< 5			5	Pass	
Method Blank							
Alkali Metals							
Calcium	mg/kg	< 5			5	Pass	
Magnesium	mg/kg	< 5			5	Pass	
Potassium	mg/kg	< 5			5	Pass	
Sodium	mg/kg	< 5			5	Pass	
Method Blank							
Extended Metals Suite							
Phosphorus	mg/kg	< 5			5	Pass	
Sulphur	mg/kg	< 5			5	Pass	
LCS - % Recovery							
Heavy Metals							
Aluminium	%	105			80-120	Pass	
Antimony	%	109			80-120	Pass	
Arsenic	%	101			80-120	Pass	
Barium	%	102			80-120	Pass	
Beryllium	%	103			80-120	Pass	
Bismuth	%	109			80-120	Pass	
Boron	%	100			80-120	Pass	
Cadmium	%	91			80-120	Pass	
Chromium	%	112			80-120	Pass	
Cobalt	%	109			80-120	Pass	
Copper	%	109			80-120	Pass	
Iron	%	110			80-120	Pass	
Lead	%	113			80-120	Pass	

Test	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code		
Manganese	%	109	80-120	Pass			
Mercury	%	95	80-120	Pass			
Molybdenum	%	104	80-120	Pass			
Nickel	%	105	80-120	Pass			
Selenium	%	104	80-120	Pass			
Silver	%	93	80-120	Pass			
Thallium	%	109	80-120	Pass			
Tin	%	101	80-120	Pass			
Titanium	%	108	80-120	Pass			
Uranium	%	108	80-120	Pass			
Vanadium	%	108	80-120	Pass			
Zinc	%	105	80-120	Pass			
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Spike - % Recovery							
Heavy Metals				Result 1			
Antimony	M20-Au20897	NCP	%	78	75-125	Pass	
Arsenic	M20-Au20897	NCP	%	80	75-125	Pass	
Barium	M20-Au20897	NCP	%	89	75-125	Pass	
Beryllium	M20-Au20897	NCP	%	86	75-125	Pass	
Bismuth	M20-Au20897	NCP	%	80	75-125	Pass	
Boron	M20-Au20897	NCP	%	80	75-125	Pass	
Cadmium	M20-Au20897	NCP	%	88	75-125	Pass	
Chromium	M20-Au20897	NCP	%	91	75-125	Pass	
Cobalt	M20-Au20897	NCP	%	85	75-125	Pass	
Copper	M20-Au20897	NCP	%	93	75-125	Pass	
Lead	M20-Au20897	NCP	%	81	75-125	Pass	
Manganese	M20-Au20897	NCP	%	184	75-125	Fail	Q08
Mercury	M20-Au20897	NCP	%	86	75-125	Pass	
Molybdenum	M20-Au20897	NCP	%	81	75-125	Pass	
Nickel	M20-Au20897	NCP	%	84	75-125	Pass	
Selenium	M20-Au20897	NCP	%	82	75-125	Pass	
Silver	M20-Au20897	NCP	%	86	75-125	Pass	
Thallium	M20-Au20897	NCP	%	73	75-125	Fail	Q08
Tin	M20-Au20897	NCP	%	79	75-125	Pass	
Uranium	M20-Au20897	NCP	%	81	75-125	Pass	
Vanadium	M20-Au20897	NCP	%	107	75-125	Pass	
Zinc	M20-Au20897	NCP	%	130	75-125	Fail	Q08
Test	Lab Sample ID	QA Source	Units	Result 1	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate							
Heavy Metals				Result 1	Result 2	RPD	
Aluminium	M20-Au20897	NCP	mg/kg	10000	9300	7.0	30% Pass
Antimony	M20-Au20897	NCP	mg/kg	< 10	< 10	<1	30% Pass
Arsenic	M20-Au20897	NCP	mg/kg	2.9	2.5	14	30% Pass
Barium	M20-Au20897	NCP	mg/kg	36	35	4.0	30% Pass
Beryllium	M20-Au20897	NCP	mg/kg	< 2	< 2	<1	30% Pass
Bismuth	M20-Au20897	NCP	mg/kg	< 10	< 10	<1	30% Pass
Boron	M20-Au20897	NCP	mg/kg	< 10	< 10	<1	30% Pass
Cadmium	M20-Au20897	NCP	mg/kg	< 0.4	< 0.4	<1	30% Pass
Chromium	M20-Au20897	NCP	mg/kg	16	18	13	30% Pass
Cobalt	M20-Au20897	NCP	mg/kg	7.2	6.8	6.0	30% Pass
Copper	M20-Au20897	NCP	mg/kg	13	13	6.0	30% Pass
Iron	M20-Au20897	NCP	mg/kg	16000	15000	6.0	30% Pass
Lead	M20-Au20897	NCP	mg/kg	17	23	34	30% Fail Q15

Test	Lab Sample ID	QA Source	Units	Result 1	Result 2	RPD	Acceptance Limits	Pass Limits	Qualifying Code
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Manganese	M20-Au20897	NCP	mg/kg	230	200	14	30%	Pass	
Mercury	M20-Au20897	NCP	mg/kg	< 0.1	< 0.1	<1	30%	Pass	
Molybdenum	M20-Au20897	NCP	mg/kg	< 5	< 5	<1	30%	Pass	
Nickel	M20-Au20897	NCP	mg/kg	23	23	2.0	30%	Pass	
Selenium	M20-Au20897	NCP	mg/kg	< 2	< 2	<1	30%	Pass	
Silver	M20-Au20897	NCP	mg/kg	< 0.2	< 0.2	<1	30%	Pass	
Thallium	M20-Au20897	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Tin	M20-Au20897	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Titanium	M20-Au20897	NCP	mg/kg	730	720	1.0	30%	Pass	
Uranium	M20-Au20897	NCP	mg/kg	< 10	< 10	<1	30%	Pass	
Vanadium	M20-Au20897	NCP	mg/kg	21	24	15	30%	Pass	
Zinc	M20-Au20897	NCP	mg/kg	100	100	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	S20-Au20066	NCP	mg/kg	2200	2100	7.0	30%	Pass	
Magnesium	S20-Au20066	NCP	mg/kg	3700	3600	2.0	30%	Pass	
Potassium	S20-Au20066	NCP	mg/kg	1900	1800	6.0	30%	Pass	
Sodium	S20-Au20066	NCP	mg/kg	880	860	2.0	30%	Pass	
Duplicate									
Extended Metals Suite				Result 1	Result 2	RPD			
Phosphorus	S20-Au20066	NCP	mg/kg	66	62	7.0	30%	Pass	
Sulphur	S20-Au20066	NCP	mg/kg	35	42	22	30%	Pass	
Duplicate									
				Result 1	Result 2	RPD			
% Moisture	M20-Au20894	NCP	%	12	9.6	24	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
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.
Q15	The RPD reported passes Eurofins Environment Testing's QC - Acceptance Criteria as defined in the Internal Quality Control Review and Glossary page of this report.

Authorised By

Michael Cassidy	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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Appendix F Surface Water and Sediment Photograph Log

DS-01 SAMPLING LOCATION



DS-01 MILLWOOD ROAD BRIDGE AND DEBRIS



DS-01 ROCKY ADJACENT BANK



DS-01 VEGETATION COVERAGE



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Surface water and sediment sampling undertaken on 09 July 2020

Huntly Streamside Reserve, Huntly, Victoria, 3551

MS-01 VEGETATION COVERAGE



MS-01 SAMPLING LOCATION



MS-01 SAMPLING LOCATION



MS-01 SAMPLING LOCATION



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Surface water and sediment sampling undertaken on 09 July 2020

Huntly Streamside Reserve, Huntly, Victoria, 3551

US-01 LEAN ROAD BRIDGE AND IRON OXIDE IMPACT



US-01 WEEDS AND DEBRIS



US-01 ANTHROPOGENIC INCLUSIONS NEAR WATER SAMPLING LOCATION



US-01 SEDIMENT SAMPLE LOCATION



Job No: 58207

Client: Huntly Common

Version: Rev A

Date: 10-08-2020

Drawn By: AT

Checked By: LB

Not to Scale

Coord. Sys n/a

Surface water and sediment sampling undertaken on 09 July 2020

Huntly Streamside Reserve, Huntly, Victoria, 3551

Appendix G Surface Water Laboratory Results

JBS & G Australia (VIC) P/L
PO Box 3166
Norwood
SA 5067



NATA Accredited
Accreditation Number 1261
Site Number 1254

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

Attention: **Anna Tuncks**

Report **731084-W**
 Project name **HUNTLY COMMON**
 Project ID **58207**
 Received Date **Jul 10, 2020**

Client Sample ID			DS-01	MS-01	VS-01
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M20-JI18614	M20-JI18615	M20-JI18616
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit			
Ammonia (as N)	0.01	mg/L	0.02	< 0.01	0.02
Chloride	1	mg/L	260	290	190
Conductivity (at 25°C)	10	uS/cm	1300	1600	970
Nitrate (as N)	0.02	mg/L	3.1	3.3	0.44
pH (at 25°C)	0.1	pH Units	8.2	8.3	8.0
Sulphate (as SO4)	5	mg/L	80	88	43
Total Dissolved Solids Dried at 180°C ± 2°C	10	mg/L	850	950	600
Total Suspended Solids Dried at 103–105°C	1	mg/L	4.0	2.7	6.2
Alkalinity (speciated)					
Bicarbonate Alkalinity (as CaCO3)	20	mg/L	200	250	140
Carbonate Alkalinity (as CaCO3)	10	mg/L	< 10	< 10	< 10
Alkali Metals					
Calcium	0.5	mg/L	34	36	27
Calcium (filtered)	0.5	mg/L	34	36	27
Magnesium	0.5	mg/L	35	39	30
Magnesium (filtered)	0.5	mg/L	35	39	30
Potassium	0.5	mg/L	20	22	7.3
Potassium (filtered)	0.5	mg/L	20	22	7.3
Sodium	0.5	mg/L	210	240	150
Sodium (filtered)	0.5	mg/L	210	240	150
Heavy Metals					
Aluminium (filtered)	0.05	mg/L	0.06	0.06	0.12
Antimony (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Arsenic (filtered)	0.001	mg/L	0.011	0.013	0.007
Barium (filtered)	0.02	mg/L	< 0.02	< 0.02	0.05
Beryllium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Bismuth (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Boron (filtered)	0.05	mg/L	0.05	0.06	< 0.05
Cadmium (filtered)	0.0002	mg/L	< 0.0002	< 0.0002	< 0.0002
Chromium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Cobalt (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Copper (filtered)	0.001	mg/L	0.002	0.002	0.001
Iron (filtered)	0.05	mg/L	0.11	0.05	0.52
Lead (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Manganese (filtered)	0.005	mg/L	0.005	< 0.005	0.084

Client Sample ID			DS-01	MS-01	VS-01
Sample Matrix			Water	Water	Water
Eurofins Sample No.			M20-JI18614	M20-JI18615	M20-JI18616
Date Sampled			Jul 09, 2020	Jul 09, 2020	Jul 09, 2020
Test/Reference	LOR	Unit			
Heavy Metals					
Mercury (filtered)	0.0001	mg/L	< 0.0001	< 0.0001	< 0.0001
Molybdenum (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Nickel (filtered)	0.001	mg/L	0.002	0.002	0.002
Selenium (filtered)	0.001	mg/L	< 0.001	< 0.001	< 0.001
Silver (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Thallium (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Tin (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Titanium (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Uranium (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Vanadium (filtered)	0.005	mg/L	< 0.005	< 0.005	< 0.005
Zinc (filtered)	0.005	mg/L	0.014	0.016	0.014
Extended Metals Suite filtered					
Phosphorus (filtered)	0.5	mg/L	< 1	< 1	< 1
Silicon (filtered)	0.5	mg/L	3.1	3.3	4.7
Sulphur (filtered)	0.5	mg/L	32	33	18

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 B11			
Ammonia (as N) - Method: APHA 4500-NH3 Ammonia Nitrogen by FIA	Melbourne	Jul 10, 2020	28 Days
Chloride - Method: LTM-INO-4090 Chloride by Discrete Analyser	Melbourne	Jul 10, 2020	28 Days
Nitrate (as N) - Method: LTM-INO-4120 Analysis of NOx NO2 NH3 by FIA	Melbourne	Jul 10, 2020	28 Days
Sulphate (as SO4) - Method: LTM-INO-4110 Sulfate by Discrete Analyser	Melbourne	Jul 10, 2020	28 Days
Alkalinity (speciated) - Method: LTM-INO-4250 Alkalinity by Electrometric Titration	Melbourne	Jul 10, 2020	14 Days
Alkali Metals - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon Phosphorus by ICP-AES	Melbourne	Jul 10, 2020	180 Days
Conductivity (at 25°C) - Method: LTM-INO-4030 Conductivity	Melbourne	Jul 10, 2020	28 Days
pH (at 25°C) - Method: LTM-GEN-7090 pH in water by ISE	Melbourne	Jul 10, 2020	0 Hours
Total Suspended Solids Dried at 103–105°C - Method: LTM-INO-4070 Analysis of Suspended Solids in Water by Gravimetry	Melbourne	Jul 10, 2020	7 Days
Extended Metals Suite filtered - Method: LTM-MET-3010 Alkali Metals Sulfur Silicon and Phosphorus by ICP-AES	Melbourne	Jul 10, 2020	28 Days
Total Dissolved Solids Dried at 180°C ± 2°C - Method: LTM-INO-4170 Total Dissolved Solids in Water	Melbourne	Jul 10, 2020	7 Days

Australia

Melbourne
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NATA # 1261
Site # 1254 & 14271

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Phone : +61 2 9900 8400
NATA # 1261 Site # 18217

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

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

New Zealand

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

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

Company Name:	JBS & G Australia (VIC) P/L	Order No.:		Received:	Jul 10, 2020 11:33 AM
Address:	PO Box 3166 Norwood SA 5067	Report #:	731084	Due:	Jul 17, 2020
Project Name:	HUNTLY COMMON	Phone:	03 9642 0599	Priority:	5 Day
Project ID:	58207	Fax:		Contact Name:	Anna Tuncks

Eurofins Analytical Services Manager : Michael Cassidy

Sample Detail						Conductivity (at 25°C)	HOLD	pH (at 25°C)	Total Suspended Solids Dried at 103–105°C	Eurofins mg/L Suite B11	Extended Metals Suite filtered	Total Dissolved Solids Dried at 180°C ± 2°C
Melbourne Laboratory - NATA Site # 1254 & 14271						X	X	X	X	X	X	X
Sydney Laboratory - NATA Site # 18217												
Brisbane Laboratory - NATA Site # 20794												
Perth Laboratory - NATA Site # 23736												
External Laboratory												
No	Sample ID	Sample Date	Sampling Time	Matrix	LAB ID							
1	DS-01	Jul 09, 2020		Water	M20-JI18614	X		X	X	X	X	X
2	MS-01	Jul 09, 2020	11:55AM	Water	M20-JI18615	X		X	X	X	X	X
3	VS-01	Jul 09, 2020	1:15AM	Water	M20-JI18616	X		X	X	X	X	X
4	TRIP BLANK	Jul 09, 2020		Soil	M20-JI18617		X					
Test Counts						3	1	3	3	3	3	3

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 (as N)	mg/L	< 0.02			0.02	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 Suspended Solids Dried at 103–105°C	mg/L	< 1			1	Pass	
Method Blank							
Alkalinity (speciated)							
Bicarbonate Alkalinity (as CaCO ₃)	mg/L	< 20			20	Pass	
Carbonate Alkalinity (as CaCO ₃)	mg/L	< 10			10	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							
Aluminium (filtered)	mg/L	< 0.05			0.05	Pass	
Antimony (filtered)	mg/L	< 0.005			0.005	Pass	
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Barium (filtered)	mg/L	< 0.02			0.02	Pass	
Beryllium (filtered)	mg/L	< 0.001			0.001	Pass	
Bismuth (filtered)	mg/L	< 0.005			0.005	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	
Molybdenum (filtered)	mg/L	< 0.005			0.005	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Selenium (filtered)	mg/L	< 0.001			0.001	Pass	
Silver (filtered)	mg/L	< 0.005			0.005	Pass	
Thallium (filtered)	mg/L	< 0.005			0.005	Pass	
Tin (filtered)	mg/L	< 0.005			0.005	Pass	
Titanium (filtered)	mg/L	< 0.005			0.005	Pass	
Uranium (filtered)	mg/L	< 0.005			0.005	Pass	
Vanadium (filtered)	mg/L	< 0.005			0.005	Pass	
Zinc (filtered)	mg/L	< 0.005			0.005	Pass	
LCS - % Recovery							
Ammonia (as N)	%	99			70-130	Pass	
Chloride	%	108			70-130	Pass	
Conductivity (at 25°C)	%	86			70-130	Pass	
Nitrate (as N)	%	102			70-130	Pass	
Sulphate (as SO ₄)	%	106			70-130	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	%	92			70-130	Pass	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code	
Total Suspended Solids Dried at 103–105°C	%	101			70-130	Pass		
LCS - % Recovery								
Alkalinity (speciated)								
Carbonate Alkalinity (as CaCO ₃)	%	89			70-130	Pass		
LCS - % Recovery								
Alkali Metals								
Calcium	%	107			70-130	Pass		
Calcium (filtered)	%	107			70-130	Pass		
Magnesium	%	102			70-130	Pass		
Magnesium (filtered)	%	102			70-130	Pass		
Potassium	%	100			70-130	Pass		
Potassium (filtered)	%	100			70-130	Pass		
Sodium	%	101			70-130	Pass		
LCS - % Recovery								
Extended Metals Suite filtered								
Phosphorus (filtered)	%	109			70-130	Pass		
Silicon (filtered)	%	116			70-130	Pass		
Sulphur (filtered)	%	110			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)	M20-JI18614	CP	%	98		70-130	Pass	
Chloride	M20-JI17821	NCP	%	99		70-130	Pass	
Nitrate (as N)	M20-JI18614	CP	%	82		70-130	Pass	
Sulphate (as SO ₄)	M20-JI18492	NCP	%	93		70-130	Pass	
Total Suspended Solids Dried at 103–105°C	M20-JI21822	NCP	%	106		70-130	Pass	
Spike - % Recovery								
Alkalinity (speciated)								
Carbonate Alkalinity (as CaCO ₃)	M20-My20137	NCP	%	Result 1				
				106		70-130	Pass	
Spike - % Recovery								
Alkali Metals								
				Result 1				
Calcium	M20-JI20395	NCP	%	106		70-130	Pass	
Magnesium	M20-JI20395	NCP	%	105		70-130	Pass	
Potassium	M20-JI20395	NCP	%	101		70-130	Pass	
Sodium	M20-JI20395	NCP	%	107		70-130	Pass	
Spike - % Recovery								
Heavy Metals								
				Result 1				
Aluminium (filtered)	M20-JI18955	NCP	%	115		75-125	Pass	
Antimony (filtered)	M20-JI18955	NCP	%	89		75-125	Pass	
Arsenic (filtered)	M20-JI18955	NCP	%	91		70-130	Pass	
Barium (filtered)	M20-JI18955	NCP	%	82		75-125	Pass	
Beryllium (filtered)	M20-JI18955	NCP	%	105		75-125	Pass	
Bismuth (filtered)	M20-JI18955	NCP	%	79		75-125	Pass	
Boron (filtered)	M20-JI18955	NCP	%	116		75-125	Pass	
Cadmium (filtered)	M20-JI18955	NCP	%	75		70-130	Pass	
Chromium (filtered)	M20-JI18955	NCP	%	93		70-130	Pass	
Cobalt (filtered)	M20-JI18955	NCP	%	87		75-125	Pass	
Copper (filtered)	M20-JI18955	NCP	%	82		70-130	Pass	
Iron (filtered)	M20-JI18955	NCP	%	93		70-130	Pass	
Lead (filtered)	M20-JI18955	NCP	%	77		70-130	Pass	
Manganese (filtered)	M20-JI18955	NCP	%	64		70-130	Fail	Q08
Mercury (filtered)	M20-JI18955	NCP	%	50		70-130	Fail	Q08
Molybdenum (filtered)	M20-JI18955	NCP	%	81		75-125	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Nickel (filtered)	M20-JI18955	NCP	%	84			70-130	Pass	
Selenium (filtered)	M20-JI18955	NCP	%	91			70-130	Pass	
Silver (filtered)	M20-JI18955	NCP	%	58			75-125	Fail	Q08
Thallium (filtered)	M20-JI18955	NCP	%	70			75-125	Fail	Q08
Tin (filtered)	M20-JI18955	NCP	%	86			75-125	Pass	
Titanium (filtered)	M20-JI18955	NCP	%	104			75-125	Pass	
Uranium (filtered)	M20-JI18955	NCP	%	84			70-130	Pass	
Vanadium (filtered)	M20-JI18955	NCP	%	98			75-125	Pass	
Zinc (filtered)	M20-JI18955	NCP	%	79			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)	B20-JI16247	NCP	mg/L	0.07	0.07	5.0	30%	Pass	
Chloride	M20-JI18520	NCP	mg/L	5100	5000	2.0	30%	Pass	
Conductivity (at 25°C)	M20-My22271	NCP	uS/cm	330	330	<1	30%	Pass	
Nitrate (as N)	B20-JI16247	NCP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
pH (at 25°C)	M20-My22271	NCP	pH Units	7.2	7.2	pass	30%	Pass	
Sulphate (as SO4)	M20-JI18520	NCP	mg/L	630	620	3.0	30%	Pass	
Total Dissolved Solids Dried at 180°C ± 2°C	M20-JI16132	NCP	mg/L	160	190	18	30%	Pass	
Total Suspended Solids Dried at 103–105°C	N20-JI17934	NCP	mg/L	36	47	27	30%	Pass	
Duplicate									
Alkalinity (speciated)				Result 1	Result 2	RPD			
Bicarbonate Alkalinity (as CaCO3)	M20-JI18497	NCP	mg/L	250	220	11	30%	Pass	
Carbonate Alkalinity (as CaCO3)	M20-JI18497	NCP	mg/L	< 10	< 10	<1	30%	Pass	
Duplicate									
Alkali Metals				Result 1	Result 2	RPD			
Calcium	M20-JI19730	NCP	mg/L	30	27	11	30%	Pass	
Magnesium	M20-JI19730	NCP	mg/L	64	65	2.0	30%	Pass	
Potassium	M20-JI19730	NCP	mg/L	18	18	1.0	30%	Pass	
Sodium	M20-JI19730	NCP	mg/L	260	260	1.0	30%	Pass	
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Aluminium (filtered)	M20-JI18955	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Antimony (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Arsenic (filtered)	M20-JI18955	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Barium (filtered)	M20-JI18955	NCP	mg/L	0.10	0.11	8.0	30%	Pass	
Beryllium (filtered)	M20-JI18955	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Bismuth (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Boron (filtered)	M20-JI18955	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Cadmium (filtered)	M20-JI18955	NCP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	M20-JI18955	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cobalt (filtered)	M20-JI18955	NCP	mg/L	0.004	0.005	10	30%	Pass	
Copper (filtered)	M20-JI18955	NCP	mg/L	0.008	0.009	4.0	30%	Pass	
Iron (filtered)	M20-JI18955	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Lead (filtered)	M20-JI18955	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	M20-JI18955	NCP	mg/L	0.46	0.52	11	30%	Pass	
Mercury (filtered)	M20-JI18955	NCP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Molybdenum (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Nickel (filtered)	M20-JI18955	NCP	mg/L	0.013	0.015	9.0	30%	Pass	
Selenium (filtered)	M20-JI18955	NCP	mg/L	0.002	0.002	2.0	30%	Pass	
Silver (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Thallium (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate								
Heavy Metals				Result 1	Result 2	RPD		
Tin (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Titanium (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Uranium (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Vanadium (filtered)	M20-JI18955	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass
Zinc (filtered)	M20-JI18955	NCP	mg/L	0.039	0.041	6.0	30%	Pass

Comments
Sample Integrity

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

Qualifier Codes/Comments

Code	Description
Q08	The matrix spike recovery is outside of the recommended acceptance criteria. An acceptable recovery was obtained for the laboratory control sample indicating a sample matrix interference.

Authorised By

Michael Cassidy	Analytical Services Manager
Emily Rosenberg	Senior Analyst-Metal (VIC)
Scott Beddoes	Senior Analyst-Inorganic (VIC)


**Glenn Jackson
General Manager**

Final report - this Report replaces any previously issued Report

- Indicates Not Requested

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

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

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Appendix H QA/QC Table

INSERT TABLE NAME

Project Number: 58207

Project Name: Huntly Common

Field Duplicates (soil)

Filter: Lab Report Number in ('731111','731071')



Lab Report Number	731111	731111		731111	21808	
Field ID	TP02-2.4	DUP01	RPD	TP02-2.4	Split01	RPD
Sampled Date	08-07-20	08-07-20		08-07-20	08-07-20	

Chemical Group	ChemName	Units	EQL						
Metals & Metalloids	Aluminium	mg/kg	10	5500	5000	10	5500	5200	6
	Antimony	mg/kg	10 : 7 (Interlab)	<10	<10	0	<10	<7	0
	Arsenic	mg/kg	2 : 4 (Interlab)	890	720	21	890	830	7
	Barium	mg/kg	10 : 1 (Interlab)	53	48	10	53	53	0
	Beryllium	mg/kg	2 : 1 (Interlab)	<2	<2	0	<2	<1	0
	Bismuth	mg/kg	10 : 1 (Interlab)	<10	<10	0	<10	<1	0
	Boron	mg/kg	10 : 3 (Interlab)	<10	<10	0	<10	<3	0
	Cadmium	mg/kg	0.4	<0.4	<0.4	0	<0.4	3	153
	Chromium (III+VI)	mg/kg	5 : 1 (Interlab)	14	12	15	14	11	24
	Cobalt	mg/kg	5 : 1 (Interlab)	9.4	7.2	27	9.4	7	29
	Copper	mg/kg	5 : 1 (Interlab)	21	15	33	21	19	10
	Iron	mg/kg	20 : 10 (Interlab)	30000	19000	45	30000	23000	26
	Lead	mg/kg	5 : 1 (Interlab)	100	34	99	100	38	90
	Manganese	mg/kg	5 : 1 (Interlab)	230	160	36	230	240	4
	Mercury	mg/kg	0.1	2.8	2	33	2.8	2.7	4
	Molybdenum	mg/kg	5 : 1 (Interlab)	<5	<5	0	<5	<1	0
	Nickel	mg/kg	5 : 1 (Interlab)	15	11	31	15	14	7
	Selenium	mg/kg	2	<2	<2	0	<2	<2	0
	Silver	mg/kg	0.2 : 1 (Interlab)	<0.2	<0.2	0	<0.2	<1	0
	Thallium	mg/kg	10 : 2 (Interlab)	<10	<10	0	<10	<2	0
Tin	mg/kg	10 : 1 (Interlab)	<10	<10	0	<10	3	0	
Titanium	mg/kg	10 : 1 (Interlab)	45	51	13	45	9	133	
Uranium	mg/kg	10 : 1 (Interlab)	<10	<10	0	<10	1	0	
Vanadium	mg/kg	10 : 1 (Interlab)	18	14	25	18	13	32	
Zinc	mg/kg	5 : 1 (Interlab)	65	50	26	65	64	2	
etalloids									
Organic Sulfur Compounds	Sulphur as S	mg/kg	5 : 10 (Interlab)	240	170	34	240	230	4
ur Compounds									
Major Cations	Calcium	mg/kg	5	2400	2300	4	2400		
	Potassium	mg/kg	5 : 10 (Interlab)	580	820	34	580	450	25
	Magnesium	mg/kg	5	2400	2900	19	2400		
	Sodium	mg/kg	5 : 10 (Interlab)	100	110	10	100	110	10
ns									
Major Anions	Phosphorus	mg/kg	5 : 10 (Interlab)	290	250	15	290	260	11
is									
Metals	Silicon	mg/kg	2 : 1 (Interlab)	250	480	63	250	130	63
Other	Moisture Content (dried @ 103°C)	%	1	5.9	17	97	5.9		

*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