White Dam Gold Mine

Annual Mining Compliance Report 1 January 2024 to 31 December 2024

Version 1.00

ML 6275 and 6395; MPL 95, 105, 106, 107 and 139

31 March 2025

Executive Summary

The following report addresses the mining and rehabilitation activities that have been carried out at the White Dam Project site for the 2024 calendar year. This Mining Compliance Report (MCR) has been prepared to address the requirements of South Australia (SA) Department for Energy and Mining (DEM) Mineral Regulatory Guideline MG3 "*Preparing a mining compliance report*" (Department for Energy and Mining, 2021), as well as the reporting requirements outlined in "*Ministerial Determination MD009: Terms of Reference. Mining compliance reports*" (SA Government, 2020), where appropriate.

Key operational matters and environmental outcomes reported for 2024 comprise the following.

Operations

Mining operations recommenced in February 2016 and continued until the end of mining on 17 May 2017 and the end of crushing on 21 July 2017. The mining operations included the extension of mining in the Hannaford and Vertigo open pits and the completion of the third lift on the heap leach pad (HLP). Irrigation of the HLP for gold recovery and process plant operations are continuing. The storage and encapsulation of waste rock in the open pits was completed at the end of mining.

Construction of a Sulphurisation, Acidification, Recycling and Thickening (SART) plant commenced in April 2020, with the plant becoming operational in July 2020. There has been no change to the project's footprint. The operation of the SART plant was discontinued in 2022.

Monitoring, Rehabilitation and Closure Activities

Very minor rehabilitation work (e.g. on top of heap leach, minor waste dump gully filling) was carried out in the reporting period. Monitoring was conducted in accordance with the current approved PEPR (MARP).

A revised PEPR was submitted to DPC (formerly DSD) in May 2016, incorporating changes to the project since the current approved PEPR resulting from the recommencement of mining as well as the final Mine Completion Report (once approved by DPC). PEPR Review 3 was approved by DEM in November 2018.

PEPR Review 4, which was prepared to allow the use of a Sulphurisation, Acidification, Recycling and Thickening (SART) process within the existing cyanidation circuit at White Dam to remove cyanide, copper and gold from the heap leach operations, was approved by DEM on 16 September 2019 and by the SA EPA on 3 September 2019.

Incidents

No reportable incidents occurred in 2024. In 2024, ongoing corrective action in response to a 2022 incident continued.

Compliance

The project has complied with all conditions of approval, applicable compliance standards and required outcomes.

Complaints

No complaints were recorded during the reporting period.

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1. Introduction

GBM Resources Limited (GBM) has prepared this Mining Compliance Report (MCR) for the White Dam Gold Mine (WDGM) operations for the reporting period January 2024 to December 2024 to meet the requirements of the South Australia (SA) Department for Energy and Mining (DEM) Mineral Regulatory Guideline MG3 "*Preparing a mining compliance report*" (Department for Energy and Mining, 2021).

In addition, this MCR also considers the requirements of "*Ministerial Determination MD009: Terms of Reference. Mining compliance reports"* (SA Government, December 2020).

Following amendments to the *Mining Act 1971,* which came into force on 1 July 2011, Mining and Rehabilitation Programs (MARPs) have been replaced by Programs for Environment Protection and Rehabilitation (PEPRs). Previously approved MARPs are deemed to be PEPRs.

The history of the WDGM PEPRs is as follows:

- The first approved PEPR referenced in this MCR is the MARP December 2011 Rev 8 and the Minor Change Notification for the mine extension (December 2015). Mining operations at the site recommenced in February 2016 and followed the procedures described in the Minor Change Notice (MCN) report lodged with DSD in 2015 and the MCN for the Hannaford Cutback in 2016. These minor operations ceased in 2017.
- PEPR Review 3, dated 21 August 2018, was approved by the Department of Energy and Mining (DEM) on 19 November 2018.
- PEPR Review 4, dated 10 July 2019, was submitted to allow the use of a Sulphurisation, Acidification, Recycling and Thickening (SART) process within the existing cyanidation circuit at White Dam to remove cyanide, copper and gold from the heap leach operations. This PERPR version was approved by DEM on 16 September 2019 and by the SA EPA on 3 September 2019.

1.1. Project Location and Description

The WDGM Project area (**Figure 1**) is located northeast of Olary on the Barrier Highway, South Australia. Broken Hill, in New South Wales, is the nearest regional centre, about 80 km east of the project area. The site is located on two pastoral leases, i.e. Bulloo Creek and Bindarrah.

The project has the following granted leases: Mining Lease (ML) 6275 and Mining Lease 6395; Miscellaneous Purposes Licences (MPL) 95, 105, 106, 107 and 139 (**Figure 2**).

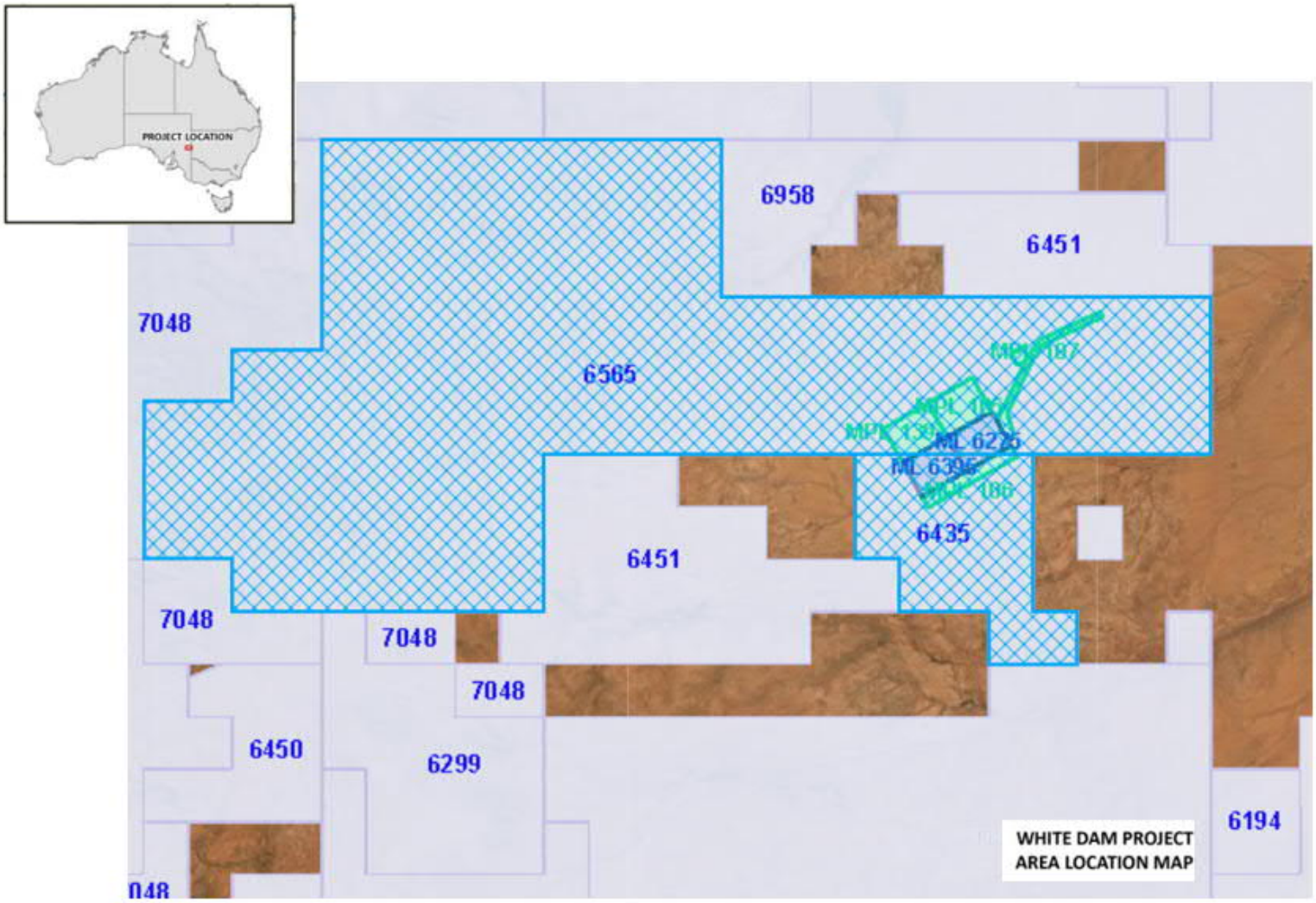

Figure 1: Project Location

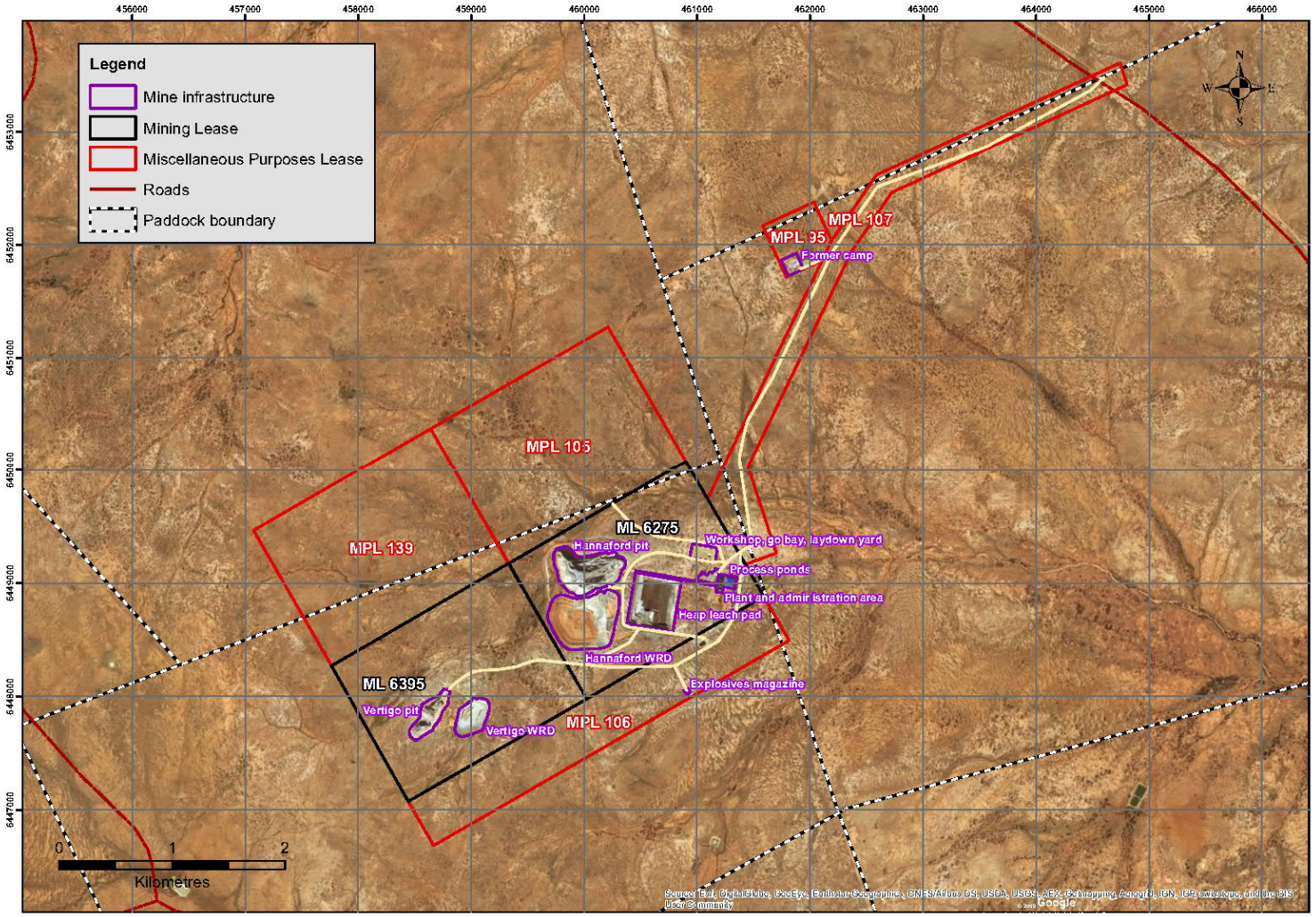

Figure 2: Project Tenements and Mine Layout

The site comprises two open cut mining pits (Hannaford pit and Vertigo pit), in-pit storage of waste rock, heap leaching and gold recovery utilising a processing plant.

Ore was mined by conventional drill and blast/load and haul techniques. Ore was crushed using a mobile crusher prior to stacking on the heap leach, where it is irrigated with a solution of sodium cyanide. Gold is recovered from the leachate by adsorption onto activated carbon before being refined to produce Doré bars.

The White Dam Gold Mine (the 'Mine') has involved the mechanical extraction and chemical processing of ore via a dump/heap leaching process using sodium cyanide. The operation has produced approximately 180,000 ounces of gold over an fifteen year operational mine life.

Construction of the mine project was completed in early 2010, with operations commencing in March 2010 and the first gold pour in April 2010. Mining ended in 2012, but gold processing continued intermittently. The Heap Leach Pad (HLP) was reworked in 2014.

Mining in the Hannaford and Vertigo open pits recommenced in February 2016, with associated disposal of waste rock in the open pits, creating a third lift on the HLP and ongoing irrigation of the HLP for gold recovery. These mining operations ceased in May 2017, with leaching operations currently ongoing. The processing plant continues to operate and recover minor amounts of gold.

As part of planning for closure, the Joint Venturers have modified the existing processing circuit to include a Sulphidisation, Acidification, Recycling and Thickening ("SART") process to recover cyanide from the leach solutions. Implementation of the SART process has improved the quality of residual leach solutions, extended the economic recovery of gold from the heap leach and resulted in the production of a Copper Sulphide precipitate, which may be a saleable product capable of further enhancing the economics of the project in operation and closure.

In September 2019, DEM and the SA EPA approved PEPR Review 4 (PEPR No. 2019/20), which was submitted to allow the use of the SART process to remove cyanide, copper and gold from the heap leach operations. PEPR Review 4 also include a modified thickness in the capping design for the remaining heap leach, based upon column trials to validate the revised design. Construction of the SART plant commenced in April 2020, with the plant becoming operational in July 2020 and continuing operation in 2021. The operation of the SART plant was discontinued in 2022.

In 2021, GBM completed an exploration drilling program at Vertigo and White Dam North. Resource evaluation taking into consideration the results of the drilling program was ongoing in 2024.

In 2022, the main activities included ongoing irrigation of the HLP. Work also commenced to reclaim the upper crusher pad and windrows for additional leaching material. This work was within the conditions of the current PEPR, and no additional approvals or licences were required.

During 2023 several works were undertaken to place gold-bearing material on the heap leach pad, relocate material within the heap leach pad to increase the effectiveness of leaching and gold recovery, and optimize the remaining space on the upper lift of the heap. Ongoing irrigation of the HLP occurred in 2023 and 2024.

In August 2023, GBM executed a strategic binding agreement with Benagerie Gold & Copper Pty Ltd (BGC) to advance together the White Dam and Portia Gold Projects. The agreement provides a framework for both parties to merge the two projects and take advantage of the resulting synergies with regard to the value of their existing resources and plant infrastructure assets. The alliance provides a potential development option for additional feed for the White Dam heap leach operations. Initial work was completed on mining studies and analysis of ore feeds that have led to support the strategic alliance with BGC. GBM is advancing plans to commence trials processing high grade Portia ore feed at White Dam. BGC has mobilised mining equipment at site to carry out activities enabling the treatment of remaining ROM pad material and rehandling/stacking of irrigated heap

leach material to increase gold production. Leaching of gold-bearing material to the heap leach pad is underway, targeting an increased gold production through 2024/2025.

In 2024, GBM advised of the proposed sale to Olary of a 100% interest in the issued capital of GBM's 100% owned subsidiary Millstream Resources Pty Ltd (Millstream) and its wholly owned subsidiaries, which hold the White Dam assets and operations. The transaction is subject to several precedent conditions which have not yet been met and look less likely. GBM is now in discussions with additional parties to sell the project or get further capital injections. These discussions are moving forward well with the higher gold price environment.

1.2. Project Ownership and Operation

The White Dam Gold Mine (WDGM) was originally developed as an unincorporated joint venture between Exco Operations (SA) Pty Ltd (EXS) and Polymetals (White Dam) Pty Ltd (PWD). The joint venture was managed on behalf of the joint venturers by Polymetals Operations Pty Ltd (PMO). EXS, PWD and PMO were all wholly owned subsidiaries of Round Oak Minerals Pty Ltd (ROM) (formerly CopperChem Ltd), which in turn is a wholly-owned subsidiary of Washington H. Soul Pattinson & Co Ltd (WHSP). ROM provided PMO with technical and commercial services.

In June 2020, following the commissioning of the SART plant, Round Oak Minerals formed an unincorporated production joint venture with GBM Resources Limited (GBM) regarding the White Dam Gold-Copper Heap Leach Operation. From 1 July 2020, GBM shared 50% of the gold and copper production from the White Dam Project under this Joint Venture agreement.

Since 30 July 2020, GBM has held a 100% interest in WDGM, including all associated infrastructure, leaching, process plant, mining leases (including all resources), and other tenements.

On 8 July 2024, GBM advised of the proposed sale to Olary of a 100% interest in the issued capital of GBM's 100% owned subsidiary Millstream Resources Pty Ltd (Millstream) and its wholly owned subsidiaries, which hold the White Dam assets and operations. The transaction is subject to several precedent conditions which have not yet been met and look less likely. GBM is now in discussions with additional parties to sell the project or get further capital injections. These discussions are moving forward well with the higher gold price environment.

1.3. Project Contact Information

The project contact is Mr Peter Rohner.

Mr Peter Rohner

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The site contact is Mr Willem Stoltz.

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2. Declaration of Accuracy

Table 1 presents the required declaration of accuracy.

Table 1: Declaration of Accuracy

This report is prepared for the Department for Energy and Mining to fulfil the annual mining compliance reporting requirements for the tenements listed herein. The information contained in this report is to the best of my knowledge a true and accurate record of the mining activities and compliance status for the reporting period.	
Name	Peter Rohner
Position	Chief Executive Officer
Company or agent	GBM Resources Ltd
Signature	
Date	31 March 2025
Summary of steps undertaken to review the compliance report to ensure its accuracy	GBM Resources personnel, together with external consultants, prepared this report. External subject matter specialists provided information and judgement pertaining to compliance in several areas of the report.

3. Public Liability Insurance

Details of the Public Liability (PL) insurance for White Dam Gold Mine are presented in **Table 2**, with a copy of the certificate of currency provided in **Appendix A**.

Table 2: Public Liability Insurance Details

PL Certificate of Currency	
Principal Insured	GBM Resources Limited and others as defined in the Policy
Start Date	31/07/2024
Finish Date	31/07/2025
Limits of Liability	$50,000,000

4. Identification

GBM Resources Limited (GBM) submits this Mining Compliance Report (MCR) for the White Dam Gold Mine (WDGM) operations for the reporting period January 2024 to December 2024 as required by the *Mining Act 1971* and *Mining Regulations 2020*. The MCR meets the requirements of the South Australia (SA) Department for Energy and Mining (DEM) Mineral Regulatory Guideline MG3 "*Preparing a mining compliance report*" (Department for Energy and Mining, 2021). Identification details are provided in **Table 3**.

Table 3: Identification Details

Mine name(s)	White Dam Gold Mine			
Tenement holder(s)	Exco Operations (SA) Pty Ltd and Polymetals (White Dam) Pty Ltd			
Tenement Operator	Exco Operations (SA) Pty Ltd			
Tenement number(s)	ML 6275; ML 6395; MPL 95, MPL 105; MPL 106; MPL 107; MPL 139			
Lease Holder	Leases held jointly by Exco Operations (SA) Pty Ltd and Polymetals (White Dam) Pty Ltd			
Mine Operator	GBM Resources Ltd			
Mine Contractor	None			
Senior site representative (SSR)	Willem Stoltz			
PEPR	Program for Environmental Protection and Rehabilitation Review. White Dam Gold Mine on Mineral Leases 6275 & 6395, Miscellaneous Purposes Licenses 95, 105, 106, 107, 139		**PEPR/MOP no.(s)**	PEPR3934401 (v4 – 10 July 2019)
			PEPR(s)/MOP approval date	16 September 2019
Site contact	Name	Mr Willem Stoltz		
	Email	willem.stoltz@gbmex.com.au		
	Phone	0409 979 457		
Location details	To the north-east of Olary on the Barrier Highway, South Australia. (**Figure 1**)			
Reporting period	From 1 January 2024		To 31 December 2024	
Compliance report submission date	1 April 2025		**Version Control**	Revision 1.00

5. Tenements

Table 4 presents details of the tenements at White Dam and the purpose for each in regard to the total project. **Figure 2** shows the location of these tenements and the activities that have been or continue to be associated with each lease.

Table 4: Tenement Leases Granted for White Dam Project

Tenement Type	Pastoral Block(s)	Name	Tenement No.	DSD Reference/ ML approval date	Expiry Date	Tenement Holders	Tenement Operators	Purposes(s) and forward plan
ML	897 OH (Olary)	Bulloo Creek Station	ML6275	TO2435/ 26 Sept 2007	23/01/2029	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Exco Operations (SA) Pty Limited; Polymetals Operations Pty Ltd; Polymetals (White Dam) Pty Ltd	Mining operations may be carried out to recover metallic mineral ores (gold) from the lease area. (Current White Dam operation - contains Hannaford Pit and associated waste dump.) **Work Plan**: No further mining is currently proposed. Operation of the SART plant was discontinued in 2022 and remained so in 2024. Recommissioning of the SART plant may occur in 2025. Ore processing is to continue whilst economically viable.
ML	897 OH (Olary)	Bulloo Creek Station	ML6395	TO2553/ 8 December 2011	07/12/2026	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Mining operations may be carried out to recover metallic mineral ores (gold) from the lease area. (Contains Vertigo Pit and associated waste dump.) Formerly for a groundwater bore field and associated infrastructure for use in association with the mining operation and for the purposes of storing temporary topsoil stockpiles and addressing flood mitigation issues. **Work Plan:** Pending the outcome of the additional resource evaluation undertaken by GBM in 2021/2025,

Tenement Type	Pastoral Block(s)	Name	Tenement No.	DSD Reference/ ML approval date	Expiry Date	Tenement Holders	Tenement Operators	Purposes(s) and forward plan
								mining by widening the Vertigo Pit may be undertaken in the future.
MPL	656 OH	Bindarrah Station	MPL95	TO2642 11/09/2007	23/01/2029	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Exco Operations (SA) Pty Limited; Polymetals Operations Pty Ltd; Polymetals (White Dam) Pty Ltd	For the purpose of constructing and operating an accommodation camp and associated infrastructure including communications (which may include a tower) specifically for use in association with the mining operation (used for White Dam Camp Site). **Work Plan**: The camp and associated infrastructure has been decommissioned and removed. The camp area is being progressively rehabilitated.
MPL	897 OH (Olary)	Bulloo Creek Station	MPL105	TO2560 24/01/2008	23/01/2029	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Exco Operations (SA) Pty Limited; Polymetals Operations Pty Ltd; Polymetals (White Dam) Pty Ltd	For the purpose of development and operation of a groundwater bore field and associated infrastructure for use in association with the mining operation and for the purposes of storing temporary topsoil stockpiles and addressing flood mitigation issues in relation to the Project. Note that this area is the subject of a potential Mining Lease Application for the proposed White Dam North Project, which may be advanced pending a

Tenement Type	Pastoral Block(s)	Name	Tenement No.	DSD Reference/ ML approval date	Expiry Date	Tenement Holders	Tenement Operators	Purposes(s) and forward plan
								decision to proceed with this development. GBM has undertaken exploration drilling at White Dam North within MPL105 in 2021, with resource evaluation undertaken in 2022/2024. **Work Plan**: On-going use for bore field (abstraction for irrigating heap) and flood mitigation. Pending the outcome of the additional resource evaluation undertaken by GBM in 2022/2025, mining at White Dam North may be undertaken in the future. GBM would obtain the necessary approvals and permits and convert the MPL into an ML.
MPL	897 OH (Olary)	Bulloo Creek Station	MPL106	TO2643 24/01/2008	23/01/2029	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Exco Operations (SA) Pty Limited; Polymetals Operations Pty Ltd; Polymetals (White Dam) Pty Ltd	For the purpose of storing temporary topsoil stockpiles, location of an explosive magazine, waste dumps, ore stockpiles, crushing and screening, dump leach pad, bore field pipelines, process ponds and related infrastructure to be used for operations specifically associated with the mining operation.

Tenement Type	Pastoral Block(s)	Name	Tenement No.	DSD Reference/ ML approval date	Expiry Date	Tenement Holders	Tenement Operators	Purposes(s) and forward plan
								Work Plan: Continued use mainly for bore field (abstraction for irrigating heap leach pad) and stockpiles.
MPL	97 OH	Bulloo Creek Station	MPL107	TO2644 24/01/2008	23/01/2029	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Exco Operations (SA) Pty Limited; Polymetals Operations Pty Ltd; Polymetals (White Dam) Pty Ltd	For the purpose of constructing and operating a mine access road and services, including water pipelines, for the accommodation camp and for a possible future water supply pipeline to transport water from a remote bore field specifically for use in association with the mining (this pipeline was not implemented). **Work Plan:** Used for on-going access and services corridor.
	656 OH	Bindarrah Station						
MPL	897 OH (Olary)	Bulloo Creek Station	MPL139	8/12/2011	07/12/2026	Exco Operations (SA) Pty Limited; Polymetals (White Dam) Pty Ltd	Exco Operations (SA) Pty Limited	MPL for the purpose of development and operation of a groundwater bore field and associated infrastructure. **Work plan:** MPL for current production bore PB07.

6. Other Approvals, Licences, Permits, Waivers, Native Title and Agreements

6.1. Approvals, Licences, Permits and Agreements

Approvals, key licences and permits applicable to the operations and obtained during previous and current reporting periods are listed below in **Table 5**.

Table 5: Other Current Licences, Permits, Waivers, Native Title and Agreements

Type	Issuing Authority	Name	Description	Status of Currency
Licence	EPA	EPA Licence 25543	Environmental licence to operate: Chemical works and Waste or recycling depot	Expires31/08/2025
Licence	EPA	EPA Works Approval 25422	Licence to construct 1(2)(a) Chemical Works: inorganic	Only in effect during construction. Now expired.
Licence	EPA	Licence to Possess a Radiation Source 50993	Environmental Category 1 licence to possess a radiation source.	Expires 28/02/2026
Approval	SA Health	Application for wastewater systems and use	Approval to install and operate septic tank system- mine site	Not applicable
Licence	SA Health	Licence to Possess Regulation 25 Poisons (Sodium Cyanide) 2022-77676	Licence to use sodium cyanide on site for gold extraction	Expires on 31/05/2025
Licence	SafeWork SA	Licence to Keep Dangerous Substances 154006	Licence to keep Liquefied Petroleum Gas (Class 2), Dangerous Goods (Classes 6 and 8) and Flammable Liquids (Class 3) on site	Expires on 30/06/2025.
Licence	SafeWork SA	Blasting Licence	Licensed contractor to undertake activities	-
Permit	DWLBC	Permit to decommission water wells	Permit to decommission water wells	Not applicable during reporting period
Approval	Native Vegetation Council	Native Vegetation clearance	Approval to clear 213.8ha of native vegetation	Not applicable during reporting period

It is noted that the SA EPA approved PEPR Review 4, relating to the use of the SART process to remove copper and gold from the heap leach operation, in September 2019 with no requirements for changes to existing EPA Licence 25543. SA EPA approvals of the supporting *Application for change to process emission or waste* and the *Application for alternations to plant and equipment* under EPA Licence 25543 were obtained on 26 September 2019.

6.2. Native Title

A Native Title Mining Agreement (NTMA) with the Ngadjuri, Adnyamathanha, Wilyakali Native Title Aboriginal Corporation (NAWNTAC), the Prescribed Body Corporate that acts as agents for the now-determined holders of native title in the White Dam area, is in place. The NTMA covers the full site area encompassing all MLs and MPLs applicable to the White Dam project area. The long-standing project NTMA with Adnyamathanha was novated to NAWNTAC on 14 December 2018 as part of the Consent Determination of native title, made by orders of the Federal Court of Australia on that date.

Minor amendments were made by virtue of the Consent Determination orders to accommodate the determination in favour of the three overlapping groups, but the NTMA otherwise continues in accordance with its original terms.

GBM has reached out multiple time to arrange a meeting as requested with the NAWNTAC directors. Over 10 months since GBM first made contact with NAWNTAC, we have not had a resolution to allow on-ground work in the Bimbowrie area within our EL6565 licence. We continue to seek engagement with no success. Our Farm-in partner is keen to start exploration.

7. Ore Reserves and Mineral Resources

7.1. 2021 Delineation/Exploration Drilling Activities

In 2021, GBM completed a reverse circulation (RC) drilling program at WDGM, focussing on two of the three resource areas, i.e. Vertigo and White Dam North. This program comprised 43 holes for 3,250 metres at Vertigo and 10 holes for 750 metres at White Dam North. Evaluation of the potential resources was ongoing during the reporting period.

7.2. Review of Ore Reserves

White Dam Resources are classified as Indicated and Inferred, and distribution of each varies spatially depending on drilling density and confidence in the Resource.

The Hannaford resource is hosted within weathered to fresh folded biotite-feldspar gneiss. The resource covers an area of approximately 500 m EW and 250 m NS. Maximum depth extends to 120 m below surface. The shape of the mineralized zone in plan is arcuate and is terminated to the south by a steep north-dipping albitite contact and to the SW by a moderate NE-dipping fault.

The Vertigo resource comprises low-grade, fine-grained, disseminated gold mineralisation, hosted within folded, weathered to fresh biotite-feldspar gneisses and schists which have been metamorphosed to upper amphibolite grade. The mineralisation comprises mainly oxide mineralisation within a shallow south-east dipping undulating zone. The resource measures approximately 800 m along strike, 250 m wide at its widest point, and extends to a maximum depth of 100 m below surface.

Confirmatory drilling was undertaken in both Hannaford and Vertigo pits in 2015, and the results utilised to revise the resource models.

Mineral resource estimates (pre-Joint Venture with GBM)

The Hannaford Resource is not JORC (2012) compliant. However, drilling/assay data density at the deposit is reasonably straightforward and a very robust mineralisation envelope provides high confidence in the updated mineral resource, especially proximal to the current Hannaford open pit.

An updated resource for the Vertigo (White Dam) gold deposit was completed in 2016, utilising data from the drilling program conducted in 2015. The resource is not JORC (2012) compliant. However, it does provide appropriate confidence within the 'indicated' section of the resource. Lower confidence 'inferred' material occurs down-dip in the smaller lenses, and some of this material is contained within the pit optimisation.

A revised resource estimate has been prepared and is shown in **Table 6**. The resource will not be considered sterilised at the completion of mining.

Table 6: Pre-2020 Mineral Resource Estimate (Non-JORC)

Deposit	Cut-off grade	Indicated			Inferred			Total		
		ktonnes	g/t Au	koz Au	ktonnes	g/t Au	koz Au	ktonnes	g/t Au	koz Au
Hannaford	0.2 g/t Au	498	1.04	17	393	0.85	11	891	0.96	27
Vertigo	0.32 g/t Au	385	1.06	13	756	1.12	27	1,141	1.10	40
Project Total		2,032	1.1	20	1,149	1.0	38	2,032	1.04	67

Mineral resource estimates (GBM 2020 review)

In August 2020, GBM announced that the White Dam Gold-Copper Project resources had been reviewed and upgraded to comply with the requirements of the 2012 version of the JORC Code and current ASX guidance relating to mineral resources (**Appendix C**).

The revised JORC 2012 estimate is presented in **Table 7**.

Table 7: GBM 2020 Mineral Resource Estimate (JORC 2012 compliant)

Area	Resource Category	Quantity (tonnes)	Grade Au (g/t)	Contained Gold (ounces)
TOTAL	Measured	0	0.0	0
	Indicated	1,200,000	0.7	28,600
	Inferred	3,400,000	0.7	73,500
	Total	**4,600,000**	**0.7**	**101,900**
Hannaford	Measured	0	0.0	0
	Indicated	700,000	0.7	16,400
	Inferred	1,000,000	0.8	26,900
	Total	**1,700,000**	**0.8**	**43,300**
Vertigo	Measured	0	0.0	0
	Indicated	300,000	1.0	9,400
	Inferred	1,400,000	0.6	29,000
	Total	**1,700,000**	**0.7**	**38,300**
White Dam North	Measured	0	0.0	0
	Indicated	200,000	0.5	2,800
	Inferred	1,000,000	0.6	17,600
	Total	**1,200,000**	**0.5**	**20,300**

Mineral resource estimates (GBM 2021-2025 review)

GBM is continuing to evaluate the copper and copper-gold exploration potential of its tenement package at White Dam, with particular focus on the areas down plunge at Vertigo following previous drilling that GBM completed in 2021 and around the old Mary Mine and both Wilkins and Green and Gold Prospects (Havilah Resources) that GBM has secured rights to surface mineralisation following the sale of EL 6299 to Havilah Resource in August 2023.

7.3. Anticipated Mine Life

The current mining program at WDGM (i.e. from the current Vertigo and Hannaford open pits) is complete. The results from the 2021 drilling program, combined with the resultant resource outcomes, are inputs into a study being undertaken by GBM with respect to mining and treatment of additional material at White Dam. This work is designed to evaluate and capture the magnitude of potential life extension (and expansion) opportunities available at White Dam. A re-assessment of

the anticipated mine life will be undertaken once this study has been completed. In addition, the strategic alliance with BGC may have an impact on the mine life. If required, GBM will seek the necessary approvals and additional MLs.

8. Mining, Processing and Waste Storage Activities

8.1. Changes to Mining and Operations since end-December 2022

The main changes/project variations to the operations since December 2023 (**Table 8**) are associated with or include the following:

- A resource evaluation drilling program was undertaken by GBM in 2021, with ongoing evaluation in 2024/2025 of the copper and copper-gold exploration potential.
- Operation of the SART plant, which commenced in April 2020, ceased in December 2021 and was discontinued in 2022. The SART plant was not operated in 2024 but is an integral part of future mining and processing activities with new copper-gold resource targets (Deeper Vertigo, Mary Mine, Wilkins and Green and Gold Prospects.
- In 2023, GBM submitted a self-assessment and Program Notification though the PEPR process for a Heap Leach Ramp Realignment. On 5 September 2023, DEM notified GBM that "*DEM considers that no additional approvals are required under the Mining Act 1971*". Work was then undertaken to place gold-bearing material on the heap leach pad, relocate old crushing/ROM pad material within the heap leach pad to increase the effectiveness of leaching and gold recovery, and optimize the remaining space on the upper lift of the heap.
- In early 2024, work on the new south ramp was completed, with the lower part of the ramp largely established through the removal of the Vertigo stockpile material. The existing ramp remained the primary access to the heap leach. Capacity within the upper 8 m lift remains on the heap leach.
- Circulation of leach solution through the heap leach continued throughout 2024.

Table 8: Summary of Mine and Operations Changes (Approved)

Mining Activities	Mining Proposal (2007)	Approved PEPR (Rev 8 Dec 2011)	Approved MCN for Mine Extension (8 Dec 2015)	Dec 2016	Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024
Hannaford Pit	4.5Mt ore at 1.27 Au g/t 9 Mt waste rock Pit area 14.4 ha Pit depth approx. 70m	5.2Mt ore at 0.98 g/t 6.6 Mt waste rock Pit area 15.3 ha Pit depth approx. 70m Potential to Backfill	6.3 Mt ore 7.2 Mt waste rock Pit depth approx. 100m Waste rock to be sorted as mined and encapsulated in pit as appropriate.	6.4 Mt ore; 9.6 Mt waste rock Pit depth approx. 100m Updated ramp and cutback of west and part south wall. Waste rock to be sorted as mined and stored and/or encapsulated in pit as appropriate.	6.8 Mt ore; 8.7 Mt waste rock Pit depth approx. 122m (86mRL) Waste rock sorted as mined and stored and/or encapsulated in pit as appropriate.	6.8 Mt ore; 8.7 Mt waste rock Pit depth approx. 122m (86mRL) Waste rock sorted as mined and stored and/or encapsulated in pit as appropriate.	No change	No change	No change	No change	No change
Vertigo Pit	Not scoped	0.47 Mt ore at 0.83 g/t 1.5Mt waste rock Pit area 7.5 ha Pit depth approx. 60m Backfill	No change	No change to approved footprint. 0.62 Mt ore; 1.73 Mt waste rock Pit area 4 ha Pit depth approx. 50m Waste rock sorted as mined and encapsulated in pit as appropriate	No change to approved footprint. 0.7 Mt ore; 2.9 Mt waste rock Pit area 4 ha Pit depth approx. 50m (170mRL) Waste rock sorted as mined and encapsulated	No change to approved footprint. 0.7 Mt ore; 2.9 Mt waste rock Pit area 4 ha Pit depth approx. 50m (170mRL) Waste rock sorted as mined and encapsulated	No change	No change	No change	No change	No change

Mining Activities	Mining Proposal (2007)	Approved PEPR (Rev 8 Dec 2011)	Approved MCN for Mine Extension (8 Dec 2015)	Dec 2016	Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024
					in pit as appropriate	in pit as appropriate					
Hannaford Waste Rock Dump	8 Mt (two lifts approx. 9 to 10m each) Characterise waste rock into types, use Type I in exposed situations and cap any waste rock with Type II rock (PAF)	Waste Rock sorted as mined and either used or encapsulated as appropriate	No change	No change All waste rock from extension project stored in pit	No change All waste rock from extension project stored in pit	No change	No change	No change	No change	No change	No change
Vertigo Waste Rock Dump	Not scoped	Waste Rock sorted as mined and either used or encapsulated as appropriate	No change	No change All waste rock from extension project stored in pit	No change All waste rock from extension project stored in pit	No change	No change	No change	No change	No change	No change
Heap Leach Pad	Crushing and screening 9 cells Single lift (10m)	Second lift (14m) Heap leach base of 19.5 ha	No change to heap leach base, three lifts, crushing and screening	Third lift (8m) No change to heap leach base. Crushing and screening	No change to heap leach base. Irrigation of HLP ongoing.	No change to heap leach base. Irrigation of HLP ongoing.	No change	No change	No change	Construction of new access ramp commenced. Rearranging of heap leach material to increase	Construction of new ramp completed. Circulation of leach solution through the heap leach continued

Mining Activities	Mining Proposal (2007)	Approved PEPR (Rev 8 Dec 2011)	Approved MCN for Mine Extension (8 Dec 2015)	Dec 2016	Dec 2018	Dec 2019	Dec 2020	Dec 2021	Dec 2022	Dec 2023	Dec 2024
										gold retrieval efficiency.	throughout 2024.
Processing Plant and Ponds	Up to 300ppm cyanide	No change	No change	No change	No change	No change	SART operational since July 2020.	No change	SART plant operations were discontinued in 20222	No change	No change
Groundwater Production Bores	1869kL/d	No change	No change	Production bore T4 (PB07 / MB02) in operation. Former geotechnical bore converted in production bore PB06	No change	No change	No change	No change	No change	No change	No change

Activities within the mining and processing area in 2024 comprised:

- Mining and processing
  - Construction of new access road to heap leach pad completed.
  - Continued the placement of gold-bearing material on the heap leach pad and relocation of material within the heap leach pad to increase the effectiveness of leaching and gold recovery and to optimise the remaining space on the upper lift of the heap.
  - Continued irrigation of HLP for gold recovery using mainly make up water and water from the landowner's water dams.
  - SART plant was not operated in 2024.
- Water supply to meet peak demand for WDGM operations
  - No water abstraction from Production Bore PB04.
  - Minor water abstraction from MB03.
  - Mainly used water from landowner's dams.
- Monitoring
  - Gathering of data for the purposes of compliance reporting and mine closure assessment (where applicable).
  - Ongoing pit stability monitoring (visual monitoring on a quarterly basis)
  - Monitoring of rehabilitation effectiveness on the WRDs and other rehabilitated areas with maintenance/ rectification as required
  - Regional and site monitoring and production bore sampling on a quarterly basis.
  - Ongoing environmental monitoring.
- Rehabilitation
  - Minor rehabilitation to address localised issues (e.g. minor erosion after significant rainfall events).
- Informal liaison with the owners of Bindarrah and Bulloo Creek stations was ongoing throughout the year.
- Representatives of the South Australian Department for Energy and Mining (DEM) and the Environment Protection Authority (EPA SA) visited the site on 15 April 2024.
- No site visits were undertaken in 2024 by representatives of SafeWork SA.

8.2. 2024 Ore Mining and Operations Activities

A summary of mining and processing operational parameters at the end of 2024 is provided in **Table 9**. The mine plan is presented in **Figure 2.**

Table 9: Summary of Production and Mining at the end of December 2024

Component	Details
ML/MPL area (currently approved):	906 ha
Project disturbance footprint	101.67 ha
Project disturbance footprint – ultimate approved	148.26ha (note that recommencement of operations in 2016 has not significantly changed this approved area figure)
Mining method	No mining in 2024
Mining inventory	Mining completed 17 May 2017
Open pit dimensions (ultimate final pit)	Hannaford pit @ 20.9 ha includes slip in southwest wall Vertigo pit @ 4.7 ha
Mine operational life (based on current approval)	N/A
Ore handling and processing	Heap leach extraction with cyanide. SART plant operations discontinued in 2022.
Surface waste rock dump area and volume	Hannaford: 26 ha (2.3 Mm^3); Vertigo: 6.7 ha
In-pit waste rock dump volumes	Hannaford: 2.3 Mt, Vertigo: 0.68 Mt
Ore Mined in Reporting Period	None
Gold production (Total)	425 oz gold produced in 2024. Total of 179,859 oz gold recovered by end- 2024.
Operating hours	24 hours per day, 7 days per week
Raw water source and daily consumption (average)	Production bore MB03 <1 ML/d Mainly water from the landowner's water dams
Potable water source	RO plant on-site. Tanker delivery only as required
Power requirement	265 kVA average load
Workforce numbers (WDJV)	Maximum workforce was 7 persons on site.
Operational commencement date	Operations: April 2010 Project Extension: February 2016
Accommodation	Workforce accommodated in Third Party Camp at Bindarrah Station

Details of previous and current mining for the Hannaford and Vertigo pits are presented in **Table** 10.

Table 10: Mined Resources in Hannaford and Vertigo pits

Item	Hannaford		Vertigo	
	End-2012	End-2024	End-2012	End-2024
Volume of pit (Mm^3)	4.91	6.26	0.56	0.97
Volume of overburden/ interburden (Mm^3)	2.14	3.04	0.42	0.70

Item	Hannaford		Vertigo	
	End-2012	End-2024	End-2012	End-2024
Volume of ore comprising oxide ore (Mm^3)	2.13	2.58	0.14	0.28
Maximum pit depth (mbgl)	64	115	36	55
Gold cut-off grade (g/t)	0.15	0.25	0.15	0.32

Mining was recommenced in February 2016. A detailed description of the mining and operations activities that commenced in 2016 and ceased in May 2017 was provided in the September 2017 Progress MARCR Report and is summarised below.

8.2.1. Heap Leach Pad (HLP)

Approval to stack ore on a third lift of the heap leach was granted by DSD in December 2015. The construction of a third lift did not extend the footprint of the HLP. Ore was crushed before stacking on the second or third lift. Stacking was completed on 21 July 2017. There were no changes to the operation of the irrigation circuits. All ore placed within the heap leach facility was dosed with hydrated lime. **Figure 3** shows the HLP at the end of 2021.

Changes to the processing circuit were associated with the SART processing, as discussed in **Section 8.2.5**.

Construction of a new access road to the HLP commenced in 2023 and was completed in 2024. As per DEM's communications, no approvals under the *Mining Act 1971* were required for this activity.

Placement of gold-bearing material on the heap leach pad and relocation of material within the heap leach pad commenced in 2023 and continued in 2024 to increase the effectiveness of leaching and gold recovery and to optimise the remaining space on the upper lift of the heap.

Currently, the heap leach landform at completion will have the following distinguishing features:

- A 2 m high (thick) NAF waste rock bund (the bund) around the future toe of the heap leach pad batter slopes, assuming that the batter slopes will be dozed down to 15 degrees to meet the bund.
- The base case cover design on the heap will consist of 0.2 m NAF rock overlain by 0.3 m topsoil.
- Once the cover is on, the whole surface of the heap will be close-spaced contour ripped to limit erosion and encourage vegetation establishment.
- The shaped landform will be surrounded by a containment drain to capture runoff before it reaches the receiving environment. The northwest portion of the heap runoff will be diverted to the Hannaford open pit as a contingency; the remaining surface runoff will be diverted to the ponds.
- NAF rock for rehabilitation of the heap leach as described above will be taken in the first instance from the top of the Hannaford in-pit waste rock dump before removing from the rehabilitated Hannaford surface waste rock dump.

Figure 3: Photo of Heap Leach looking south - three lifts (end-2021)

8.2.2. Disposal of Waste Rock in Open Pits

Waste rock from the mine extension was used for construction purposes (i.e. heap ramp, abandonment bunds, laydown pads, etc.) or to place in in-pit waste rock dumps. Rehandling waste and backfilling voids to surface was not economically feasible.

A *Waste Rock and Ore Management Plan* (EMM, 2015) was developed in December 2015 to implement site procedures regarding identification of PAF and NAF material, disposal options, construction of in-pit waste rock dumps, etc. Exco developed a 3D Sulphur Block Model based on existing data and information and adopted the geochemical classification presented in **Table 11** to differentiate between the different types of NAF/PAF material.

Table 11: Geochemical Classification of Waste Rock

Waste rock type	Total S%	Indicative MPA[1]
Non-Acid Forming (NAF)	<0.15	4.6
Potentially Acid Forming – Low Concern (PAF-LC)	>0.15 but <0.46	>4.6 but <14
Potentially Acid Forming (PAF)	>0.46	>14

Notes: in most instances, the NAPP will be lower, i.e. ANC ranges from zero to 253 kg H_2SO_4/t

Field testing was completed following the drill and blast programs prior to the mining of each bench. Grade control drill cuttings were tested using handheld x-ray fluorescence (XRF) to identify Potentially Acid Forming (PAF), Potentially Acid Forming – Low Concern (PAF-LC) or Non Acid Forming (NAF) waste rock or ore. **Table 12** presents the total material moved for each type at the end of mining (June 2017).

Table 12: Total material movement at the end of mining 2017 (Tonnes)

Pit	NAF ore	NAF waste	PAF ore	PAF waste	PAF -LC waste
Vertigo	165,112	670,237	173,383	36,894	0
Hannaford	798,108	2,398,282	402,400	106,323	29,789

All waste rock was managed and disposed in accordance with the site's *Waste Rock and Ore Management Plan* with PAF material encapsulated within the in-pit waste rock dump and PAF –LC blended at a 1:1 ratio with NAF.

Waste Rock Disposal in Hannaford Open Pit

The as-built in-pit waste rock dump in the Hannaford Open pit at the end of mining is presented in **Figure 4.** The interim height on the NAF in-pit waste rock dump is approximately 226mRL. This material will be rehandled as cover material during the rehabilitation of the heap leach, reducing the final height of the in-pit WRD to well below the approved final height of 220mRL at closure.

The floor of the PAF cell at its lowest point is 167mRL, with the return of groundwater creating a void lake anticipated at or below 165mRL. The final height of the NAF encapsulating the PAF cell is 193mRL.

PAF was exposed on the pit floor and 115mRL switchback at the end of mining was covered over with NAF. The volume of waste material was both surveyed and recorded by truck count during mining. PAF waste encapsulated in the Hannaford in-pit dump was in the order of 55,000m³.

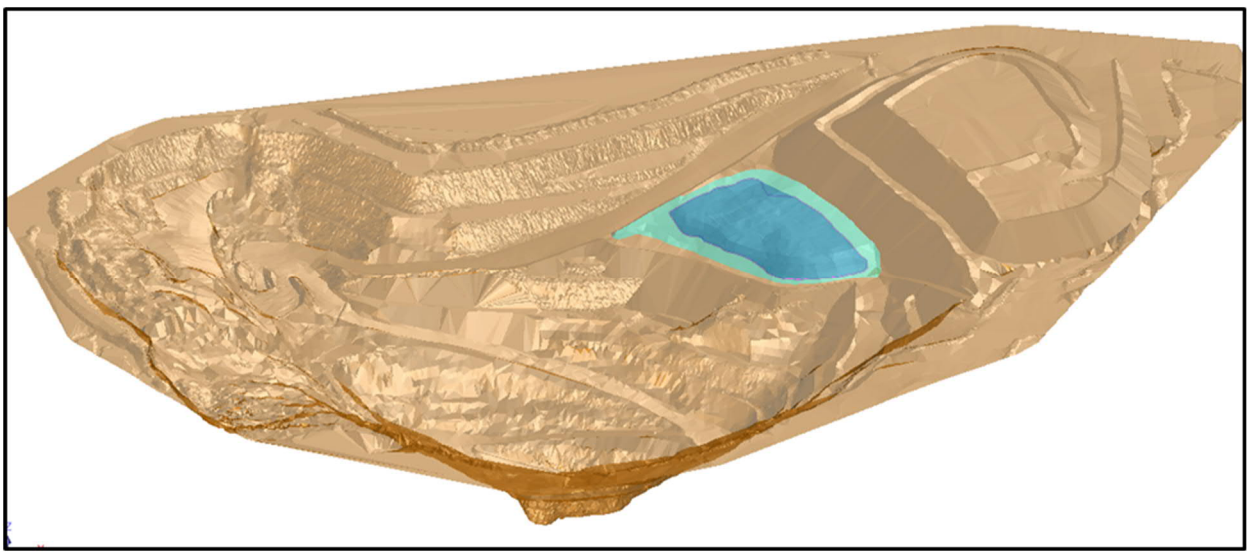

Figure 4: Hannaford Isometric view of Hannaford PAF encapsulation

(blue is PAF waste, green is NAF encapsulation, brown is the Final Pit Void)

Waste Rock Disposal in Vertigo Open Pit

Waste rock from mining at Vertigo was selectively handled and disposed into its designated cell (encapsulation area) using the same method as for Hannaford. The as-built Vertigo in-pit waste rock dump at the end of mining is presented in **Figure 5.**

The final height of the NAF in-pit waste rock dump within the southern void of Vertigo is 227mRL. The floor of the PAF Cell is 186mRL, and final NAF covered height over the PAF cell of 201mRL**.** PAF exposed on the pit floor at the end of mining was covered over with NAF. The actual volume of waste material was both surveyed and recorded by truck count. PAF waste encapsulated in the Vertigo in-pit dump was in the order of 17,500m³.

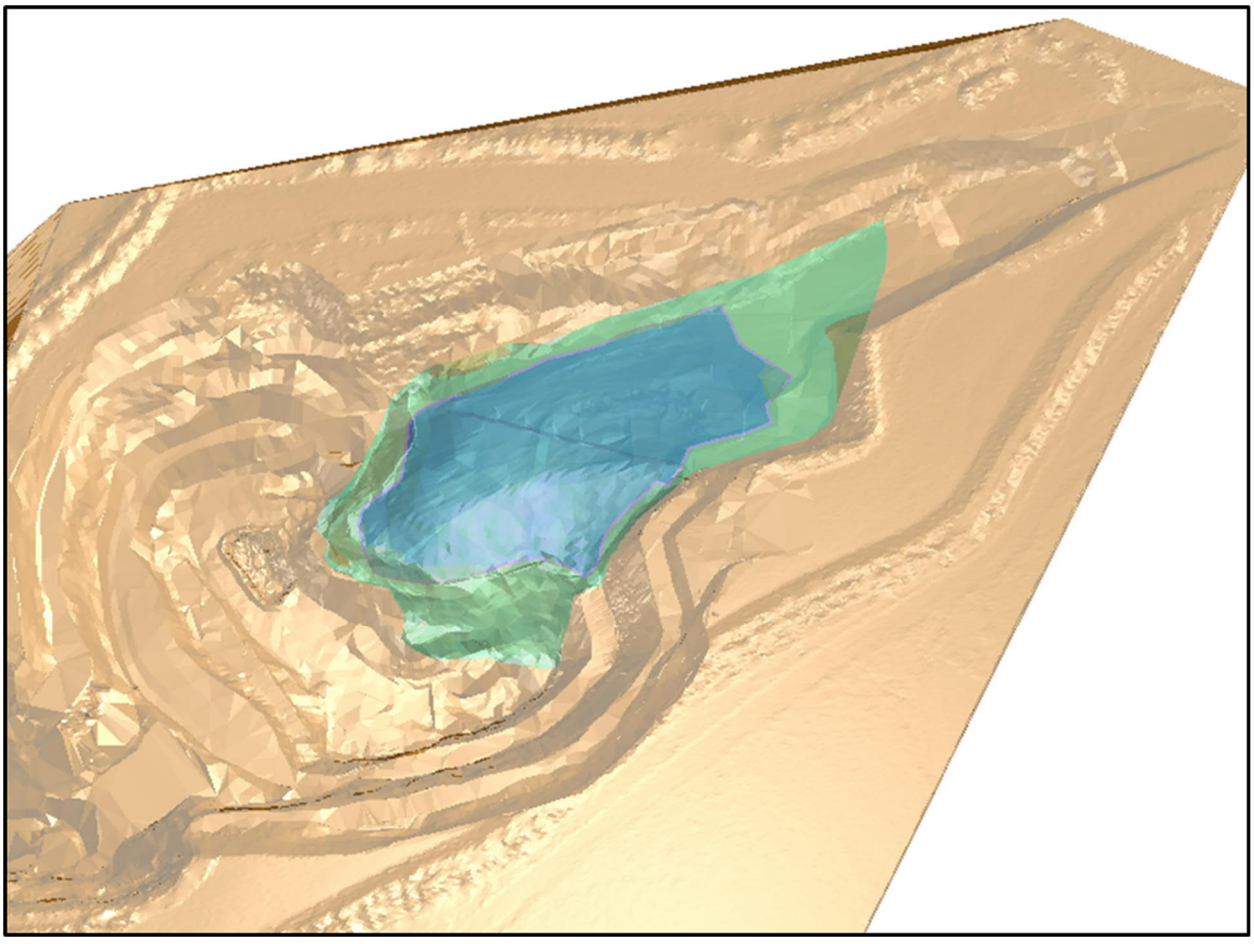

Figure 5: Vertigo in-pit PAF encapsulation

(blue is PAF waste, green is NAF encapsulation, brown is the Final Pit Void)

8.2.3. Production to Meet Peak Water Demand for Operations

The site has approval to abstract from seven production bores on site. Details for the bores are provided in **Table 9,** and their location in **Figure 6**. Except for PB04, the production bores are no longer in active use. Some minimal pumping from MB03 occurred in 2024; however, most water was sourced from the landowner's water dams.

Table 13: Details of Production Bores

Bore ID	Previous ID	Easting	Northing	RL (mAHD)	Total depth (m)	Bore completion	Current status
PB01	WD75R	460,225	6,449,722	204.59	150	2008	Not active
PB02	TPW1	458,680	6,447,717	221.04	147	2007	Not active
PB03	T1	458,736	6,448,384	215.68	124	2008	Not active
PB04	Trial site WDWMP-A	460,115	6,448,241	216.72	150	2011	Active (no abstraction in 2024)
PB05	WDPIT-01	459,954	6,449,022	154.8	150	26-Nov-10	Lost during mining
PB06	NA (Geotech hole)	459808	6449408	207.55	140 reamed/ (TD will be 150)	18 Mar 2016	Not Active
PB07	MB02/T4	458706	6449669	216.36	150	Oct 2008	Not active

NA: Not applicable as hole not yet constructed and developed as bore

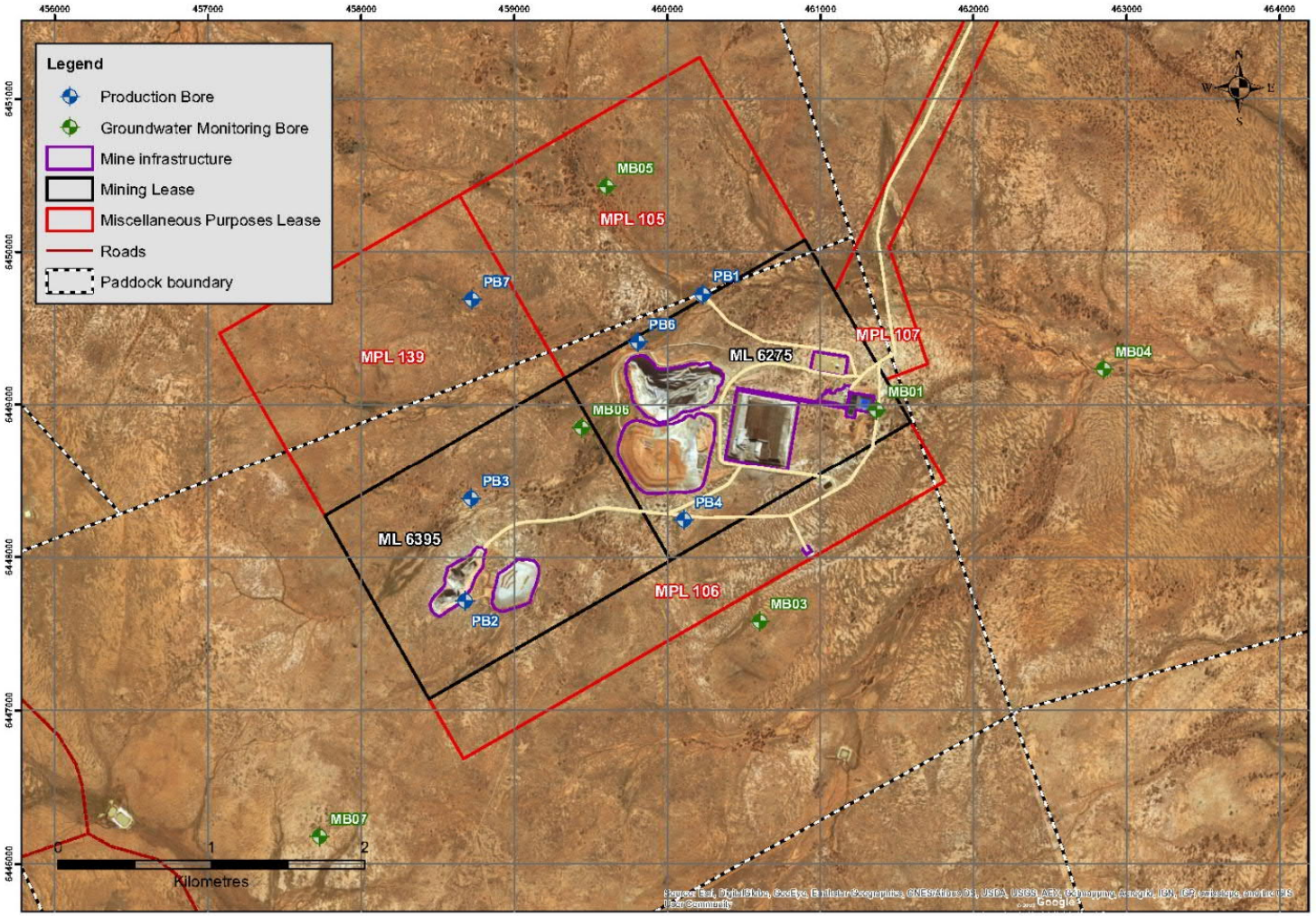

Figure 6: Location of Production Bores for Mine Extension

8.2.4. Continued Adsorption Process Plant Operation

In 2024, the Adsorption Plant was operated more or less continuously. Cyanide dosing continued at a concentration of 140-150 ppm (mg/L) as required.

8.2.5. Operation of SART Processing Plant

In 2020, a SART plant was constructed adjacent to the heap leach and cyanidation plant (for gold recovery) on previously disturbed land (**Figure 7**). The SART processing infrastructure was placed within the pre-existing processing plant disturbance area, resulting in no increase in the disturbance footprint.

The combined processes resulted in a more effective gold recovery, the use of less cyanide and the production of a potential new source of by-product income from the sale of copper concentrate.

The SART processing infrastructure was placed within the pre-existing processing plant disturbance area, resulting in no increase in the disturbance footprint. The infrastructure was installed in a concrete bunded area, and any spillages were captured and reused in the leaching circuit. The SART plant will be decommissioned and dismantled as part of the Processing plant. All above-ground plant, equipment and infrastructure will be decommissioned and dismantled by:

- washing and cleaning the plant to remove any residual chemicals;
- dismantle plant and remove from mine;
- footings and pipes will be removed to a designated dump site (Hannaford pit);
- reinstate the original landform; and
- rip compacted areas and seed.

The SART plant operations were discontinued in 2022. The SART plant was not operated in 2024.

Figure 7: Location of SART Infrastructure

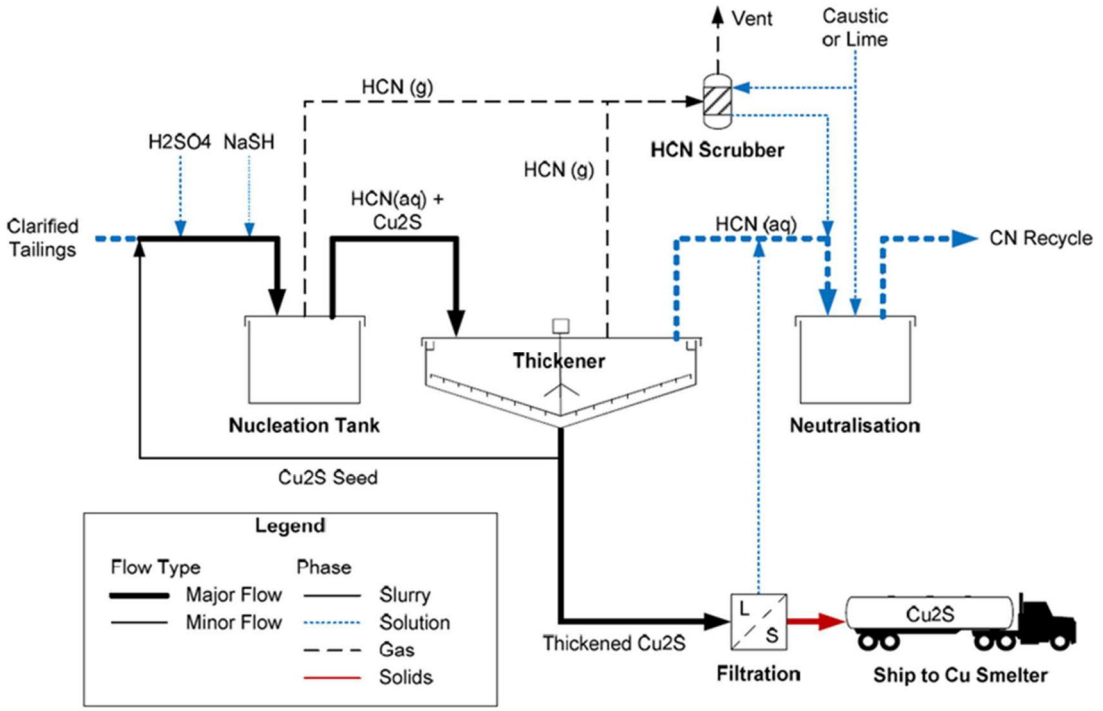

Figure 8: Typical SART Process Infrastructure

8.2.6. Other Mine Infrastructure

Other mine infrastructure (i.e. workshop, laydown pad, explosive storage, etc.) required for the mine extension was located in the same area/domains as the original mining operations, with the operations fully contained within the approved disturbance footprint of the current project.

The previously rehabilitated contractor lay-down area, Vertigo haul road and some minor site roads that were re-established have been decommissioned in preparation for rehabilitation. Some roads have already been rehabilitated. The Mine Site Layout is presented in **Figure 2**.

8.3. 2024 Mining Volumes

No mining was undertaken in 2024.

8.4. Proposed 2025 Mining Operations

Proposed operation for the 2025 reporting period includes:

- SART plant operations may be recommissioned in 2025.
- on-going heap leaching and plant operations.
- likely recrushing and restacking and leach of ~1 to 1.5 Mt on the top benches of the HLP to recover additional gold
- rehabilitation of domains no longer required for mining and/or crushing (e.g. roads, ROM Pad, etc.).
- no additional mining is proposed for 2025 but likely in 2026.

8.5. Summary

Summaries of the mining, processing and waste storage activities are presented in **Table 14** to **Table 17**.

Table 14: Ore Mining Summary

Ore mined – reporting period (t)	Expected quantity to be mined during next reporting period (t)	Quantity of ore stockpiled on the tenement at the end of the reporting period (t)
0	0	0
Production Notes: No mining was undertaken in 2024 or is planned for 2025.		

Table 15: Ore Processing Summary

Ore processed – reporting period (t)	Expected quantity to be processed during next reporting period (t)
0	0
Production Notes: gold production is through irrigation of existing HLP	

Table 16: Concentrate or Other Product Exported Summary

Amount of concentrate or other product exported – reporting period (t)	Expected quantity to be processed during next reporting period (t)
0	0
Production Notes: none	

Table 17: Overburden/Wastes Summary

Reporting Period – Overburden/Waste Mined (t)	Next reporting period – Overburden to be mined (t)
0	0
Production Notes: n/a	
Volume of PAF and NAF material mined during reporting period (t)	**Remaining capacity of current waste facilities or planned future waste facilities as per approved PEPR**
PA: 0; NAF: 0	5.0Mt
Will the remaining quantities of overburden to be mined be accommodated in the current or planned waste facilities (WRD, TSF)? If not include what future work?	
No mining planned for 2025. There is still capacity within the current waste facilities. Most of the NAF material has already been placed within a designated area in the base of the open pits.	
Is your waste facilities sufficient to deal with the volume of PAF material generated annually? If not, what future work is required? (Include any identification of PAF and NAF in the preceding reporting period and strategies to minimize the environmental impacts of this material.)	
No PAF is scheduled to be mined in 2025. All PAF material has already been placed within a designated area in the base of the open pits.	

9. Compliance with Environmental Outcomes/ Objectives and Leading Indicator Criteria

9.1. Introduction

Environmental management activities conducted for the reporting period have been a continuation of measures implemented previously.

As part of the environmental management activities, ongoing environmental monitoring was undertaken to assess the potential impacts of the past and current mining and operations activities on the surrounding environment. In 2024, this monitoring comprised:

- quarterly groundwater monitoring of groundwater bores (monitoring and regional)
- surface water sampling following rainfall events, if sampling sites were accessible
- photo monitoring of Analogue, Rehabilitation and Erosion locations
- regular checks of w-drain and ponds for fauna
- weed control and pest monitoring and management (as required).

The operational monitoring program is based on monitoring at a number of locations within and in proximity to the mine's operational area. These sites are shown in **Figure 9** to **Figure 16**.

The following sections describe the activities performed for each environmental element of the site during the reporting period. For each environmental element, the prescribed control and management measures of the MARP/PEPR are also referenced.

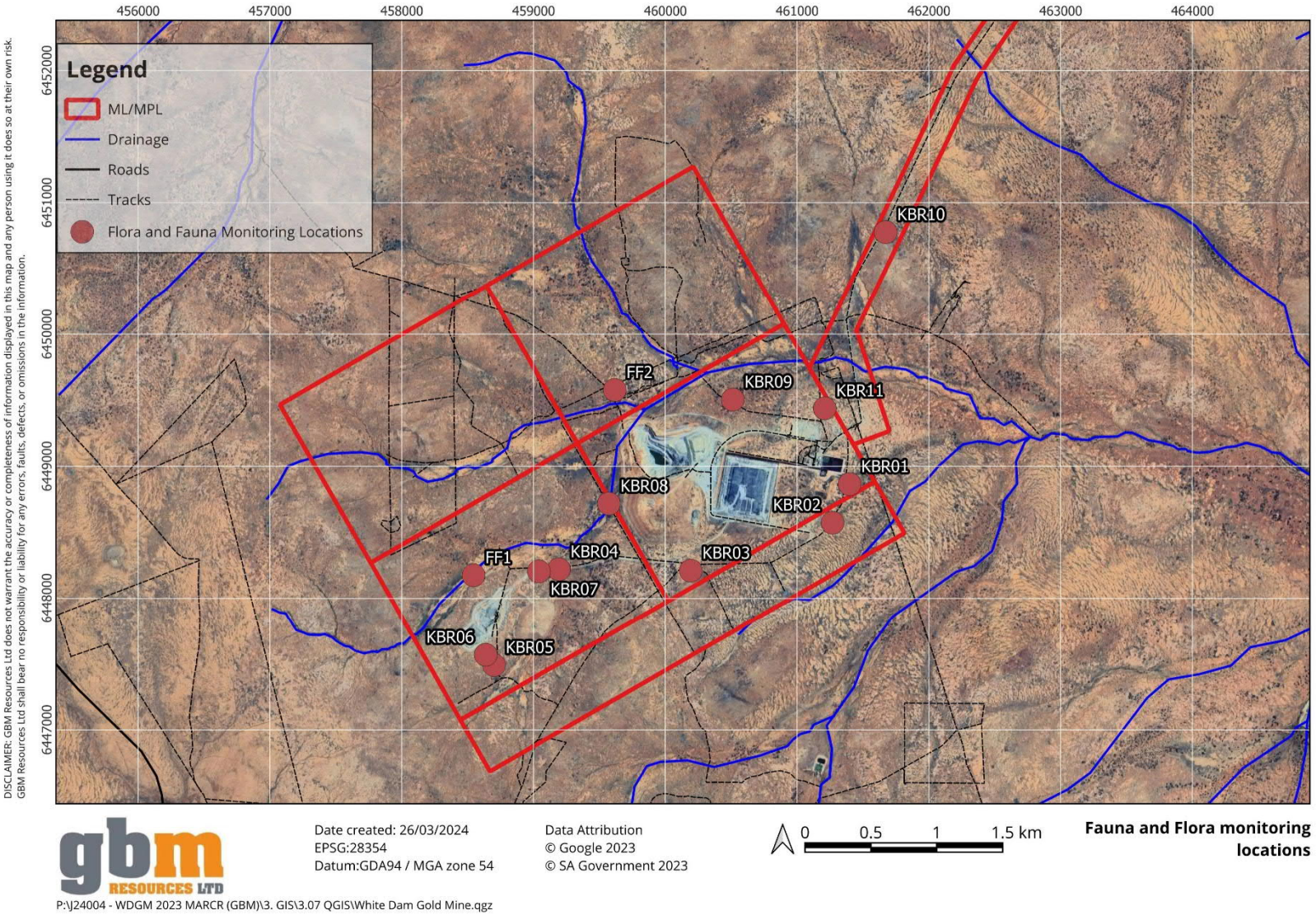

Figure 9: Fauna and Flora Monitoring Locations

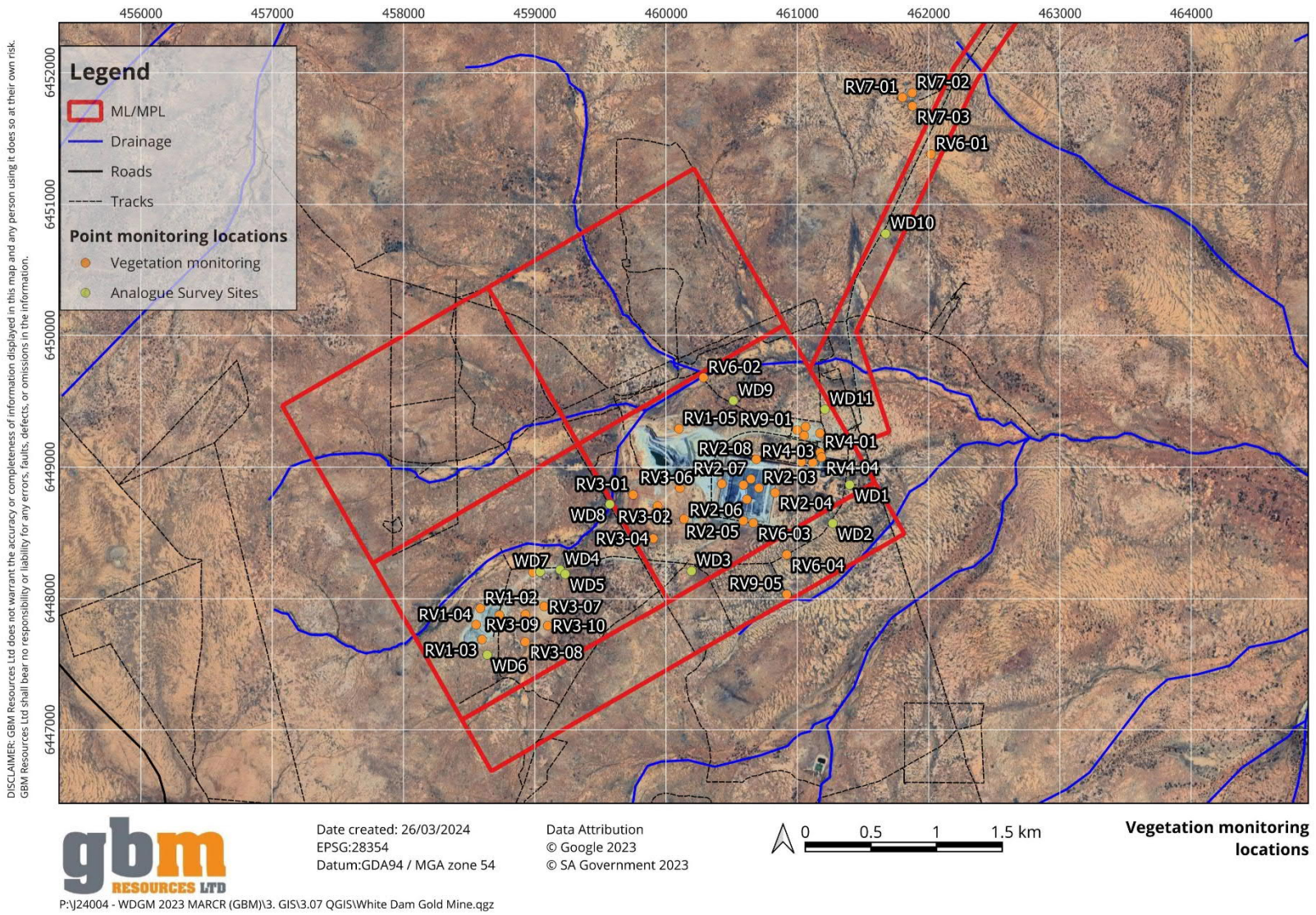

Figure 10: Vegetation Monitoring Locations

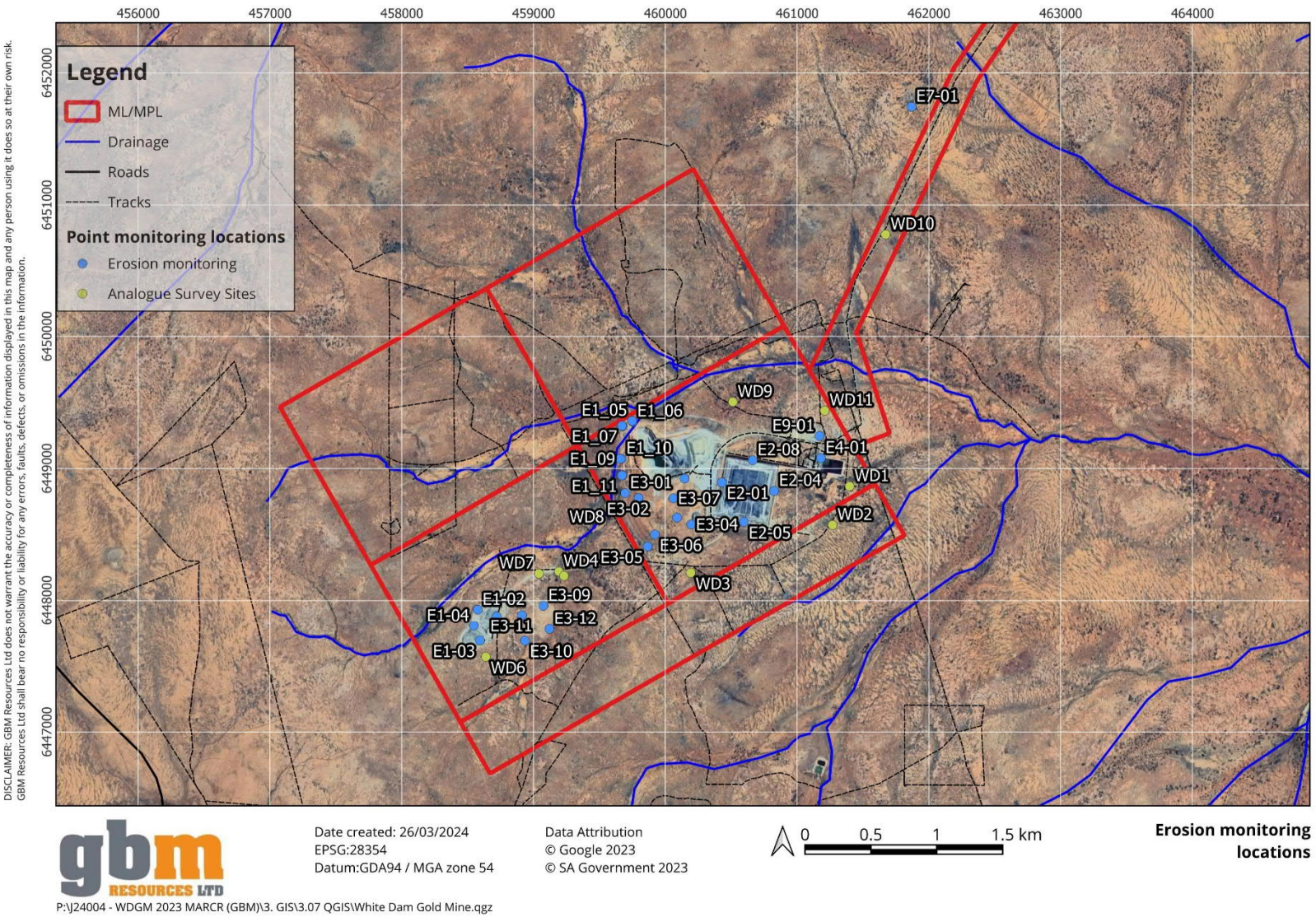

Figure 11: Erosion Monitoring Locations

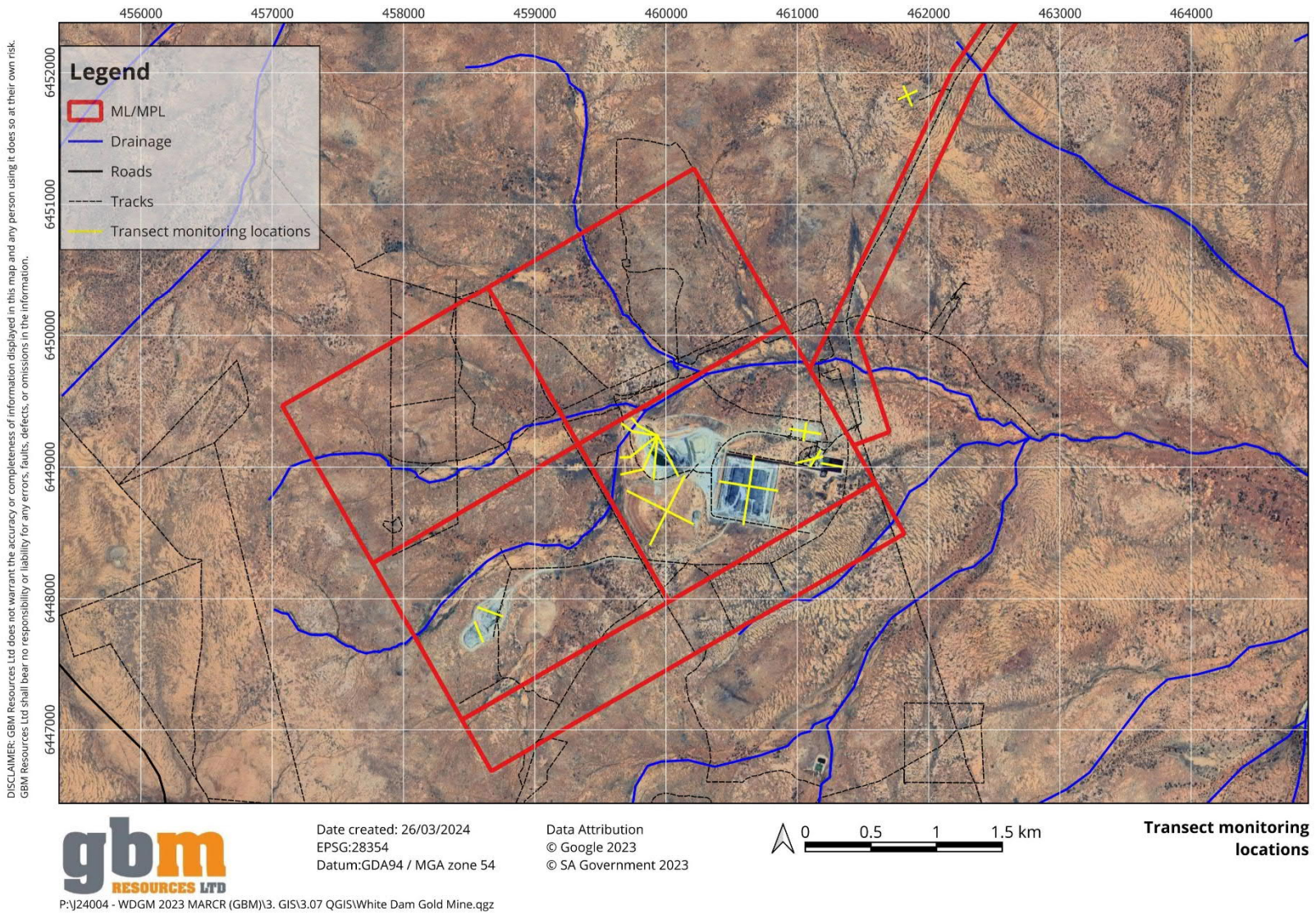

Figure 12: Transect Monitoring Locations

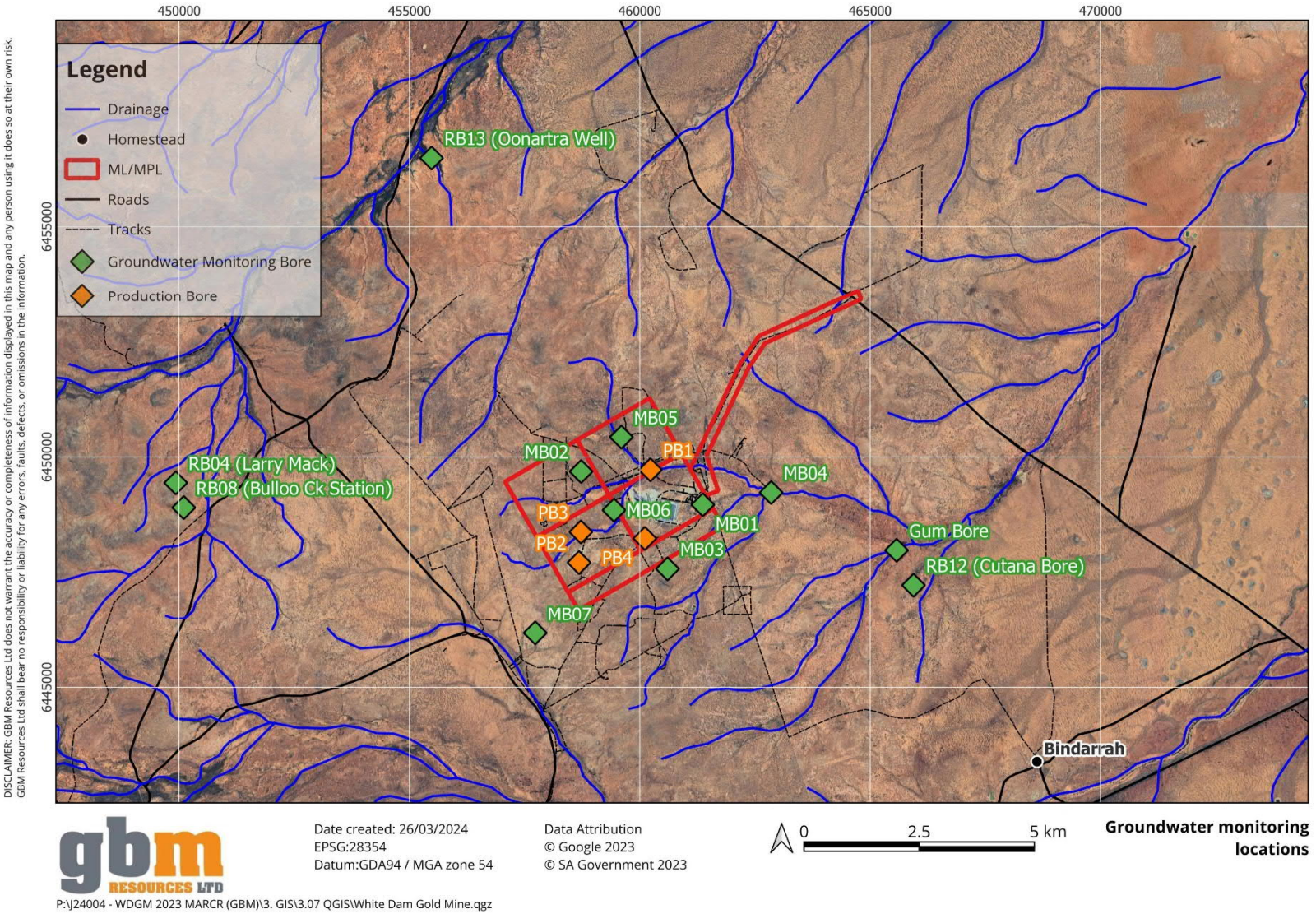

Figure 13: Groundwater Monitoring Locations

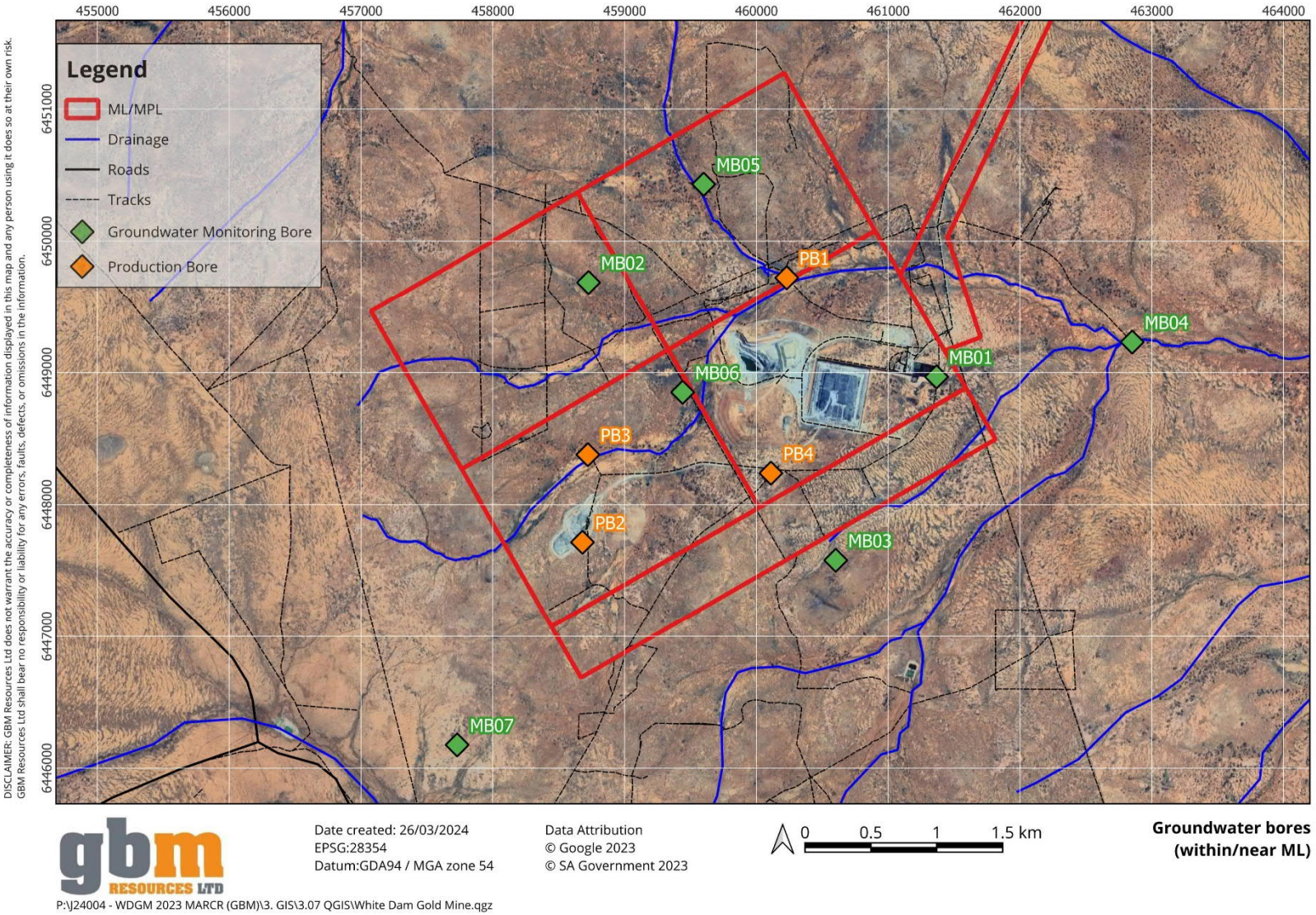

Figure 14: Groundwater Monitoring Locations (within/near ML)

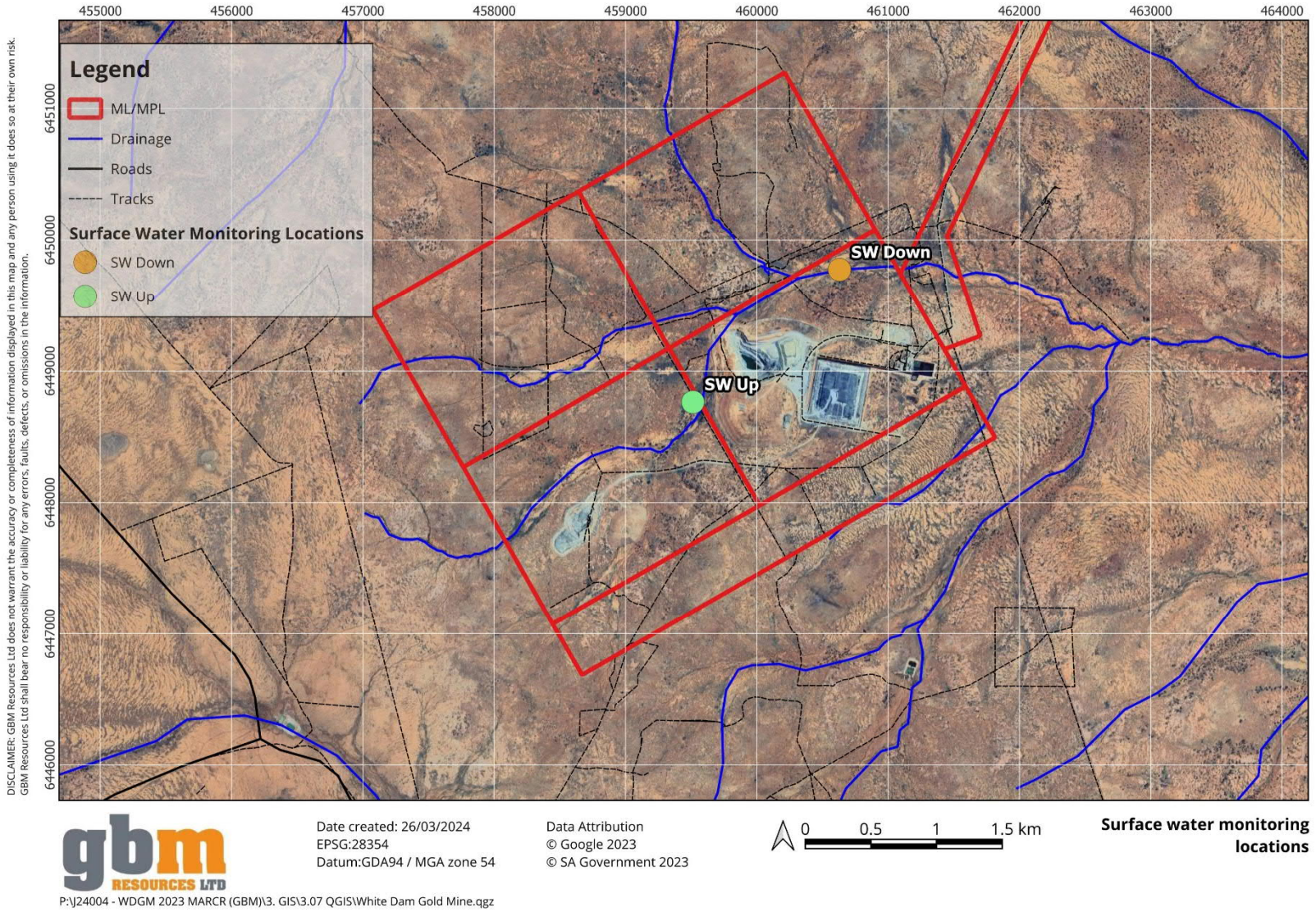

Figure 15: Surface Water Monitoring Locations

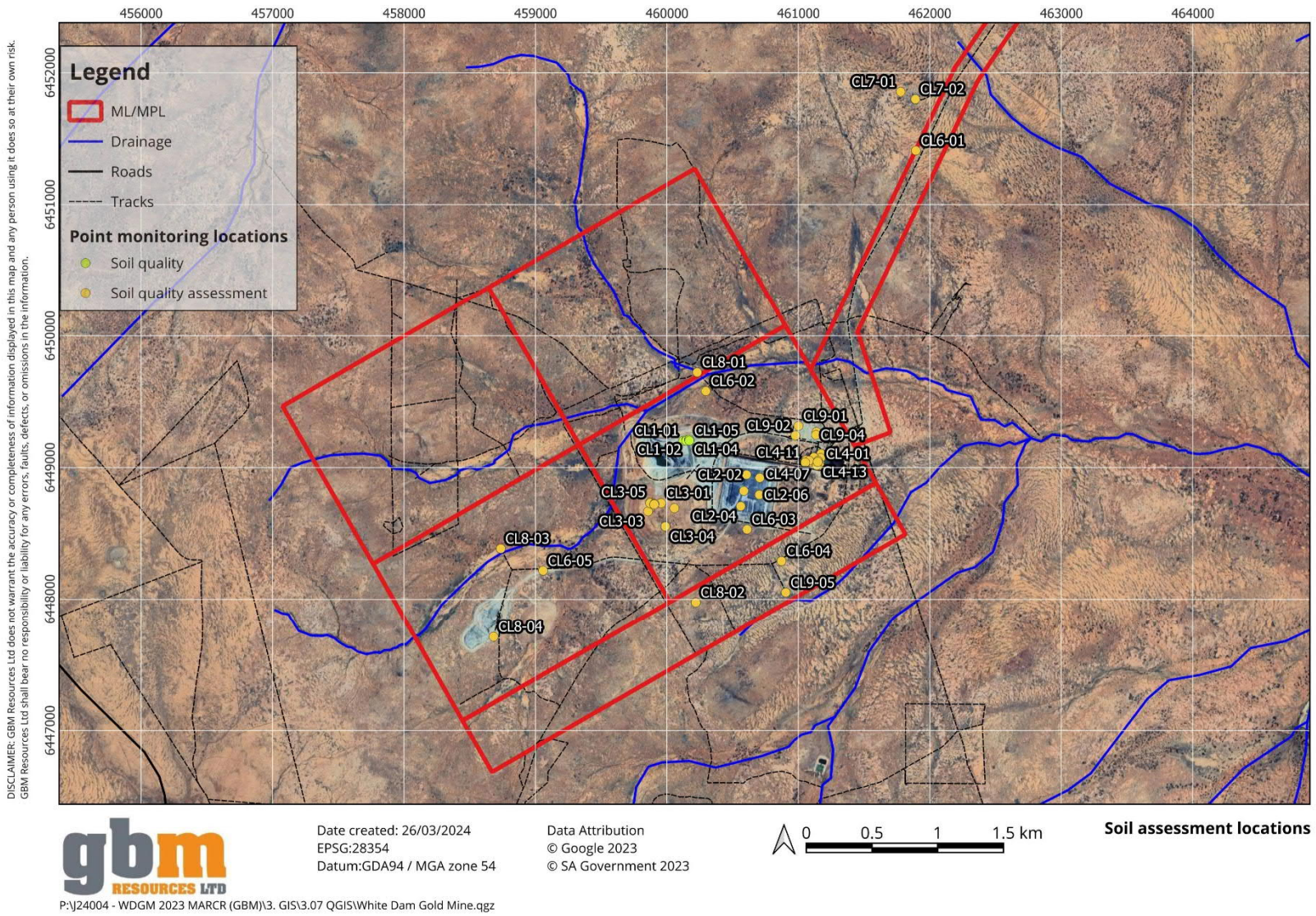

Figure 16: Soil Assessment Locations

9.2. Fauna and Flora

9.2.1. Environmental outcomes and compliance status

Fauna environmental outcomes and compliance status

Table 18 presents an overview of the fauna-related environmental outcomes and compliance status. The numbering of the outcome measurement criteria corresponds with the numbering in the corresponding tables in the PEPR version 4 document.

Table 18: Fauna environmental outcomes and compliance status

Aspect:	Fauna	Tenement(s):	All	Compliance status:	See below

Environmental outcome/objective

- No long-term adverse effect on terrestrial fauna and habitat biodiversity (including riparian vegetation) due to mine operations.
- No significant increase in introduced feral fauna species during construction and operation of the mine and post-mine closure.
- No significant adverse impact on the abundance and diversity of threatened or non-threatened native fauna species during construction and operation of the mine and post-mine closure.

Tenement condition
Not applicable

Outcome measurement criteria - Operations		What will be measured	Locations	Outcome achievement	Frequency
16a	A permanent diversion drain and perimeter bund will be constructed around the Hannaford pit to prevent surface runoff entering the operational areas from the existing natural watercourse. This will result in a permanent change to existing riparian vegetation, off-set by rehabilitation of the creek banks resulting in new riparian vegetation.	-	-	Stability of existing diversion drain and associated bund. No evidence of significant erosion that may affect the stability of the drain/bund. No change in biodiversity index	-

Aspect:	Fauna	Tenement(s):	All	Compliance status:	See below
16b	Annual survey of flora and fauna habitat biodiversity with Biodiversity Index calculated for upstream and downstream control areas.	Biodiversity	See **Figure 9**	No change in biodiversity index	Annual
25a	Leach pad, launders and process ponds to be fenced to exclude stock.	-	-	No change in biodiversity index	Ongoing
25b	Leach pad, process ponds and launders to be rinsed following cessation of processing.	-	-	No change in biodiversity index	After processing
25c	All deaths of terrestrial fauna discovered in operational areas to be reported and investigated with corrective actions implemented to prevent recurrence.	-	-	No change in biodiversity index	Ongoing
Outcome measurement criteria - Closure		**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**
29.1	Feral Fauna: review of opportunistic non- native/feral fauna species monitoring and management records undertaken by suitably qualified professional at mine completion to demonstrate non-native/feral fauna species have been managed as per the relevant requirements until mine completion/ML surrender application.	Feral Fauna feral species management on site until mine completion/ML surrender application, through the review of feral fauna monitoring records and the records of feral fauna management. The review undertaken by suitably qualified professional. Monitoring of feral animal species undertaken opportunistically, (to identify	No individual locations – records of monitoring/inspections of all domains/all leases (MLs, MPLs) Records of feral species management actions	Feral Fauna review of opportunistic non-native/feral fauna species monitoring and management records, undertaken by suitably qualified professional at mine completion, demonstrate that feral species identified on site have been managed as per the relevant requirements. Until mine completion/ML surrender application.	Review of feral fauna monitoring and management records at mine completion, prior to ML surrender application Feral fauna monitored opportunistically (and/or through Land Function Analysis) and management undertaken on as required basis in accordance with the relevant requirements

Aspect:	Fauna	Tenement(s):	All	Compliance status:	See below
		introduced feral fauna species and/or increase in feral fauna species on site)			

Outcome/objective measurement criteria summary
The environmental outcomes/objectives have been achieved during the reporting period. The site has been operated in compliance PEPR requirements and the outcome measurement criteria.

#	Leading indicator criteria - Operations	Summary	Compliance
16a	Construction of permanent diversion drain and perimeter bund around Hannaford pit. Stability of existing diversion drain and associated bund. No evidence of significant erosion that may affect the stability of the drain/bund. No statistically significant difference in Biodiversity Index between 'control' sites upstream and downstream of creek diversion.	Diversion drain/bund and perimeter bund constructed previously. Due to the western wall geotechnical issues, the location and configuration of this bund (and any need for repositioning) have been the subject of assessment by geotechnical consultants as part of the finalisation of PEPR commitments. The end-of-mine geotechnical assessment indicates the final pit crest will not detrimentally impact the current diversion and flood protection bund. The diversion and bund will be monitored to evaluate erosion effects and vegetation.	**Compliant.** Subject to monitoring following significant rainfall and runoff events resulting in channel flow (photo evidence has been collected). This monitoring is to continue until it is demonstrated that the structure is stable.
16b	Annual survey of flora and fauna habitat biodiversity – no change in biodiversity index between upstream and downstream control areas.	A flora and fauna survey was undertaken by KBR in November 2011. This has provided the basis for the ongoing monitoring program and rehabilitation compliance. Future vegetation monitoring strategies in regard to completion criteria have been described in the PEPR Review 4.	**Compliant** Whilst no annual survey was undertaken in 2024, there were no site activities or operations that would have changed the biodiversity index between upstream and downstream control areas.
25a	Leach pad, launders and process ponds to be fenced with stockproof fences	The mining lease housing the leach pad, launders and process ponds is fully enclosed by a stock-proof fence, including a grid at the access point to the lease. Process ponds and drains from HLP have also been fenced. These remain in place.	**Compliant**
25b	Leach pad, process ponds and launders to be rinsed following cessation of processing – no change in biodiversity index	Implementation of this procedure has been described in the PEPR Review 4 and appendix HLP Closure Plan. Rinsing will not commence until there is no economical gold recovery from the HLP.	Not applicable at this stage, given the recommencement of

Aspect:	Fauna	Tenement(s):	All	Compliance status:	See below
					cyanide application on the HLP.
25c	All deaths of terrestrial fauna discovered in operational areas to be reported and investigated – no change in biodiversity index		No significant native species deaths occurred in the reporting period (refer below). Deaths of native fauna in operational areas are recorded, and corrective actions implemented as appropriate.		**Compliant**
Leading indicator criteria - Closure			**Compliance**		
29.1	Monitoring and management will be undertaken as per the site's Feral Animal Management Plan.		Not applicable at this stage of the project.		
Effectiveness of existing controls The existing controls are considered effective given that the site has been operated in compliance with the outcome measurement criteria and that the environmental outcomes/objectives have been achieved during the reporting period.					
Supporting report reference See below.					

Flora environmental outcomes and compliance status

Table 19 presents an overview of the flora-related environmental outcomes and compliance status. The numbering of the outcome measurement criteria corresponds with the numbering in the corresponding tables in the PEPR version 4 document.

Table 19: Flora environmental outcomes and compliance status

Aspect:	Flora	Tenement(s):	All	Compliance status:	See below
Environmental outcome/objective • No long-term adverse effect on terrestrial fauna and habitat biodiversity (including riparian vegetation) due to mine operations. • No significant adverse impact on the abundance and diversity of threatened or non-threatened native flora species or communities during construction and operation of the mine and post mine closure. • No ongoing pollution or unsafe or unstable land left upon mine closure and in the long term. • No significant increase in weed density and distribution or the introduction of new weeds during construction and operation of the mine and post mine closure.					
Tenement condition Not applicable					
Outcome measurement criteria - Operations	**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**	

Aspect:	Flora	Tenement(s):	All	Compliance status:	See below
16a	A permanent diversion drain and perimeter bund will be constructed around the Hannaford pit to prevent surface runoff entering the operational areas from the existing natural watercourse. This will result in a permanent change to existing riparian vegetation, off-set by rehabilitation of the creek banks resulting in new riparian vegetation.	-	-	No change in biodiversity index	-
16b	Annual survey of flora and fauna habitat biodiversity with Biodiversity Index calculated for upstream and downstream control areas.	Biodiversity	See **Figure 9**	No change in biodiversity index	Annual
25	Leach pad, process ponds and launders to be rinsed following cessation of processing.	-	-	No change in biodiversity index	After processing
Outcome measurement criteria - Closure		**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**
16.4	Vegetation cover: records of six monthly (summer and winter) monitoring of vegetation conditions and density undertaken by a suitably qualified and experienced professional through visual inspections and photo documentation at select monitoring locations demonstrate, when compared with representative analogue sites and baseline photographs, that revegetated areas are stable.	Vegetation cover conditions and density at selected monitoring locations through visual inspections and photo monitoring (% cover)	Select vegetation cover monitoring at E1_02 to E1-08 located along the stream diversion and bund (**Figure 10**). Analogue sites are WD4 & WD8 riparian vegetation complex (**Figure 10**)	Vegetation cover: six-monthly vegetation monitoring, assessed by a suitably qualified and experienced professional through visual assessment and photo records demonstrate vegetation density and condition equal to or greater than 60% of the analogue site.	Six-monthly photo monitoring to assess riparian vegetation.
25.1	Vegetation cover: records of six monthly (summer and winter) monitoring of vegetation conditions and density undertaken by a suitably qualified and experienced professional, through visual inspections and photo documentation at	Vegetation cover: vegetation conditions and density at selected monitoring locations (rehabilitated areas and analogue sites, refer to	Selected vegetation cover monitoring (40) points (RVs) and quadrats along transects (15) on final landforms, refer to **Figure**	Vegetation cover: records of six-monthly vegetation monitoring, undertaken by a suitably qualified and experienced person through visual assessment and photo records	Six-monthly photo monitoring to assess annual and perennial vegetation

Aspect:	Flora	Tenement(s):	All	Compliance status:	See below
	select monitoring locations demonstrate, when compared with representative analogue sites and baseline photographs, that revegetated areas are stable, as a proxy to the abundance and diversity of native flora species and communities	**Appendix D** and PEPR Table 5.9) through visual inspections and photo monitoring (% cover)	**10** to **Figure 12**. Analogue sites WD1 to WD11	demonstrate vegetation density to demonstrate the following:	
26.1	Weeds: records of six monthly monitoring of weed density through visual inspections and photo documentation at monitoring locations with comparable results to representative analogue sites and baseline photographs	Weeds: weed density through visual inspections and photo monitoring records. Weed species (declared weeds of national significance) not to exceed 10% more than the percentage cover of the analogue site	Select vegetation cover monitoring (40) points (RVs) and quadrats along transects (15) on final landforms, refer to **Figure 10** to **Figure 12**. Analogue sites WD1 to WD11	Weeds Records of six monthly weed species inspections (declared weeds of national significance) demonstrate weed species do not exceed 10% more than the percentage cover of the analogue site to indicate no significant increase in weed density and distribution, or the introduction of new weeds within the mining lease at mine completion	Six-monthly photo monitoring to assess weeds
28.1	Vegetation & Weeds: Audit of six monthly monitoring of vegetation conditions and weed density through visual inspections and photo documentation, undertaken by a suitably qualified and experienced professional (to DPC satisfaction) demonstrate comparable results to representative analogue sites (C) and baseline photographs (E) as a proxy for native fauna habitat.	Vegetation & Weeds Landform assessment: vegetation conditions and density through visual inspections and photo monitoring (% cover). Vegetation density equal to or greater than 60% of the analogue site for viable palatable seeded plants. Weed species (declared weeds of national significance) not to exceed 10% more than the percentage cover of the analogue site	Select vegetation cover monitoring (40) points (RVs) and quadrats along transects (15) on final landforms, refer to **Figure 10** to **Figure 12**. Analogue sites WD1 to WD11	Vegetation density equal to or greater than 60% of the analogue sites to indicate no significant adverse impact to the abundance and diversity of threatened or non-threatened native flora species (successful vegetation (habitat) establishment on landforms) at mine completion	Six-monthly photo monitoring to assess vegetation and weeds at completion of rehabilitation
20.7	Land Function Analysis: Demonstrate that areas have been rehabilitated and have achieved, or by trends, when compared to	LFA field data collected at transects on rehabilitated landforms and analogues	Select transects (15) on final landforms, refer to **Figure**	A review of Land Function Analysis records, undertaken by a suitably qualified and experienced professional	Once, upon closure

Aspect:	Flora	Tenement(s):	All	Compliance status:	See below
	analogue sites may be confidently predicted to achieve sustainability thresholds as defined by Land Function Analysis.	sites showing progress of rehabilitation through time when compared to a control site. The achievement of landscape sustainability through monitoring will be undertaken by a suitably qualified person (to DPC satisfaction)	**10** to **Figure 12**. Analogue sites WD1 to WD11	(to DPC satisfaction) demonstrate that areas have been rehabilitated to a safe, stable landform and have achieved, or by trends, when compared to analogue sites, may be confidently predicted to achieve sustainability thresholds as defined by Land Function Analysis (sustainability thresholds for each parameter are interpreted as the points of maximum curvature on the sigmodal curve shape as per Tongway and Hindley (2005)	

Outcome/objective measurement criteria summary
The environmental outcomes/objectives have been achieved during the reporting period. The site has been operated in compliance PEPR requirements and the outcome measurement criteria.

#	Leading indicator criteria - Operations	Summary	Compliance
16a	Construction of permanent diversion drain and perimeter bund around Hannaford pit. Stability of existing diversion drain and associated bund. No evidence of significant erosion that may affect the stability of the drain/bund. No statistically significant difference in Biodiversity Index between 'control' sites upstream and downstream of creek diversion.	Diversion drain/bund and perimeter bund constructed previously. Due to the western wall geotechnical issues, the location and configuration of this bund (and any need for repositioning) has been the subject of assessment by geotechnical consultants as part of the finalisation of PEPR commitments. The end of mine geotechnical assessment indicates the final pit crest will not detrimentally impact the current diversion and flood protection bund. The diversion and bund will be monitored to evaluate erosion effects and vegetation.	**Compliant**. Subject to monitoring following significant rainfall and runoff events resulting in channel flow (photo evidence has been collected). This monitoring is to continue until demonstrated that structure is stable.
16b	Annual survey of flora and fauna habitat biodiversity – no change in biodiversity index	A flora and fauna survey was undertaken by KBR in November 2011. This has provided the basis of the ongoing monitoring program and rehabilitation compliance. Future vegetation monitoring strategies in regard to completion criteria have been described in the PEPR Review 4.	**Compliant** Vegetation photo monitoring has been conducted on a quarterly basis to provide evidence of stable vegetation conditions on closure (**Appendix D**).

Aspect:	Flora	Tenement(s):	All	Compliance status:	See below
25	Leach pad, launders and process ponds to be fenced – no change in biodiversity index		The mining lease housing the leach pad, launders and process ponds is fully enclosed by a stock-proof fence, including a grid at the access point to the lease. Process ponds and drains from HLP have also been fenced. These remain in place.		**Compliant**
#	**Leading indicator criteria - Closure**		**Summary**		**Compliance**
16.4	Vegetation surface cover ≤ 60 %		Not applicable at this stage of the project. However, quarterly photo monitoring of rehabilitation sites is being undertaken during operations to obtain a comprehensive data set.		
25.1	Vegetation surface cover ≥60 %		Not applicable at this stage of the project. However, quarterly photo monitoring of rehabilitation sites is being undertaken during operations to obtain a comprehensive data set.		
26.1	Weed species do not exceed 10% more than the percentage cover of the analogue site		Not applicable at this stage of the project. However, quarterly photo monitoring of rehabilitation sites is being undertaken during operations to obtain a comprehensive data set.		
28.1	Vegetation surface cover ≥60 %,		Not applicable at this stage of the project. However, quarterly photo monitoring of rehabilitation sites is being undertaken during operations to obtain a comprehensive data set.		
20.7	Vegetation surface cover ≥60 %, and estimated soil loss from Land Function Analysis shows reduction of soil loss over time.		Not applicable at this stage of the project. A Land Function Analysis Report is to be prepared at mine completion.		
Effectiveness of existing controls The existing controls are considered effective given that the site has been operated in compliance with the outcome measurement criteria and that the environmental outcomes/objectives have been achieved during the reporting period.					
Supporting report reference See the below sections.					

9.2.2. Discussion

The White Dam site and general environs are significantly degraded due to previous, pre-mining land use activities (i.e. grazing). Management of flora and fauna issues has nevertheless been a component of environmental management at the site. Reference sites were previously established in 2010 by Kellogg, Brown and Root (KBR) as per the (then) MARP requirements in regard to control sites that serve as a baseline upon which to judge the effects of mining activity. Other reference sites have also been indicated in the PEPR Review 4.

Recommendations in the MARP included the following with a response to each subsequently presented:

1. *The continuation of the weeds control program e.g. weed mapping and spraying across the mining lease*. A major weed control exercise was undertaken in 2015 and included spraying by a contractor within both the mining and exploration tenements held by Exco. Follow-up monitoring has indicated that the spraying was effective, and no follow-up spraying was required in 2016. Weeds were actively controlled around operational areas in 2016, 2017, and 2018 (i.e., ponds and heap leach). Due to the severe drought at the site in 2019, weed control was not required. Weed control was continued in 2024 on as needed basis.
2. *Implementation of weeds removal programs for all weeds, but especially African Boxthorn (which has been identified previously as a weed species of some concern), Noogoora burr and Bathurst burr.* Refer to the comments above.
3. *The mapping and monitoring of weed species distributions at the site*: Refer to comments above.

Pest fauna species recommendations/ requirements included:

- *The implementation of a dingo-dog monitoring program. Any observations of dingo-dogs, tracks presumed to be dingo-dog in appearance and evidence of its presence are documented and this information is passed on to the pastoralists immediately.* No dingo-dog sightings have occurred during this reporting period.
- *European red fox monitoring: fox numbers and evidence of fox presence is documented and this information passed on to the pastoralists:* Undertaken as above. No sightings during this reporting period.
- *The implementation of rabbit control measures and a warren removal program.* Significant controls have been implemented in this regard. There is limited evidence of rabbit presence and associated warrens in the ML areas.
- *Any occurrences of wild pigs (including evidence) should be documented and this information needs to be supplied to the pastoralists.* There has been no reported sighting of feral pigs on the lease.
- *The implementation of feral cat control program is required.* Due to concerns raised by a neighbouring pastoralist, a cat trapping program was implemented on the tenements in 2015 and has continued in 2016, 2017 and 2018. The program was discontinued in 2019.

Other flora species management recommendations by KBR implemented at site included:

- *Seed collection*. There has been no seed collection during the reporting period. Seed stock collected previously has been used for the seeding of both of the reshaped WRDs. Further seed collection may be undertaken at the site in preparation for and prior to the final

reshaping of the HLP and associated cover establishment; and

- The *Gilgai at WD11* remains a No-go Zone. No vehicular access is permitted to this site in order to prevent any damage to this area.

9.2.3. Vegetation Clearing

No vegetation clearing has been undertaken during the reporting period, and no further clearing is proposed. To comply with final rehabilitation batter slopes, some minor clearing will be required around the heap leach pad following cessation of leaching (estimated at approx. 7.3 additional hectares over and above the existing leach pad footprint. This will be undertaken during operations in preparation for closure (as defined in approved PEPR Review 4). Approval is in place for this future clearing requirement. It is noted that there is minimal native vegetation present in this area to be cleared. Topsoil will be stripped for future rehabilitation uses.

9.2.4. Incidents

Daily monitoring of the plant areas and ponds is ongoing, with fauna captured and released when applicable. To date, losses are considered low, and no species of conservation significance have been impacted. Losses have been attributed to light vehicle strike (kangaroos) and fauna found in ponds / drains (emus and kangaroos).

9.3. Groundwater

9.3.1. Environmental outcomes and compliance status

Table 20 presents an overview of the groundwater-related environmental outcomes and compliance status. The numbering of the outcome measurement criteria corresponds with the numbering in the corresponding tables in the PEPR version 4 document.

Table 20: Groundwater environmental outcomes and compliance status

Aspect:	**Groundwater**	**Tenement(s):**	**All**	**Compliance status:**	**See below**
Environmental outcome/objective • No reduction in the quantity and quality of water exiting the site. • No ongoing pollution or unsafe or unstable land left upon mine closure and in the long term.					
Tenement condition Not applicable					
Outcome measurement criteria - Operations		**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**
17.a	Groundwater Levels: Monitoring of groundwater levels in monitoring and regional bores during operations to demonstrate comparable groundwater levels to baseline and recovery to pre-mining levels	Groundwater Levels: Depth to groundwater mbgl/m AHD	Monitoring bores MB01 to MB07, and regional bores GUM Bore, RB08, RB11, RB13 and RB14 (when available) (**Figure 13** and **Figure 14**)	Groundwater Levels Monitoring records demonstrate comparable groundwater levels in monitoring bores indicating no reduction in quantity of groundwater exiting the site (for downstream users)	Quarterly
17.b	Groundwater Quality: Quarterly monitoring of groundwater quality in monitoring and regional bores to demonstrate comparable groundwater quality with baseline values	Groundwater Quality Total metals (Al, As, Cd, Cr, Co, Fe, Pb, Zn, Cu, Se), CN (total, WAD, thiocyanates), NO3, NH3 and S, electrical conductivity and pH.	Monitoring bores MB01 to MB07, and regional bores GUM Bore, RB08, RB11, RB13 and RB14 (when available) (**Figure 13** and **Figure 14**)	Protection of stockwater supply. The pastoralist has agreed that if the salinity of the water in Gum Bore reaches 3,000 TDS, his use of the water will be adversely affected. Thus, the trigger point (criterion) for remedial actions will be reached at 3,000 TDS.	Quarterly
Outcome measurement criteria - Closure		**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**

17.9	Groundwater Levels: Monitoring of groundwater levels in monitoring and regional bores to demonstrate comparable post mining groundwater levels to baseline and recovery to pre-mining levels	Groundwater Levels: Depth to groundwater mbgl/m AHD	Monitoring bores MB01 to MB07, and regional bores GUM Bore, RB08, RB11, RB13 and RB14 (when available)	Groundwater Levels Monitoring records demonstrate comparable groundwater levels in monitoring bores (i.e. recovery to within 10% of baseline) indicating no reduction in quantity of groundwater exiting the site (for downstream users)	Quarterly (every 3 months –post finalisation of mine rehabilitation until outcome achieved and subsequent six- monthly (wet and dry season) monitoring until ML surrender application
17.10	Groundwater Quality: Quarterly monitoring of groundwater quality in monitoring and regional bores to demonstrate comparable post mining groundwater quality with baseline values	Groundwater Quality Total metals (Al, As, Cd, Cr, Co, Fe, Pb, Zn, Cu, Se), CN (total, WAD, thiocyanates), NO3, NH3 and S, electrical conductivity and pH.	Monitoring bores MB01 to MB07, and regional bores GUM Bore, RB08, RB11, RB13 and RB14 (when available)	Groundwater Quality Audit of groundwater quality monitoring records, undertaken by a suitably qualified and experienced professional prior to ML surrender application demonstrates that: - There is no statistically significant difference (within 10% or less than two standard deviations) compared with pre-mining groundwater quality or analysis within ANZECC guideline values for livestock watering - No detectable CN (total, WAD, thiocyanates)	Groundwater monitoring undertaken quarterly (every 3 months) until finalisation of rehabilitation, and 6-monthly post finalisation of mine rehabilitation until ML surrender application

Outcome/objective measurement criteria summary
Groundwater monitoring has been ongoing during 2024, with all accessible and non-dry bores sampled.
The environmental outcomes/objectives have been achieved during the reporting period. The site has been operated in compliance PEPR requirements and the outcome measurement criteria.

#	Leading indicator criteria - Operations	Summary	Compliance
17.a	Drawdown at 2 km from MPL to be no more than 5 m (from pre-mining standing level) after 1 year of pumping and no more than 7m (from pre- mining standing level) after 2 years of pumping.	Monitoring bores MB03, MB04 and MB07 show minor declines of less than 5 metres in groundwater levels, with a decline of more than 7 metres observed in bores MB02, MB05 and MB06. Fluctuations in groundwater levels most likely reflect variations in historical groundwater abstraction at the site and in rainfall recharge. These marked fluctuations are expected to continue in response to climate conditions (e.g. rainfall patterns). It has been continually demonstrated during the mining and groundwater extraction operations that drawdown effects have	**Compliant**

		been localised in scale. It is also noted the site received below average rainfall during this period. See **Section 9.3.3**	
17.b	Water quality in Gum Bore <= 3,000 mg/L TDS	Salinity levels in Gum Bore remain overall stable, and well under the compliance level of 3,000 mg/L TDS. See **Section 9.3.3**	**Compliant**
17.b	No detectable CN (total, WAD, thiocyanates)	Elevated cyanide levels have been observed in monitoring bore(s), following the reportable incident in 2022. See **Section 9.3.5**	**Non-compliant** See **Section 11**.
#	**Leading indicator criteria - Closure**	**Summary**	**Compliance**
17.9	Drawdown at 2 km from MPL to be no more than 5 m (from pre-mining standing level) after 1 year of pumping and no more than 7m (from pre-mining standing level) after 2 years of pumping.	Not applicable at this stage of the project. However, ongoing groundwater monitoring during site operations indicates compliance.	
17.10	Water quality in Gum Bore > 2,500 mg/L TDS No statistically significant difference (within 10% or less than two standard deviations) compared with pre-mining groundwater quality or analysis within ANZECC guideline values for livestock watering. No detectable CN (total, WAD, thiocyanates)	Not applicable at this stage of the project. However, ongoing groundwater monitoring during site operations indicates compliance, except for the detected cyanide levels in MB01.	

Effectiveness of existing controls
The existing controls are considered effective given that the site has been operated in general compliance with the outcome measurement criteria and that the environmental outcomes/objectives have been achieved during the reporting period.

Supporting report reference
- Below sections.
- **Section 11**. for description of the non-compliance relating to elevated cyanide levels.
- **Appendix E** – Groundwater laboratory analysis documentation

9.3.2. Discussion

Groundwater monitoring and sampling has been undertaken during the reporting period, as part of the regular, quarterly monitoring program specified in the PEPR and in response to the 2022 reportable incident and follow-up feedback from DEM/EPA, as described in **Section 11**. Relevant data is reported herein. The groundwater monitoring program included the monitoring and sampling of 7 monitoring wells and 5 regional pastoral bores, if accessible and not dry.

Figure 17 presents the location of the monitoring, production and regional (pastoral) bores. With respect to the regional monitoring bores, monitoring/sampling was not always possible due to inaccessibility (e.g. presence of pumps) or the bores being dry. All groundwater analytical reports for this reporting period are provided in **Appendix E**.

The main regional monitoring bore is Gum Bore – a pastoralist bore located on the Bindarrah pastoral lease. This is the nearest operating well to the Mine site (**Figure 17**). Maintaining and preserving the quality of water from Gum Bore and the prevailing water level is a specific environmental measurement outcome in the approved PEPR Review 4.

The operation of the SART plant in 2021 did not increase the pre-2020 operational water demand. Therefore, the SART plant remained within the approved completion measurement criteria from the PEPR throughout construction, operation and mine-closure. The SART plant operations were discontinued in 2022.

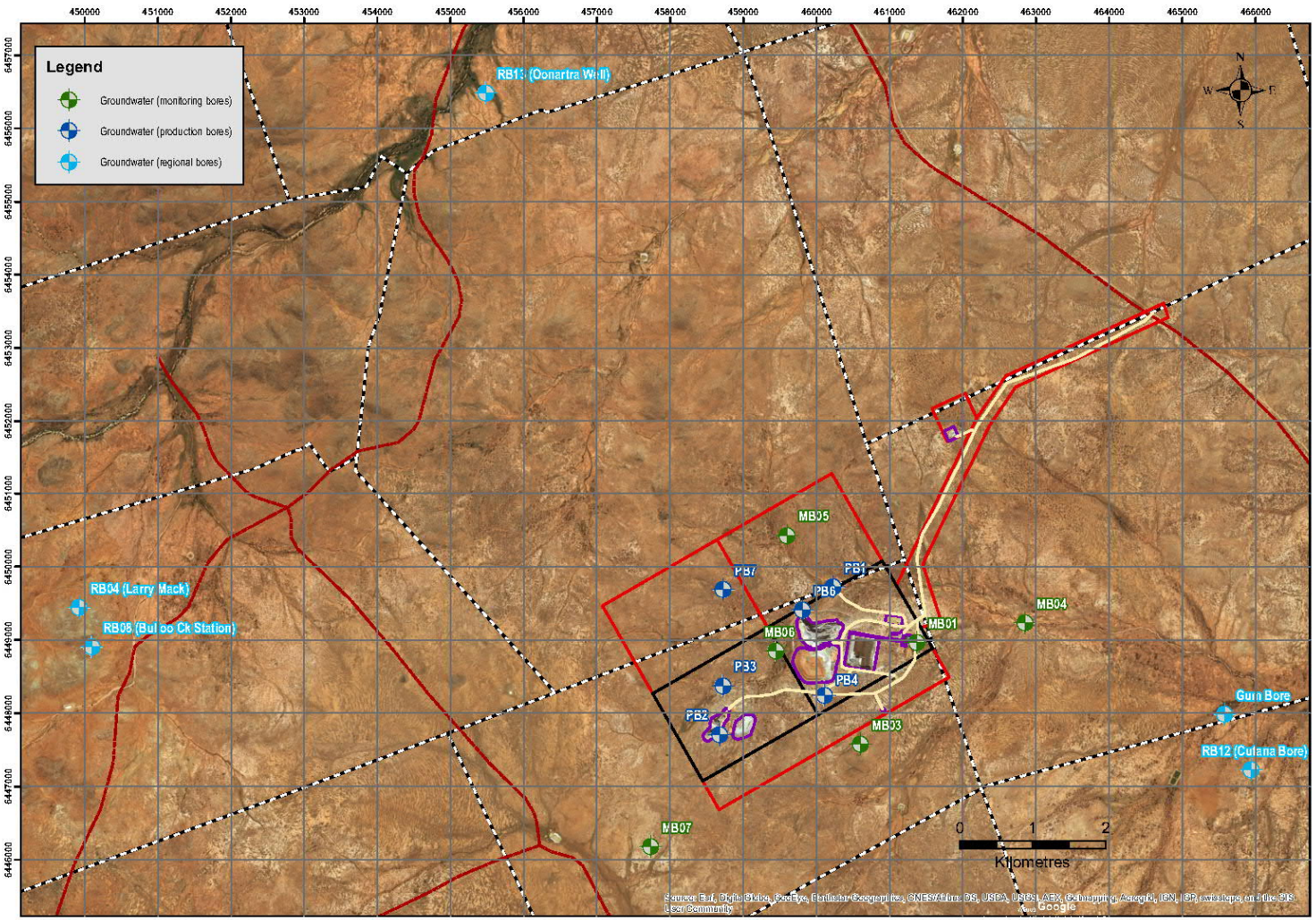

Figure 17: Groundwater Monitoring, Production and Regional (Pastoral) Bore Locations

Gum Bore produces low yields of low salinity waters. Both the past and recent groundwater assessments indicate that the aquifers at WDGM and at Gum Bore are not connected. This has been confirmed through monitoring during current and previous reporting periods.

Groundwater level measurements at the Gum Bore were not possible in 2024, as the bore was continuously used to supply water for the water feeders at the pastoral property. Sampling of Gum Bore water was able in to be undertaken in December 2024. Historical monitoring results (**Figure 18**) indicate minimal change in water levels in Gum Bore during the previous reporting periods, and there has also been little change relative to pre-mining levels. Similarly, salinity levels remain well below the 3000 mg/L TDS compliance criterion. Whilst the groundwater levels may have changed due to the continuous use of the bore, it is considered unlikely that the salinity levels will have increased to levels above the TDS compliance criterion.

9.3.3. Groundwater Monitoring Results

Table 21 and **Figure 19** present groundwater levels measured in the mine site monitoring bores located adjacent to the operations area. All levels are given in metres below top of casing.

Table 21: Monitoring Well Groundwater Level Summary

	MB01	MB02	MB03	MB04	MB05	MB06	MB07	Gum Bore
Pre-mining Depth to Water	50.08	34.12	52.56	44	49.92	30.48	41.65	30.98
Latest Depth to Water Reading	48	47	55	44.9	82	51	42	27
Change in Water Level	2.08	-12.88	-2.44	-0.9	-32.08	-20.52	-0.35	3.98
Date of Reading	Dec-24	Dec-24	Dec-24	Sep-24	Jun-24	Dec-24	Dec-24	Mar-20

Monitoring bores MB03, MB04 and MB07 show minor long-term declines/changes of less than 5 metres in groundwater levels, with a decline/change of more than 7 metres observed in bores MB02, MB05 and MB06. The groundwater level plot (**Figure 19**) shows that groundwater levels in bores MB02, MB05, and MB06 declined very quickly between 2009 and 2011. This rapid decline is most likely associated with the dewatering of water-bearing fractures during the early years of groundwater abstraction for mine water supply. **Figure 19** also shows that groundwater levels in the monitoring bores have remained relatively stable since early 2017, with a recovery of groundwater levels in MB02 since 2018. Fluctuations in groundwater levels most likely reflect variations in historical groundwater abstraction at the site and in rainfall recharge. These marked fluctuations are expected to continue in response to climate conditions (e.g. rainfall patterns).

There has been no observable effect from mining operations on regional bore water levels (**Figure 20**). **Figure 20** below indicates that there has been minimal change to bore water levels in most regional bores during this and previous reporting periods, except for periodic rises during wet periods.

Figure 21 presents salinity levels measured in the mine site monitoring bores located adjacent to the operations area, whilst **Figure 22** shows salinity levels in the regional bores.

This data continues to show minimal changes to salinity levels that are within expected natural fluctuations, except for recent increases in salinity levels in bore MB01 and in pastoral bore RB04 (Larry Creek).

Salinity levels in monitoring bore MB01 increased in September 2022 and remained elevated. The increase in salinity levels at MB01 is most likely associated with the 2022 reportable incident described in **Section 11** and further below.

With respect to pastoral bore RB04 (Larry Creek), given the distance from this location to WDGM, this increase is considered due to localised conditions/circumstances (e.g. localised salinisation due to groundwater abstraction).

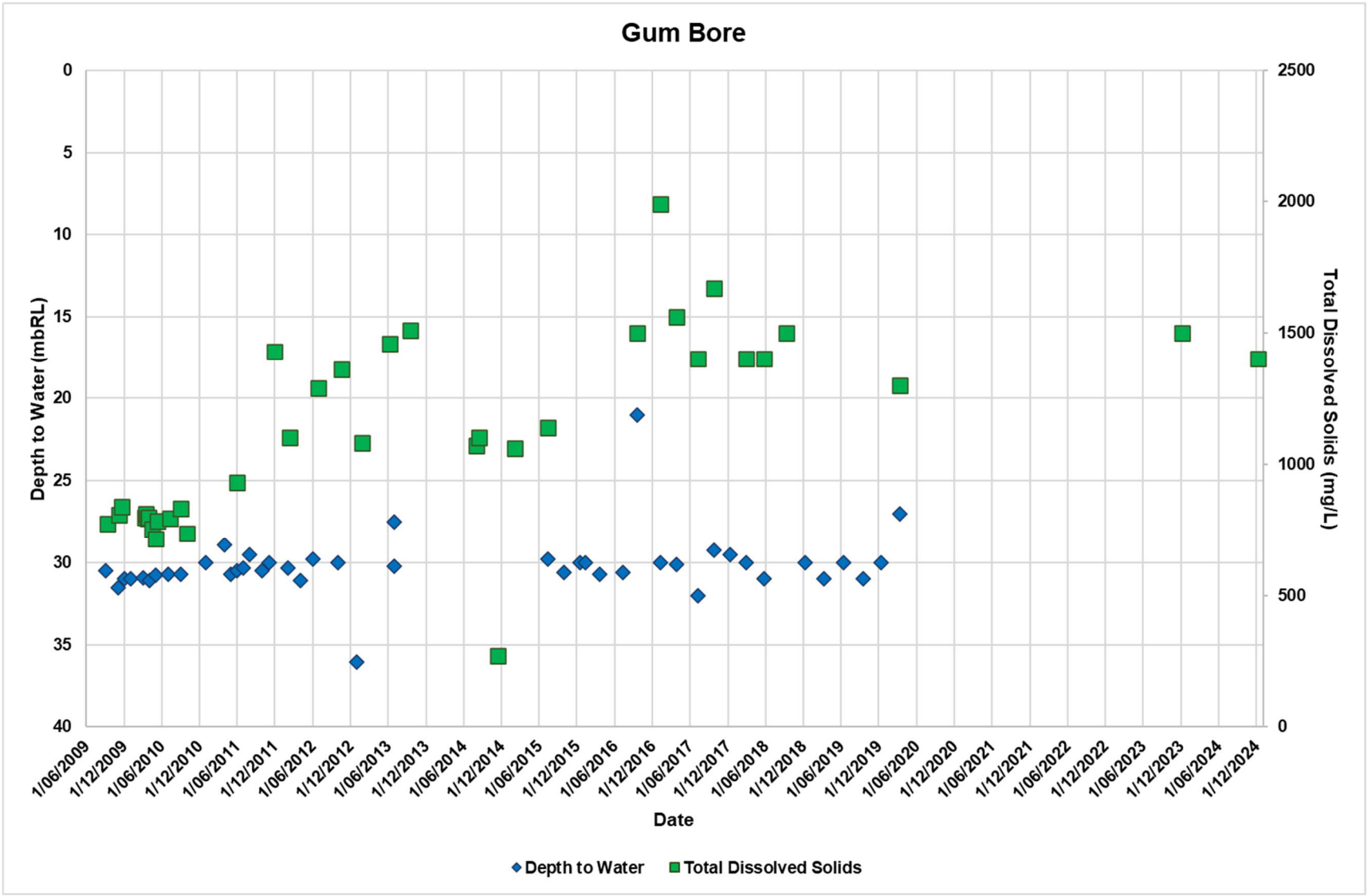

Figure 18: Gum Bore Water Levels and Salinity

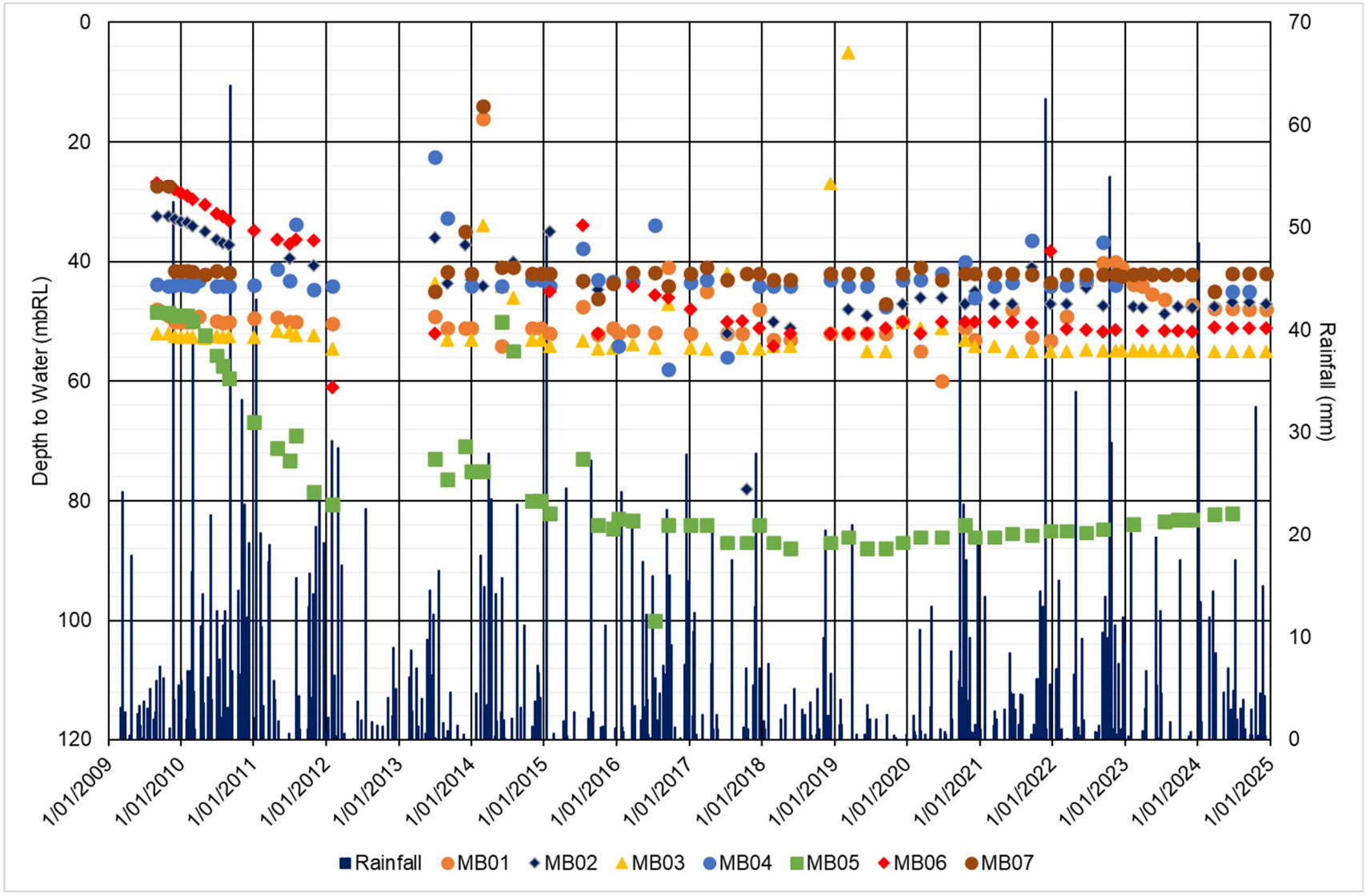

Figure 19: Groundwater Levels in Monitoring Wells (MB)

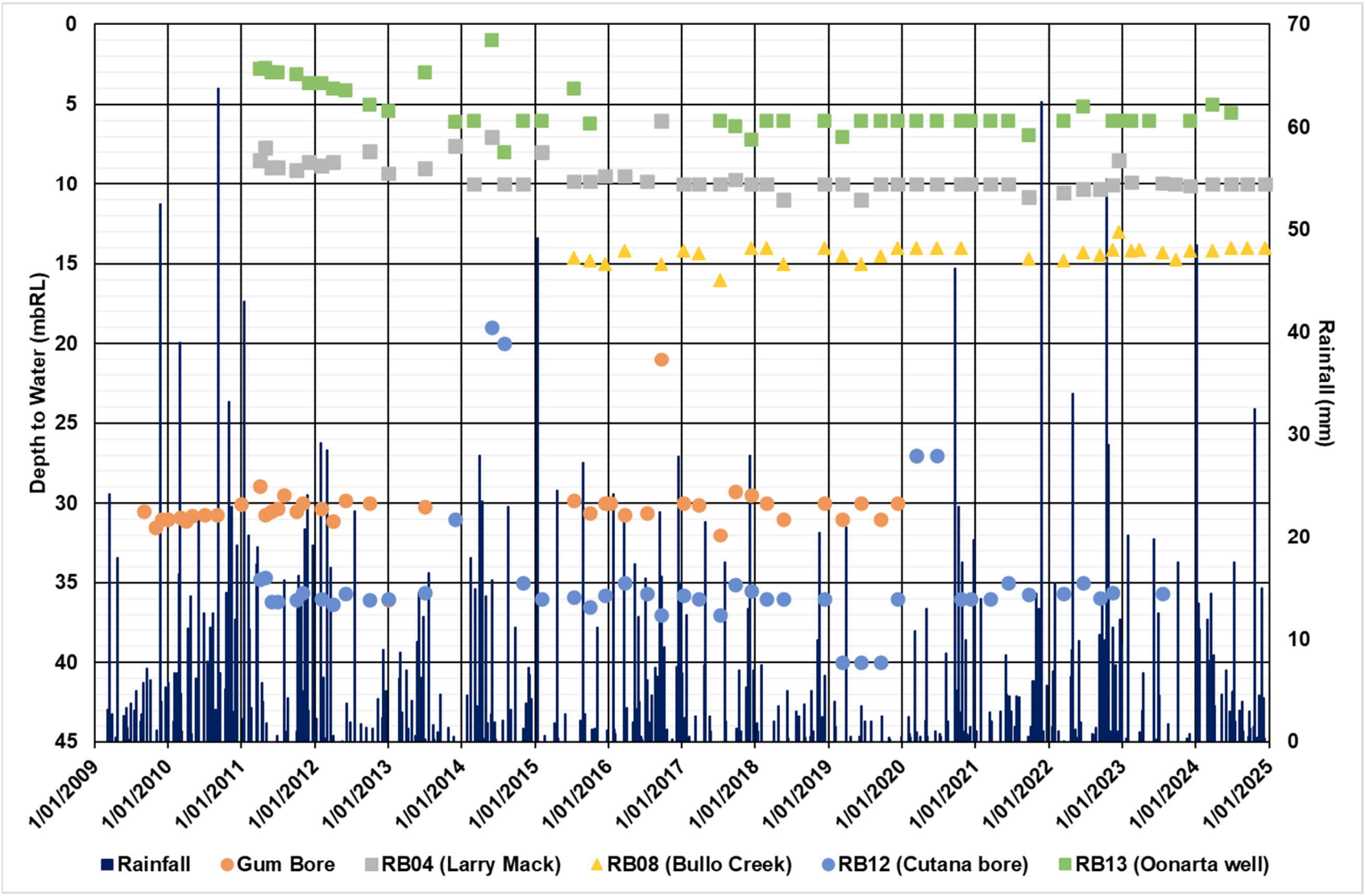

Figure 20: Groundwater Levels in Regional Pastoral Bores (RB)

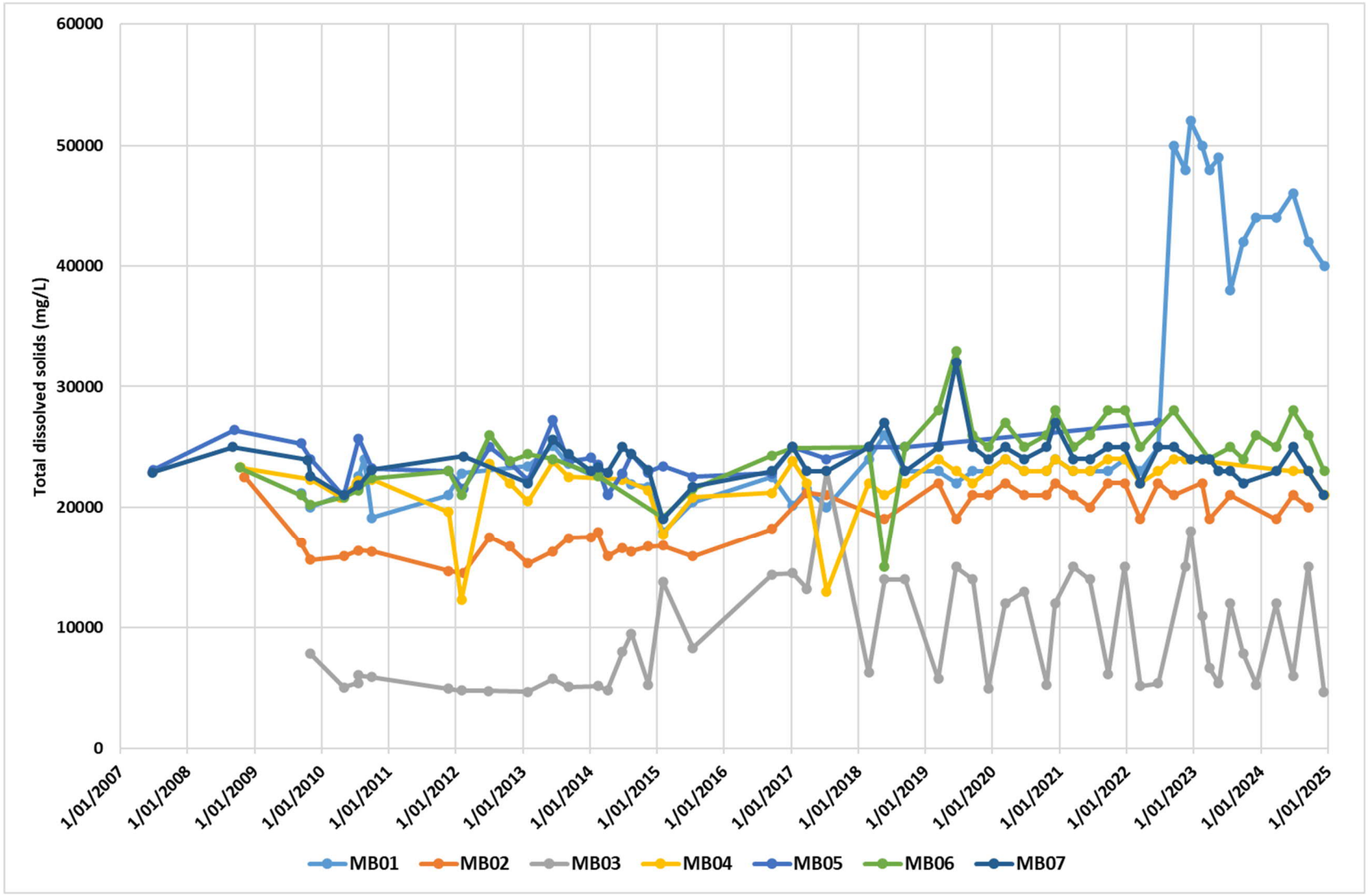

Figure 21: Groundwater Salinity Levels in Monitoring Wells

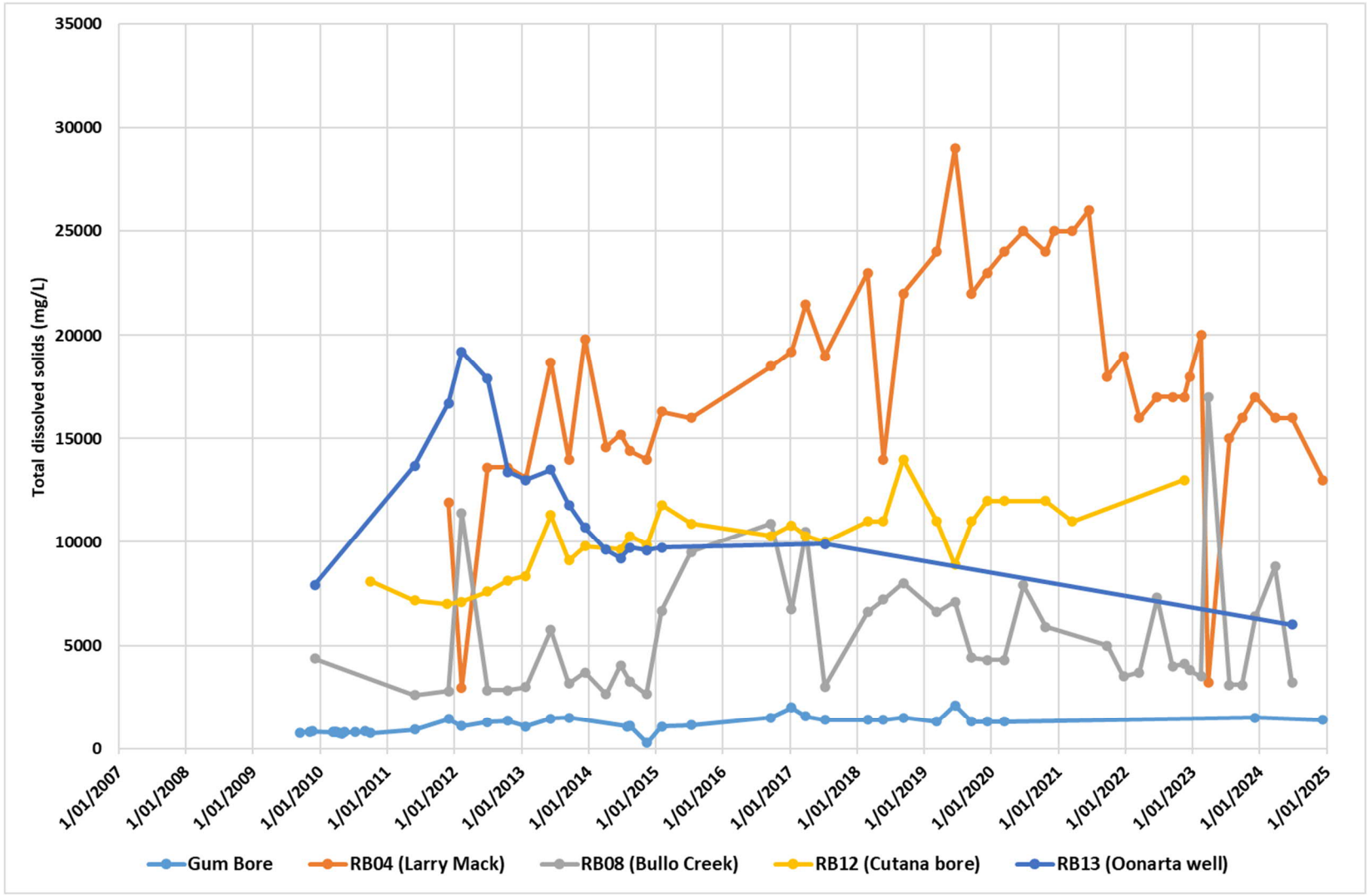

Figure 22: Groundwater Salinity Levels in Regional Pastoral Bores

9.3.4. Laboratory analysis documentation

Laboratory documentation and analysis results of samples collected from the monitoring wells and regional bores during the reporting period are included in **Appendix E**. Groundwater sampling events relevant for this reporting period and as per the PERP requirements were undertaken in March, June, September and December 2024. In all cases, data is consistent with pre-development levels, except for cyanide levels and TDS in monitoring bore MB01.

9.3.5. Elevated cyanide levels in groundwater

Elevated cyanide levels above the laboratory's Limit of Reporting (LOR) have been observed since early 2020 in some monitoring and regional bores. The elevated cyanide levels in on-site monitoring bore MB01 are related to an incident (probable leakage of cyanide-bearing solution from the ILS and PLS process ponds) that was reported to DEM in August 2022. Detailed information and discussion are provided in **Section 11.1**.

9.4. Surface Water / Sediment

9.4.1. Environmental outcomes and compliance status

Surface water environmental outcomes and compliance status

Table 22 presents a overview of the surface water-related environmental outcomes and compliance status. The numbering of the outcome measurement criteria corresponds with the numbering in the corresponding tables in the PEPR version 4 document.

Table 22: Surface water environmental outcomes and compliance status

Aspect:	Surface water	Tenement(s):	All	Compliance status:	See below

Environmental outcome/objective

- No reduction in the quantity and quality of water for existing users during construction and operation of the mine and post mine closure.
- No reduction in the quantity and quality of water exiting the site.
- No long-term adverse effect on aquatic fauna and habitat biodiversity (including riparian vegetation) due to mine operations.
- No ongoing pollution or unsafe or unstable land left upon mine closure and in the long term.

Tenement condition
Not applicable

Outcome measurement criteria - Operations		What will be measured	Locations	Outcome achievement	Frequency
17.a	Surface water quality: monitoring during flow events measuring physiochemical parameters at permanent monitoring locations demonstrates no statistically significant difference in water quality between upstream and downstream samples	Surface water (creek) quality parameters: total metals (Al, As, Cd, Cr, Co, Fe, Pb, Mn, Hg, Zn, Cu, Ag, Se), major ions (Ca, Cl, Na), sulfate, cyanide, electrical conductivity, nitrate, thiocyanate, total dissolved solids and pH.	Two permanent monitoring locations along Bulloo creek SWUP (upstream) and SWDOWN (downstream) (**Figure 15**)	No statistically significant difference in water quality attributable to the operation measured between upstream and downstream samples collected during opportunistic sampling of periodic surface water flow events.	Opportunistically after significant creek flow events (rainfall >25 mm in 24hr period) or when stream flows at both locations
17.b	Stream flow: results of opportunistic visual and photographic assessment of restrictions within the creek to detect any flow restrictions at two permanent locations to	Stream flow: records of visual assessment of restrictions within creeks via photographic record of flow paths during flow	Two permanent monitoring locations along Bulloo creek SWUP (upstream) and SWDOWN (downstream)	Stream flow: records of visual assessment (including photographic records) of stream flow paths during and immediately after stream flow events demonstrate no restriction on flow paths, and therefore no reduction in quantity and quality of surface water exiting	Opportunistic visual assessments including photographs during and after creek flow events (rainfall >25 mm in 24hr

Aspect:	Surface water	Tenement(s):	All	Compliance status:	See below
	ensure no reduction in quantity and quality of water in the creek as a proxy for aquatic fauna and habitat biodiversity	events to detect any flow restrictions		the mine for downstream users, as a proxy for fauna & habitat biodiversity.	period) when stream flows at both locations
Outcome measurement criteria - Closure		**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**
16.1	Surface water: quality monitoring during flow events measuring physiochemical parameters at permanent monitoring locations demonstrates no statistically significant difference in water quality between upstream and downstream samples or in comparison to baseline or ANZECC guideline values	Surface water (creek) quality parameters: total metals (Al, As, Cd, Cr, Co, Fe, Pb, Mn, Hg, Zn, Cu, Ag, Se), major ions (Ca, Cl, Na), sulfate, cyanide, electrical conductivity, nitrate, thiocyanate, total dissolved solids and pH.	Two permanent monitoring locations along Bulloo creek SWUP (upstream) and SWDOWN (downstream)	Surface Water: records of water monitoring demonstrate no statistically significant difference in surface water quality as measured by comparison between upstream and downstream samples, baseline quality data and ANZECC guideline values for livestock watering indicating no reduction resulting in no adverse effect on the quality of surface water exiting the mine as a proxy for aquatic fauna and habitat biodiversity.	Opportunistically after significant creek flow events (rainfall >25 mm in 24hr period) or when stream flows at both locations
16.3	Stream flow: results of opportunistic visual and photographic assessment of restrictions within the creek to detect any flow restrictions at two permanent locations to ensure no reduction in quantity and quality of water in the creek as a proxy for aquatic fauna and habitat biodiversity	Stream flow: records of visual assessment of restrictions within creeks via photographic record of flow paths during flow events to detect any flow restrictions	Two permanent monitoring locations along Bulloo creek SWUP (upstream) and SWDOWN (downstream)	Stream flow: records of visual assessment (including photographic records) of stream flow paths during and immediately after stream flow events demonstrate no restriction on flow paths, and therefore no reduction in quantity and quality of surface water exiting the mine for downstream users, as a proxy for fauna & habitat biodiversity.	Opportunistic visual assessments including photographs during and after creek flow events (rainfall >25 mm in 24hr period) when stream flows at both locations

Outcome/objective measurement criteria summary
In 2024, there were two rainfall events with more than 25mm of rain within 24 hours, i.e. 48.5mm on 06/01/2024 and 32.5mm on 17/10/2024. During and after these events, there were no opportunities to safely access the surface water monitoring locations, due to flooding.

#	Leading indicator criteria - Operations	Summary	Compliance

Aspect:	Surface water	Tenement(s):	All	Compliance status:	See below
17.a	No statistically significant difference in water quality attributable to the operation measured between upstream and downstream samples collected during opportunistic sampling of periodic surface water flow events.		There were no opportunities to safely access the surface water monitoring locations after intense rainfall, due to flooding.		Non-Compliant
17.a	No detectable CN (total, WAD, thiocyanates)		Surface water sampling undertaken to date (as reported in previous MCR) indicate that cyanide results at the upstream and downstream locations were below the laboratory's LOR.		**Compliant**
17.b	Photographic record of flow paths during flow events to detect any flow restrictions		There were no opportunities to safely access the surface water monitoring locations after intense rainfall, due to flooding.		Non-Compliant
#	**Leading indicator criteria - Closure**		**Summary**		**Compliance**
16.1	No statistically significant difference (within 10% or less than two standard deviations) with pre-mining surface water quality or analysis within ANZECC guideline values for livestock watering		Not applicable for current status of the project.		
16.1	No detectable CN (total, WAD, thiocyanates)		Not applicable for current status of the project. Surface water sampling undertaken to date (As reported in previous MCR) indicate that cyanide results at the upstream and downstream locations were below the laboratory's LOR.		
16.3	Photographic record of flow paths during flow events to detect any flow restrictions		Not applicable for current status of the project.		
Effectiveness of existing controls There were no opportunities to safely access the surface water monitoring locations after intense rainfall due to flooding.					
Supporting report reference None					

Sediment environmental outcomes and compliance status

Table 23 presents an overview of the sediment-related environmental outcomes and compliance status. Numbering of the outcomes measurement criteria correspond with the numbering in the corresponding tables in the PEPR version 4 document.

Table 23: Sediment environmental outcomes and compliance status

Aspect:	Protection of flora and habitat due to erosion	Tenement(s):	All	Compliance status:	See below
Environmental outcome/objective • Stabilise disturbed areas and prevent sediment from leaving the site during construction and operation of the mine and post mine closure. • No long-term adverse effect on aquatic fauna and habitat biodiversity (including riparian vegetation) due to mine operations. • No ongoing pollution or unsafe or unstable land left upon mine closure and in the long term.					
Tenement condition Not applicable					

Outcome measurement criteria - Operations		What will be measured	Locations	Outcome achievement	Frequency
17	No statistically significant difference in water total suspended solids (TSS) attributable to the operation measured between upstream and downstream samples collected during opportunistic sampling of periodic surface water flow events.	Total suspended solids in surface water samples	Two permanent monitoring locations along Bulloo creek SWUP (upstream) and SWDOWN (downstream) (**Figure 15**)	No statistically significant difference in water total suspended solids (TSS) attributable to the operation measured between upstream and downstream samples collected during opportunistic sampling of periodic surface water flow events.	Opportunistically after significant creek flow events (rainfall >25 mm in 24hr period) or when stream flows at both locations
18a	Progressive rehabilitation of disturbed areas not required for operations.	-	-	Annual change-map (GIS) to indicate progressive rehabilitation.	Annual
18b	At completion of mining and processing, all disturbed areas (including waste rock stockpiles) to be contour-ripped and covered with top-soil. Creek diversion and diversion bund to remain to	-	-	Annual change-map (GIS) to indicate progressive rehabilitation.	Annual

	prevent surface water scouring disturbed and rehabilitated areas.				
Outcome measurement criteria - Closure		**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**
16.2	Sediment quality: If no creek flow detected, sampling of creek sediment will be undertaken annually to demonstrate no statistically significant difference in sediment quality parameters attributable to the operation measured between upstream and downstream samples when compared to samples collected in January 2014 (no background data available).	Sediment /soil quality parameter (if no creek flow detected) total metals (Al, As, Cd, Cr, Co, Fe, Pb, Mn, Hg, Zn, Cu, Ag, Se), major ions (Ca, Cl, Na), sulfate, cyanide, electrical conductivity, nitrate, thiocyanate, total dissolved solids and pH.	Two permanent monitoring locations along Bulloo creek SWUP (upstream) and SWDOWN (downstream) (**Figure 15**)	Sediment Quality: Records of annual sediment/soil quality sampling (undertaken when no creek flow is detected) demonstrate no statistically significant difference in quality parameters as measured between upstream and downstream creek sediment samples when compared to samples collected in January 2014, indicating no reduction in quality of surface water exiting the mine for downstream users (as a proxy for aquatic fauna and habitat biodiversity).	In lieu of rainfall, sediment collected annually.
18.1	Erosion: Monitoring of erosion conditions through visual inspections and photo documentation at monitoring locations undertaken quarterly following mine rehabilitation demonstrate erosion within rehabilitated landforms comparable to erosion on surrounding land/control sites.	Erosion: Monitoring of erosion through visual inspections, photo monitoring and measuring width (mm) and depth (mm) of any rills and gullies	Selected (19 locations) erosion monitoring points (Es) (**Figure 11)**	Erosion: Audit of erosion monitoring records, by a suitably qualified and experienced professional (to DPC satisfaction), demonstrate that erosion within rehabilitated landforms are comparable to erosion on surrounding land/control sites	Quarterly monitoring and opportunistically after significant rainfall events (>25mm in 24 hr period). Audit report completed prior to mine completion/ ML surrender.

Outcome/objective measurement criteria summary

In 2024, there were two rainfall events with more than 25mm of rain within 24 hours, i.e. 48.5mm on 06/01/2024 and 32.5mm on 17/10/2024. During and after these events, there were no opportunities to safely access the sediment monitoring locations, due to flooding.

#	Leading indicator criteria - Operations	Summary	Compliance
17	No statistically significant difference in water total suspended solids (TSS) attributable to the operation measured between upstream and downstream samples collected during opportunistic sampling of periodic surface water flow events.	Surface water sampling was not undertaken during the reporting period, as sample locations could not be accessed safely after rainfall events.	**Non-compliant**

18a	Progressive rehabilitation – Annual change maps	No annual change maps have been produced for the reporting period, as there has been no progressive rehabilitation in 2024.	**Partially compliant**
18b	At completion of mining and processing – Annual change maps	Not applicable for current status of the project.	
#	**Leading indicator criteria - Closure**	**Summary**	**Compliance**
16.2	Sediment quality: If no creek flow detected, annual sediment sampling demonstrates no statistically significant difference in quality parameters as measured between upstream and downstream creek sediment samples when compared to samples collected in January 2014	No sediment sampling has been undertaken during the reporting period.	**Partially compliant** Whilst not applicable for current status of the project, annual sediment sampling should be undertaken.
18.1	Erosion monitoring: Monitoring demonstrates waste rock dumps gullies < 300mm width and 350mm depth. Heap Leach Pad rills < 200mm width and 200mm depth. Vegetation surface cover ≥60 %	Not applicable for current status of the project.	
Effectiveness of existing controls Due to flooding, there were no opportunities to access the sediment monitoring locations after intense rainfall safely.			
Supporting report reference None			

9.4.2. Discussion

The MARP/PEPR requires that there be no statistical difference in water quality between upstream and downstream sites, with samples collected during opportunistic sampling of periodic surface flow events. **Table 24** shows the days in 2024 with recorded rainfall. Rainfall events above 10mm were observed on 6 January, 12 January, 16 January, 29 February, 17 March, 7 July, 17 October, 23 November and 24 November.

Table 24: 2024 days with recorded rainfall

Day	Rainfall (mm)	Day	Rainfall (mm)
January		**August**	
6/01/2024	48.5	4/08/2024	3.1
7/01/2024	3	5/08/2024	1.5
12/01/2024	13.5	16/08/2024	4
15/01/2024	0.3	24/08/2024	1
16/01/2024	11	**September**	
19/01/2024	1.7	19/09/2024	0.5
February		24/09/2024	3
29/02/2024	12	25/09/2024	1.3
March		28/09/2024	0.4
1/03/2024	8	**October**	
17/03/2024	14.5	16/10/2024	1.5
30/03/2024	4	17/10/2024	32.5
31/03/2024	8.5	31/10/2024	0.4
April		**November**	
1/04/2024	3.5	11/11/2024	4.6
May		23/11/2024	15
9/05/2024	4.7	24/11/2024	12.5
30/05/2024	5.8	26/11/2024	0.5
31/05/2024	7	**December**	
June		2/12/2024	4.3
15/06/2024	3	7/12/2024	0.3
29/06/2024	4.9		
July			
6/07/2024	5		
7/07/2024	17.5		
11/07/2024	1.2		
14/07/2024	0.4		
15/07/2024	2		

However, due to the cumulative amount of rainfall from preceding dates and the extent of flooding, the sampling sites could not be accessed safely after these rainfall events.

9.4.3. Surface Water Sampling Results

No surface water sampling was undertaken in 2024, as the sampling sites could not be accessed safely.

9.5. Soil/Land/Rehabilitation

9.5.1. Environmental outcomes and compliance status

Table 25 presents an overview of the soil/land/rehabilitation-related environmental outcomes and compliance status. The numbering of the outcome measurement criteria corresponds with the numbering in the corresponding tables in the PEPR version 4 document.

Table 25: Soil/land/rehabilitation environmental outcomes and compliance status

Aspect:	Soil/Land/Rehabilitation	Tenement(s):	All	Compliance status:	See below

Environmental outcome/objective

- No long-term soil contamination during construction and operation of the mine and post mine closure.
- All fuel and liquid chemical storage areas are bunded and lined in accordance with current EPA (South Australia) guidelines.
- Take responsibility for the constructed waste dump until such time that it can be demonstrated that the waste is in a form that is safe, non-polluting and stable in the long term, and will not cause any impacts to the surrounding environment or create potential legacy issue for future generations.
- Ensure that all topsoil is removed and stockpiled prior to carrying out any mining or associated activities and minimise the mixing and erosion of topsoil and overburden stockpiles.
- Regularly keep the pastoral lessee fully advised of their program of activities, particularly in regard to the impact on the land and rehabilitation.

Tenement condition
Not applicable

Outcome measurement criteria - Operations		What will be measured	Locations	Outcome achievement	Frequency
21a	Quarterly sampling of groundwater monitoring bores to include cyanide.	Quarterly sampling of groundwater monitoring bores to include cyanide.	See **Section 9.3**	No cyanide in groundwater	Quarterly
21b	A mandatory site induction will take place for all persons entering the site, which will include environmental protection strategies and spillage incident procedures.	-	-	Protection of environment	As required
21c	All areas where chemicals, fuels and oils are stored and used to be bunded in accordance with relevant Standards.	-	-	-	Ongoing
20a	Acid generation: The acid-forming potential of the rock has been assessed to be low, however Type I rock (very low potential) will be used in exposed	Opportunistic sampling of periodic surface water to include pH.	-	-	Opportunistic

Aspect:	Soil/Land/Rehabilitation	Tenement(s):	All	Compliance status:	See below
	areas. Type II material will be permanently encapsulated with Type I rock. Waste dumps to be formed with slope no greater than 150. Topsoil to be placed over dumps. Contour- ripping to reduce water erosion and encourage re-seeding.				
23	Protection of topsoil: Depth of topsoil to be determined in advance of clearing areas. All topsoil to be stockpiled separately from sub-strata. Topsoil stockpiles to be covered with cleared vegetation in windrows no more than 2 m in height (to reduce compaction). Records to be maintained of topsoil removal (area, depth, quantity) and placement (location, depth of windrow).	-	-	-	Ongoing
24	Consultation with affected pastoral lessees to be at least quarterly with all meetings minuted and correspondence documented.	-	-	-	Quarterly
Outcome measurement criteria - Closure		**What will be measured**	**Locations**	**Outcome achievement**	**Frequency**
21.1	Reportable Spills: audit of records of any reportable (>20 L) spill of fuel, oil or hazardous chemical outside of its containment area demonstrate all reportable spills have been reported to DPC and EPA within 24 hrs, immediate response to spill clean-up (< 48 hrs) and validation in accordance with EPA and NEPM Guidelines, to ensure no risk to human health or the environment	Appropriateness of management of any reportable (>20 L) fuel, oil or hazardous chemical (including CN) spills through an audit of spill management records against EPA and NEPM Guidelines	Not applicable- audit of spill records and spill response /remediation actions	Reportable Spills: audit of any reportable (>20 L) fuel, oil or hazardous chemical spill records, demonstrate that the spills have been reported to DPC and EPA within 24 hrs and immediately remediated (clean-up (< 48 hrs) in accordance with EPA and NEPM Guidelines Audit will be undertaken by suitably qualified and experienced professional	Once, prior to ML surrender application

Aspect:	Soil/Land/Rehabilitation	Tenement(s):	All	Compliance status:	See below
				(to DPC satisfaction) and provided to DPC in Mine Closure Report prior to ML surrender application	
21.2	Contaminated land assessment, once at the completion of operations assessing soil quality at each mine domain with results in compliance with applicable soil quality criteria.	Contaminated land assessment Soil quality assessment including analysis of samples for petroleum hydrocarbons, pesticides, metals, cyanide, major ions, sulfates, pH.	Soil sampling locations at each domain (55 locations in total) (**Figure 16**)	Contaminated land assessment Soil quality (including CN) assessment meets applicable soil quality criteria mg/kg (no exceedance of applicable criteria that pose a health or environmental risk) to achieve no unacceptable long-term contamination of land and soils resulting from construction, operations and post mine closure	Once at the completion of operations after removal of infrastructure, plant and equipment
24.1	Communication: records of regular communication with Pastoral Lessees to demonstrate the pastoralists are informed on activities and agree on rehabilitation outcomes and strategies for each mine domain, and in accordance with previous discussions/agreements.	Communication Records of meetings with Pastoral Lessees to inform on activities. Evidence of the following: Pastoral Lessees acceptance of mine completion outcomes and strategies Mechanism/s for transferring post mine closure liability for ongoing fence and DPC signage maintenance	Not applicable	Communication Records/evidence of regular communication with the Pastoralist Lessees demonstrating the that pastoralists have been informed the pastoralists of mining and rehabilitation activities and/rehabilitation plans for each mine domain	As a minimum annual meeting, or immediately in the event of a 'reportable incident' impacting land (Mining Regulation 2011-REG 87) or changes to operational and rehabilitation plans
Outcome/objective measurement criteria summary Overall, appropriate actions were undertaken during 2024 to achieve the operational environmental outcomes/objectives.					

Aspect:	Soil/Land/Rehabilitation	Tenement(s):	All	Compliance status:	See below
#	**Leading indicator criteria - Operations**		**Summary**		**Compliance**
21a	No incidence of cyanide detected in monitoring bores.		See **Section 9.3**		**Non-compliant**
21b	All spillage incidents reported, investigated and corrective actions completed to prevent recurrence.		No reportable spillage incidents occurred during the reporting period.		**Compliant**
21c	Post operation soil contamination survey and consequent remediation work to leave soil uncontaminated.		Contamination matters to be addressed with final site remediation as described in approved PEPR Review 4.		Not applicable for current status of the project.
20a	WRD stability and acid generation: Formed waste dump final slope angle to be no greater than 15°.		WRDs have been established with a slope angle no greater than 15°. Negligible potential for significant acid generation from either WRD due to absence of significant volumes of acid generating waste material (as reported in approved PEPR Review 4)		**Compliant**
20a	WRD stability and acid generation: Runoff water samples collected during opportunistic sampling of periodic surface water flow events to be greater than pH 5.		No runoff water samples were collected in 2024.		**Compliant**
23	Protection of topsoil: Topsoil stockpile height no higher than 2m. Annual stockpile survey to indicate no significant decrease in volume, taking into account natural compaction.		Topsoil stockpiles comply. Substantial previous usage of piles for top soiling of the two WRDs. Updated stockpile survey undertaken Sept 2017. Main future requirement is for cover of HLP for which adequate cover supplies are available. See **Section 22.1.**		**Partially compliant**
23	Annual topsoil stockpile survey to indicate no significant decrease in topsoil volume, taking into account natural compaction.		Annual survey has not been undertaken during the reporting period. Visual observations indicate no change in stockpiled volume.		**Partially compliant**
24	Meeting minutes submitted to DEM		Landholders have been engaged during each material change notification processes. Informal discussions held with pastoralists, agreements once reached to be finalised in writing regarding fencing and other final closure conditions.		**Partially compliant** Regular informal landholder meetings held with Michael Parker (Bindarrah) and Kim Riggs (Bulloo Creek). No formal minutes have been prepared.
#	**Leading indicator criteria - Closure**		**Summary**		**Compliance**
21.1	Reportable Spills: Audit program Criteria in NEPM and EPA guidelines		Not applicable for current status of the project.		

Aspect:	Soil/Land/Rehabilitation	Tenement(s):	All	Compliance status:	See below
21.2	Contaminated land assessment: Criteria in NEPM and EPA guidelines		Not applicable for current status of the project.		
24.1	Communication: Evidence of the Pastoralists' acceptance of rehabilitation plans/strategies and closure criteria provided to DEM prior to ML surrender application		Not applicable for current status of the project.		
Effectiveness of existing controls Overall, appropriate actions were undertaken during 2024 to achieve the operational environmental outcomes/objectives.					
Supporting report reference None					

9.6. Air Quality

The current land usage of the site and its surrounds is low-intensity grazing and mineral exploration. Due to the distance from sensitive receivers to project infrastructure and the relatively small size of the mine there are minimal impacts from dust.

While dust sampling was in place for the duration of previous mining operations (2010-2012), there have been no dust issues with operations or community complaints. Dust emission levels have always been compliant with approval conditions; therefore, the recommencement of regular dust monitoring was not considered necessary with the short recommencement of mining.

Any valid air quality complaint will be investigated, and dust monitoring will be conducted where required.

9.7. Summary of Compliance with Mine Operations and Closure Outcomes

Table 26 and **Table 27** address the criteria presented in the current approved MARP/PEPR (i.e. mainly operations, closure and rehabilitation matters).

Table 26: Compliance with Operational Outcomes

Environmental risk	Aspect	Outcome and Measurement criteria	Works Performed/actions summary and evidence	Determination of Compliance
Fauna	Clearance of vegetation to divert the creek is covered by the SEB agreement.	Area cleared as maximum Fencing of ML Refer previous comments Assistance to be provided in accordance with agreement	Original estimate (as presented in initial approved MARP) was that a total of approx 214 ha of vegetation would be cleared for the establishment and operation of the White Dam Gold Mine. Actual planned clearance area was estimated to be approx. 148.26ha due to revision to site plans. Under the Native Vegetation Act 1991 (NV Act), a Significant Environmental Benefit (SEB) is required where native vegetation is to be cleared as part of a mining development. The SEB strategies proposed in the NVMP to be implemented at the site and surrounds are as follows: a) Exclusion of some of the grazing pressure from stock by erecting fences. Outcome: mine site has been fully fenced previously b) Control of pest plants and herbivores throughout the lease areas and grazing enclosures. Outcome: controls implemented (refer previous comments) a) Financial and technical assistance for the management of pest species in the Bimbowrie Conservation Park. Outcome: Financial assistance has previously been provided in full. Report on use of these SEB funds has previously been received from park manager (Ian Falkenberg). Implementation of the approved SEB strategies has been carried out in accordance with the agreement.	**Compliant** Area to be cleared significantly reduced (132.4ha) Fencing compliant for operational phase. Fencing requirements for closure have been described in the PEPR Review 4. Controls compliant
Groundwater and Surface Water	Flora protection	No statistically significant difference in Biodiversity Index between 'control' sites	To be subject to detailed assessment on the existing creek diversion.	**Compliant**

Environmental risk	Aspect	Outcome and Measurement criteria	Works Performed/actions summary and evidence	Determination of Compliance
	Fauna disturbance	upstream and downstream of creek diversion.		
	Protection of surface water courses	No statistically significant difference in water quality attributable to the operation measured between upstream and downstream samples collected during opportunistic sampling of periodic surface water flow events.	There were no opportunities to safely access the monitoring locations after intense rainfall, due to flooding.	**Non-Compliant**
		Photographic record of flow paths during flow events to detect any flow restrictions.	There were no opportunities to safely access the monitoring locations after intense rainfall, due to flooding.	
	Protection of stock water supply	Leading indicator: Drawdown at 2 km from MPL to be no more than 5 m (from pre-mining standing level) after 1 year of pumping and no more than 7m (from pre-mining standing level) after 2 years of pumping. The Pastoralist has agreed that if the salinity of the water in Gum Bore reaches 3,000 TDS, his use of the water will be adversely affected. Thus, the trigger point (criterion) for the actions listed in the previous column will be reached at 3,000 TDS.	Refer **Section 9.3**	**Compliant** No regional bores affected. Gum Bore indicators all acceptable with no evidence of adverse impact
Erosion	Protection of flora and habitat due to erosion	Annual change-map (GIS) to indicate progressive rehabilitation.	Change map to be maintained	**Partial Compliance** Change map to be provided in next annual report
		No statistically significant difference in water total suspended solids (TSS) attributable to the operation measured between upstream and downstream samples collected during opportunistic sampling of periodic surface water flow events.	There were no opportunities to safely access the monitoring locations after intense rainfall, due to flooding.	**Partial Compliant**
		No statistically significant difference in dust deposition between Mining Lease gauges	Refer **Section 9.6**	**Compliant**. Dust monitoring ceased due to

Environmental risk	Aspect	Outcome and Measurement criteria	Works Performed/actions summary and evidence	Determination of Compliance
		and control gauges.		completion of mining. Dust deposition minimal based on visual assessment.
Cyanide	Injury to flora and fauna	No change in biodiversity index.	Refer **Section 9.2**	**Compliant** No fauna /flora incidents.
	Protection of soil and water	Cyanide has been detected in monitoring bores.	Refer **Section 9.3** regarding CN monitoring outcomes.	**Non-compliant.** Elevated cyanide concentrations have been detected in the monitoring bores following the reportable incident.
	WRD stability and Acid generation	Formed waste dump final slope angle to be no greater than 15°.	WRDs established to have final slope angle no greater than 15°	**Compliant** Negligible potential for significant acid generation from either WRD due to absence of significant volumes of acid generating waste material (as reported in approved PEPR Review 4)
		Runoff water samples collected during opportunistic sampling of periodic surface water flow events, with pH to be greater than pH 5.	No runoff water samples were able to be safely collected in period.	**N**on-**Compliant**
Waste Dumps	Protection of topsoil	Topsoil material stockpile height no higher than 2m. Annual stockpile survey to indicate no significant decrease in volume, taking into account natural compaction.	Topsoil stockpiles comply. Substantial previous usage of piles for top soiling of the two WRDs. Updated stockpile survey undertaken Sept 2017. Main future requirement is for cover of HLP for which adequate cover supplies are available.	**Compliant**
Land use and soil quality	Protection of soil and water	All spillage incidents reported, investigated and corrective actions completed to prevent recurrence.	No reported incidents in 2024.	**Compliant**
		Post operation soil contamination survey and consequent remediation work to leave soil uncontaminated.	Previous bioremediation sampling reported in compliance report.	**Not applicable** No further sampling conducted apart from focused sampling associated with reported incident. Contamination

Environmental risk	Aspect	Outcome and Measurement criteria	Works Performed/actions summary and evidence	Determination of Compliance
				matters to be addressed with final site remediation as described in approved PEPR Review 4.
		Meeting minutes submitted to DSD.	Landholders have been engaged during each material change notification processes. Informal discussions held with pastoralists, agreements once reached to be finalised in writing regarding fencing and other final closure conditions.	**Not applicable.** Regular informal landholder meetings held with Michael Parker (Bindarrah) and Kim Riggs (Bulloo Creek)

Table 27: Compliance with Mine Closure and Rehabilitation Outcomes

Closure Objective/Outcome for domains	Outcome Measurement Criteria	Works performed/actions summary	Evidence - Determination of compliance to date	Forward work plan for compliance (next reporting period)
Mine Pits				
Render safe for stock post-mining	Test to demonstrate compaction that achieves a dry density ratio of at least 95% relative to Standard Compaction determined by AS 1289 5.1.1.	Compaction tests show that the bunding material compaction undertaken during previous diversion bank construction is not to specification. Additional bund consolidation work has occurred and will need to be assessed during future closure works.	**Not applicable** Suitable material compaction strategies to meet this compliance objective during future closure works. **Not applicable**. The results of associated compaction work will be reported to DPC once undertaken.	Applicable to closure phase of the project.
Render safe for humans	Fencing completed to a standard acceptable to the pastoral lease holder and PIRSA (now DPC).	Current fencing of lease areas is to be retained as per agreement with pastoral leaseholder.	-	Final fence condition to be confirmed with leaseholder and Pastoral Board following completion of mining. Confirming with pastoralist is to be arranged at that stage.
Leach pad, waste rock dumps				
Physical stability	Leach pad and waste dumps demonstrated to be stable after rehabilitation via annual photographic record. (Detailed compliance criteria are developed in the approved PEPR Review 4)	A monitoring program including photographic evidence has continued to be carried out for period (on quarterly basis and will be ongoing once reshaping of all landforms is completed and compliance criteria (as confirmed in final PEPR) are in place.	**Not applicable.** The current growth of vegetation is acceptable given the prevailing drought conditions. There is confidence that full rehabilitation is achievable (as is defined in approved PEPR Review 4).	Continued monitoring of vegetation cover on a quarterly basis, focusing on WRDs.
Non-polluting	Leach pad runoff weak acid-dissociable (WAD) cyanide level to be less than 0.2 mg/l.	Note the leach pad is not yet under rehabilitation – to be assessed once irrigating with CN solution is complete.	**Not applicable**. Compliance limits are the subject of further assessment. This has been reported in the approved PEPR Review 4.	Not applicable during this period. Works to commence in later period pending completion of mining and processing

Closure Objective/Outcome for domains	Outcome Measurement Criteria	Works performed/actions summary	Evidence - Determination of compliance to date	Forward work plan for compliance (next reporting period)
	Leach pad runoff pH to be neutral before walk away.	Not applicable to current stage of project	**Not applicable**. Compliance and means to achieve same are the subject of assessment and reporting in the approved PEPR Review 4.	As above
	Survey to prove slope angle 15° or less.	A complete survey of WRDs batter slopes is to be completed	**Not applicable**. Some batters of WRDs may not comply with this requirement. Survey will be conducted once all batter slopes for all landforms (incl. HLP) have been completed.	As above.
Plant and equipment				
Remove plant for re-use elsewhere	Soil samples to be tested for cyanide residue. Cyanide concentration to be less than level of detection.	Baseline cyanide test work conducted and cyanide levels recorded for future reference on mine closure and plant removal. Not applicable at this stage.	**Not applicable** Will be completed in the next reporting period.	Not applicable during this period. Works to commence in later period pending completion of processing activity and plant decommissioning.
Roads				
Return to unimproved pastoral use.	Document all agreed actions with lessee and copy to PIRSA (DSD).	Discussions have been held with pastoralist and rehabilitation measures agreed - part of the access road to the camp area will be retained as the pastoralist has stock yards in this area. Agreements with pastoralist will be confirmed in final Mine Completion Plan.	**Not applicable** No rehabilitation of unused tracks in ML during reporting period. Road rehabilitation works to occur during operations only where roads are no longer required and not required by pastoralist.	No further road rehabilitation likely to be undertaken in next reporting period as roads in MLs and MPLs are used for bore field access or monitoring activities
	Measure biodiversity values on site and at a control site. Success is achieved when biodiversity value on site are no different to biodiversity values in control areas	Reference sites subject to active visual monitoring are described in the approved PEPR Review 4. Comparisons with rehabilitated landforms in terms of cover and biodiversity value not yet practical at this time.	**Compliant** Active surveillance monitoring undertaken. Detailed site evaluation of control sites planned once approved PEPR Review 4 compliance criteria have been confirmed.	Active monitoring of landforms that have been rehabilitated in past will continue. No significant rehabilitation works planned for next reporting period.

Closure Objective/Outcome for domains	Outcome Measurement Criteria	Works performed/actions summary	Evidence - Determination of compliance to date	Forward work plan for compliance (next reporting period)
Remove surface water obstructions	Sample water upstream and downstream of site. No difference in TDS between samples taken upstream and downstream.	There were no opportunities to safely access the monitoring locations after intense rainfall, due to flooding.	**Non-Compliant** There were no opportunities to safely access the monitoring locations after intense rainfall, due to flooding. .	Active monitoring to continue.
Buildings				
Return to unimproved pastoral use	Document all agreed actions with lessee and include in Annual mine and rehabilitation report to DSD	Camp has been decommissioned with lease accommodation now provided at Bindarrah Station.	**Compliant** Camp decommissioning will be undertaken upon completion of mining operations. Full rehabilitation of site will be undertaken following operational closure.	Not applicable to next reporting period.
Bore field				
Return to unimproved pastoral use	Document all agreed actions with lessee and include in Annual mine and rehabilitation report to DSD	No further agreements were reached during the reporting period. All actions described in this report. Bore field now under active use with recommencement of mining.	**Not applicable**	Not applicable to next reporting period.
All disturbed areas except voids				
Return to unimproved pastoral use	Measure biodiversity values on site and at a control site. No difference between biodiversity values on site and at control sites. Monitor abundance and diversity of native species and non-native species. No difference between abundance and diversity values on site and at control sites	Monitoring or measurement of Biodiversity values were performed on the mine site previously. Surveillance monitoring of control sites continued. Final detailed compliance conditions have been presented in approved PEPR Review 4 submitted to DEM.	**Compliant**. Visual monitoring at control sites has been ongoing. Detailed surveys proposed once Closure compliance criteria (as presented in approved PEPR Review 4) have been confirmed and final profiling of rehabilitated landforms have been completed.	Monitoring to continue as a surveillance activity. Detailed surveys not planned for next reporting period.

10. Compliance with Non-Outcome-Based Mine Lease Conditions

In accordance with the MG3 guidelines, **Table 28** indicates compliance with non-outcome-based lease conditions.

Table 28: Compliance with Non-Outcome-Based Lease Conditions

Lease Conditions ML 6275 and ML 6395	Compliance Status	Evidence	Forward Work Plan (if non- compliant or unable to demonstrate compliance)
Mining operations authorised by this Lease must only be for the recovery of gold in accordance with the mining lease proposal document dated 18 November 2010 and subsequent response documents dated 22 March 2011 and 16 May 2011	Compliant	Only gold recovery undertaken	n/a
The Lessee must not commence or undertake any mining operations on the land until a Mining and Rehabilitation Program (MARP) has been approved by the Minister and a bond has been paid in accordance with Section 62 of the Mining Act, 1971.	Compliant	MARP (now PEPR) prepared and addresses both tenements	n/a
The Lessee must prepare a MARP that complies with the requirements of guidelines approved by the Director of Mines and include criteria that are developed in consultation with relevant stakeholders.	Compliant	MARP (PEPR) approved with criteria suitably developed	n/a
The criteria included in the MARP must demonstrate clear and unambiguous achievement of the environmental and mine closure outcomes specified in the second Schedule by: • Including the specific parameters to be measured and monitored by the Lessee • Specifying the locations where the parameters will be measured, or how these locations will be determined • Clearly stating the acceptable values for demonstrating achievement of the outcome, with consideration of any inherent errors of measurement • Specifying the frequency of monitoring by the Lessee • Identifying what background or control data are to be used or specify how it will be acquired (if necessary).	Compliant	As above	n/a
The criteria must insofar as is reasonably practicable and appropriate be expressed in quantitative terms (rather than qualitative terms).	Compliant	As above	n/a
The Lessee must implement and comply with the approved MARP.	Compliant	Evidence presented in this	n/a

Lease Conditions ML 6275 and ML 6395	Compliance Status	Evidence	Forward Work Plan (if non- compliant or unable to demonstrate compliance)
		Compliance Report	
The Lessee must review the MARP on request of the Director of Mines within a time specified in the request and submit the revised MARP for approval to the Director of Mines	Compliant	Reviews previously undertaken at request of DPC	n/a
The Lessee agrees to the approved MARP being made available for public inspection.	Compliant	Is available	n/a
The Lessee must provide information as requested by and to the satisfaction of the Director of Mines, on the Lessee's capability and competence to comply with the requirements of the Mining Act, 1971, the conditions of this lease, and the MARP in accordance with approved guidelines or as otherwise specified by the Director of Mines.	Compliant	Undertaken as requested	n/a
The Lessee must provide to the Director of Mines a Mining and Rehabilitation Compliance Report (MARCR) on operations carried out on the Lease and compliance with the approved MARP. The MARCR must be submitted every year, within 2 months after the anniversary of the date the Lease was granted, or at some other time agreed with the Director of Mines in accordance with guidelines approved by the Director of Mines. The Lessee agrees to the MARCR being made available for public inspection.	Compliant	Undertaken as required at intervals agreed to with DPC	n/a
The Lessee must, if requested by the Director of Mines, undertake an independent audit of achievement of the environmental outcomes in the MARP, by an independent expert approved by the Director of Mines and submit the audit to the Director of Mines. The Lessee agrees to the audit being made available for public inspection. The Lessee must meet all the charges and costs in undertaking the independent audit.	Compliant	Undertaken when it has been requested by DPC	n/a
At least 3 months prior to Lease relinquishment or expiry, the Lessee must provide to the Minister a Mine Completion Report prepared in consultation with the landowner and in accordance with guidelines approved by the Director of	Not applicable at this stage	PEPR Review 4 has been approved by DEM	n/a

Lease Conditions ML 6275 and ML 6395	Compliance Status	Evidence	Forward Work Plan (if non- compliant or unable to demonstrate compliance)
Mines, which demonstrates achievement of the closure criteria as specified in the current MARP.		in September 2019. Lease relinquishment unlikely in 2024	
The Lessee must, prior to commencing operations under this Lease and for the duration of the lease maintain public liability insurance to cover all operations under the Lease (including sudden and accidental pollution) in the name of the Lessee for a sum not less than $50 million or such greater sum as specified by the Director of Mines and make such amendments to the terms and conditions of the insurance as the Director of Mines may require. A copy of the cover note of certificate of currency for the insurance must be provided to the Director of Mines upon request. If requested by the Director of Mines, the Lessee must engage an independent and reputable risk assessor to prepare a risk assessment report detailing the public liability risks arising out of the conduct of operations on the lease and recommending the level of amount of public liability cover (in respect of any one occurrence) that should be effected and maintained by the Lessee. In preparing the risk assessment report, the assessor must consult with the landowner and the Director of Mines. In specifying the level of insurance required, the Director of Mines accepts no liability for the completeness, adequacy of the sum insured, the limit of liability, the scoped coverage, the conditions or exclusions of the insurance in respect of how the Lessee may or may not respond to any loss, damage or liability.	**Compliant**	Insurance and exploration and mining activities to the value of $50 million is currently covered by Public Liability insurances ($20 million PL + $30 million excess PL)	n/a
The Lessee must report any situation where the Lessee has failed to achieve an outcome specified in the MARP (as measured according to criteria adopted to measure that outcome) to the Director of Mines. A verbal notification must be provided within 1 business day after the Lessee becomes aware of the non-compliance. A written report must be provided within 3 months or such time period as approved by the Director of Mines.	Compliant	All incidents have been reported to DSD and EPA where required (addressed in all MARPs to date)	n/a

Lease Conditions ML 6275 and ML 6395	Compliance Status	Evidence	Forward Work Plan (if non- compliant or unable to demonstrate compliance)
In requesting a review of the bond required under the Mining Act, 1971 the Minister may request that written quotes from an independent third party approved by the Minister are obtained by the Lessee for the cost of rehabilitating the site to the requirements specified in the approved MARP. The Lessee must meet all the charges and costs in obtaining and maintaining the Bond.	Not applicable	No request received	n/a

11. Rectification of Non-Compliances

11.1. Summary of non-compliances

Table 29 presents a summary of the non-compliances against the environmental outcome/objective criteria.

Table 29: Summary of Non-Compliances against Environmental Outcome/Objective Criteria

Aspect of Environment	Non-Compliance	Status
Groundwater	Detectable cyanides in bores	Addressed in 2022/2024
Surface water	No sampling after rainfall events	See Section 11.3
	No photographic record of flow paths	See Section 11.4
Sediment/ Erosion	No surface water sampling or analysis for TSS	See Section 11.5
	No annual change maps	See Section 11.6

11.2. Groundwater – Detectable cyanides in bores

11.2.1. Summary of non-compliance

Date of the incident	Early 2022	Date the incident was reported	22 August 2022
What environmental outcome/objective or tenement condition was breached?			
Cyanide concentrations above the laboratory's limit of reporting (LOR) were observed in on-site groundwater monitoring bores			
State the cause of the non-compliance			
1. Probable leakage of cyanide-bearing solution from the ILS and/or PLS process pond 2. Cross-contamination during groundwater sampling			
Detail any actions taken or yet to be taken to rectify the non-compliance and to prevent the recurrence of any such noncompliance.			
1. Incident investigation and repairs to ILS and PLS pond liners 2. Review of the site's groundwater sampling procedures by an independent consultant			

11.2.2. Additional information

Incident investigation and repairs to ILS and PLS pond liners

In August 2022, GBM reported in accordance with the requirements of the *Mining Regulations 2020,* an incident related to the probable leakage of cyanide-bearing solution from the ILS and/or PLS process pond and the occurrence of cyanide levels above the LOR in nearby monitoring bores.

GBM immediately initiated a detailed incident investigation and implemented corrective actions, including repairs to the ILs and PLs pond liners. Details of the reportable incident and corrective actions are provided in **Appendix I**.

Steps undertaken to prevent a reoccurrence, which were undertaken by the end of 2023, included the following:

- Work was progressed to drain the PLS pond to clean out sludge and carbon to enable a thorough inspection of the liner and clay base; this work was still in progress at the end of the year.
- Inspection of the south side of the W-drain, which feeds into the PLS pond, as well as associated connections to the heap leach drainage system, was undertaken. A number of small holes in the HDPE liner were located and have been repaired.
- Groundwater sampling of MB01, MB03 and MB04 continued on at least a weekly basis for internally analysed samples and a monthly basis for external samples.
- Quarterly groundwater sampling, as required by the PEPR, continued.
- Ongoing cleaning out of sludge and solids from the PLS pond. PLS pond remains off-line, in accordance with the notice issued by DEM.
- Drainage and inspection of the bottom of the ILS pond for leaks were completed, and necessary repairs were undertaken. ILS pond is back in service.

Work completed in 2024 included:

- All soil/solids on top of the liner in the PLS Pond were mechanically removed using an excavator, as using a vacuum truck was not efficient. The solids were put on top of the heap leach.
- Repairs started on the PLS Liner, where the liner had separated from the pond wall. The liner was lifter back up on the wall and secured in overlapping channels and anchored on the top. Further repairs and welding of the liner will be undertaken in 2025 to allow the pond to be added back into the circuit.

Progress reports, including quarterly and other monitoring results, were forwarded to DEM on a regular basis. A final investigation report to close out the incident will be provided upon completion of the corrective actions and implemented monitoring programs.

Cyanide levels in groundwater bores

A groundwater-related incident occurred during 2022, as discussed in **Section 11.2**.

Table 21 and **Figure 23** to **Figure 25** show the impact of the reportable incident (i.e. leak in the ILS pond liner and associated seepage of cyanide-bearing solution at a concentration of approximately 20ppm for WAD cyanide into underlying lithology) on cyanide levels in the groundwater bores.

A summary of the cyanide concentrations and trends is as follows:

- **MB01**: This bore is located adjacent to the ponds at WDGM.

- Groundwater in this well has been impacted by the 2022 cyanide spill, with concentrations of total, free and WAD cyanide above the LOR of 0.0004 mg/L observed since March 2022.
- Cyanide concentrations in MB01 fluctuate but remain high since September 2022, with total cyanide concentrations not displaying an overarching increasing trend but free cyanide and WAD cyanide concentrations seemingly increasing.

- **MB02, MB03, MB04, MB06 and MB07**: These bores are located within or just outside the MLs, at a significant distance from the ponds/MB01.
  - Total cyanide levels above the LOR were observed at some sampling events between September 2022 and May 2023. Free cyanide concentrations have remained below the LOR of 0.004 mg/L. WAD cyanide concentrations above the LOR have been observed at some sampling events in bores MB02 and MB03.
  - A discernible trend in these cyanide levels is not evident. Given the distance between the source (i.e. leak from the pond) and these bores (MB02: ±2.7 km to the north-west, MB03: ±1.6 kms to the south-west, MB06: ±1.9kms to the west and MB07: ±4.6 kms to the south-west), it is unlikely that the cyanide levels observed between September 2022 and May 2023 are due to the migration of cyanide-contaminated groundwater from underneath the ponds. The hypothesis was that these levels may be due to some cross-contamination during sampling or other unknown reasons (e.g. laboratory analysis related). This was further investigated and closed out in 2023, as reported in the 2023 MARCR.
  - Cyanide concentrations are below or at the LOR of 0.004 mg/L since July 2023.
- **RB04 (Larry Mack), RB08 (Bullo Creek Station), RB12 (Cutana Bore)** and **Gum Bore:** These pastoral bores are located outside the MLs, at very large distances from the ponds/MB01 (e.g. RB04: ±11.5 km to the west, RB08: ±11.2 kms to the west).
  - Total cyanide levels above the LOR were observed during some sampling events between September 2022 and May 2023. Free cyanide concentrations have remained below the LOR of 0.004 mg/L. WAD cyanide concentrations above the LOR have been observed at some sampling events in bore RB04 only.
  - A discernible trend in these cyanide levels is not evident. Given the distance between the source (i.e. leak from the pond) and these bores, it is unlikely that the cyanide levels observed between September 2022 and May 2023 are due to the migration of cyanide-contaminated groundwater from underneath the ponds. The current hypothesis is that these levels may be due to some cross-contamination during sampling or other unknown reasons (e.g. laboratory analysis related). This was further investigated and closed out in 2023, as reported in the 2023 MARCR.
  - Cyanide concentrations are below the LOR of 0.004 mg/L since July 2023.

As noted by WMV Environmental in a 2016 report '*White Dam Gold Mine: Groundwater Impact Assessment for Mine Closure*' (which forms Appendix B of the PEPR: '*Groundwater on the White Dam site occurs both within a fractured bedrock aquifer system, and alluvial sediments (that are typically intersected by pastoral bores). The interconnectivity of the Proterozoic-aged fractured metamorphic rocks is influenced by the presence of several faults at, and in the vicinity of, White Dam and by difference in rock competency and fracturing across these faults. The bedrock aquifer*

at WDGM is not hydraulically connected with the groundwater in the alluvial sediments that are intercepted by some pastoral bores.'

The relatively low hydraulic connectivity at the White Dam site serves to restrict the flow of groundwater over significant distances.

Table 30: Groundwater Cyanide Concentrations (mg/L)

Date	MB01	MB02	MB03	MB04	MB06	MB07	RB04	RB08	RB12	GUM Bore
10/03/2020										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-
21/10/2020										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-
7/12/2020										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-
17/03/2021										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	-
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004	-
14/06/2021										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-
22/09/2021										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
21/12/2021										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-

Date	MB01	MB02	MB03	MB04	MB06	MB07	RB04	RB08	RB12	GUM Bore
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
15/03/2022										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	**0.19**	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
21/06/2022										
Free Cyanide (mg/L)	**0.004**	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	**0.18**	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	**0.014**	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
23/06/2022										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
13/09/2022										
Free Cyanide (mg/L)	**0.074**	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	**1.2**	**0.062**	-	<0.004	**0.1**	**0.011**	**0.12**	**0.015**	-	-
WAD Cyanide (mg/L)	**0.33**	**0.021**	-	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
15/11/2022										
Free Cyanide (mg/L)	<0.004	-	<0.004	-	<0.004	-	<0.004	<0.004	<0.004	-
Total Cyanide (mg/L)	**0.7**	-	<0.004	-	**0.019**	-	**0.005**	<0.004	<0.004	-
WAD Cyanide (mg/L)	**0.015**	-	<0.004	-	<0.004	-	<0.004	<0.004	<0.004	-
15/12/2022										
Free Cyanide (mg/L)	**0.019**	-	<0.004	-	-	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	**1.1**	-	**0.029**	-	-	**0.046**	**0.02**	**0.009**	-	-
WAD Cyanide (mg/L)	**0.24**	-	<0.004	-	-	<0.004	<0.004	<0.004	-	-
15/02/2023										

Date	MB01	MB02	MB03	MB04	MB06	MB07	RB04	RB08	RB12	GUM Bore
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	-	-	<0.004	-	<0.004	-	-
Total Cyanide (mg/L)	**0.73**	**0.007**	<0.004	-	-	<0.004	<0.004	**0.022**	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	-	-	<0.004	-	<0.004	-	-
27/03/2023										
Free Cyanide (mg/L)	<0.004	<0.004	<0.004	-	-	<0.004	-	<0.004	-	-
Total Cyanide (mg/L)	**0.86**	**0.018**	<0.004	-	**0.08**	<0.004	**0.017**	**0.022**	-	-
WAD Cyanide (mg/L)	<0.004	<0.004	<0.004	-	-	<0.004	-	**0.031**	-	-
16/05/2023										
Free Cyanide (mg/L)	**0.015**	-	<0.004	-	-	<0.004	-	-	-	-
Total Cyanide (mg/L)	**0.53**	-	**0.11**	-	-	**0.2**	-	-	-	-
WAD Cyanide (mg/L)	**0.17**	-	0.005	-	-	<0.004	-	-	-	-
18/07/2023										
Free Cyanide (mg/L)	**0.007**	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	-
Total Cyanide (mg/L)	**0.81**	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	-
WAD Cyanide (mg/L)	**0.081**	<0.004	<0.004	-	<0.004	<0.004	<0.004	<0.004	<0.004	-
27/09/2023										
Free Cyanide (mg/L)	**0.08**	-	<0.004	-	<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	**1.4**	-	<0.004	-	<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	**0.7**	-	<0.004	-	<0.004	<0.004	<0.004	<0.004	-	-
5/12/2023										
Free Cyanide (mg/L)	**0.051**	-	<0.004	-	<0.004	-	<0.004	<0.004	-	<0.004
Total Cyanide (mg/L)	**1.2**	-	<0.004	-	<0.004	-	<0.004	<0.004	-	<0.004
WAD Cyanide (mg/L)	**0.32**	-	<0.004	-	<0.004	-	<0.004	<0.004	-	<0.004
25/3/2024										
Free Cyanide (mg/L)	**0.012**	<0.004	<0.004		<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	**0.38**	<0.004	<0.004		<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	**0.19**	<0.004	<0.004		<0.004	<0.004	<0.004	<0.004	-	-

Date	MB01	MB02	MB03	MB04	MB06	MB07	RB04	RB08	RB12	GUM Bore
24/6/2024										
Free Cyanide (mg/L)	**0.016**	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
Total Cyanide (mg/L)	**1.6**	<0.004	<0.004	**0.007**	<0.004	<0.004	<0.004	<0.004	-	-
WAD Cyanide (mg/L)	**0.83**	**0.008**	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	-
15/9/2024 (SGS)										
Free Cyanide (mg/L)	**0.086**	-	-	-	-	-	-	-	-	-
Total Cyanide (mg/L)	**1.8**	<0.004	<0.004	**0.004**	<0.004	<0.004	-	-	-	-
WAD Cyanide (mg/L)	**1.6**	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-	-
15/09/2024 (ALS)										
Free Cyanide (mg/L) (ALS)	**0.056**	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-	-
Total Cyanide (mg/L) (ALS)	**1.47**	**0.005**	<0.004	<0.004	<0.004	<0.004	-	-	-	-
WAD Cyanide (mg/L) (ASL)	**0.052**	<0.004	<0.004	<0.004	<0.004	<0.004	-	-	-	-
9/12/2024										
Free Cyanide (mg/L)	**0.067**	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004
Total Cyanide (mg/L)	**0.42**	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004
WAD Cyanide (mg/L)	**0.19**	-	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	-	<0.004

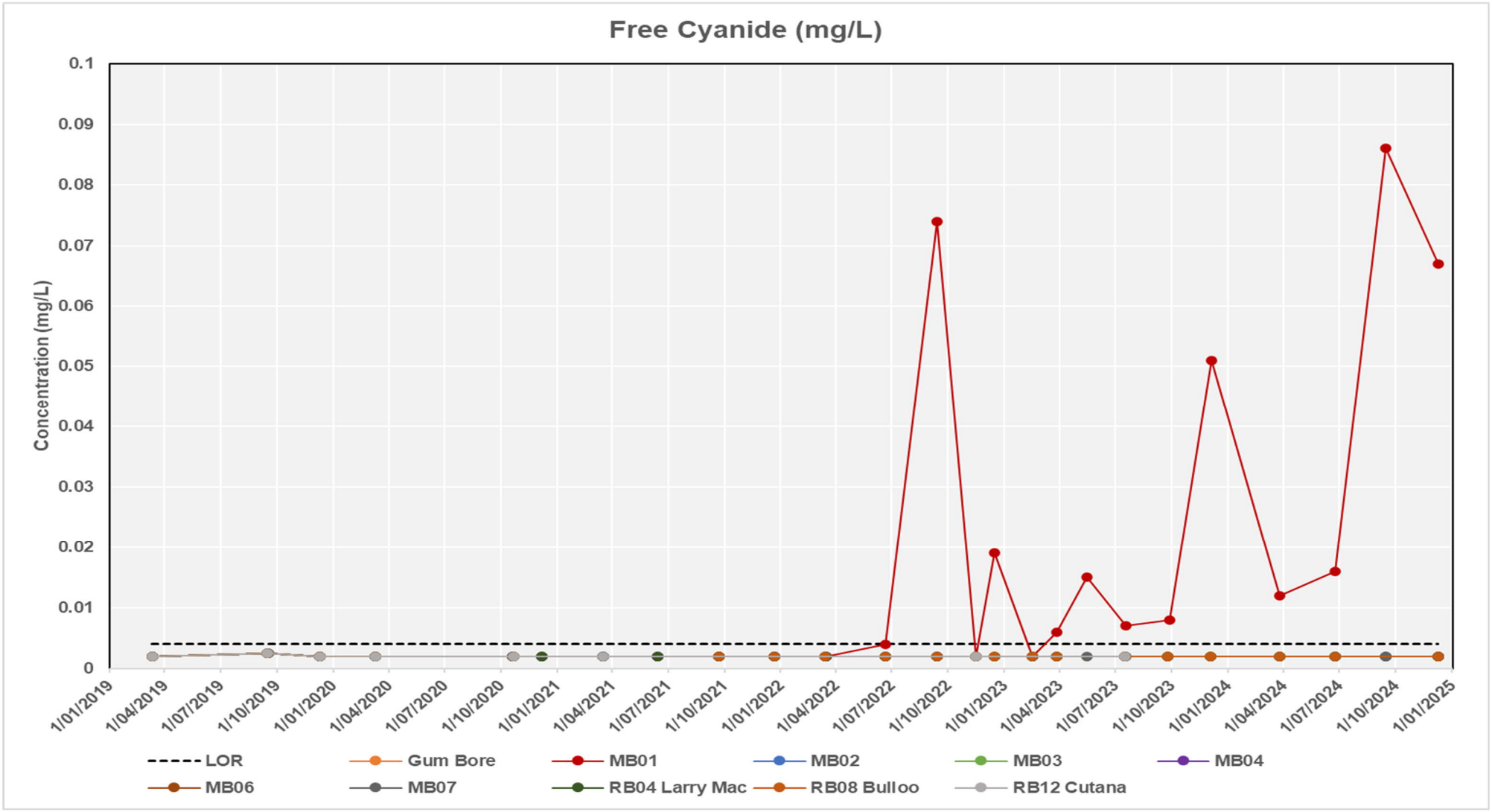

Figure 23: Free cyanide (mg/L) in groundwater bores

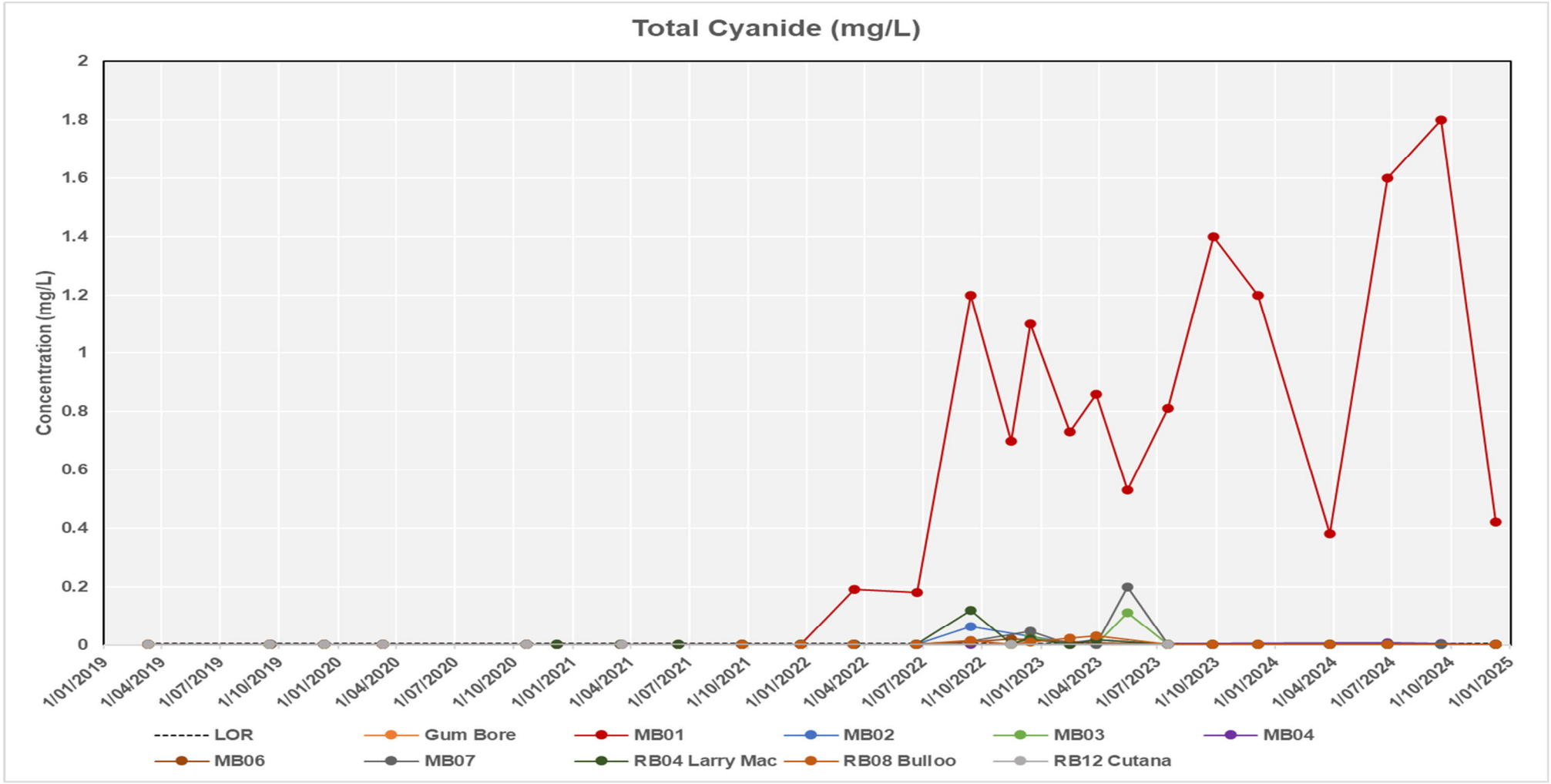

Figure 24: Total cyanide (mg/L) in groundwater bores

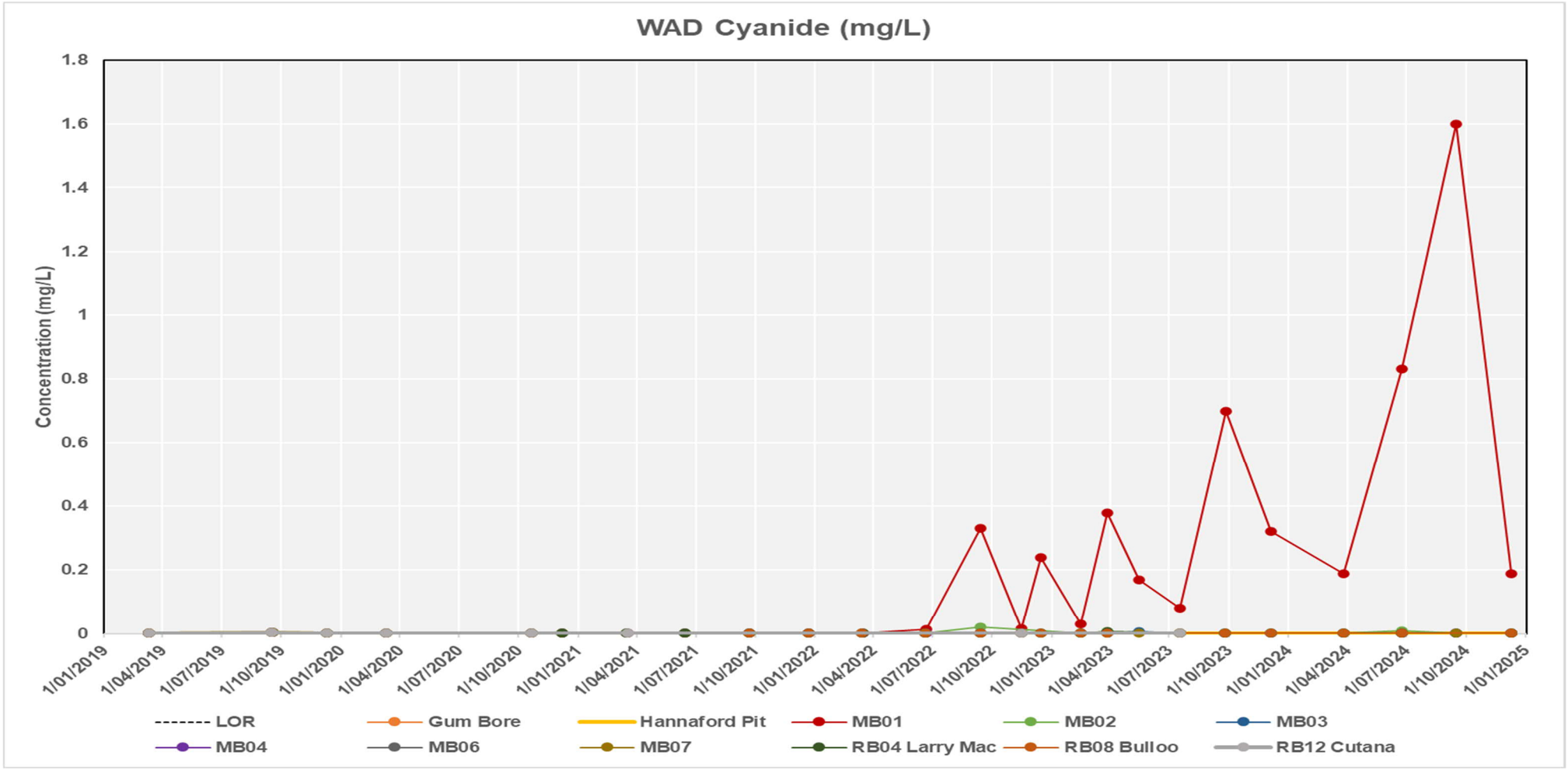

Figure 25: WAD cyanide (mg/L) in groundwater bores

11.3. Surface water – no sampling after rainfall events

Date of the incident	Not applicable	Date the incident was reported	Not applicable
What environmental outcome/objective or tenement condition was breached?			
• No reduction in the quantity and quality of water for existing users during construction and operation of the mine and post mine closure. • No reduction in the quantity and quality of water exiting the site.			
State the cause of the non-compliance			
1. Surface water sampling locations were not accessible in a safe manner after rainfall events.			
Detail any actions taken or yet to be taken to rectify the non-compliance and to prevent the recurrence of any such noncompliance.			
1. No actions can be undertaken as the intensity of the rainfall events and safe access to the remote sites is outside WDGM's control. 2. Sites can be revisited sometime after the rainfall events to assess accessibility.			

11.4. Surface water – no photographic records of flow paths

Date of the incident	Not applicable	Date the incident was reported	Not applicable
What environmental outcome/objective or tenement condition was breached?			
• No reduction in the quantity and quality of water exiting the site.			
State the cause of the non-compliance			
1. Surface water sampling locations were not accessible in a safe manner after rainfall events.			
Detail any actions taken or yet to be taken to rectify the non-compliance and to prevent the recurrence of any such noncompliance.			
1. No actions can be undertaken as the intensity of the rainfall events and safe access to the remote sites is outside WDGM's control. 2. Sites can be revisited sometime after the rainfall events to assess accessibility.			

11.5. Sediment/erosion – No surface water sampling or analysis for TSS

Date of the incident	Not applicable	Date the incident was reported	Not applicable
What environmental outcome/objective or tenement condition was breached?			
• Stabilise disturbed areas and prevent sediment from leaving the site during construction and operation of the mine and post mine closure. • No long-term adverse effect on aquatic fauna and habitat biodiversity (including riparian vegetation) due to mine operations.			
State the cause of the non-compliance			
1. No surface water samples were collected during the reporting period.			
Detail any actions taken or yet to be taken to rectify the non-compliance and to prevent the recurrence of any such noncompliance.			
1. To date, surface water samples have been analysed for TDS, not TSS. Samples, when available, will be analysed for TSS from 2024 onwards			

11.6. Sediment/erosion – No annual change maps

Date of the incident	Not applicable	Date the incident was reported	Not applicable
What environmental outcome/objective or tenement condition was breached?			
No ongoing pollution or unsafe or unstable land left upon mine closure and in the long term.			
State the cause of the non-compliance			
1. No changes in disturbance areas occurred in 2024.			
Detail any actions taken or yet to be taken to rectify the non-compliance and to prevent the recurrence of any such noncompliance.			
1. Change map to be provided in next annual report.			

11.7. Non-compliances under regulation 79 of the *Mining Regulations 2020*

Incidents and non-compliance requiring reporting in accordance with regulation 79 of the *Mining Regulations 2020* for the reporting period are listed in **Table 31.**

Table 31: Reportable Incidents under *Mining Regulations 2020* in 2024

Date	Incident Description	Contaminants Released	Area Affected	Corrective Action	Remaining Impact on Environment
N/A	N/A	N/A	N/A	N/A	None

12. Disturbance and Rehabilitation Activities

12.1. 2024 Disturbance Activities and Areas

Table 32: 2024 Disturbance Activities

Area	Description of disturbance activity carried out during the reporting period	Amount of land disturbed during the reporting period (hectares)	Total area disturbed (hectares)
Domain 1: Infrastructure areas			
Process Plant area	None	0	0.1
Workshop and laydown area	None	0	1
Access roads, camp road and haul roads	None	0	14.7
Hardstand and laydown area (remote from main workshop incl. contractor)	None	0	4.0
Accommodation Village	None	0	0.4
Domain 2: Heap Leach Pad and Ponds			
Heap Leach Pad	Re-alignment of access ramp	0	20.2
Process Ponds	None	0	1.9
Domain 3: Waste Rock Dumps			
Waste Rock Dumps	None	0	32.7
Domain 4: Active Mine and Voids			
Pit(s)	None	0	25.57
Creek diversion	None	0	2.5
Levee	None	0	1.5
	Total	**0**	**104.57**

Table 33: 2024 Rehabilitation Activities

Area/ Domain	Description of rehabilitation works carried out during the reporting period	Amount of land rehabilitated during the reporting period (hectares)	Estimated amount of land to be rehabilitated in the next reporting period (hectares)	Total amount of land where rehabilitation works are completed (hectares)
Process Plant area	None	0	0	0
Workshop and laydown area (near Plant)	None	0	0	1
Access roads, camp road and haul roads (actual disturbance in brackets)	None	0	0	7
Contractors hardstand and laydown area – (remote from main workshop) (actual area in brackets)	None	0	0	2
Accommodation Village	None	0	0	0.4
Heap leach pad (actual area in brackets)	None	0	0	0
Process ponds (actual area in brackets)	None	0	0	0
Surface waste dumps	None	0	0	30.2

Area/ Domain	Description of rehabilitation works carried out during the reporting period	Amount of land rehabilitated during the reporting period (hectares)	Estimated amount of land to be rehabilitated in the next reporting period (hectares)	Total amount of land where rehabilitation works are completed (hectares)
Pit(s)	None	0	0	4.7
Creek diversion	None	0	0	1.6
Levee	None	0	0	1.0
Airstrip (not to be undertaken)	None	0	0	0
	Total	**0**	**0**	**47.9**

Strategies implemented to avoid or minimise disturbance
Induction is provided to all employees and contractors involved in ground disturbing activities.
Provide a summary of any potential improvements learned from previous rehabilitation activities
No recent rehabilitation activities were undertaken.

Rehabilitation activities conducted for the reporting period have been a continuation of measures implemented previously, as well as rehabilitation efforts and activities for those areas that can be rehabilitated, given the end of mining activity. Very minor rehabilitation work (e.g. on top of heap leach, minor waste dump gully filling) was undertaken.

As part of the rehabilitation activities, ongoing environmental monitoring was undertaken to assess the potential impacts of the past and current mining and operations activities on the surrounding environment. In 2024, this rehabilitation monitoring comprised:

- photo monitoring of Analogue, Rehabilitation and Erosion locations.
- weed control and pest monitoring and management (as required).

The operational monitoring program is based on monitoring at a number of locations within and in proximity to the mine operational area. These sites are shown in **Figure 9** to **Figure 16**.

Table 35 indicates there has been minimal change in the footprint since the previous reporting period, even with the recommencement of mining in February 2016. The table also indicates the area requiring rehabilitation for this reporting period. The areas required for the leach pad (based on ore volumes from the Hannaford and Vertigo pits, including the additional volume associated with the recommencement of mining) and the SART processing plant are significantly lower than the currently approved area. The actual process pond area is also substantially lower than the original planned area. Extensive rehabilitation activities across the site will continue in accordance with PEPR Review 4 and following the completion of mining and irrigating of the HLP.

Rehabilitation of the Hannaford surface waste rock dump commenced in mid-2011 and rehabilitation of the Vertigo surface waste rock dump commenced in July 2012. Rehabilitation comprised re-profiling of the batters along with topsoiling. A trial area on the Hannaford waste dump had been previously established to assess the likely rehabilitation outcomes and success for a number of treatment options. Such options included rehabilitation using natural volunteer colonisation for plant establishment, hand seeding using certain selected plant species within both topsoil and mine waste planting medium.

Both the Hannaford and Vertigo waste dump reshaping to final batter profiles plus topsoiling is essentially complete (with the exception of a minor area of the Hannaford WRD used for previous

bioremediation activities plus access ramp and adjacent area). Plantings have been completed to supplement natural colonisation.

As the waste rock generated since the recommencement of mining in February 2016 is disposed in-pit, the rehabilitation activities of the existing WRDs have not been compromised nor nullified.

Rehabilitation activities requiring earthworks are planned during the closure of the heap leach pad, once no further gold can be economically recovered from the heap.

Photographs demonstrating the rehabilitation efforts and monitoring results are presented in **Appendix D**.

12.2. History of Disturbance and Rehabilitation Activities and Areas

As discussed in the MCN lodgement, the recommencement of mining operations in 2016 did not significantly increase the approved disturbance footprint. Information about the areas on the mining tenements that have been disturbed by mining operations to the end of 2019 and the rehabilitation status of each area at that time is provided below in **Table 34.**

Table 34 compares the area disturbed in the preceding reporting period and the actual area disturbed up to the end of this reporting period. No additional area was disturbed in 2024.

Table 34: Summary of Disturbance Areas at the End of 2024

Component	Original planned disturbance area (2007)	Revised total planned disturbance area	Actual disturbed area							
			@ Dec 2014	@ Dec 2016	@ Dec 2019	@ Dec 2020	@ Dec 2021	@ Dec 2022	@ Dec 2023	@ Dec 2024
Domain 1: Infrastructure areas										
Process Plant area	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Workshop and laydown area	1	1	1	1[1]	1[1]	1[1]	1[1]	1[1]	1[1]	1[1]
Access roads, camp road and haul roads	13.95	21.67	14.7	14.7[2]	14.7[2]	14.7[2]	14.7[2]	14.7[2]	14.7[2]	14.7[2]
Hardstand and laydown area (remote from main workshop incl. contractor)	1	4.0	4.0	4.0[3]	4.0[3]	4.0[3]	4.0[3]	4.0[3]	4.0[3]	4.0[3]
Accommodation Village	0.4	0.4	0.4	0.4[4]	0.4[4]	0.4[4]	0.4[4]	0.4[4]	0.4[4]	0.4[4]
Domain 2: Heap Leach Pad and Ponds										
Heap Leach Pad	48.9	27.5	20.2	20.2	20.2	20.2	20.2	20.2	20.2	20.2
Process Ponds	12.98	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
Domain 3: Waste Rock Dumps										
Waste Rock Dumps	35.7	32.7	32.7	32.7[6]	32.7[4]	32.7[4]	32.7[4]	32.7[4]	32.7[4]	32.7[4]
Domain 4: Active Mine and Voids										
Pit(s)	15.3	22.67[6]	22.67[6]	25.57[7]	25.57[7]	25.57[7]	25.57[7]	25.57[7]	25.57[7]	25.57[7]
Creek diversion	0.68	2.5	2.5	2.5[5]	2.5[5]	2.5[5]	2.5[5]	2.5[5]	2.5[5]	2.5[5]
Levee	2.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Total	**132.41**	**115.94**	**101.7**	**104.6**	**104.6**	**104.6**	**104.6**	**104.6**	**104.6**	**104.6**

[1] Partially rehabilitated (but not attained required final standard); area will now be reused for 2016/17 mining activities
[2] Estimate; access track to Vertigo had previously been partly rehabilitated
[3] Earthmoving contractors' area had been rehabilitated with all facilities removed –reused half for 2016/17 activities
[4] partially rehabilitated; area of reshaping and rehabilitation for WRDs; very minor additional area to be shaped
[5] Refer text regarding relocation of diversion bund
[6] Includes Vertigo and Hannaford Pits
[7] Includes Vertigo and Hannaford Pits (mine extension (southern wall slip) and cutback approved in MCN)

Table 35: Disturbance Areas and Rehabilitation Activities and Progress

Component/ domain	Areas (ha)						Description of works (summary)	Forward work plan (reporting period)
	Last Reporting period		Current Reporting Period		Next Reporting Period			
	Planned Area of disturbance	Rehabilitated area @ December 2016	Actual Area of disturbance	Rehabilitated area @ December 2024	Actual Area of disturbance	Rehabilitated area planned for next period		
Process Plant area	0.1	0	0.1	0	0.1	0.1	None	Extent of planned rehabilitation works will depend on outcomes of resource evaluation studies and potential additional mining and ore processing.
Workshop and laydown area (near Plant)	1	0	1	1	0	0	None	None
Access roads, camp road and haul roads (actual disturbance in brackets)	27.0 (21.7)	7	14.7	7	14.7	0	All site roads not used for processing activities have been rehabilitated (approx. 7ha).	No further rehabilitation works planned for 2025.
Contractors hardstand and laydown area – (remote from main workshop) (actual area in brackets)	4.64 (4.0)	2	2.0	2.0 (see notes regarding re-clearing in 2016)	2	2	Part of the rehabilitated contractor's area was reused with the recommencement of mining in 2016. The contractor's workshop and equipment has been removed	Extent of planned rehabilitation works will depend on outcomes of resource evaluation studies and potential additional mining and ore processing. The contractor's workshop and equipment has been removed
Accommodation Village	0.4	0	0.4	0.4	0	0	Removal of facilities has been completed, with progressive rehabilitation completed in 2019.	None

Component/ domain	Areas (ha)						Description of works (summary)	Forward work plan (reporting period)
	Last Reporting period		Current Reporting Period		Next Reporting Period			
	Planned Area of disturbance	Rehabilitated area @ December 2016	Actual Area of disturbance	Rehabilitated area @ December 2024	Actual Area of disturbance	Rehabilitated area planned for next period		
Heap leach pad (actual area in brackets)	48.9 (20.2)	0	20.2	0	20.2	0	None,	Extent of planned rehabilitation works will depend on outcomes of resource evaluation studies and potential additional mining and ore processing.
Process ponds (actual area in brackets)	6.85 (1.9)	0	1.9	0	1.9	0	None	No rehabilitation works planned for 2025.
Surface waste dumps	32.7	30.2 (mostly completed-vegetative rehabilitation to continue)	32.7	30.2 (mostly completed-vegetative rehabilitation to continue)	2.5	0	Active monitoring undertaken quarterly, grading of cracks at the toe of Hannaford WRD	No rehabilitation works planned for 2025.
Pit(s)	22.67	0	25.6	4.7 (Vertigo Pit) (refer MCN and approved PEPR Review 4 re geotechnical issues)	20.9 (Hannaford Pit)	0	Both Hannaford and Vertigo pits have been mined and waste rock disposed in them. PAF cells encapsulated, and Vertigo abandonment bund completed	No rehabilitation works planned for 2025.
Creek diversion	2.5	1.6	2.5	1.6	0.9	0	Continue to monitor diversion. Review flood bund in consideration of final pit crest based on pit stability is complete.	No rehabilitation works planned for 2025.
Levee	1.5	1.5	1.5	1.0	0.5	0	As above	No rehabilitation works planned for 2025.
Airstrip (not to be undertaken)	(4.2)	0	0	0	0	0	n/a	n/a
TOTAL	**148.26 (104.47)**	**42.3**	**102.6**	**47.9**	**63.7**	**2.1**		

* The workshop and crushing equipment will stay within laydown areas until they are required to be mobilized to their next operation.

Summary details in relation to **Table 35** are provided below:

- **The amount of land disturbed**: no land was disturbed in this reporting period over and above that previously disturbed. No additional disturbance area associated with the mining project is proposed above that already disturbed and approved. At decommissioning battering of the side slopes to the required angle on the HLP will increase the current footprint within the approved disturbance area (refer approved PEPR Review 4).
- **Vegetation cleared**: no vegetation was disturbed/cleared in this reporting period over and above that previously disturbed/cleared.
- **Revegetation or rehabilitation earthworks conducted**: Prior to 2024, these works have comprised the final reshaping of the Hannaford and Vertigo WRDs (almost completed, minor area of Hannaford WRD remains to be reshaped), topsoiling (almost completed) and subsequent rehabilitation works (under monitoring), rehabilitation of the Vertigo haul road (light vehicle access remains), abandonment bunds and Vertigo pit apron. No additional works were undertaken in 2024.
- **Evidence (by using closure and rehabilitation criteria in the current approved PEPR/MARP) of the effectiveness of rehabilitation**: This is being progressively undertaken. Photo points have been established, and monitoring protocols developed and are presented in the approved PEPR Review 4. Closure and rehabilitation criteria are also addressed in the PEPR Review 4.
- **Any problems or potential improvements learned from previous rehabilitation**: There are some areas of gullying on the western face of the Hannaford Waste Rock Dump that will continue to be monitored. It is believed that these gullies have formed where topsoil has been spread too thick (> 300mm) and ripping has cut across contours. Improvement actions will be considered during future closure earthworks if warranted.

In regard to whether rehabilitation may or may not be achieved as planned, given the advanced status of the rehabilitation of both WRDs, there is a very low risk in this regard. Current rehabilitation requirements that have yet to be undertaken revolve mainly around the future closure of the HLP, its subsequent reshaping to the required design profiles and rehabilitation comprising cover and plant establishment. Exco is confident that this work can be successfully undertaken and with a very low risk of failure. Predicted risks have been presented in the approved PEPR Review 4 and an acceptable level of risk can be achieved in all cases for all domains.

Figure 26: Overview of Rehabilitated Areas at the end of mining (2024)

13. Rectification of native vegetation clearance

No vegetation clearing was undertaken during the reporting period. Any future clearance will be subject to an internal application process to ensure compliance with the Native Vegetation Management Plan (NVMP) and Significant Environmental Benefit (SEB) approved clearance.

An agreement in terms of an SEB offset strategy between the mine proponents and the DEH (now DEW) was finalised following project approval. This agreement involves monetary staged payments to the department to support the *Bimbowrie Landscape Restoration Project*, involving the control of pest plant species (namely, African Boxthorn, Pepper Trees and Castor Oil Plant) and revegetation works within the conservation park.

The SEB offset strategy for the mine involves the following activities and has continued to be implemented during this reporting period:

- exclusion of some grazing pressure from stock by fencing;
- control of pest plants and herbivores throughout the lease areas and grazing exclusions; and
- financial and technical assistance to the department for the management of pest species in the Bimbowrie Conservation Park.

Grazing exclusion and weed and feral animal control measures remain in place. All matters in regard to financial and technical assistance have previously been finalised.

14. Environment Protection and Biodiversity Conservation Act 1999 reporting

The White Dam Gold Project is not subject to approval under the *Environment Protection and Biodiversity Conservation Act 1999* as it is not a controlled action.

Table 36: Environment Protection and Biodiversity Conservation Act reporting

Condition number	Condition	Compliance status	Evidence demonstrating compliance with condition
Not applicable	**Not applicable**	Not relevant	Not applicable
Additional requirements			
Not applicable			

15. Exempt Land

There are no parcels of exempt land applicable to White Dam Gold Mine operations.

Table 37: Exempt land statement

All waivers for land relevant to the mining operation are in place, and compliant with exempt land provisions, in accordance with Section 9 of the *Mining Act 1971*
Not applicable
Notice has been given to the Mining Registrar that an exempt land agreement has been entered into
Not applicable

16. Complaints

Table 38 presents the complaints registered as per MG3 reporting requirements. There have been no complaints during the reporting period.

Table 38: Complaints 2024

Complaint Reference	Date of Complaint	Nature of the Complaint	Was the compliant related to a non-compliance?	Action undertaken (or yet to be undertaken)	Resolution Date
n/a	n/a	n/a	n/a	n/a	n/a

17. Changes to Authorised Operations and Emerging environmental hazards

As per **Table 39**, there were no changes to authorised operations (submitted as a PEPR review or as a change notification) during 2024.

Table 39: Changes to Authorised Operations in 2024

Description of change to existing mining operation	Date submitted to the department	the department response	Date accepted by the department	Current status at the end of the reporting period
n/a	n/a	n/a	n/a	n/a
Description of any new or emerging environmental hazards that apply, or appear to be arising, in relation to mining operations				
No new or emerging environmental hazards were identified during the current reporting period.				

18. Technical Reports

Table 40 provides a list of relevant technical studies undertaken/reports prepared as part of WDGM's rehabilitation and environmental management activities.

Table 40: Technical Studies/Reports Relevant to Rehabilitation/Environmental Management Activities

Topic	Report Title	Report Date	Author
Surface Water	Diversion and Flood Protection Bund (extract)	18 July 2014	WRM Water
Geotechnical Stability	White Dam Gold Mine Geotechnical Studies to Support Mine Extension	21 January 2016	Pells Sullivan Meynink (PSM)
Soil	White Dam Gold Mine Leach Solution Spill. Remediation and Validation Report	8 March 2016	Ground Corp Pty Ltd
Groundwater	White Dam Gold Mine Groundwater Impact Assessment for Mine Closure	7 April 2016	WMV Environmental Pty Ltd
Review of PEPR document	PEPR Review	2 May 2016	Exco Resources (WDGM)
Waste rock	Waste Rock and Ore Management Plan	May 2016	EMM Pty ltd
Heap leach	Heap Leach Closure Plan	May 2016	EMM Pty ltd
Mining Progress Report	White Dam Gold Mine Progress Report 2016	1 December 2016	Exco Resources (WDGM)
Compliance	WDGM Annual Mining and Rehabilitation Compliance Report 2016	11 April 2017	Exco Resources (WDGM)
Geotechnical Assessment	White Dam Gold Mine: Mine Closure Geotechnical Advice	10 August 2017	Pells Sullivan Meynink (PSM)
Soil	White Dam Gold Mine Leach Solution Spill. Written Notification	8 September 2017	Exco Resources (WDGM)
Compliance (MARCR) Progress Report	WDGM Mining and Rehabilitation Compliance Progress Report 2017	October 2017	Exco Resources (WDGM)
Geotechnical Stability	Memorandum – Long Term Stability of Pit Slopes	9 February 2018	Pells Sullivan Meynink (PSM)
Review of PEPR document	PEPR Review 3	21 August 2018	Exco Resources (WDGM)
SART Processing	SART Process: Supporting Information for White Dam Gold	25 July 2019	SGM Environmental Pty Limited

Topic	Report Title	Report Date	Author
	Mine. Minor Change to PEPR – Level 4		
Review of PEPR document	PEPR Review 4	10 July 2019	Exco Resources (WDGM)
Waste rock	Column trials. White Dam Gold Mine.	16 October 2019	SGM Environmental Pty Ltd
Groundwater	WDGM June 2023 sampling event	August 2023	WMV Environmental

19. Management System Reviews

19.1. Systems Reviews

Formal Management System Reviews or Audits were not completed in the reporting period, as per **Table 41**. In the past, some safety systems and procedure reviews were undertaken to prepare a Major Hazard Facility Licence application. However, this application is currently on hold.

An independent audit will be carried out in the reporting period that will follow the completion of irrigation of the HLP with confirmation of results to DEM as per PEPR requirements. This audit will also include an assessment of rehabilitation works to date.

Table 41: Management System Reviews in 2024

Audit Aspects	Date of Audit	Auditors	Issues, Recommendations of Improvement Noted	Corrective Actions Identified
n/a	n/a	n/a	n/a	n/a
Issues Identified				
n/a				

19.2. SafeWork SA Notices

No SafeWork SA notices were issued to WDGM in 2024.

20. Review of Plant, Equipment and Infrastructure

A review of plant and equipment necessary for the SART processing plant was undertaken in 2019. No review was required to be undertaken in 2024.

21. Verification of Uncertainty

The PEPR Review 4 presents verification of any uncertainties associated with the proposed mining program for 2019 onwards and mine closure activities, respectively. This report indicates a high level of confidence associated with future mining and rehabilitation/closure outcomes. There are considered to be no significant uncertainties in this regard.

As per **Table 42**, no work was undertaken or proposed in 2024 to address the uncertainties or assumptions made in the PEPR Review 4.

Table 42: Verification of Uncertainties in 2024

Description of Assumption or Uncertainty	Estimated date to resolve	Progress in reporting period	Confirmed?	Forward Work Plan
n/a	n/a	n/a	n/a	n/a

22. Voluntary Information

22.1. Topsoil Stockpiles

Topsoil stockpiles were surveyed once a month during previous mining operations (2010-2012). Topsoil removal involving stripping and placement on stockpiles at key locations for re-use for rehabilitation purposes to ensure a sufficient volume was available for the rehabilitation program planned for closure.

A new survey of existing stockpiles was undertaken in 2015 and then again in 2017 after recent rehabilitation activities to validate the volumes of stockpiled material suitable for rehabilitation uses. The location, areas and volumes of each of the main stockpiles within the ML area are presented in **Table 43** below and shown on **Figure 27**.

Table 43: Summary of Stockpile Volumes

Stockpile #	Volume (m^3)	Enclosed Area (ha)
1	5,300	0.32
2	1,688	0.35
3	52,000	1.22
5	11,000	1.25
6	1,350	0.38
7	7,250	0.51
8	3,400	0.53
9	274	0.05
10	7,400	0.55
TOTAL	**89,662**	**5.16**

Based on this survey, there is sufficient material stockpiled to enable completion of the site rehabilitation program. Almost 900,000 m^3 of material is thus estimated to be available at present with an estimated additional volume of 39,800 m^3 to be available with the stripping of topsoil around the extended base of the HLP prior to slope battering. To date, most stripped material has been used in the rehabilitation of the Hannaford and Vertigo surface WRDs. Coverage and seeding of both these WRDs is almost complete. The main future requirement for material suitable for vegetation establishment will be the placement on the final profile of the HLP. Approximately 90,000m^3 of material is required to cover the final leach pad landform to an average depth of 300mm (based on a final area of 27.5ha) with additional lesser volumes for other rehabilitation uses such as the plant and processing ponds, haul roads and other infrastructure areas. The remaining material volumes are thus sufficient for these requirements.

There has been no topsoil recovery but some minor use of topsoil during the rehabilitation activities in this reporting period. As noted above, some stripping of topsoil will be required from the expanded footprint area of the HLP prior to establishment of the final landform profiles.

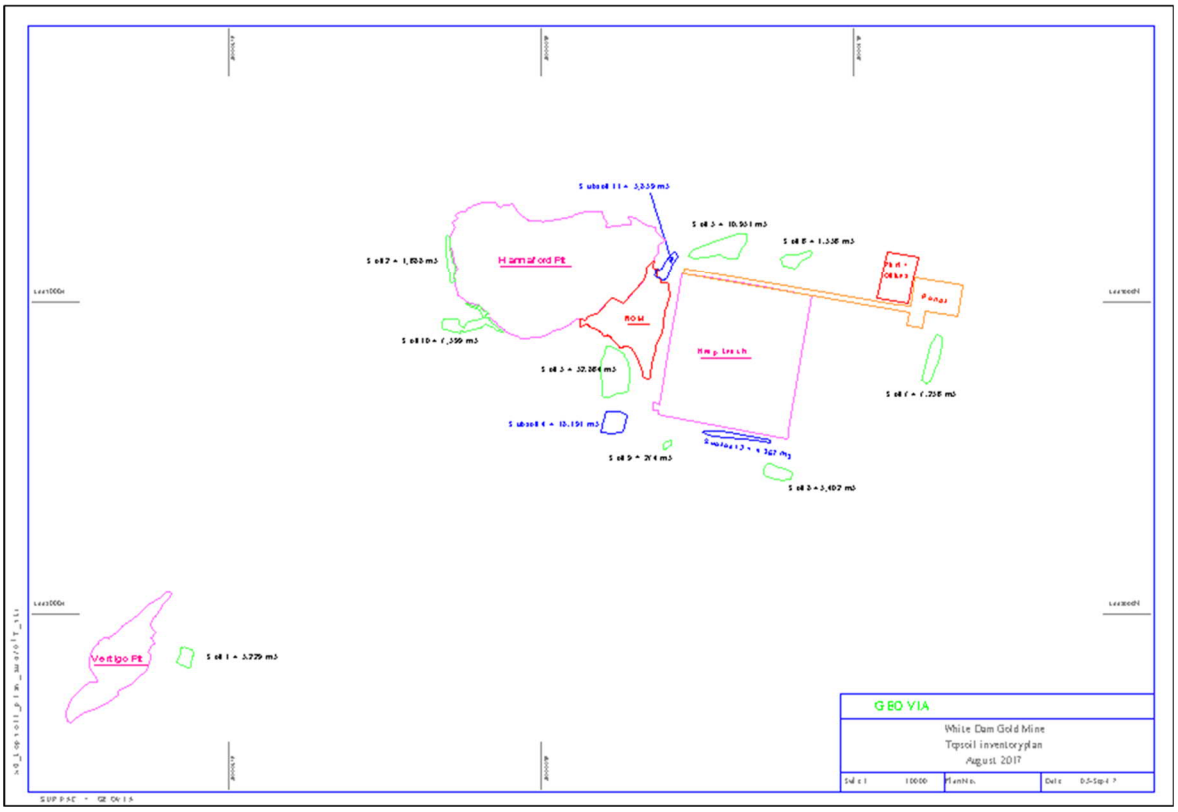

Figure 27: Stockpile inventory within White dam project site – 2019 (topsoil in green)

23. Community Engagement

Tenure and ownership of the mine tenements are detailed in **Table 44**.

Table 44: Tenure and Tenement Ownership Details

Mining Lease 6275; Mining Lease 6395 Miscellaneous Purposes Licences MPL139, MPL105, MPL106 (part MPL107)		
Certificate of Land Title/Lease Number	Crown Lease	1299/38
Pastoral Number	Bulloo Creek	2363
Name of Leaseholder	G. and K. Riggs	
	Stock (sheep) grazing	
Miscellaneous Purposes Licence MPL95 (part MPL107)		
Certificate of Land Title/Lease Number	Crown Lease	1276/20
Pastoral Number	Bindarrah	2200
Name of Leaseholder	G.S. & M.J. Parker	
	Stock (sheep)	

Informal liaison has continued with the two key pastoralists. When required, arrangements will be formalised in writing.

24. Forward Work Plan and Mine Closure Planning

24.1. Forward Work Plan

The forward work planning for the project has been described in PEPR Review 4 in terms of the SART processing plant and in regard to rehabilitation and closure aspects. Leaching of the White Dam heap will continue into 2025. The SART plant was discontinued in 2022 but may be recommissioned in 2025.

The extent of planned rehabilitation works will depend on the outcomes of resource evaluation studies and potential additional mining and ore processing.

Activities associated with mine closure will commence progressively once the heap leach is no longer economical and no additional mining is undertaken, focussing on the reshaping and rehabilitation of the HLP and followed by decommissioning and rehabilitation of the processing area. The timing for these activities is described in the approved PEPR Review 4.

24.2. Mine Completion Planning

All details of the proposed mine completion activities and associated compliance standards that will apply at closure have been documented as part of the mine completion planning process.

Mine completion planning has been undertaken by the project proponents for more than five years. The chronology of the planning is presented in **Table 45**.

Table 45: Chronology of Mine Completion Planning Activities

Date	Who	Description
3 April 2009	PIRSA	Approval of Mining and Rehabilitation Program (MARP) Rev. 5. Note: due to due to the continued development of the operational strategy, some amendments to the MARP have been necessary in 2009.
11 February 2011	PIRSA	Approval of MARP Rev.7.
1 July 2011	-	Amendments to the Mining Act 1971, replacing MARPs by Programs for Environment Protection and Rehabilitation (PEPRs). Previously approved MARPs are deemed to be PEPRs.
December 2011	Exco	Submission of PEPR, which is MARP Rev 8.
January 2012	DMITRE	Approval of PEPR, which is MARP Rev 8.
July 2012	Exco	Submission of revised MARP to DSD, formerly DMITRE.
7 September 2015	Exco	Submission of amended *Mine Completion Plan* (MCP) to DSD, seeking provisional approval with the MCP conditions.
23 December 2015	DSD	DSD response requesting a *revised Program for Environmental Protection and Rehabilitation* in light of the Minor Change Notification (MCN) to recommence open pit mining in 2016.

Date	Who	Description
		DSD also advised that they would no longer accept the mine closure and completion plan as an addendum to the current approved PEPR. The revised PEPR is to incorporate the Mine Completion Plan, MCN matters and include a review of the Rehabilitation Liability for the site.
2 May 2016	Exco	Submission of reviewed PEPR to DSD. December 2016 provision of Heap Leach Closure Criteria and Cover Column Trial to DSD for comment.
22 September 2016	DSD/Exco	PEPR Review Workshop: measurement criteria for the closure of the Heap Leach Pad.
17 January 2017	Exco	Updated Measurement Criteria and Leading Indicator Criteria for the Heap Leach Pad for DSD review prior to resubmitting the PEPR Review.
30 August 2017	DSD	DSD feedback on Measurement Criteria for the PEPR review. DSD requested PEPR be resubmitted within 3 months (30 November)
November 2017	Exco	Planned submission of revised PEPR, addressing DSD comments
November 2018	Exco/DEM	Approved PEPR Review 3
September 2019	Exco/DEM	Approved PEPR Review 4

25. Ministerial Determination Checklist

Section	Included? Or N/A
Executive summary	✓
1. Introduction	
Tenement number(s)	✓
Name of the mine operation	✓
General location details	✓
Name(s) of the mine owner and mine operator(s)	✓
Site Contact	✓
Registered Mine Manager, *Mines Works Inspection Act, 1920*	✓
Reference and approved date of relevant PEPR being reported against	✓
Person accepting responsibility for the report	✓
Dates of the reporting period for the report	✓
Date of preparation of the report.	✓
2. Executive Declaration	
3. Tenements	
Summary table of all tenements including ML, MPL, EML etc.	✓
4. Other Licences, Permits, Waivers, Native Title and Agreements	
Summary table of all licences, permits, waivers, native title and other agreements relevant to the PEPR.	✓
Where applicable, provide a statement that all waivers for exempt land required for the current operation are in place in accordance with the Mining Act	n/a
5. Mining Operations	
Ore reserves and mine life	✓
new delineation or exploration drilling activities on or off the lease (if required)	✓
review of reserves (if required)	✓
Other potential sources of ore (e.g. from nearby mines) (if required)	n/a
Overburden, Ore and Concentrate	✓
Overburden	✓
Ore	✓
Concentrate	✓
6. Voluntary information (not mandatory, but strongly recommended)	
7. Project Variation Summary	
Summary table of any changes/project variations submitted to DEM	✓
8. Complaints	
Summary table of complaints made by members of the public during the reporting period	✓
Indicate how concerns or complaints by third parties were addressed.	✓
Summary table of complaints made by members of the public during the reporting period	✓
Indicate how concerns or complaints by third parties were addressed.	✓
9. Compliance Summary	
Summary table of non-compliances (if relevant)	✓
10. Compliance Tables	
For **each** outcome in PEPR state if ‘complied’, ‘not complied’, or ‘unable to demonstrate compliance’	✓
For **each** outcome in the PEPR provide summary criteria data that supports the conclusion above	✓
For **each** lease or licence condition (other than environmental outcomes) state if ‘complied’, ‘not complied’, or ‘unable to demonstrate compliance’	✓

Section	Included? Or N/A
For each leading indicator criterion state if any were triggered in the reporting period	✓
If triggered, **(if required)**	✓
What actions were taken	✓
An assessment of the effectiveness of the current control strategies or criteria	✓
11. Disturbance and Rehabilitation Activities	
Where native vegetation has been cleared in the reporting period, the following must be included: ***(if required)***	✓
A reconciliation between the approved maximum clearance in hectares	✓
The amount cleared in the reporting period	✓
The total amount cleared to date	✓
An estimated amount to be cleared in the next reporting period.	✓
12. Non-Outcome Based Lease Conditions	
If you have any lease conditions which do not have an outcome measurement criteria relating to it please list the compliance status and evidence against **each** condition in a summary table	✓
13. Rectification of Non-Compliances	
If a 'not complied' is recorded, the following must be included: ***(if required)***	✓
Date of the incident	✓
State if the incident was a Reportable Incident under Regulation 87. If so the report must also state the date the incident was initially reported to the Minister and the date	✓
The written report was provided to the Minister.	✓
What environmental outcome or lease condition was breached	✓
If and how the noncompliance was, or is planned to be, rectified	✓
What measures, if any, will be taken to prevent recurrence.	✓
Progress update on previous non-compliances not fully rectified at time of last report	✓
14. Disturbance and Rehabilitation Activities	
Information on areas disturbed and current rehabilitation status	✓
The amount of land disturbed	✓
Vegetation cleared	✓
New measures implemented to avoid or control environmental impact	✓
Revegetation or rehabilitation earthworks conducted.	✓
Evidence (by using closure and rehabilitation criteria in the current approved PEPR) of the effectiveness of rehabilitation being progressively undertaken.	✓
Any problems or potential improvements learned from previous rehabilitation	✓
An assessment of risks that rehabilitation may or may not be achieved as planned	✓
New strategies to be undertaken to achieve rehabilitation outcomes (if required)	✓
15. Environment Protection and Biodiversity Conservation Act reporting	
Demonstration of compliance with EPBC conditions (if required)	✓
16. Audits and Reviews	
If an audit or review of any part of the operation management system was conducted during the reporting period, the following information on the audit ore review must be included: (if required)	✓
When the audit ore review was undertaken	✓
Who undertook the audit or review	✓
What aspect(s) of the management system was/were audited/reviewed	✓

Section	Included? Or N/A
What issues, or recommendations for improvement, were noted	✓
An assessment of the potential for any issues identified in the audit/ review to lead to a noncompliance with approved environmental outcomes	✓
What corrective action that has or will be taken to address any issues.	✓
17. Verification of Uncertainties	
Changes or failures of mining operations	✓
Increases to areas disturbed	✓
New baseline environmental data	✓
Reported to DMITRE?	✓
Uncertainties table	✓
18. Technical Reports	
Summary of technical data studies and reports generated in reporting period	✓
19. Actions from Previous Reporting Period	
Action description	✓
Responsibility	✓
Completion Date	✓
20. Forward Work Plan	
Action description	✓
Responsibility	✓
Proposed Completion Date	✓
21. Ministerial Determination Checklist	
This checklist	✓

Appendix A

Certificate of Currency – Public Liability Insurance

Arthur J. Gallagher & Co (Aus) Limited
ABN 34 005 543 920 AFSL 238312

Level 2, 235 St Georges Terrace
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Gallagher
Insurance | Risk Management | Consulting

26 June 2024

TO WHOM IT MAY CONCERN

CONFIRMATION OF INSURANCE

We act as Insurance Brokers for GBM Resources Pty Ltd and others and the purpose of this confirmation is to confirm the currency of the insurance specified below:-

INSURED:	GBM Resources Pty Ltd & all subsidiary companies
CLASS OF INSURANCE:	Public & Products Liability
PERIOD OF COVER:	31 July 2024 to 31 July 2025 at 4.00 pm, local standard time
INTEREST INSURED:	All amounts the Insured may become legally liable to pay as compensation for third party personal injury or property damage, as a result of an occurrence in connection with your business
TERRITORIAL LIMITS:	Worldwide (excluding USA and Canada)
LIMITS OF LIABILITY:	**Public Liability** $20,000,000 any one occurrence. **Products Liability** $20,000,000 in the aggregate during any one period of insurance.
INSURANCE COMPANY:	AIG (Australia) Pty Ltd
POLICY NUMBER:	1023362551

Signed by and on behalf of Gallagher

Xavier Delbost
Client Manager

This Confirmation is issued in lieu of the Insurers standard Policy and represents cover in terms of that Policy. E. & O. E.

Arthur J. Gallagher & Co (Aus) Limited
ABN 34 005 543 920 AFSL 238312

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Gallagher
Insurance | Risk Management | Consulting

26 June 2024

TO WHOM IT MAY CONCERN

CONFIRMATION OF INSURANCE

We act as Insurance Brokers for GBM Resources Pty Ltd and others and the purpose of this confirmation is to confirm the currency of the insurance specified below:-

INSURED:	GBM Resources Pty Ltd & all subsidiary companies
CLASS OF INSURANCE:	Excess Public & Products Liability
PERIOD OF COVER:	25 June 2024 to 31 July 2025 at 4.00 pm, local standard time
INTEREST INSURED:	All amounts the Insured may become legally liable to pay as compensation for third party personal injury or property damage, as a result of an occurrence in connection with your business in excess Primary policy
TERRITORIAL LIMITS:	Worldwide (excluding USA and Canada)
LIMITS OF LIABILITY:	**Public Liability** $30,000,000 any one occurrence in excess of $20,000,000 any one occurrence. **Products Liability** $30,000,000 in the aggregate during any one insurance period in excess of $20,000,000 in the aggregate during any one period of insurance.
INSURANCE COMPANY:	AAI Limited T/as Vero Insurance
POLICY NUMBER:	LCX024880972

Signed by and on behalf of Gallagher

Xavier Delbost
Client Manager

This Confirmation is issued in lieu of the Insurers standard Policy and represents cover in terms of that Policy. E. & O. E.

Appendix B

Exploration of Mining Leases

Have any exploration activities been conducted during the current reporting period?
No
Have rehabilitation activities been undertaken during the reporting period?
No
Is there any outstanding rehabilitation from current or previous reporting periods to be undertaken?
No

Appendix C

GBM JORC 2021 Review

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ASX Announcement
10 August 2020

WHITE DAM MAIDEN JORC 2012 RESOURCE OF 102 KOZ

- **New mineral resource estimates for the Hannaford, Vertigo and White Dam North deposits which, together with the operating Gold-Copper Heap Leach, form the White Dam Gold-Copper Project.**
- **Combined resource of these three deposits is 4.6 Mt at 0.7 g/t Au for 101,900 ounces of gold. This resource has been estimated to satisfy the requirements of JORC 2012.**
- **28% of the ounces classified as Indicated with the balance Inferred.**
- **58% of the ounces (approx. 59 koz) contained in oxidized portions with the potential to be successfully leached in the current plant.**
- **Associated copper expected to be a valuable by-product with operation of the SART Plant.**
- **The White Dam Gold-Copper Project contains a large exploration tenement package with considerable potential for further resource accretion.**

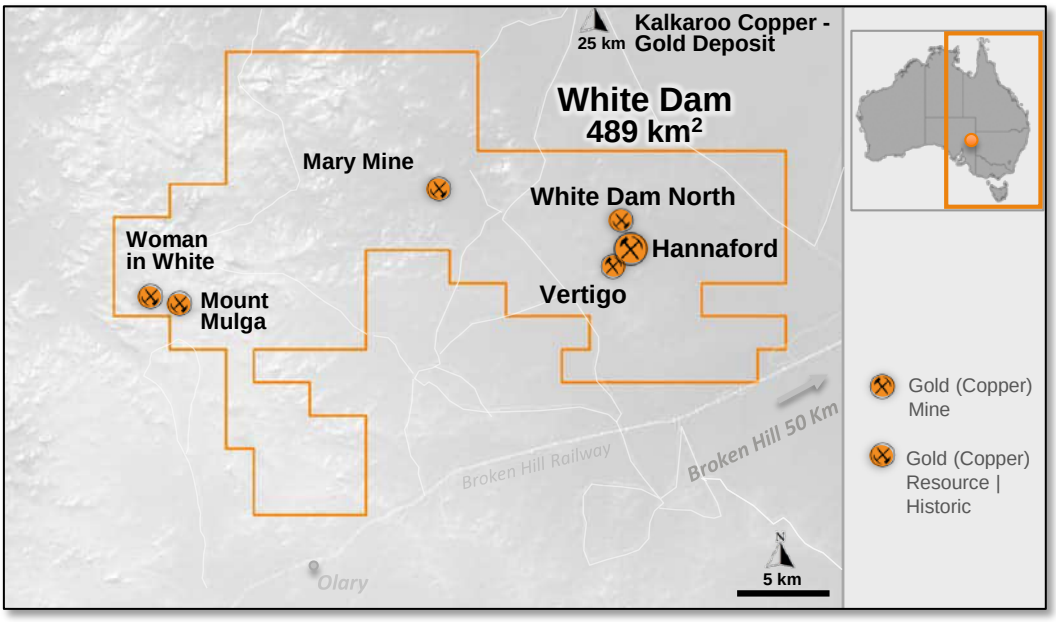
GBM Resources Limited (ASX: GBZ) (**GBM** or the **Company**) is pleased to announce that the White Dam Gold-Copper Project (**White Dam Project**) resources have been reviewed and upgraded to comply with the requirements of the 2012 version of the JORC Code and current ASX guidance relating to mineral resources. From 1 July 2020, GBM shares 50% of the gold and copper production from the White Dam Project under a Joint Venture agreement with Round Oak Minerals (see GBM ASX Release 23 July 2020). Under this agreement, GBM also has the option to purchase the residual 50% of the JV interest between 1 January 2021 and 30 June 2021.

Cautionary Statement

GBM has entered into a production joint venture regarding the White Dam Gold-Copper Heap Leach Operation, and has no current ownership of the White Dam tenements and processing infrastructure. Acquisition of these assets is subject to successful exercise of an option, of which further details are provided in this announcement and ASX announcement dated 16 October 2019.

The White Dam Project is located approximately 50 kilometres west of Broken Hill within the Curnamona Province of South Australia. The region is host to numerous gold and base metal occurrences including Havilah Resources' (ASX: HAV) Kalkaroo Copper-Gold Deposit, which contains 1.1 million tonnes of copper, 3.1 million ounces of gold and 23,200 tonnes of cobalt (see HAV ASX Release 7 March 2018), and is located approximately 40 km north of the White Dam Project.

Figure 1: Location map of the White Dam Gold-Copper Project and Heap Leach Operation



New estimates of mineral resources have been made for the Hannaford, Vertigo and White Dam North deposits, which together form the resource base of the White Dam Project. The combined resource of these three deposits is 4.6 Mt averaging 0.7 g/t Au containing an estimated 101,900 ounces of gold. This resource has been estimated to satisfy the requirements of JORC 2012. Details are contained within the JORC Table 1 attached to this release and summarised in Table 1 below. Of the 101,900 ounces of contained ounces of gold, 28% are classified as indicated and the balance is inferred.

Importantly, 59,000 ounces (or 58%) of the contained gold is contained in oxidized portions of these deposits, similar to the material that has already been mined and successfully leached in the current operations. This material has the potential to be amenable to heap leach extraction and further studies will be completed to determine the viability of extraction of this material.

Table 1: White Dam Resources. Please note rounding ('000 tonnes, 0.0 g/t and '000 ounces). Cut-off grade is 0.20 g/t Au for all, Vertigo is restricted to above 150 m RL (~70 m below surface)

Area	Resource category	Quantity (tonnes)	Grade Au (g/t)	Contained Gold (ounces)
TOTAL	Measured	0	0.0	0
	Indicated	1,200,000	0.7	28,600
	Inferred	3,400,000	0.7	73,500
	Total	**4,600,000**	**0.7**	**101,900**
Hannaford	Measured	0	0.0	0
	Indicated	700,000	0.7	16,400
	Inferred	1,000,000	0.8	26,900
	Total	**1,700,000**	**0.8**	**43,300**
Vertigo	Measured	0	0.0	0
	Indicated	300,000	1.0	9,400
	Inferred	1,400,000	0.6	29,000
	Total	**1,700,000**	**0.7**	**38,300**
White Dam North	Measured	0	0.0	0
	Indicated	200,000	0.5	2,800
	Inferred	1,000,000	0.6	17,600
	Total	**1,200,000**	**0.5**	**20,300**

Copper is expected to be a valuable by product from the White Dam Project with the commissioning of the SART plant. Copper grades have not been reported with the gold resource as there is insufficient copper data to reliably estimate copper grades.

White Dam Gold-Copper Heap Leach Operation JV (50% GBM)

JV Agreement

GBM and Round Oak have satisfied all conditions precedent (gaining all regulatory approvals and constructing the SART Plant) to enable execution of the JV Agreement and recognition of GBM's earned 50% interest in White Dam (refer GBM ASX announcement dated 16 October 2019 for full details).

Under the JV Agreement, and following the addition of reagents to the SART Plant for the purposes of commissioning (now achieved), the following financial arrangement applies:

- GBM and Round Oak will contribute 50% of all capital and operating costs associated with White Dam;
- GBM and Round Oak will each be entitled to 50% of all gold, copper and other metals produced from White Dam; and
- Any increase in financing costs incurred by Round Oak as a result of an increase in rehabilitation bond shall be funded by GBM.

Round Oak has also granted GBM the option to acquire 100% (being the remaining 50%) of the White Dam JV for an exercise price of A$500,000 plus a 2% royalty on any copper and gold production revenue. In the event of option exercise, GBM would also assume the environmental liabilities for eventual White Dam closure, currently standing at A$1.9 million. The option is exercisable between 1 January 2021 and 30 June 2021.

Opportunity for GBM

The White Dam JV has the potential to provide GBM with cashflow generation while allowing for assessing opportunities to restart mining operations at White Dam to exploit remnant open pit mineralisation, other previously defined mineralised zones and explore other associated tenements.

White Dam is located in South Australia, approximately 50 km south-west of Broken Hill. It is a heap leach operation that, since 2010, has produced approximately 175,000 oz of gold from heap leaching of 7.5 Mt of ore at 0.94 g/t Au (which was mined from two open pits). While further work is required to confirm and quantify the opportunity in detail, there does appear strong potential to extend the life of the operation. It is worth noting the current gold price of around A$2,700/oz compares with a price of approximately A$1,650/oz at the time of the most recent mining campaign at White Dam in 2016/17.

The White Dam operation continues to produce gold (~2,000 oz in calendar 2019) from the existing heaps and has sufficient water to maintain production activities.

In summary, entering the White Dam JV is expected to deliver GBM the following key benefits and opportunities:

- **An attractively priced acquisition of an asset interest, expected to deliver short term cashflow generation.**
- **Asset optimisation through improved gold and copper recovery via the SART Plant completion.**
- **An established and experienced operational team.**
- **A gold recovery plant with the ability to be relocated to GBM's 100% owned Mt Coolon Project to support its possible development (should GBM exercise its option to acquire 100% of the White Dam JV).**
- **Significant potential exploration upside from extension of existing pits and exploration of identified structural and geochemical targets for new gold discoveries**

This ASX announcement was approved and authorised for release by:
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About GBM Resources

GBM Resources Limited is a mineral exploration and development company focused on the discovery of world-class gold and copper deposits in Eastern Australia. The company has a high calibre project portfolio, hosting district scale mineral systems, located in a number of premier metallogenic terrains including the Drummond Basin, Mt Morgan district and the Mt Isa Inlier in Queensland, and the Malmsbury Project in the prolific Victorian Goldfields. Along with the recently formed JV on the White Dam Gold Project in South Australia in which it holds a 50% interest (in cashflow only).

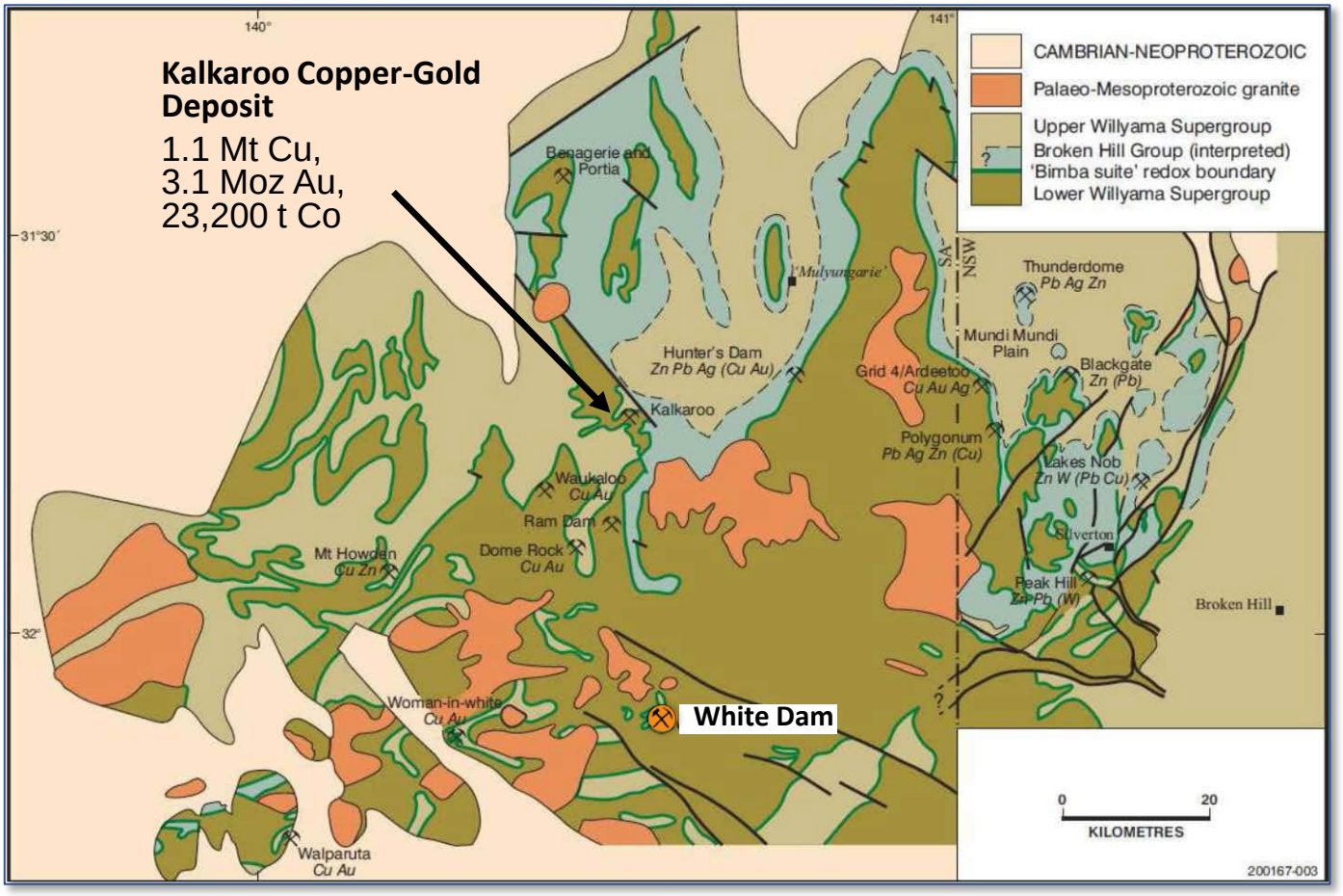
2020 White Dam Gold Project – Resource Estimate Commentary, Geology, Mineralisation and Exploration Potential

White Dam Gold Project: Geological Setting

White Dam is located in the Proterozoic Curnamona Province, which forms part of the Meso-Neoarchean aged Gawler Craton. This province is made up of the Mount Babbage Inlier, Mount Painter Inlier, and Olary Domain in South Australia and the Broken Hill Domain in New South Wales. The lithology and the stratigraphy of the Curnamona Province are correlated with rocks in the adjacent Broken Hill Domain (refer Carthew 2011).

Mineralisation in the southern Curnamona Province shows strong, regional, stratigraphy parallel, metallogenic Zoning. There is particular difference above and below the regional redox boundary which occurs at the location of the 'Bimba Suite'. In the Olary Domain, stratiform and fracture-controlled to locally metasomatic stratabound Cu±Au±Ag±Mo±Co bearing sulphides are often very prospective in upper formations of the Lower Wilyama Supergroup (see figure 2), particularly where it is magnetite rich or grades into iron formation. Major prospects associated with this zone are at Walparuta, Dome Rock Mine, Waukaloo, Burdens Dam, White Dam, Kalkaroo and Benagerie–Portia

Figure 2: Regional redox boundary in the southern Curnamona Province (from Lehy & Conor, 2000) [1].



The White Dam Project is comprised of three resource areas and numerous prospects and exploration targets defined by previous explorers in the region. The three known resources are Hannaford, Vertigo and White Dam North. Both Hannaford and Vertigo have been mined to provide ore for the current heap leach operation at White Dam Project site.

Figure 3: Aerial Photo Showing Pits and Deposits at White Dam Project

Hannaford Deposit

The deposit sits at the confluence of 2 significant structures, the NNW trending West Fault and the ENE trending South Fault. The South Fault defines the contact between mineralised gneiss and barren albitite. Rock types represented in the Hannaford pit include schist (pelite) and gneiss (psammite), tuff, felsic volcanics, minor amphibolites (volcanics), pegmatite and calc-silicates.

The gold – copper mineralisation at Hannaford has previously been interpreted as occurring in a favourable unit that has been folded into a tight to isoclinally folded recumbent fold with a gently north dipping axial plane overprinted by later gentle folds with sub-vertical east striking axial planes. This interpretation seems to have been

based only on the geometry of the gold mineralisation. An alternate interpretation is that gold mineralisation occurs in two styles: the first a favourable unit gently folded with sub-vertical east striking axial planes and the second a steeply dipping zone occurring along the south fault with the intersection of these two zones giving the appearance of the recumbent tight fold previously interpreted. In practice both interpretations result in a similar mineralisation shape so the impact on the resource estimate is minimal. However, the two interpretations do have significant implications for the exploration potential.

Figure 4: Plan view of the Hannaford Pit showing the key fault structures, gold mineralised shell and location of section shown below.

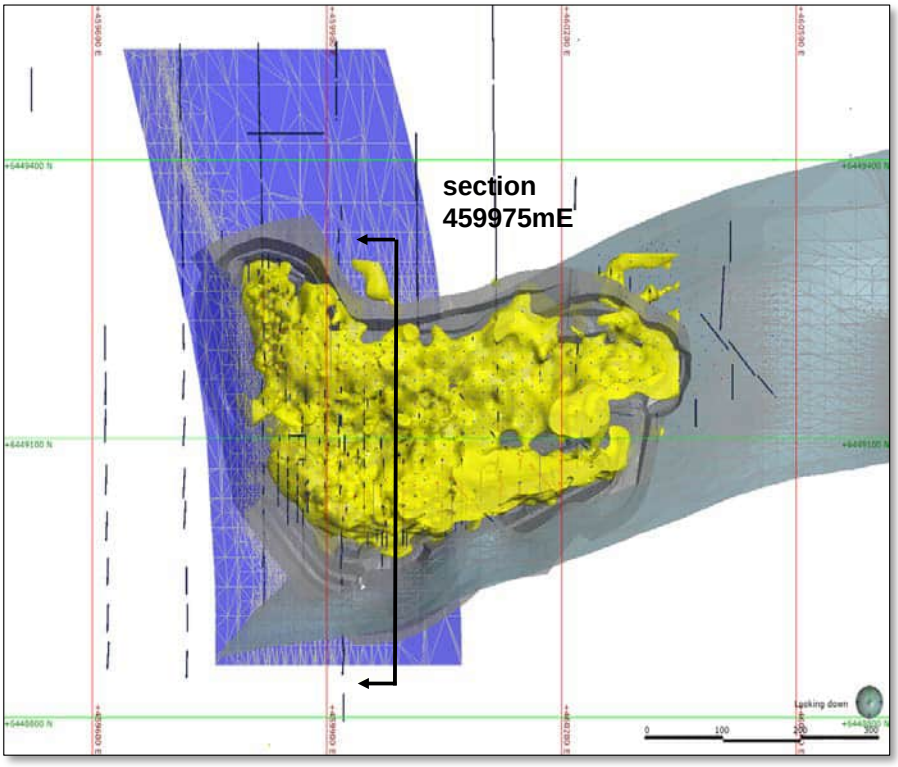
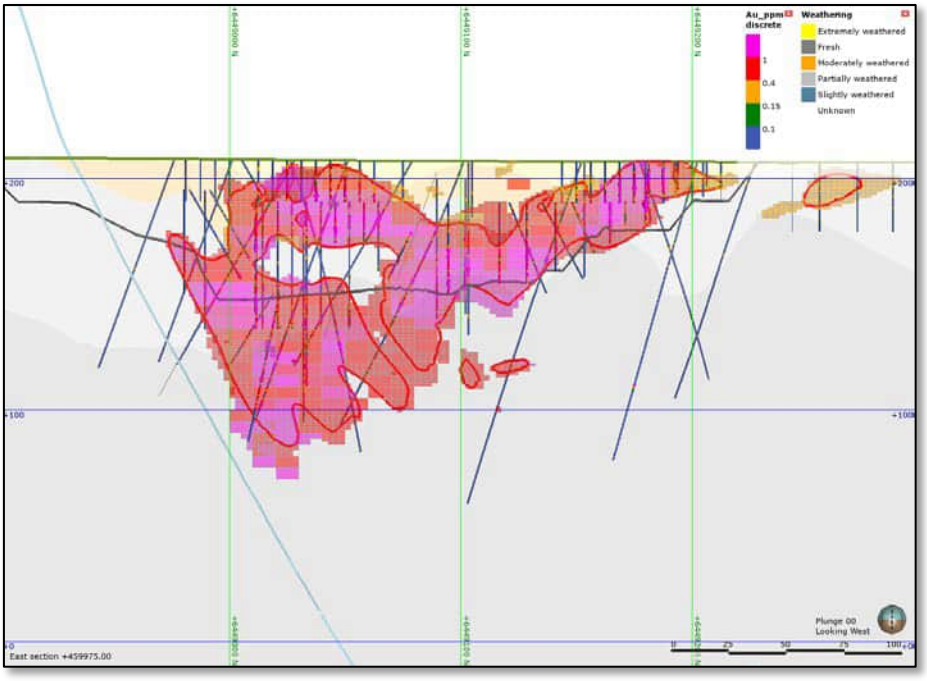


Figure 5: Hannaford cross section 459975mE showing weathering zones and block model Au grades extending well below the existing pit outline. Mineralisation is constrained by the limit of drilling.



Vertigo Deposit

The Vertigo deposit occurs as a series of tabular gently to moderately south dipping zones on or associated with the interpreted Vertigo Fault. In places gold mineralisation is associated with a contact between gneiss and albitite, although it is not clear how important this observation is as there is also gold mineralisation away from the contact. Flat-lying mineralisation occurs near the base of oxidation and while there is known supergene Cu mineralisation here (chalcocite), it is unclear whether supergene Au enrichment has developed.

Figure 6: Plan view of the Vertigo deposit showing gold grade shells and location of section shown below.

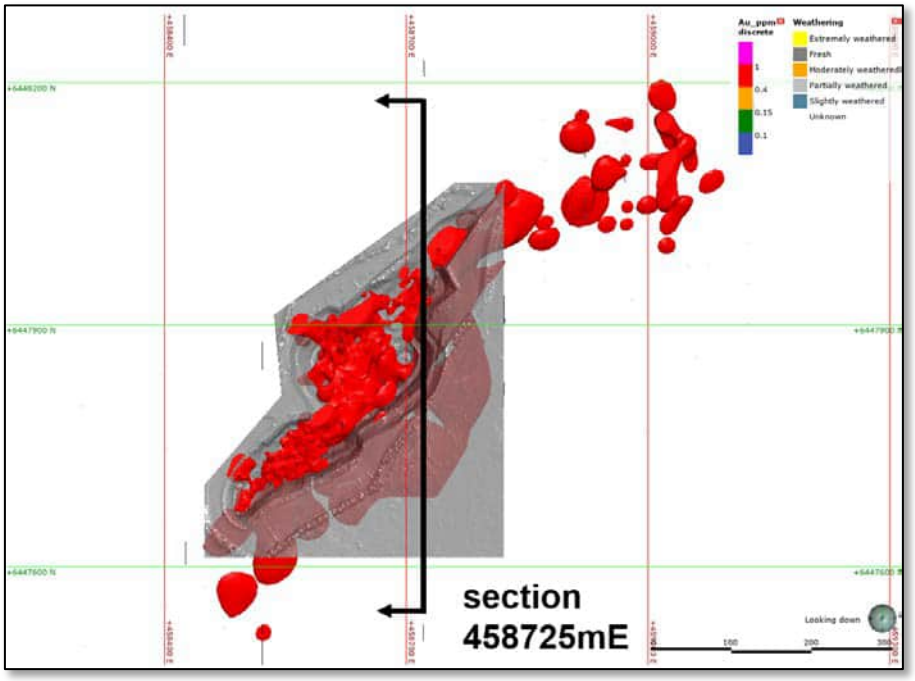


Figure 7: Vertigo cross section 458725mE showing gold block model grades and drill hole locations. Note resources only reported from above 150 m RL due to assumed economic constraints.

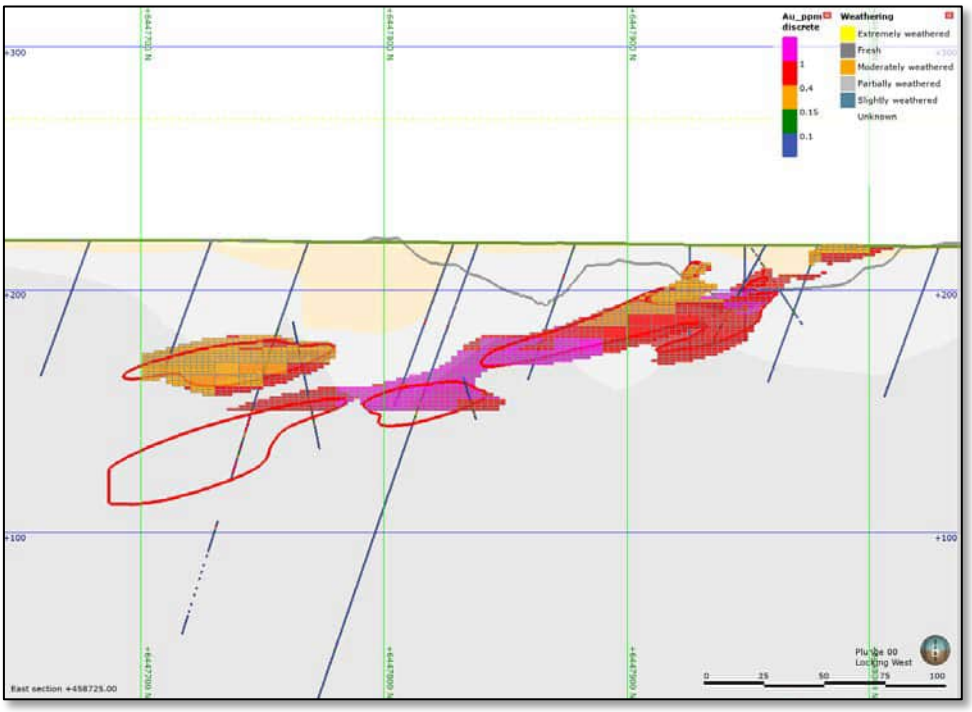


Figure 8: Existing shallow Vertigo Pit facing south west, mineralisation extends gently downward from the south eastern (left) side of the pit.

White Dam North Deposit.

The geology of the White Dam North deposit is poorly known as the only available data is the logging of mostly weathered RC chips. The gold mineralisation occurs in two zones, a northern zone and a southern zone. Both zones strike roughly east-west and are near flat lying. The northern zones dips very gently to the north and the southern zone gently to the south.

Figure 9: Plan of the White Dam North deposit showing gold grade shells and location of section shown below.

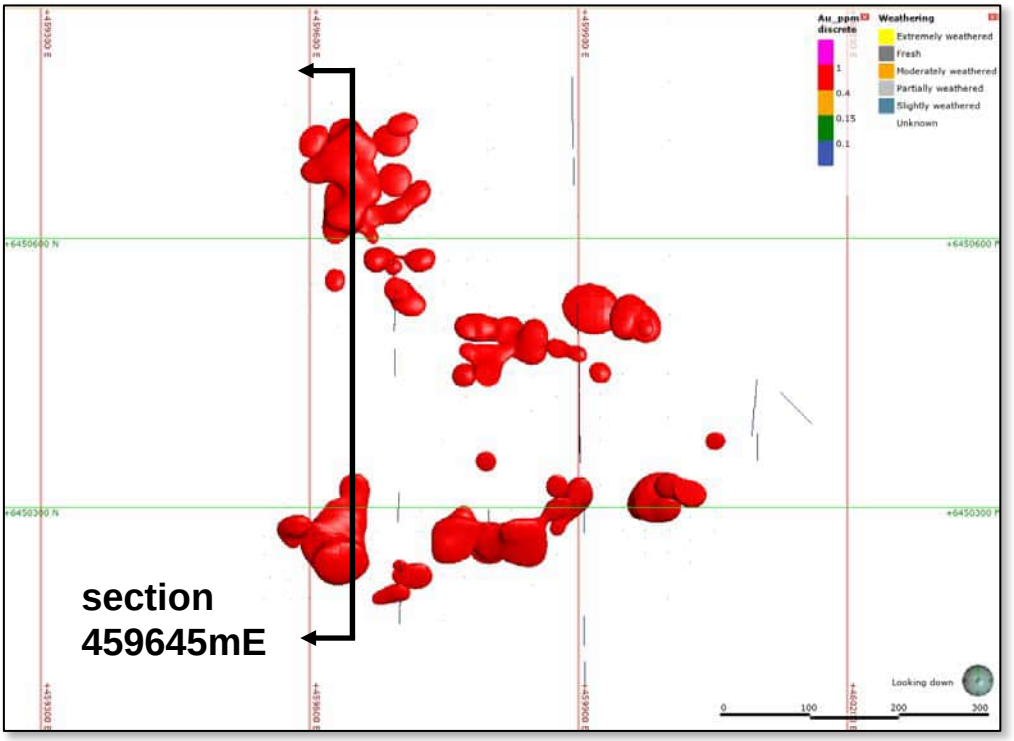
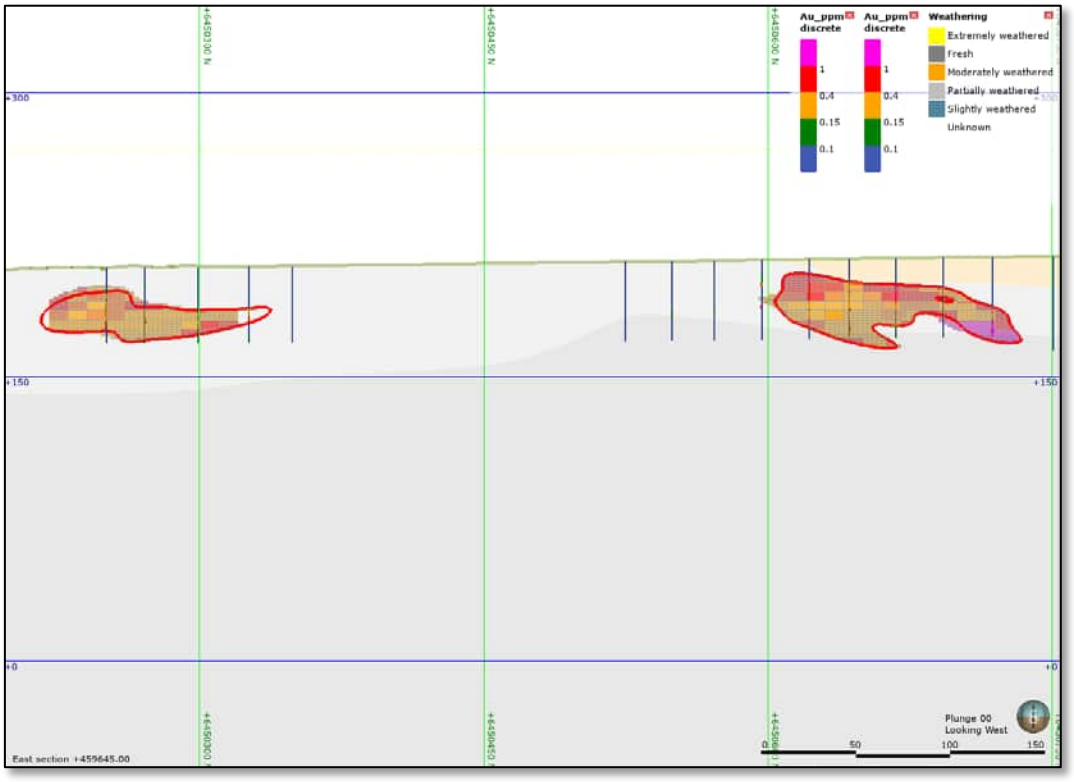


Figure 10: White Dam North cross section 459645mE through the two key lenses of mineralisation. The weathering profile clearly shows the mineralisation is oxidized throughout this deposit.



Previous work has identified strong potential for the discovery and exploitation of additional resource ounces in addition to the presence of unmined resources in both the Hannaford and Vertigo open pits. Key areas for resource accretion are;

- The White Dam North modelled open pit mineralisation.
- A number of structural trends in the vicinity of White Dam which have not been drilled.
- Regional prospectivity of the broader tenement package.

The introduction of the SART process is expected to enhance the economics (and future optimisations) on mineralisation which may have been considered uneconomic in the past.

Previous owner, Exco Resources Ltd commissioned independent consultant, Salva Resources Pty Ltd to review the prospectivity of tenements and prioritise targets. It ranked White Dam North, Rolling, White Dam high-grade intersection 'feeder' shoot and Vertigo down dip, as high potential and high priority targets. The consultant recommended the scoping of drilling programmes to test these high potential targets.
Salva also noted that while gold is the target commodity, the tenements were prospective for other commodities such molybdenum and rhenium and iron ore.

Sampling Methods
The resources are estimated from reverse circulation (RC) and diamond drilling (DD) data. At Hannaford 30 DD holes totalling 3259.1 m and 1258 RC holes totalling 47263.2 m were used. At Vertigo 24 DD holes totalling 1802.9 m and 193 RC holes totalling 8475.0 m were used. At White Dam North 244 RC holes totalling 11269.0 m were used. At Hannaford RC grade control and exploration holes were used in the resource estimate, whereas at Vertigo and White Dam North only exploration holes were used.

At Hannaford the drilling is dominated by RC GC holes which were drilled vertically on a 10 m by 10 m pattern. Vertigo drilling was completed on north – south sections compared to the northeast strike / southeast dip of mineralisation. Holes were largely drilled at -70° to the north. The drilling pattern varies from approximately 25 m by 25 m in the most densely drilled areas to 50 m by 50 m in less well drilled areas.

White Dam North drilling was completed on a 25 m by 25 m north – south grid. Almost all holes were drilled vertically which is appropriate for the flat lying nature of the mineralisation.

Diamond drilling campaigns were completed by both MIM and the WDJV. MIM drill core was sampled as half core cut by diamond saw. The drill samples were generally over 1.0 m but to geological intervals as appropriate. Of the WDJV DD core, 36% was sampled as whole core with the remainder sampled as half core cut by diamond saw. The DD samples were also 1.0 m but to geological intervals as appropriate.

The MIM RC sampling method was not stated. 75% of the RC samples were 1.0 m and 25% 2.0 m. intervals. The WDJV RC drilling was sampled using a Jones riffle splitter to a nominal 3 to 5 kg weight for submission to the laboratory. The WDJV RC samples were 2.0 m long.

A total of 55,702 samples were assayed from a total 72,069 m of drilling used in the resource estimates including 5,062 m. diamond and 67,007 m. RC.

Sample Analysis Method
All samples were assayed by fire assay with aqua regia finish at reputable independent commercial laboratories (ALS, SGS and On-Site Laboratories). All samples were submitted to commercial laboratories as 2 kg – 3 kg sub-samples. These were dried, crushed and pulverized. All samples were assayed for Au by fire assay of a 30 g or 50 g charge with AAS finish. AuCN was assayed on selected samples by either bottle roll or LeachWELL (a proprietary accelerated leach). Total Cu was assayed on selected samples by either AAS of a three acid digest or ICP-AES of a four acid digest. CuCN was assayed from either the bottle roll or LeachWELL liquor.

Quality Control Checks
Drilling campaigns covering the resource areas also included some holes outside of the immediate resource areas, however quality control sample data for these additional holes has been included in a review of sample data quality. Quality control included insertion of blank samples, standards, pulp duplicates and field duplicates. In total of 63,983 assays available for the project, 5,846 or over 9% were quality control samples.

A total of 394 blank samples, an insertion rate of 1 in 162 were used. Although this is insufficient to conclusively assess possible laboratory sample cross-contamination, 96.2% returned values of less than 0.02 g/t indicating that cross contamination was not a major issue in the overall data set.

A large number (69) of standards have been used over the life of the project. All were commercially supplied. Standards are available for all drilling campaigns, although only a small number are available for the Aberfoyle and MIM data. Overall, 2,392 standard samples were inserted or one standard sample per 27 samples which is adequate to assess the quality of laboratory processes. Graphs of the standard results normalised to the expected value were produced and reviewed and showed acceptable precision with no evidence of bias or drift.

A total of 1,770 pulp duplicate assays were performed at a rate of about 1 in 30 samples. The results show no bias and good precision.

A total of 1,290 field duplicates were taken and assayed. Field duplicates are quarter core for DD data and a second split (method unknown) for the RC data. There is 1 field duplicate result per 50 samples for the entire dataset. Analyses of the results concluded that these samples showed no bias and acceptable precision.

Estimation Methodology
Key elements of the estimation methodology are summarised below.

- The raw gold assay results were composited to 2.0 m length. At Vertigo composite grades above 10.0 g/t Au were limited to 20% of the search ellipsoid. At Hannaford composite grades above 15.0 g/t Au were limited to 15% of the search ellipsoid.
- The block model parent block size is 10 m x 10 m x 5 m (East, North, RL) for all three deposits, reflecting the typical drill spacing and mining selectivity. Sub-blocking was used with 4 m x 4 m x 4 m and 2 m x 2 m x 1.25 m blocks also used.
- Gold was interpolated within the gold domains using ordinary kriging (OK) from the composited data at parent block scale. Gold domain boundaries were 'hard' boundaries. The nugget effect was 31% at Hannaford, 17% at Vertigo, 62% and 72% at White Dam North. The total range in the major axis direction was 80 m for Hannaford and 60 m for Vertigo and White Dam North. The total range in the minor axis direction was 30 m for Hannaford and 10 m for Vertigo and White Dam North.

- Au was also interpolated using anisotropic inverse distance squared weighting and nearest neighbour assignment as a check
- The search neighbourhood was determined from the drill spacing and variogram range, allowing a block to 'see' across two drill sections in the major axis direction.
- Grade interpolation was conducted in a single pass using a maximum of 20 and a minimum of 5 composites from within a 50 m by 75 m by 75 m (east by north by vertical) ellipsoid.
- At Hannaford the search ellipsoid and variogram model were dynamically rotated using a structural trend model honouring the controls on mineralisation, i.e. lithology and the South Fault
- At Vertigo and White Dam North the search ellipsoid was oriented parallel to the variogram models
- The Hannaford and Vertigo block models were reconciled to historical production. This was only possible for each pit globally as individual ore blocks were not available. The results agree closely with the historical production with global grade reconciliation within 0.01 g/t Au and the tonnage in the new resource was 6% higher due to a lower cut-off grade being used in this new estimate.
- Copper was also estimated but has not been reported as assay coverage was considered insufficient to support a level of confidence required for a resource. No by-products, deleterious elements or other variables are estimated.
- Open pit mining with 0.5 m selectivity across strike was assumed.
- The geological interpretation was used to inform the gold grade domain interpretation. The gold grade domains were used as hard boundaries during interpolation.
- The block models were visually inspected in section and plan to check that the block grades match the raw assay grades appropriately and that the grade trends in the block models reflect those intended from the variogram models. In addition, filters were applied to the block models to find un-interpolated blocks and these were investigated to ensure that the interpolation had been correctly implemented

Resource Classification Criteria

The resource estimates were categorised into indicated and inferred resources based on certainty in the geological interpretation, data (drilling) spacing and kriging slope of regression. Mineral resources are only reported from above 150 m RL (~70 m below surface and 20 m deeper than the current pit) at Vertigo, the estimated maximum open pittable depth in the opinion of the competent person

Cut-off Grades

The cut-off grade is 0.20 g/t Au for all deposits reflecting what is considered a reasonable based on known production costs and recoveries for the operation at White Dam. It should be noted that the recent commission of a SART plant is expected to lower production costs and increase recovery of both gold and copper. In addition, the price of gold is significantly higher than when the last phase of open pit mining was completed in 2017.

Mining and Metallurgical Methods

This Resource estimate is based on the following assumptions, that:

- The mining method to be employed is open pit mining using both rip and doze and drill and blast methods as required. Previous open pit mining of the Hannaford and Vertigo deposits has demonstrated sufficient continuity, width and contains sufficient gold to have reasonable prospects of eventual economic extraction.
- Heap leach gold (and copper) extraction utilizing existing plant and equipment currently operating on site.
- All relevant regulatory permits relating to mining, mineral processing and the transport and sale are either in place or will be granted.

Eventual Economic Prospects

The designation of the White Dam mineralisation as resources is based on assumptions of a gold price (A$2,500/oz) plus 30%, open pit mining, recovery of gold by heap leaching, gold recoveries of at least 50% and open pit mining to comparable depths and strip ratios to recent mining except at Vertigo where mining to an additional 20 m depth (about 70 m below surface) is assumed. Mining and processing cost assumptions are based on recent (2015 – 2017) operational data. Assumed processing recovery is based on recent (2015 – 2017) operational data and testwork on fresh material.

Tenement Holding

The White Dam Gold Project comprises a series of mining (ML) and exploration leases as listed in Table 2 below. All tenements are 100% owned by Round Oak Minerals Ltd subsidiaries. GBM is currently earning a 50% interest in the

White Dam Gold Project metal production by funding the design and construction of a SART plant to remove copper from the cyanide circuit. GBM also has an option to acquire the 100% of the project by 30 June 2021.

Table 2: White Dam Project tenements.

Ten ID	Permit Status	Start Date	Expiry Date	Area
EL 6299	Granted	10-Nov-13	09-Nov-20	49 km^2
EL 5727	Granted	28-Jul-15	27-Jul-20 *	343 km^2
EL 6435	Granted	14-Oct-14	13-Oct-21	96 km^2
MPL 107	Granted	24-Jan-08	23-Jan-22	132.3 ha
MPL 106	Granted	24-Jan-08	23-Jan-22	162.6 ha
MPL 105	Granted	24-Jan-08	23-Jan-22	250 ha
MPL 95	Granted	11-Sep-07	23-Jan-22	24.1 ha
ML 6275	Granted	11-Sep-07	23-Jan-22	249.8 ha
MPL 6395	Granted	08-Dec-11	07-Dec-26	249.9 ha
MPL 139	Granted	08-Dec-11	07-Dec-26	249.77 ha

* Renewal lodged 27 Apr 2020

The Hannaford and Vertigo resources are located on granted mining licences and there are no known impediments to granting of any other permits required over these deposits. Recently as part of the implementation of the SART Project the Round Oak got a new approved program for environment protection and rehabilitation (PEPR) with now major delays. Future development of the White Dam North deposit will require the grant of a mining licence and all relevant permits. There are no known impediments to the granting of a mining licence or other permits over this resource.

Notes:

The information in this report that relates to The White Dam Mineral Resources is based on information compiled by Kerrin Allwood, who is a Member of The Australasian Institute of Mining and Metallurgy and The Australasian Institute of Geoscientists. Mr Allwood is a full time employee of Geomodelling Limited. Mr Allwood has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Allwood consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates Exploration Results is based on information compiled by Neil Norris, who is a Member of The Australasian Institute of Mining and Metallurgy and The Australasian Institute of Geoscientists. Mr Norris is a full-time employee of the company and is a holder of shares in the company. Mr Norris has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Norris consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Company confirms that the form and context in which the Competent Persons findings are presented have not been materially modified from the original market announcements.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the respective announcements and all material assumptions and technical parameters underpinning the resource estimate with those announcements continue to apply and have not materially changed.

References:

Leyh W.R., Conor C.H. 2000: 'Stratigraphically controlled metallogenic zonation associated with the regional redox boundary of the Willyama Supergroup — economic implications for the southern Curnamona Province'. MENSA Journal 16 January 2000.

Appended:

White Dam Deposit JORC - Table 1
White Dam Resource Upgrade Table 3 Drill Hole Details
White Dam Resource Upgrade Table 4 Drill Hole Intersections

JORC Code, 2012 Edition – Table 1 report template

Section 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*	• Drilling was carried out in five campaigns from 1985 through to 2017. These campaigns were carried out by Aberfoyle (1985-89, 15.9% of data), Mount Isa Mines (1994-98, 9.0% of data), the White Dam Joint Venture (2002-12, 31.7% of data), CopperChem Ltd (2015, 1.5% of data) and Hannaford RC grade control drilling (2010-17, 41.9% of data). The drilling and sampling methods were similar for all campaigns, however the quality of the data from each campaign was assessed separately prior to acceptance for use in resource estimation. • The resource estimates are based on assays of sub-samples taken from reverse circulation (RC) chips and diamond drilling (DD) core. • RC drilling was sub-sampled using a riffle splitter. Field duplicate data shows that the sampling method had acceptable precision. RC samples were 1.0m or 2.0 m long. • DD core was sampled as half core using a diamond saw. DD samples were to geological intervals with a preferred length of 1.0 m. • All samples were submitted to commercial laboratories as 2kg – 3kg sub-samples. These were dried, crushed and pulverized. All samples were assayed for Au by fire assay of a 30 g or 50 g charge with AAS finish. AuCN was assayed on selected samples by either bottle roll or LeachWELL (a proprietary accelerated leach). Total Cu was assayed on selected samples by either AAS of a three acid digest or ICP-AES of a four acid digest. CuCN was assayed from either the bottle roll or LeachWELL liquor.
Drilling techniques	• *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• DD drilling used conventional wireline drilling of HQ or NQ core. • The RC drilling methods (hole size, hammer type, compressor capacity etc.), sample recovery and sample moisture are not available
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.*	• DD rill recovery data are only available for two holes drilled for metallurgical sample. The drilling recovery in these holes averaged 96.2% • There is no drilling recovery data for the RC drilling

Criteria	JORC Code explanation	Commentary
	• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• There is insufficient data to establish a relationship between grade and drilling recovery. • There is no grade – grainsize data to establish a relationship
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• All core and RC chips were logged for lithology, colour, weathering and mineralization with sufficient detail to support mineral resource estimation. • Selected DD holes were logged in detail for Geotechnical and oriented structural data • All core was photographed • Core and sieved RC chips are stored in secure containers on site
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	• RC drilling was sub-sampled using a riffle splitter. Field duplicate data (1 per 30 samples) shows that the sampling method had acceptable precision. RC samples were 1.0m or 2.0 m long. Laboratory data shows that the sub-samples were typically 2 kg – 3 kg. • DD core was sampled as half core using a diamond saw. DD samples were to geological intervals with a preferred length of 1.0 m. Laboratory data shows that the sub-samples were typically 2 kg – 3 kg. • In the laboratory sub-sample grain size was reduced by crushing and milling to ensure representivity of sub-samples • Field duplicate samples (quarter core for DD) were taken at a rate of 1 per 50 samples to assess the representivity of field sampling methods. The results show good precision. • The sub-sample sizes were appropriate to the fine grained mineralisation
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• All Au samples were fire assays with AAS finish, yielding total gold results. This is appropriate to the mineralization style and the processing method • No geophysical tools were used • Quality control (QC) measures included the use of blanks, standards, pulp duplicates and field duplicates. The insertion rate varied by drilling campaign. No evidence of systematic biases, cross-contamination or un-acceptable precision was found.
Verification of sampling and	• *The verification of significant intersections by either independent or alternative company personnel.*	• No checks verifying intercepts have been carried out, however the five year mining history during which grade control and production

Criteria	JORC Code explanation	Commentary
assaying	• *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	data reconciled well with resource estimates provides confidence in the data • No twin holes were used • Data was provided as a database. The data in the database was not verified against original data as the original data was not provided. Checks were made for out of range vales, overlaps, missing intervals and samples beyond hole depth. • The only adjustment to assay data was to change below detection limit data (all <0.01 g/t Au) to half the detection limit.
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Collar locations were largely determined by DPS (54.6%) or GPS (8.3%). The survey method for 33% of the holes is unknown, however the coordinates for these holes are recorded to three decimal places implying a high precision instrument • All survey data was carried out in MGA94 zone 54. • Topographic control outside the mined pits was LiDAR. In the mined pits the lowest mined surface was determined from triangulated total station surface traverses. These methods provide high quality data suitable for resource estimation.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• Hole spacing ranged from 25 m by 25 m to 10 m by 10 m at Hannaford, 50 m by 50 m to 25 m by 25 m at Vertigo and entirely 25 m by 25 m at White Dam North. These spacings are appropriate to the level of resource classification applied. • Sample compositing was not applied.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• The drilling was oriented perpendicular to the strike and dip of mineralization. • The sampling orientation is not considered to have introduced any sampling bias.
Sample security	• *The measures taken to ensure sample security.*	• The measures taken to ensure sample security (if any) were not recorded.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• No audits or reviews of the data have been carried out other than routine checks on data (extreme values, out of range vales, overlaps, missing intervals and samples beyond hole depth etc.) prior to use.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr>
<td>Mineral tenement and land tenure status</td>
<td>

Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.
The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.

</td>
<td>

The White Dam Gold Project comprises a series of mining (ML) and exploration leases as listed below. All tenements are 100% owned by Round Oak Minerals Ltd subsidiaries. GBM is currently earning a 50% interest in the White Dam Gold Project by funding the design and construction of a SART plant to remove copper from the cyanide circuit. GBM also has an option to acquire the remaining 50% of the project.

<table>
<tr><th>Tenement</th><th>Permit Status</th><th>Start Date</th><th>Expiry Date</th><th>Area</th></tr>
<tr><td>EL 6299</td><td>Granted</td><td>10-Nov-13</td><td>09-Nov-20</td><td>49 km2</td></tr>
<tr><td>EL 5727</td><td>Granted</td><td>28-Jul-15</td><td>27-Jul-20</td><td>343 km2</td></tr>
<tr><td>EL 6435</td><td>Granted</td><td>14-Oct-14</td><td>13-Oct-21</td><td>96 km2</td></tr>
<tr><td>MPL 107</td><td>Granted</td><td>24-Jan-08</td><td>23-Jan-22</td><td>132.3 ha</td></tr>
<tr><td>MPL 106</td><td>Granted</td><td>24-Jan-08</td><td>23-Jan-22</td><td>162.6 ha</td></tr>
<tr><td>MPL 105</td><td>Granted</td><td>24-Jan-08</td><td>23-Jan-22</td><td>250 ha</td></tr>
<tr><td>MPL 95</td><td>Granted</td><td>11-Sep-07</td><td>23-Jan-22</td><td>24.1 ha</td></tr>
<tr><td>ML 6275</td><td>Granted</td><td>11-Sep-07</td><td>23-Jan-22</td><td>249.8 ha</td></tr>
<tr><td>MPL 6395</td><td>Granted</td><td>08-Dec-11</td><td>07-Dec-26</td><td>249.9 ha</td></tr>
<tr><td>MPL 139</td><td>Granted</td><td>08-Dec-11</td><td>07-Dec-26</td><td>249.77 ha</td></tr>
</table>

There are no known impediments obtaining a licence to operate. The White Dam North deposit is located on an exploration licence and will require the grant of a mining licence and necessary permits before mining can commence there.

</td>
</tr>
</table>

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	1985 – Aberfoyle conduct regional mapping. 1989 – Normandy delineate an anomalous gold area. 1994 – 1998 – MIM conduct exploration over the White Dam area and define a Resource. 2002 – Polymetals purchase White Dam from MIM. 2002 – Exco introduced as a JV partner. WDJV carries out resource definition drilling and metallurgical testwork. 2005 – Polymetals sell interest to Exco. 2008 – Polymetals reintroduced to the project as JV partner and manager. 2009 – Approvals, funding and construction. 2010 – Operations commence and first gold poured in April. Mining of open pits at Hannaford and Vertigo. 2012 – Mining operations cease, gold production continues from the heap leach. 2015 – Operations re-start sourcing ore from cutbacks at Hannaford and Vertigo. Minor drilling for metallurgical samples, geotechnical and hydrological studies 2012 – Mining operations cease, gold production continues from the heap leach to present day. 2017 – Mining re-started at Hannaford and Vertigo Pits
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Gold - copper mineralization is strataform within pelitic gneiss, schist and quartzite. Gold - copper mineralisation is associated with chlorite and phlogopite alteration. High grade gold is associated with sulphides in fresh rock. Weathering has re-mobilised gold and copper resulting in broader, lower grade mineralisaiton in weathered material compared to fresh material
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* o *easting and northing of the drill hole collar* o *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* o *dip and azimuth of the hole* o *down hole length and interception depth* o *hole length.*	• These data are too numerous to report here. The drill collar information is listed in table 3 of the announcement.

Criteria	JORC Code explanation	Commentary
	• *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Reported drilling intercepts are length weighted averages with no top cut applied. Intercepts have a cut-off grade of 0.15 g/t Au, a minimum downhole width of 4 m, maximum internal dilution (<0.15 g/t Au) and a minimum grade * width of 0.8 g*m. • Metal equivalents are not reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• The drilling is generally at a high angle to mineralization. Both downhole and estimated true width are reported.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Refer body of announcement
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	• All results meeting the criteria above are reported in table 4 in the announcement.
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• The White Dam group of tenements has been subject to aerial magnetic surveys, regional air core and RAB geochemical surveys with RC and DD drilling of identified prospects (other than those reported on here)
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas,*	• Associated with this tabulation a resource estimate has been completed. This will be followed by a pit optimization and if justified, pit design and additional metallurgical testwork.

Criteria	JORC Code explanation	Commentary
	provided this information is not commercially sensitive.	

Section 3 Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	JORC Code explanation	Commentary
Database integrity	• *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.* • *Data validation procedures used.*	• The original data was not available to validate the database. • Checks on data (extreme values, out of range vales, overlaps, missing intervals and samples beyond hole depth etc.) were carried out prior to use in resource estimation.
Site visits	• *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* • *If no site visits have been undertaken indicate why this is the case.*	• No site visit has been carried out by the competent person die to travel restrictions related to COVID-19. A site visit will be made as soon as practicable.
Geological interpretation	• *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* • *Nature of the data used and of any assumptions made.* • *The effect, if any, of alternative interpretations on Mineral Resource estimation.* • *The use of geology in guiding and controlling Mineral Resource estimation.* • *The factors affecting continuity both of grade and geology.*	• Geological interpretation was carried out using Leapfrog software. At Hannaford a structural trend surface of interpreted lithological contacts and faults was used. At Vertigo and White Dam North a preferred structural trend based on the perceived strike and dip of mineralization was used. • The confidence in the Hannaford geological interpretation is high because it is largely constrained by closely spaced drilling (10 m by 10 m) for which there is little room for alternative interpretations. • At Vertigo and White Dam North the confidence in the geological interpretation is moderate as the drill spacing is wider and largely RC. Alternative interpretations are possible, albeit unlikely. • Interpreted geology was used to guide the domain interpretations as described above and also used to control the orientation of search ellipses and variogram models during grade interpolation. • Gold grade domains were interpreted by Leapfrog RBF interpolation of indicators of intercepts at least 4m long, > 0.15 g/t, > 0.8 g/t * m and with a maximum internal dilution length of 4 m. • Copper grade domains were interpreted by Leapfrog RBF interpolation of 2.0 m composite indicators at 200 ppm Cu. • Oxidation (weathering) domains were created using Leapfrog RBF interpolation of logged weathering. • Grade continuity is slightly modified by weathering with grade slightly less variable in more weathered material.

Criteria	JORC Code explanation	Commentary
Dimensions	• *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	• At Hannaford gold mineralization is approximately 500 m by 200 m in plan and 10 m to 40 m thick vertically. • At Vertigo the mineralisation occurs as tabular sub-parallel zones dipping 15° to the southeast. The tabular zones are continuous over (northeast) strike lengths of about 600 m, down dip at least 200 m and 4 m to 20 m thick. • At White Dam North gold mineralisation occurs as discontinuous sub-horizontal zones. In the north the mineralized zones are about 100 m by 150 m in plan, 10 m to 20 m thick and dip 0° to 10° to the north. In the south the mineralized zones are about 250 m by 50 m in plan, 10 m to 20 m thick and dip 0° to 15° to the south.
Estimation and modelling techniques	• *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.* • *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.* • *The assumptions made regarding recovery of by-products.* • *Estimation of deleterious elements or other non-grade variables of economic significance (e.g. sulphur for acid mine drainage characterisation).* • *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.* • *Any assumptions behind modelling of selective mining units.* • *Any assumptions about correlation between variables.* • *Description of how the geological interpretation was used to control the resource estimates.* • *Discussion of basis for using or not using grade cutting or capping.* • *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*	• The grade estimation techniques were similar for all three deposits. Gold grades were interpolated by ordinary kriging of data composited to 2.0 m length using Leapfrog Edge software. The nugget effect was 31% at Hannaford, 17% at Vertigo, 62% and 72% at White Dam North. The total range in the major axis direction was 80 m for Hannaford and 60 m for Vertigo and White Dam North. The total range in the minor axis direction was 30m for Hannaford and 10 m for Vertigo and White Dam North. At Hannaford extreme grades above 15 g/t Au were restricted to 15% of the search ellipse. At Vertigo extreme grades above 10 g/t Au were restricted to 20% of the search ellipse. No restriction on extreme grades was applied to White Dam North because no extreme grades were identified. The block grades were estimated in all deposits using a minimum of 5 and a maximum of 20 composite samples with a maximum of 11 per octant, 5 per drill hole and a maximum of 6 empty octants. The search ellipse was oriented parallel to and sized proportional to the variogram model such that the major axis could 'see' 2.5 sections. In practice this made the search major axis about 80% of the total variogram range. Gold grade domains boundaries were treated as hard boundaries. At Hannaford a structural trend surface of interpreted lithological contacts and faults was used to dynamically orient the search ellipse and variogram model. At Vertigo and White Dam North the search ellipse orientation was fixed based on the variogram model. • Au was also estimated by inverse distance squared and nearest neighbour weighting using the same search parameters as a check on the ordinary kriged estimate. • AuCN was estimated using the same variogram model and parameters as Au. AuCN was not interpolated in some blocks

Criteria	JORC Code explanation	Commentary
		because there are significantly fewer AuCN data. For these blocks the average blocks grade for the weathering level was applied. • Copper and CuCN were interpolated by ordinary kriging within the copper domains. Copper domain boundaries were 'hard' boundaries. • No deleterious or other elements were estimated. • The search neighbourhood was determined from the drill spacing and variogram range, allowing a block to 'see' across two drill sections in the major axis direction. The search ellipsoid was oriented the same as the variogram models. The minimum, maximum samples and block discretisation were the same as for Au. CuCN was not interpolated in some blocks because there are significantly fewer CuCN data. For these blocks the average blocks grade for the weathering level was applied. • The parent block size was 10 m x 10 m x 5m (XYZ) for all three deposits. The parent block size was determined from the drill hole spacing, approximating half the hole spacing and anticipated open pit mining bench height • Extreme Au grades were not capped but their influence was restricted as described above. • The block model was validated visually against raw drilling assays, by the use of swath plots and by reconciling to historical grade control data.
Moisture	• *Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.*	• All tonnages are reported on a dry basis. Oven dried (105°C) masses were used for both assay sample preparation and bulk density determinations to ensure correct tonnage calculations.
Cut-off parameters	• *The basis of the adopted cut-off grade(s) or quality parameters applied.*	• All gold resources are reported above a cut-off grade of 0.2 g/t. This assumes open pit bulk mining, processing and recovery of gold by heap leach.
Mining factors or assumptions	• *Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be*	• Open pit mining is assumed to economic to depths of about 120 m below surface at Hannaford and 70 m depth at Vertigo and White Dam North. Previous open pit mining extended to 110 m below surface at Hannaford and 50 m at Vertigo under a significantly lower gold price regime about AUD $1,500 per ounce. Previous mining used a bench height of 4 m with 2 m flitches and a minimum mining width of 2 metres. Mining was free

Criteria	JORC Code explanation	Commentary
	reported with an explanation of the basis of the mining assumptions made.	dig in extremely weathered material with drill and blast required in moderately and partially weathered material. • All relevant regulatory permits relating to mining, mineral processing and the transport and sale are either in place or will be granted.
Metallurgical factors or assumptions	• *The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.*	• The gold price remains near, at or above current levels (AUD $2,500 per ounce) • Gold can be technically and profitably produced by heap leach (HL) treatment using existing infrastructure with expansion of the leach pad if necessary. • The existing infrastructure can be modified to allow utilisation of SART technology to lower cyanide consumption and provide by-product copper, further enhancing project economics. • Recent metallurgical testwork has shown that, with the construction and operation of a SART plant, processing of fresh ore is economically viable. • The existing heap leach pad has capacity for at least a further 0.5 Mt. Expansion of the heap leach pad beyond this would require the grant of necessary permits. •
Environmental factors or assumptions	• *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	• All relevant regulatory permits relating to mining, mineral processing and the transport and sale are either in place or will be granted. • Current permits allow the placement of an additional 0.5Mt on the existing heap leach pad

<table>
<tr><th>Criteria</th><th>JORC Code explanation</th><th>Commentary</th></tr>
<tr><td>Bulk density</td><td>

Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.
The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc.), moisture and differences between rock and alteration zones within the deposit.
Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.

</td><td>

282 dry bulk density determinations are available. 205 of these are from partially weathered material and 77 from fresh material. All were determined by core immersion although the used (if any) to prevent water incursion into the core was not recorded.
Bulk density was assigned to blocks by weathering level from the median of available data or as estimated from experience of the competent person as detailed below.

<table>
<tr><th></th><th>Assigned dry bulk density (t/m³)</th><th>Source</th></tr>
<tr><td>Air</td><td>0.0</td><td>na</td></tr>
<tr><td>Extremely weathered</td><td>2.0</td><td>CP experience</td></tr>
<tr><td>Moderately weathered</td><td>2.4</td><td>CP experience</td></tr>
<tr><td>Partially weathered</td><td>2.5</td><td>Median of data</td></tr>
<tr><td>Slightly weathered</td><td>2.6</td><td>CP experience</td></tr>
<tr><td>Fresh</td><td>2.65</td><td>Median of data</td></tr>
<tr><td>Fill</td><td>1.6</td><td>CP experience</td></tr>
</table>
</td></tr>
<tr><td>Classification</td><td>

The basis for the classification of the Mineral Resources into varying confidence categories.
Whether appropriate account has been taken of all relevant factors (i.e. relative confidence in tonnage/grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).
Whether the result appropriately reflects the Competent Person's view of the deposit.

</td><td>

The mineral resources were classified based on confidence in the geological interpretation and block kriging slope of regression, a function of the drilling data spacing / configuration and the variogram model. The resource classification was adjusted down to allow for reduced confidence in the data quality due to limited documentation of drilling and sampling methods. Block classification was generalised using wireframes to avoid isolated blocks.
Mineral resources are only reported from above 150 m RL (~70 m below surface and 20 m deeper than the current pit) at Vertigo, the estimated maximum open pittable depth in the opinion of the competent person
All factors relevant to resource estimation confidence were taken into account.
The resource classification appropriately reflects the Competent Person's view of the deposits.

</td></tr>
<tr><td>Audits or</td><td>

The results of any audits or reviews of Mineral Resource estimates.

</td><td>

This mineral resource estimate has not been externally audited or

</td></tr>
</table>

Criteria	JORC Code explanation	Commentary
reviews		reviewed.
Discussion of relative accuracy/ confidence	• *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* • *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* • *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	• The resource classification is qualitative and so numeric confidence intervals cannot be applied. • Resource classification is local at the parent block scale.

Table 3 – Drill hole List

All collar coordinates are MGA94_54.

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
DHWB001	31	OHP	460946.8	6434954	220	none	5 WDJV	WDJV
DHWB002	102	RC	460221.9	6449529	205.245	none	5 WDJV	WDJV
DHWB003	50	RC	460596.9	6449729	203.073	none	5 WDJV	WDJV
DHWB004	75	RC	459921.9	6447979	215	none	5 WDJV	WDJV
DHWB005	50	RC	460246.9	6451129	212	none	5 WDJV	WDJV
DHWB006	100	RC	457921.7	6426429	225	none	5 WDJV	WDJV
DHWB007	100	RC	447246.8	6433309	215	none	5 WDJV	WDJV
GC0001	18	RC	459775	6449269	207.403	Hannaford	7 HF_GC	WDJV
GC0002	18	RC	459775	6449269	207.403	Hannaford	7 HF_GC	WDJV
GC0003	24	RC	459775	6449256	207.355	Hannaford	7 HF_GC	WDJV
GC0004	30	RC	459775	6449244	207.403	Hannaford	7 HF_GC	WDJV
GC0005	30	RC	459775	6449231	207.38	Hannaford	7 HF_GC	WDJV
GC0006	30	RC	459775	6449219	207.467	Hannaford	7 HF_GC	WDJV
GC0007	30	RC	459775	6449218	207.467	Hannaford	7 HF_GC	WDJV
GC0008	24	RC	459775	6449206	207.53	Hannaford	7 HF_GC	WDJV
GC0009	18	RC	459775	6449194	207.495	Hannaford	7 HF_GC	WDJV
GC0010	18	RC	459787.5	6449275	207.423	Hannaford	7 HF_GC	WDJV
GC0011	18	RC	459787.5	6449263	207.321	Hannaford	7 HF_GC	WDJV
GC0012	18	RC	459787.5	6449250	207.333	Hannaford	7 HF_GC	WDJV
GC0013	18	RC	459787.5	6449238	207.406	Hannaford	7 HF_GC	WDJV
GC0014	18	RC	459787.5	6449225	207.431	Hannaford	7 HF_GC	WDJV
GC0015	18	RC	459787.5	6449213	207.487	Hannaford	7 HF_GC	WDJV
GC0016	18	RC	459787.5	6449200	207.35	Hannaford	7 HF_GC	WDJV
GC0017	18	RC	459787.5	6449200	207.35	Hannaford	7 HF_GC	WDJV
GC0018	20	RC	459787.5	6449188	207.585	Hannaford	7 HF_GC	WDJV
GC0019	20	RC	459787.5	6449175	207.584	Hannaford	7 HF_GC	WDJV
GC0020	12	RC	459800	6449281	207.246	Hannaford	7 HF_GC	WDJV
GC0021	20	RC	459800	6449269	207.204	Hannaford	7 HF_GC	WDJV
GC0022	18	RC	459800	6449269	207.204	Hannaford	7 HF_GC	WDJV
GC0023	18	RC	459800	6449256	207.313	Hannaford	7 HF_GC	WDJV
GC0024	18	RC	459800	6449244	207.301	Hannaford	7 HF_GC	WDJV
GC0025	18	RC	459800	6449231	207.36	Hannaford	7 HF_GC	WDJV
GC0026	18	RC	459800	6449219	207.422	Hannaford	7 HF_GC	WDJV
GC0027	18	RC	459800	6449206	206.542	Hannaford	7 HF_GC	WDJV
GC0028	18	RC	459800	6449194	207.366	Hannaford	7 HF_GC	WDJV
GC0029	18	RC	459800	6449181	207.537	Hannaford	7 HF_GC	WDJV
GC0030	18	RC	459800	6449169	207.252	Hannaford	7 HF_GC	WDJV
GC0031	18	RC	459800	6449156	207.688	Hannaford	7 HF_GC	WDJV
GC0032	18	RC	459800	6449144	207.687	Hannaford	7 HF_GC	WDJV
GC0033	12	RC	459812.5	6449276	207.191	Hannaford	7 HF_GC	WDJV
GC0034	18	RC	459812.5	6449275	207.191	Hannaford	7 HF_GC	WDJV
GC0035	18	RC	459812.5	6449263	207.206	Hannaford	7 HF_GC	WDJV
GC0036	18	RC	459812.5	6449250	207.332	Hannaford	7 HF_GC	WDJV
GC0037	18	RC	459812.5	6449238	207.389	Hannaford	7 HF_GC	WDJV
GC0038	18	RC	459812.5	6449225	207.194	Hannaford	7 HF_GC	WDJV
GC0039	18	RC	459812.5	6449213	207.001	Hannaford	7 HF_GC	WDJV
GC0040	18	RC	459812.5	6449200	207.088	Hannaford	7 HF_GC	WDJV
GC0041	18	RC	459812.5	6449188	206.807	Hannaford	7 HF_GC	WDJV
GC0042	18	RC	459812.5	6449175	207.644	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0043	18	RC	459812.5	6449163	207.713	Hannaford	7 HF_GC	WDJV
GC0044	12	RC	459825	6449269	207.23	Hannaford	7 HF_GC	WDJV
GC0045	20	RC	459825	6449257	207.13	Hannaford	7 HF_GC	WDJV
GC0046	18	RC	459825	6449256	207.13	Hannaford	7 HF_GC	WDJV
GC0047	18	RC	459825	6449244	207.254	Hannaford	7 HF_GC	WDJV
GC0048	18	RC	459825	6449231	207.272	Hannaford	7 HF_GC	WDJV
GC0049	18	RC	459825	6449219	206.928	Hannaford	7 HF_GC	WDJV
GC0050	18	RC	459825	6449206	207.292	Hannaford	7 HF_GC	WDJV
GC0051	18	RC	459825	6449194	207.484	Hannaford	7 HF_GC	WDJV
GC0052	18	RC	459825	6449181	207.562	Hannaford	7 HF_GC	WDJV
GC0053	18	RC	459825	6449169	207.626	Hannaford	7 HF_GC	WDJV
GC0054	18	RC	459825	6449156	207.689	Hannaford	7 HF_GC	WDJV
GC0055	18	RC	459825	6449144	207.747	Hannaford	7 HF_GC	WDJV
GC0056	18	RC	459825	6449131	207.747	Hannaford	7 HF_GC	WDJV
GC0057	12	RC	459837.5	6449263	207.059	Hannaford	7 HF_GC	WDJV
GC0058	18	RC	459837.5	6449263	207.059	Hannaford	7 HF_GC	WDJV
GC0059	18	RC	459837.5	6449250	206.935	Hannaford	7 HF_GC	WDJV
GC0060	18	RC	459837.5	6449238	206.735	Hannaford	7 HF_GC	WDJV
GC0061	18	RC	459837.5	6449225	206.925	Hannaford	7 HF_GC	WDJV
GC0062	18	RC	459837.5	6449213	207.429	Hannaford	7 HF_GC	WDJV
GC0063	18	RC	459837.5	6449200	207.511	Hannaford	7 HF_GC	WDJV
GC0064	18	RC	459837.5	6449188	207.544	Hannaford	7 HF_GC	WDJV
GC0065	18	RC	459837.5	6449175	207.568	Hannaford	7 HF_GC	WDJV
GC0066	18	RC	459837.5	6449163	207.63	Hannaford	7 HF_GC	WDJV
GC0067	18	RC	459837.5	6449150	207.704	Hannaford	7 HF_GC	WDJV
GC0068	18	RC	459837.5	6449138	207.768	Hannaford	7 HF_GC	WDJV
GC0069	18	RC	459837.5	6449113	208.004	Hannaford	7 HF_GC	WDJV
GC0070	18	RC	459837.5	6449088	208.084	Hannaford	7 HF_GC	WDJV
GC0071	20	RC	459837.5	6449087	208.084	Hannaford	7 HF_GC	WDJV
GC0072	20	RC	459837.5	6449075	208.125	Hannaford	7 HF_GC	WDJV
GC0073	21	RC	459837.5	6449063	208.256	Hannaford	7 HF_GC	WDJV
GC0074	20	RC	459837.5	6449050	208.303	Hannaford	7 HF_GC	WDJV
GC0075	20	RC	459837.5	6449038	208.213	Hannaford	7 HF_GC	WDJV
GC0076	12	RC	459850	6449256	206.986	Hannaford	7 HF_GC	WDJV
GC0077	18	RC	459850	6449244	206.243	Hannaford	7 HF_GC	WDJV
GC0078	18	RC	459850	6449244	206.243	Hannaford	7 HF_GC	WDJV
GC0079	18	RC	459850	6449231	207.257	Hannaford	7 HF_GC	WDJV
GC0080	18	RC	459850	6449219	207.297	Hannaford	7 HF_GC	WDJV
GC0081	18	RC	459850	6449206	207.458	Hannaford	7 HF_GC	WDJV
GC0082	18	RC	459850	6449194	207.463	Hannaford	7 HF_GC	WDJV
GC0083	18	RC	459850	6449181	207.497	Hannaford	7 HF_GC	WDJV
GC0084	18	RC	459850	6449169	207.56	Hannaford	7 HF_GC	WDJV
GC0085	18	RC	459850	6449156	207.606	Hannaford	7 HF_GC	WDJV
GC0086	18	RC	459850	6449144	207.67	Hannaford	7 HF_GC	WDJV
GC0087	18	RC	459850	6449131	207.756	Hannaford	7 HF_GC	WDJV
GC0088	20	RC	459850	6449082	208.1	Hannaford	7 HF_GC	WDJV
GC0089	18	RC	459850	6449081	208.1	Hannaford	7 HF_GC	WDJV
GC0090	20	RC	459850	6449069	208.13	Hannaford	7 HF_GC	WDJV
GC0091	20	RC	459850	6449056	208.176	Hannaford	7 HF_GC	WDJV
GC0092	37	RC	459850	6449044	208.206	Hannaford	7 HF_GC	WDJV
GC0093	30	RC	459850	6449031	208.213	Hannaford	7 HF_GC	WDJV
GC0094	24	RC	459850	6449019	208.211	Hannaford	7 HF_GC	WDJV
GC0095	12	RC	459862.5	6449251	207.274	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0096	18	RC	459862.5	6449250	207.274	Hannaford	7 HF_GC	WDJV
GC0097	18	RC	459862.5	6449238	207.283	Hannaford	7 HF_GC	WDJV
GC0098	18	RC	459862.5	6449225	207.338	Hannaford	7 HF_GC	WDJV
GC0099	18	RC	459862.5	6449213	207.461	Hannaford	7 HF_GC	WDJV
GC0100	18	RC	459862.5	6449200	207.43	Hannaford	7 HF_GC	WDJV
GC0101	18	RC	459862.5	6449188	207.477	Hannaford	7 HF_GC	WDJV
GC0102	18	RC	459862.5	6449175	207.546	Hannaford	7 HF_GC	WDJV
GC0103	18	RC	459862.5	6449163	207.612	Hannaford	7 HF_GC	WDJV
GC0104	18	RC	459862.5	6449150	207.646	Hannaford	7 HF_GC	WDJV
GC0105	18	RC	459862.5	6449138	207.745	Hannaford	7 HF_GC	WDJV
GC0106	20	RC	459862.5	6449088	208.034	Hannaford	7 HF_GC	WDJV
GC0107	18	RC	459862.5	6449075	208.037	Hannaford	7 HF_GC	WDJV
GC0108	20	RC	459862.5	6449075	208.037	Hannaford	7 HF_GC	WDJV
GC0109	20	RC	459862.5	6449063	208.14	Hannaford	7 HF_GC	WDJV
GC0110	20	RC	459862.5	6449050	208.098	Hannaford	7 HF_GC	WDJV
GC0111	36	RC	459862.5	6449038	208.094	Hannaford	7 HF_GC	WDJV
GC0112	30	RC	459862.5	6449025	208.095	Hannaford	7 HF_GC	WDJV
GC0113	12	RC	459875	6449256	207.186	Hannaford	7 HF_GC	WDJV
GC0114	18	RC	459875	6449244	207.214	Hannaford	7 HF_GC	WDJV
GC0115	18	RC	459875	6449231	207.257	Hannaford	7 HF_GC	WDJV
GC0116	18	RC	459875	6449219	207.316	Hannaford	7 HF_GC	WDJV
GC0117	19	RC	459875	6449206	207.373	Hannaford	7 HF_GC	WDJV
GC0118	18	RC	459875	6449194	207.413	Hannaford	7 HF_GC	WDJV
GC0119	18	RC	459875	6449181	207.44	Hannaford	7 HF_GC	WDJV
GC0120	18	RC	459875	6449169	207.513	Hannaford	7 HF_GC	WDJV
GC0121	18	RC	459875	6449156	207.579	Hannaford	7 HF_GC	WDJV
GC0122	18	RC	459875	6449144	207.625	Hannaford	7 HF_GC	WDJV
GC0123	18	RC	459875	6449081	207.947	Hannaford	7 HF_GC	WDJV
GC0124	18	RC	459875	6449069	207.958	Hannaford	7 HF_GC	WDJV
GC0125	18	RC	459875	6449056	208.02	Hannaford	7 HF_GC	WDJV
GC0126	20	RC	459875	6449044	207.995	Hannaford	7 HF_GC	WDJV
GC0127	20	RC	459875	6449044	207.995	Hannaford	7 HF_GC	WDJV
GC0128	20	RC	459875	6449031	208.004	Hannaford	7 HF_GC	WDJV
GC0129	12	RC	459887.5	6449263	207.1	Hannaford	7 HF_GC	WDJV
GC0130	18	RC	459887.5	6449250	207.154	Hannaford	7 HF_GC	WDJV
GC0131	18	RC	459887.5	6449238	207.225	Hannaford	7 HF_GC	WDJV
GC0132	18	RC	459887.5	6449225	207.242	Hannaford	7 HF_GC	WDJV
GC0133	18	RC	459887.5	6449213	207.321	Hannaford	7 HF_GC	WDJV
GC0134	18	RC	459887.5	6449200	207.37	Hannaford	7 HF_GC	WDJV
GC0135	18	RC	459887.5	6449188	207.423	Hannaford	7 HF_GC	WDJV
GC0136	18	RC	459887.5	6449175	207.498	Hannaford	7 HF_GC	WDJV
GC0137	18	RC	459887.5	6449163	207.558	Hannaford	7 HF_GC	WDJV
GC0138	18	RC	459887.5	6449150	207.629	Hannaford	7 HF_GC	WDJV
GC0139	18	RC	459887.5	6449138	207.722	Hannaford	7 HF_GC	WDJV
GC0140	18	RC	459887.5	6449088	207.856	Hannaford	7 HF_GC	WDJV
GC0141	18	RC	459887.5	6449075	207.85	Hannaford	7 HF_GC	WDJV
GC0142	18	RC	459887.5	6449063	207.906	Hannaford	7 HF_GC	WDJV
GC0143	18	RC	459887.5	6449050	207.918	Hannaford	7 HF_GC	WDJV
GC0144	18	RC	459887.5	6449038	208.01	Hannaford	7 HF_GC	WDJV
GC0145	18	RC	459887.5	6449025	207.977	Hannaford	7 HF_GC	WDJV
GC0146	18	RC	459887.5	6449013	207.987	Hannaford	7 HF_GC	WDJV
GC0147	12	RC	459900	6449256	207.063	Hannaford	7 HF_GC	WDJV
GC0148	18	RC	459900	6449244	207.116	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0149	18	RC	459900	6449231	207.229	Hannaford	7 HF_GC	WDJV
GC0150	18	RC	459900	6449219	207.201	Hannaford	7 HF_GC	WDJV
GC0151	18	RC	459900	6449206	207.293	Hannaford	7 HF_GC	WDJV
GC0152	18	RC	459900	6449194	207.399	Hannaford	7 HF_GC	WDJV
GC0153	18	RC	459900	6449181	207.62	Hannaford	7 HF_GC	WDJV
GC0154	18	RC	459900	6449169	207.49	Hannaford	7 HF_GC	WDJV
GC0155	18	RC	459900	6449156	207.626	Hannaford	7 HF_GC	WDJV
GC0156	18	RC	459900	6449144	207.644	Hannaford	7 HF_GC	WDJV
GC0157	18	RC	459900	6449131	207.68	Hannaford	7 HF_GC	WDJV
GC0158	18	RC	459900	6449081	207.739	Hannaford	7 HF_GC	WDJV
GC0159	18	RC	459900	6449069	207.762	Hannaford	7 HF_GC	WDJV
GC0160	18	RC	459900	6449056	207.923	Hannaford	7 HF_GC	WDJV
GC0161	18	RC	459900	6449044	208.073	Hannaford	7 HF_GC	WDJV
GC0162	18	RC	459900	6449031	208.166	Hannaford	7 HF_GC	WDJV
GC0163	18	RC	459900	6449019	207.906	Hannaford	7 HF_GC	WDJV
GC0164	18	RC	459900	6449006	207.966	Hannaford	7 HF_GC	WDJV
GC0165	12	RC	459912.5	6449263	206.96	Hannaford	7 HF_GC	WDJV
GC0166	12	RC	459912.5	6449250	207.06	Hannaford	7 HF_GC	WDJV
GC0167	18	RC	459912.5	6449238	207.134	Hannaford	7 HF_GC	WDJV
GC0168	18	RC	459912.5	6449225	207.216	Hannaford	7 HF_GC	WDJV
GC0169	18	RC	459912.5	6449213	207.354	Hannaford	7 HF_GC	WDJV
GC0170	18	RC	459912.5	6449200	207.334	Hannaford	7 HF_GC	WDJV
GC0171	18	RC	459912.5	6449188	207.384	Hannaford	7 HF_GC	WDJV
GC0172	18	RC	459912.5	6449175	207.476	Hannaford	7 HF_GC	WDJV
GC0173	18	RC	459912.5	6449163	207.527	Hannaford	7 HF_GC	WDJV
GC0174	18	RC	459912.5	6449150	207.589	Hannaford	7 HF_GC	WDJV
GC0175	18	RC	459912.5	6449138	207.629	Hannaford	7 HF_GC	WDJV
GC0176	18	RC	459912.5	6449075	207.669	Hannaford	7 HF_GC	WDJV
GC0177	18	RC	459912.5	6449063	207.869	Hannaford	7 HF_GC	WDJV
GC0178	18	RC	459912.5	6449050	207.924	Hannaford	7 HF_GC	WDJV
GC0179	18	RC	459912.5	6449038	207.819	Hannaford	7 HF_GC	WDJV
GC0180	18	RC	459912.5	6449025	207.879	Hannaford	7 HF_GC	WDJV
GC0181	18	RC	459912.5	6449013	207.923	Hannaford	7 HF_GC	WDJV
GC0182	18	RC	459912.5	6449000	207.972	Hannaford	7 HF_GC	WDJV
GC0183	12	RC	459925	6449244	206.984	Hannaford	7 HF_GC	WDJV
GC0184	12	RC	459925	6449231	207.063	Hannaford	7 HF_GC	WDJV
GC0185	12	RC	459925	6449219	207.13	Hannaford	7 HF_GC	WDJV
GC0186	12	RC	459925	6449206	207.199	Hannaford	7 HF_GC	WDJV
GC0187	12	RC	459925	6449194	207.233	Hannaford	7 HF_GC	WDJV
GC0188	18	RC	459925	6449181	207.342	Hannaford	7 HF_GC	WDJV
GC0189	18	RC	459925	6449169	207.411	Hannaford	7 HF_GC	WDJV
GC0190	18	RC	459925	6449156	207.478	Hannaford	7 HF_GC	WDJV
GC0191	18	RC	459925	6449144	207.511	Hannaford	7 HF_GC	WDJV
GC0192	18	RC	459925	6449131	207.563	Hannaford	7 HF_GC	WDJV
GC0193	18	RC	459925	6449069	207.638	Hannaford	7 HF_GC	WDJV
GC0194	18	RC	459925	6449056	207.701	Hannaford	7 HF_GC	WDJV
GC0195	18	RC	459925	6449044	207.697	Hannaford	7 HF_GC	WDJV
GC0196	18	RC	459925	6449031	207.737	Hannaford	7 HF_GC	WDJV
GC0197	18	RC	459925	6449019	207.827	Hannaford	7 HF_GC	WDJV
GC0198	18	RC	459925	6449006	207.874	Hannaford	7 HF_GC	WDJV
GC0199	12	RC	459937.5	6449238	207.011	Hannaford	7 HF_GC	WDJV
GC0200	12	RC	459937.5	6449225	207.116	Hannaford	7 HF_GC	WDJV
GC0201	12	RC	459937.5	6449213	207.167	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0202	12	RC	459937.5	6449200	207.22	Hannaford	7 HF_GC	WDJV
GC0203	15	RC	459937.5	6449188	207.331	Hannaford	7 HF_GC	WDJV
GC0204	24	RC	459937.5	6449175	207.377	Hannaford	7 HF_GC	WDJV
GC0205	24	RC	459937.5	6449163	207.428	Hannaford	7 HF_GC	WDJV
GC0206	42	RC	459937.5	6449150	207.472	Hannaford	7 HF_GC	WDJV
GC0207	24	RC	459937.5	6449075	207.574	Hannaford	7 HF_GC	WDJV
GC0208	24	RC	459937.5	6449063	207.624	Hannaford	7 HF_GC	WDJV
GC0209	24	RC	459937.5	6449050	207.687	Hannaford	7 HF_GC	WDJV
GC0210	24	RC	459937.5	6449038	207.755	Hannaford	7 HF_GC	WDJV
GC0211	24	RC	459937.5	6449025	207.853	Hannaford	7 HF_GC	WDJV
GC0212	24	RC	459937.5	6449013	207.91	Hannaford	7 HF_GC	WDJV
GC0213	24	RC	459937.5	6449000	208.017	Hannaford	7 HF_GC	WDJV
GC0214	24	RC	459937.5	6448988	208.127	Hannaford	7 HF_GC	WDJV
GC0215	12	RC	459950	6449219	207.067	Hannaford	7 HF_GC	WDJV
GC0216	12	RC	459950	6449206	207.159	Hannaford	7 HF_GC	WDJV
GC0217	12	RC	459950	6449194	207.213	Hannaford	7 HF_GC	WDJV
GC0218	18	RC	459950	6449181	207.324	Hannaford	7 HF_GC	WDJV
GC0219	18	RC	459950	6449169	207.327	Hannaford	7 HF_GC	WDJV
GC0220	18	RC	459950	6449156	207.37	Hannaford	7 HF_GC	WDJV
GC0221	18	RC	459950	6449144	207.4	Hannaford	7 HF_GC	WDJV
GC0222	18	RC	459950	6449081	207.506	Hannaford	7 HF_GC	WDJV
GC0223	18	RC	459950	6449069	207.49	Hannaford	7 HF_GC	WDJV
GC0224	18	RC	459950	6449056	207.649	Hannaford	7 HF_GC	WDJV
GC0225	18	RC	459950	6449044	207.683	Hannaford	7 HF_GC	WDJV
GC0226	18	RC	459950	6449031	207.773	Hannaford	7 HF_GC	WDJV
GC0227	18	RC	459950	6449019	207.87	Hannaford	7 HF_GC	WDJV
GC0228	12	RC	459962.5	6449213	207.108	Hannaford	7 HF_GC	WDJV
GC0229	12	RC	459962.5	6449200	207.21	Hannaford	7 HF_GC	WDJV
GC0230	18	RC	459962.5	6449188	207.247	Hannaford	7 HF_GC	WDJV
GC0231	18	RC	459962.5	6449175	207.26	Hannaford	7 HF_GC	WDJV
GC0232	18	RC	459962.5	6449163	207.302	Hannaford	7 HF_GC	WDJV
GC0233	18	RC	459962.5	6449150	207.317	Hannaford	7 HF_GC	WDJV
GC0234	18	RC	459962.5	6449075	207.402	Hannaford	7 HF_GC	WDJV
GC0235	18	RC	459962.5	6449063	207.59	Hannaford	7 HF_GC	WDJV
GC0236	18	RC	459962.5	6449050	207.648	Hannaford	7 HF_GC	WDJV
GC0237	18	RC	459962.5	6449038	207.736	Hannaford	7 HF_GC	WDJV
GC0238	18	RC	459962.5	6449025	207.849	Hannaford	7 HF_GC	WDJV
GC0239	18	RC	459962.5	6449013	207.96	Hannaford	7 HF_GC	WDJV
GC0240	12	RC	459975	6449206	207.018	Hannaford	7 HF_GC	WDJV
GC0241	12	RC	459975	6449194	207.098	Hannaford	7 HF_GC	WDJV
GC0242	18	RC	459975	6449181	207.142	Hannaford	7 HF_GC	WDJV
GC0243	18	RC	459975	6449169	207.191	Hannaford	7 HF_GC	WDJV
GC0244	18	RC	459975	6449156	207.225	Hannaford	7 HF_GC	WDJV
GC0245	18	RC	459975	6449144	207.254	Hannaford	7 HF_GC	WDJV
GC0246	18	RC	459975	6449056	207.567	Hannaford	7 HF_GC	WDJV
GC0247	18	RC	459975	6449044	207.731	Hannaford	7 HF_GC	WDJV
GC0248	18	RC	459975	6449031	207.811	Hannaford	7 HF_GC	WDJV
GC0249	18	RC	459975	6449019	207.912	Hannaford	7 HF_GC	WDJV
GC0250	18	RC	459987.5	6449213	206.979	Hannaford	7 HF_GC	WDJV
GC0251	18	RC	459987.5	6449200	207.002	Hannaford	7 HF_GC	WDJV
GC0252	18	RC	459987.5	6449188	207.074	Hannaford	7 HF_GC	WDJV
GC0253	18	RC	459987.5	6449175	207.121	Hannaford	7 HF_GC	WDJV
GC0254	18	RC	459987.5	6449163	207.17	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0255	18	RC	459987.5	6449150	207.204	Hannaford	7 HF_GC	WDJV
GC0256	18	RC	459987.5	6449075	207.391	Hannaford	7 HF_GC	WDJV
GC0257	18	RC	459987.5	6449063	207.59	Hannaford	7 HF_GC	WDJV
GC0258	18	RC	459987.5	6449050	207.726	Hannaford	7 HF_GC	WDJV
GC0259	18	RC	459987.5	6449038	207.81	Hannaford	7 HF_GC	WDJV
GC0260	18	RC	459987.5	6449025	207.919	Hannaford	7 HF_GC	WDJV
GC0261	18	RC	459987.5	6449013	208.021	Hannaford	7 HF_GC	WDJV
GC0262	12	RC	460000	6449206	206.914	Hannaford	7 HF_GC	WDJV
GC0263	18	RC	460000	6449194	206.957	Hannaford	7 HF_GC	WDJV
GC0264	18	RC	460000	6449181	207.003	Hannaford	7 HF_GC	WDJV
GC0265	18	RC	460000	6449169	207.065	Hannaford	7 HF_GC	WDJV
GC0266	18	RC	460000	6449156	207.116	Hannaford	7 HF_GC	WDJV
GC0267	18	RC	460000	6449144	207.155	Hannaford	7 HF_GC	WDJV
GC0268	16	RC	460000	6449131	207.161	Hannaford	7 HF_GC	WDJV
GC0269	20	RC	460000	6449119	207.18	Hannaford	7 HF_GC	WDJV
GC0270	18	RC	460000	6449069	207.397	Hannaford	7 HF_GC	WDJV
GC0271	18	RC	460000	6449056	207.633	Hannaford	7 HF_GC	WDJV
GC0272	18	RC	460000	6449044	207.729	Hannaford	7 HF_GC	WDJV
GC0273	18	RC	460000	6449031	207.795	Hannaford	7 HF_GC	WDJV
GC0274	18	RC	460000	6449019	207.952	Hannaford	7 HF_GC	WDJV
GC0275	18	RC	460012.5	6449213	206.859	Hannaford	7 HF_GC	WDJV
GC0276	18	RC	460012.5	6449200	206.918	Hannaford	7 HF_GC	WDJV
GC0277	24	RC	460012.5	6449188	206.948	Hannaford	7 HF_GC	WDJV
GC0278	24	RC	460012.5	6449175	207.007	Hannaford	7 HF_GC	WDJV
GC0279	24	RC	460012.5	6449163	207.061	Hannaford	7 HF_GC	WDJV
GC0280	30	RC	460012.5	6449150	207.094	Hannaford	7 HF_GC	WDJV
GC0281	30	RC	460012.5	6449138	207.12	Hannaford	7 HF_GC	WDJV
GC0282	30	RC	460012.5	6449125	207.154	Hannaford	7 HF_GC	WDJV
GC0283	30	RC	460012.5	6449113	207.2	Hannaford	7 HF_GC	WDJV
GC0284	30	RC	460012.5	6449088	207.327	Hannaford	7 HF_GC	WDJV
GC0285	30	RC	460012.5	6449075	207.611	Hannaford	7 HF_GC	WDJV
GC0286	24	RC	460012.5	6449063	207.671	Hannaford	7 HF_GC	WDJV
GC0287	24	RC	460012.5	6449050	207.766	Hannaford	7 HF_GC	WDJV
GC0288	24	RC	460012.5	6449038	207.816	Hannaford	7 HF_GC	WDJV
GC0289	24	RC	460012.5	6449025	208.016	Hannaford	7 HF_GC	WDJV
GC0290	24	RC	460012.5	6449013	208.111	Hannaford	7 HF_GC	WDJV
GC0291	18	RC	460025	6449206	206.813	Hannaford	7 HF_GC	WDJV
GC0292	18	RC	460025	6449194	206.863	Hannaford	7 HF_GC	WDJV
GC0293	24	RC	460025	6449181	206.892	Hannaford	7 HF_GC	WDJV
GC0294	24	RC	460025	6449169	206.929	Hannaford	7 HF_GC	WDJV
GC0295	24	RC	460025	6449156	206.991	Hannaford	7 HF_GC	WDJV
GC0296	22	RC	460025	6449144	207.045	Hannaford	7 HF_GC	WDJV
GC0297	26	RC	460025	6449131	207.067	Hannaford	7 HF_GC	WDJV
GC0298	24	RC	460025	6449119	207.124	Hannaford	7 HF_GC	WDJV
GC0299	24	RC	460025	6449106	207.19	Hannaford	7 HF_GC	WDJV
GC0300	24	RC	460025	6449094	207.256	Hannaford	7 HF_GC	WDJV
GC0301	24	RC	460025	6449081	207.313	Hannaford	7 HF_GC	WDJV
GC0302	24	RC	460025	6449069	207.443	Hannaford	7 HF_GC	WDJV
GC0303	24	RC	460025	6449056	207.581	Hannaford	7 HF_GC	WDJV
GC0304	24	RC	460025	6449044	207.74	Hannaford	7 HF_GC	WDJV
GC0305	24	RC	460025	6449031	207.876	Hannaford	7 HF_GC	WDJV
GC0306	18	RC	460037.5	6449213	206.778	Hannaford	7 HF_GC	WDJV
GC0307	18	RC	460037.5	6449200	206.824	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0308	24	RC	460037.5	6449188	206.849	Hannaford	7 HF_GC	WDJV
GC0309	24	RC	460037.5	6449175	206.87	Hannaford	7 HF_GC	WDJV
GC0310	24	RC	460037.5	6449163	206.915	Hannaford	7 HF_GC	WDJV
GC0311	24	RC	460037.5	6449150	206.989	Hannaford	7 HF_GC	WDJV
GC0312	24	RC	460037.5	6449138	206.991	Hannaford	7 HF_GC	WDJV
GC0313	24	RC	460037.5	6449125	207.08	Hannaford	7 HF_GC	WDJV
GC0314	24	RC	460037.5	6449113	207.172	Hannaford	7 HF_GC	WDJV
GC0315	24	RC	460037.5	6449100	207.239	Hannaford	7 HF_GC	WDJV
GC0316	24	RC	460037.5	6449088	207.354	Hannaford	7 HF_GC	WDJV
GC0317	24	RC	460037.5	6449075	207.476	Hannaford	7 HF_GC	WDJV
GC0318	24	RC	460037.5	6449063	207.621	Hannaford	7 HF_GC	WDJV
GC0319	24	RC	460037.5	6449050	207.776	Hannaford	7 HF_GC	WDJV
GC0320	24	RC	460037.5	6449038	207.929	Hannaford	7 HF_GC	WDJV
GC0321	18	RC	460050	6449206	206.768	Hannaford	7 HF_GC	WDJV
GC0322	18	RC	460050	6449194	206.794	Hannaford	7 HF_GC	WDJV
GC0323	24	RC	460050	6449181	206.813	Hannaford	7 HF_GC	WDJV
GC0324	24	RC	460050	6449169	206.832	Hannaford	7 HF_GC	WDJV
GC0325	24	RC	460050	6449156	206.858	Hannaford	7 HF_GC	WDJV
GC0326	24	RC	460050	6449144	206.933	Hannaford	7 HF_GC	WDJV
GC0327	30	RC	460050	6449131	206.961	Hannaford	7 HF_GC	WDJV
GC0328	24	RC	460050	6449119	207.085	Hannaford	7 HF_GC	WDJV
GC0329	48	RC	460050	6449106	207.162	Hannaford	7 HF_GC	WDJV
GC0330	24	RC	460050	6449094	207.226	Hannaford	7 HF_GC	WDJV
GC0331	30	RC	460050	6449081	207.329	Hannaford	7 HF_GC	WDJV
GC0332	24	RC	460050	6449069	207.534	Hannaford	7 HF_GC	WDJV
GC0333	24	RC	460050	6449056	207.649	Hannaford	7 HF_GC	WDJV
GC0334	24	RC	460050	6449044	207.809	Hannaford	7 HF_GC	WDJV
GC0335	18	RC	460062.5	6449213	206.781	Hannaford	7 HF_GC	WDJV
GC0336	18	RC	460062.5	6449200	206.752	Hannaford	7 HF_GC	WDJV
GC0337	18	RC	460062.5	6449188	206.767	Hannaford	7 HF_GC	WDJV
GC0338	18	RC	460062.5	6449175	206.793	Hannaford	7 HF_GC	WDJV
GC0339	18	RC	460062.5	6449163	206.82	Hannaford	7 HF_GC	WDJV
GC0340	18	RC	460062.5	6449150	206.854	Hannaford	7 HF_GC	WDJV
GC0341	18	RC	460062.5	6449138	206.961	Hannaford	7 HF_GC	WDJV
GC0342	18	RC	460062.5	6449125	207.077	Hannaford	7 HF_GC	WDJV
GC0343	18	RC	460062.5	6449113	207.164	Hannaford	7 HF_GC	WDJV
GC0344	18	RC	460062.5	6449100	207.228	Hannaford	7 HF_GC	WDJV
GC0345	18	RC	460062.5	6449088	207.379	Hannaford	7 HF_GC	WDJV
GC0346	18	RC	460062.5	6449075	207.573	Hannaford	7 HF_GC	WDJV
GC0347	18	RC	460075	6449206	206.675	Hannaford	7 HF_GC	WDJV
GC0348	18	RC	460075	6449194	206.703	Hannaford	7 HF_GC	WDJV
GC0349	18	RC	460075	6449181	206.726	Hannaford	7 HF_GC	WDJV
GC0350	18	RC	460075	6449169	206.767	Hannaford	7 HF_GC	WDJV
GC0351	18	RC	460075	6449156	206.78	Hannaford	7 HF_GC	WDJV
GC0352	18	RC	460075	6449144	206.813	Hannaford	7 HF_GC	WDJV
GC0353	18	RC	460075	6449131	206.863	Hannaford	7 HF_GC	WDJV
GC0354	18	RC	460075	6449119	207.022	Hannaford	7 HF_GC	WDJV
GC0355	18	RC	460075	6449106	207.158	Hannaford	7 HF_GC	WDJV
GC0356	18	RC	460075	6449094	206.991	Hannaford	7 HF_GC	WDJV
GC0357	18	RC	460100	6449238	207.201	Hannaford	7 HF_GC	WDJV
GC0358	24	RC	460100	6449213	207.399	Hannaford	7 HF_GC	WDJV
GC0359	30	RC	460100	6449188	207.49	Hannaford	7 HF_GC	WDJV
GC0360	42	RC	460100	6449163	207.644	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0361	42	RC	460100	6449138	207.68	Hannaford	7 HF_GC	WDJV
GC0362	42	RC	460100	6449113	207.739	Hannaford	7 HF_GC	WDJV
GC0363	24	RC	460100	6449088	207.762	Hannaford	7 HF_GC	WDJV
GC0364	24	RC	460150	6449238	207.116	Hannaford	7 HF_GC	WDJV
GC0365	24	RC	460150	6449213	207.201	Hannaford	7 HF_GC	WDJV
GC0366	24	RC	460150	6449188	207.399	Hannaford	7 HF_GC	WDJV
GC0367	36	RC	460150	6449163	207.49	Hannaford	7 HF_GC	WDJV
GC0368	42	RC	460150	6449138	207.644	Hannaford	7 HF_GC	WDJV
GC0369	42	RC	460150	6449113	207.68	Hannaford	7 HF_GC	WDJV
GC0370	36	RC	460150	6449088	207.739	Hannaford	7 HF_GC	WDJV
GC0371	30	RC	460175	6449225	207.201	Hannaford	7 HF_GC	WDJV
GC0372	36	RC	460175	6449200	207.399	Hannaford	7 HF_GC	WDJV
GC0373	42	RC	460175	6449150	207.644	Hannaford	7 HF_GC	WDJV
GC0374	24	RC	460175	6449100	207.739	Hannaford	7 HF_GC	WDJV
GC0375	30	RC	460200	6449238	207.201	Hannaford	7 HF_GC	WDJV
GC0376	36	RC	460200	6449213	207.399	Hannaford	7 HF_GC	WDJV
GC0377	42	RC	460200	6449188	207.49	Hannaford	7 HF_GC	WDJV
GC0378	42	RC	460200	6449163	207.644	Hannaford	7 HF_GC	WDJV
GC0379	30	RC	460200	6449138	207.68	Hannaford	7 HF_GC	WDJV
GC0380	24	RC	460200	6449113	207.739	Hannaford	7 HF_GC	WDJV
GC0381	30	RC	460225	6449225	207.201	Hannaford	7 HF_GC	WDJV
GC0382	30	RC	460225	6449150	207.644	Hannaford	7 HF_GC	WDJV
GC0383	30	RC	460250	6449250	207.201	Hannaford	7 HF_GC	WDJV
GC0384	36	RC	460250	6449225	207.201	Hannaford	7 HF_GC	WDJV
GC0385	36	RC	460250	6449200	207.399	Hannaford	7 HF_GC	WDJV
GC0386	36	RC	460250	6449175	207.49	Hannaford	7 HF_GC	WDJV
GC0387	30	RC	460250	6449150	207.644	Hannaford	7 HF_GC	WDJV
GC0388	24	RC	460250	6449125	207.68	Hannaford	7 HF_GC	WDJV
GC0389	18	RC	460250	6449100	207.739	Hannaford	7 HF_GC	WDJV
GC0390	30	RC	460275	6449275	207.201	Hannaford	7 HF_GC	WDJV
GC0391	30	RC	460275	6449225	207.201	Hannaford	7 HF_GC	WDJV
GC0392	30	RC	460275	6449175	207.49	Hannaford	7 HF_GC	WDJV
GC0393	18	RC	460275	6449125	207.68	Hannaford	7 HF_GC	WDJV
GC0394	30	RC	460300	6449313	207.116	Hannaford	7 HF_GC	WDJV
GC0395	30	RC	460300	6449288	207.116	Hannaford	7 HF_GC	WDJV
GC0396	30	RC	460300	6449263	207.116	Hannaford	7 HF_GC	WDJV
GC0397	30	RC	460300	6449238	207.201	Hannaford	7 HF_GC	WDJV
GC0398	30	RC	460300	6449213	207.399	Hannaford	7 HF_GC	WDJV
GC0399	30	RC	460300	6449188	207.49	Hannaford	7 HF_GC	WDJV
GC0400	30	RC	460300	6449163	207.644	Hannaford	7 HF_GC	WDJV
GC0401	30	RC	460300	6449138	207.68	Hannaford	7 HF_GC	WDJV
GC0402	30	RC	460300	6449113	207.739	Hannaford	7 HF_GC	WDJV
GC0403	30	RC	460300	6449088	207.762	Hannaford	7 HF_GC	WDJV
GC0404	30	RC	460300	6449063	207.762	Hannaford	7 HF_GC	WDJV
GC0405	30	RC	460325	6449325	207.116	Hannaford	7 HF_GC	WDJV
GC0406	30	RC	460325	6449275	207.116	Hannaford	7 HF_GC	WDJV
GC0407	30	RC	460325	6449225	207.201	Hannaford	7 HF_GC	WDJV
GC0408	30	RC	460325	6449175	207.49	Hannaford	7 HF_GC	WDJV
GC0409	30	RC	460325	6449130	207.68	Hannaford	7 HF_GC	WDJV
GC0410	42	RC	460325	6449100	207.739	Hannaford	7 HF_GC	WDJV
GC0411	30	RC	460350	6449313	207.116	Hannaford	7 HF_GC	WDJV
GC0412	30	RC	460350	6449288	207.116	Hannaford	7 HF_GC	WDJV
GC0413	30	RC	460350	6449263	207.116	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0414	30	RC	460350	6449238	207.116	Hannaford	7 HF_GC	WDJV
GC0415	30	RC	460350	6449213	207.201	Hannaford	7 HF_GC	WDJV
GC0416	30	RC	460350	6449188	207.399	Hannaford	7 HF_GC	WDJV
GC0417	31	RC	460350	6449163	207.49	Hannaford	7 HF_GC	WDJV
GC0418	30	RC	460350	6449138	207.644	Hannaford	7 HF_GC	WDJV
GC0419	30	RC	460350	6449113	207.68	Hannaford	7 HF_GC	WDJV
GC0420	66	RC	460415	6449310	205.13	Hannaford	7 HF_GC	WDJV
GC0421	40	RC	460415	6449260	205.13	Hannaford	7 HF_GC	WDJV
GC0422	36	RC	459862.5	6449038	208.094	Hannaford	7 HF_GC	WDJV
GC0423	30	RC	459862.5	6449025	208.095	Hannaford	7 HF_GC	WDJV
GC0424	22	RC	459875	6449056	208.02	Hannaford	7 HF_GC	WDJV
GC0425	21	RC	459875	6449031	208.004	Hannaford	7 HF_GC	WDJV
GC0426	22	RC	459862.5	6449050	208.098	Hannaford	7 HF_GC	WDJV
GC0427	18	RC	460075	6449081	207.329	Hannaford	7 HF_GC	WDJV
GC0428	18	RC	460075	6449069	207.443	Hannaford	7 HF_GC	WDJV
GC0429	18	RC	460075	6449056	207.621	Hannaford	7 HF_GC	WDJV
GC0430	18	RC	460075	6449044	207.776	Hannaford	7 HF_GC	WDJV
GC0431	18	RC	460075	6449031	207.929	Hannaford	7 HF_GC	WDJV
GC0432	24	RC	459887.5	6449113	208.004	Hannaford	7 HF_GC	WDJV
GC0433	24	RC	459925	6449100	207.563	Hannaford	7 HF_GC	WDJV
GC0434	24	RC	459975	6449105	207.254	Hannaford	7 HF_GC	WDJV
GC0435	18	RC	459975.2	6449005	207.841	Hannaford	7 HF_GC	WDJV
GC0436	18	RC	459974.9	6448994	207.868	Hannaford	7 HF_GC	WDJV
GC0437	18	RC	459975	6448981	208.133	Hannaford	7 HF_GC	WDJV
GC0438	18	RC	459987.7	6449000	208.059	Hannaford	7 HF_GC	WDJV
GC0439	18	RC	459987.4	6448987	208.204	Hannaford	7 HF_GC	WDJV
GC0440	18	RC	460000	6449006	207.962	Hannaford	7 HF_GC	WDJV
GC0441	18	RC	460000.2	6448994	208.079	Hannaford	7 HF_GC	WDJV
GC0442	18	RC	460000.2	6448981	208.335	Hannaford	7 HF_GC	WDJV
GC0443	24	RC	460012.3	6449000	208.268	Hannaford	7 HF_GC	WDJV
GC0444	24	RC	460012.8	6448987	208.348	Hannaford	7 HF_GC	WDJV
GC0445	24	RC	460012.5	6448975	208.636	Hannaford	7 HF_GC	WDJV
GC0446	24	RC	460025	6449019	208.093	Hannaford	7 HF_GC	WDJV
GC0447	24	RC	460025.1	6449006	208.261	Hannaford	7 HF_GC	WDJV
GC0448	24	RC	460025.1	6448994	208.501	Hannaford	7 HF_GC	WDJV
GC0449	24	RC	460025.1	6448981	208.648	Hannaford	7 HF_GC	WDJV
GC0450	24	RC	460037.4	6449025	207.952	Hannaford	7 HF_GC	WDJV
GC0451	24	RC	460037.5	6449013	208.147	Hannaford	7 HF_GC	WDJV
GC0452	24	RC	460037.2	6449000	208.426	Hannaford	7 HF_GC	WDJV
GC0453	24	RC	460037.3	6448987	208.625	Hannaford	7 HF_GC	WDJV
GC0454	18	RC	460086.6	6449207	202.404	Hannaford	7 HF_GC	WDJV
GC0455	18	RC	460087.7	6449194	202.328	Hannaford	7 HF_GC	WDJV
GC0456	18	RC	460087.4	6449181	202.261	Hannaford	7 HF_GC	WDJV
GC0457	24	RC	460087.5	6449169	202.306	Hannaford	7 HF_GC	WDJV
GC0458	36	RC	460087.5	6449156	202.284	Hannaford	7 HF_GC	WDJV
GC0459	36	RC	460087.5	6449144	202.314	Hannaford	7 HF_GC	WDJV
GC0460	36	RC	460087.6	6449131	197.236	Hannaford	7 HF_GC	WDJV
GC0461	36	RC	460087.4	6449119	197.689	Hannaford	7 HF_GC	WDJV
GC0462	36	RC	460087.5	6449106	202.403	Hannaford	7 HF_GC	WDJV
GC0464	24	RC	460087.6	6449081	206.886	Hannaford	7 HF_GC	WDJV
GC0465	24	RC	460087.6	6449069	207.194	Hannaford	7 HF_GC	WDJV
GC0466	40	RC	460087.2	6449056	207.573	Hannaford	7 HF_GC	WDJV
GC0467	42	RC	460087.5	6449044	207.652	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0468	54	RC	460087.6	6449031	207.927	Hannaford	7 HF_GC	WDJV
GC0469	54	RC	460087.6	6449019	207.936	Hannaford	7 HF_GC	WDJV
GC0470	36	RC	460087.5	6449006	208.349	Hannaford	7 HF_GC	WDJV
GC0473	18	RC	460100.1	6449200	202.395	Hannaford	7 HF_GC	WDJV
GC0474	24	RC	460099.9	6449175	202.358	Hannaford	7 HF_GC	WDJV
GC0475	36	RC	460100.1	6449150	202.427	Hannaford	7 HF_GC	WDJV
GC0476	42	RC	460100	6449125	197.111	Hannaford	7 HF_GC	WDJV
GC0477	36	RC	460100	6449100	202.401	Hannaford	7 HF_GC	WDJV
GC0478	30	RC	460100	6449075	207.244	Hannaford	7 HF_GC	WDJV
GC0479	42	RC	460099.9	6449050	207.629	Hannaford	7 HF_GC	WDJV
GC0480	54	RC	460100.1	6449025	208.003	Hannaford	7 HF_GC	WDJV
GC0481	30	RC	460100	6449000	208.719	Hannaford	7 HF_GC	WDJV
GC0483	12	RC	460112.6	6449206	202.291	Hannaford	7 HF_GC	WDJV
GC0484	18	RC	460112.4	6449194	202.396	Hannaford	7 HF_GC	WDJV
GC0485	24	RC	460112.5	6449181	202.273	Hannaford	7 HF_GC	WDJV
GC0486	24	RC	460112.5	6449169	202.356	Hannaford	7 HF_GC	WDJV
GC0487	30	RC	460112.5	6449156	202.39	Hannaford	7 HF_GC	WDJV
GC0488	36	RC	460112.5	6449144	202.487	Hannaford	7 HF_GC	WDJV
GC0489	36	RC	460112.6	6449132	197.385	Hannaford	7 HF_GC	WDJV
GC0490	36	RC	460112.9	6449117	202.469	Hannaford	7 HF_GC	WDJV
GC0491	33	RC	460112.3	6449107	202.394	Hannaford	7 HF_GC	WDJV
GC0492	33	RC	460112.3	6449096	202.328	Hannaford	7 HF_GC	WDJV
GC0493	24	RC	460112.4	6449081	207.147	Hannaford	7 HF_GC	WDJV
GC0494	24	RC	460112.5	6449069	207.507	Hannaford	7 HF_GC	WDJV
GC0495	30	RC	460112.3	6449056	207.639	Hannaford	7 HF_GC	WDJV
GC0496	54	RC	460112.7	6449044	207.775	Hannaford	7 HF_GC	WDJV
GC0497	54	RC	460112.5	6449031	207.994	Hannaford	7 HF_GC	WDJV
GC0498	54	RC	460112.3	6449019	208.165	Hannaford	7 HF_GC	WDJV
GC0499	30	RC	460115	6449007	208.482	Hannaford	7 HF_GC	WDJV
GC0500	18	RC	460124.8	6449218	202.385	Hannaford	7 HF_GC	WDJV
GC0501	18	RC	460124.9	6449200	202.34	Hannaford	7 HF_GC	WDJV
GC0502	18	RC	460125	6449188	202.334	Hannaford	7 HF_GC	WDJV
GC0503	24	RC	460125	6449175	202.423	Hannaford	7 HF_GC	WDJV
GC0504	30	RC	460125	6449163	202.304	Hannaford	7 HF_GC	WDJV
GC0505	36	RC	460125	6449150	202.544	Hannaford	7 HF_GC	WDJV
GC0506	42	RC	460125	6449138	197.562	Hannaford	7 HF_GC	WDJV
GC0507	42	RC	460125.4	6449123	202.296	Hannaford	7 HF_GC	WDJV
GC0508	36	RC	460125	6449112	202.432	Hannaford	7 HF_GC	WDJV
GC0509	24	RC	460125	6449100	202.404	Hannaford	7 HF_GC	WDJV
GC0511	24	RC	460125.1	6449075	207.374	Hannaford	7 HF_GC	WDJV
GC0512	24	RC	460124.9	6449063	207.642	Hannaford	7 HF_GC	WDJV
GC0513	54	RC	460125	6449050	207.898	Hannaford	7 HF_GC	WDJV
GC0514	54	RC	460124.8	6449038	207.965	Hannaford	7 HF_GC	WDJV
GC0515	54	RC	460125	6449025	208.084	Hannaford	7 HF_GC	WDJV
GC0516	30	RC	460126.5	6449013	208.301	Hannaford	7 HF_GC	WDJV
GC0518	18	RC	460137.2	6449219	202.387	Hannaford	7 HF_GC	WDJV
GC0519	18	RC	460137.5	6449206	202.312	Hannaford	7 HF_GC	WDJV
GC0520	18	RC	460137.7	6449194	202.341	Hannaford	7 HF_GC	WDJV
GC0521	24	RC	460137.4	6449182	202.373	Hannaford	7 HF_GC	WDJV
GC0522	30	RC	460137.5	6449169	202.36	Hannaford	7 HF_GC	WDJV
GC0523	36	RC	460138.1	6449153	198.14	Hannaford	7 HF_GC	WDJV
GC0524	42	RC	460137.4	6449144	197.926	Hannaford	7 HF_GC	WDJV
GC0525	42	RC	460137.5	6449132	202.504	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0526	36	RC	460137.5	6449119	202.318	Hannaford	7 HF_GC	WDJV
GC0527	30	RC	460137.2	6449099	202.518	Hannaford	7 HF_GC	WDJV
GC0529	24	RC	460137.7	6449081	207.211	Hannaford	7 HF_GC	WDJV
GC0530	30	RC	460137.4	6449069	207.536	Hannaford	7 HF_GC	WDJV
GC0531	36	RC	460137.4	6449057	207.721	Hannaford	7 HF_GC	WDJV
GC0532	48	RC	460137.6	6449044	207.919	Hannaford	7 HF_GC	WDJV
GC0533	48	RC	460137.6	6449031	208.14	Hannaford	7 HF_GC	WDJV
GC0534	36	RC	460137.9	6449019	208.228	Hannaford	7 HF_GC	WDJV
GC0535	18	RC	460124.7	6449001	208.805	Hannaford	7 HF_GC	WDJV
GC0536	18	RC	460146.6	6449224	202.4	Hannaford	7 HF_GC	WDJV
GC0537	24	RC	460150	6449200	202.488	Hannaford	7 HF_GC	WDJV
GC0538	30	RC	460149.8	6449175	202.677	Hannaford	7 HF_GC	WDJV
GC0539	36	RC	460149.9	6449150	199.287	Hannaford	7 HF_GC	WDJV
GC0540	36	RC	460150	6449125	202.433	Hannaford	7 HF_GC	WDJV
GC0541	24	RC	460149.8	6449102	202.737	Hannaford	7 HF_GC	WDJV
GC0542	24	RC	460150	6449076	207.344	Hannaford	7 HF_GC	WDJV
GC0543	42	RC	460150	6449050	207.782	Hannaford	7 HF_GC	WDJV
GC0544	42	RC	460150	6449025	208.25	Hannaford	7 HF_GC	WDJV
GC0545	18	RC	460150	6449013	209.56	Hannaford	7 HF_GC	WDJV
GC0546	18	RC	460162.3	6449206	202.546	Hannaford	7 HF_GC	WDJV
GC0547	24	RC	460162.5	6449194	202.716	Hannaford	7 HF_GC	WDJV
GC0548	24	RC	460162.5	6449181	202.841	Hannaford	7 HF_GC	WDJV
GC0549	36	RC	460162.5	6449169	202.888	Hannaford	7 HF_GC	WDJV
GC0550	36	RC	460162.3	6449156	201.113	Hannaford	7 HF_GC	WDJV
GC0552	36	RC	460162.4	6449132	202.745	Hannaford	7 HF_GC	WDJV
GC0553	30	RC	460162.4	6449119	202.754	Hannaford	7 HF_GC	WDJV
GC0554	24	RC	460162.4	6449107	203.069	Hannaford	7 HF_GC	WDJV
GC0556	24	RC	460162.6	6449082	207.337	Hannaford	7 HF_GC	WDJV
GC0557	30	RC	460162.4	6449068	207.668	Hannaford	7 HF_GC	WDJV
GC0558	36	RC	460162.5	6449057	207.916	Hannaford	7 HF_GC	WDJV
GC0559	36	RC	460162.5	6449044	208.03	Hannaford	7 HF_GC	WDJV
GC0560	36	RC	460162.5	6449032	208.048	Hannaford	7 HF_GC	WDJV
GC0561	18	RC	460162.3	6449019	208.266	Hannaford	7 HF_GC	WDJV
GC0563	18	RC	460174.9	6449212	202.731	Hannaford	7 HF_GC	WDJV
GC0564	36	RC	460174.9	6449188	202.642	Hannaford	7 HF_GC	WDJV
GC0565	36	RC	460174.9	6449163	202.665	Hannaford	7 HF_GC	WDJV
GC0566	30	RC	460175	6449138	202.981	Hannaford	7 HF_GC	WDJV
GC0567	24	RC	460175	6449113	202.981	Hannaford	7 HF_GC	WDJV
GC0568	18	RC	460175.1	6449087	207.283	Hannaford	7 HF_GC	WDJV
GC0569	36	RC	460174.9	6449063	207.896	Hannaford	7 HF_GC	WDJV
GC0570	36	RC	460175.1	6449038	207.882	Hannaford	7 HF_GC	WDJV
GC0571	18	RC	460174.9	6449025	208.143	Hannaford	7 HF_GC	WDJV
GC0572	33	RC	460187.7	6449206	199.937	Hannaford	7 HF_GC	WDJV
GC0573	24	RC	460187.6	6449194	201.209	Hannaford	7 HF_GC	WDJV
GC0573R	30	RC	460188.9	6449194	200.982	Hannaford	7 HF_GC	WDJV
GC0574R	33	RC	460187.9	6449183	201.58	Hannaford	7 HF_GC	WDJV
GC0575	36	RC	460187.3	6449169	203.125	Hannaford	7 HF_GC	WDJV
GC0576	36	RC	460187.4	6449156	203.247	Hannaford	7 HF_GC	WDJV
GC0577	30	RC	460187.5	6449144	203.078	Hannaford	7 HF_GC	WDJV
GC0578	30	RC	460188.7	6449132	203.075	Hannaford	7 HF_GC	WDJV
GC0579	24	RC	460187.5	6449119	202.879	Hannaford	7 HF_GC	WDJV
GC0581	20	RC	460187.6	6449094	207	Hannaford	7 HF_GC	WDJV
GC0582	24	RC	460187.6	6449082	207.377	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0583	30	RC	460187.3	6449069	207.582	Hannaford	7 HF_GC	WDJV
GC0584	30	RC	460187.5	6449057	207.683	Hannaford	7 HF_GC	WDJV
GC0585	30	RC	460187.6	6449044	207.816	Hannaford	7 HF_GC	WDJV
GC0586	18	RC	460187.4	6449032	207.937	Hannaford	7 HF_GC	WDJV
GC0588	23	RC	460199.9	6449200	199.901	Hannaford	7 HF_GC	WDJV
GC0588R	27	RC	460201.3	6449200	199.845	Hannaford	7 HF_GC	WDJV
GC0589	36	RC	460199.9	6449168	203.123	Hannaford	7 HF_GC	WDJV
GC0590	30	RC	460199.9	6449150	203.032	Hannaford	7 HF_GC	WDJV
GC0591	24	RC	460200.1	6449125	203.243	Hannaford	7 HF_GC	WDJV
GC0592	24	RC	460200.1	6449098	206.84	Hannaford	7 HF_GC	WDJV
GC0593	30	RC	460199.9	6449075	207.493	Hannaford	7 HF_GC	WDJV
GC0594	48	RC	460200.1	6449050	207.822	Hannaford	7 HF_GC	WDJV
GC0595	24	RC	460200	6449038	207.816	Hannaford	7 HF_GC	WDJV
GC0596	8	RC	460212.6	6449243	199.978	Hannaford	7 HF_GC	WDJV
GC0597	20	RC	460212.5	6449231	199.915	Hannaford	7 HF_GC	WDJV
GC0598	20	RC	460212.5	6449219	199.733	Hannaford	7 HF_GC	WDJV
GC0599	25	RC	460212.5	6449206	199.553	Hannaford	7 HF_GC	WDJV
GC0599R	30	RC	460211.5	6449207	199.546	Hannaford	7 HF_GC	WDJV
GC0600	25	RC	460211.8	6449195	199.471	Hannaford	7 HF_GC	WDJV
GC0600R	30	RC	460211.8	6449196	199.471	Hannaford	7 HF_GC	WDJV
GC0601	22	RC	460212.7	6449181	198.792	Hannaford	7 HF_GC	WDJV
GC0601R	30	RC	460211.4	6449182	198.867	Hannaford	7 HF_GC	WDJV
GC0602	36	RC	460212.4	6449169	203.27	Hannaford	7 HF_GC	WDJV
GC0603	24	RC	460212.3	6449157	203.14	Hannaford	7 HF_GC	WDJV
GC0604	17	RC	460212.6	6449144	202.989	Hannaford	7 HF_GC	WDJV
GC0605	12	RC	460212.6	6449132	203.017	Hannaford	7 HF_GC	WDJV
GC0606	12	RC	460212.5	6449119	203.464	Hannaford	7 HF_GC	WDJV
GC0607	18	RC	460212.4	6449094	207.124	Hannaford	7 HF_GC	WDJV
GC0608	18	RC	460212.5	6449082	207.336	Hannaford	7 HF_GC	WDJV
GC0609	30	RC	460212.4	6449069	207.549	Hannaford	7 HF_GC	WDJV
GC0610	30	RC	460212.6	6449057	207.654	Hannaford	7 HF_GC	WDJV
GC0611	15	RC	460225	6449238	200.006	Hannaford	7 HF_GC	WDJV
GC0612	20	RC	460225	6449212	199.819	Hannaford	7 HF_GC	WDJV
GC0612R	30	RC	460224.1	6449212	199.729	Hannaford	7 HF_GC	WDJV
GC0613	22	RC	460225	6449188	197.229	Hannaford	7 HF_GC	WDJV
GC0613R	30	RC	460223.9	6449188	197.321	Hannaford	7 HF_GC	WDJV
GC0614	28	RC	460225	6449163	203.068	Hannaford	7 HF_GC	WDJV
GC0615	24	RC	460225	6449136	202.953	Hannaford	7 HF_GC	WDJV
GC0616	24	RC	460224.8	6449088	207.329	Hannaford	7 HF_GC	WDJV
GC0617	30	RC	460225.2	6449063	207.594	Hannaford	7 HF_GC	WDJV
GC0618	10	RC	460237.7	6449244	199.962	Hannaford	7 HF_GC	WDJV
GC0619	20	RC	460237.5	6449231	199.976	Hannaford	7 HF_GC	WDJV
GC0620	20	RC	460237.3	6449219	200.08	Hannaford	7 HF_GC	WDJV
GC0621	30	RC	460237.6	6449206	199.896	Hannaford	7 HF_GC	WDJV
GC0622	22	RC	460237.6	6449194	195.868	Hannaford	7 HF_GC	WDJV
GC0623	22	RC	460237.6	6449182	196.166	Hannaford	7 HF_GC	WDJV
GC0624	30	RC	460235.5	6449168	203.143	Hannaford	7 HF_GC	WDJV
GC0625	24	RC	460237.5	6449156	202.995	Hannaford	7 HF_GC	WDJV
GC0626	24	RC	460237.6	6449144	202.748	Hannaford	7 HF_GC	WDJV
GC0627	18	RC	460237.5	6449132	202.867	Hannaford	7 HF_GC	WDJV
GC0628	18	RC	460237.5	6449119	206.934	Hannaford	7 HF_GC	WDJV
GC0629	18	RC	460236.8	6449106	207.128	Hannaford	7 HF_GC	WDJV
GC0630	18	RC	460237.5	6449094	207.179	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0631	24	RC	460237.4	6449082	207.328	Hannaford	7 HF_GC	WDJV
GC0632	30	RC	460237.5	6449069	207.455	Hannaford	7 HF_GC	WDJV
GC0633	24	RC	460237.5	6449057	207.69	Hannaford	7 HF_GC	WDJV
GC0634	20	RC	460249.9	6449237	199.98	Hannaford	7 HF_GC	WDJV
GC0635	20	RC	460250.1	6449212	200.013	Hannaford	7 HF_GC	WDJV
GC0636	22	RC	460250	6449187	195.642	Hannaford	7 HF_GC	WDJV
GC0637	12	RC	460249.9	6449162	202.877	Hannaford	7 HF_GC	WDJV
GC0638	12	RC	460250	6449138	202.883	Hannaford	7 HF_GC	WDJV
GC0639	12	RC	460250.2	6449112	206.898	Hannaford	7 HF_GC	WDJV
GC0640	18	RC	460249	6449088	207.328	Hannaford	7 HF_GC	WDJV
GC0641	30	RC	460250.5	6449062	205.381	Hannaford	7 HF_GC	WDJV
GC0642	10	RC	460262.5	6449244	199.964	Hannaford	7 HF_GC	WDJV
GC0643	20	RC	460262.5	6449232	200.006	Hannaford	7 HF_GC	WDJV
GC0644	20	RC	460262.5	6449219	200.014	Hannaford	7 HF_GC	WDJV
GC0645	20	RC	460262.6	6449206	199.95	Hannaford	7 HF_GC	WDJV
GC0646	15	RC	460262.3	6449194	195.498	Hannaford	7 HF_GC	WDJV
GC0647	15	RC	460262.5	6449182	195.531	Hannaford	7 HF_GC	WDJV
GC0648	18	RC	460262.8	6449167	202.836	Hannaford	7 HF_GC	WDJV
GC0649	12	RC	460262.2	6449157	202.839	Hannaford	7 HF_GC	WDJV
GC0650	12	RC	460262.5	6449144	202.765	Hannaford	7 HF_GC	WDJV
GC0651	12	RC	460263.1	6449132	202.638	Hannaford	7 HF_GC	WDJV
GC0652	12	RC	460263.4	6449093	203.349	Hannaford	7 HF_GC	WDJV
GC0653	18	RC	460262.6	6449081	203.733	Hannaford	7 HF_GC	WDJV
GC0654	18	RC	460262.5	6449069	204.307	Hannaford	7 HF_GC	WDJV
GC0655	12	RC	460262.5	6449057	205.128	Hannaford	7 HF_GC	WDJV
GC0657	25	RC	460275.1	6449188	195.184	Hannaford	7 HF_GC	WDJV
GC0658	12	RC	460275	6449163	202.682	Hannaford	7 HF_GC	WDJV
GC0659	12	RC	460275	6449138	202.849	Hannaford	7 HF_GC	WDJV
GC0660	12	RC	460275	6449100	203.227	Hannaford	7 HF_GC	WDJV
GC0662	20	RC	460287.5	6449225	199.858	Hannaford	7 HF_GC	WDJV
GC0663	20	RC	460287.5	6449213	199.858	Hannaford	7 HF_GC	WDJV
GC0664	15	RC	460287.5	6449203	200.033	Hannaford	7 HF_GC	WDJV
GC0664R	18	RC	460285.6	6449204	199.953	Hannaford	7 HF_GC	WDJV
GC0665	25	RC	460287.6	6449188	194.995	Hannaford	7 HF_GC	WDJV
GC0667	18	RC	460287.5	6449163	202.713	Hannaford	7 HF_GC	WDJV
GC0668	12	RC	460287.4	6449150	202.752	Hannaford	7 HF_GC	WDJV
GC0669	12	RC	460287.5	6449138	202.828	Hannaford	7 HF_GC	WDJV
GC0670	12	RC	460287.5	6449125	202.788	Hannaford	7 HF_GC	WDJV
GC0671	12	RC	460287.3	6449110	202.911	Hannaford	7 HF_GC	WDJV
GC0672	18	RC	460317.4	6449199	202.48	Hannaford	7 HF_GC	WDJV
GC0673	18	RC	460317.5	6449188	202.431	Hannaford	7 HF_GC	WDJV
GC0674	18	RC	460317.2	6449177	202.352	Hannaford	7 HF_GC	WDJV
GC0675	18	RC	460312.5	6449162	202.392	Hannaford	7 HF_GC	WDJV
GC0676	30	RC	460212.3	6449044	207.743	Hannaford	7 HF_GC	WDJV
GC0677	24	RC	460225.1	6449050	207.715	Hannaford	7 HF_GC	WDJV
GC0678	23	RC	459802.3	6449146	199.924	Hannaford	7 HF_GC	WDJV
GC0679	31	RC	459801.9	6449171	200.03	Hannaford	7 HF_GC	WDJV
GC0680	38	RC	459802	6449196	199.897	Hannaford	7 HF_GC	WDJV
GC0681	42	RC	459801.9	6449221	199.841	Hannaford	7 HF_GC	WDJV
GC0682	47	RC	459801.9	6449246	199.981	Hannaford	7 HF_GC	WDJV
GC0683	50	RC	459802	6449271	199.871	Hannaford	7 HF_GC	WDJV
GC0684	35	RC	459814.5	6449127	200.002	Hannaford	7 HF_GC	WDJV
GC0685	40	RC	459814.5	6449139	200.059	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0686	42	RC	459814.6	6449152	200.021	Hannaford	7 HF_GC	WDJV
GC0687	45	RC	459814.6	6449165	199.921	Hannaford	7 HF_GC	WDJV
GC0688	47	RC	459814.5	6449177	199.938	Hannaford	7 HF_GC	WDJV
GC0689	50	RC	459814.5	6449190	199.838	Hannaford	7 HF_GC	WDJV
GC0690	52	RC	459814.4	6449202	199.906	Hannaford	7 HF_GC	WDJV
GC0691	54	RC	459814.6	6449215	199.936	Hannaford	7 HF_GC	WDJV
GC0692	56	RC	459814.6	6449227	199.966	Hannaford	7 HF_GC	WDJV
GC0693	58	RC	459814.6	6449240	200.039	Hannaford	7 HF_GC	WDJV
GC0694	60	RC	459814.4	6449252	200.038	Hannaford	7 HF_GC	WDJV
GC0695	62	RC	459814	6449265	199.974	Hannaford	7 HF_GC	WDJV
GC0696	62	RC	459814.4	6449275	199.828	Hannaford	7 HF_GC	WDJV
GC0697	29	RC	459827	6449096	200.165	Hannaford	7 HF_GC	WDJV
GC0698	20	RC	459827	6449084	200.066	Hannaford	7 HF_GC	WDJV
GC0699	37	RC	459827.1	6449109	199.98	Hannaford	7 HF_GC	WDJV
GC0700	43	RC	459826.9	6449121	199.982	Hannaford	7 HF_GC	WDJV
GC0701	48	RC	459826.9	6449133	199.966	Hannaford	7 HF_GC	WDJV
GC0702	51	RC	459827	6449146	199.91	Hannaford	7 HF_GC	WDJV
GC0703	54	RC	459826.9	6449159	199.804	Hannaford	7 HF_GC	WDJV
GC0704	58	RC	459826.8	6449171	199.867	Hannaford	7 HF_GC	WDJV
GC0705	60	RC	459827	6449183	199.925	Hannaford	7 HF_GC	WDJV
GC0706	60	RC	459827.1	6449196	199.844	Hannaford	7 HF_GC	WDJV
GC0707	55	RC	459826.9	6449209	199.869	Hannaford	7 HF_GC	WDJV
GC0708	50	RC	459827.1	6449221	199.849	Hannaford	7 HF_GC	WDJV
GC0709	50	RC	459826.9	6449234	199.855	Hannaford	7 HF_GC	WDJV
GC0710	50	RC	459826.9	6449246	199.917	Hannaford	7 HF_GC	WDJV
GC0711	50	RC	459826.5	6449259	199.974	Hannaford	7 HF_GC	WDJV
GC0712	40	RC	459843.8	6449075	189.74	Hannaford	7 HF_GC	WDJV
GC0713	55	RC	459838.9	6449104	199.791	Hannaford	7 HF_GC	WDJV
GC0714	55	RC	459839.3	6449103	199.881	Hannaford	7 HF_GC	WDJV
GC0715	55	RC	459839.6	6449115	199.744	Hannaford	7 HF_GC	WDJV
GC0716	57	RC	459839.4	6449127	199.754	Hannaford	7 HF_GC	WDJV
GC0717	60	RC	459839.5	6449139	199.765	Hannaford	7 HF_GC	WDJV
GC0718	62	RC	459839.3	6449152	199.644	Hannaford	7 HF_GC	WDJV
GC0719	65	RC	459839.3	6449165	199.761	Hannaford	7 HF_GC	WDJV
GC0720	68	RC	459839.5	6449177	199.756	Hannaford	7 HF_GC	WDJV
GC0721	70	RC	459839.5	6449189	199.719	Hannaford	7 HF_GC	WDJV
GC0722	70	RC	459839.6	6449202	199.691	Hannaford	7 HF_GC	WDJV
GC0723	65	RC	459839.5	6449215	199.814	Hannaford	7 HF_GC	WDJV
GC0724	60	RC	459839	6449227	199.902	Hannaford	7 HF_GC	WDJV
GC0725	45	RC	459839.2	6449252	199.817	Hannaford	7 HF_GC	WDJV
GC0726	20	RC	459839	6449265	199.828	Hannaford	7 HF_GC	WDJV
GC0727	30	RC	459852.4	6449055	190.082	Hannaford	7 HF_GC	WDJV
GC0728	40	RC	459852.1	6449057	190.339	Hannaford	7 HF_GC	WDJV
GC0729	50	RC	459851.9	6449071	190.002	Hannaford	7 HF_GC	WDJV
GC0730	55	RC	459852	6449080	189.753	Hannaford	7 HF_GC	WDJV
GC0731	55	RC	459852	6449109	199.956	Hannaford	7 HF_GC	WDJV
GC0732	60	RC	459852	6449106	199.926	Hannaford	7 HF_GC	WDJV
GC0733	62	RC	459852	6449121	200.06	Hannaford	7 HF_GC	WDJV
GC0734	60	RC	459852.1	6449134	199.946	Hannaford	7 HF_GC	WDJV
GC0735	58	RC	459852.4	6449141	199.864	Hannaford	7 HF_GC	WDJV
GC0736	70	RC	459852.3	6449143	199.855	Hannaford	7 HF_GC	WDJV
GC0737	55	RC	459852	6449222	199.763	Hannaford	7 HF_GC	WDJV
GC0738	70	RC	459852	6449220	199.812	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0739	45	RC	459852.1	6449234	199.837	Hannaford	7 HF_GC	WDJV
GC0740	35	RC	459851.7	6449246	199.712	Hannaford	7 HF_GC	WDJV
GC0741	20	RC	459851	6449256	199.685	Hannaford	7 HF_GC	WDJV
GC0742	45	RC	459864.6	6449040	190.423	Hannaford	7 HF_GC	WDJV
GC0743	55	RC	459864.4	6449052	190.194	Hannaford	7 HF_GC	WDJV
GC0744	55	RC	459864.5	6449065	190.017	Hannaford	7 HF_GC	WDJV
GC0745	55	RC	459864.6	6449077	189.833	Hannaford	7 HF_GC	WDJV
GC0746	60	RC	459864.2	6449105	199.875	Hannaford	7 HF_GC	WDJV
GC0747	65	RC	459864.6	6449115	199.964	Hannaford	7 HF_GC	WDJV
GC0748	65	RC	459864.6	6449127	200.04	Hannaford	7 HF_GC	WDJV
GC0749	65	RC	459864.1	6449136	199.834	Hannaford	7 HF_GC	WDJV
GC0750	45	RC	459865.1	6449165	190.209	Hannaford	7 HF_GC	WDJV
GC0751	30	RC	459864.2	6449177	189.959	Hannaford	7 HF_GC	WDJV
GC0752	23	RC	459864.4	6449190	189.952	Hannaford	7 HF_GC	WDJV
GC0753	25	RC	459864.5	6449202	190.023	Hannaford	7 HF_GC	WDJV
GC0754	33	RC	459863.6	6449228	199.833	Hannaford	7 HF_GC	WDJV
GC0755	25	RC	459864.4	6449240	199.782	Hannaford	7 HF_GC	WDJV
GC0756	20	RC	459863.7	6449251	199.765	Hannaford	7 HF_GC	WDJV
GC0757	40	RC	459876.9	6449022	190.884	Hannaford	7 HF_GC	WDJV
GC0758	50	RC	459877	6449034	190.266	Hannaford	7 HF_GC	WDJV
GC0759	55	RC	459877.1	6449046	190.12	Hannaford	7 HF_GC	WDJV
GC0760	60	RC	459877	6449059	190.073	Hannaford	7 HF_GC	WDJV
GC0761	60	RC	459877	6449071	189.964	Hannaford	7 HF_GC	WDJV
GC0762	60	RC	459877	6449081	189.986	Hannaford	7 HF_GC	WDJV
GC0763	65	RC	459877	6449096	202.239	Hannaford	7 HF_GC	WDJV
GC0764	65	RC	459876.9	6449109	200.128	Hannaford	7 HF_GC	WDJV
GC0765	68	RC	459877.1	6449121	200.112	Hannaford	7 HF_GC	WDJV
GC0766	70	RC	459877.3	6449134	199.972	Hannaford	7 HF_GC	WDJV
GC0767	45	RC	459876.9	6449159	190.001	Hannaford	7 HF_GC	WDJV
GC0768	33	RC	459877	6449171	189.925	Hannaford	7 HF_GC	WDJV
GC0769	28	RC	459877	6449184	189.884	Hannaford	7 HF_GC	WDJV
GC0770	23	RC	459877	6449196	189.95	Hannaford	7 HF_GC	WDJV
GC0771	18	RC	459876.9	6449208	189.909	Hannaford	7 HF_GC	WDJV
GC0772	55	RC	459891	6448999	194.398	Hannaford	7 HF_GC	WDJV
GC0773	55	RC	459890.5	6449013	192.466	Hannaford	7 HF_GC	WDJV
GC0774	55	RC	459889.9	6449027	190.291	Hannaford	7 HF_GC	WDJV
GC0775	55	RC	459889.4	6449040	190.221	Hannaford	7 HF_GC	WDJV
GC0776	55	RC	459889.4	6449052	190.185	Hannaford	7 HF_GC	WDJV
GC0777	55	RC	459889.7	6449065	190.139	Hannaford	7 HF_GC	WDJV
GC0778	55	RC	459889.5	6449077	189.958	Hannaford	7 HF_GC	WDJV
GC0779	60	RC	459890.4	6449102	199.828	Hannaford	7 HF_GC	WDJV
GC0780	60	RC	459890.3	6449100	200.035	Hannaford	7 HF_GC	WDJV
GC0781	65	RC	459889.6	6449114	200	Hannaford	7 HF_GC	WDJV
GC0782	65	RC	459889.8	6449127	199.962	Hannaford	7 HF_GC	WDJV
GC0783	60	RC	459889.6	6449136	200.047	Hannaford	7 HF_GC	WDJV
GC0784	30	RC	459889.4	6449165	189.993	Hannaford	7 HF_GC	WDJV
GC0785	18	RC	459889.4	6449177	189.874	Hannaford	7 HF_GC	WDJV
GC0786	13	RC	459889.5	6449189	189.928	Hannaford	7 HF_GC	WDJV
GC0787	8	RC	459889.6	6449202	189.91	Hannaford	7 HF_GC	WDJV
GC0788	55	RC	459901.9	6448996	195.003	Hannaford	7 HF_GC	WDJV
GC0789	60	RC	459901.7	6449005	194.482	Hannaford	7 HF_GC	WDJV
GC0790	55	RC	459902.1	6449021	190.254	Hannaford	7 HF_GC	WDJV
GC0791	55	RC	459902.2	6449034	190.238	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0792	55	RC	459902	6449046	190.169	Hannaford	7 HF_GC	WDJV
GC0793	55	RC	459902.1	6449059	190.018	Hannaford	7 HF_GC	WDJV
GC0794	55	RC	459902.2	6449071	189.988	Hannaford	7 HF_GC	WDJV
GC0795	60	RC	459902	6449096	202.216	Hannaford	7 HF_GC	WDJV
GC0796	90	RC	459901.9	6449109	199.945	Hannaford	7 HF_GC	WDJV
GC0797	60	RC	459901.8	6449121	199.926	Hannaford	7 HF_GC	WDJV
GC0798	60	RC	459902.1	6449133	199.979	Hannaford	7 HF_GC	WDJV
GC0799	55	RC	459902.1	6449134	199.969	Hannaford	7 HF_GC	WDJV
GC0800	32	RC	459901.8	6449159	189.902	Hannaford	7 HF_GC	WDJV
GC0801	18	RC	459901.9	6449171	189.834	Hannaford	7 HF_GC	WDJV
GC0802	60	RC	459914.2	6448990	195.106	Hannaford	7 HF_GC	WDJV
GC0803	60	RC	459914.6	6448998	194.857	Hannaford	7 HF_GC	WDJV
GC0804	55	RC	459914.4	6449015	190.224	Hannaford	7 HF_GC	WDJV
GC0805	55	RC	459914.6	6449027	190.211	Hannaford	7 HF_GC	WDJV
GC0806	55	RC	459914.6	6449040	190.111	Hannaford	7 HF_GC	WDJV
GC0807	28	RC	459914.9	6449052	189.932	Hannaford	7 HF_GC	WDJV
GC0808	33	RC	459914.6	6449065	189.943	Hannaford	7 HF_GC	WDJV
GC0809	55	RC	459914.8	6449091	199.945	Hannaford	7 HF_GC	WDJV
GC0810	61	RC	459914.5	6449115	199.879	Hannaford	7 HF_GC	WDJV
GC0811	60	RC	459914.5	6449127	199.986	Hannaford	7 HF_GC	WDJV
GC0812	60	RC	459914.6	6449138	199.929	Hannaford	7 HF_GC	WDJV
GC0813	50	RC	459914.7	6449139	199.867	Hannaford	7 HF_GC	WDJV
GC0814	27	RC	459914.4	6449164	190.008	Hannaford	7 HF_GC	WDJV
GC0815	17	RC	459914.1	6449177	189.936	Hannaford	7 HF_GC	WDJV
GC0816	60	RC	459926.8	6448983	194.904	Hannaford	7 HF_GC	WDJV
GC0817	60	RC	459927.7	6448996	194.88	Hannaford	7 HF_GC	WDJV
GC0818	55	RC	459927.1	6449010	190.275	Hannaford	7 HF_GC	WDJV
GC0819	55	RC	459927	6449021	190.158	Hannaford	7 HF_GC	WDJV
GC0820	90	RC	459927.4	6449034	190.128	Hannaford	7 HF_GC	WDJV
GC0821	25	RC	459927.3	6449046	190.007	Hannaford	7 HF_GC	WDJV
GC0822	28	RC	459927	6449059	189.93	Hannaford	7 HF_GC	WDJV
GC0823	45	RC	459926.8	6449085	199.844	Hannaford	7 HF_GC	WDJV
GC0824	90	RC	459926.8	6449096	199.888	Hannaford	7 HF_GC	WDJV
GC0825	60	RC	459927	6449109	199.928	Hannaford	7 HF_GC	WDJV
GC0826	65	RC	459927	6449121	199.883	Hannaford	7 HF_GC	WDJV
GC0827	65	RC	459927.1	6449133	199.89	Hannaford	7 HF_GC	WDJV
GC0828	63	RC	459927	6449143	202.405	Hannaford	7 HF_GC	WDJV
GC0829	33	RC	459926.9	6449159	189.971	Hannaford	7 HF_GC	WDJV
GC0830	20	RC	459927.1	6449171	189.877	Hannaford	7 HF_GC	WDJV
GC0831	55	RC	459939.5	6449002	193.123	Hannaford	7 HF_GC	WDJV
GC0832	55	RC	459939.5	6448990	194.865	Hannaford	7 HF_GC	WDJV
GC0833	52	RC	459939.5	6449014	190.018	Hannaford	7 HF_GC	WDJV
GC0834	52	RC	459939.5	6449027	190.076	Hannaford	7 HF_GC	WDJV
GC0835	52	RC	459939.6	6449039	190.162	Hannaford	7 HF_GC	WDJV
GC0836	52	RC	459939.1	6449052	190.106	Hannaford	7 HF_GC	WDJV
GC0837	45	RC	459939.9	6449065	190.075	Hannaford	7 HF_GC	WDJV
GC0838	57	RC	459939.6	6449090	199.993	Hannaford	7 HF_GC	WDJV
GC0839	60	RC	459939.7	6449089	199.912	Hannaford	7 HF_GC	WDJV
GC0840	61	RC	459939.2	6449103	199.952	Hannaford	7 HF_GC	WDJV
GC0841	61	RC	459939.4	6449115	199.673	Hannaford	7 HF_GC	WDJV
GC0842	60	RC	459939.1	6449127	199.826	Hannaford	7 HF_GC	WDJV
GC0843	57	RC	459939.9	6449137	199.841	Hannaford	7 HF_GC	WDJV
GC0844	26	RC	459939.5	6449165	189.896	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0845	16	RC	459939.5	6449177	189.917	Hannaford	7 HF_GC	WDJV
GC0846	55	RC	459952	6448983	194.817	Hannaford	7 HF_GC	WDJV
GC0847	30	RC	459952	6448985	194.791	Hannaford	7 HF_GC	WDJV
GC0848	55	RC	459951.9	6449013	190.001	Hannaford	7 HF_GC	WDJV
GC0849	82	RC	459952.1	6449022	190.121	Hannaford	7 HF_GC	WDJV
GC0850	55	RC	459951.9	6449034	189.974	Hannaford	7 HF_GC	WDJV
GC0851	90	RC	459951.7	6449049	190.111	Hannaford	7 HF_GC	WDJV
GC0852	53	RC	459951.8	6449087	199.934	Hannaford	7 HF_GC	WDJV
GC0853	61	RC	459951.9	6449096	200.127	Hannaford	7 HF_GC	WDJV
GC0854	61	RC	459951.9	6449109	199.866	Hannaford	7 HF_GC	WDJV
GC0855	61	RC	459951.9	6449121	199.831	Hannaford	7 HF_GC	WDJV
GC0856	56	RC	459952.3	6449134	200.08	Hannaford	7 HF_GC	WDJV
GC0857	40	RC	459952.3	6449135	200.099	Hannaford	7 HF_GC	WDJV
GC0858	27	RC	459952	6449159	189.921	Hannaford	7 HF_GC	WDJV
GC0859	17	RC	459951.9	6449171	189.913	Hannaford	7 HF_GC	WDJV
GC0860	60	RC	459964.4	6448990	194.833	Hannaford	7 HF_GC	WDJV
GC0861	35	RC	459964.4	6448992	194.846	Hannaford	7 HF_GC	WDJV
GC0862	55	RC	459964.5	6449014	189.882	Hannaford	7 HF_GC	WDJV
GC0863	55	RC	459964.6	6449027	189.963	Hannaford	7 HF_GC	WDJV
GC0864	55	RC	459964.5	6449040	189.913	Hannaford	7 HF_GC	WDJV
GC0865	55	RC	459964.3	6449052	189.966	Hannaford	7 HF_GC	WDJV
GC0866	30	RC	459964.6	6449065	189.994	Hannaford	7 HF_GC	WDJV
GC0867	61	RC	459964.4	6449090	199.915	Hannaford	7 HF_GC	WDJV
GC0868	50	RC	459964.5	6449090	202.644	Hannaford	7 HF_GC	WDJV
GC0869	59	RC	459963.1	6449102	200.1	Hannaford	7 HF_GC	WDJV
GC0870	45	RC	459980	6449121	189.409	Hannaford	7 HF_GC	WDJV
GC0871	40	RC	459976.9	6449135	189.35	Hannaford	7 HF_GC	WDJV
GC0872	25	RC	459976.5	6449148	189.595	Hannaford	7 HF_GC	WDJV
GC0873	18	RC	459964.5	6449165	189.806	Hannaford	7 HF_GC	WDJV
GC0874	45	RC	459976.9	6448981	195.31	Hannaford	7 HF_GC	WDJV
GC0875	45	RC	459976.9	6448983	195.374	Hannaford	7 HF_GC	WDJV
GC0876	55	RC	459976.9	6449011	189.956	Hannaford	7 HF_GC	WDJV
GC0877	55	RC	459976.9	6449021	189.983	Hannaford	7 HF_GC	WDJV
GC0878	80	RC	459977	6449033	190.02	Hannaford	7 HF_GC	WDJV
GC0879	18	RC	459977.1	6449046	189.873	Hannaford	7 HF_GC	WDJV
GC0880	18	RC	459977	6449058	189.764	Hannaford	7 HF_GC	WDJV
GC0881	39	RC	459986.4	6449095	189.458	Hannaford	7 HF_GC	WDJV
GC0882	38	RC	459992	6449085	189.587	Hannaford	7 HF_GC	WDJV
GC0883	35	RC	459981.2	6449117	189.387	Hannaford	7 HF_GC	WDJV
GC0884	35	RC	459978.6	6449129	189.387	Hannaford	7 HF_GC	WDJV
GC0885	30	RC	459977	6449141	189.588	Hannaford	7 HF_GC	WDJV
GC0886	10	RC	459977.1	6449171	189.927	Hannaford	7 HF_GC	WDJV
GC0887	45	RC	459989.5	6448977	196.621	Hannaford	7 HF_GC	WDJV
GC0888	60	RC	459989.2	6448988	196.699	Hannaford	7 HF_GC	WDJV
GC0889	55	RC	459989.2	6448990	196.793	Hannaford	7 HF_GC	WDJV
GC0890	60	RC	459989.3	6449014	189.969	Hannaford	7 HF_GC	WDJV
GC0891	60	RC	459989.5	6449027	189.936	Hannaford	7 HF_GC	WDJV
GC0892	60	RC	459989.5	6449039	189.833	Hannaford	7 HF_GC	WDJV
GC0893	15	RC	459989.7	6449052	189.701	Hannaford	7 HF_GC	WDJV
GC0894	18	RC	459989.7	6449065	189.812	Hannaford	7 HF_GC	WDJV
GC0895	42	RC	459989.5	6449090	197.592	Hannaford	7 HF_GC	WDJV
GC0896	26	RC	459992.7	6449084	189.615	Hannaford	7 HF_GC	WDJV
GC0897	35	RC	459989.5	6449102	189.45	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0898	38	RC	459989.4	6449115	189.481	Hannaford	7 HF_GC	WDJV
GC0899	38	RC	459989.4	6449127	189.693	Hannaford	7 HF_GC	WDJV
GC0900	29	RC	459989.5	6449140	189.901	Hannaford	7 HF_GC	WDJV
GC0901	21	RC	459989.9	6449145	189.846	Hannaford	7 HF_GC	WDJV
GC0902	15	RC	459989.5	6449165	189.867	Hannaford	7 HF_GC	WDJV
GC0903	15	RC	459989.5	6449177	189.886	Hannaford	7 HF_GC	WDJV
GC0904	50	RC	460001.9	6448984	198.214	Hannaford	7 HF_GC	WDJV
GC0905	40	RC	460001.9	6448985	198.267	Hannaford	7 HF_GC	WDJV
GC0906	65	RC	460001.8	6449014	190.116	Hannaford	7 HF_GC	WDJV
GC0907	65	RC	460002	6449021	190.007	Hannaford	7 HF_GC	WDJV
GC0908	65	RC	460002.1	6449033	189.986	Hannaford	7 HF_GC	WDJV
GC0909	14	RC	460001.8	6449046	189.847	Hannaford	7 HF_GC	WDJV
GC0910	10	RC	460002.1	6449058	189.794	Hannaford	7 HF_GC	WDJV
GC0911	15	RC	460002.1	6449071	189.838	Hannaford	7 HF_GC	WDJV
GC0912	32	RC	460001.9	6449095	189.495	Hannaford	7 HF_GC	WDJV
GC0913	38	RC	460001.8	6449115	189.7	Hannaford	7 HF_GC	WDJV
GC0914	25	RC	460001.8	6449135	189.832	Hannaford	7 HF_GC	WDJV
GC0915	8	RC	460002	6449171	189.708	Hannaford	7 HF_GC	WDJV
GC0916	50	RC	460014	6448990	199.754	Hannaford	7 HF_GC	WDJV
GC0917	60	RC	460014.4	6449013	190.086	Hannaford	7 HF_GC	WDJV
GC0918	60	RC	460014.4	6449014	190.055	Hannaford	7 HF_GC	WDJV
GC0919	60	RC	460014.5	6449027	189.938	Hannaford	7 HF_GC	WDJV
GC0920	10	RC	460014.5	6449039	189.867	Hannaford	7 HF_GC	WDJV
GC0921	10	RC	460014.3	6449064	189.882	Hannaford	7 HF_GC	WDJV
GC0922	23	RC	460013.7	6449103	189.744	Hannaford	7 HF_GC	WDJV
GC0923	27	RC	460013.9	6449098	189.708	Hannaford	7 HF_GC	WDJV
GC0924	29	RC	460014.4	6449115	189.794	Hannaford	7 HF_GC	WDJV
GC0925	36	RC	460014.5	6449127	197.575	Hannaford	7 HF_GC	WDJV
GC0926	23	RC	460014.7	6449133	189.903	Hannaford	7 HF_GC	WDJV
GC0927	18	RC	460014.4	6449152	189.892	Hannaford	7 HF_GC	WDJV
GC0928	45	RC	460026.9	6448992	200.543	Hannaford	7 HF_GC	WDJV
GC0929	55	RC	460026.9	6449010	190.139	Hannaford	7 HF_GC	WDJV
GC0930	55	RC	460027	6449021	190.13	Hannaford	7 HF_GC	WDJV
GC0931	28	RC	460026.9	6449033	189.944	Hannaford	7 HF_GC	WDJV
GC0932	15	RC	460027	6449046	189.91	Hannaford	7 HF_GC	WDJV
GC0933	10	RC	460027.2	6449084	189.976	Hannaford	7 HF_GC	WDJV
GC0934	29	RC	460026.7	6449108	189.962	Hannaford	7 HF_GC	WDJV
GC0935	21	RC	460027.2	6449103	189.914	Hannaford	7 HF_GC	WDJV
GC0936	29	RC	460026.9	6449121	189.914	Hannaford	7 HF_GC	WDJV
GC0937	25	RC	460027.2	6449134	189.909	Hannaford	7 HF_GC	WDJV
GC0938	15	RC	460027.2	6449149	189.948	Hannaford	7 HF_GC	WDJV
GC0939	10	RC	460027	6449171	190.02	Hannaford	7 HF_GC	WDJV
GC0940	37	RC	460039.5	6449012	189.919	Hannaford	7 HF_GC	WDJV
GC0941	55	RC	460039.5	6449014	190.091	Hannaford	7 HF_GC	WDJV
GC0942	55	RC	460039.8	6449027	189.884	Hannaford	7 HF_GC	WDJV
GC0943	28	RC	460039.4	6449039	189.945	Hannaford	7 HF_GC	WDJV
GC0944	15	RC	460039.5	6449052	190.148	Hannaford	7 HF_GC	WDJV
GC0945	15	RC	460039.4	6449089	190.166	Hannaford	7 HF_GC	WDJV
GC0946	25	RC	460039.7	6449103	190.14	Hannaford	7 HF_GC	WDJV
GC0947	20	RC	460039.9	6449141	190.009	Hannaford	7 HF_GC	WDJV
GC0948	13	RC	460039.3	6449152	189.914	Hannaford	7 HF_GC	WDJV
GC0949	10	RC	460039.6	6449165	189.972	Hannaford	7 HF_GC	WDJV
GC0950	10	RC	460039.5	6449177	190.005	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC0951	35	RC	460051.7	6448995	200.421	Hannaford	7 HF_GC	WDJV
GC0952	55	RC	460051.9	6449021	189.979	Hannaford	7 HF_GC	WDJV
GC0953	55	RC	460052	6449033	189.882	Hannaford	7 HF_GC	WDJV
GC0954	15	RC	460052	6449046	189.996	Hannaford	7 HF_GC	WDJV
GC0955	10	RC	460051.9	6449058	189.995	Hannaford	7 HF_GC	WDJV
GC0956	27	RC	460051.9	6449096	190.279	Hannaford	7 HF_GC	WDJV
GC0957	25	RC	460051.7	6449121	190.073	Hannaford	7 HF_GC	WDJV
GC0958	18	RC	460051.9	6449134	189.989	Hannaford	7 HF_GC	WDJV
GC0959	15	RC	460052	6449146	190.002	Hannaford	7 HF_GC	WDJV
GC0960	10	RC	460051.9	6449158	189.989	Hannaford	7 HF_GC	WDJV
GC0961	35	RC	460064.5	6449001	200.419	Hannaford	7 HF_GC	WDJV
GC0962	50	RC	460060.7	6449025	190.042	Hannaford	7 HF_GC	WDJV
GC0963	40	RC	460061	6449027	190.025	Hannaford	7 HF_GC	WDJV
GC0964	25	RC	460062.5	6449039	189.837	Hannaford	7 HF_GC	WDJV
GC0965	15	RC	460063	6449052	190.091	Hannaford	7 HF_GC	WDJV
GC0966	5	RC	460062	6449063	189.981	Hannaford	7 HF_GC	WDJV
GC0967	5	RC	460060.9	6449076	190.003	Hannaford	7 HF_GC	WDJV
GC0968	18	RC	460061.9	6449089	190.359	Hannaford	7 HF_GC	WDJV
GC0969	25	RC	460062.3	6449102	190.482	Hannaford	7 HF_GC	WDJV
GC0970	25	RC	460064	6449114	190.027	Hannaford	7 HF_GC	WDJV
GC0971	23	RC	460064.1	6449127	189.958	Hannaford	7 HF_GC	WDJV
GC0972	18	RC	460064.3	6449140	189.903	Hannaford	7 HF_GC	WDJV
GC0973	17	RC	460064.6	6449152	190.032	Hannaford	7 HF_GC	WDJV
GC0974	13	RC	460064.4	6449164	190.012	Hannaford	7 HF_GC	WDJV
GC0975	10	RC	460064.4	6449177	190.117	Hannaford	7 HF_GC	WDJV
GC0976	5	RC	460063.9	6449190	189.918	Hannaford	7 HF_GC	WDJV
GC0977	50	RC	460077.4	6449003	200.337	Hannaford	7 HF_GC	WDJV
GC0978	35	RC	460076.8	6449121	190.105	Hannaford	7 HF_GC	WDJV
GC0979	25	RC	460076.8	6449121	190.105	Hannaford	7 HF_GC	WDJV
GC0980	15	RC	460074.4	6449149	190.044	Hannaford	7 HF_GC	WDJV
GC0981	12	RC	460075.1	6449163	189.918	Hannaford	7 HF_GC	WDJV
GC1000	30	RC	459887.9	6449287	207.043	Hannaford	7 HF_GC	WDJV
GC1001	30	RC	459887.8	6449312	206.985	Hannaford	7 HF_GC	WDJV
GC1002	30	RC	459912.2	6449280	206.978	Hannaford	7 HF_GC	WDJV
GC1003	30	RC	459937.1	6449261	206.955	Hannaford	7 HF_GC	WDJV
GC1004	30	RC	459961.6	6449243	206.793	Hannaford	7 HF_GC	WDJV
GC1005	30	RC	459987.9	6449237	207.237	Hannaford	7 HF_GC	WDJV
GC1006	30	RC	459962.2	6449255	207.153	Hannaford	7 HF_GC	WDJV
GC1007	30	RC	459913.3	6449312	208.403	Hannaford	7 HF_GC	WDJV
GC1008	30	RC	459936.9	6449287	208.836	Hannaford	7 HF_GC	WDJV
GC1009	30	RC	459937	6449315	206.64	Hannaford	7 HF_GC	WDJV
GC1010	30	RC	459961.9	6449287	206.626	Hannaford	7 HF_GC	WDJV
GC1011	30	RC	459987.6	6449271	206.669	Hannaford	7 HF_GC	WDJV
GC1012	30	RC	460325.4	6449267	205.409	Hannaford	7 HF_GC	WDJV
GC1013	30	RC	460312.6	6449274	205.408	Hannaford	7 HF_GC	WDJV
GC1014	30	RC	460289	6449291	205.5	Hannaford	7 HF_GC	WDJV
GC1015	30	RC	460248.1	6449298	206.287	Hannaford	7 HF_GC	WDJV
GC1016	30	RC	460261.7	6449296	206.044	Hannaford	7 HF_GC	WDJV
GC1017	30	RC	460248.9	6449286	205.628	Hannaford	7 HF_GC	WDJV
GC1018	30	RC	460248.6	6449284	205.623	Hannaford	7 HF_GC	WDJV
GC1019	30	RC	460262.9	6449285	205.567	Hannaford	7 HF_GC	WDJV
GC1020	30	RC	460263.1	6449283	205.486	Hannaford	7 HF_GC	WDJV
GC1021	30	RC	460288.1	6449274	205.562	Hannaford	7 HF_GC	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
GC1023	30	RC	460312.9	6449263	205.494	Hannaford	7 HF_GC	WDJV
GC1024	30	RC	460312.9	6449261	205.497	Hannaford	7 HF_GC	WDJV
GC1025	30	RC	460325	6449256	205.486	Hannaford	7 HF_GC	WDJV
GC1026	60	RC	459839.2	6449295	207.068	Hannaford	7 HF_GC	WDJV
GC1027	60	RC	459825.4	6449301	207.088	Hannaford	7 HF_GC	WDJV
GCHE001	10	RC	460385.2	6449165	206.799	Hannaford	7 HF_GC	WDJV
GCHE002	10	RC	460376.3	6449180	206.665	Hannaford	7 HF_GC	WDJV
GCHE003	10	RC	460395	6449180	206.815	Hannaford	7 HF_GC	WDJV
GCHE004	10	RC	460405.1	6449165	207.164	Hannaford	7 HF_GC	WDJV
GCHE005	15	RC	460359.9	6449195	206.145	Hannaford	7 HF_GC	WDJV
GCHE006	15	RC	460360.1	6449210	206.005	Hannaford	7 HF_GC	WDJV
GCHE007	15	RC	460395	6449205	206.694	Hannaford	7 HF_GC	WDJV
GCHE008	15	RC	460384.8	6449195	206.585	Hannaford	7 HF_GC	WDJV
GCHE009	15	RC	460405.2	6449195	207.128	Hannaford	7 HF_GC	WDJV
GCHE010	20	RC	460356.5	6449221	205.901	Hannaford	7 HF_GC	WDJV
GCHE011	20	RC	460345.9	6449226	205.8	Hannaford	7 HF_GC	WDJV
GCHE012	20	RC	460315.2	6449310	205.277	Hannaford	7 HF_GC	WDJV
GCHE013	20	RC	460329.9	6449310	205.183	Hannaford	7 HF_GC	WDJV
GCHE014	20	RC	460330	6449295	205.276	Hannaford	7 HF_GC	WDJV
GCHE015	20	RC	460315	6449295	205.318	Hannaford	7 HF_GC	WDJV
GCHE016	20	RC	460315	6449285	205.434	Hannaford	7 HF_GC	WDJV
GCHE017	20	RC	460334.9	6449285	205.305	Hannaford	7 HF_GC	WDJV
GCHE018	20	RC	460340.1	6449275	205.536	Hannaford	7 HF_GC	WDJV
GCHE019	20	RC	460375	6449225	206.161	Hannaford	7 HF_GC	WDJV
GCHE020	20	RC	460379.9	6449210	206.434	Hannaford	7 HF_GC	WDJV
GCHE021	20	RC	460274.9	6449285	205.54	Hannaford	7 HF_GC	WDJV
GCHE022	20	RC	460260.3	6449270	205.558	Hannaford	7 HF_GC	WDJV
GCHE023	20	RC	460275.1	6449265	205.727	Hannaford	7 HF_GC	WDJV
GCHE024	20	RC	460265	6449290	205.612	Hannaford	7 HF_GC	WDJV
GCHE025	20	RC	460304.9	6449250	205.52	Hannaford	7 HF_GC	WDJV
GCHE026	20	RC	460321.4	6449236	205.598	Hannaford	7 HF_GC	WDJV
GCHE027	20	RC	460390.1	6449220	206.412	Hannaford	7 HF_GC	WDJV
GCHE028	20	RC	460300.1	6449275	205.257	Hannaford	7 HF_GC	WDJV
GCHE029	20	RC	460283.4	6449252	206.023	Hannaford	7 HF_GC	WDJV
GCHE030	20	RC	460310	6449303	205.277	Hannaford	7 HF_GC	WDJV
GCHE031	20	RC	460335	6449303	205.235	Hannaford	7 HF_GC	WDJV
GCHE032	25	RC	460364.8	6449240	205.8	Hannaford	7 HF_GC	WDJV
GCHE033	25	RC	460349.9	6449250	205.633	Hannaford	7 HF_GC	WDJV
GCHE034	25	RC	460335.3	6449235	205.739	Hannaford	7 HF_GC	WDJV
GCHE035	25	RC	460389.9	6449235	206.226	Hannaford	7 HF_GC	WDJV
GCHE036	30	RC	460336.1	6449251	205.448	Hannaford	7 HF_GC	WDJV
GCHE037	30	RC	460334.8	6449260	205.455	Hannaford	7 HF_GC	WDJV
GCHE038	30	RC	460317.5	6449244	205.603	Hannaford	7 HF_GC	WDJV
HDD001	50	NQ	460006.4	6449086	157.265	Hannaford	6 CCL	CCL
HDD002	55	NQ	459971	6449019	150.171	Hannaford	6 CCL	CCL
HDD003	65	NQ	459979.8	6449022	149.766	Hannaford	6 CCL	CCL
HDD004	97	NQ	459994.1	6449083	154.935	Hannaford	6 CCL	CCL
HGT02	75	HQ3	459907	6449035	155	Hannaford	6 CCL	CCL
MB01	108	WB	461367	6448967	201.749	none	5 WDJV	WDJV
MB02	150	WB	458726	6449686	220	none	5 WDJV	WDJV
MB03	121	WB	460303.8	6447577	215.098	none	5 WDJV	WDJV
MB04	150	WB	462852	6449230	200	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
MB05	150	WB	459600	6450430	208.822	White Dam North	5 WDJV	WDJV
MB06	153	WB	459440	6448850	230	none	5 WDJV	WDJV
MB07	138	WB	457729	6446176	230	none	5 WDJV	WDJV
NM017	18	RC	460360.7	6453991	204.73	none	5 WDJV	WDJV
NM018	18	RC	460360.2	6453792	206.334	none	5 WDJV	WDJV
NM019	18	RC	460358.6	6453590	207.742	none	5 WDJV	WDJV
NM020	18	RC	460359.7	6453388	209.286	none	5 WDJV	WDJV
NM021	18	RC	460357.5	6453190	210.357	none	5 WDJV	WDJV
NM022	18	RC	460361.2	6452989	211.622	none	5 WDJV	WDJV
NM023	18	RC	460359.3	6452890	212.551	none	5 WDJV	WDJV
NM024	18	RC	460358.8	6452790	213.663	none	5 WDJV	WDJV
NM025	18	RC	460019	6453793	208.217	none	5 WDJV	WDJV
NM026	18	RC	460019.5	6453990	204.29	none	5 WDJV	WDJV
NM027	18	RC	460357	6451789	223.127	none	5 WDJV	WDJV
NM028	18	RC	460359.3	6451991	232.938	none	5 WDJV	WDJV
NM029	18	RC	460362	6452189	225.23	none	5 WDJV	WDJV
NM030	18	RC	460359.1	6452389	221.3	none	5 WDJV	WDJV
NM031	18	RC	460358.8	6452590	216.491	none	5 WDJV	WDJV
NM032	18	RC	460019	6453587	207.859	none	5 WDJV	WDJV
NM033	18	RC	460020.4	6453390	209.786	none	5 WDJV	WDJV
NM034	18	RC	460018	6453189	208.829	none	5 WDJV	WDJV
NM035	18	RC	460018	6452990	209.967	none	5 WDJV	WDJV
NM036	18	RC	460018.2	6452789	212.542	none	5 WDJV	WDJV
NM037	18	RC	460017.5	6452589	216.196	none	5 WDJV	WDJV
NM038	18	RC	460020.8	6452488	216.852	none	5 WDJV	WDJV
NM039	18	RC	460019.4	6452390	217.894	none	5 WDJV	WDJV
NM040	18	RC	460020.5	6452290	219.765	none	5 WDJV	WDJV
NM041	18	RC	460018.3	6452191	221.602	none	5 WDJV	WDJV
NM042	18	RC	460021.5	6452093	224.546	none	5 WDJV	WDJV
NM043	18	RC	460019.1	6451991	224.549	none	5 WDJV	WDJV
NM044	18	RC	460020.6	6451890	223.991	none	5 WDJV	WDJV
NM045	18	RC	460019.5	6451790	224.378	none	5 WDJV	WDJV
NM046	18	RC	460020.3	6451589	223.544	none	5 WDJV	WDJV
NM047	18	RC	459768.7	6451737	219.023	none	5 WDJV	WDJV
NM048	18	RC	459769.1	6451940	220.12	none	5 WDJV	WDJV
NM049	18	RC	459768	6452740	215.681	none	5 WDJV	WDJV
NM050	18	RC	459768.4	6452540	217.545	none	5 WDJV	WDJV
NM051	18	RC	459769.5	6452438	217.005	none	5 WDJV	WDJV
NM052	18	RC	459768.8	6452342	217.259	none	5 WDJV	WDJV
NM053	18	RC	459768	6452240	218.289	none	5 WDJV	WDJV
NM054	18	RC	459770	6452139	219.656	none	5 WDJV	WDJV
NM055	18	RC	459769.7	6452040	220.347	none	5 WDJV	WDJV
NM056	18	RC	459519.1	6451589	215.082	none	5 WDJV	WDJV
NM057	18	RC	459518.4	6451788	216.33	none	5 WDJV	WDJV
NM058	18	RC	459519.1	6451890	217.109	none	5 WDJV	WDJV
NM059	18	RC	459518.6	6451988	218.217	none	5 WDJV	WDJV
NM060	18	RC	459520	6452089	218.853	none	5 WDJV	WDJV
NM061	18	RC	459517.8	6452189	219.548	none	5 WDJV	WDJV
NM062	18	RC	459518.7	6452290	220.111	none	5 WDJV	WDJV
NM063	18	RC	459518.8	6452389	219.977	none	5 WDJV	WDJV
NM064	18	RC	459518.9	6452488	219.254	none	5 WDJV	WDJV
NM065	18	RC	459518.9	6452589	218.085	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
NM066	18	RC	459516.9	6452791	216.385	none	5 WDJV	WDJV
NM067	18	RC	459518.8	6452988	213.333	none	5 WDJV	WDJV
NM068	18	RC	459519.7	6453189	209.876	none	5 WDJV	WDJV
NM069	18	RC	459519.9	6453391	208.562	none	5 WDJV	WDJV
NM070	18	RC	459519.4	6453589	208.075	none	5 WDJV	WDJV
NM071	18	RC	459519.4	6453789	206.984	none	5 WDJV	WDJV
NM072	18	RC	459519.5	6453989	206.07	none	5 WDJV	WDJV
NM073	18	RC	463750.1	6450500	200.447	none	5 WDJV	WDJV
NM074	18	RC	463750.3	6450700	199.998	none	5 WDJV	WDJV
NM075	18	RC	463750.3	6450900	199.022	none	5 WDJV	WDJV
NM076	18	RC	463749.5	6451099	199.442	none	5 WDJV	WDJV
NM077	18	RC	459019.2	6451790	218.806	none	5 WDJV	WDJV
NM078	18	RC	459019.6	6451989	218.954	none	5 WDJV	WDJV
NM079	18	RC	459020.7	6452190	219.146	none	5 WDJV	WDJV
NM080	18	RC	459019.1	6452390	221.181	none	5 WDJV	WDJV
NM081	25	RC	459020.2	6452591	225.131	none	5 WDJV	WDJV
NM082	18	RC	459016.1	6452989	218.644	none	5 WDJV	WDJV
NM083	18	RC	459018.7	6453190	214.249	none	5 WDJV	WDJV
NM084	18	RC	459020.2	6453391	213.403	none	5 WDJV	WDJV
NM085	18	RC	459019.5	6453590	211.631	none	5 WDJV	WDJV
NM086	18	RC	459020.1	6453789	209.076	none	5 WDJV	WDJV
NM087	18	RC	459018.5	6453989	207.083	none	5 WDJV	WDJV
NM088	18	RC	458520.8	6453991	208.838	none	5 WDJV	WDJV
NM089	18	RC	458519.1	6453792	210.888	none	5 WDJV	WDJV
NM090	18	RC	458515.5	6453591	214.298	none	5 WDJV	WDJV
NM091	18	RC	458521.3	6453388	217.279	none	5 WDJV	WDJV
NM092	18	RC	458520.3	6453190	220.434	none	5 WDJV	WDJV
NM093	18	RC	458519.2	6452992	219.839	none	5 WDJV	WDJV
NM094	18	RC	458518.5	6452791	220.957	none	5 WDJV	WDJV
NM095	18	RC	458516.7	6452593	224.606	none	5 WDJV	WDJV
NM096	49	RC	458518.1	6452490	227.711	none	5 WDJV	WDJV
NM097	25	RC	458516.5	6452386	228.565	none	5 WDJV	WDJV
NM098	25	RC	458518.1	6452289	227.195	none	5 WDJV	WDJV
NM099	25	RC	458518.6	6452192	224.87	none	5 WDJV	WDJV
NM100	36	RC	458018.4	6453084	214.152	none	5 WDJV	WDJV
NM101	25	RC	458020.8	6452888	219.739	none	5 WDJV	WDJV
NM102	49	RC	458024.2	6452689	224.902	none	5 WDJV	WDJV
NM103	40	RC	458020.3	6452482	229.143	none	5 WDJV	WDJV
NM104	30	RC	458020.1	6452290	229.808	none	5 WDJV	WDJV
NM105	45	RC	458084.7	6452068	226.404	none	5 WDJV	WDJV
NM106	18	RC	458017.8	6451890	223.517	none	5 WDJV	WDJV
NM107	31	RC	458020.5	6451687	223.365	none	5 WDJV	WDJV
NM108	18	RC	458021.7	6451494	223.874	none	5 WDJV	WDJV
NM109	18	RC	458519.4	6451889	225.053	none	5 WDJV	WDJV
NM110	18	RC	458517.3	6451987	223.8	none	5 WDJV	WDJV
NM111	18	RC	458519	6452089	223.819	none	5 WDJV	WDJV
NM112	18	RC	463748.9	6451300	200.831	none	5 WDJV	WDJV
NM113	18	RC	463748.8	6451501	202.211	none	5 WDJV	WDJV
NM114	18	RC	463748.7	6451700	204.01	none	5 WDJV	WDJV
NM115	18	RC	463748.7	6451900	205.767	none	5 WDJV	WDJV
NM116	18	RC	463749.4	6452101	207.43	none	5 WDJV	WDJV
NM117	18	RC	463755.1	6452302	208.499	none	5 WDJV	WDJV
NM118	18	RC	463749.1	6452401	209.188	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
NM119	18	RC	463748.7	6452500	209.248	none	5 WDJV	WDJV
NM120	18	RC	463748.4	6452701	207.737	none	5 WDJV	WDJV
NM121	18	RC	463751.4	6452598	208.356	none	5 WDJV	WDJV
NM122	18	RC	463749	6452901	208.334	none	5 WDJV	WDJV
NM123	18	RC	463749.2	6453103	207.308	none	5 WDJV	WDJV
NM124	18	RC	462999.3	6452703	209.662	none	5 WDJV	WDJV
NM125	18	RC	463000.4	6452502	209.324	none	5 WDJV	WDJV
NM126	18	RC	463001.1	6452402	208.97	none	5 WDJV	WDJV
NM127	18	RC	463001	6452304	208.068	none	5 WDJV	WDJV
NM128	18	RC	463003.9	6452202	207.01	none	5 WDJV	WDJV
NM129	18	RC	463000.1	6452102	206.812	none	5 WDJV	WDJV
NM130	18	RC	463006.5	6452000	206.253	none	5 WDJV	WDJV
NM131	18	RC	462999.8	6451902	205.154	none	5 WDJV	WDJV
NM132	18	RC	463004.5	6451702	203.769	none	5 WDJV	WDJV
NM133	18	RC	463000.2	6451502	203.028	none	5 WDJV	WDJV
NM134	18	RC	463001.4	6451300	203.561	none	5 WDJV	WDJV
NM135	18	RC	462999	6451099	205.138	none	5 WDJV	WDJV
NM136	18	RC	463000	6450900	205.864	none	5 WDJV	WDJV
NM137	18	RC	462999.1	6450700	204.388	none	5 WDJV	WDJV
NM138	18	RC	462999.5	6450299	200.465	none	5 WDJV	WDJV
NM139	18	RC	463000	6450298	202.21	none	5 WDJV	WDJV
NM140	18	RC	462999.2	6450099	199.459	none	5 WDJV	WDJV
NM141	18	RC	462999.6	6449900	199.795	none	5 WDJV	WDJV
NM142	18	RC	462999.6	6449699	196.936	none	5 WDJV	WDJV
NM143	18	RC	462999.4	6449499	195.489	none	5 WDJV	WDJV
NM144	18	RC	462999	6449299	195.182	none	5 WDJV	WDJV
NM145	18	RC	463750	6449700	195.906	none	5 WDJV	WDJV
NM146	18	RC	463748.7	6449500	193.947	none	5 WDJV	WDJV
NM147	18	RC	463750.4	6449300	193.862	none	5 WDJV	WDJV
NM148	18	RC	463750.1	6449901	198.148	none	5 WDJV	WDJV
NM149	18	RC	463749.5	6450101	199.453	none	5 WDJV	WDJV
NM150	18	RC	463749.6	6450301	200.397	none	5 WDJV	WDJV
NM151	18	RC	464279.4	6449701	196.007	none	5 WDJV	WDJV
NM152	18	RC	464279.2	6449502	193.512	none	5 WDJV	WDJV
NM153	18	RC	464279.1	6449301	191.768	none	5 WDJV	WDJV
NM154	18	RC	464280.8	6449900	197.818	none	5 WDJV	WDJV
NM155	18	RC	464285.4	6450100	197.381	none	5 WDJV	WDJV
NM156	18	RC	464280.1	6450300	196.582	none	5 WDJV	WDJV
NM157	18	RC	464780.1	6449100	191.995	none	5 WDJV	WDJV
NM158	18	RC	464780.1	6449299	193.873	none	5 WDJV	WDJV
NM159	18	RC	464780.3	6449500	193.777	none	5 WDJV	WDJV
NM160	18	RC	464779.2	6449700	193.771	none	5 WDJV	WDJV
NM161	18	RC	464775.5	6449883	192.969	none	5 WDJV	WDJV
NM162	18	RC	464780.3	6450100	195.154	none	5 WDJV	WDJV
NM163	18	RC	464780.3	6450299	197.145	none	5 WDJV	WDJV
NM164	18	RC	464779.3	6450500	196.767	none	5 WDJV	WDJV
NM165	18	RC	464780	6450700	197.867	none	5 WDJV	WDJV
NM166	18	RC	464780.1	6450900	199.293	none	5 WDJV	WDJV
NM167	18	RC	464778.8	6451100	200.546	none	5 WDJV	WDJV
NM168	18	RC	464779.3	6451300	200.861	none	5 WDJV	WDJV
NM169	18	RC	464779.3	6451500	201.479	none	5 WDJV	WDJV
NM170	18	RC	464779.3	6451700	203.332	none	5 WDJV	WDJV
NM171	18	RC	464779.7	6451900	204.655	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
NM172	18	RC	464779.3	6452100	203.355	none	5 WDJV	WDJV
NM173	18	RC	464779.2	6452301	202.114	none	5 WDJV	WDJV
NM174	18	RC	464779	6452501	202.808	none	5 WDJV	WDJV
NM175	18	RC	464779.4	6452701	201.239	none	5 WDJV	WDJV
NM176	18	RC	464779.8	6452900	199.181	none	5 WDJV	WDJV
NM177	18	RC	464778.6	6453102	199.68	none	5 WDJV	WDJV
NM178	18	RC	464778.8	6453300	201.77	none	5 WDJV	WDJV
NM179	18	RC	464280.2	6450501	196.162	none	5 WDJV	WDJV
NM180	18	RC	464280	6450701	196.967	none	5 WDJV	WDJV
NM181	18	RC	464280.4	6450901	198.691	none	5 WDJV	WDJV
NM182	18	RC	464279.5	6451101	200.11	none	5 WDJV	WDJV
NM183	18	RC	464280.2	6451302	201.538	none	5 WDJV	WDJV
NM184	18	RC	464279.1	6451547	204.925	none	5 WDJV	WDJV
NM185	18	RC	464280.6	6451651	206.226	none	5 WDJV	WDJV
NM186	18	RC	464280.3	6451752	207.192	none	5 WDJV	WDJV
NM187	18	RC	464280	6451853	207.927	none	5 WDJV	WDJV
NM188	18	RC	464279.8	6451951	208.596	none	5 WDJV	WDJV
NM189	18	RC	464279.8	6452050	209.011	none	5 WDJV	WDJV
NM190	18	RC	464280.1	6452303	208.872	none	5 WDJV	WDJV
NM191	18	RC	464275	6452498	206.786	none	5 WDJV	WDJV
NM192	18	RC	464281.3	6452702	204.629	none	5 WDJV	WDJV
NM193	18	RC	464278.9	6452901	204.498	none	5 WDJV	WDJV
NM194	18	RC	464279	6453101	204.311	none	5 WDJV	WDJV
NM195	18	RC	464279.6	6453301	202.24	none	5 WDJV	WDJV
NM196	18	RC	464784.5	6448879	190.451	none	5 WDJV	WDJV
NM197	18	RC	464779	6448697	190.556	none	5 WDJV	WDJV
NM198	18	RC	464279.7	6449097	191.767	none	5 WDJV	WDJV
NM199	18	RC	464279.9	6448899	192.045	none	5 WDJV	WDJV
NM200	18	RC	464279	6448698	191.941	none	5 WDJV	WDJV
NM201	18	RC	463749.3	6449101	193.377	none	5 WDJV	WDJV
NM202	18	RC	463749.3	6448898	193.726	none	5 WDJV	WDJV
NM203	18	RC	463748.8	6448701	195.807	none	5 WDJV	WDJV
NM204	18	RC	463000	6449100	196.188	none	5 WDJV	WDJV
NM205	18	RC	462999.5	6448898	197.573	none	5 WDJV	WDJV
NM206	18	RC	462999.2	6448699	199.101	none	5 WDJV	WDJV
VG001	60	RC	458721.9	6447429	220.435	none	4 MIM	MIM
VG002	60	RC	458721.9	6447479	220.701	none	4 MIM	MIM
VG003	60	RC	458721.9	6447529	220.807	Vertigo	4 MIM	MIM
VG004	60	RC	458721.9	6447579	220.905	Vertigo	4 MIM	MIM
VG005	60	RC	458721.9	6447629	220.887	Vertigo	4 MIM	MIM
VG006	60	RC	458721.9	6447679	220.623	Vertigo	4 MIM	MIM
VG007	60	RC	458721.9	6447729	220.289	Vertigo	4 MIM	MIM
VG008	170.4	DDH	458721.9	6447769	219.97	Vertigo	4 MIM	MIM
VG009	72	RC	458721.9	6447829	219.53	Vertigo	4 MIM	MIM
VG010	60	RC	458721.9	6447879	219.17	Vertigo	4 MIM	MIM
VG011	120	DDH	458711.9	6447929	218.657	Vertigo	4 MIM	MIM
VG012	60	RC	458721.9	6447979	218.184	Vertigo	4 MIM	MIM
VG013	66	RC	458721.9	6448029	217.692	Vertigo	4 MIM	MIM
VG014	60	RC	458721.9	6448079	217.37	Vertigo	4 MIM	MIM
VG015	60	RC	458721.9	6448129	217.341	Vertigo	4 MIM	MIM
VG016	60	RC	458721.9	6448179	217.148	Vertigo	4 MIM	MIM
VG017	60	RC	458721.9	6448229	216.869	none	4 MIM	MIM
VG018	66	RC	458921.9	6448059	216.176	Vertigo	4 MIM	MIM

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
VG019	60	RC	458921.9	6448129	215.694	Vertigo	4 MIM	MIM
VG020	96	RC	459121.9	6448359	213.561	none	4 MIM	MIM
VG021	96	RC	459121.9	6448434	213.692	none	4 MIM	MIM
VG022	237	DDH	458721.9	6447839	219.455	Vertigo	4 MIM	MIM
VG023	174	DDH	458526.9	6447750	222.635	Vertigo	4 MIM	MIM
VG024	45	RC	458721	6448378	216.37	none	4 MIM	MIM
VG025	150	RC	458521.9	6447479	223.965	none	4 MIM	MIM
VG026	150	RC	458521.9	6447529	224.468	Vertigo	4 MIM	MIM
VG027	108	RC	458521.9	6447629	224.495	Vertigo	4 MIM	MIM
VG028	150	RC	458621.9	6447679	222.544	Vertigo	4 MIM	MIM
VG029	120	RC	458621.9	6447779	221.359	Vertigo	4 MIM	MIM
VG030	120	RC	458621.9	6447879	220.209	Vertigo	4 MIM	MIM
VG031	150	RC	458424.9	6448304	219.296	none	4 MIM	MIM
VG032	150	RC	458421.9	6448379	219.36	none	4 MIM	MIM
VG033	102	RC	458821.9	6447829	218.265	Vertigo	4 MIM	MIM
VG034	78	RC	458821.9	6447929	217.761	Vertigo	4 MIM	MIM
VG035	72	RC	458421.9	6447429	225.794	none	4 MIM	MIM
VG036	60	RC	459331.9	6447179	234.95	none	4 MIM	MIM
VG037	72	RC	459321.9	6447279	234.89	none	4 MIM	MIM
VG038	85	RC	459321.9	6447379	234.57	none	4 MIM	MIM
VG039	60	RC	459321.9	6447479	234.369	none	4 MIM	MIM
VG040	60	RC	459321.9	6447579	234.08	none	4 MIM	MIM
VG041	60	RC	459921.9	6447779	231.762	none	4 MIM	MIM
VG042	79	RC	459921.9	6447879	230.239	none	4 MIM	MIM
VG043	60	RC	459921.9	6447979	228.194	none	4 MIM	MIM
VG044	67	RC	459921.9	6448079	226.144	none	4 MIM	MIM
VG045	100	RC	459131.9	6448179	213.742	none	4 MIM	MIM
VG047	109	RC	458621.9	6447929	219.547	Vertigo	4 MIM	MIM
VG048	97	RC	458521.9	6447879	220.427	Vertigo	4 MIM	MIM
VG049	79	RC	458426.9	6447604	225.286	none	4 MIM	MIM
VG050	109	RC	458591.9	6447639	223.484	Vertigo	4 MIM	MIM
VG051	103	RC	458821.9	6447901	217.93	Vertigo	4 MIM	MIM
VG052	103	RC	458921.9	6448029	216.341	Vertigo	4 MIM	MIM
VG053	61	RC	458916.9	6448169	215.44	Vertigo	4 MIM	MIM
VG054	133	RC	458421.9	6447204	225.486	none	4 MIM	MIM
VG055	150	RC	459621.9	6447704	233.487	none	4 MIM	MIM
VG056	219.01	DDH	459316.9	6447589	234.08	none	4 MIM	MIM
VG057	40	RC	458771.9	6447979	217.735	Vertigo	5 WDJV	WDJV
VG058	40	RC	458721.7	6447949	218.496	Vertigo	5 WDJV	WDJV
VG059	35	RC	458671.8	6447929	219.292	Vertigo	5 WDJV	WDJV
VG060	40	RC	458671.9	6447904	219.54	Vertigo	5 WDJV	WDJV
VG061	45	RC	458621.9	6447889	220.032	Vertigo	5 WDJV	WDJV
VG062	35	RC	458572.1	6447879	220.433	Vertigo	5 WDJV	WDJV
VG063	30	RC	458546.9	6447829	221.243	Vertigo	5 WDJV	WDJV
VG064	30	RC	458547.1	6447779	222.014	Vertigo	5 WDJV	WDJV
VG065	40	RC	458546.7	6447729	222.95	Vertigo	5 WDJV	WDJV
VG066	25	RC	458496.8	6447679	223.764	Vertigo	5 WDJV	WDJV
VG067	40	RC	458496.9	6447629	224.648	Vertigo	5 WDJV	WDJV
VG068	30	RC	458472.2	6447629	224.762	Vertigo	5 WDJV	WDJV
VG069	146	RC	458677.4	6447904	219.486	Vertigo	5 WDJV	WDJV
VG070	40	RC	458772.2	6448005	217.421	Vertigo	5 WDJV	WDJV
VG071	55	RC	458772.2	6447955	217.946	Vertigo	5 WDJV	WDJV
VG072	55	RC	458772	6447929	218.182	Vertigo	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
VG073	60	RC	458772	6447904	218.32	Vertigo	5 WDJV	WDJV
VG074	65	RC	458772.1	6447879	218.488	Vertigo	5 WDJV	WDJV
VG075	70	RC	458771.8	6447855	218.691	Vertigo	5 WDJV	WDJV
VG076	75	RC	458771.9	6447830	218.906	Vertigo	5 WDJV	WDJV
VG077	40	RC	458822.3	6448031	217.029	Vertigo	5 WDJV	WDJV
VG078	45	RC	458822	6448004	217.364	Vertigo	5 WDJV	WDJV
VG079	55	RC	458821.8	6447979	217.454	Vertigo	5 WDJV	WDJV
VG080	60	RC	458821.7	6447955	217.612	Vertigo	5 WDJV	WDJV
VG081	40	RC	458872	6448054	216.592	Vertigo	5 WDJV	WDJV
VG082	45	RC	458872	6448029	216.8	Vertigo	5 WDJV	WDJV
VG083	55	RC	458871.8	6448004	216.936	Vertigo	5 WDJV	WDJV
VG084	60	RC	458871.9	6447979	216.931	Vertigo	5 WDJV	WDJV
VG085	60	RC	458871.7	6447954	217.173	Vertigo	5 WDJV	WDJV
VG086	60	RC	458871.8	6448104	216.279	Vertigo	5 WDJV	WDJV
VG087	60	RC	458872	6448155	215.889	Vertigo	5 WDJV	WDJV
VG088	40	RC	458921.8	6448105	215.894	Vertigo	5 WDJV	WDJV
VG089	40	RC	458921.7	6448079	216.037	Vertigo	5 WDJV	WDJV
VG090	40	RC	458971.9	6448155	215.026	Vertigo	5 WDJV	WDJV
VG091	57	RC	458700.9	6447839	219.67	Vertigo	5 WDJV	WDJV
VG092	48	RC	458700.5	6447863	219.429	Vertigo	5 WDJV	WDJV
VG093	48	RC	458700.2	6447889	219.214	Vertigo	5 WDJV	WDJV
VG094	48	RC	458700	6447914	219.026	Vertigo	5 WDJV	WDJV
VG095	42	RC	458699.6	6447936	218.853	Vertigo	5 WDJV	WDJV
VG096	30	RC	458699.2	6447963	218.588	Vertigo	5 WDJV	WDJV
VG097	18	RC	458674.3	6447973	218.812	Vertigo	5 WDJV	WDJV
VG098	36	RC	458648.4	6447913	219.594	Vertigo	5 WDJV	WDJV
VG099	42	RC	458649.3	6447888	219.856	Vertigo	5 WDJV	WDJV
VG100	42	RC	458649.7	6447865	220.009	Vertigo	5 WDJV	WDJV
VG101	42	RC	458650.4	6447839	220.268	Vertigo	5 WDJV	WDJV
VG102	50	RC	458650.9	6447813	220.509	Vertigo	5 WDJV	WDJV
VG103	58	RC	458651.1	6447788	220.539	Vertigo	5 WDJV	WDJV
VG104	48	RC	458623.1	6447798	220.931	Vertigo	5 WDJV	WDJV
VG105	45	RC	458623.9	6447851	220.543	Vertigo	5 WDJV	WDJV
VG106	36	RC	458624.9	6447909	219.662	Vertigo	5 WDJV	WDJV
VG107	18	RC	458599.3	6447911	220.079	Vertigo	5 WDJV	WDJV
VG108	39	RC	458599	6447886	220.189	Vertigo	5 WDJV	WDJV
VG109	39	RC	458598.9	6447860	220.635	Vertigo	5 WDJV	WDJV
VG110	39	RC	458598.7	6447836	220.891	Vertigo	5 WDJV	WDJV
VG111	39	RC	458599	6447812	221.085	Vertigo	5 WDJV	WDJV
VG112	42	RC	458598.4	6447788	221.517	Vertigo	5 WDJV	WDJV
VG113	48	RC	458598.3	6447761	222.026	Vertigo	5 WDJV	WDJV
VG114	56	RC	458598	6447738	222.43	Vertigo	5 WDJV	WDJV
VG115	66	RC	458578.7	6447706	223.318	Vertigo	5 WDJV	WDJV
VG116	42	RC	458577.4	6447759	222.179	Vertigo	5 WDJV	WDJV
VG117	36	RC	458576.4	6447811	221.341	Vertigo	5 WDJV	WDJV
VG118	33	RC	458575.5	6447855	220.814	Vertigo	5 WDJV	WDJV
VG119	18	RC	458574.6	6447900	220.185	Vertigo	5 WDJV	WDJV
VG120	36	RC	458549.2	6447751	222.585	Vertigo	5 WDJV	WDJV
VG121	48	RC	458549.6	6447711	223.572	Vertigo	5 WDJV	WDJV
VG122	48	RC	458550.4	6447688	224.266	Vertigo	5 WDJV	WDJV
VG123	36	RC	458524.2	6447701	224.065	Vertigo	5 WDJV	WDJV
VG124	30	RC	458524.4	6447726	223.264	Vertigo	5 WDJV	WDJV
VG125	18	RC	458499.6	6447712	223.76	Vertigo	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
VG126	24	RC	458474.5	6447676	224.874	Vertigo	5 WDJV	WDJV
VG127	66	RC	458694.7	6447812	220.012	Vertigo	5 WDJV	WDJV
VG128	48	RC	458723.9	6447926	218.434	Vertigo	5 WDJV	WDJV
VG129	42	RC	458674.2	6447855	219.887	Vertigo	5 WDJV	WDJV
VG130	54	RC	458674.9	6447810	220.247	Vertigo	5 WDJV	WDJV
VG131	54	RC	458748.3	6447936	218.165	Vertigo	5 WDJV	WDJV
VG132	42	RC	458749.2	6447962	217.995	Vertigo	5 WDJV	WDJV
VG133	30	RC	458773.6	6448029	217.137	Vertigo	5 WDJV	WDJV
VG134	50	RC	458824.5	6448060	216.534	Vertigo	5 WDJV	WDJV
VG135	50	RC	458972.5	6448099	215.365	Vertigo	5 WDJV	WDJV
VG136	50	RC	458974	6448049	215.399	Vertigo	5 WDJV	WDJV
VG137	70	RC	458975.4	6447998	215.694	Vertigo	5 WDJV	WDJV
VG138	55	RC	458926.1	6448000	216.044	Vertigo	5 WDJV	WDJV
VG141	30	RC	458773.4	6448052	217.035	Vertigo	5 WDJV	WDJV
VG142	36	RC	459025.2	6448125	214.469	Vertigo	5 WDJV	WDJV
VG143	36	RC	459025.4	6448075	214.816	Vertigo	5 WDJV	WDJV
VG144	36	RC	459025.2	6448025	215.228	Vertigo	5 WDJV	WDJV
VG145	24	RC	458667.7	6447946	219.169	Vertigo	5 WDJV	WDJV
VG146	18	RC	458643.7	6447932	219.629	Vertigo	5 WDJV	WDJV
VG147	42	RC	459074	6448125	214.179	Vertigo	5 WDJV	WDJV
VG148	42	RC	459073.7	6448077	214.635	Vertigo	5 WDJV	WDJV
VG149	42	RC	459123.9	6448051	214.38	none	5 WDJV	WDJV
VG150	42	RC	459124.6	6448001	214.691	none	5 WDJV	WDJV
VG151	42	RC	459124.4	6447951	215.016	none	5 WDJV	WDJV
VG152	42	RC	459125.3	6447902	215.35	none	5 WDJV	WDJV
VG153	42	RC	459060.4	6448040	215.219	Vertigo	5 WDJV	WDJV
VG154	42	RC	459075	6447975	215.09	Vertigo	5 WDJV	WDJV
VG155	36	RC	459023.4	6448000	215.605	Vertigo	5 WDJV	WDJV
VG156	24	RC	459023.6	6448050	215.286	Vertigo	5 WDJV	WDJV
VG157	30	RC	459023.8	6448100	214.947	Vertigo	5 WDJV	WDJV
VG158	36	RC	459024.3	6448148	214.553	Vertigo	5 WDJV	WDJV
VG159	36	RC	458998.5	6448126	214.74	Vertigo	5 WDJV	WDJV
VG160	36	RC	458999.2	6448101	215.075	Vertigo	5 WDJV	WDJV
VG161	36	RC	458999.7	6448076	215.149	Vertigo	5 WDJV	WDJV
VG162	36	RC	459000.5	6448050	215.195	Vertigo	5 WDJV	WDJV
VG163	36	RC	459000.7	6448025	215.518	Vertigo	5 WDJV	WDJV
VG164	42	RC	458973	6448026	215.69	Vertigo	5 WDJV	WDJV
VG165	30	RC	458973.4	6448076	215.559	Vertigo	5 WDJV	WDJV
VG166	30	RC	458973.2	6448126	215.182	Vertigo	5 WDJV	WDJV
VG167	42	RC	458950	6448026	216.015	Vertigo	5 WDJV	WDJV
VG168	42	RC	458949.9	6448051	215.845	Vertigo	5 WDJV	WDJV
VG169	36	RC	458950.1	6448075	215.874	Vertigo	5 WDJV	WDJV
VG170	36	RC	458949.5	6448100	215.733	Vertigo	5 WDJV	WDJV
VG171	36	RC	458949.3	6448126	215.457	Vertigo	5 WDJV	WDJV
VG172	36	RC	458949.5	6448150	215.102	Vertigo	5 WDJV	WDJV
VG173	36	RC	458524.8	6447425	223.498	none	5 WDJV	WDJV
VG174	30	RC	458471.1	6447427	224.215	none	5 WDJV	WDJV
VG175	18	RC	458472.4	6447475	224.658	none	5 WDJV	WDJV
VG176	24	RC	458474.4	6447525	225.42	Vertigo	5 WDJV	WDJV
VG177	24	RC	458476	6447576	226.193	Vertigo	5 WDJV	WDJV
VG178	36	RC	458400	6447350	225.72	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
VG179	36	RC	458401	6447450	226.31	none	5 WDJV	WDJV
VG180	36	RC	458402	6447552	227.79	none	5 WDJV	WDJV
VG181	36	RC	458403	6447652	227.85	none	5 WDJV	WDJV
VG182	36	RC	458403	6447747	224.97	none	5 WDJV	WDJV
VG183	36	RC	458404	6447850	221.66	none	5 WDJV	WDJV
VG184	36	RC	458405	6447971	219.04	none	5 WDJV	WDJV
VG185	30	RC	458300	6447900	220.76	none	5 WDJV	WDJV
VG186	30	RC	458298	6447800	222.13	none	5 WDJV	WDJV
VG187	30	RC	458300	6447708	224.31	none	5 WDJV	WDJV
VG188	30	RC	458300	6447598	225.98	none	5 WDJV	WDJV
VG189	30	RC	458302	6447502	228.16	none	5 WDJV	WDJV
VG190	30	RC	458300	6447404	230.01	none	5 WDJV	WDJV
VG191	30	RC	458210	6447577	224.87	none	5 WDJV	WDJV
VG192	30	RC	458199	6447682	226.08	none	5 WDJV	WDJV
VG193	40	RC	459025	6448175	211.71	Vertigo	5 WDJV	WDJV
VG194	40	RC	459050	6448175	211.91	Vertigo	5 WDJV	WDJV
VG195	40	RC	459051	6448150	212.32	Vertigo	5 WDJV	WDJV
VG196	40	RC	459050	6448126	212.62	Vertigo	5 WDJV	WDJV
VG197	40	RC	459051	6448100	213.79	Vertigo	5 WDJV	WDJV
VG198	40	RC	459050	6448075	215.05	Vertigo	5 WDJV	WDJV
VG199	40	RC	459045	6448050	216.43	Vertigo	5 WDJV	WDJV
VG200	40	RC	459051	6448025	217.35	Vertigo	5 WDJV	WDJV
VG201	40	RC	459050.1	6447999	215.356	Vertigo	5 WDJV	WDJV
VG202	40	RC	459050.3	6447973	215.347	Vertigo	5 WDJV	WDJV
VG203	40	RC	459024.5	6447975	215.641	Vertigo	5 WDJV	WDJV
VG204	40	RC	458920	6448190	214	Vertigo	5 WDJV	WDJV
VG205	36	RC	458972	6448078	214.81	Vertigo	5 WDJV	WDJV
VG206	24	RC	458974	6448100	213.75	Vertigo	5 WDJV	WDJV
VG207	30	RC	458448.9	6447525	225.688	Vertigo	5 WDJV	WDJV
VG208	30	RC	458450.4	6447575	226.271	Vertigo	5 WDJV	WDJV
VG209	30	RC	458449.2	6447625	226.203	Vertigo	5 WDJV	WDJV
VG210	30	RC	458449.7	6447674	225.07	Vertigo	5 WDJV	WDJV
VG211	30	RC	458980	6447931	217.3	Vertigo	5 WDJV	WDJV
VG212	30	RC	459060	6447860	216.3	Vertigo	5 WDJV	WDJV
VG213	20	RC	458999	6447770	217.8	Vertigo	5 WDJV	WDJV
VGD001	80	DDH	458757.4	6447816	219.02	Vertigo	6 CCL	CCL

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
VGD002	100	DDH	458774.8	6447773	218.973	Vertigo	6 CCL	CCL
VGD003	95	DDH	458736.3	6447755	219.689	Vertigo	6 CCL	CCL
VGD004	90	DDH	458713.4	6447749	220.36	Vertigo	6 CCL	CCL
VGD005	65	DDH	458629.4	6447716	221.999	Vertigo	6 CCL	CCL
VGMET01	48	DDH	458618.1	6447888	219.838	Vertigo	5 WDJV	WDJV
VGMET02	48	DDH	458725	6447957	218.377	Vertigo	5 WDJV	WDJV
VGMET03	46	DDH	458575	6447753	222.3	Vertigo	5 WDJV	WDJV
VGMET04	28	DDH	458620.4	6447766	221.7	Vertigo	5 WDJV	WDJV
VGMET05	28	DDH	458670.3	6447791	220.4	Vertigo	5 WDJV	WDJV
VGMET06	54	DDH	458651.7	6447860	220.075	Vertigo	5 WDJV	WDJV
VGMET07	54	DDH	458621.4	6447820	220.7	Vertigo	5 WDJV	WDJV
VGMET08	24	DDH	458542.2	6447727	222.95	Vertigo	5 WDJV	WDJV
VGMET09	48	DDH	458674.9	6447889	219.7	Vertigo	5 WDJV	WDJV
VGTECH01	45	DDH	458615.1	6447888	220.025	Vertigo	5 WDJV	WDJV
VGTECH02	40	DDH	458720	6447951	218.504	Vertigo	5 WDJV	WDJV
VGTECH03	50	DDH	458665.3	6447834	220.375	Vertigo	5 WDJV	WDJV
VGTECH04	40	DDH	458539.3	6447715	223.5	Vertigo	5 WDJV	WDJV
VGWD01	72	RC	459368	6448670	212.2	none	5 WDJV	WDJV
VGWD02	72	RC	459118	6448414	213.701	none	5 WDJV	WDJV
VMET001	58	DDH	458701.1	6447847	219.357	Vertigo	6 CCL	CCL
VMET002	60.5	DDH	458597.5	6447698	223.081	Vertigo	6 CCL	CCL
WD001	49	RC	460160.2	6449072	207.589	Hannaford	4 MIM	MIM
WD002	75	RC	460128.2	6449091	207.316	Hannaford	4 MIM	MIM
WD003	123	RC	460109.2	6449108	207.085	Hannaford	4 MIM	MIM
WD004	100	RC	460414.2	6449205	207.004	Hannaford	4 MIM	MIM
WD005	103	RC	460378.2	6449234	206.122	Hannaford	4 MIM	MIM
WD006	100	RC	460124.9	6450429	225.221	White Dam North	4 MIM	MIM
WD007	120	RC	460144.2	6449084	207.422	Hannaford	4 MIM	MIM
WD008	60	RC	460173.2	6449061	207.784	Hannaford	4 MIM	MIM
WD009	60	RC	460252.2	6449072	207.588	Hannaford	4 MIM	MIM
WD010	60	RC	460225.2	6449096	207.385	Hannaford	4 MIM	MIM
WD011	66	RC	460451.2	6449168	207.329	Hannaford	4 MIM	MIM
WD012	30	RC	460102.2	6449019	208.385	Hannaford	4 MIM	MIM
WD013	54	RC	460084.2	6449035	208.084	Hannaford	4 MIM	MIM
WD014	60	RC	460063.2	6449052	207.798	Hannaford	4 MIM	MIM
WD015	106	DDH	460056.2	6449058	207.712	Hannaford	4 MIM	MIM
WD016	87.1	DDH	460050.2	6449065	207.631	Hannaford	4 MIM	MIM
WD017	94.1	DDH	460041.2	6449054	207.727	Hannaford	4 MIM	MIM
WD018	71.5	DDH	460194.2	6449040	208.048	Hannaford	4 MIM	MIM
WD019	137.3	DDH	460069.2	6449149	206.893	Hannaford	4 MIM	MIM
WD020	58	RC	459921.2	6448825	209.642	Hannaford	4 MIM	MIM
WD021	58	RC	459922.2	6448875	209.135	Hannaford	4 MIM	MIM
WD022	58	RC	459919.2	6448900	208.864	Hannaford	4 MIM	MIM
WD023	61	RC	459919.2	6448925	208.643	Hannaford	4 MIM	MIM
WD024	61	RC	459919.2	6448950	208.404	Hannaford	4 MIM	MIM
WD025	61	RC	459918.2	6448975	208.163	Hannaford	4 MIM	MIM
WD026	61	RC	459918.2	6449000	208	Hannaford	4 MIM	MIM
WD027	111	RC	459925.2	6449026	207.914	Hannaford	4 MIM	MIM
WD028	105	RC	459917.2	6449050	207.824	Hannaford	4 MIM	MIM
WD029	201.1	DDH	459917.2	6449076	207.768	Hannaford	4 MIM	MIM
WD030	61	RC	459916.2	6449101	207.664	Hannaford	4 MIM	MIM
WD031	166	DDH	459916.2	6449126	207.625	Hannaford	4 MIM	MIM

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WD032	61	RC	459915.2	6449176	207.489	Hannaford	4 MIM	MIM
WD033	58	RC	459915.2	6449201	207.395	Hannaford	4 MIM	MIM
WD034	58	RC	459915.2	6449226	207.209	Hannaford	4 MIM	MIM
WD035	58	RC	459914.2	6449276	206.953	Hannaford	4 MIM	MIM
WD036	58	RC	459820.2	6448949	208.628	Hannaford	4 MIM	MIM
WD037	58	RC	459820.2	6448974	208.573	Hannaford	4 MIM	MIM
WD038	73	RC	459820.2	6448999	208.537	Hannaford	4 MIM	MIM
WD039	58	RC	459819.2	6449024	208.5	Hannaford	4 MIM	MIM
WD040	58	RC	459819.2	6449074	208.194	Hannaford	4 MIM	MIM
WD041	58	RC	459818.2	6449119	207.89	Hannaford	3 Aberfoyle	ABF
WD042	58	RC	459818.2	6449144	207.756	Hannaford	3 Aberfoyle	ABF
WD043	58	RC	459817.2	6449164	207.482	Hannaford	3 Aberfoyle	ABF
WD044	61	RC	459819.2	6449049	208.378	Hannaford	3 Aberfoyle	ABF
WD045	58	RC	459721.2	6448872	209.242	Hannaford	3 Aberfoyle	ABF
WD046	58	RC	459721.2	6448922	208.924	Hannaford	3 Aberfoyle	ABF
WD047	58	RC	459720.2	6448962	208.75	Hannaford	3 Aberfoyle	ABF
WD048	58	RC	459719.2	6449033	208.472	Hannaford	3 Aberfoyle	ABF
WD049	64	RC	459718.2	6449068	208.008	Hannaford	3 Aberfoyle	ABF
WD050	61	RC	459718.2	6449123	207.64	Hannaford	3 Aberfoyle	ABF
WD051	61	RC	459717.2	6449173	207.75	Hannaford	3 Aberfoyle	ABF
WD052	58	RC	459620.9	6448882	209.332	Hannaford	3 Aberfoyle	ABF
WD053	58	RC	459619.9	6448922	209.171	Hannaford	3 Aberfoyle	ABF
WD054	58	RC	459619.9	6448972	208.983	Hannaford	3 Aberfoyle	ABF
WD055	61	RC	459618.9	6449022	208.883	Hannaford	3 Aberfoyle	ABF
WD056	64	RC	459617.9	6449072	208.742	Hannaford	3 Aberfoyle	ABF
WD057	70	RC	459616.9	6449132	208.538	Hannaford	3 Aberfoyle	ABF
WD058	70	RC	459616.9	6449172	208.559	Hannaford	3 Aberfoyle	ABF
WD059	73	RC	459615.9	6449222	208.481	Hannaford	3 Aberfoyle	ABF
WD060	138	RC	460019.2	6449077	207.447	Hannaford	3 Aberfoyle	ABF
WD061	177.22	DDH	459918.2	6449156	207.53	Hannaford	3 Aberfoyle	ABF
WD062	122	RC	459920.2	6449012	207.976	Hannaford	3 Aberfoyle	ABF
WD063	148	RC	459918.2	6449113	207.636	Hannaford	3 Aberfoyle	ABF
WD064	145	RC	459916.2	6449251	207.024	Hannaford	4 MIM	MIM
WD065	137	RC	460408.2	6449286	205.758	Hannaford	4 MIM	MIM
WD066	127	RC	460212.2	6449281	205.917	Hannaford	3 Aberfoyle	ABF
WD067	103	RC	460218.2	6449381	205.728	Hannaford	3 Aberfoyle	ABF
WD068	128	RC	460018.2	6449177	206.978	Hannaford	3 Aberfoyle	ABF
WD069	147	DDH	459892.2	6449175	207.573	Hannaford	3 Aberfoyle	ABF
WD070	76	RC	459842.2	6449200	207.487	Hannaford	3 Aberfoyle	ABF
WD071	157.2	DDH	459841.2	6449225	207.031	Hannaford	3 Aberfoyle	ABF
WD072	31	RC	459915.2	6449301	206.901	Hannaford	3 Aberfoyle	ABF
WD073	31	RC	459915.2	6449326	206.815	Hannaford	3 Aberfoyle	ABF
WD074	31	RC	459918.2	6449351	206.616	Hannaford	3 Aberfoyle	ABF
WD075	79	WB	460219.9	6449733	204.072	none	3 Aberfoyle	ABF
WD076	150	RC	459869.2	6449025	208.093	Hannaford	3 Aberfoyle	ABF
WD077	72	RC	459820.2	6449194	207.5	Hannaford	3 Aberfoyle	ABF
WD078	84	RC	459819.2	6449224	207.001	Hannaford	3 Aberfoyle	ABF
WD079	96	RC	459818.2	6449275	207.105	Hannaford	3 Aberfoyle	ABF
WD080	90	RC	459817.2	6449300	207.073	Hannaford	3 Aberfoyle	ABF
WD081	69	RC	459817.2	6449325	207.076	Hannaford	3 Aberfoyle	ABF
WD082	108	RC	459816.2	6449350	207.109	Hannaford	3 Aberfoyle	ABF
WD083	100	RC	459816.2	6449375	207.132	Hannaford	3 Aberfoyle	ABF
WD084	90	RC	459814.9	6449426	207.241	Hannaford	3 Aberfoyle	ABF

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WD085	114	RC	459812.9	6449476	207.145	Hannaford	3 Aberfoyle	ABF
WD086	150	RC	459811.9	6449526	207.466	none	3 Aberfoyle	ABF
WD087	107	RC	459819.2	6449209	206.718	Hannaford	3 Aberfoyle	ABF
WD088	54	RC	459716.2	6449223	207.747	Hannaford	3 Aberfoyle	ABF
WD089	40	RC	459715.2	6449273	207.743	Hannaford	3 Aberfoyle	ABF
WD090	78	RC	459715.2	6449323	207.861	Hannaford	3 Aberfoyle	ABF
WD091	72	RC	459714.2	6449348	207.964	Hannaford	3 Aberfoyle	ABF
WD092	72	RC	459714.2	6449373	207.925	Hannaford	3 Aberfoyle	ABF
WD093	66	RC	459712.9	6449424	207.823	Hannaford	3 Aberfoyle	ABF
WD094	66	RC	459711.9	6449475	207.75	Hannaford	3 Aberfoyle	ABF
WD095	78	RC	459711.9	6449525	208.5	none	3 Aberfoyle	ABF
WD096	109	RC	459711.9	6449500	208.206	Hannaford	3 Aberfoyle	ABF
WD097	145	RC	459841.2	6449235	206.559	Hannaford	3 Aberfoyle	ABF
WD098	150	RC	459869.2	6449075	207.985	Hannaford	3 Aberfoyle	ABF
WD099	127	RC	459868.2	6449125	207.797	Hannaford	3 Aberfoyle	ABF
WD100	151	RC	459866.2	6449225	206.99	Hannaford	3 Aberfoyle	ABF
WD101	96	RC	459970.2	6448976	208.33	Hannaford	3 Aberfoyle	ABF
WD102	93	RC	459970.2	6449001	208.106	Hannaford	3 Aberfoyle	ABF
WD103	130	RC	459970.2	6449026	207.892	Hannaford	3 Aberfoyle	ABF
WD104	144	RC	459969.2	6449051	207.677	Hannaford	3 Aberfoyle	ABF
WD105	126	RC	459969.2	6449101	207.381	Hannaford	3 Aberfoyle	ABF
WD106	48	RC	460120.2	6449038	208.087	Hannaford	3 Aberfoyle	ABF
WD107	96	RC	460120.2	6449054	207.836	Hannaford	3 Aberfoyle	ABF
WD108	66	RC	460119.2	6449079	207.469	Hannaford	3 Aberfoyle	ABF
WD109	156	RC	459968.2	6449152	207.29	Hannaford	3 Aberfoyle	ABF
WD110	150	RC	459967.2	6449177	207.201	Hannaford	3 Aberfoyle	ABF
WD111	464.91	DDH	459967.2	6449202	207.095	Hannaford	3 Aberfoyle	ABF
WD112	108	RC	459967.2	6449227	206.971	Hannaford	3 Aberfoyle	ABF
WD113	150	RC	460017.2	6449227	206.821	Hannaford	3 Aberfoyle	ABF
WD114	150	RC	460016.2	6449278	206.649	Hannaford	3 Aberfoyle	ABF
WD115	150	RC	460015.2	6449328	206.464	Hannaford	3 Aberfoyle	ABF
WD116	129	RC	460015.2	6449378	206.267	Hannaford	3 Aberfoyle	ABF
WD117	144	RC	460013.9	6449429	206.04	Hannaford	3 Aberfoyle	ABF
WD118	114	RC	460118.2	6449154	206.706	Hannaford	3 Aberfoyle	ABF
WD119	150	RC	460118.2	6449179	206.582	Hannaford	3 Aberfoyle	ABF
WD120	137	RC	460117.2	6449204	206.519	Hannaford	3 Aberfoyle	ABF
WD121	148	RC	460117.2	6449229	206.486	Hannaford	3 Aberfoyle	ABF
WD122	150	RC	460116.2	6449279	206.371	Hannaford	3 Aberfoyle	ABF
WD123	150	RC	460116.2	6449329	206.224	Hannaford	3 Aberfoyle	ABF
WD124	150	RC	460115.2	6449379	206.09	Hannaford	3 Aberfoyle	ABF
WD125	135	RC	460113.9	6449430	205.884	Hannaford	3 Aberfoyle	ABF
WD126	144	RC	460112.9	6449481	205.642	Hannaford	3 Aberfoyle	ABF
WD127	127	RC	460112.9	6449531	205.478	none	3 Aberfoyle	ABF
WD128	132	RC	460119.2	6449129	206.875	Hannaford	3 Aberfoyle	ABF
WD129	124	RC	460111.9	6449591	204.578	none	3 Aberfoyle	ABF
WD130	106	RC	459908.9	6449753	223.677	none	3 Aberfoyle	ABF
WD131	93	RC	459907.9	6449803	223.79	none	3 Aberfoyle	ABF
WD132	72	RC	459906.9	6449853	223.912	none	3 Aberfoyle	ABF
WD133	120	RC	460018.2	6449127	207.107	Hannaford	3 Aberfoyle	ABF
WD134	96	RC	459765.2	6449324	207.449	Hannaford	3 Aberfoyle	ABF
WD135	96	RC	460219.2	6449130	206.836	Hannaford	3 Aberfoyle	ABF
WD136	72	RC	460218.2	6449180	206.287	Hannaford	3 Aberfoyle	ABF
WD137	60	RC	460221.2	6449203	206.115	Hannaford	3 Aberfoyle	ABF

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WD138	24	RC	460120.2	6449028	208.269	Hannaford	3 Aberfoyle	ABF
WD139	96	RC	459906.9	6449889	224.044	none	3 Aberfoyle	ABF
WD140	93	RC	459706.9	6449800	222.786	none	3 Aberfoyle	ABF
WD141	96	RC	459706.9	6449850	222.847	none	3 Aberfoyle	ABF
WD142	83	RC	459819.2	6449221	206.87	Hannaford	3 Aberfoyle	ABF
WD143	84	RC	459841.2	6449236	206.558	Hannaford	3 Aberfoyle	ABF
WD144	102	RC	459867.2	6449215	206.982	Hannaford	3 Aberfoyle	ABF
WD145	60	RC	460220.2	6449080	207.584	Hannaford	3 Aberfoyle	ABF
WD146	78	RC	460419.2	6449181	207.165	Hannaford	3 Aberfoyle	ABF
WD147	126	RC	460416.2	6449334	205.127	Hannaford	3 Aberfoyle	ABF
WD148	102	RC	459905.9	6449954	224.183	none	3 Aberfoyle	ABF
WD149	60	RC	459906.9	6450129	225.09	White Dam North	3 Aberfoyle	ABF
WD150	66	RC	459905.9	6450179	225.126	White Dam North	3 Aberfoyle	ABF
WD151	66	RC	459905.9	6450305	212.733	White Dam North	3 Aberfoyle	ABF
WD152	66	RC	459903.9	6450335	213.803	White Dam North	3 Aberfoyle	ABF
WD153	60	RC	459901.9	6450380	215.374	White Dam North	3 Aberfoyle	ABF
WD154	138	RC	459900.9	6450430	215.893	White Dam North	3 Aberfoyle	ABF
WD155	97	RC	459900.9	6450480	216.139	White Dam North	3 Aberfoyle	ABF
WD156	72	RC	459898.9	6450530	218.115	White Dam North	3 Aberfoyle	ABF
WD157	60	RC	459894.9	6450690	218.116	White Dam North	3 Aberfoyle	ABF
WD158	60	RC	459893.9	6450731	217.965	White Dam North	3 Aberfoyle	ABF
WD159	100	RC	459892.9	6450781	227.702	White Dam North	3 Aberfoyle	ABF
WD160	60	RC	459694.9	6450477	210.811	White Dam North	4 MIM	MIM
WD161	90	RC	459695.9	6450542	211.778	White Dam North	3 Aberfoyle	ABF
WD162	90	RC	459693.9	6450577	212.109	White Dam North	3 Aberfoyle	ABF
WD163	60	RC	459700.9	6450201	207.412	White Dam North	3 Aberfoyle	ABF
WD164	60	RC	459700.9	6450241	207.68	White Dam North	3 Aberfoyle	ABF
WD165	66	RC	459699.9	6450317	208.455	White Dam North	3 Aberfoyle	ABF
WD166	102	RC	460006.9	6449850	224.248	none	3 Aberfoyle	ABF
WD167	60	RC	460099.9	6450383	225.048	White Dam North	3 Aberfoyle	ABF
WD168	66	RC	460095.9	6450413	225.048	White Dam North	3 Aberfoyle	ABF
WD169	60	RC	460098.9	6450443	219.062	White Dam North	3 Aberfoyle	ABF
WD170	108	RC	460007.9	6449780	224.123	none	3 Aberfoyle	ABF
WD171	108	RC	459705.9	6449901	222.933	none	3 Aberfoyle	ABF
WD172	102	RC	459703.9	6450026	223.372	none	3 Aberfoyle	ABF
WD173	96	RC	459806.9	6449827	223.451	none	3 Aberfoyle	ABF
WD174	92	RC	459805.9	6449877	223.572	none	3 Aberfoyle	ABF
WD175	102	RC	459799.9	6450298	209.936	White Dam North	3 Aberfoyle	ABF

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WD176	248.36	DDH	459911.9	6449528	206.433	none	3 Aberfoyle	ABF
WD177	102	RC	461871.9	6449949	214.501	none	3 Aberfoyle	ABF
WD178	66	RC	460821.9	6449334	204.131	none	3 Aberfoyle	ABF
WD179	84	RC	460821.9	6449439	203.567	none	4 MIM	MIM
WD180	108	RC	460921.9	6449439	203.508	none	4 MIM	MIM
WD181	102	RC	460921.9	6449489	203.051	none	4 MIM	MIM
WD182	96	RC	460921.9	6449564	202.523	none	3 Aberfoyle	ABF
WD183	96	RC	460921.9	6449639	202.299	none	3 Aberfoyle	ABF
WD184	90	RC	461121.9	6449499	202.426	none	3 Aberfoyle	ABF
WD185	96	RC	459421.9	6448879	225.517	none	3 Aberfoyle	ABF
WD186	96	RC	459321.9	6448569	227.671	none	3 Aberfoyle	ABF
WD187	96	RC	459321.9	6448619	227.538	none	3 Aberfoyle	ABF
WD188	96	RC	459421.9	6449429	224.29	none	3 Aberfoyle	ABF
WD189	93	RC	459521.9	6449499	223.448	none	3 Aberfoyle	ABF
WD190	131	RC	458721.9	6448779	231.518	none	3 Aberfoyle	ABF
WD191	198.2	DDH	458421.9	6448829	231.89	none	3 Aberfoyle	ABF
WD192	67	RC	459321.9	6448727	227.245	none	3 Aberfoyle	ABF
WD193	146.4	DDH	460022.2	6448998	208.389	Hannaford	3 Aberfoyle	ABF
WD194	198.1	DDH	459321.9	6448609	227.538	none	3 Aberfoyle	ABF
WD195	196.1	DDH	460022.2	6448948	209.102	Hannaford	3 Aberfoyle	ABF
WDD003	18	RC	460091	6448743	229.52	none	6 CCL	CCL
WDD004	20	RC	460012	6448750	230.285	none	6 CCL	CCL
WDD005	20	RC	459921	6448751	230.335	none	6 CCL	CCL
WDD006	22	RC	459826	6448771	229.92	none	6 CCL	CCL
WDD007	20	RC	459809	6448694	230.12	none	6 CCL	CCL
WDD008	20	RC	459896	6448674	230.005	none	6 CCL	CCL
WDD009	19	RC	459991	6448672	230.435	none	6 CCL	CCL
WDD010	18	RC	460067	6448644	230.055	none	6 CCL	CCL
WDD011	18	RC	460077	6448588	230.09	none	6 CCL	CCL
WDD012	20	RC	459949	6448597	230.595	none	6 CCL	CCL
WDD013	20	RC	459823	6448608	230.875	none	6 CCL	CCL
WDD014	19	RC	459889	6448533	230.645	none	6 CCL	CCL
WDD015	20	RC	459992	6448517	230.535	none	6 CCL	CCL
WDD016	18	RC	460086	6448522	230.135	none	6 CCL	CCL
WDDD286	62.7	DDH	459935.4	6449042	207.834	Hannaford	5 WDJV	WDJV
WDDD287	60.26	DDH	459847.5	6449079	208.056	Hannaford	5 WDJV	WDJV
WDDD288	70.5	DDH	460145.6	6449053	207.894	Hannaford	5 WDJV	WDJV
WDDD289	60	DDH	459934.6	6449140	207.483	Hannaford	5 WDJV	WDJV
WDDD290	50	DDH	460172.5	6449159	206.565	Hannaford	5 WDJV	WDJV
WDDD291	55.75	DDH	459822.2	6449128	207.85	Hannaford	5 WDJV	WDJV
WDEX01	42	RC	458400	6449102	220.45	none	5 WDJV	WDJV
WDEX02	42	RC	458401	6449350	222.64	none	5 WDJV	WDJV
WDEX03	42	RC	458400	6449599	219	none	5 WDJV	WDJV
WDEX04	42	RC	458400	6449815	220.12	none	5 WDJV	WDJV
WDEX05	42	RC	457901	6449099	224.46	none	5 WDJV	WDJV
WDEX06	42	RC	457900	6449351	229.31	none	5 WDJV	WDJV
WDEX07	42	RC	457902	6450351	226.34	none	5 WDJV	WDJV
WDEX08	42	RC	458401	6450347	218.61	none	5 WDJV	WDJV
WDEX09	42	RC	458400	6450101	223.6	none	5 WDJV	WDJV
WDGT002	40	DDH	459951.8	6448997	145.204	Hannaford	6 CCL	CCL
WDGT004	45.5	DDH	459969.4	6448991	145.171	Hannaford	6 CCL	CCL
WDMET01	99.8	DDH	459925	6449036	184.842	Hannaford	5 WDJV	WDJV
WDMET02	90.7	DDH	459973.9	6449032	185.046	Hannaford	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN001	50	RC	459999.3	6450200	212.764	White Dam North	5 WDJV	WDJV
WDN002	50	RC	460000	6450301	216.275	White Dam North	5 WDJV	WDJV
WDN003	50	RC	460000	6450401	219.094	White Dam North	5 WDJV	WDJV
WDN004	50	RC	459849.4	6450300	210.685	White Dam North	5 WDJV	WDJV
WDN005	50	RC	459849.3	6450250	209.432	White Dam North	5 WDJV	WDJV
WDN006	50	RC	459800.3	6450500	213.533	White Dam North	5 WDJV	WDJV
WDN007	50	RC	459804.9	6450701	217.482	White Dam North	5 WDJV	WDJV
WDN008	50	RC	459798	6450699	217.258	White Dam North	5 WDJV	WDJV
WDN009	50	RC	459700.1	6450600	212.506	White Dam North	5 WDJV	WDJV
WDN010	50	RC	459600.1	6450600	210.938	White Dam North	5 WDJV	WDJV
WDN011	50	RC	459600.1	6450699	211.928	White Dam North	5 WDJV	WDJV
WDN012	50	RC	459600.8	6450803	212.741	none	5 WDJV	WDJV
WDN013	50	RC	459700.4	6450794	215.156	White Dam North	5 WDJV	WDJV
WDN014	50	RC	459696	6450898	214.24	none	5 WDJV	WDJV
WDN015	50	RC	459799	6450898	216.99	none	5 WDJV	WDJV
WDN016	50	RC	459799	6450996	216.63	none	5 WDJV	WDJV
WDN017	50	RC	459999	6450902	216.62	none	5 WDJV	WDJV
WDN018	50	RC	460000	6451007	216.8	none	5 WDJV	WDJV
WDN019	50	RC	460002	6451104	218.25	none	5 WDJV	WDJV
WDN020	50	RC	460002	6451204	221.58	none	5 WDJV	WDJV
WDN021	50	RC	460000	6451298	224.3	none	5 WDJV	WDJV
WDN022	50	RC	460401	6451399	214.01	none	5 WDJV	WDJV
WDN023	50	RC	460399	6451500	215.35	none	5 WDJV	WDJV
WDN024	50	RC	460398	6451599	216.39	none	5 WDJV	WDJV
WDN025	50	RC	460399	6451700	220.15	none	5 WDJV	WDJV
WDN026	50	RC	460502	6450499	207.08	none	5 WDJV	WDJV
WDN027	50	RC	460502	6450400	206.73	none	5 WDJV	WDJV
WDN028	50	RC	460503	6450297	205.86	none	5 WDJV	WDJV
WDN029	50	RC	460501	6450198	205.46	none	5 WDJV	WDJV
WDN030	50	RC	460500	6450098	207.91	none	5 WDJV	WDJV
WDN031	50	RC	460598	6450298	203.58	none	5 WDJV	WDJV
WDN032	50	RC	460602	6450396	206.71	none	5 WDJV	WDJV
WDN033	94	RC	460501	6449996	205.98	none	5 WDJV	WDJV
WDN034	50	RC	459899	6449702	207.99	none	5 WDJV	WDJV
WDN035	50	RC	459801	6449778	207.88	none	5 WDJV	WDJV
WDN036	50	RC	459802	6449901	206.85	none	5 WDJV	WDJV
WDN037	50	RC	459652	6449900	209.16	none	5 WDJV	WDJV
WDN038	50	RC	459600	6449800	210.7	none	5 WDJV	WDJV
WDN039	50	RC	459669.4	6450215	207.554	White Dam North	5 WDJV	WDJV
WDN040	36	RC	460475	6449976	205.05	none	5 WDJV	WDJV
WDN041	36	RC	460525	6449975	205.03	none	5 WDJV	WDJV
WDN042	36	RC	460524	6450024	208.21	none	5 WDJV	WDJV
WDN043	36	RC	460476	6450026	206.05	none	5 WDJV	WDJV
WDN044	36	RC	459935	6449773	206.68	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN045	24	RC	459936	6449800	206.34	none	5 WDJV	WDJV
WDN046	30	RC	459935	6449825	206.23	none	5 WDJV	WDJV
WDN047	36	RC	459883	6449777	208	none	5 WDJV	WDJV
WDN048	30	RC	459888	6449802	207.99	none	5 WDJV	WDJV
WDN049	30	RC	459886	6449826	207.95	none	5 WDJV	WDJV
WDN050	36	RC	459910	6449770	207.52	none	5 WDJV	WDJV
WDN051	30	RC	459910	6449820	207.33	none	5 WDJV	WDJV
WDN052	42	RC	459748.7	6450174	207.324	White Dam North	5 WDJV	WDJV
WDN053	42	RC	459749.2	6450200	207.51	White Dam North	5 WDJV	WDJV
WDN054	42	RC	459748.9	6450226	207.732	White Dam North	5 WDJV	WDJV
WDN055	42	RC	459749.2	6450250	208.051	White Dam North	5 WDJV	WDJV
WDN056	42	RC	459749	6450275	208.556	White Dam North	5 WDJV	WDJV
WDN057	42	RC	459798.5	6450199	207.932	White Dam North	5 WDJV	WDJV
WDN058	42	RC	459799.1	6450226	208.273	White Dam North	5 WDJV	WDJV
WDN059	42	RC	459799.6	6450251	208.605	White Dam North	5 WDJV	WDJV
WDN060	48	RC	459849.2	6450214	208.88	White Dam North	5 WDJV	WDJV
WDN061	42	RC	459848.6	6450274	209.954	White Dam North	5 WDJV	WDJV
WDN062	30	RC	459850.1	6450324	211.602	White Dam North	5 WDJV	WDJV
WDN063	42	RC	460052.2	6450297	216.646	White Dam North	5 WDJV	WDJV
WDN064	42	RC	460051.5	6450323	217.362	White Dam North	5 WDJV	WDJV
WDN065	42	RC	460050.9	6450348	217.868	White Dam North	5 WDJV	WDJV
WDN066	42	RC	460050.5	6450373	218.241	White Dam North	5 WDJV	WDJV
WDN067	42	RC	460049.4	6450399	218.94	White Dam North	5 WDJV	WDJV
WDN068	42	RC	460049.2	6450423	219.194	White Dam North	5 WDJV	WDJV
WDN069	48	RC	460001.1	6450275	215.231	White Dam North	5 WDJV	WDJV
WDN070	48	RC	460000.9	6450322	217.406	White Dam North	5 WDJV	WDJV
WDN071	42	RC	459999.9	6450350	218.062	White Dam North	5 WDJV	WDJV
WDN072	42	RC	460000.7	6450423	219.476	White Dam North	5 WDJV	WDJV
WDN073	42	RC	460000.5	6450449	219.71	White Dam North	5 WDJV	WDJV
WDN074	42	RC	459948.8	6450473	217.538	White Dam North	5 WDJV	WDJV
WDN075	42	RC	459948.9	6450449	217.781	White Dam North	5 WDJV	WDJV
WDN076	42	RC	459948.8	6450424	217.877	White Dam North	5 WDJV	WDJV
WDN077	42	RC	459948.7	6450400	217.731	White Dam North	5 WDJV	WDJV
WDN078	42	RC	459948.8	6450351	216.828	White Dam North	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN079	42	RC	459948.7	6450326	215.297	White Dam North	5 WDJV	WDJV
WDN080	42	RC	459949	6450299	214.109	White Dam North	5 WDJV	WDJV
WDN081	42	RC	459949.1	6450274	213.201	White Dam North	5 WDJV	WDJV
WDN082	42	RC	459849	6450448	214.227	White Dam North	5 WDJV	WDJV
WDN083	42	RC	459849	6450471	214.578	White Dam North	5 WDJV	WDJV
WDN084	42	RC	459849.4	6450499	215.185	White Dam North	5 WDJV	WDJV
WDN085	42	RC	459849.4	6450523	216.134	White Dam North	5 WDJV	WDJV
WDN086	42	RC	459800.1	6450473	213.051	White Dam North	5 WDJV	WDJV
WDN087	42	RC	459800.3	6450524	214.055	White Dam North	5 WDJV	WDJV
WDN088	42	RC	459799.8	6450548	214.401	White Dam North	5 WDJV	WDJV
WDN089	30	RC	459695	6450514	211.36	White Dam North	5 WDJV	WDJV
WDN090	36	RC	459699.1	6450544	211.91	White Dam North	5 WDJV	WDJV
WDN091	42	RC	459749.8	6450500	212.161	White Dam North	5 WDJV	WDJV
WDN092	42	RC	459750	6450525	212.674	White Dam North	5 WDJV	WDJV
WDN093	42	RC	459750.2	6450551	213.147	White Dam North	5 WDJV	WDJV
WDN094	42	RC	459754.9	6450575	213.637	White Dam North	5 WDJV	WDJV
WDN095	42	RC	459648.7	6450524	210.754	White Dam North	5 WDJV	WDJV
WDN096	42	RC	459649.2	6450549	211.011	White Dam North	5 WDJV	WDJV
WDN097	42	RC	459649.9	6450572	211.289	White Dam North	5 WDJV	WDJV
WDN098	42	RC	459649.9	6450596	211.71	White Dam North	5 WDJV	WDJV
WDN099	42	RC	459650.7	6450622	212.053	White Dam North	5 WDJV	WDJV
WDN100	65	RC	459696.2	6450630	213.088	White Dam North	5 WDJV	WDJV
WDN101	65	RC	459695.6	6450655	213.494	White Dam North	5 WDJV	WDJV
WDN102	60	RC	459694.6	6450675	213.975	White Dam North	5 WDJV	WDJV
WDN103	55	RC	459693.7	6450700	214.291	White Dam North	5 WDJV	WDJV
WDN104	45	RC	459691.7	6450753	214.936	White Dam North	5 WDJV	WDJV
WDN105	45	RC	459670	6450549	211.276	White Dam North	5 WDJV	WDJV
WDN106	52	RC	459670.6	6450600	212.092	White Dam North	5 WDJV	WDJV
WDN107	46	RC	459724.2	6450548	212.538	White Dam North	5 WDJV	WDJV
WDN108	60	RC	459720.3	6450599	213.048	White Dam North	5 WDJV	WDJV
WDN109	45	RC	459773.7	6450501	212.762	White Dam North	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN110	45	RC	459774.3	6450525	213.184	White Dam North	5 WDJV	WDJV
WDN111	48	RC	459774.9	6450550	213.747	White Dam North	5 WDJV	WDJV
WDN112	62	RC	459775.2	6450577	214.159	White Dam North	5 WDJV	WDJV
WDN113	62	RC	459798.2	6450575	214.748	White Dam North	5 WDJV	WDJV
WDN114	45	RC	459823.1	6450476	213.882	White Dam North	5 WDJV	WDJV
WDN115	45	RC	459823.4	6450500	214.266	White Dam North	5 WDJV	WDJV
WDN116	50	RC	459824.8	6450525	214.946	White Dam North	5 WDJV	WDJV
WDN117	65	RC	459900.6	6450499	216.652	White Dam North	5 WDJV	WDJV
WDN118	45	RC	459900.3	6450449	215.789	White Dam North	5 WDJV	WDJV
WDN119	45	RC	459900	6450400	215.64	White Dam North	5 WDJV	WDJV
WDN120	45	RC	459899.8	6450350	214.542	White Dam North	5 WDJV	WDJV
WDN121	25	RC	459974.6	6450311	215.781	White Dam North	5 WDJV	WDJV
WDN122	25	RC	459976.2	6450338	216.804	White Dam North	5 WDJV	WDJV
WDN123	25	RC	460026.1	6450313	217.315	White Dam North	5 WDJV	WDJV
WDN124	30	RC	460028	6450337	217.647	White Dam North	5 WDJV	WDJV
WDN125	25	RC	459850.3	6450350	212.44	White Dam North	5 WDJV	WDJV
WDN126	25	RC	459848.2	6450408	213.557	White Dam North	5 WDJV	WDJV
WDN127	30	RC	459800.2	6450425	212.687	White Dam North	5 WDJV	WDJV
WDN128	30	RC	459748.4	6450450	211.434	White Dam North	5 WDJV	WDJV
WDN129	30	RC	459748.8	6450375	210.527	White Dam North	5 WDJV	WDJV
WDN130	30	RC	459798	6450350	211.111	White Dam North	5 WDJV	WDJV
WDN131	42	RC	459749.7	6450297	209.035	White Dam North	5 WDJV	WDJV
WDN132	30	RC	459800.2	6450277	209.28	White Dam North	5 WDJV	WDJV
WDN133	42	RC	459630.8	6450501	210.203	White Dam North	5 WDJV	WDJV
WDN134	42	RC	459630.2	6450551	210.678	White Dam North	5 WDJV	WDJV
WDN135	42	RC	459629.3	6450601	211.472	White Dam North	5 WDJV	WDJV
WDN136	30	RC	459723.7	6450251	207.791	White Dam North	5 WDJV	WDJV
WDN137	30	RC	459723.8	6450273	208.126	White Dam North	5 WDJV	WDJV
WDN138	30	RC	459723.9	6450298	208.524	White Dam North	5 WDJV	WDJV
WDN139	40	RC	459773	6450222	208.053	White Dam North	5 WDJV	WDJV
WDN140	40	RC	459773.8	6450249	208.391	White Dam North	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN141	40	RC	459773.3	6450273	208.972	White Dam North	5 WDJV	WDJV
WDN142	40	RC	459772.9	6450298	209.544	White Dam North	5 WDJV	WDJV
WDN143	40	RC	459826.5	6450224	208.549	White Dam North	5 WDJV	WDJV
WDN144	40	RC	459826	6450249	208.978	White Dam North	5 WDJV	WDJV
WDN145	40	RC	459825.3	6450274	209.615	White Dam North	5 WDJV	WDJV
WDN146	40	RC	459825	6450298	210.32	White Dam North	5 WDJV	WDJV
WDN147	40	RC	459876	6450248	210.344	White Dam North	5 WDJV	WDJV
WDN148	40	RC	459875.5	6450275	210.699	White Dam North	5 WDJV	WDJV
WDN149	40	RC	459874.8	6450298	211.358	White Dam North	5 WDJV	WDJV
WDN150	40	RC	459874.3	6450322	212.134	White Dam North	5 WDJV	WDJV
WDN151	36	RC	459772.8	6450450	212.319	White Dam North	5 WDJV	WDJV
WDN152	36	RC	459772.9	6450474	212.388	White Dam North	5 WDJV	WDJV
WDN153	36	RC	459688.1	6450604	212.391	White Dam North	5 WDJV	WDJV
WDN154	36	RC	459668.5	6450625	212.462	White Dam North	5 WDJV	WDJV
WDN155	36	RC	459668.5	6450649	212.887	White Dam North	5 WDJV	WDJV
WDN156	42	RC	459648.5	6450643	212.283	White Dam North	5 WDJV	WDJV
WDN157	42	RC	459648.2	6450668	212.641	White Dam North	5 WDJV	WDJV
WDN158	42	RC	459648.5	6450693	212.897	White Dam North	5 WDJV	WDJV
WDN159	42	RC	459648.2	6450719	213.121	White Dam North	5 WDJV	WDJV
WDN160	42	RC	459628.6	6450624	211.73	White Dam North	5 WDJV	WDJV
WDN161	42	RC	459628.7	6450649	212.031	White Dam North	5 WDJV	WDJV
WDN162	42	RC	459629	6450674	212.277	White Dam North	5 WDJV	WDJV
WDN163	42	RC	459629	6450700	212.51	White Dam North	5 WDJV	WDJV
WDN164	42	RC	459629.1	6450723	212.746	White Dam North	5 WDJV	WDJV
WDN165	42	RC	459603.7	6450624	211.226	White Dam North	5 WDJV	WDJV
WDN166	42	RC	459604.2	6450649	211.481	White Dam North	5 WDJV	WDJV
WDN167	42	RC	459604.7	6450674	211.781	White Dam North	5 WDJV	WDJV
WDN168	42	RC	459605.2	6450724	212.27	White Dam North	5 WDJV	WDJV
WDN169	50	RC	459973.8	6450299	215.281	White Dam North	5 WDJV	WDJV
WDN170	50	RC	460024.9	6450263	215.461	White Dam North	5 WDJV	WDJV
WDN171	50	RC	460024.7	6450288	216.395	White Dam North	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN172	50	RC	460052	6450273	215.775	White Dam North	5 WDJV	WDJV
WDN173	42	RC	459923.6	6450299	213.204	White Dam North	5 WDJV	WDJV
WDN174	42	RC	459923.5	6450325	214.115	White Dam North	5 WDJV	WDJV
WDN175	42	RC	459923.7	6450376	216.377	White Dam North	5 WDJV	WDJV
WDN176	42	RC	459923.8	6450401	216.765	White Dam North	5 WDJV	WDJV
WDN177	42	RC	459923.6	6450426	216.884	White Dam North	5 WDJV	WDJV
WDN178	42	RC	459923.7	6450450	216.699	White Dam North	5 WDJV	WDJV
WDN179	42	RC	459923.8	6450475	216.661	White Dam North	5 WDJV	WDJV
WDN180	42	RC	459923.7	6450500	217.408	White Dam North	5 WDJV	WDJV
WDN181	42	RC	459923.7	6450527	218.783	White Dam North	5 WDJV	WDJV
WDN182	42	RC	459875.8	6450529	217.402	White Dam North	5 WDJV	WDJV
WDN183	42	RC	459876.2	6450500	215.968	White Dam North	5 WDJV	WDJV
WDN184	42	RC	459875.8	6450478	215.396	White Dam North	5 WDJV	WDJV
WDN185	42	RC	459875.7	6450449	214.979	White Dam North	5 WDJV	WDJV
WDN186	42	RC	459875.2	6450424	214.805	White Dam North	5 WDJV	WDJV
WDN187	40	RC	459725.5	6450199	207.362	White Dam North	5 WDJV	WDJV
WDN188	40	RC	459724.8	6450224	207.515	White Dam North	5 WDJV	WDJV
WDN189	40	RC	459674.9	6450250	207.688	White Dam North	5 WDJV	WDJV
WDN190	40	RC	459673.9	6450274	207.735	White Dam North	5 WDJV	WDJV
WDN191	40	RC	459673.5	6450299	208.139	White Dam North	5 WDJV	WDJV
WDN192	40	RC	459649.4	6450271	207.707	White Dam North	5 WDJV	WDJV
WDN193	40	RC	459651.7	6450299	207.984	White Dam North	5 WDJV	WDJV
WDN194	40	RC	459676.1	6450199	207.459	White Dam North	5 WDJV	WDJV
WDN195	42	RC	459630.7	6450525	210.474	White Dam North	5 WDJV	WDJV
WDN196	42	RC	459629.7	6450576	210.969	White Dam North	5 WDJV	WDJV
WDN197	42	RC	459601.6	6450525	210.016	White Dam North	5 WDJV	WDJV
WDN198	42	RC	459602.4	6450550	210.365	White Dam North	5 WDJV	WDJV
WDN199	42	RC	459603	6450575	210.636	White Dam North	5 WDJV	WDJV
WDN200	42	RC	459624.7	6450750	212.979	White Dam North	5 WDJV	WDJV
WDN201	42	RC	459687.9	6450784	214.88	White Dam North	5 WDJV	WDJV
WDN202	42	RC	459690.8	6450876	215.338	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN203	42	RC	459801.6	6450949	216.633	none	5 WDJV	WDJV
WDN204	42	RC	459799.9	6450850	217.477	none	5 WDJV	WDJV
WDN205	42	RC	459799.5	6450799	217.761	White Dam North	5 WDJV	WDJV
WDN206	42	RC	459799.1	6450749	217.867	White Dam North	5 WDJV	WDJV
WDN207	42	RC	459797.3	6450655	216.603	White Dam North	5 WDJV	WDJV
WDN208	42	RC	459900	6450565	219.054	White Dam North	5 WDJV	WDJV
WDN209	42	RC	459898.8	6450625	218.564	White Dam North	5 WDJV	WDJV
WDN210	42	RC	460002	6450515	220.175	White Dam North	5 WDJV	WDJV
WDN211	42	RC	460002.3	6450581	219.984	White Dam North	5 WDJV	WDJV
WDN212	42	RC	460001.6	6450646	218.232	White Dam North	5 WDJV	WDJV
WDN213	42	RC	460001.2	6450710	216.346	White Dam North	5 WDJV	WDJV
WDN214	42	RC	460001.1	6450775	215.307	White Dam North	5 WDJV	WDJV
WDN215	42	RC	460000.8	6450841	214.329	none	5 WDJV	WDJV
WDN216	42	RC	460000.6	6450951	214.165	none	5 WDJV	WDJV
WDN217	30	RC	459949	6450500	218.126	White Dam North	5 WDJV	WDJV
WDN218	40	RC	459949	6450250	212.506	White Dam North	5 WDJV	WDJV
WDN219	50	RC	459974.5	6450250	213.48	White Dam North	5 WDJV	WDJV
WDN220	50	RC	459974.9	6450275	214.245	White Dam North	5 WDJV	WDJV
WDN221	40	RC	459999.5	6450250	214.359	White Dam North	5 WDJV	WDJV
WDN222	40	RC	460024.9	6450239	214.553	White Dam North	5 WDJV	WDJV
WDN223	30	RC	459773.9	6450424	211.984	White Dam North	5 WDJV	WDJV
WDN224	30	RC	459799	6450450	212.986	White Dam North	5 WDJV	WDJV
WDN225	40	RC	459749.4	6450475	211.743	White Dam North	5 WDJV	WDJV
WDN226	40	RC	459686.6	6450526	211.34	White Dam North	5 WDJV	WDJV
WDN227	40	RC	459652.8	6450250	207.688	White Dam North	5 WDJV	WDJV
WDN228	40	RC	459624.8	6450302	207.9	White Dam North	5 WDJV	WDJV
WDN229	40	RC	459646.9	6450326	208.259	White Dam North	5 WDJV	WDJV
WDN230	40	RC	459722.8	6450626	213.812	White Dam North	5 WDJV	WDJV
WDN231	40	RC	459722.8	6450650	214.33	White Dam North	5 WDJV	WDJV
WDN232	40	RC	459668.1	6450675	213.202	White Dam North	5 WDJV	WDJV
WDN233	40	RC	459667.8	6450699	213.455	White Dam North	5 WDJV	WDJV
WDN234	50	RC	459667.8	6450725	213.829	White Dam North	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDN235	50	RC	459648.9	6450751	213.664	White Dam North	5 WDJV	WDJV
WDN236	50	RC	459573.4	6450649	210.967	White Dam North	5 WDJV	WDJV
WDN237	40	RC	459573.7	6450674	211.264	White Dam North	5 WDJV	WDJV
WDN238	60	RC	459572.8	6450699	211.485	White Dam North	5 WDJV	WDJV
WDN239	50	RC	459572.5	6450749	211.973	White Dam North	5 WDJV	WDJV
WDN240	40	RC	459614.2	6450238	207.432	White Dam North	5 WDJV	WDJV
WDN241	40	RC	459974.8	6450499	218.879	White Dam North	5 WDJV	WDJV
WDN242	40	RC	459825	6450450	213.635	White Dam North	5 WDJV	WDJV
WDN243	40	RC	459643	6450349	208.42	White Dam North	5 WDJV	WDJV
WDN244	40	RC	459746.5	6450651	214.989	White Dam North	5 WDJV	WDJV
WDN245	40	RC	459551	6450297	209.82	White Dam North	5 WDJV	WDJV
WDN246	40	RC	459578	6450301	209.34	White Dam North	5 WDJV	WDJV
WDN247	40	RC	459588	6450274	208.52	White Dam North	5 WDJV	WDJV
WDN248	40	RC	459549	6450268	208.85	White Dam North	5 WDJV	WDJV
WDN249	40	RC	459550	6450248	208.11	White Dam North	5 WDJV	WDJV
WDN250	40	RC	459582	6450260	207.73	White Dam North	5 WDJV	WDJV
WDN251	40	RC	459556	6450222	209.09	White Dam North	5 WDJV	WDJV
WDN252	40	RC	459577	6450219	208.85	White Dam North	5 WDJV	WDJV
WDN253	54	RC	459597	6450224	208.92	White Dam North	5 WDJV	WDJV
WDN254	40	RC	459580	6450196	210.3	White Dam North	5 WDJV	WDJV
WDN255	40	RC	459599	6450200	209.91	White Dam North	5 WDJV	WDJV
WDN256	49	RC	459624	6450201	209.71	White Dam North	5 WDJV	WDJV
WDN257	46	RC	459597	6450263	208.48	White Dam North	5 WDJV	WDJV
WDN258	40	RC	459549	6450198	210.31	White Dam North	5 WDJV	WDJV
WDRC075	77.7	RC	460220	6449733	204.072	none	5 WDJV	WDJV
WDRC196	96	RC	459947.3	6449028	207.846	Hannaford	5 WDJV	WDJV
WDRC197	102	RC	459947.5	6449053	207.73	Hannaford	5 WDJV	WDJV
WDRC198	102	RC	459947.5	6449079	207.5	Hannaford	5 WDJV	WDJV
WDRC199	102	RC	459947.5	6449103	207.467	Hannaford	5 WDJV	WDJV
WDRC200	102	RC	459947.4	6449129	207.436	Hannaford	5 WDJV	WDJV
WDRC201	102	RC	459947.4	6449154	207.393	Hannaford	5 WDJV	WDJV
WDRC202	102	RC	459947.4	6449179	207.298	Hannaford	5 WDJV	WDJV
WDRC203	102	RC	459972.2	6449028	207.876	Hannaford	5 WDJV	WDJV
WDRC204	102	RC	459972.5	6449079	207.442	Hannaford	5 WDJV	WDJV
WDRC205	78	RC	459997.2	6449004	208.227	Hannaford	5 WDJV	WDJV
WDRC206	102	RC	459997.2	6449028	207.912	Hannaford	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDRC207	102	RC	459997.6	6449054	207.669	Hannaford	5 WDJV	WDJV
WDRC208	102	RC	459997.5	6449079	207.445	Hannaford	5 WDJV	WDJV
WDRC209	96	RC	459922.5	6449104	207.619	Hannaford	5 WDJV	WDJV
WDRC210	102	RC	459922.4	6449178	207.436	Hannaford	5 WDJV	WDJV
WDRC211	96	RC	459897.1	6449053	207.895	Hannaford	5 WDJV	WDJV
WDRC212	102	RC	459897.2	6449078	207.83	Hannaford	5 WDJV	WDJV
WDRC213	102	RC	459897.5	6449128	207.731	Hannaford	5 WDJV	WDJV
WDRC214	98	RC	459897.5	6449153	207.62	Hannaford	5 WDJV	WDJV
WDRC215	102	RC	459897.5	6449203	207.393	Hannaford	5 WDJV	WDJV
WDRC216	87	RC	459872.3	6449054	208.009	Hannaford	5 WDJV	WDJV
WDRC217	96	RC	459872.5	6449103	207.882	Hannaford	5 WDJV	WDJV
WDRC218	102	RC	460072.4	6449079	207.501	Hannaford	5 WDJV	WDJV
WDRC219	102	RC	460047.3	6449078	207.483	Hannaford	5 WDJV	WDJV
WDRC220	78	RC	460072.5	6449053	207.82	Hannaford	5 WDJV	WDJV
WDRC221	57	RC	460047.2	6449028	208.091	Hannaford	5 WDJV	WDJV
WDRC222	51	RC	460072.4	6449028	208.178	Hannaford	5 WDJV	WDJV
WDRC223	102	RC	460022.4	6449079	207.439	Hannaford	5 WDJV	WDJV
WDRC224	102	RC	459872.5	6449153	207.651	Hannaford	5 WDJV	WDJV
WDRC225	102	RC	459872.6	6449178	207.535	Hannaford	5 WDJV	WDJV
WDRC226	102	RC	459847.3	6449154	207.693	Hannaford	5 WDJV	WDJV
WDRC227	102	RC	459847.4	6449178	207.546	Hannaford	5 WDJV	WDJV
WDRC228	30	RC	459947.2	6449178	207.3	Hannaford	5 WDJV	WDJV
WDRC229	17	RC	459947.2	6449203	207.187	Hannaford	5 WDJV	WDJV
WDRC230	75	RC	459972.2	6449103	207.365	Hannaford	5 WDJV	WDJV
WDRC231	50	RC	459972.2	6449153	207.274	Hannaford	5 WDJV	WDJV
WDRC232	74.2	RC	459997.2	6449078	207.446	Hannaford	5 WDJV	WDJV
WDRC233	65	RC	459997.2	6449103	207.297	Hannaford	5 WDJV	WDJV
WDRC234	60	RC	459997.2	6449128	207.212	Hannaford	5 WDJV	WDJV
WDRC235	50	RC	459997.2	6449153	207.156	Hannaford	5 WDJV	WDJV
WDRC236	33	RC	459997.2	6449178	207.054	Hannaford	5 WDJV	WDJV
WDRC237	39	RC	460022.2	6449153	207.033	Hannaford	5 WDJV	WDJV
WDRC238	33	RC	460072.2	6449178	206.761	Hannaford	5 WDJV	WDJV
WDRC239	55	RC	460072.2	6449103	207.239	Hannaford	5 WDJV	WDJV
WDRC240	50	RC	460172.2	6449178	206.398	Hannaford	5 WDJV	WDJV
WDRC241	57	RC	460172.2	6449128	206.865	Hannaford	5 WDJV	WDJV
WDRC242	56	RC	460272.2	6449203	206.103	Hannaford	5 WDJV	WDJV
WDRC243	48	RC	460272.2	6449153	206.603	Hannaford	5 WDJV	WDJV
WDRC244	63	RC	460272.2	6449103	207.126	Hannaford	5 WDJV	WDJV
WDRC245	60	RC	460197.2	6449078	207.568	Hannaford	5 WDJV	WDJV
WDRC246	39	RC	460197.2	6449053	207.863	Hannaford	5 WDJV	WDJV
WDRC247	81	RC	460147.2	6449078	207.5	Hannaford	5 WDJV	WDJV
WDRC248	57	RC	460147.2	6449053	207.895	Hannaford	5 WDJV	WDJV
WDRC249	75	RC	460122.2	6449066	207.673	Hannaford	5 WDJV	WDJV
WDRC250	78	RC	460097.2	6449066	207.662	Hannaford	5 WDJV	WDJV
WDRC251	87	RC	459872.2	6449103	207.883	Hannaford	5 WDJV	WDJV
WDRC252	86	RC	459872.2	6449078	207.963	Hannaford	5 WDJV	WDJV
WDRC253	105	RC	459875.2	6449218	207.25	Hannaford	5 WDJV	WDJV
WDRC254	48	RC	459669.2	6450527	211.123	White Dam North	5 WDJV	WDJV
WDRC255	51	RC	459672.6	6450577	211.738	White Dam North	5 WDJV	WDJV
WDRC256	51	RC	459695.4	6450725	214.547	White Dam North	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDRC257	57	RC	459724.3	6450575	212.901	White Dam North	5 WDJV	WDJV
WDRC258	56	RC	459722	6450528	212.152	White Dam North	5 WDJV	WDJV
WDRC259	69	RC	458669	6447880	219.731	Vertigo	5 WDJV	WDJV
WDRC260	70	RC	458671.4	6447833	220.325	Vertigo	5 WDJV	WDJV
WDRC261	85	RC	458672.1	6447781	220.474	Vertigo	5 WDJV	WDJV
WDRC262	105	RC	458673	6447731	221.091	Vertigo	5 WDJV	WDJV
WDRC263	57	RC	458571.1	6447832	221.132	Vertigo	5 WDJV	WDJV
WDRC264	69	RC	458573	6447783	221.819	Vertigo	5 WDJV	WDJV
WDRC265	69	RC	458620.3	6447832	220.714	Vertigo	5 WDJV	WDJV
WDRC266	73	RC	458523	6447681	223.633	Vertigo	5 WDJV	WDJV
WDRC267	80	RC	458571.7	6447732	222.45	Vertigo	5 WDJV	WDJV
WDRC268	27	RC	459891.9	6449180	207.561	Hannaford	5 WDJV	WDJV
WDRC269	21	RC	459890.5	6449190	207.515	Hannaford	5 WDJV	WDJV
WDRC270	21	RC	459890.1	6449210	207.261	Hannaford	5 WDJV	WDJV
WDRC271	21	RC	459922.6	6449183	207.418	Hannaford	5 WDJV	WDJV
WDRC272	15	RC	459922.6	6449190	207.39	Hannaford	5 WDJV	WDJV
WDRC273	15	RC	459922.8	6449211	207.287	Hannaford	5 WDJV	WDJV
WDRC274	21	RC	459933.5	6449180	207.361	Hannaford	5 WDJV	WDJV
WDRC275	15	RC	459933.9	6449191	207.316	Hannaford	5 WDJV	WDJV
WDRC276	12	RC	459934.6	6449206	207.257	Hannaford	5 WDJV	WDJV
WDRC277	15	RC	459947.4	6449191	207.235	Hannaford	5 WDJV	WDJV
WDRC278	21	RC	459958.9	6449180	207.233	Hannaford	5 WDJV	WDJV
WDRC279	15	RC	459961	6449192	207.174	Hannaford	5 WDJV	WDJV
WDRC280	9	RC	459972.2	6449192	207.115	Hannaford	5 WDJV	WDJV
WDRC281	27	RC	459984.1	6449180	207.11	Hannaford	5 WDJV	WDJV
WDRC282	21	RC	459984	6449180	207.11	Hannaford	5 WDJV	WDJV
WDRC283	15	RC	459983.8	6449193	207.052	Hannaford	5 WDJV	WDJV
WDRC284	15	RC	459983.8	6449205	207.003	Hannaford	5 WDJV	WDJV
WDRC285	15	RC	459996.3	6449206	206.955	Hannaford	5 WDJV	WDJV
WDRC292	35	RC	460272	6449254	205.648	Hannaford	5 WDJV	WDJV
WDRC293	50	RC	460322	6449302	205.187	Hannaford	5 WDJV	WDJV
WDRC294	40	RC	460321	6449254	205.566	Hannaford	5 WDJV	WDJV
WDRC295	35	RC	460323	6449204	206.06	Hannaford	5 WDJV	WDJV
WDRC296	25	RC	460322	6449154	206.617	Hannaford	5 WDJV	WDJV
WDRC297	65	RC	460322	6449128	206.849	Hannaford	5 WDJV	WDJV
WDRC298	60	RC	460372	6449143	206.928	Hannaford	5 WDJV	WDJV
WDRC299	25	RC	460372	6449154	206.885	Hannaford	5 WDJV	WDJV
WDRC300	35	RC	460372	6449204	206.342	Hannaford	5 WDJV	WDJV
WDRC301	40	RC	460372	6449254	205.764	Hannaford	5 WDJV	WDJV
WDRC302	50	RC	460373	6449304	205.243	Hannaford	5 WDJV	WDJV
WDRC303	196	RC	459896.4	6449428	206.583	Hannaford	5 WDJV	WDJV
WDRC304	123	RC	459245.9	6448654	212	none	5 WDJV	WDJV
WDRC305	153	RC	460579.9	6450220	210	none	5 WDJV	WDJV
WDRC306	50	RC	460814.9	6449290	204.341	none	5 WDJV	WDJV
WDRC307	50	RC	460913.6	6449390	203.892	none	5 WDJV	WDJV
WDRC308	36	RC	460970.9	6449349	204.753	none	5 WDJV	WDJV
WDRC309	43	RC	460920.1	6449362	204.219	none	5 WDJV	WDJV
WDRC310	36	RC	460871.6	6449350	203.98	none	5 WDJV	WDJV
WDRC311	36	RC	460819.8	6449360	203.877	none	5 WDJV	WDJV
WDRC312	36	RC	460769.9	6449350	204.132	none	5 WDJV	WDJV
WDRC313	36	RC	460770.5	6449299	204.453	none	5 WDJV	WDJV
WDRC314	36	RC	460870	6449302	204.362	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDRC315	36	RC	460973.7	6449398	204.268	none	5 WDJV	WDJV
WDRC316	36	RC	460972.7	6449448	203.682	none	5 WDJV	WDJV
WDRC317	36	RC	460970.5	6449498	202.898	none	5 WDJV	WDJV
WDRC318	36	RC	460970.2	6449548	202.538	none	5 WDJV	WDJV
WDRC319	36	RC	460881.1	6449395	203.773	none	5 WDJV	WDJV
WDRC320	36	RC	460868.5	6449443	203.503	none	5 WDJV	WDJV
WDRC321	36	RC	460870.4	6449499	203.131	none	5 WDJV	WDJV
WDRC322	40	RC	460569.8	6449455	204.059	none	5 WDJV	WDJV
WDRC323	40	RC	460670	6449455	203.995	none	5 WDJV	WDJV
WDRC324	40	RC	460670.2	6449505	203.642	none	5 WDJV	WDJV
WDRC325	40	RC	460769.8	6449405	203.873	none	5 WDJV	WDJV
WDRC326	40	RC	460769.7	6449430	203.853	none	5 WDJV	WDJV
WDRC327	40	RC	460769.5	6449455	203.783	none	5 WDJV	WDJV
WDRC328	40	RC	460769.9	6449480	203.628	none	5 WDJV	WDJV
WDRC329	40	RC	460766.9	6449507	203.624	none	5 WDJV	WDJV
WDRC330	40	RC	460769.8	6449530	203.381	none	5 WDJV	WDJV
WDRC331	40	RC	460895.1	6449380	203.856	none	5 WDJV	WDJV
WDRC332	40	RC	460895.5	6449405	203.641	none	5 WDJV	WDJV
WDRC333	40	RC	460895	6449430	203.491	none	5 WDJV	WDJV
WDRC334	40	RC	460895.5	6449455	203.322	none	5 WDJV	WDJV
WDRC335	40	RC	460895	6449480	203.118	none	5 WDJV	WDJV
WDRC336	40	RC	460895.3	6449505	202.963	none	5 WDJV	WDJV
WDRC337	40	RC	460895.2	6449530	202.804	none	5 WDJV	WDJV
WDRC338	40	RC	460895.2	6449555	202.709	none	5 WDJV	WDJV
WDRC339	40	RC	460894.9	6449355	204.151	none	5 WDJV	WDJV
WDRC340	40	RC	460895.4	6449330	204.394	none	5 WDJV	WDJV
WDRC341	40	RC	460895	6449305	204.468	none	5 WDJV	WDJV
WDRC342	40	RC	460895	6449280	204.559	none	5 WDJV	WDJV
WDRC343	40	RC	460770.3	6449380	204.049	none	5 WDJV	WDJV
WDRC344	40	RC	460769.6	6449355	204.173	none	5 WDJV	WDJV
WDRC345	40	RC	460769.9	6449330	204.406	none	5 WDJV	WDJV
WDRC346	40	RC	460769.5	6449305	204.49	none	5 WDJV	WDJV
WDRC347	40	RC	460769.6	6449280	204.669	none	5 WDJV	WDJV
WDRC348	40	RC	460769.1	6449228	204.909	none	5 WDJV	WDJV
WDRC349	40	RC	460769.1	6449205	204.963	none	5 WDJV	WDJV
WDRC350	40	RC	460670	6449305	205.772	none	5 WDJV	WDJV
WDRC351	40	RC	460670.3	6449355	204.86	none	5 WDJV	WDJV
WDRC352	40	RC	460670.4	6449405	204.309	none	5 WDJV	WDJV
WDRC353	40	RC	460569.8	6449405	204.585	none	5 WDJV	WDJV
WDRC354	40	RC	460569.7	6449355	205.417	none	5 WDJV	WDJV
WDRC355	40	RC	460570	6449305	206.885	none	5 WDJV	WDJV
WDRC356	40	RC	460472	6449401	204.503	Hannaford	5 WDJV	WDJV
WDRC357	40	RC	460470	6449355	204.946	Hannaford	5 WDJV	WDJV
WDRC358	40	RC	460470.2	6449305	206.004	Hannaford	5 WDJV	WDJV
WDRC359	40	RC	460470.2	6449255	206.826	Hannaford	5 WDJV	WDJV
WDRC360	40	RC	460469.8	6449211	207.574	Hannaford	5 WDJV	WDJV
WDRC361	40	RC	460469.4	6449158	207.743	Hannaford	5 WDJV	WDJV
WDRC362	40	RC	460570.1	6449152	207.987	none	5 WDJV	WDJV
WDRC363	40	RC	460669.9	6449253	206.554	none	5 WDJV	WDJV
WDRC364	40	RC	460669.9	6449205	206.085	none	5 WDJV	WDJV
WDRC365	40	RC	460670.2	6449155	206.112	none	5 WDJV	WDJV
WDRC366	40	RC	460569.9	6449205	207.647	none	5 WDJV	WDJV
WDRC367	40	RC	461069.7	6449380	204.144	none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDRC368	40	RC	461070	6449405	203.826	none	5 WDJV	WDJV
WDRC369	40	RC	461070.5	6449430	203.516	none	5 WDJV	WDJV
WDRC370	40	RC	461070.3	6449455	203.282	none	5 WDJV	WDJV
WDRC371	40	RC	461070.3	6449480	202.876	none	5 WDJV	WDJV
WDRC372	40	RC	461070.2	6449505	202.593	none	5 WDJV	WDJV
WDRC373	40	RC	461070.3	6449530	202.243	none	5 WDJV	WDJV
WDRC374	40	RC	461070.2	6449555	202.047	none	5 WDJV	WDJV
WDRC375	40	RC	461070.4	6449580	201.867	none	5 WDJV	WDJV
WDRC376	40	RC	461070.4	6449605	201.736	none	5 WDJV	WDJV
WDRC377	40	RC	461070.3	6449630	201.694	none	5 WDJV	WDJV
WDRC378	40	RC	460950	6449380	202.96	none	5 WDJV	WDJV
WDRC379	40	RC	460950	6449430	203.44	none	5 WDJV	WDJV
WDRC380	40	RC	460950	6449465	203.6	none	5 WDJV	WDJV
WDRC381	40	RC	460850	6449415	203.91	none	5 WDJV	WDJV
WDRC382	40	RC	460850	6449475	202.85	none	5 WDJV	WDJV
WDRC383	40	RC	460850	6449375	204.24	none	5 WDJV	WDJV
WDRC384	40	RC	460850	6449325	204.71	none	5 WDJV	WDJV
WDRC385	40	RC	460850	6449275	206.14	none	5 WDJV	WDJV
WDRC386	40	RC	460975	6449300	204.01	none	5 WDJV	WDJV
WDRC387	40	RC	461000	6449337	203.08	none	5 WDJV	WDJV
WDRC388	40	RC	460950	6449300	204.08	none	5 WDJV	WDJV
WDRC389	40	RC	460950	6449335		none	5 WDJV	WDJV
WDS01	50	RC	460603	6446601	214.5	none	5 WDJV	WDJV
WDS02	50	RC	460502	6446602	215.3	none	5 WDJV	WDJV
WDS03	50	RC	460399	6446602	217	none	5 WDJV	WDJV
WDS04	50	RC	460302	6446602	215.03	none	5 WDJV	WDJV
WDS05	50	RC	460300	6447000	216.22	none	5 WDJV	WDJV
WDS06	50	RC	460398	6447000	216.72	none	5 WDJV	WDJV
WDS07	50	RC	460220	6447401	219.18	none	5 WDJV	WDJV
WDS08	50	RC	460151	6447403	222.29	none	5 WDJV	WDJV
WDS09	50	RC	460051	6447407	224.1	none	5 WDJV	WDJV
WDS10	75	RC	459850	6448199	216.45	none	5 WDJV	WDJV
WDS11	50	RC	459952	6448197	215.91	none	5 WDJV	WDJV
WDS12	50	RC	460052	6448200	216.48	none	5 WDJV	WDJV
WDW001	100	RC	456896.9	6445554	230	none	5 WDJV	WDJV
WDW002	100	RC	456896.9	6445554	230	none	5 WDJV	WDJV
WDW003	98	RC	459521.9	6450379	230	White Dam North	5 WDJV	WDJV
WDW004	80	RC	462972.9	6451607	230	none	5 WDJV	WDJV
WDW005	74	RC	464915.9	6448956	230	none	5 WDJV	WDJV
WDW006	96	RC	469789.9	6451799	230	none	5 WDJV	WDJV
WDW007	28	RC	455187.9	6457166	230	none	5 WDJV	WDJV
WDW008	46	RC	460229.9	6456370	230	none	5 WDJV	WDJV
WDW009	62.5	RC	465006.9	6441431	230	none	5 WDJV	WDJV
WDW010	32	RC	473305.9	6445141	230	none	5 WDJV	WDJV
WDW011	100	RC	454903.9	6479009	230	none	5 WDJV	WDJV
WDW012	100	RC	455209.9	6480561	230	none	5 WDJV	WDJV
WDW013	100	RC	456236.9	6474666	230	none	5 WDJV	WDJV
WDW014	100	RC	456521.9	6473986	230	none	5 WDJV	WDJV
WDWMP_1	120	RC	458428	6443660	220.27	none	5 WDJV	WDJV
WDWMP_2	115	RC	457902	6443660	219.6	none	5 WDJV	WDJV
WDWMP_A1	150	RC	460104	6448237	216.589	none	5 WDJV	WDJV
WDWMP_A2	150	RC	460113	6448236		none	5 WDJV	WDJV

Hole_ID	Depth	Hole_Type	NAT_East	NAT_North	NAT_RL	2020 Model	time group	Company
WDWMP_AA	150	RC	459716	6449164	207.71	Hannaford	5 WDJV	WDJV
WDWMP_AB	150	RC	461164	6449496	204.14	none	5 WDJV	WDJV
WDWMP_AC	150	RC	460901	6449987	203.52	none	5 WDJV	WDJV
WDWMP_B	150	RC	462451	6447740	205.69	none	5 WDJV	WDJV
WDWMP_C	126	RC	462298	6450393	195	none	5 WDJV	WDJV
WDWMP_D	150	RC	459661	6451207	217.73	none	5 WDJV	WDJV
WDWMP_E	126	RC	460563	6446718	205	none	5 WDJV	WDJV
WDWMP_F	156	RC	461178	6446570		none	5 WDJV	WDJV
WDWMP_G	100	RC	457396	6445645	221.41	none	5 WDJV	WDJV
WDWMP_H	150	RC	457235	6445500	225.25	none	5 WDJV	WDJV
WDWMP_J	138	RC	456654	6444890	231	none	5 WDJV	WDJV
WDWMP_J2	144	RC	456654	6444890	231	none	5 WDJV	WDJV
WDWMP_J3	144	RC	456654	6444890	231	none	5 WDJV	WDJV
WDWMP_K3	150	RC	455760	6445807	233	none	5 WDJV	WDJV
WDWMP_K4	150	RC	455742	6445789	233	none	5 WDJV	WDJV
WDWMP_L	150	RC	456980	6446430	232	none	5 WDJV	WDJV
WDWMP_M	132	RC	455105	6448340		none	5 WDJV	WDJV
WDWMP_N	150	RC	455497	6447549	233	none	5 WDJV	WDJV
WDWMP_P	91	RC	456891	6451079		none	5 WDJV	WDJV
WDWMP_PP	138	RC	456476	6450822		none	5 WDJV	WDJV
WDWMP_Q	132	RC	456725	6449807		none	5 WDJV	WDJV
WDWMP_T	150	RC	461941	6449963	203.5	none	5 WDJV	WDJV
WDWMP_V	120	RC	460625	6450086	206.93	none	5 WDJV	WDJV
WDWMP_W	150	RC	458387	6447183	226.04	none	5 WDJV	WDJV
WDWMP_X	150	RC	460848	6446758	212	none	5 WDJV	WDJV
WDWMP_XY	140	RC	461837	6451007	204.33	none	5 WDJV	WDJV
WDWMP_Y	150	RC	461301	6445234	223.58	none	5 WDJV	WDJV
WDWMP_Z	150	RC	458330.7	6450958	221.77	none	5 WDJV	WDJV
WMET001	65	HQ	459927.4	6449046	154.963	Hannaford	6 CCL	CCL
WMET002	65	HQ	459969.8	6449046	150.013	Hannaford	6 CCL	CCL

Table 4 – Drill hole Intersection List

Please Note.

- All collar coordinates are MGA94_54.
- Minimum Au grade 0.15 g/t
- minimum width (m) 4
- maximum internal waste (m) 4
- minimum grade * width (g*m) 0.8

Hannaford Deposit

holeid	from	to	Au_ppm	Down hole width	estimated true width	grade * width	mid_x	mid_y	mid_z	mined / unmined
WD043	28	51	0.51	23	19.9	10.2	459815.8	6449145	173.274	mined
WD083	57	62	0.39	5	4.3	1.7	459816.7	6449346	155.6035	unmined
WD080	31	72	0.29	41	35.5	10.2	459817.7	6449275	162.4727	unmined
WD042	23	43	0.17	20	17.3	2.9	459817.6	6449128	179.1772	mined
WD042	14	22	0.24	8	6.9	1.6	459817.9	6449135	192.1675	mined
WD079	3	66	0.63	63	54.6	34.3	459818.5	6449258	177.2271	mined
WD087	41	51	0.48	10	9.4	4.5	459818.9	6449225	163.4921	mined
WD087	17	36	0.36	19	17.9	6.4	459819	6449218	181.8161	mined
WD078	18	59	0.52	41	35.5	18.5	459819.2	6449205	173.659	mined
WD142	6	67	0.77	61	52.8	40.6	459819.2	6449240	175.2601	mined
WD077	18	42	1.58	24	20.8	32.8	459820.5	6449179	181.5192	mined
WD077	53	60	0.49	7	6.1	2.9	459820.7	6449166	158.5696	mined
WD070	34	76	1.37	42	36.4	49.8	459838.4	6449173	159.8556	mined
WD071	12	86	2.56	74	63.1	161.6	459836.3	6449201	164.9121	from 78m unmined
WD097	4	58	0.54	54	54.0	29.1	459841.2	6449235	175.559	mined
WD097	81	100	1.50	19	19.0	28.4	459841.2	6449235	116.059	unmined
WD143	2	53	0.59	51	49.7	29.4	459841.6	6449243	179.8632	mined
WD070	10	27	0.36	17	14.7	5.3	459840.9	6449191	191.4655	mined
WDDD287	16	37	0.26	21	19.7	5.1	459838.4	6449079	183.1541	mined
WDRC226	58	102	0.81	44	38.1	30.7	459847.3	6449114	138.411	from 66m unmined
WDRC226	14	36	1.10	22	19.1	21.0	459847.3	6449141	186.0424	mined
WDRC227	84	98	0.55	14	12.1	6.7	459847.4	6449133	128.7377	unmined
WDRC227	8	80	0.89	72	62.4	55.3	459847.4	6449156	169.4409	from 66m unmined
WDRC251	36	70	0.91	34	29.4	26.8	459845.7	6449103	161.9837	mined
WDRC252	16	68	0.88	52	45.0	39.5	459851.2	6449078	171.5899	mined
WD100	3	13	1.04	10	9.4	9.8	459866.2	6449228	199.4749	mined
WD100	18	30	0.21	12	11.3	2.4	459866.6	6449234	184.4615	mined
WD144	5	38	0.84	33	28.0	23.6	459867.3	6449204	188.5525	mined
WD099	81	106	0.98	25	21.9	21.5	459866.9	6449088	122.0294	from 83m unmined
WD099	49	73	0.73	24	21.9	16.0	459867.9	6449103	151.1407	mined
WD099	12	23	0.26	11	10.3	2.7	459868.2	6449119	191.4039	mined
WD098	11	72	1.06	61	56.4	60.0	459869.5	6449060	169.2825	mined
WDRC216	6	62	0.61	56	48.5	29.5	459872.3	6449037	178.5641	mined
WDRC217	24	88	1.53	64	55.4	84.9	459872.5	6449075	159.3846	from 74m unmined
WDRC224	90	102	0.71	12	10.4	7.4	459872.5	6449105	124.5126	mined
WDRC224	50	80	0.60	30	26.0	15.7	459872.5	6449121	151.3593	mined
WDRC224	32	42	1.73	10	8.7	15.0	459872.5	6449135	175.6081	from 90m unmined
WDRC225	92	102	0.73	10	8.7	6.3	459872.6	6449130	123.5305	unmined
WDRC225	4	84	0.86	80	69.3	59.4	459872.6	6449156	169.4299	mined

WDRC253	2	80	0.65	78	67.5	44.2	459854.7	6449218	171.743	from 66m unmined
WD069	136	143	0.48	7	6.1	2.9	459881	6449114	83.11595	unmined
WD069	87	120	0.86	33	29.7	25.5	459885.4	6449130	115.0465	unmined
WD100	143	151	0.24	8	6.6	1.6	459888.8	6449286	76.4026	unmined
WDRC270	2	21	1.06	19	19.0	20.2	459890.1	6449210	195.761	mined
WDRC269	2	18	1.71	16	16.0	27.3	459890.5	6449190	197.515	mined
WDRC268	2	27	1.47	25	25.0	36.8	459891.9	6449180	193.061	mined
WD069	4	81	1.85	77	68.6	127.0	459890.6	6449155	170.2057	from 65m unmined
WDRC211	90	96	0.31	6	5.2	1.6	459897.1	6449007	127.3546	unmined
WDRC211	10	82	0.86	72	62.4	53.3	459897.1	6449030	168.0578	from 76m unmined
WDRC212	58	102	0.65	44	38.1	24.6	459897.2	6449038	138.548	from 82m unmined
WDRC212	12	52	1.13	40	34.6	39.2	459897.2	6449062	180.1172	mined
WDRC213	44	82	0.87	38	32.9	28.5	459897.5	6449097	153.1714	mined
WDRC213	20	26	0.34	6	5.2	1.7	459897.5	6449117	187.8124	mined
WDRC214	56	98	0.49	42	36.4	17.7	459897.5	6449115	140.936	mined
WDRC214	16	48	0.43	32	27.7	11.8	459897.5	6449137	179.9072	mined
WDRC215	32	36	0.25	4	3.5	0.8	459897.5	6449186	177.9481	mined
WDRC215	2	24	1.38	22	19.1	26.3	459897.5	6449197	196.1347	mined
WD031	150	157	1.01	7	6.2	6.3	459907.2	6449057	70.99317	unmined
WD031	122	125	0.64	3	2.7	1.7	459909.3	6449070	97.78175	unmined
WD031	105	112	0.60	7	6.3	3.8	459910.3	6449077	111.2274	from 106m unmined
WD031	81	98	0.81	17	15.3	12.4	459911.6	6449085	128.2991	mined
WD028	98	103	0.44	5	4.3	1.9	459912.2	6448999	121.446	unmined
WD029	103	123	1.37	20	17.5	24.0	459911.9	6449021	109.2082	from 77m unmined
WD035	38	43	0.28	5	4.3	1.2	459913.5	6449256	171.879	mined
WD064	117	121	0.27	4	3.5	0.9	459914.1	6449192	103.967	mined
WD029	60	96.55	0.74	36.55	32.0	23.7	459913.6	6449038	139.5802	mined
WD031	41	73	1.08	32	28.6	30.9	459913.6	6449099	157.4733	mined
WD034	13	18	0.20	5	4.3	0.9	459914.9	6449219	193.7856	mined
WD030	32	57	0.59	25	21.7	12.7	459914.6	6449079	169.1259	mined
WD032	0	61	1.68	61	53.5	89.7	459914.6	6449161	180.9038	mined
WD033	46	52	0.18	6	5.2	1.0	459915.2	6449177	164.9598	mined
WD033	4	15	1.31	11	9.5	12.5	459915.2	6449197	199.1678	mined
WD073	11	19	0.34	8	6.9	2.3	459915.2	6449319	193.8246	mined
WD061	92	122	1.28	30	26.4	33.6	459914.6	6449104	114.1424	unmined
WD029	20	52	0.55	32	27.9	15.3	459915.1	6449059	176.5009	mined
WD064	4	23	0.26	19	16.5	4.3	459916	6449245	195.3327	unmined
WD061	76	85	0.24	9	7.9	1.9	459916	6449117	137.3338	mined
WD028	20	89	1.14	69	59.2	67.4	459915.1	6449023	160.8757	mined
WD061	25	70	1.28	45	39.3	50.1	459917.2	6449133	166.1985	mined
WD061	13	20	0.28	7	6.1	1.7	459917.9	6449148	193.2168	mined
WD063	24	68	0.48	44	38.3	18.5	459918	6449136	167.6156	mined
WD063	75	79	0.25	4	3.4	0.9	459918.1	6449151	140.7559	unmined
WD062	6	42	1.28	36	31.3	40.0	459920.2	6449024	187.1412	mined
WD062	55	58	2.36	3	2.6	6.2	459920.5	6449040	158.7663	mined
WD062	63	91	0.88	28	24.7	21.8	459920.7	6449050	140.7217	mined
WD062	116	122	0.17	6	5.3	0.9	459921.3	6449069	103.384	unmined
WD027	25	86	1.37	61	52.5	71.8	459918	6448999	159.9818	from 77m unmined
WDRC210	90	100	1.11	10	8.7	9.6	459922.4	6449131	125.1636	unmined
WDRC210	0	80	2.39	80	69.3	165.5	459922.4	6449158	172.795	from 66m unmined
WDRC209	76	96	0.56	20	17.3	9.7	459922.5	6449061	133.1408	mined
WDRC209	32	70	0.52	38	32.9	17.1	459922.5	6449078	163.4517	mined

WDRC271	2	12	1.59	10	10.0	15.9	459922.6	6449183	200.418	mined
WDRC272	2	11	1.00	9	9.0	9.0	459922.6	6449190	200.89	mined
WDRC273	3	15	0.29	12	12.0	3.4	459922.8	6449211	198.287	mined
WD027	6	20	2.02	14	12.1	24.4	459923.6	6449020	196.6628	mined
WDMET01	9	17	1.52	8	8.0	12.2	459925	6449036	171.842	mined
WDMET01	23	83	0.76	60	60.0	45.4	459925	6449036	131.842	from 65m unmined
WDRC274	2	17	0.77	15	15.0	11.6	459933.5	6449180	197.861	mined
WDRC275	2	11	0.51	9	9.0	4.6	459933.9	6449191	200.816	mined
WDDD289	21	42	0.43	21	18.2	7.9	459934.6	6449156	180.2032	mined
WDRC276	2	9	0.37	7	7.0	2.6	459934.6	6449206	201.757	mined
WDDD286	49	62.7	0.62	13.7	13.2	8.1	459935.4	6449028	153.887	mined
WDDD286	14	36	1.33	22	21.3	28.2	459935.4	6449036	183.6859	mined
WDRC228	2	20	0.89	18	18.0	16.1	459947.2	6449178	196.3	mined
WDRC229	3	7	0.65	4	4.0	2.6	459947.2	6449203	202.187	mined
WDRC196	6	92	1.30	86	74.5	97.1	459947.3	6449004	165.4108	from 80m unmined
WDRC200	92	102	0.63	10	8.7	5.5	459947.4	6449080	123.4315	mined
WDRC200	74	84	0.29	10	8.7	2.5	459947.4	6449089	139.02	mined
WDRC200	50	66	1.10	16	13.9	15.2	459947.4	6449100	157.2065	mined
WDRC200	6	14	0.21	8	6.9	1.5	459947.4	6449124	198.7757	mined
WDRC201	88	102	0.44	14	12.1	5.3	459947.4	6449106	125.1206	unmined
WDRC201	28	82	0.71	54	46.8	33.2	459947.4	6449126	159.7616	from 72m unmined
WDRC201	8	12	0.27	4	3.5	0.9	459947.4	6449149	198.7327	mined
WDRC277	3	13	0.23	10	10.0	2.3	459947.4	6449191	199.235	mined
WDRC202	70	74	0.29	4	3.5	1.0	459947.4	6449143	144.9442	unmined
WDRC202	2	62	1.48	60	52.0	76.9	459947.4	6449163	179.5852	mined
WDRC198	58	102	1.11	44	38.1	42.3	459947.5	6449039	138.218	mined
WDRC198	16	38	0.58	22	19.1	11.0	459947.5	6449065	184.1173	mined
WDRC197	54	102	0.74	48	41.6	30.8	459947.5	6449014	140.18	from 98m unmined
WDRC197	10	44	1.07	34	29.4	31.4	459947.5	6449040	184.3473	mined
WDRC199	42	96	0.54	54	46.8	25.5	459947.5	6449069	147.7112	mined
WDRC199	28	38	0.84	10	8.7	7.3	459947.5	6449087	178.8882	mined
WDRC278	2	11	2.37	9	9.0	21.4	459958.9	6449180	200.733	mined
WDRC279	2	11	0.74	9	9.0	6.7	459961	6449192	200.674	mined
HDD002	33	44	0.83	11	9.1	7.5	459961	6449000	118.4098	unmined
WD110	70	72	0.65	2	1.9	1.2	459964.3	6449200	139.9406	mined
WD104	60	131	1.08	71	66.6	71.8	459963.9	6449019	117.9127	from 109m unmined
WD110	3	15	0.65	12	11.3	7.4	459966.7	6449180	198.7348	mined
WD104	56	58	1.52	2	1.9	2.8	459967.1	6449032	154.0929	mined
WD109	112	114	0.46	2	1.9	0.9	459967.5	6449116	100.3998	unmined
WD109	92	98	0.34	6	5.7	1.9	459967.7	6449121	117.5234	unmined
WD111	4	11	0.17	7	6.7	1.2	459968.4	6449200	199.9621	mined
WD109	24	49	0.83	25	23.6	19.5	459968.1	6449140	172.9183	mined
WD109	16	21	0.21	5	4.7	1.0	459968.2	6449146	189.8868	mined
WD105	118	123	1.53	5	4.5	6.8	459968.5	6449050	98.25633	unmined
WD105	88	103	0.24	15	13.4	3.2	459968.7	6449062	120.535	from 96m unmined
WD105	31	82	1.15	51	46.0	53.1	459969	6449079	155.4498	mined
WD104	5	38	1.18	33	31.0	36.5	459968.9	6449044	187.466	mined
WD102	45	58	1.74	13	12.2	21.2	459970.2	6448984	159.7118	mined
WD103	4	37	1.28	33	31.5	40.4	459970.3	6449033	188.471	mined
WD103	53	92	0.97	39	38.1	37.0	459971.3	6449046	138.0868	mined
HDD002	0	26	0.56	26	21.5	12.1	459967.6	6449013	139.4445	mined
WD103	102	112	1.18	10	9.8	11.6	459971	6449052	104.2775	unmined

WDRC280	2	9	0.82	7	7.0	5.7	459972.2	6449192	201.615	mined
WDRC203	2	78	0.79	76	65.8	52.1	459972.2	6449008	173.235	mined
WDRC230	28	54	1.17	26	26.0	30.3	459972.2	6449103	166.365	mined
WDRC231	8	34	0.43	26	26.0	11.1	459972.2	6449153	186.274	mined
WDRC204	60	100	0.76	40	34.6	26.2	459972.5	6449039	138.16	mined
WDRC204	18	40	1.31	22	19.1	25.0	459972.5	6449065	182.3273	mined
WDMET02	6	17	0.22	11	11.0	2.4	459973.9	6449032	173.546	mined
WDMET02	30	84	0.77	54	54.0	41.8	459973.9	6449032	128.046	mined
HDD003	1	21	0.74	20	19.6	14.5	459980.2	6449019	139.0064	mined
HDD003	26	51	0.92	25	24.4	22.4	459981.1	6449014	112.109	from 40m unmined
WD111	101	104	1.31	3	2.9	3.7	459982.9	6449175	109.6115	mined
WDRC283	2	15	0.31	13	13.0	4.0	459983.8	6449193	198.552	mined
WDRC284	5	9	0.60	4	4.0	2.4	459983.8	6449205	200.003	mined
WDRC282	3	16	0.86	13	13.0	11.2	459984	6449180	197.61	mined
WDRC281	7	27	3.37	20	20.0	67.4	459984.1	6449180	190.11	mined
WDRC285	4	12	0.24	8	8.0	1.9	459996.3	6449206	198.955	mined
HDD004	37	46	1.07	9	6.9	7.3	459996.6	6449056	123.2032	mined
WDRC205	36	52	1.01	16	13.9	14.0	459997.2	6448982	170.1219	mined
WDRC232	18	38	0.83	20	20.0	16.6	459997.2	6449078	179.446	mined
WDRC232	58	72	1.01	14	14.0	14.1	459997.2	6449078	142.446	mined
WDRC233	22	54	0.50	32	32.0	16.0	459997.2	6449103	169.297	mined
WDRC234	18	50	1.09	32	32.0	34.8	459997.2	6449128	173.212	mined
WDRC235	8	30	1.36	22	22.0	29.9	459997.2	6449153	188.156	mined
WDRC236	2	18	3.22	16	16.0	51.5	459997.2	6449178	197.054	mined
WDRC206	56	76	1.03	20	17.3	17.8	459997.2	6448995	150.7543	mined
WDRC206	4	52	0.93	48	41.6	38.7	459997.2	6449014	183.6633	mined
HDD004	55	88	1.04	33	24.9	25.8	459998.4	6449037	100.411	unmined
WDRC208	74	102	0.32	28	24.2	7.7	459997.5	6449035	131.2348	mined
WDRC208	10	28	1.12	18	15.6	17.4	459997.5	6449069	190.9905	mined
WDRC207	76	102	1.18	26	22.5	26.6	459997.6	6449009	130.5927	mined
WDRC207	2	40	1.12	38	32.9	36.7	459997.6	6449043	189.4825	mined
WD111	315	347	0.60	32	30.2	18.3	460015.2	6449111	-107.343	mined
WD133	13	46	0.81	33	31.0	25.1	460018.2	6449117	179.3861	mined
WD068	14	21	1.88	7	7.0	13.2	460018.2	6449177	189.478	mined
WD060	11	25	0.95	14	14.0	13.3	460019.2	6449077	189.447	mined
WD060	47	63	0.55	16	16.0	8.8	460019.2	6449077	152.447	mined
WD060	100	105	0.33	5	5.0	1.7	460019.2	6449077	104.947	unmined
WD193	21	33	0.42	12	11.3	4.7	460022.2	6449008	183.0173	mined
WD193	34	78	0.98	44	41.3	40.6	460022.2	6449017	155.7662	mined
WD193	92	108	2.43	16	15.0	36.5	460022.2	6449032	114.4197	unmined
WD193	115	146 .4	0.55	31.4	29.5	16.3	460022.2	6449043	85.57117	mined
WDRC237	14	22	0.84	8	8.0	6.7	460022.2	6449153	189.033	mined
WDRC223	98	102	1.20	4	3.5	4.2	460022.4	6449029	120.8365	unmined
WDRC223	6	24	1.90	18	15.6	29.6	460022.4	6449071	194.4486	mined
WD017	2.8	81	1.51	78.2	67.7	102.3	460041.6	6449033	171.4397	mined
WDRC221	0	56	0.97	56	48.5	46.9	460047.2	6449014	183.8423	mined
WDRC219	82	100	1.89	18	15.6	29.4	460047.3	6449033	128.6747	unmined
WDRC219	2	24	1.57	22	19.1	30.0	460047.3	6449072	196.2247	mined
WD016	2.7	19	1.20	16.3	16.3	19.5	460050.2	6449065	196.781	mined
WD016	57	66	0.65	9	9.0	5.8	460050.2	6449065	146.131	unmined
WD016	73	76	0.36	3	3.0	1.1	460050.2	6449065	133.131	unmined
WD015	2.8	43	1.57	40.2	34.8	54.6	460064.7	6449051	187.8799	mined
WD014	2	48	2.94	46	40.8	120.0	460072	6449045	185.7037	mined

WDRC239	4	8	0.22	4	4.0	0.9	460072.2	6449103	201.239	mined
WDRC239	16	42	0.66	26	26.0	17.3	460072.2	6449103	178.239	mined
WDRC238	6	32	1.06	26	26.0	27.5	460072.2	6449178	187.761	from 22m unmined
WDRC218	84	94	0.71	10	8.7	6.1	460072.4	6449034	130.4247	unmined
WDRC218	2	20	0.67	18	15.6	10.4	460072.4	6449073	197.9747	mined
WDRC222	0	16	0.46	16	13.9	6.4	460072.4	6449024	201.2498	mined
WDRC220	0	64	0.96	64	55.4	53.5	460072.5	6449037	180.1072	mined
	15.5									
WD019	5	45	0.64	29.45	25.5	16.2	460079.5	6449138	180.6722	mined
WD015	76	84	2.34	8	6.9	16.2	460085.5	6449031	138.4298	unmined
WD013	0	46	0.79	46	39.0	30.8	460092.8	6449027	188.3477	mined
WDRC250	38	74	1.09	36	31.2	34.0	460097.2	6449038	159.1646	from 64m unmined
WDRC250	0	24	1.21	24	20.8	25.2	460097.2	6449060	197.2697	mined
WD012	2	6	0.47	4	3.5	1.6	460103.8	6449018	204.9209	mined
WD003	14	32	0.34	18	15.7	5.3	460116.7	6449100	187.1107	mined
WD122	39	41	0.60	2	1.9	1.1	460116.2	6449266	168.7833	unmined
WD122	24	28	0.64	4	3.8	2.4	460116.2	6449270	181.939	unmined
WD120	96	98	1.61	2	1.9	3.0	460117.2	6449171	115.3688	unmined
WD120	6	36	0.25	30	28.2	6.9	460117.2	6449197	186.7855	from 29m unmined
WD121	5	17	0.20	12	11.3	2.2	460117.2	6449226	196.1494	from 12m unmined
WD118	8	43	0.72	35	32.9	23.6	460118.2	6449146	182.7438	mined
WD119	36	45	0.32	9	8.5	2.7	460118.2	6449165	168.5244	unmined
WD119	11	24	0.68	13	12.2	8.3	460118.2	6449173	190.1374	mined
WD128	45	49	0.37	4	3.2	1.2	460119	6449103	167.6978	unmined
WD128	123	128	0.57	5	4.0	2.3	460119.2	6449056	105.2931	unmined
WD128	19	38	0.96	19	15.7	15.1	460119.1	6449114	182.7402	mined
WD108	0	16	0.50	16	15.1	7.6	460119.2	6449077	199.944	mined
WD138	1	24	0.35	23	23.0	7.9	460120.2	6449028	195.769	mined
WD106	0	38	0.94	38	32.5	30.4	460121.4	6449029	191.6585	mined
WD107	0	21	1.00	21	19.7	19.8	460119.9	6449058	197.9743	mined
WDRC249	0	66	1.29	66	57.2	73.5	460122.2	6449049	179.0942	from 56m unmined
WD002	4	14	0.63	10	8.7	5.4	460131.2	6449088	199.5218	mined
WD003	110	114	0.57	4	3.3	1.9	460137.6	6449059	111.238	mined
WD007	0	16	0.55	16	14.0	7.7	460147.3	6449082	200.4653	mined
WDDD288	1	48	1.16	47	40.7	47.3	460145.6	6449041	186.6764	from 41m unmined
WDRC248	2	50	1.08	48	41.6	45.0	460147.2	6449040	185.3783	from 42m unmined
WDRC247	60	74	1.58	14	12.1	19.2	460147.2	6449045	149.4763	unmined
WDRC247	0	22	0.73	22	19.1	14.0	460147.2	6449073	197.9737	mined
WD001	0	46	1.19	46	40.1	47.6	460168.5	6449065	187.5747	mined
WDRC241	10	28	1.19	18	18.0	21.4	460172.2	6449128	187.865	mined
WDRC240	20	38	1.19	18	18.0	21.3	460172.2	6449178	177.398	mined
WDDD290	25	42	4.01	17	14.7	59.0	460172.5	6449176	177.5531	mined
WD008	0	36	0.91	36	31.4	28.7	460179.8	6449055	192.1436	from 34m unmined
WD018	4	47	0.74	43	36.7	27.4	460184.6	6449049	186.115	mined
WDRC246	0	28	0.42	28	24.2	10.2	460197.2	6449046	195.7386	mined
WDRC245	14	54	0.86	40	34.6	29.9	460197.2	6449061	178.1231	from 34m unmined
WDRC245	0	6	0.26	6	5.2	1.4	460197.2	6449077	204.9699	mined
WD136	16	35	0.65	19	16.5	10.7	460218.2	6449168	184.2034	mined
WD135	93	96	0.83	3	2.6	2.1	460219.2	6449083	124.9966	unmined
WD135	0	20	0.33	20	17.3	5.8	460219.2	6449125	198.1757	mined
WD137	24	36	1.99	12	10.4	20.6	460219.9	6449188	180.1342	mined
WD145	50	52	1.45	2	1.9	2.7	460220.2	6449063	159.6597	unmined
WD145	1	29	1.27	28	26.3	33.3	460220.2	6449075	193.4886	mined
WD010	22	28	0.17	6	5.2	0.9	460234.8	6449088	185.7344	unmined

WD009	0	30	0.39	30	26.2	10.3	460257.7	6449067	194.53	from 20m unmined
WDRC292	16	20	1.00	4	4.0	4.0	460272	6449254	187.648	unmined
WDRC244	52	60	0.19	8	6.9	1.3	460272.2	6449075	158.6286	unmined
WDRC244	0	22	0.54	22	19.1	10.2	460272.2	6449098	197.5997	mined
WDRC243	0	8	1.77	8	8.0	14.1	460272.2	6449153	202.603	mined
WDRC242	18	24	0.43	6	6.0	2.6	460272.2	6449203	185.103	mined
WDRC294	6	28	0.24	22	22.0	5.3	460321	6449254	188.566	unmined
WDRC297	34	40	0.27	6	5.2	1.4	460322	6449110	174.8061	unmined
WDRC296	0	14	0.51	14	14.0	7.2	460322	6449154	199.617	mined
WDRC293	2	16	0.35	14	14.0	5.0	460322	6449302	196.187	unmined
WDRC295	10	16	1.96	6	6.0	11.8	460323	6449204	193.06	mined
WDRC299	0	6	0.17	6	6.0	1.0	460372	6449154	203.885	unmined
WD005	16	24	0.18	8	6.9	1.2	460385	6449227	188.8015	unmined
WD065	21	25	0.24	4	3.5	0.8	460407.4	6449275	185.8394	unmined
WD147	45	55	0.60	10	9.4	5.6	460416.2	6449317	158.1424	unmined
WD147	31	32	1.76	1	0.9	1.7	460416.2	6449324	175.5267	unmined
WDRC361	6	12	0.26	6	6.0	1.6	460469.4	6449158	198.743	unmined
WDRC357	18	24	0.47	6	6.0	2.8	460470	6449355	183.946	unmined
WDRC358	6	18	0.18	12	12.0	2.2	460470.2	6449305	194.004	unmined

Vertigo Deposit

holeid	from	to	Au_ppm	downhole width	estimated true width	grade * width	mid_x	mid_y	mid_z	mined / unmined
VG177	14	22	0.39	8	8.0	3.1	458476	6447576	208.193	unmined
VG066	10	25	0.62	15	15.0	9.2	458496.8	6447679	206.264	from 16 m unmine
VG125	0	14	0.34	14	14.0	4.8	458499.6	6447712	216.76	from 10 m unmine
VG026	31	35	0.31	4	3.8	1.2	458521.9	6447517	193.4581	unmined
VG027	37	50	1.07	13	12.3	13.1	458522.1	6447614	183.4146	unmined
WDRC266	22	40	0.33	18	18.0	6.0	458523	6447681	192.633	unmined
VG123	20	34	0.48	14	14.0	6.7	458524.2	6447701	197.065	unmined
VG124	14	24	1.26	10	10.0	12.6	458524.4	6447726	204.264	mined
VGMET08	0	20	5.71	20	15.8	90.0	458543.3	6447721	215.0699	mined
VG065	0	14	1.68	14	14.0	23.6	458546.7	6447729	215.95	mined
VG065	20	36	0.77	16	16.0	12.3	458546.7	6447729	194.95	mined
VG120	6	20	0.43	14	14.0	6.0	458549.2	6447751	209.585	mined
VG121	26	40	0.75	14	14.0	10.5	458549.6	6447711	190.572	unmined
VG122	32	46	0.74	14	14.0	10.3	458550.4	6447688	185.266	unmined
WDRC263	20	24	0.26	4	4.0	1.0	458571.1	6447832	199.132	unmined
WDRC267	4	18	0.68	14	14.0	9.5	458571.7	6447732	211.45	mined
WDRC267	26	40	1.61	14	14.0	22.5	458571.7	6447732	189.45	mined
VG062	14	18	0.29	4	4.0	1.1	458572.1	6447879	204.433	unmined
WDRC264	8	14	0.34	6	6.0	2.0	458573	6447783	210.819	unmined
WDRC264	24	28	0.45	4	4.0	1.8	458573	6447783	195.819	unmined
VG119	0	10	0.30	10	10.0	3.0	458574.6	6447900	215.185	unmined
VGMET03	13	17	0.26	4	3.5	0.9	458576.3	6447745	209.3096	mined
VG050	65	82	0.69	17	14.7	10.2	458576.3	6447672	159.8311	unmined
VG116	26	30	1.05	4	4.0	4.2	458577.4	6447759	194.179	mined
VGMET03	26	45	1.77	19	16.5	29.2	458578.1	6447735	191.5561	mined
VG115	22	24	0.41	2	2.0	0.8	458578.7	6447706	200.318	unmined
VG115	34	54	0.95	20	20.0	19.0	458578.7	6447706	179.318	unmined
VMET002	29	36	0.27	7	6.7	1.8	458590.7	6447704	191.8086	unmined

VG114	34	38	0.52	4	4.0	2.1	458598	6447738	186.43	unmined
VG114	46	48	1.31	2	2.0	2.6	458598	6447738	175.43	unmined
VG113	10	14	0.33	4	4.0	1.3	458598.3	6447761	210.026	mined
VG113	20	28	0.97	8	8.0	7.7	458598.3	6447761	198.026	mined
VG113	38	44	2.48	6	6.0	14.9	458598.3	6447761	181.026	unmined
VG112	0	4	0.16	4	4.0	0.6	458598.4	6447788	219.517	mined
VG112	10	16	0.25	6	6.0	1.5	458598.4	6447788	208.517	mined
VG110	28	32	0.62	4	4.0	2.5	458598.7	6447836	190.891	mined
VG109	28	39	0.89	11	11.0	9.7	458598.9	6447860	187.135	mined
VG111	16	28	0.37	12	12.0	4.4	458599	6447812	199.085	mined
VG111	34	39	0.25	5	5.0	1.3	458599	6447812	184.585	unmined
VG108	8	24	0.36	16	16.0	5.8	458599	6447886	204.189	mined
VG107	4	6	0.41	2	2.0	0.8	458599.3	6447911	215.079	mined
VGD005	51	62	0.97	11	10.0	9.7	458611.3	6447731	170.6829	unmined
VGD005	37	42	1.16	5	4.5	5.3	458616.8	6447726	186.1148	unmined
VGMET04	16	28	1.12	12	9.3	10.5	458618	6447780	204.6028	mined
VGMET07	20	48	0.67	28	22.1	14.9	458618.5	6447841	193.9076	mined
WDRC265	12	36	1.43	24	24.0	34.3	458620.3	6447832	196.714	mined
VG030	51	53	0.45	2	1.9	0.8	458621.3	6447862	170.9583	unmined
VG030	13	42	1.60	29	27.5	43.9	458621.6	6447870	194.2571	mined
VG029	40	52	0.58	12	11.5	6.7	458621.6	6447764	177.7328	unmined
VGMET01	30	41	2.11	11	9.4	19.9	458621.6	6447870	189.4086	mined
VG029	11	30	0.67	19	18.0	12.0	458621.8	6447772	202.0135	mined
VG061	20	38	1.33	18	18.0	24.0	458621.9	6447889	191.032	mined
VG061	44	45	1.62	1	1.0	1.6	458621.9	6447889	175.532	unmined
VG028	25	35	0.16	10	9.4	1.5	458622.4	6447689	194.3354	unmined
VG028	44	48	1.38	4	3.8	5.2	458622.7	6447694	179.2762	unmined
VG028	54	70	0.76	16	15.1	11.5	458623	6447700	164.2071	unmined
VG104	10	28	0.34	18	18.0	6.0	458623.1	6447798	201.931	mined
VG104	34	36	0.83	2	2.0	1.7	458623.1	6447798	185.931	unmined
VG105	44	45	1.60	1	1.0	1.6	458623.9	6447851	176.043	mined
VG106	0	12	0.49	12	12.0	5.8	458624.9	6447909	213.662	mined
VG098	0	18	0.43	18	18.0	7.7	458648.4	6447913	210.594	mined
VG098	26	28	0.66	2	2.0	1.3	458648.4	6447913	192.594	mined
VG099	28	42	0.86	14	14.0	12.1	458649.3	6447888	184.856	from 34 m unmine
VG100	26	30	0.80	4	4.0	3.2	458649.7	6447865	192.009	mined
VG100	40	42	0.40	2	2.0	0.8	458649.7	6447865	179.009	unmined
VG101	32	42	0.50	10	10.0	5.0	458650.4	6447839	183.268	mined
VG102	26	38	1.16	12	12.0	13.9	458650.9	6447813	188.509	mined
VG103	28	50	0.34	22	22.0	7.5	458651.1	6447788	181.539	unmined
VGMET06	32	53	1.44	21	16.3	23.5	458655.4	6447834	187.0463	mined
WDRC259	20	32	1.98	12	12.0	23.8	458669	6447880	193.731	mined
WDRC260	30	42	2.09	12	12.0	25.0	458671.4	6447833	184.325	mined
WDRC260	52	54	4.85	2	2.0	9.7	458671.4	6447833	167.325	unmined
VG059	6	28	0.62	22	22.0	13.6	458671.8	6447929	202.292	mined
VG060	24	28	0.21	4	4.0	0.8	458671.9	6447904	193.54	unmined
WDRC261	12	18	1.08	6	6.0	6.5	458672.1	6447781	205.474	unmined
WDRC261	28	30	0.96	2	2.0	1.9	458672.1	6447781	191.474	unmined
WDRC261	42	62	0.29	20	20.0	5.9	458672.1	6447781	168.474	unmined
WDRC261	72	74	2.62	2	2.0	5.2	458672.1	6447781	147.474	unmined
VGMET05	16	28	1.40	12	9.3	13.1	458672.2	6447777	203.3028	unmined
WDRC262	28	34	0.40	6	6.0	2.4	458673	6447731	190.091	unmined
WDRC262	58	62	0.38	4	4.0	1.5	458673	6447731	161.091	unmined
WDRC262	68	72	2.73	4	4.0	10.9	458673	6447731	151.091	unmined

WDRC262	80	88	0.40	8	8.0	3.2	458673	6447731	137.091	unmined
VG129	20	42	0.81	22	22.0	17.8	458674.2	6447855	188.887	mined
VG130	20	32	0.20	12	12.0	2.4	458674.9	6447810	194.247	mined
VG130	46	54	0.81	8	8.0	6.5	458674.9	6447810	170.247	unmined
VG069	16	26	0.24	10	10.0	2.4	458677.4	6447904	198.486	mined
VG069	34	36	0.56	2	2.0	1.1	458677.4	6447904	184.486	mined
VGMET09	31	45	0.85	14	10.9	9.2	458678.7	6447866	190.1685	mined
VGD004	74	77	1.07	3	2.7	2.9	458688.8	6447767	151.4231	mined
VGD004	58	65	0.35	7	6.4	2.2	458693.4	6447764	164.1886	mined
VG127	52	62	2.04	10	10.0	20.4	458694.7	6447812	163.012	unmined
VG096	0	6	0.57	6	6.0	3.4	458699.2	6447963	215.588	mined
VG095	22	28	0.98	6	6.0	5.9	458699.6	6447936	193.853	mined
VG094	18	28	0.99	10	10.0	9.9	458700	6447914	196.026	mined
VG093	26	32	0.64	6	6.0	3.8	458700.2	6447889	190.214	mined
VG091	10	12	0.52	2	2.0	1.0	458700.9	6447839	208.67	mined
VG091	24	26	0.51	2	2.0	1.0	458700.9	6447839	194.67	mined
VG091	32	52	2.29	20	20.0	45.7	458700.9	6447839	177.67	from 40 m unmine
VG011	38	42	0.89	4	3.8	3.3	458711.8	6447915	180.9456	unmined
VG011	24	30	0.74	6	5.7	4.2	458711.8	6447920	193.2286	unmined
VG011	2	6	0.24	4	3.8	0.9	458711.9	6447927	214.897	mined
VG010	38	48	0.56	10	9.4	5.3	458717.3	6447865	178.7632	mined
VGD003	67	74	0.21	7	6.6	1.4	458717.5	6447769	153.1945	unmined
VG008	123	125	0.67	2	1.9	1.3	458717.9	6447731	102.1131	unmined
VG008	73	101	0.59	28	26.7	15.8	458719.9	6447742	137.3944	unmined
VG010	14	16	0.44	2	1.9	0.8	458720.3	6447874	205.0746	unmined
VG008	42	58	0.43	16	15.2	6.6	458721.2	6447752	172.6988	mined
VG058	16	34	1.76	18	18.0	31.7	458721.7	6447949	193.496	from 22 m unmine
VG007	50	58	0.39	8	7.5	2.9	458721.9	6447710	169.5456	unmined
VG009	62	72	3.67	10	9.4	34.5	458721.9	6447806	156.5706	unmined
VG009	34	36	0.51	2	1.9	1.0	458721.9	6447817	186.6408	unmined
VG012	2	8	0.25	6	5.6	1.4	458721.9	6447977	213.4855	mined
VG022	174.8	175.65	1.46	0.85	0.8	1.2	458722.2	6447781	54.21137	unmined
VG022	61	78	0.95	17	16.0	15.3	458722.9	6447815	154.1234	unmined
VGD003	45	53	0.34	8	7.5	2.6	458723.3	6447765	173.471	unmined
VG128	8	12	0.29	4	4.0	1.1	458723.9	6447926	208.434	mined
VG128	24	32	0.40	8	8.0	3.2	458723.9	6447926	190.434	unmined
VG128	38	42	1.13	4	4.0	4.5	458723.9	6447926	178.434	unmined
VGMET02	30	48	0.32	18	15.7	5.1	458727.3	6447939	184.2668	unmined
VGD001	70	78	0.42	8	7.3	3.1	458733.5	6447836	151.887	unmined
VGD002	85	96	1.71	11	10.0	17.2	458746.4	6447798	136.4823	unmined
VG131	14	34	0.40	20	20.0	8.0	458748.3	6447936	194.165	unmined
VG131	40	52	0.78	12	12.0	9.3	458748.3	6447936	172.165	unmined
VG132	8	28	0.41	20	20.0	8.2	458749.2	6447962	199.995	unmined
VGD002	68	71	0.63	3	2.7	1.7	458753.1	6447792	155.6444	unmined
VG076	48	50	1.11	2	2.0	2.2	458771.9	6447830	169.906	unmined
VG076	72	75	1.08	3	3.0	3.2	458771.9	6447830	145.406	unmined
VG057	12	32	0.19	20	20.0	3.7	458771.9	6447979	195.735	unmined
VG073	54	60	0.29	6	6.0	1.8	458772	6447904	161.32	unmined
VG072	18	22	0.50	4	4.0	2.0	458772	6447929	198.182	unmined
VG072	44	50	0.31	6	6.0	1.9	458772	6447929	171.182	unmined
VG074	62	65	2.37	3	3.0	7.1	458772.1	6447879	154.988	unmined
VG071	32	52	0.40	20	20.0	7.9	458772.2	6447955	175.946	unmined
VG070	6	22	0.59	16	16.0	9.4	458772.2	6448005	203.421	unmined
VG133	14	28	0.23	14	14.0	3.3	458773.6	6448029	196.137	unmined

VG078	22	45	0.20	23	23.0	4.6	458822	6448004	183.864	unmined
VG077	22	40	0.43	18	18.0	7.8	458822.3	6448031	186.029	unmined
VG134	4	10	0.22	6	6.0	1.3	458824.5	6448060	209.534	unmined
VG134	28	34	0.26	6	6.0	1.6	458824.5	6448060	185.534	unmined
VG083	12	24	0.25	12	12.0	3.0	458871.8	6448004	198.936	unmined
VG083	38	40	0.52	2	2.0	1.0	458871.8	6448004	177.936	unmined
VG082	22	26	0.18	4	4.0	0.7	458872	6448029	192.8	unmined
VG053	25	29	0.23	4	3.8	0.9	458916.9	6448160	190.0683	unmined
VG089	18	22	0.34	4	4.0	1.4	458921.7	6448079	196.037	unmined
VG052	32	37	0.54	5	4.7	2.5	458921.9	6448041	183.9216	unmined
VG018	24	40	0.71	16	15.0	10.7	458921.9	6448048	186.1058	unmined
VG052	77	88	0.69	11	10.3	7.1	458921.9	6448057	138.8164	unmined
VG019	16	32	0.17	16	15.0	2.5	458921.9	6448121	193.1414	unmined
VG170	4	18	0.38	14	14.0	5.3	458949.5	6448100	204.733	unmined
VG168	24	26	0.58	2	2.0	1.2	458949.9	6448051	190.845	unmined
VG167	12	18	0.25	6	6.0	1.5	458950	6448026	201.015	unmined
VG167	38	42	0.25	4	4.0	1.0	458950	6448026	176.015	unmined
VG169	10	28	0.48	18	18.0	8.6	458950.1	6448075	196.874	unmined
VG205	16	20	0.31	4	3.3	1.0	458970.6	6448088	200.0653	unmined
VG135	18	22	0.74	4	4.0	2.9	458972.5	6448099	195.365	unmined
VG164	36	40	0.49	4	4.0	2.0	458973	6448026	177.69	unmined
VG206	2	8	0.87	6	4.9	4.3	458973.6	6448103	209.6542	unmined
VG136	22	26	0.34	4	4.0	1.3	458974	6448049	191.399	unmined
VG160	2	8	0.24	6	6.0	1.4	458999.2	6448101	210.075	unmined
VG162	20	30	1.06	10	10.0	10.6	459000.5	6448050	190.195	unmined
VG155	24	32	0.19	8	8.0	1.5	459023.4	6448000	187.605	unmined
VG156	8	20	0.23	12	12.0	2.7	459023.6	6448050	201.286	unmined
VG157	0	16	0.44	16	16.0	7.0	459023.8	6448100	206.947	unmined
VG158	0	22	0.22	22	22.0	4.9	459024.3	6448148	203.553	unmined
VG193	18	26	0.17	8	8.0	1.3	459025	6448175	189.71	unmined
VG142	14	18	0.20	4	4.0	0.8	459025.2	6448125	198.469	unmined
VG144	6	14	0.39	8	8.0	3.1	459025.2	6448025	205.228	unmined
VG143	2	8	0.43	6	6.0	2.6	459025.4	6448075	209.816	unmined
VG199	4	18	0.28	14	14.0	4.0	459045	6448050	205.43	unmined
VG199	24	28	0.16	4	4.0	0.6	459045	6448050	190.43	unmined
VG196	4	28	0.41	24	24.0	9.9	459050	6448126	196.62	unmined
VG197	32	36	0.24	4	4.0	1.0	459051	6448100	179.79	unmined
VG148	6	12	0.22	6	6.0	1.3	459073.7	6448077	205.635	unmined

White Dam North Deposit

holeid	from	to	Au_ppm	downhole width	estimated true width	grade * width	mid_x	mid_y	mid_z	mined / unmined
WDN250	16	20	0.29	4	4.0	1.1	459582	6450260	189.73	unmined
WDN247	4	20	0.38	16	16.0	6.0	459588	6450274	196.52	unmined
WDN257	20	38	0.47	18	18.0	8.5	459597	6450263	179.48	unmined
WDN011	42	48	0.29	6	6.0	1.7	459600.1	6450699	166.928	unmined
WDN167	18	30	1.16	12	12.0	13.9	459604.7	6450674	187.781	unmined
WDN240	8	34	0.37	26	26.0	9.5	459614.2	6450238	186.432	unmined
WDN228	22	26	0.27	4	4.0	1.1	459624.8	6450302	183.9	unmined
WDN160	8	36	0.22	28	28.0	6.3	459628.6	6450624	189.73	unmined
WDN161	20	28	0.42	8	8.0	3.4	459628.7	6450649	188.031	unmined

WDN161	36	42	0.46	6	6.0	2.8	459628.7	6450649	173.031	unmined
WDN162	14	24	0.55	10	10.0	5.5	459629	6450674	193.277	unmined
WDN163	18	38	0.59	20	20.0	11.7	459629	6450700	184.51	unmined
WDN164	40	42	0.63	2	2.0	1.3	459629.1	6450723	171.746	unmined
WDN135	18	24	0.43	6	6.0	2.6	459629.3	6450601	190.472	unmined
WDN134	38	42	0.32	4	4.0	1.3	459630.2	6450551	170.678	unmined
WDN229	22	30	0.45	8	8.0	3.6	459646.9	6450326	182.259	unmined
WDN159	26	42	1.60	16	16.0	25.6	459648.2	6450719	179.121	unmined
WDN157	14	36	0.51	22	22.0	11.1	459648.2	6450668	187.641	unmined
WDN158	16	20	0.21	4	4.0	0.8	459648.5	6450693	194.897	unmined
WDN158	24	30	0.18	6	6.0	1.1	459648.5	6450693	185.897	unmined
WDN156	12	42	0.21	30	30.0	6.4	459648.5	6450643	185.283	unmined
WDN192	22	38	0.25	16	16.0	4.0	459649.4	6450271	177.707	unmined
WDN098	24	26	0.56	2	2.0	1.1	459649.9	6450596	186.71	unmined
WDN099	8	36	0.62	28	28.0	17.4	459650.7	6450622	190.053	unmined
WDN193	24	36	0.44	12	12.0	5.3	459651.7	6450299	177.984	unmined
WDN227	14	32	0.33	18	18.0	6.0	459652.8	6450250	184.688	unmined
WDN233	26	32	0.23	6	6.0	1.4	459667.8	6450699	184.455	unmined
WDN232	20	24	0.19	4	4.0	0.8	459668.1	6450675	191.202	unmined
WDN154	24	34	0.32	10	10.0	3.2	459668.5	6450625	183.462	unmined
WDN155	12	22	0.27	10	10.0	2.7	459668.5	6450649	195.887	unmined
WDN106	16	20	0.89	4	4.0	3.6	459670.6	6450600	194.092	unmined
WDRC255	26	44	1.45	18	18.0	26.1	459672.6	6450577	176.738	unmined
WDN194	16	20	0.18	4	4.0	0.7	459676.1	6450199	189.459	unmined
WDN153	4	6	6.63	2	2.0	13.3	459688.1	6450604	207.391	unmined
WDN103	52	55	0.30	3	3.0	0.9	459693.7	6450700	160.791	unmined
WD162	14	20	0.61	6	5.2	3.2	459694	6450568	197.3866	unmined
WD162	32	34	1.48	2	1.7	2.6	459694.2	6450560	183.5302	unmined
WDRC256	26	32	0.43	6	6.0	2.6	459695.4	6450725	185.547	unmined
WDN101	62	65	0.43	3	3.0	1.3	459695.6	6450655	149.994	unmined
WD161	8	29	1.19	21	18.2	21.6	459695.6	6450532	195.7565	unmined
WDN100	22	32	0.75	10	10.0	7.5	459696.2	6450630	186.088	unmined
WDN090	12	28	1.08	16	16.0	17.3	459699.1	6450544	191.91	unmined
WD164	32	38	0.16	6	5.2	0.8	459700.9	6450223	177.3691	unmined
WD164	13	19	0.28	6	5.2	1.5	459700.9	6450233	193.8236	unmined
WDRC258	16	22	0.24	6	6.0	1.5	459722	6450528	193.152	unmined
WDN231	26	34	0.27	8	8.0	2.1	459722.8	6450650	184.33	unmined
WDN107	20	22	0.53	2	2.0	1.1	459724.2	6450548	191.538	unmined
WDRC257	28	38	0.64	10	10.0	6.4	459724.3	6450575	179.901	unmined
WDN188	28	36	0.20	8	8.0	1.6	459724.8	6450224	175.515	unmined
WDN056	4	20	0.41	16	16.0	6.5	459749	6450275	196.556	unmined
WDN055	4	14	0.16	10	10.0	1.6	459749.2	6450250	199.051	unmined
WDN151	2	4	2.05	2	2.0	4.1	459772.8	6450450	209.319	unmined
WDN151	12	24	0.28	12	12.0	3.4	459772.8	6450450	194.319	unmined
WDN142	10	14	0.24	4	4.0	0.9	459772.9	6450298	197.544	unmined
WDN152	6	10	1.94	4	4.0	7.7	459772.9	6450474	204.388	unmined
WDN152	26	28	0.89	2	2.0	1.8	459772.9	6450474	185.388	unmined
WDN141	4	30	0.72	26	26.0	18.6	459773.3	6450273	191.972	unmined
WDN109	16	32	0.35	16	16.0	5.6	459773.7	6450501	188.762	unmined
WDN140	8	12	0.19	4	4.0	0.7	459773.8	6450249	198.391	unmined
WDN130	20	24	0.20	4	4.0	0.8	459798	6450350	189.111	unmined
WDN224	0	10	0.37	10	10.0	3.7	459799	6450450	207.986	unmined
WDN059	24	38	0.34	14	14.0	4.8	459799.6	6450251	177.605	unmined
WD175	70	80	0.40	10	8.7	3.5	459799.9	6450260	144.9841	unmined

WDN086	10	14	0.26	4	4.0	1.0	459800.1	6450473	201.051	unmined
WDN132	18	26	1.01	8	8.0	8.1	459800.2	6450277	187.28	unmined
WDN006	24	38	0.33	14	14.0	4.7	459800.3	6450500	182.533	unmined
WDN114	12	16	0.25	4	4.0	1.0	459823.1	6450476	199.882	unmined
WDN114	28	32	0.22	4	4.0	0.9	459823.1	6450476	183.882	unmined
WDN115	36	45	0.45	9	9.0	4.1	459823.4	6450500	173.766	unmined
WDN116	42	44	0.49	2	2.0	1.0	459824.8	6450525	171.946	unmined
WDN145	8	36	0.49	28	28.0	13.6	459825.3	6450274	187.615	unmined
WDN144	20	28	0.20	8	8.0	1.6	459826	6450249	184.978	unmined
WDN061	12	26	0.84	14	14.0	11.8	459848.6	6450274	190.954	unmined
WDN061	32	34	1.14	2	2.0	2.3	459848.6	6450274	176.954	unmined
WDN083	22	32	1.07	10	10.0	10.7	459849	6450471	187.578	unmined
WDN005	20	34	0.47	14	14.0	6.5	459849.3	6450250	182.432	unmined
WDN084	26	36	0.80	10	10.0	8.0	459849.4	6450499	184.185	unmined
WDN150	2	8	0.46	6	6.0	2.8	459874.3	6450322	207.134	unmined
WDN150	22	24	1.08	2	2.0	2.2	459874.3	6450322	189.134	unmined
WDN149	14	24	0.57	10	10.0	5.7	459874.8	6450298	192.358	unmined
WDN149	32	38	0.56	6	6.0	3.4	459874.8	6450298	176.358	unmined
WDN148	34	38	0.54	4	4.0	2.2	459875.5	6450275	174.699	unmined
WDN185	16	18	0.45	2	2.0	0.9	459875.7	6450449	197.979	unmined
WDN184	16	22	0.88	6	6.0	5.3	459875.8	6450478	196.396	unmined
WDN183	26	28	0.50	2	2.0	1.0	459876.2	6450500	188.968	unmined
WDN117	54	60	0.89	6	6.0	5.3	459900.6	6450499	159.652	unmined
WD155	14	19	0.37	5	4.3	1.6	459900.9	6450471	201.8496	unmined
WD152	24	45	0.39	21	18.2	7.1	459903.9	6450317	183.9251	unmined
WDN180	10	12	0.68	2	2.0	1.4	459923.7	6450500	206.408	unmined
WDN180	22	24	0.81	2	2.0	1.6	459923.7	6450500	194.408	unmined
WDN178	12	20	1.64	8	8.0	13.1	459923.7	6450450	200.699	unmined
WDN217	18	30	0.30	12	12.0	3.6	459949	6450500	194.126	unmined
WDN169	32	50	0.57	18	18.0	10.2	459973.8	6450299	174.281	unmined
WDN241	12	16	0.27	4	4.0	1.1	459974.8	6450499	204.879	unmined
WDN241	26	30	0.25	4	4.0	1.0	459974.8	6450499	190.879	unmined
WDN241	36	40	0.24	4	4.0	1.0	459974.8	6450499	180.879	unmined
WDN002	26	44	0.76	18	18.0	13.8	460000	6450301	181.275	unmined
WDN070	2	20	0.26	18	18.0	4.8	460000.9	6450322	206.406	unmined
WDN070	36	48	0.77	12	12.0	9.2	460000.9	6450322	175.406	unmined
WDN171	42	44	1.05	2	2.0	2.1	460024.7	6450288	173.395	unmined
WDN123	0	8	2.64	8	8.0	21.1	460026.1	6450313	213.315	unmined
WDN066	2	6	0.33	4	4.0	1.3	460050.5	6450373	214.241	unmined
WD168	0	8	0.16	8	6.9	1.1	460095.7	6450411	221.5839	unmined

Appendix D

Rehabilitation Progress Photographs

2024 Q1 Rehabilitation Progress Photos

Image 1: IMG_9265.JPG

Image 2: IMG_9266.JPG

Image 3: IMG_9267.JPG

Image 4: IMG_9268.JPG

Image 5: IMG_9269.JPG

Image 6: IMG_9270.JPG

Image 7: IMG_9271.JPG

Image 8: IMG_9272.JPG

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Image 11: IMG_9275.JPG

Image 12: IMG_9276.JPG

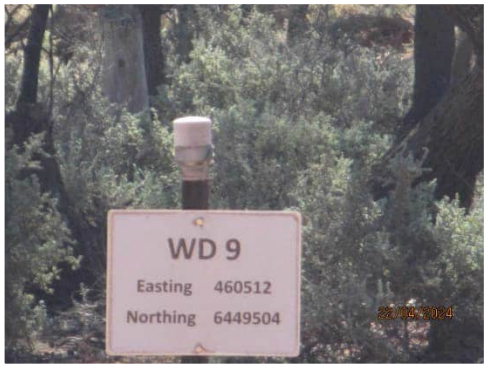

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Image 16: IMG_9280.JPG

Image 17: IMG_9281.JPG

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Image 30: IMG_9295.JPG

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Image 32: IMG_9297.JPG

Image 33: IMG_9298.JPG

Image 34: IMG_9299.JPG

Image 35: IMG_9300.JPG

Image 36: IMG_9301.JPG

Image 37: IMG_9302.JPG

Image 38: IMG_9303.JPG

Image 39: IMG_9304.JPG

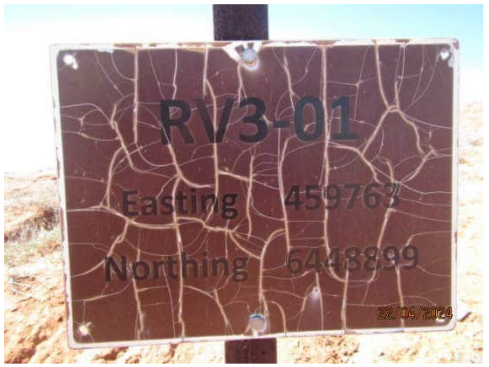

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Image 45: IMG_9310.JPG

Image 46: IMG_9311.JPG

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Image 73: IMG_9338.JPG

Image 74: IMG_9339.JPG

Image 75: IMG_9340.JPG

Image 76: IMG_9341.JPG

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Image 94: IMG_9359.JPG

Image 95: IMG_9360.JPG

Image 96: IMG_9361.JPG

Image 97: IMG_9362.JPG

Image 98: IMG_9363.JPG

Image 99: IMG_9364.JPG

Image 100: IMG_9365.JPG

Image 101: IMG_9366.JPG

Image 102: IMG_9367.JPG

Image 103: IMG_9368.JPG

Image 104: IMG_9369.JPG

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Image 111: IMG_9376.JPG

Image 112: IMG_9377.JPG

Image 113: IMG_9378.JPG

Image 114: IMG_9379.JPG

Image 115: IMG_9380.JPG

Image 116: IMG_9381.JPG

Image 117: IMG_9382.JPG

Image 118: IMG_9383.JPG

2024 Q2 Rehabilitation Progress Photos

Image 1: IMG_9407.JPG

Image 2: IMG_9408.JPG

Image 3: IMG_9409.JPG

Image 4: IMG_9410.JPG

Image 5: IMG_9411.JPG

Image 6: IMG_9412.JPG

Image 7: IMG_9413.JPG

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Image 9: IMG_9415.JPG

Image 10: IMG_9416.JPG

Image 11: IMG_9417.JPG

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Image 13: IMG_9419.JPG

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Image 44: IMG_9450.JPG

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Image 61: IMG_9467.JPG

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Image 63: IMG_9469.JPG

Image 64: IMG_9470.JPG

Image 65: IMG_9471.JPG

Image 66: IMG_9472.JPG

Image 67: IMG_9473.JPG

2024 Q3 Rehabilitation Progress Photos

Image 1: IMG_9474.JPG

Image 2: IMG_9475.JPG

Image 3: IMG_9476.JPG

Image 4: IMG_9477.JPG

Image 5: IMG_9478.JPG

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Image 13: IMG_9486.JPG

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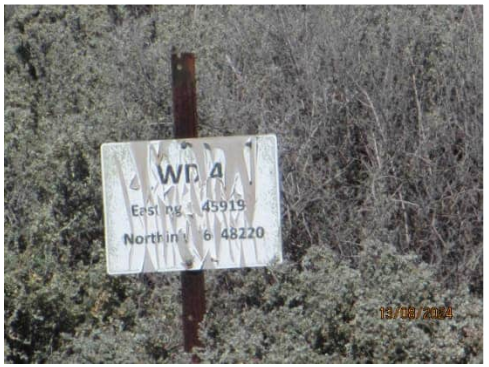

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Image 58: IMG_9532.JPG

2024 Q4 Rehabilitation Progress Photos

Image 1: IMG_9533.JPG

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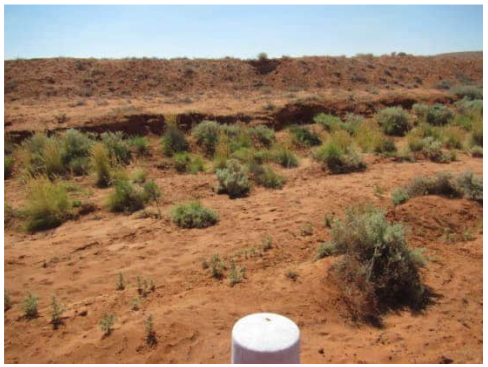

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Image 75: IMG_9607.JPG

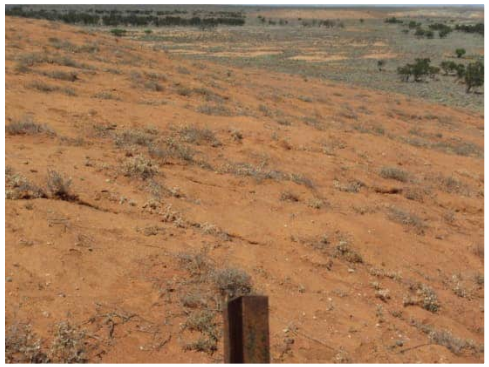

Image 76: IMG_9608.JPG

Image 77: IMG_9609.JPG

Image 78: IMG_9610.JPG

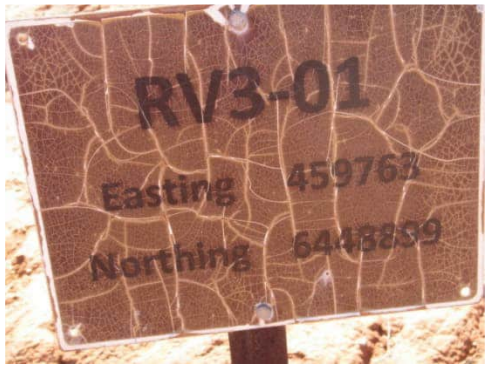

Image 79: IMG_9611.JPG

Image 80: IMG_9612.JPG

Image 81: IMG_9613.JPG

Image 82: IMG_9614.JPG

Image 83: IMG_9615.JPG

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Image 85: IMG_9617.JPG

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Image 91: IMG_9623.JPG

Image 92: IMG_9624.JPG

Image 93: IMG_9625.JPG

Image 94: IMG_9626.JPG

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Image 100: IMG_9632.JPG

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Image 107: IMG_9639.JPG

Image 108: IMG_9640.JPG

Image 109: IMG_9641.JPG

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Image 111: IMG_9643.JPG

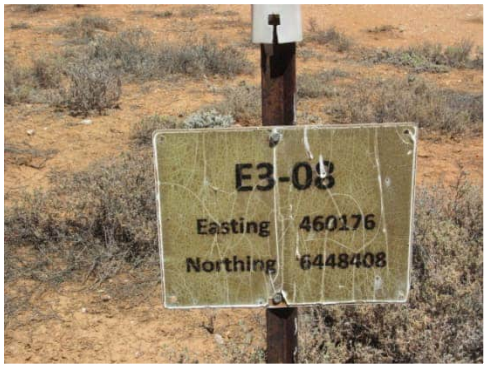

Image 112: IMG_9644.JPG

Image 113: IMG_9645.JPG

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Image 115: IMG_9647.JPG

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Image 117: IMG_9650.JPG

Image 118: IMG_9651.JPG

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Image 142: IMG_9675.JPG

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Image 165: IMG_9698.JPG

Image 166: IMG_9699.JPG

Image 167: IMG_9700.JPG

Image 168: IMG_9701.JPG

Image 169: IMG_9702.JPG

Image 170: IMG_9703.JPG

Image 171: IMG_9704.JPG

Image 172: IMG_9705.JPG

Image 173: IMG_9706.JPG

Image 174: IMG_9707.JPG

Image 175: IMG_9708.JPG

Image 176: IMG_9709.JPG

Image 177: IMG_9710.JPG

Image 178: IMG_9711.JPG

Image 179: IMG_9712.JPG

Image 180: IMG_9713.JPG

Image 181: IMG_9714.JPG

Image 182: IMG_9715.JPG

Image 183: IMG_9716.JPG

Image 184: IMG_9717.JPG

Image 185: IMG_9718.JPG

Image 186: IMG_9719.JPG

Image 187: IMG_9720.JPG

Image 188: IMG_9721.JPG

Appendix E

Groundwater Data

SAMPLE RECEIPT ADVICE

SE263029

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOL
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4772**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Tue 2/4/2024
Report Due	Tue 9/4/2024
SGS Reference	**SE263029**

SUBMISSION DETAILS

This is to confirm that 8 samples were received on Tuesday 2/4/2024. Results are expected to be ready by COB Tuesday 9/4/2024. Please quote SGS reference SE263029 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	8 Water	Type of documentation received	COC
Date documentation received	2/4/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	22.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

Gold will not be analysed.
Volatile results may be compromised for TPH(C6-C9) as samples were sampled in a plastic bag. Samples should be sampled in a glass container with zero headspace for Organic Analysis.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

SAMPLE RECEIPT ADVICE

SE263029

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Anions by Ion Chromatography in Water	Nitrite in Water	pH in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Phosphorus by Kjeldahl Digestion DA in	TRH (Total Recoverable Hydrocarbons) in Water	Volatile Petroleum Hydrocarbons in Water
001	MB01	1	4	2	1	2	1	9	7
002	MB02	1	4	2	1	2	1	9	7
003	MB03	1	4	2	1	2	1	9	7
004	MB06	1	4	2	1	2	1	9	7
005	MB07	1	4	2	1	2	1	9	7
006	RB04 (RB04 Larry Mac)	1	4	2	1	2	1	9	7
007	HF PIT	1	4	2	1	2	1	9	7
008	RB08 Bulloo	1	4	2	1	2	1	9	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE263029

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity	Conductivity and TDS by Calculation - Water	Free Cyanide in water	Metals in Water (Total) by ICPOES	Sulfide by Titration in Water	Total Cyanide in water by Discrete Analyser	Total Dissolved Solids (TDS) in water	Trace Metals (Total) in Water by ICPMS	Weak Acid Dissociable Cyanide in Water by
001	MB01	1	1	1	4	1	1	1	17	1
002	MB02	1	1	1	4	1	1	1	17	1
003	MB03	1	1	1	4	1	1	1	17	1
004	MB06	1	1	1	4	1	1	1	17	1
005	MB07	1	1	1	4	1	1	1	17	1
006	RB04 (RB04 Larry Mac)	1	1	1	4	1	1	1	17	1
007	HF PIT	1	1	1	4	1	1	1	17	1
008	RB08 Bulloo	1	1	1	4	1	1	1	17	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE263029

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (total) in Water
001	MB01	1
002	MB02	1
003	MB03	1
004	MB06	1
005	MB07	1
006	RB04 (RB04 Larry Mac)	1
007	HF PIT	1
008	RB08 Bulloo	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	GBM/ POLYMETALS OPERATIONS Pty Ltd	Project Name/No:	White Dam Gold Mine
Address:	PMB 23 via Cockburn Via Boolcoomata Rd, Near Mingary SA 5440	Purchase Order No:	WD4772
		Results Required By:	
		Telephone:	08 8919 4455 m: 0402598666
Contact Name:	Jo Foster	Facsimile:	
		Email Results:	Jo.Foster@gbmex.com.au / willem.stoltz@gbmex.com.au wdadmin@gbmex.com.au

SGS EHS Sydney COC
SE263029

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Physical Properties (pH, TDS, Calcium, Bicarbonate, EC.)	Contaminants: Total Cyanide, WAD Cyanide, Free Cyanide, Total Petroleum Hydrocarbons.	Sulfide and sulphates	Calcium, Magnesium, Sodium	Total Heavy Metals & Metalloids: Al, As, Au, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, U, V, Li, Zn-(Lowest LOR)	Fluoride, Selenium, Chloride, Nitrate, Nitrite	Total Nitrogen, Total Phosphorus	Ammonia, NOx					
MB01	26/03/2024	1	x			7	x	x	x	x	x	x	x	x					
MB02	25/03/2024	2	x			7	x	x	x	x	x	x	x	x					
MB03	25/03/2024	3	x			7	x	x	x	x	x	x	x	x					
MB04																			NO SAMPLE/DRY
MB06	25/03/2024	4	x			7	x	x	x	x	x	x	x	x					
MB07	26/03/2024	5	x			7	x	x	x	x	x	x	x	x					
RB04 (RB04 Larry Mac)	25/03/2024	6	x			7	x	x	x	x	x	x	x	x					
GUM BORE																			IN USE PUMP
GUM BORE QC																			IN USE PUMP
HF PIT	26/03/2024	7	x			7	x	x	x	x	x	x	x	x					
RB08 Bulloo	25/03/2024	8	x			7	x	x	x	x	x	x	x	x					
RB12 Cutana																			NO SAMPLE/TEARS BAGS

Relinquished By: Jo Foster	Date/Time 27/03/2024	Received By:	Date/Time 2.4.24 10:40
Relinquished By:	Date/Time://	Received By:	Date/Time
Samples Intact: Yes/ No yes	Temperature: Ambient / Chilled 22.4 Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments		

source:SE_Autoscan_20240402125845O3.pdf page: 2 SGS Ref: SE263029_COC

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GC
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4772**
Samples	8

LABORATORY DETAILS

Manager	Huong Crawford
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE263029 R0**
Date Received	2/4/2024
Date Reported	9/4/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

Ammonia Nitrogen - The Limit of Reporting (LOR) has been raised due to matrix interference.
TP - The Limit of Reporting (LOR) has been raised due to matrix interference.
Ion Chromatography - The Limit of Reporting (LOR) has been raised due to high conductivity of the sample requiring dilution.

SIGNATORIES

Dong LIANG
Metals/Inorganics Team Leader

Huong CRAWFORD
Production Manager

Ly Kim HA
Organic Section Head

Ying Ying ZHANG
Laboratory Technician

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 5/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 5/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320	<320	<320

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
TRH C10-C14	µg/L	50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320

Anions by Ion Chromatography in Water [AN245] Tested: 8/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Chloride	mg/L	1	**21000**	**9100**	**6400**	**12000**	**11000**
Sulfate, SO4	mg/L	1	**2800**	**2700**	**2100**	**2500**	**2400**
Fluoride	mg/L	0.1	**1.5**	**2.8**	**2.3**	**2.5**	**2.1**
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.50↑	**0.26**	**0.82**	**0.38**	**0.45**

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Chloride	mg/L	1	**7400**	**3200**	**4200**
Sulfate, SO4	mg/L	1	**3000**	**1200**	**2000**
Fluoride	mg/L	0.1	**5.9**	**1.3**	**6.6**
Nitrate Nitrogen, NO3-N	mg/L	0.005	**3.7**	**0.48**	**1.3**

Nitrite in Water [AN277] Tested: 2/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Nitrite Nitrogen, NO2 as N	mg/L	0.005	**0.010**	**0.26**	<0.005	<0.005	<0.005
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	**0.37**	**0.52**	**0.83**	**0.38**	**0.45**

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Nitrite Nitrogen, NO2 as N	mg/L	0.005	**0.006**	**0.011**	<0.005
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	**3.7**	**0.49**	**1.4**

TKN Kjeldahl Digestion by Discrete Analyser [AN292] Tested: 4/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Kjeldahl Nitrogen	mg/L	0.05	140	0.74	0.56	0.05	0.17
Total Nitrogen (calc)	mg/L	0.05	140	1.3	1.4	0.43	0.62

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Kjeldahl Nitrogen	mg/L	0.05	0.70	0.89	0.16
Total Nitrogen (calc)	mg/L	0.05	4.4	1.4	1.5

Ammonia Nitrogen by Discrete Analyser [AN291] Tested: 2/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	**130**	**0.61**	<0.05↑	<0.05↑	<0.05↑

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.05↑	**0.11**	**0.02**

Total Phosphorus by Kjeldahl Digestion DA in Water [AN279/AN293(Sydney only)] Tested: 4/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.10↑	**0.06**	<0.02	<0.02	<0.02

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	**0.03**	<0.02	**0.06**

pH in water [AN101] Tested: 2/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
pH**	No unit	-	**6.8**	**7.0**	**7.1**	**6.8**	**7.2**

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
pH**	No unit	-	**7.3**	**7.1**	**7.4**

Conductivity and TDS by Calculation - Water [AN106] Tested: 2/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Conductivity @ 25 C	µS/cm	2	53000	28000	18000	33000	31000

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Conductivity @ 25 C	µS/cm	2	24000	11000	14000

Total Dissolved Solids (TDS) in water [AN113] Tested: 2/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Dissolved Solids Dried at 175-185°C	mg/L	10	44000	19000	12000	25000	23000

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Dissolved Solids Dried at 175-185°C	mg/L	10	16000	7700	8800

Alkalinity [AN135] Tested: 2/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Alkalinity as CaCO3	mg/L	5	180	170	210	110	130

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Alkalinity as CaCO3	mg/L	5	470	73	430

Total Cyanide in water by Discrete Analyser [AN077/AN287] Tested: 3/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Cyanide	mg/L	0.004	**0.38**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Cyanide	mg/L	0.004	<0.004	<0.004	<0.004

Free Cyanide in water [AN076/AN287] Tested: 8/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Free Cyanide	mg/L	0.004	**0.012**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Free Cyanide	mg/L	0.004	<0.004	<0.004	<0.004

Weak Acid Dissociable Cyanide in Water by Discrete Analyser) [AN078/AN287] Tested: 5/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Weak Acid Dissociable Cyanide	mg/L	0.004	**0.19**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Weak Acid Dissociable Cyanide	mg/L	0.004	<0.004	<0.004	<0.004

Sulfide by Titration in Water [AN149] Tested: 9/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Sulfide	mg/L	0.5	**1.3**	<0.5	<0.5	**0.8**	**3.5**

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Sulfide	mg/L	0.5	<0.5	<0.5	<0.5

Metals in Water (Total) by ICPOES [AN022/AN320] Tested: 8/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Calcium	mg/L	0.1	2300	1100	620	1500	1300
Total Magnesium	mg/L	0.1	1200	520	460	740	580
Total Sodium	mg/L	0.1	11000	4800	3500	6200	6000
Total Lithium, Li	mg/L	0.005	0.039	0.057	0.037	0.039	0.033

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Calcium	mg/L	0.1	320	420	250
Total Magnesium	mg/L	0.1	410	210	270
Total Sodium	mg/L	0.1	4700	1800	2900
Total Lithium, Li	mg/L	0.005	0.022	0.055	0.018

Trace Metals (Total) in Water by ICPMS [AN022/AN318] Tested: 8/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Aluminium	µg/L	5	1900	1600	1100	1200	240
Total Arsenic	µg/L	1	2	1	1	<1	<1
Total Beryllium	µg/L	1	<1	<1	<1	<1	<1
Total Boron	µg/L	5	4800	4200	3600	4200	4300
Total Cadmium	µg/L	0.1	<0.1	1.6	<0.1	0.1	0.3
Total Chromium	µg/L	1	3	5	3	2	<1
Total Cobalt	µg/L	1	1500	160	<1	<1	<1
Total Copper	µg/L	1	9	230	<1	<1	<1
Total Iron	µg/L	5	2300	3000	3100	1600	380
Total Lead	µg/L	1	3	5	1	2	2
Total Manganese	µg/L	1	10000	1600	550	48	12
Total Molybdenum	µg/L	1	170	34	15	42	12
Total Nickel	µg/L	1	9	120	9	2	2
Total Uranium	µg/L	1	180	120	9	27	79
Total Vanadium	µg/L	1	4	4	4	3	1
Total Zinc	µg/L	5	100	280	41	29	84
Total Selenium	µg/L	1	270	7	<1	3	3

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Aluminium	µg/L	5	510	120	790
Total Arsenic	µg/L	1	4	<1	1
Total Beryllium	µg/L	1	<1	<1	<1
Total Boron	µg/L	5	8700	1600	3900
Total Cadmium	µg/L	0.1	<0.1	89	<0.1
Total Chromium	µg/L	1	2	<1	1
Total Cobalt	µg/L	1	1	1200	<1
Total Copper	µg/L	1	<1	1400	<1
Total Iron	µg/L	5	500	4100	790
Total Lead	µg/L	1	2	1	1
Total Manganese	µg/L	1	10	4100	31
Total Molybdenum	µg/L	1	180	13	77
Total Nickel	µg/L	1	3	1500	2
Total Uranium	µg/L	1	330	210	160
Total Vanadium	µg/L	1	70	3	37
Total Zinc	µg/L	5	68	12000	17
Total Selenium	µg/L	1	9	320	6

Mercury (total) in Water [AN311(Perth) /AN312] Tested: 3/4/2024

PARAMETER	UOM	LOR	MB01 WATER - 26/3/2024 SE263029.001	MB02 WATER - 25/3/2024 SE263029.002	MB03 WATER - 25/3/2024 SE263029.003	MB06 WATER - 25/3/2024 SE263029.004	MB07 WATER - 26/3/2024 SE263029.005
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 25/3/2024 SE263029.006	HF PIT WATER - 26/3/2024 SE263029.007	RB08 Bulloo WATER - 25/3/2024 SE263029.008
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN022/AN318	Following acid digestion of un filtered sample, determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN022/AN320	Total (acid soluble) Metals by ICP-OES: Samples are digested in nitric or nitric and hydrochloric acids prior to analysis for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN022	The water sample is digested with Nitric Acid and made up to the original volume similar to APHA3030E.
AN076/AN287	Discrete Analyser. A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration.
AN077	Hydrogen cyanide is liberated from an acidified sample by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution. The scrubbing solution will then be analysed for cyanide by the appropriate method.
AN078	Hydrogen cyanide is liberated from a slightly acidified sample (pH 4.5-6.0) by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN149	sulfide by Iodometric Titration: sulfide is precipitated as zinc sulfide to overcome interferences with sulphite and thiosulfate. After filtration, sulfide is determined titrimetrically. Reference APHA 4500-S2-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN277	Nitrite ions, when reacted with a reagent containing sulphanilamide and N-(1-naphthyl)-ethylenediamine dihydrochloride produce a highly coloured azo dye that is measured photometrically at 540nm.
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digestor with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.

AN287	A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration by DA.
AN291	Ammonia in solution reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 660 nm by Discrete Analyser.
AN311(Perth) /AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions taken from unfiltered sample are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoveerable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		
***	Indicates that both * and ** apply.				

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-qb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE263029 R0

CLIENT DETAILS

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Project	**White Dam Gold Mine**
Order Number	**WD4772**
Samples	8

LABORATORY DETAILS

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SGS Reference	**SE263029 R0**
Date Received	02 Apr 2024
Date Reported	09 Apr 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Nitrite in Water	8 items
	pH in water	8 items
	Sulfide by Titration in Water	8 items
	Total Dissolved Solids (TDS) in water	5 items
	TRH (Total Recoverable Hydrocarbons) in Water	8 items
Analysis Date	Free Cyanide in water	5 items
	Nitrite in Water	16 items
	pH in water	8 items
	Sulfide by Titration in Water	8 items
	Total Dissolved Solids (TDS) in water	8 items
Surrogate	Volatile Petroleum Hydrocarbons in Water	5 items
Duplicate	Volatile Petroleum Hydrocarbons in Water	3 items

SAMPLE SUMMARY

Sample counts by matrix	8 Water	Type of documentation received	COC
Date documentation received	2/4/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	22.8°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

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SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308468	26 Mar 2024	02 Apr 2024	09 Apr 2024	02 Apr 2024	09 Apr 2024	03 Apr 2024
MB02	SE263029.002	LB308468	25 Mar 2024	02 Apr 2024	08 Apr 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024
MB03	SE263029.003	LB308468	25 Mar 2024	02 Apr 2024	08 Apr 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024
MB06	SE263029.004	LB308468	25 Mar 2024	02 Apr 2024	08 Apr 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024
MB07	SE263029.005	LB308468	26 Mar 2024	02 Apr 2024	09 Apr 2024	02 Apr 2024	09 Apr 2024	03 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308468	25 Mar 2024	02 Apr 2024	08 Apr 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024
HF PIT	SE263029.007	LB308468	26 Mar 2024	02 Apr 2024	09 Apr 2024	02 Apr 2024	09 Apr 2024	03 Apr 2024
RB08 Bulloo	SE263029.008	LB308468	25 Mar 2024	02 Apr 2024	08 Apr 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308375	26 Mar 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024
MB02	SE263029.002	LB308375	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
MB03	SE263029.003	LB308375	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
MB06	SE263029.004	LB308375	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
MB07	SE263029.005	LB308375	26 Mar 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308375	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
HF PIT	SE263029.007	LB308375	26 Mar 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024
RB08 Bulloo	SE263029.008	LB308375	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308881	26 Mar 2024	02 Apr 2024	23 Apr 2024	08 Apr 2024	23 Apr 2024	09 Apr 2024
MB02	SE263029.002	LB308881	25 Mar 2024	02 Apr 2024	22 Apr 2024	08 Apr 2024	22 Apr 2024	09 Apr 2024
MB03	SE263029.003	LB308881	25 Mar 2024	02 Apr 2024	22 Apr 2024	08 Apr 2024	22 Apr 2024	09 Apr 2024
MB06	SE263029.004	LB308881	25 Mar 2024	02 Apr 2024	22 Apr 2024	08 Apr 2024	22 Apr 2024	09 Apr 2024
MB07	SE263029.005	LB308881	26 Mar 2024	02 Apr 2024	23 Apr 2024	08 Apr 2024	23 Apr 2024	09 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308881	25 Mar 2024	02 Apr 2024	22 Apr 2024	08 Apr 2024	22 Apr 2024	09 Apr 2024
HF PIT	SE263029.007	LB308881	26 Mar 2024	02 Apr 2024	23 Apr 2024	08 Apr 2024	23 Apr 2024	09 Apr 2024
RB08 Bulloo	SE263029.008	LB308881	25 Mar 2024	02 Apr 2024	22 Apr 2024	08 Apr 2024	22 Apr 2024	09 Apr 2024

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308461	26 Mar 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024
MB02	SE263029.002	LB308461	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
MB03	SE263029.003	LB308461	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
MB06	SE263029.004	LB308461	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
MB07	SE263029.005	LB308461	26 Mar 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308461	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024
HF PIT	SE263029.007	LB308461	26 Mar 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024	23 Apr 2024	02 Apr 2024
RB08 Bulloo	SE263029.008	LB308461	25 Mar 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024	22 Apr 2024	02 Apr 2024

Free Cyanide in water

Method: ME-(AU)-[ENV]AN076/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308875	26 Mar 2024	02 Apr 2024	09 Apr 2024	08 Apr 2024	09 Apr 2024	09 Apr 2024
MB02	SE263029.002	LB308875	25 Mar 2024	02 Apr 2024	08 Apr 2024	08 Apr 2024	08 Apr 2024	09 Apr 2024†
MB03	SE263029.003	LB308875	25 Mar 2024	02 Apr 2024	08 Apr 2024	08 Apr 2024	08 Apr 2024	09 Apr 2024†
MB06	SE263029.004	LB308875	25 Mar 2024	02 Apr 2024	08 Apr 2024	08 Apr 2024	08 Apr 2024	09 Apr 2024†
MB07	SE263029.005	LB308875	26 Mar 2024	02 Apr 2024	09 Apr 2024	08 Apr 2024	09 Apr 2024	09 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308875	25 Mar 2024	02 Apr 2024	08 Apr 2024	08 Apr 2024	08 Apr 2024	09 Apr 2024†
HF PIT	SE263029.007	LB308875	26 Mar 2024	02 Apr 2024	09 Apr 2024	08 Apr 2024	09 Apr 2024	09 Apr 2024
RB08 Bulloo	SE263029.008	LB308875	25 Mar 2024	02 Apr 2024	08 Apr 2024	08 Apr 2024	08 Apr 2024	09 Apr 2024†

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308481	26 Mar 2024	02 Apr 2024	23 Apr 2024	03 Apr 2024	23 Apr 2024	05 Apr 2024
MB02	SE263029.002	LB308481	25 Mar 2024	02 Apr 2024	22 Apr 2024	03 Apr 2024	22 Apr 2024	05 Apr 2024
MB03	SE263029.003	LB308481	25 Mar 2024	02 Apr 2024	22 Apr 2024	03 Apr 2024	22 Apr 2024	05 Apr 2024
MB06	SE263029.004	LB308481	25 Mar 2024	02 Apr 2024	22 Apr 2024	03 Apr 2024	22 Apr 2024	05 Apr 2024
MB07	SE263029.005	LB308481	26 Mar 2024	02 Apr 2024	23 Apr 2024	03 Apr 2024	23 Apr 2024	05 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308481	25 Mar 2024	02 Apr 2024	22 Apr 2024	03 Apr 2024	22 Apr 2024	05 Apr 2024
HF PIT	SE263029.007	LB308481	26 Mar 2024	02 Apr 2024	23 Apr 2024	03 Apr 2024	23 Apr 2024	05 Apr 2024

HOLDING TIME SUMMARY

SE263029 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Mercury (total) in Water (continued)

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
RB08 Bulloo	SE263029.008	LB308481	25 Mar 2024	02 Apr 2024	22 Apr 2024	03 Apr 2024	22 Apr 2024	05 Apr 2024

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308857	26 Mar 2024	02 Apr 2024	22 Sep 2024	08 Apr 2024	22 Sep 2024	09 Apr 2024
MB02	SE263029.002	LB308857	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
MB03	SE263029.003	LB308857	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
MB06	SE263029.004	LB308857	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
MB07	SE263029.005	LB308857	26 Mar 2024	02 Apr 2024	22 Sep 2024	08 Apr 2024	22 Sep 2024	09 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308857	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
HF PIT	SE263029.007	LB308857	26 Mar 2024	02 Apr 2024	22 Sep 2024	08 Apr 2024	22 Sep 2024	09 Apr 2024
RB08 Bulloo	SE263029.008	LB308857	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308375	26 Mar 2024	02 Apr 2024	30 Mar 2024	02 Apr 2024†	30 Mar 2024	09 Apr 2024†
MB02	SE263029.002	LB308375	25 Mar 2024	02 Apr 2024	29 Mar 2024	02 Apr 2024†	29 Mar 2024	09 Apr 2024†
MB03	SE263029.003	LB308375	25 Mar 2024	02 Apr 2024	29 Mar 2024	02 Apr 2024†	29 Mar 2024	09 Apr 2024†
MB06	SE263029.004	LB308375	25 Mar 2024	02 Apr 2024	29 Mar 2024	02 Apr 2024†	29 Mar 2024	09 Apr 2024†
MB07	SE263029.005	LB308375	26 Mar 2024	02 Apr 2024	30 Mar 2024	02 Apr 2024†	30 Mar 2024	09 Apr 2024†
RB04 (RB04 Larry Mac)	SE263029.006	LB308375	25 Mar 2024	02 Apr 2024	29 Mar 2024	02 Apr 2024†	29 Mar 2024	09 Apr 2024†
HF PIT	SE263029.007	LB308375	26 Mar 2024	02 Apr 2024	30 Mar 2024	02 Apr 2024†	30 Mar 2024	09 Apr 2024†
RB08 Bulloo	SE263029.008	LB308375	25 Mar 2024	02 Apr 2024	29 Mar 2024	02 Apr 2024†	29 Mar 2024	09 Apr 2024†

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308461	26 Mar 2024	02 Apr 2024	27 Mar 2024	02 Apr 2024†	27 Mar 2024	02 Apr 2024†
MB02	SE263029.002	LB308461	25 Mar 2024	02 Apr 2024	26 Mar 2024	02 Apr 2024†	26 Mar 2024	02 Apr 2024†
MB03	SE263029.003	LB308461	25 Mar 2024	02 Apr 2024	26 Mar 2024	02 Apr 2024†	26 Mar 2024	02 Apr 2024†
MB06	SE263029.004	LB308461	25 Mar 2024	02 Apr 2024	26 Mar 2024	02 Apr 2024†	26 Mar 2024	02 Apr 2024†
MB07	SE263029.005	LB308461	26 Mar 2024	02 Apr 2024	27 Mar 2024	02 Apr 2024†	27 Mar 2024	02 Apr 2024†
RB04 (RB04 Larry Mac)	SE263029.006	LB308461	25 Mar 2024	02 Apr 2024	26 Mar 2024	02 Apr 2024†	26 Mar 2024	02 Apr 2024†
HF PIT	SE263029.007	LB308461	26 Mar 2024	02 Apr 2024	27 Mar 2024	02 Apr 2024†	27 Mar 2024	02 Apr 2024†
RB08 Bulloo	SE263029.008	LB308461	25 Mar 2024	02 Apr 2024	26 Mar 2024	02 Apr 2024†	26 Mar 2024	02 Apr 2024†

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB309024	26 Mar 2024	02 Apr 2024	02 Apr 2024	09 Apr 2024†	02 Apr 2024	09 Apr 2024†
MB02	SE263029.002	LB309024	25 Mar 2024	02 Apr 2024	01 Apr 2024	09 Apr 2024†	01 Apr 2024	09 Apr 2024†
MB03	SE263029.003	LB309024	25 Mar 2024	02 Apr 2024	01 Apr 2024	09 Apr 2024†	01 Apr 2024	09 Apr 2024†
MB06	SE263029.004	LB309024	25 Mar 2024	02 Apr 2024	01 Apr 2024	09 Apr 2024†	01 Apr 2024	09 Apr 2024†
MB07	SE263029.005	LB309024	26 Mar 2024	02 Apr 2024	02 Apr 2024	09 Apr 2024†	02 Apr 2024	09 Apr 2024†
RB04 (RB04 Larry Mac)	SE263029.006	LB309024	25 Mar 2024	02 Apr 2024	01 Apr 2024	09 Apr 2024†	01 Apr 2024	09 Apr 2024†
HF PIT	SE263029.007	LB309024	26 Mar 2024	02 Apr 2024	02 Apr 2024	09 Apr 2024†	02 Apr 2024	09 Apr 2024†
RB08 Bulloo	SE263029.008	LB309024	25 Mar 2024	02 Apr 2024	01 Apr 2024	09 Apr 2024†	01 Apr 2024	09 Apr 2024†

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308654	26 Mar 2024	02 Apr 2024	23 Apr 2024	04 Apr 2024	23 Apr 2024	09 Apr 2024
MB02	SE263029.002	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	09 Apr 2024
MB03	SE263029.003	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	09 Apr 2024
MB06	SE263029.004	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	09 Apr 2024
MB07	SE263029.005	LB308654	26 Mar 2024	02 Apr 2024	23 Apr 2024	04 Apr 2024	23 Apr 2024	09 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	09 Apr 2024
HF PIT	SE263029.007	LB308654	26 Mar 2024	02 Apr 2024	23 Apr 2024	04 Apr 2024	23 Apr 2024	09 Apr 2024
RB08 Bulloo	SE263029.008	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	09 Apr 2024

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308475	26 Mar 2024	02 Apr 2024	09 Apr 2024	03 Apr 2024	09 Apr 2024	04 Apr 2024
MB02	SE263029.002	LB308475	25 Mar 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024	08 Apr 2024	04 Apr 2024
MB03	SE263029.003	LB308475	25 Mar 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024	08 Apr 2024	04 Apr 2024
MB06	SE263029.004	LB308475	25 Mar 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024	08 Apr 2024	04 Apr 2024

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Total Cyanide in water by Discrete Analyser (continued)

Method: ME-(AU)-[ENV]AN077/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB07	SE263029.005	LB308475	26 Mar 2024	02 Apr 2024	09 Apr 2024	03 Apr 2024	09 Apr 2024	04 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308475	25 Mar 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024	08 Apr 2024	04 Apr 2024
HF PIT	SE263029.007	LB308475	26 Mar 2024	02 Apr 2024	09 Apr 2024	03 Apr 2024	09 Apr 2024	04 Apr 2024
RB08 Bulloo	SE263029.008	LB308475	25 Mar 2024	02 Apr 2024	08 Apr 2024	03 Apr 2024	08 Apr 2024	04 Apr 2024

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308372	26 Mar 2024	02 Apr 2024	02 Apr 2024	02 Apr 2024	02 Apr 2024	03 Apr 2024†
MB02	SE263029.002	LB308372	25 Mar 2024	02 Apr 2024	01 Apr 2024	02 Apr 2024†	01 Apr 2024	03 Apr 2024†
MB03	SE263029.003	LB308372	25 Mar 2024	02 Apr 2024	01 Apr 2024	02 Apr 2024†	01 Apr 2024	03 Apr 2024†
MB06	SE263029.004	LB308372	25 Mar 2024	02 Apr 2024	01 Apr 2024	02 Apr 2024†	01 Apr 2024	03 Apr 2024†
MB07	SE263029.005	LB308372	26 Mar 2024	02 Apr 2024	02 Apr 2024	02 Apr 2024	02 Apr 2024	03 Apr 2024†
RB04 (RB04 Larry Mac)	SE263029.006	LB308372	25 Mar 2024	02 Apr 2024	01 Apr 2024	02 Apr 2024†	01 Apr 2024	03 Apr 2024†
HF PIT	SE263029.007	LB308372	26 Mar 2024	02 Apr 2024	02 Apr 2024	02 Apr 2024	02 Apr 2024	03 Apr 2024†
RB08 Bulloo	SE263029.008	LB308372	25 Mar 2024	02 Apr 2024	01 Apr 2024	02 Apr 2024†	01 Apr 2024	03 Apr 2024†

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308654	26 Mar 2024	02 Apr 2024	23 Apr 2024	04 Apr 2024	23 Apr 2024	04 Apr 2024
MB02	SE263029.002	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	04 Apr 2024
MB03	SE263029.003	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	04 Apr 2024
MB06	SE263029.004	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	04 Apr 2024
MB07	SE263029.005	LB308654	26 Mar 2024	02 Apr 2024	23 Apr 2024	04 Apr 2024	23 Apr 2024	04 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	04 Apr 2024
HF PIT	SE263029.007	LB308654	26 Mar 2024	02 Apr 2024	23 Apr 2024	04 Apr 2024	23 Apr 2024	04 Apr 2024
RB08 Bulloo	SE263029.008	LB308654	25 Mar 2024	02 Apr 2024	22 Apr 2024	04 Apr 2024	22 Apr 2024	04 Apr 2024

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308908	26 Mar 2024	02 Apr 2024	22 Sep 2024	08 Apr 2024	22 Sep 2024	09 Apr 2024
MB02	SE263029.002	LB308908	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
MB03	SE263029.003	LB308908	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
MB06	SE263029.004	LB308908	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
MB07	SE263029.005	LB308908	26 Mar 2024	02 Apr 2024	22 Sep 2024	08 Apr 2024	22 Sep 2024	09 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308908	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024
HF PIT	SE263029.007	LB308908	26 Mar 2024	02 Apr 2024	22 Sep 2024	08 Apr 2024	22 Sep 2024	09 Apr 2024
RB08 Bulloo	SE263029.008	LB308908	25 Mar 2024	02 Apr 2024	21 Sep 2024	08 Apr 2024	21 Sep 2024	09 Apr 2024

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308725	26 Mar 2024	02 Apr 2024	02 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024
MB02	SE263029.002	LB308725	25 Mar 2024	02 Apr 2024	01 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024
MB03	SE263029.003	LB308725	25 Mar 2024	02 Apr 2024	01 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024
MB06	SE263029.004	LB308725	25 Mar 2024	02 Apr 2024	01 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024
MB07	SE263029.005	LB308725	26 Mar 2024	02 Apr 2024	02 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308725	25 Mar 2024	02 Apr 2024	01 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024
HF PIT	SE263029.007	LB308725	26 Mar 2024	02 Apr 2024	02 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024
RB08 Bulloo	SE263029.008	LB308725	25 Mar 2024	02 Apr 2024	01 Apr 2024	05 Apr 2024†	15 May 2024	09 Apr 2024

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308772	26 Mar 2024	02 Apr 2024	09 Apr 2024	05 Apr 2024	09 Apr 2024	08 Apr 2024
MB02	SE263029.002	LB308772	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	08 Apr 2024
MB03	SE263029.003	LB308772	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	08 Apr 2024
MB06	SE263029.004	LB308772	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	08 Apr 2024
MB07	SE263029.005	LB308772	26 Mar 2024	02 Apr 2024	09 Apr 2024	05 Apr 2024	09 Apr 2024	08 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308772	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	08 Apr 2024
HF PIT	SE263029.007	LB308772	26 Mar 2024	02 Apr 2024	09 Apr 2024	05 Apr 2024	09 Apr 2024	08 Apr 2024
RB08 Bulloo	SE263029.008	LB308772	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	08 Apr 2024

Weak Acid Dissociable Cyanide in Water by Discrete Analyser)

Method: ME-(AU)-[ENV]AN078/AN287

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE263029 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Weak Acid Dissociable Cyanide in Water by Discrete Analyser) (continued) **Method: ME-(AU)-[ENV]AN078/AN287**

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE263029.001	LB308734	26 Mar 2024	02 Apr 2024	09 Apr 2024	05 Apr 2024	09 Apr 2024	05 Apr 2024
MB02	SE263029.002	LB308734	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	05 Apr 2024
MB03	SE263029.003	LB308734	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	05 Apr 2024
MB06	SE263029.004	LB308734	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	05 Apr 2024
MB07	SE263029.005	LB308734	26 Mar 2024	02 Apr 2024	09 Apr 2024	05 Apr 2024	09 Apr 2024	05 Apr 2024
RB04 (RB04 Larry Mac)	SE263029.006	LB308734	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	05 Apr 2024
HF PIT	SE263029.007	LB308734	26 Mar 2024	02 Apr 2024	09 Apr 2024	05 Apr 2024	09 Apr 2024	05 Apr 2024
RB08 Bulloo	SE263029.008	LB308734	25 Mar 2024	02 Apr 2024	08 Apr 2024	05 Apr 2024	08 Apr 2024	05 Apr 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water — **Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	MB01	SE263029.001	%	40 - 130%	100
	MB02	SE263029.002	%	40 - 130%	101
	MB03	SE263029.003	%	40 - 130%	97
	MB06	SE263029.004	%	40 - 130%	101
	MB07	SE263029.005	%	40 - 130%	100
	RB04 (RB04 Larry Mac)	SE263029.006	%	40 - 130%	98
	HF PIT	SE263029.007	%	40 - 130%	103
	RB08 Bulloo	SE263029.008	%	40 - 130%	99
d4-1,2-dichloroethane (Surrogate)	MB01	SE263029.001	%	60 - 130%	128
	MB02	SE263029.002	%	60 - 130%	133 ①
	MB03	SE263029.003	%	60 - 130%	132 ①
	MB06	SE263029.004	%	60 - 130%	131 ①
	MB07	SE263029.005	%	60 - 130%	132 ①
	RB04 (RB04 Larry Mac)	SE263029.006	%	60 - 130%	126
	HF PIT	SE263029.007	%	60 - 130%	128
	RB08 Bulloo	SE263029.008	%	60 - 130%	133 ①
d8-toluene (Surrogate)	MB01	SE263029.001	%	40 - 130%	115
	MB02	SE263029.002	%	40 - 130%	119
	MB03	SE263029.003	%	40 - 130%	120
	MB06	SE263029.004	%	40 - 130%	120
	MB07	SE263029.005	%	40 - 130%	118
	RB04 (RB04 Larry Mac)	SE263029.006	%	40 - 130%	119
	HF PIT	SE263029.007	%	40 - 130%	118
	RB08 Bulloo	SE263029.008	%	40 - 130%	118

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB308468.001	Total Alkalinity as CaCO3	mg/L	5	<5

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result
LB308375.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB308881.001	Chloride	mg/L	1	<0.05
	Sulfate, SO4	mg/L	1	<1.0
	Fluoride	mg/L	0.1	<0.10
	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB308461.001	Conductivity @ 25 C	µS/cm	2	<2

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Number	Parameter	Units	LOR	Result
LB308857.001	Total Calcium	mg/L	0.1	<0.1
	Total Lithium, Li	mg/L	0.005	<0.005
	Total Magnesium	mg/L	0.1	<0.1
	Total Sodium	mg/L	0.1	<0.1

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result
LB308375.001	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Number	Parameter	Units	LOR	Result
LB309024.001	Sulfide	mg/L	0.5	<0.5

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result
LB308475.001	Total Cyanide	mg/L	0.004	<0.004

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB308372.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB308654.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB308908.001	Total Aluminium	µg/L	5	<5
	Total Arsenic	µg/L	1	<1
	Total Beryllium	µg/L	1	<1
	Total Boron	µg/L	5	<5

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB308908.001	Total Cadmium	µg/L	0.1	<0.1
	Total Chromium	µg/L	1	<1
	Total Cobalt	µg/L	1	<1
	Total Copper	µg/L	1	<1
	Total Iron	µg/L	5	<5
	Total Lead	µg/L	1	<1
	Total Manganese	µg/L	1	<1
	Total Molybdenum	µg/L	1	<1
	Total Nickel	µg/L	1	<1
	Total Selenium	µg/L	1	<1
	Total Uranium	µg/L	1	<1
	Total Vanadium	µg/L	1	<1
	Total Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB308725.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB308772.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	122
		d8-toluene (Surrogate)	%	-	110
		Bromofluorobenzene (Surrogate)	%	-	98

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Alkalinity

Method: ME-(AU)-[ENV]AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.006	LB308468.013	Total Alkalinity as CaCO3	mg/L	5	470	470	16	1
SE263029.008	LB308468.016	Total Alkalinity as CaCO3	mg/L	5	430	420	16	1

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263031.001	LB308375.013	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.04	0.03	45	17

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262945.001	LB308881.014	Sulfate, SO4	mg/L	1	740	720	15	3
SE263063.001	LB308881.025	Sulfate, SO4	mg/L	1	59	69	17	16

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.007	LB308461.023	Conductivity @ 25 C	µS/cm	2	11000	11000	15	3
SE263029.008	LB308461.024	Conductivity @ 25 C	µS/cm	2	14000	14000	15	2

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.008	LB308481.012	Total Mercury	µg/L	0.0001	<0.0001	0.0000	200	10

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.002	LB308857.040	Total Calcium	mg/L	0.1	1100	1100	15	0
		Total Lithium, Li	mg/L	0.005	0.057	0.057	24	0
		Total Magnesium	mg/L	0.1	520	520	15	0
		Total Sodium	mg/L	0.1	4800	4800	15	0
SE263083.001	LB308857.028	Total Sodium	mg/L	0.1	290	290	15	0
SE263180.024	LB308857.014	Total Calcium	mg/L	0.1	5.0	5.0	19	0
		Total Magnesium	mg/L	0.1	1.6	1.6	21	1
		Total Sodium	mg/L	0.1	13	13	19	0

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263031.001	LB308375.013	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.005	0.006	104	11

pH in water

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.007	LB308461.023	pH**	pH Units	-	7.1	7.2	16	1
SE263029.008	LB308461.024	pH**	pH Units	-	7.4	7.4	16	0

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262950.001	LB308654.028	Total Kjeldahl Nitrogen	mg/L	0.05	66	68	15	2
SE263029.001	LB308654.014	Total Kjeldahl Nitrogen	mg/L	0.05	140	140	15	2

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.001	LB308372.013	Total Dissolved Solids Dried at 175-185°C	mg/L	10	44000	44000	15	0
SE263029.008	LB308372.021	Total Dissolved Solids Dried at 175-185°C	mg/L	10	8800	8600	15	2

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE262950.001	LB308654.028	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	30	29	15	2
SE263029.001	LB308654.014	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.10	<0.10	46	0

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263083.002	LB308908.014	Total Cadmium	µg/L	0.1	0.1	0.1	87	11
		Total Chromium	µg/L	1	4	4	38	1
		Total Copper	µg/L	1	48	52	17	8
		Total Lead	µg/L	1	4	4	42	4
		Total Zinc	µg/L	5	190	170	18	7
SE263180.012	LB308908.024	Total Iron	µg/L	5	5.59901257	5.49933047	105	2
		Total Manganese	µg/L	1	0.26975084	0.30979033	200	0

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.003	LB308725.025		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0
SE263220.001	LB308725.024		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE263029.005	LB308772.026		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	13.2	8.4	30	45 †
			d8-toluene (Surrogate)	µg/L	-	11.8	8.3	30	34 †
			Bromofluorobenzene (Surrogate)	µg/L	-	10.0	8.8	30	13
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
SE263098.005	LB308772.027		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	13.6	9.0	30	40 †
			d8-toluene (Surrogate)	µg/L	-	11.4	8.7	30	28
			Bromofluorobenzene (Surrogate)	µg/L	-	10.0	9.0	30	11
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308375.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.6	2.5	80 - 120	105

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308881.002	Chloride	mg/L	1	20	20	80 - 120	98
	Sulfate, SO4	mg/L	1	20	20	80 - 120	99
	Fluoride	mg/L	0.1	2.1	2	80 - 120	107
	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.0	2	80 - 120	100

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308461.002	Conductivity @ 25 C	µS/cm	2	300	303	90 - 110	100

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308857.002	Total Calcium	mg/L	0.1	51	50.5	80 - 120	100
	Total Lithium, Li	mg/L	0.005	0.090	0.1	80 - 120	90
	Total Magnesium	mg/L	0.1	46	50.5	80 - 120	92
	Total Sodium	mg/L	0.1	50	50.5	80 - 120	100

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308375.002	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.11	0.1	80 - 120	108

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308461.003	pH**	No unit	-	7.4	7.415	98 - 102	100

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB309024.002	Sulfide	mg/L	0.5	99	100	70 - 130	99

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308475.002	Total Cyanide	mg/L	0.004	0.024	0.025	80 - 120	97

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308654.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.1	1	80 - 120	107

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308908.002	Total Aluminium	µg/L	5	21	20	80 - 120	105
	Total Arsenic	µg/L	1	21	20	80 - 120	106
	Total Beryllium	µg/L	1	21	20	80 - 120	105
	Total Boron	µg/L	5	21	20	80 - 120	106
	Total Cadmium	µg/L	0.1	22	20	80 - 120	108
	Total Chromium	µg/L	1	22	20	80 - 120	111
	Total Cobalt	µg/L	1	23	20	80 - 120	114
	Total Copper	µg/L	1	23	20	80 - 120	114
	Total Iron	µg/L	5	22	20	80 - 120	110

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308908.002	Total Lead	µg/L	1	20	20	80 - 120	102
	Total Manganese	µg/L	1	22	20	80 - 120	108
	Total Molybdenum	µg/L	1	23	20	80 - 120	115
	Total Nickel	µg/L	1	22	20	80 - 120	110
	Total Selenium	µg/L	1	20	20	80 - 120	100
	Total Uranium	µg/L	1	20	20	80 - 120	102
	Total Vanadium	µg/L	1	21	20	80 - 120	107
	Total Zinc	µg/L	5	21	20	80 - 120	105

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308725.002		TRH C10-C14	µg/L	50	1000	1200	60 - 140	87
		TRH C15-C28	µg/L	200	1300	1200	60 - 140	104
		TRH C29-C36	µg/L	200	1300	1200	60 - 140	110
	TRH F Bands	TRH >C10-C16	µg/L	60	1200	1200	60 - 140	98
		TRH >C16-C34 (F3)	µg/L	500	1300	1200	60 - 140	104
		TRH >C34-C40 (F4)	µg/L	500	700	600	60 - 140	117

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB308772.002		TRH C6-C10	µg/L	50	910	946.63	60 - 140	96
		TRH C6-C9	µg/L	40	790	818.71	60 - 140	97
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	8.6	10	60 - 140	86
		d8-toluene (Surrogate)	µg/L	-	10.1	10	70 - 130	101
		Bromofluorobenzene (Surrogate)	µg/L	-	10.9	10	70 - 130	109
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	630	639.67	60 - 140	98

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE263029.002	LB308375.015	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	3.1	0.61	2.5	99

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE262951.001	LB308881.026	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.2	0.18	2	103

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE263029.001	LB308481.004	Total Mercury	mg/L	0.0001	0.0013	<0.0001	-	-

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE263081.001	LB308857.030	Total Sodium	mg/L	0.1	400	360	50.5	94
SE263180.003	LB308857.004	Total Calcium	mg/L	0.1	60	5.2968	50.5	108
		Total Magnesium	mg/L	0.1	52	2.3095	50.5	98
		Total Sodium	mg/L	0.1	65	8.9262	50.5	111

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE263029.001	LB308375.004	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.093	0.010	0.1	83

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE263002.002	LB308772.028		TRH C6-C10	µg/L	50	<50	946.63	92
			TRH C6-C9	µg/L	40	<40	818.71	92
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	12.5	-	93
			d8-toluene (Surrogate)	µg/L	-	11.6	-	94
			Bromofluorobenzene (Surrogate)	µg/L	-	10.1	-	90
		VPH F	Benzene (F0)	µg/L	0.5	<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	639.67	86

MATRIX SPIKE DUPLICATES

SE263029 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

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This test report shall not be reproduced, except in full.

SAMPLE RECEIPT ADVICE

SE267510

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOL
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4836**
Samples	10

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Mon 1/7/2024
Report Due	Mon 8/7/2024
SGS Reference	**SE267510**

SUBMISSION DETAILS

This is to confirm that 10 samples were received on Monday 1/7/2024. Results are expected to be ready by COB Monday 8/7/2024. Please quote SGS reference SE267510 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	10 Water	Type of documentation received	COC
Date documentation received	1/7/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	13.3°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

Gold will not be analysed.

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SAMPLE RECEIPT ADVICE

SE267510

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Anions by Ion Chromatography in Water	Nitrite in Water	pH in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Phosphorus by Kjeldahl Digestion DA in	TRH (Total Recoverable Hydrocarbons) in Water	Volatile Petroleum Hydrocarbons in Water
001	MB01	1	4	2	1	2	1	9	7
002	MB02	1	4	2	1	2	1	9	7
003	MB03	1	4	2	1	2	1	9	7
004	MB04	1	4	2	1	2	1	9	7
005	MB06	1	4	2	1	2	1	9	7
006	MB07	1	4	2	1	2	1	9	7
007	RB04 (RB04 Larry Mac)	1	4	2	1	2	1	9	7
008	RB013	1	4	2	1	2	1	9	7
009	HF PIT	1	4	2	1	2	1	9	7
010	RB08 Bulloo	1	4	2	1	2	1	9	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE267510

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity	Conductivity and TDS by Calculation - Water	Free Cyanide in water	Metals in Water (Total) by ICPOES	Sulfide by Titration in Water	Total Cyanide in water by Discrete Analyser	Total Dissolved Solids (TDS) in water	Trace Metals (Total) in Water by ICPMS	Weak Acid Dissociable Cyanide in Water by
001	MB01	1	1	1	4	1	1	1	17	1
002	MB02	1	1	1	4	1	1	1	17	1
003	MB03	1	1	1	4	1	1	1	17	1
004	MB04	1	1	1	4	1	1	1	17	1
005	MB06	1	1	1	4	1	1	1	17	1
006	MB07	1	1	1	4	1	1	1	17	1
007	RB04 (RB04 Larry Mac)	1	1	1	4	1	1	1	17	1
008	RB013	1	1	1	4	1	1	1	17	1
009	HF PIT	1	1	1	4	1	1	1	17	1
010	RB08 Bulloo	1	1	1	4	1	1	1	17	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE267510

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (total) in Water
001	MB01	1
002	MB02	1
003	MB03	1
004	MB04	1
005	MB06	1
006	MB07	1
007	RB04 (RB04 Larry Mac)	1
008	RB013	1
009	HF PIT	1
010	RB08 Bulloo	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS Environmental Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	GBM/ POLYMETALS OPERATIONS Pty Ltd	Project Name/No:	White Dam Gold Mine
Address:	PMB 23 via Cockburn Via Boolcoomata Rd,	Purchase Order No:	WD4836
	Near Mingary SA 5440	Results Required By:	
		Telephone:	08 8919 4455 m: 0402598666
Contact Name:	Jo Foster	Facsimile:	
		Email Results:	Jo.Foster@gbmex.com.au / willem.stoltz@gbmex.com.au wdadmin@gbmex.com.au

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Physical Properties (pH, TDS, Calcium, Bicarbonate, EC.)	Contaminants: Total Cyanide, WAD Cyanide, Free Cyanide, Total Petroleum Hydrocarbons.	Sulfide and sulphates	Calcium, Magnesium, Sodium	Total Heavy Metals & Metalloids: Al, As, Au, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, U, V, Li, Zn (Lowest LOR)	Fluoride, Selenium, Chloride, Nitrate, Nitrite	Total Nitrogen, Total Phosphorus	Ammonia, NOx
MB01	25/06/2024	1	x			7	x	x	x	x	x	x	x	x
MB02	24/06/2024	2	x			7	x	x	x	x	x	x	x	x
MB03	25/06/2024	3	x			7	x	x	x	x	x	x	x	x
MB04	25/06/2024	4	x			7	x	x	x	x	x	x	x	x
MB06	25/06/2024	5	x			7	x	x	x	x	x	x	x	x
MB07	25/06/2024	6	x			7	x	x	x	x	x	x	x	x
RB04 (RB04 Larry Mac)	24/06/2024	7	x			7	x	x	x	x	x	x	x	x
RB013	24/06/2024	8	x			7	x	x	x	x	x	x	x	x
HF PIT	25/06/2024	9	x			7	x	x	x	x	x	x	x	x
RB08 Bulloo	24/06/2024	10	x			7	x	x	x	x	x	x	x	x
RB12 Cutana														

SGS EHS Sydney COC
SE267510

NO SAMPLE/TEARS BAGS

Relinquished By: Jo Foster	Date/Time 26/06/2024	Received By: B. Subaran	Date/Time 01/07/24 @ 10:35
Relinquished By:	Date/Time://	Received By:	Date/Time
Samples Intact: Yes/ No yes	Temperature: Ambient / Chilled Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments		

source:SE_Autoscan.pdf page:1 SGS Ref: SE267510_COC

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GC
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4836**
Samples	10

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE267510 R0**
Date Received	1/7/2024
Date Reported	9/7/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

Ammonia Nitrogen - The Limit of Reporting (LOR) has been raised due to matrix interference.
Anions - Ion Chromatography - The Limit of Reporting (LOR) has been raised due to high conductivity of the sample requiring dilution.
WAD CN> Total CN for sample #2, however the result discrepancy ia within our QC acceptance criteria.

SIGNATORIES

Bennet LO
Senior Chemist

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ying Ying ZHANG
Laboratory Technician

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 3/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 4/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320	<320	<320

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320	<320	<320

Anions by Ion Chromatography in Water [AN245] Tested: 4/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Chloride	mg/L	1	20000	9100	2500	10000	11000
Sulfate, SO4	mg/L	1	2800	2500	870	2800	2500
Fluoride	mg/L	0.1	2.5	2.5	4.7	1.1	2.5
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.50↑	<0.10↑	7.0	0.47	<0.25↑

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Chloride	mg/L	1	11000	6800	2500	3900	1200
Sulfate, SO4	mg/L	1	2400	3000	890	1400	650
Fluoride	mg/L	0.1	2.1	6.4	1.8	1.4	7.8
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.25↑	5.0	<0.050↑	0.24	1.7

Nitrite in Water [AN277] Tested: 1/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	**0.006**	<0.005	<0.005	<0.005
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	<0.005	**0.006**	**7.0**	**0.48**	**0.10**

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	**0.007**	**0.020**
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	<0.005	**5.0**	<0.005	**0.24**	**1.7**

TKN Kjeldahl Digestion by Discrete Analyser [AN292] Tested: 4/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Kjeldahl Nitrogen	mg/L	0.05	70	0.58	0.28	0.93	0.36
Total Nitrogen (calc)	mg/L	0.05	70	0.58	7.3	1.4	0.47

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Kjeldahl Nitrogen	mg/L	0.05	0.29	0.43	1.3	0.38	0.21
Total Nitrogen (calc)	mg/L	0.05	0.30	5.5	1.3	0.63	1.9

Ammonia Nitrogen by Discrete Analyser [AN291] Tested: 1/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	**49**	**0.31**	**0.02**	**0.07**	<0.05↑

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.05↑	<0.05↑	**0.12**	**0.11**	**0.02**

Total Phosphorus by Kjeldahl Digestion DA in Water [AN279/AN293(Sydney only)] Tested: 4/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	**0.06**	<0.02	**0.03**	**0.35**	<0.02

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	**0.02**	**0.13**	**0.50**	<0.02	**0.06**

pH in water [AN101] Tested: 1/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
pH**	No unit	-	**7.1**	**6.8**	**7.5**	**7.1**	**6.8**

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
pH**	No unit	-	**7.2**	**7.2**	**7.6**	**7.3**	**7.9**

Conductivity and TDS by Calculation - Water [AN106] Tested: 1/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Conductivity @ 25 C	µS/cm	2	46000	26000	8800	29000	32000

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Conductivity @ 25 C	µS/cm	2	31000	23000	9400	12000	5500

Total Dissolved Solids (TDS) in water [AN113] Tested: 1/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Dissolved Solids Dried at 175-185°C	mg/L	10	46000	21000	6000	23000	28000

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Dissolved Solids Dried at 175-185°C	mg/L	10	25000	16000	6000	8900	3200

Alkalinity [AN135] Tested: 1/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Alkalinity as CaCO3	mg/L	5	190	150	240	140	110

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Alkalinity as CaCO3	mg/L	5	130	470	610	64	340

Total Cyanide in water by Discrete Analyser [AN077/AN287] Tested: 4/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Cyanide	mg/L	0.004	**1.6**	<0.004	<0.004	**0.007**	<0.004

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Cyanide	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004

Free Cyanide in water [AN076/AN287] Tested: 5/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Free Cyanide	mg/L	0.004	**0.016**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Free Cyanide	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004

Weak Acid Dissociable Cyanide in Water by Discrete Analyser) [AN078/AN287] Tested: 5/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Weak Acid Dissociable Cyanide	mg/L	0.004	**0.83**	**0.008**	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Weak Acid Dissociable Cyanide	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004

Sulfide by Titration in Water [AN149] Tested: 8/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Sulfide	mg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Sulfide	mg/L	0.5	<0.5	<0.5	**2.4**	<0.5	<0.5

Metals in Water (Total) by ICPOES [AN022/AN320] Tested: 8/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Calcium	mg/L	0.1	2100	1100	180	1200	1300
Total Magnesium	mg/L	0.1	1100	520	130	550	720
Total Sodium	mg/L	0.1	9700	4800	1600	5200	5500
Total Lithium, Li	mg/L	0.005	0.025	0.034	0.013	0.033	0.025

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Calcium	mg/L	0.1	1200	320	220	490	65
Total Magnesium	mg/L	0.1	560	420	210	250	62
Total Sodium	mg/L	0.1	5600	4600	1600	2100	1100
Total Lithium, Li	mg/L	0.005	0.021	0.015	0.009	0.040	0.005

Trace Metals (Total) in Water by ICPMS [AN022/AN318] Tested: 3/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Aluminium	µg/L	5	7600	920	2100	32000	1000
Total Arsenic	µg/L	1	6	1	2	8	<1
Total Beryllium	µg/L	1	<1	<1	<1	2	<1
Total Boron	µg/L	5	4700	4100	3100	4200	4500
Total Cadmium	µg/L	0.1	0.1	0.5	<0.1	2.0	0.3
Total Chromium	µg/L	1	7	2	13	42	3
Total Cobalt	µg/L	1	1600	38	2	15	1
Total Copper	µg/L	1	25	51	11	57	6
Total Iron	µg/L	5	7400	4500	2100	36000	2900
Total Lead	µg/L	1	6	6	3	30	3
Total Manganese	µg/L	1	18000	1400	46	680	76
Total Molybdenum	µg/L	1	250	20	40	14	44
Total Nickel	µg/L	1	87	41	4	53	3
Total Uranium	µg/L	1	270	83	20	110	26
Total Vanadium	µg/L	1	14	2	18	64	4
Total Zinc	µg/L	5	90	170	120	410	25
Total Selenium	µg/L	1	48	3	19	19	3

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Aluminium	µg/L	5	970	200	4300	490	490
Total Arsenic	µg/L	1	<1	4	3	<1	2
Total Beryllium	µg/L	1	<1	<1	<1	<1	<1
Total Boron	µg/L	5	4600	8800	3100	1900	3100
Total Cadmium	µg/L	0.1	0.4	0.1	<0.1	99	<0.1
Total Chromium	µg/L	1	1	1	6	<1	<1
Total Cobalt	µg/L	1	1	<1	2	1400	<1
Total Copper	µg/L	1	7	6	14	1300	2
Total Iron	µg/L	5	1200	230	9800	2100	420
Total Lead	µg/L	1	3	<1	3	3	<1
Total Manganese	µg/L	1	35	10	840	4700	25
Total Molybdenum	µg/L	1	12	170	5	14	110
Total Nickel	µg/L	1	2	3	4	1800	<1
Total Uranium	µg/L	1	78	310	44	280	87
Total Vanadium	µg/L	1	3	68	56	3	71
Total Zinc	µg/L	5	77	35	120	17000	19
Total Selenium	µg/L	1	2	10	2	310	3

Mercury (total) in Water [AN311(Perth) /AN312] Tested: 2/7/2024

PARAMETER	UOM	LOR	MB01 WATER - 25/6/2024 SE267510.001	MB02 WATER - 24/6/2024 SE267510.002	MB03 WATER - 25/6/2024 SE267510.003	MB04 WATER - 25/6/2024 SE267510.004	MB06 WATER - 25/6/2024 SE267510.005
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	**0.0001**	<0.0001

PARAMETER	UOM	LOR	MB07 WATER - 25/6/2024 SE267510.006	RB04 (RB04 Larry Mac) WATER - 24/6/2024 SE267510.007	RB013 WATER - 24/6/2024 SE267510.008	HF PIT WATER - 25/6/2024 SE267510.009	RB08 Bulloo WATER - 24/6/2024 SE267510.010
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN022/AN318	Following acid digestion of un filtered sample, determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN022/AN320	Total (acid soluble) Metals by ICP-OES: Samples are digested in nitric or nitric and hydrochloric acids prior to analysis for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN022	The water sample is digested with Nitric Acid and made up to the original volume similar to APHA3030E.
AN076/AN287	Discrete Analyser. A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration.
AN077	Hydrogen cyanide is liberated from an acidified sample by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution. The scrubbing solution will then be analysed for cyanide by the appropriate method.
AN078	Hydrogen cyanide is liberated from a slightly acidified sample (pH 4.5-6.0) by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN149	sulfide by Iodometric Titration: sulfide is precipitated as zinc sulfide to overcome interferences with sulphite and thiosulfate. After filtration, sulfide is determined titrimetrically. Reference APHA 4500-S2-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN277	Nitrite ions, when reacted with a reagent containing sulphanilamide and N-(1-naphthyl)-ethylenediamine dihydrochloride produce a highly coloured azo dye that is measured photometrically at 540nm.
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digestor with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN287	A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration by DA.
AN291	Ammonia in solution reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 660 nm by Discrete Analyser.
AN311(Perth) /AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions taken from unfiltered sample are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.

AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements . Reference APHA 3120 B.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoveerable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported . APHA4500CO2 D.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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STATEMENT OF QA/QC PERFORMANCE

SE267510 R0

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM G
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Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4836**
Samples	10

LABORATORY DETAILS

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SGS Reference	**SE267510 R0**
Date Received	01 Jul 2024
Date Reported	09 Jul 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Nitrite in Water	10 items
	pH in water	10 items
	Sulfide by Titration in Water	10 items
	TRH (Total Recoverable Hydrocarbons) in Water	10 items
Analysis Date	Nitrite in Water	20 items
	pH in water	10 items
	Sulfide by Titration in Water	10 items
	Total Dissolved Solids (TDS) in water	4 items

SAMPLE SUMMARY

Sample counts by matrix	10 Water	Type of documentation received	COC
Date documentation received	1/7/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	13.3°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE267510 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316448	25 Jun 2024	01 Jul 2024	09 Jul 2024	01 Jul 2024	09 Jul 2024	02 Jul 2024
MB02	SE267510.002	LB316448	24 Jun 2024	01 Jul 2024	08 Jul 2024	01 Jul 2024	08 Jul 2024	02 Jul 2024
MB03	SE267510.003	LB316448	25 Jun 2024	01 Jul 2024	09 Jul 2024	01 Jul 2024	09 Jul 2024	02 Jul 2024
MB04	SE267510.004	LB316448	25 Jun 2024	01 Jul 2024	09 Jul 2024	01 Jul 2024	09 Jul 2024	02 Jul 2024
MB06	SE267510.005	LB316448	25 Jun 2024	01 Jul 2024	09 Jul 2024	01 Jul 2024	09 Jul 2024	02 Jul 2024
MB07	SE267510.006	LB316448	25 Jun 2024	01 Jul 2024	09 Jul 2024	01 Jul 2024	09 Jul 2024	02 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316448	24 Jun 2024	01 Jul 2024	08 Jul 2024	01 Jul 2024	08 Jul 2024	02 Jul 2024
RB013	SE267510.008	LB316448	24 Jun 2024	01 Jul 2024	08 Jul 2024	01 Jul 2024	08 Jul 2024	02 Jul 2024
HF PIT	SE267510.009	LB316448	25 Jun 2024	01 Jul 2024	09 Jul 2024	01 Jul 2024	09 Jul 2024	02 Jul 2024
RB08 Bulloo	SE267510.010	LB316448	24 Jun 2024	01 Jul 2024	08 Jul 2024	01 Jul 2024	08 Jul 2024	02 Jul 2024

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316431	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB02	SE267510.002	LB316431	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024
MB03	SE267510.003	LB316431	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB04	SE267510.004	LB316431	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB06	SE267510.005	LB316431	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB07	SE267510.006	LB316431	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316431	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024
RB013	SE267510.008	LB316431	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024
HF PIT	SE267510.009	LB316431	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
RB08 Bulloo	SE267510.010	LB316431	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316781	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB02	SE267510.002	LB316781	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
MB03	SE267510.003	LB316781	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB04	SE267510.004	LB316781	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB06	SE267510.005	LB316781	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB07	SE267510.006	LB316781	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316781	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
RB013	SE267510.008	LB316781	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
HF PIT	SE267510.009	LB316781	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
RB08 Bulloo	SE267510.010	LB316781	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316426	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB02	SE267510.002	LB316426	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024
MB03	SE267510.003	LB316426	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB04	SE267510.004	LB316426	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB06	SE267510.005	LB316426	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
MB07	SE267510.006	LB316426	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316426	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024
RB013	SE267510.008	LB316426	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024
HF PIT	SE267510.009	LB316426	25 Jun 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024	23 Jul 2024	01 Jul 2024
RB08 Bulloo	SE267510.010	LB316426	24 Jun 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024	22 Jul 2024	01 Jul 2024

Free Cyanide in water

Method: ME-(AU)-[ENV]AN076/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316949	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB02	SE267510.002	LB316949	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024
MB03	SE267510.003	LB316949	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB04	SE267510.004	LB316949	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB06	SE267510.005	LB316949	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB07	SE267510.006	LB316949	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316949	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024
RB013	SE267510.008	LB316949	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024
HF PIT	SE267510.009	LB316949	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
RB08 Bulloo	SE267510.010	LB316949	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024

HOLDING TIME SUMMARY

SE267510 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316481	25 Jun 2024	01 Jul 2024	23 Jul 2024	02 Jul 2024	23 Jul 2024	03 Jul 2024
MB02	SE267510.002	LB316481	24 Jun 2024	01 Jul 2024	22 Jul 2024	02 Jul 2024	22 Jul 2024	03 Jul 2024
MB03	SE267510.003	LB316481	25 Jun 2024	01 Jul 2024	23 Jul 2024	02 Jul 2024	23 Jul 2024	03 Jul 2024
MB04	SE267510.004	LB316481	25 Jun 2024	01 Jul 2024	23 Jul 2024	02 Jul 2024	23 Jul 2024	03 Jul 2024
MB06	SE267510.005	LB316481	25 Jun 2024	01 Jul 2024	23 Jul 2024	02 Jul 2024	23 Jul 2024	03 Jul 2024
MB07	SE267510.006	LB316481	25 Jun 2024	01 Jul 2024	23 Jul 2024	02 Jul 2024	23 Jul 2024	03 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316481	24 Jun 2024	01 Jul 2024	22 Jul 2024	02 Jul 2024	22 Jul 2024	03 Jul 2024
RB013	SE267510.008	LB316481	24 Jun 2024	01 Jul 2024	22 Jul 2024	02 Jul 2024	22 Jul 2024	03 Jul 2024
HF PIT	SE267510.009	LB316481	25 Jun 2024	01 Jul 2024	23 Jul 2024	02 Jul 2024	23 Jul 2024	03 Jul 2024
RB08 Bulloo	SE267510.010	LB316481	24 Jun 2024	01 Jul 2024	22 Jul 2024	02 Jul 2024	22 Jul 2024	03 Jul 2024

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB317030	25 Jun 2024	01 Jul 2024	22 Dec 2024	08 Jul 2024	22 Dec 2024	08 Jul 2024
MB02	SE267510.002	LB317030	24 Jun 2024	01 Jul 2024	21 Dec 2024	08 Jul 2024	21 Dec 2024	08 Jul 2024
MB03	SE267510.003	LB317030	25 Jun 2024	01 Jul 2024	22 Dec 2024	08 Jul 2024	22 Dec 2024	08 Jul 2024
MB04	SE267510.004	LB317030	25 Jun 2024	01 Jul 2024	22 Dec 2024	08 Jul 2024	22 Dec 2024	08 Jul 2024
MB06	SE267510.005	LB317030	25 Jun 2024	01 Jul 2024	22 Dec 2024	08 Jul 2024	22 Dec 2024	08 Jul 2024
MB07	SE267510.006	LB317030	25 Jun 2024	01 Jul 2024	22 Dec 2024	08 Jul 2024	22 Dec 2024	08 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB317030	24 Jun 2024	01 Jul 2024	21 Dec 2024	08 Jul 2024	21 Dec 2024	08 Jul 2024
RB013	SE267510.008	LB317030	24 Jun 2024	01 Jul 2024	21 Dec 2024	08 Jul 2024	21 Dec 2024	08 Jul 2024
HF PIT	SE267510.009	LB317030	25 Jun 2024	01 Jul 2024	22 Dec 2024	08 Jul 2024	22 Dec 2024	08 Jul 2024
RB08 Bulloo	SE267510.010	LB317030	24 Jun 2024	01 Jul 2024	21 Dec 2024	08 Jul 2024	21 Dec 2024	08 Jul 2024

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316431	25 Jun 2024	01 Jul 2024	29 Jun 2024	01 Jul 2024†	29 Jun 2024	08 Jul 2024†
MB02	SE267510.002	LB316431	24 Jun 2024	01 Jul 2024	28 Jun 2024	01 Jul 2024†	28 Jun 2024	08 Jul 2024†
MB03	SE267510.003	LB316431	25 Jun 2024	01 Jul 2024	29 Jun 2024	01 Jul 2024†	29 Jun 2024	08 Jul 2024†
MB04	SE267510.004	LB316431	25 Jun 2024	01 Jul 2024	29 Jun 2024	01 Jul 2024†	29 Jun 2024	08 Jul 2024†
MB06	SE267510.005	LB316431	25 Jun 2024	01 Jul 2024	29 Jun 2024	01 Jul 2024†	29 Jun 2024	08 Jul 2024†
MB07	SE267510.006	LB316431	25 Jun 2024	01 Jul 2024	29 Jun 2024	01 Jul 2024†	29 Jun 2024	08 Jul 2024†
RB04 (RB04 Larry Mac)	SE267510.007	LB316431	24 Jun 2024	01 Jul 2024	28 Jun 2024	01 Jul 2024†	28 Jun 2024	08 Jul 2024†
RB013	SE267510.008	LB316431	24 Jun 2024	01 Jul 2024	28 Jun 2024	01 Jul 2024†	28 Jun 2024	08 Jul 2024†
HF PIT	SE267510.009	LB316431	25 Jun 2024	01 Jul 2024	29 Jun 2024	01 Jul 2024†	29 Jun 2024	08 Jul 2024†
RB08 Bulloo	SE267510.010	LB316431	24 Jun 2024	01 Jul 2024	28 Jun 2024	01 Jul 2024†	28 Jun 2024	08 Jul 2024†

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316426	25 Jun 2024	01 Jul 2024	26 Jun 2024	01 Jul 2024†	26 Jun 2024	01 Jul 2024†
MB02	SE267510.002	LB316426	24 Jun 2024	01 Jul 2024	25 Jun 2024	01 Jul 2024†	25 Jun 2024	01 Jul 2024†
MB03	SE267510.003	LB316426	25 Jun 2024	01 Jul 2024	26 Jun 2024	01 Jul 2024†	26 Jun 2024	01 Jul 2024†
MB04	SE267510.004	LB316426	25 Jun 2024	01 Jul 2024	26 Jun 2024	01 Jul 2024†	26 Jun 2024	01 Jul 2024†
MB06	SE267510.005	LB316426	25 Jun 2024	01 Jul 2024	26 Jun 2024	01 Jul 2024†	26 Jun 2024	01 Jul 2024†
MB07	SE267510.006	LB316426	25 Jun 2024	01 Jul 2024	26 Jun 2024	01 Jul 2024†	26 Jun 2024	01 Jul 2024†
RB04 (RB04 Larry Mac)	SE267510.007	LB316426	24 Jun 2024	01 Jul 2024	25 Jun 2024	01 Jul 2024†	25 Jun 2024	01 Jul 2024†
RB013	SE267510.008	LB316426	24 Jun 2024	01 Jul 2024	25 Jun 2024	01 Jul 2024†	25 Jun 2024	01 Jul 2024†
HF PIT	SE267510.009	LB316426	25 Jun 2024	01 Jul 2024	26 Jun 2024	01 Jul 2024†	26 Jun 2024	01 Jul 2024†
RB08 Bulloo	SE267510.010	LB316426	24 Jun 2024	01 Jul 2024	25 Jun 2024	01 Jul 2024†	25 Jun 2024	01 Jul 2024†

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB317091	25 Jun 2024	01 Jul 2024	02 Jul 2024	08 Jul 2024†	02 Jul 2024	08 Jul 2024†
MB02	SE267510.002	LB317091	24 Jun 2024	01 Jul 2024	01 Jul 2024	08 Jul 2024†	01 Jul 2024	08 Jul 2024†
MB03	SE267510.003	LB317091	25 Jun 2024	01 Jul 2024	02 Jul 2024	08 Jul 2024†	02 Jul 2024	08 Jul 2024†
MB04	SE267510.004	LB317091	25 Jun 2024	01 Jul 2024	02 Jul 2024	08 Jul 2024†	02 Jul 2024	08 Jul 2024†
MB06	SE267510.005	LB317091	25 Jun 2024	01 Jul 2024	02 Jul 2024	08 Jul 2024†	02 Jul 2024	08 Jul 2024†
MB07	SE267510.006	LB317091	25 Jun 2024	01 Jul 2024	02 Jul 2024	08 Jul 2024†	02 Jul 2024	08 Jul 2024†
RB04 (RB04 Larry Mac)	SE267510.007	LB317091	24 Jun 2024	01 Jul 2024	01 Jul 2024	08 Jul 2024†	01 Jul 2024	08 Jul 2024†
RB013	SE267510.008	LB317091	24 Jun 2024	01 Jul 2024	01 Jul 2024	08 Jul 2024†	01 Jul 2024	08 Jul 2024†
HF PIT	SE267510.009	LB317091	25 Jun 2024	01 Jul 2024	02 Jul 2024	08 Jul 2024†	02 Jul 2024	08 Jul 2024†
RB08 Bulloo	SE267510.010	LB317091	24 Jun 2024	01 Jul 2024	01 Jul 2024	08 Jul 2024†	01 Jul 2024	08 Jul 2024†

HOLDING TIME SUMMARY

SE267510 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB02	SE267510.002	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
MB03	SE267510.003	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB04	SE267510.004	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB06	SE267510.005	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB07	SE267510.006	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
RB013	SE267510.008	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
HF PIT	SE267510.009	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
RB08 Bulloo	SE267510.010	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316792	25 Jun 2024	01 Jul 2024	09 Jul 2024	04 Jul 2024	09 Jul 2024	05 Jul 2024
MB02	SE267510.002	LB316792	24 Jun 2024	01 Jul 2024	08 Jul 2024	04 Jul 2024	08 Jul 2024	05 Jul 2024
MB03	SE267510.003	LB316792	25 Jun 2024	01 Jul 2024	09 Jul 2024	04 Jul 2024	09 Jul 2024	05 Jul 2024
MB04	SE267510.004	LB316792	25 Jun 2024	01 Jul 2024	09 Jul 2024	04 Jul 2024	09 Jul 2024	05 Jul 2024
MB06	SE267510.005	LB316792	25 Jun 2024	01 Jul 2024	09 Jul 2024	04 Jul 2024	09 Jul 2024	05 Jul 2024
MB07	SE267510.006	LB316792	25 Jun 2024	01 Jul 2024	09 Jul 2024	04 Jul 2024	09 Jul 2024	05 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316792	24 Jun 2024	01 Jul 2024	08 Jul 2024	04 Jul 2024	08 Jul 2024	05 Jul 2024
RB013	SE267510.008	LB316792	24 Jun 2024	01 Jul 2024	08 Jul 2024	04 Jul 2024	08 Jul 2024	05 Jul 2024
HF PIT	SE267510.009	LB316792	25 Jun 2024	01 Jul 2024	09 Jul 2024	04 Jul 2024	09 Jul 2024	05 Jul 2024
RB08 Bulloo	SE267510.010	LB316910	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	05 Jul 2024

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316420	25 Jun 2024	01 Jul 2024	02 Jul 2024	01 Jul 2024	02 Jul 2024	02 Jul 2024
MB02	SE267510.002	LB316420	24 Jun 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	02 Jul 2024†
MB03	SE267510.003	LB316420	25 Jun 2024	01 Jul 2024	02 Jul 2024	01 Jul 2024	02 Jul 2024	02 Jul 2024
MB04	SE267510.004	LB316420	25 Jun 2024	01 Jul 2024	02 Jul 2024	01 Jul 2024	02 Jul 2024	02 Jul 2024
MB06	SE267510.005	LB316420	25 Jun 2024	01 Jul 2024	02 Jul 2024	01 Jul 2024	02 Jul 2024	02 Jul 2024
MB07	SE267510.006	LB316420	25 Jun 2024	01 Jul 2024	02 Jul 2024	01 Jul 2024	02 Jul 2024	02 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316420	24 Jun 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	02 Jul 2024†
RB013	SE267510.008	LB316420	24 Jun 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	02 Jul 2024†
HF PIT	SE267510.009	LB316420	25 Jun 2024	01 Jul 2024	02 Jul 2024	01 Jul 2024	02 Jul 2024	02 Jul 2024
RB08 Bulloo	SE267510.010	LB316420	24 Jun 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	01 Jul 2024	02 Jul 2024†

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB02	SE267510.002	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
MB03	SE267510.003	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB04	SE267510.004	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB06	SE267510.005	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
MB07	SE267510.006	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
RB013	SE267510.008	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024
HF PIT	SE267510.009	LB316774	25 Jun 2024	01 Jul 2024	23 Jul 2024	04 Jul 2024	23 Jul 2024	08 Jul 2024
RB08 Bulloo	SE267510.010	LB316774	24 Jun 2024	01 Jul 2024	22 Jul 2024	04 Jul 2024	22 Jul 2024	08 Jul 2024

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316655	25 Jun 2024	01 Jul 2024	22 Dec 2024	03 Jul 2024	22 Dec 2024	03 Jul 2024
MB02	SE267510.002	LB316655	24 Jun 2024	01 Jul 2024	21 Dec 2024	03 Jul 2024	21 Dec 2024	03 Jul 2024
MB03	SE267510.003	LB316655	25 Jun 2024	01 Jul 2024	22 Dec 2024	03 Jul 2024	22 Dec 2024	03 Jul 2024
MB04	SE267510.004	LB316655	25 Jun 2024	01 Jul 2024	22 Dec 2024	03 Jul 2024	22 Dec 2024	03 Jul 2024
MB06	SE267510.005	LB316655	25 Jun 2024	01 Jul 2024	22 Dec 2024	03 Jul 2024	22 Dec 2024	03 Jul 2024
MB07	SE267510.006	LB316655	25 Jun 2024	01 Jul 2024	22 Dec 2024	03 Jul 2024	22 Dec 2024	03 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316655	24 Jun 2024	01 Jul 2024	21 Dec 2024	03 Jul 2024	21 Dec 2024	03 Jul 2024
RB013	SE267510.008	LB316655	24 Jun 2024	01 Jul 2024	21 Dec 2024	03 Jul 2024	21 Dec 2024	03 Jul 2024
HF PIT	SE267510.009	LB316655	25 Jun 2024	01 Jul 2024	22 Dec 2024	03 Jul 2024	22 Dec 2024	03 Jul 2024
RB08 Bulloo	SE267510.010	LB316655	24 Jun 2024	01 Jul 2024	21 Dec 2024	03 Jul 2024	21 Dec 2024	03 Jul 2024

HOLDING TIME SUMMARY

SE267510 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TRH (Total Recoverable Hydrocarbons) in Water — Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316768	25 Jun 2024	01 Jul 2024	02 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
MB02	SE267510.002	LB316768	24 Jun 2024	01 Jul 2024	01 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
MB03	SE267510.003	LB316768	25 Jun 2024	01 Jul 2024	02 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
MB04	SE267510.004	LB316768	25 Jun 2024	01 Jul 2024	02 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
MB06	SE267510.005	LB316768	25 Jun 2024	01 Jul 2024	02 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
MB07	SE267510.006	LB316768	25 Jun 2024	01 Jul 2024	02 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316768	24 Jun 2024	01 Jul 2024	01 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
RB013	SE267510.008	LB316768	24 Jun 2024	01 Jul 2024	01 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
HF PIT	SE267510.009	LB316768	25 Jun 2024	01 Jul 2024	02 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024
RB08 Bulloo	SE267510.010	LB316768	24 Jun 2024	01 Jul 2024	01 Jul 2024	04 Jul 2024†	13 Aug 2024	08 Jul 2024

Volatile Petroleum Hydrocarbons in Water — Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316723	25 Jun 2024	01 Jul 2024	09 Jul 2024	03 Jul 2024	09 Jul 2024	04 Jul 2024
MB02	SE267510.002	LB316723	24 Jun 2024	01 Jul 2024	08 Jul 2024	03 Jul 2024	08 Jul 2024	04 Jul 2024
MB03	SE267510.003	LB316723	25 Jun 2024	01 Jul 2024	09 Jul 2024	03 Jul 2024	09 Jul 2024	04 Jul 2024
MB04	SE267510.004	LB316723	25 Jun 2024	01 Jul 2024	09 Jul 2024	03 Jul 2024	09 Jul 2024	04 Jul 2024
MB06	SE267510.005	LB316723	25 Jun 2024	01 Jul 2024	09 Jul 2024	03 Jul 2024	09 Jul 2024	04 Jul 2024
MB07	SE267510.006	LB316723	25 Jun 2024	01 Jul 2024	09 Jul 2024	03 Jul 2024	09 Jul 2024	04 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316723	24 Jun 2024	01 Jul 2024	08 Jul 2024	03 Jul 2024	08 Jul 2024	04 Jul 2024
RB013	SE267510.008	LB316723	24 Jun 2024	01 Jul 2024	08 Jul 2024	03 Jul 2024	08 Jul 2024	04 Jul 2024
HF PIT	SE267510.009	LB316723	25 Jun 2024	01 Jul 2024	09 Jul 2024	03 Jul 2024	09 Jul 2024	04 Jul 2024
RB08 Bulloo	SE267510.010	LB316723	24 Jun 2024	01 Jul 2024	08 Jul 2024	03 Jul 2024	08 Jul 2024	04 Jul 2024

Weak Acid Dissociable Cyanide in Water by Discrete Analyser) — Method: ME-(AU)-[ENV]AN078/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE267510.001	LB316913	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB02	SE267510.002	LB316913	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024
MB03	SE267510.003	LB316913	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB04	SE267510.004	LB316913	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB06	SE267510.005	LB316913	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
MB07	SE267510.006	LB316913	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
RB04 (RB04 Larry Mac)	SE267510.007	LB316913	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024
RB013	SE267510.008	LB316913	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024
HF PIT	SE267510.009	LB316913	25 Jun 2024	01 Jul 2024	09 Jul 2024	05 Jul 2024	09 Jul 2024	08 Jul 2024
RB08 Bulloo	SE267510.010	LB316913	24 Jun 2024	01 Jul 2024	08 Jul 2024	05 Jul 2024	08 Jul 2024	08 Jul 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA/QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water — **Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	MB01	SE267510.001	%	40 - 130%	86
	MB02	SE267510.002	%	40 - 130%	90
	MB03	SE267510.003	%	40 - 130%	83
	MB04	SE267510.004	%	40 - 130%	91
	MB06	SE267510.005	%	40 - 130%	93
	MB07	SE267510.006	%	40 - 130%	89
	RB04 (RB04 Larry Mac)	SE267510.007	%	40 - 130%	92
	RB013	SE267510.008	%	40 - 130%	92
	HF PIT	SE267510.009	%	40 - 130%	91
	RB08 Bulloo	SE267510.010	%	40 - 130%	85
d4-1,2-dichloroethane (Surrogate)	MB01	SE267510.001	%	60 - 130%	98
	MB02	SE267510.002	%	60 - 130%	95
	MB03	SE267510.003	%	60 - 130%	106
	MB04	SE267510.004	%	60 - 130%	97
	MB06	SE267510.005	%	60 - 130%	99
	MB07	SE267510.006	%	60 - 130%	100
	RB04 (RB04 Larry Mac)	SE267510.007	%	60 - 130%	99
	RB013	SE267510.008	%	60 - 130%	98
	HF PIT	SE267510.009	%	60 - 130%	97
	RB08 Bulloo	SE267510.010	%	60 - 130%	97
d8-toluene (Surrogate)	MB01	SE267510.001	%	40 - 130%	87
	MB02	SE267510.002	%	40 - 130%	87
	MB03	SE267510.003	%	40 - 130%	104
	MB04	SE267510.004	%	40 - 130%	90
	MB06	SE267510.005	%	40 - 130%	91
	MB07	SE267510.006	%	40 - 130%	91
	RB04 (RB04 Larry Mac)	SE267510.007	%	40 - 130%	88
	RB013	SE267510.008	%	40 - 130%	90
	HF PIT	SE267510.009	%	40 - 130%	93
	RB08 Bulloo	SE267510.010	%	40 - 130%	100

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB316448.001	Total Alkalinity as CaCO3	mg/L	5	<5

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result
LB316431.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB316781.001	Chloride	mg/L	1	<0.05
	Sulfate, SO4	mg/L	1	<1.0
	Fluoride	mg/L	0.1	<0.10
	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB316426.001	Conductivity @ 25 C	µS/cm	2	<2

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Number	Parameter	Units	LOR	Result
LB317030.001	Total Calcium	mg/L	0.1	<0.1
	Total Lithium, Li	mg/L	0.005	<0.005
	Total Magnesium	mg/L	0.1	<0.1
	Total Sodium	mg/L	0.1	<0.1

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result
LB316431.001	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Number	Parameter	Units	LOR	Result
LB317091.001	Sulfide	mg/L	0.5	<0.5

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result
LB316792.001	Total Cyanide	mg/L	0.004	<0.004
LB316910.001	Total Cyanide	mg/L	0.004	<0.004

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB316420.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB316774.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB316655.001	Total Aluminium	µg/L	5	<5
	Total Arsenic	µg/L	1	<1
	Total Beryllium	µg/L	1	<1
	Total Boron	µg/L	5	<5

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB316655.001	Total Cadmium	µg/L	0.1	<0.1
	Total Chromium	µg/L	1	<1
	Total Cobalt	µg/L	1	<1
	Total Copper	µg/L	1	<1
	Total Iron	µg/L	5	<5
	Total Lead	µg/L	1	<1
	Total Manganese	µg/L	1	<1
	Total Molybdenum	µg/L	1	<1
	Total Nickel	µg/L	1	<1
	Total Selenium	µg/L	1	<1
	Total Uranium	µg/L	1	<1
	Total Vanadium	µg/L	1	<1
	Total Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB316768.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB316723.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	99
		d8-toluene (Surrogate)	%	-	95
		Bromofluorobenzene (Surrogate)	%	-	73

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Alkalinity

Method: ME-(AU)-[ENV]AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.002	LB316448.013	Total Alkalinity as CaCO3	mg/L	5	150	160	18	4
SE267521.002	LB316448.024	Total Alkalinity as CaCO3	mg/L	5	120	120	19	0

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.007	LB316431.014	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.05	<0.05	49	0
SE267510.010	LB316431.018	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.02	0.02	71	1

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.006	LB316781.014	Chloride	mg/L	1	11000	11000	15	0
		Sulfate, SO4	mg/L	1	2400	2400	15	1
		Fluoride	mg/L	0.1	2.1	2.2	20	1
		Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.25	<0.25	200	0
SE267654.001	LB316781.020	Sulfate, SO4	mg/L	1	120	120	16	3
		Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	200	0

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.009	LB316426.014	Conductivity @ 25 C	µS/cm	2	12000	13000	15	6
SE267521.002	LB316426.022	Conductivity @ 25 C	µS/cm	2	3600	3500	15	2

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.009	LB316481.014	Total Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0
SE267540.001	LB316481.017	Total Mercury	µg/L	0.0001	0.0001	0.0002	47	9

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.008	LB317030.014	Total Calcium	mg/L	0.1	220	220	15	0
		Total Lithium, Li	mg/L	0.005	0.009	0.009	68	0
		Total Magnesium	mg/L	0.1	210	210	15	0
		Total Sodium	mg/L	0.1	1600	1600	15	3
SE267568.001	LB317030.033	Total Sodium	mg/L	0.1	390	390	15	0
SE267664.017	LB317030.028	Total Calcium	mg/L	0.1	3.6	3.6	21	0
		Total Magnesium	mg/L	0.1	1.3	1.3	23	1
		Total Sodium	mg/L	0.1	50	52	16	2

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.007	LB316431.014	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	200	0
SE267510.010	LB316431.018	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.020	0.019	41	2

pH in water

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.009	LB316426.014	pH**	pH Units	-	7.3	7.4	16	1
SE267521.002	LB316426.022	pH**	pH Units	-	7.6	7.6	16	0

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.010	LB316774.014	Total Kjeldahl Nitrogen	mg/L	0.05	0.21	0.21	39	0
SE267530.001	LB316774.022	Total Kjeldahl Nitrogen	mg/L	0.05	1.5	1.6	18	8

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Total Cyanide in water by Discrete Analyser (continued)

Method: ME-(AU)-[ENV]AN077/AN287

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267508.001	LB316792.004	Total Cyanide	mg/L	0.004	6.8	7.2	15	5
SE267510.010	LB316910.004	Total Cyanide	mg/L	0.004	<0.004	<0.004	163	0

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267493.001	LB316420.013	Total Dissolved Solids Dried at 175-185°C	mg/L	10	2200	2200	15	1
SE267510.010	LB316420.024	Total Dissolved Solids Dried at 175-185°C	mg/L	10	3200	3200	15	1

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.010	LB316774.014	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.06	0.06	47	6

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.010	LB316768.014		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0
SE267518.005	LB316768.028		TRH C10-C14	µg/L	50	<50	<50	200	0
			TRH C15-C28	µg/L	200	<200	<200	200	0
			TRH C29-C36	µg/L	200	<200	<200	200	0
			TRH C37-C40	µg/L	200	<200	<200	200	0
			TRH C10-C40	µg/L	320	<320	<320	200	0
		TRH F Bands	TRH >C10-C16	µg/L	60	<60	<60	200	0
			TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	200	0
			TRH >C16-C34 (F3)	µg/L	500	<500	<500	200	0
			TRH >C34-C40 (F4)	µg/L	500	<500	<500	200	0

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.003	LB316723.023		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.6	9.6	30	10
			d8-toluene (Surrogate)	µg/L	-	10.4	9.4	30	11
			Bromofluorobenzene (Surrogate)	µg/L	-	8.3	9.1	30	9
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
SE267611.002	LB316723.024		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.5	9.7	30	8
			d8-toluene (Surrogate)	µg/L	-	10.4	9.4	30	10
			Bromofluorobenzene (Surrogate)	µg/L	-	8.3	9.1	30	8
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

Weak Acid Dissociable Cyanide in Water by Discrete Analyser)

Method: ME-(AU)-[ENV]AN078/AN287

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE267510.004	LB316913.019	Weak Acid Dissociable Cyanide	mg/L	0.004	<0.004	0.004	111	11

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316431.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.5	2.5	80 - 120	101

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316781.002	Chloride	mg/L	1	19	20	80 - 120	97
	Sulfate, SO4	mg/L	1	20	20	80 - 120	98
	Fluoride	mg/L	0.1	2.0	2	80 - 120	99
	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.0	2	80 - 120	101

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316426.002	Conductivity @ 25 C	µS/cm	2	300	303	90 - 110	98

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317030.002	Total Calcium	mg/L	0.1	50	50.5	80 - 120	100
	Total Lithium, Li	mg/L	0.005	0.096	0.1	80 - 120	96
	Total Magnesium	mg/L	0.1	49	50.5	80 - 120	98
	Total Sodium	mg/L	0.1	50	50.5	80 - 120	100

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316431.002	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.096	0.1	80 - 120	96

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316426.003	pH**	No unit	-	7.4	7.415	98 - 102	100

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB317091.002	Sulfide	mg/L	0.5	100	100	70 - 130	102

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316792.002	Total Cyanide	mg/L	0.004	0.026	0.025	80 - 120	105
LB316910.002	Total Cyanide	mg/L	0.004	0.026	0.025	80 - 120	102

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316774.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.1	1	80 - 120	106

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316655.002	Total Aluminium	µg/L	5	22	20	80 - 120	108
	Total Arsenic	µg/L	1	21	20	80 - 120	103
	Total Beryllium	µg/L	1	21	20	80 - 120	103
	Total Boron	µg/L	5	21	20	80 - 120	107
	Total Cadmium	µg/L	0.1	21	20	80 - 120	105
	Total Chromium	µg/L	1	21	20	80 - 120	107
	Total Cobalt	µg/L	1	21	20	80 - 120	106
	Total Copper	µg/L	1	21	20	80 - 120	105
	Total Iron	µg/L	5	22	20	80 - 120	109

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316655.002		Total Lead	µg/L	1	21	20	80 - 120	104
		Total Manganese	µg/L	1	22	20	80 - 120	112
		Total Molybdenum	µg/L	1	21	20	80 - 120	107
		Total Nickel	µg/L	1	20	20	80 - 120	101
		Total Selenium	µg/L	1	20	20	80 - 120	101
		Total Uranium	µg/L	1	20	20	80 - 120	99
		Total Vanadium	µg/L	1	21	20	80 - 120	103
		Total Zinc	µg/L	5	22	20	80 - 120	112

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316768.002		TRH C10-C14	µg/L	50	1300	1200	60 - 140	106
		TRH C15-C28	µg/L	200	1500	1200	60 - 140	126
		TRH C29-C36	µg/L	200	1500	1200	60 - 140	126
	TRH F Bands	TRH >C10-C16	µg/L	60	1400	1200	60 - 140	117
		TRH >C16-C34 (F3)	µg/L	500	1500	1200	60 - 140	128
		TRH >C34-C40 (F4)	µg/L	500	760	600	60 - 140	126

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB316723.002		TRH C6-C10	µg/L	50	900	946.63	60 - 140	95
		TRH C6-C9	µg/L	40	800	818.71	60 - 140	97
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.5	10	60 - 140	95
		d8-toluene (Surrogate)	µg/L	-	8.1	10	70 - 130	81
		Bromofluorobenzene (Surrogate)	µg/L	-	11.2	10	70 - 130	112
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	550	639.67	60 - 140	85

MATRIX SPIKES

SE267510 R0

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE267521.001	LB316431.004	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	3.5	1.1	2.5	98

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE267494A.001	LB316481.004	Total Mercury	mg/L	0.0001	0.0024	<0.0001	-	-

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE267493.001	LB317030.004	Total Sodium	mg/L	0.1	210	150	50.5	110
SE267664.021	LB317030.030	Total Calcium	mg/L	0.1	58	4.9	50.5	105
		Total Magnesium	mg/L	0.1	56	3.3	50.5	103
		Total Sodium	mg/L	0.1	66	8.5	50.5	113

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE267521.001	LB316431.004	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.18	0.086	0.1	90

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE267510.003	LB316774.023	Total Kjeldahl Nitrogen	mg/L	0.05	2.7	0.28	2.5	98

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE267510.009	LB316792.015	Total Cyanide	mg/L	0.004	0.025	<0.004	0.025	86

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE267510.003	LB316774.023	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.2	0.03	1	113

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE267495.001	LB316723.025		TRH C6-C10	µg/L	50	<50	946.63	87
			TRH C6-C9	µg/L	40	<50	818.71	87
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	0.0	-	79
			d8-toluene (Surrogate)	µg/L	-	0.0	-	92
			Bromofluorobenzene (Surrogate)	µg/L	-	0.0	-	94
		VPH F	Benzene (F0)	µg/L	0.5	<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	639.67	81

MATRIX SPIKE DUPLICATES

SE267510 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

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This test report shall not be reproduced, except in full.

SAMPLE RECEIPT NOTIFICATION (SRN)

Work Order	: **EM2415986**		
Client	: **WHITE DAM GOLD PRODUCTION JOINT VENTURE**	Laboratory	: Environmental Division Melbourne
Contact	: WILLEM STOLTZ	Contact	: Kieren Burns
Address	: White Dam Gold Mine PMB 23 Via Cockburn SOUTH AUSTRALIA	Address	: 4 Westall Rd Springvale VIC Australia 3171
E-mail	: willem.stoltz@gbmex.com.au	E-mail	: kieren.burns@alsglobal.com
Telephone	: ----	Telephone	: +61881625130
Facsimile	: ----	Facsimile	: +61-3-8549 9626
Project	: White Dam Gold Mine	Page	: 1 of 3
Order number	: WD4889	Quote number	: EM2024WHIDAM0002 (EM24WHIDAM0002)
C-O-C number	: ----	QC Level	: NEPM 2013 B3 & ALS QC Standard
Site	: White Dam Gold Mine		
Sampler	: JO FOSTER		

Dates

Date Samples Received	: 18-Sep-2024 12:15	Issue Date	: 19-Sep-2024
Client Requested Due Date	: 26-Sep-2024	Scheduled Reporting Date	: **26-Sep-2024**

Delivery Details

Mode of Delivery	: Carrier	Security Seal	: Intact.
No. of coolers/boxes	: 3	Temperature	: 3.6°C - Ice present
Receipt Detail	:	No. of samples received / analysed	: 7 / 7

General Comments

- This report contains the following information:
  - Sample Container(s)/Preservation Non-Compliances
  - Summary of Sample(s) and Requested Analysis
  - Proactive Holding Time Report
  - Requested Deliverables
- **Please direct any queries related to sample condition / numbering / breakages to Client Services.**
- Sample Disposal - Aqueous (3 weeks), Solid (2 months) from receipt of samples.
- Unless otherwise stated, analytical work for this work order will be conducted at ALS Melbourne, NATA accreditation no. 825, site no. 13778.
- **Please refer to the Proactive Holding Time Report table below which summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory. The laboratory will process these samples unless instructions are received from you indicating you do not wish to proceed. The absence of this summary table indicates that all samples have been received within the recommended holding times for the analysis requested.**
- Please be aware that APHA/NEPM recommends water and soil samples be chilled to less than or equal to 6°C for chemical analysis, and less than or equal to 10°C but unfrozen for Microbiological analysis. Where samples are received above this temperature, it should be taken into consideration when interpreting results. Refer to ALS EnviroMail 85 for ALS recommendations of the best practice for chilling samples after sampling and for maintaining a cool temperature during transit.

Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- **No sample container / preservation non-compliance exists.**

Any sample identifications that cannot be displayed entirely in the analysis summary table will be listed below.

EM2415986-001 : [15-Sep-2024] : MB01 - 47.9m/slight smell
EM2415986-006 : [15-Sep-2024] : MB07 - 42m/crystal clear
EM2415986-007 : [15-Sep-2024] : HF PIT - from source/bucket/murky

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.
If no sampling time is provided, the sampling time will default 00:00 on the date of sampling. If no sampling date is provided, the sampling date will be assumed by the laboratory and displayed in brackets without a time component

Matrix: **WATER**

Laboratory sample ID	Sampling date / time	Sample ID	WATER - Cyanide Cyanide (Total, Free & WAD - WA)	WATER - EG020T Total Metals by ICP/MS (including digestion)	WATER - EG035T Total Mercury	WATER - EK085M Sulfide as S 2-	WATER - NT-08 Total Nitrogen + NO2 + NO3 + NH3 + Total P	WATER - NT-12 General Water Suite	WATER - W-04 TRH/BTEXN
EM2415986-001	15-Sep-2024 00:00	MB01 47.9m/slight s...	✓	✓	✓	✓	✓	✓	✓
EM2415986-002	15-Sep-2024 00:00	MB02 46.7m/clear	✓	✓	✓	✓	✓	✓	✓
EM2415986-003	15-Sep-2024 00:00	MB03 55m/clear	✓	✓	✓	✓	✓	✓	✓
EM2415986-004	15-Sep-2024 00:00	MB04 44.9m/cloudy	✓	✓	✓	✓	✓	✓	✓
EM2415986-005	15-Sep-2024 00:00	MB06 51m/clear	✓	✓	✓	✓	✓	✓	✓
EM2415986-006	15-Sep-2024 00:00	MB07 42m/crystal cl...	✓	✓	✓	✓	✓	✓	✓
EM2415986-007	15-Sep-2024 00:00	HF PIT from source/...	✓	✓	✓	✓	✓	✓	✓

Proactive Holding Time Report

The following table summarises breaches of recommended holding times that have occurred prior to samples/instructions being received at the laboratory.

Matrix: **WATER** Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Client Sample ID(s)	Container	Due for extraction	Due for analysis	Samples Received Date	Samples Received Evaluation	Instructions Received Date	Instructions Received Evaluation
EA005-P: pH by Auto Titrator							
HF PIT	Clear Plastic Bottle - Natural	----	15-Sep-2024	18-Sep-2024	×	----	----
MB01	Clear Plastic Bottle - Natural	----	15-Sep-2024	18-Sep-2024	×	----	----
MB02	Clear Plastic Bottle - Natural	----	15-Sep-2024	18-Sep-2024	×	----	----
MB03	Clear Plastic Bottle - Natural	----	15-Sep-2024	18-Sep-2024	×	----	----
MB04	Clear Plastic Bottle - Natural	----	15-Sep-2024	18-Sep-2024	×	----	----
MB06	Clear Plastic Bottle - Natural	----	15-Sep-2024	18-Sep-2024	×	----	----
MB07	Clear Plastic Bottle - Natural	----	15-Sep-2024	18-Sep-2024	×	----	----
EK057G: Nitrite as N by Discrete Analyser							
HF PIT	Clear Plastic Bottle - Natural	----	17-Sep-2024	18-Sep-2024	×	----	----
MB01	Clear Plastic Bottle - Natural	----	17-Sep-2024	18-Sep-2024	×	----	----
MB02	Clear Plastic Bottle - Natural	----	17-Sep-2024	18-Sep-2024	×	----	----
MB03	Clear Plastic Bottle - Natural	----	17-Sep-2024	18-Sep-2024	×	----	----
MB04	Clear Plastic Bottle - Natural	----	17-Sep-2024	18-Sep-2024	×	----	----
MB06	Clear Plastic Bottle - Natural	----	17-Sep-2024	18-Sep-2024	×	----	----
MB07	Clear Plastic Bottle - Natural	----	17-Sep-2024	18-Sep-2024	×	----	----

Requested Deliverables

JO FOSTER

- *AU Certificate of Analysis - NATA (COA)	Email	jo.Foster@gbmex.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	jo.Foster@gbmex.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	jo.Foster@gbmex.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	jo.Foster@gbmex.com.au
- A4 - AU Tax Invoice (INV)	Email	jo.Foster@gbmex.com.au
- Chain of Custody (CoC) (COC)	Email	jo.Foster@gbmex.com.au
- EDI Format - ENMRG (ENMRG)	Email	jo.Foster@gbmex.com.au
- EDI Format - XTab (XTAB)	Email	jo.Foster@gbmex.com.au

Wd Admin

- *AU Certificate of Analysis - NATA (COA)	Email	wdadmin@gmbex.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	wdadmin@gmbex.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	wdadmin@gmbex.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	wdadmin@gmbex.com.au
- Chain of Custody (CoC) (COC)	Email	wdadmin@gmbex.com.au
- EDI Format - ENMRG (ENMRG)	Email	wdadmin@gmbex.com.au
- EDI Format - XTab (XTAB)	Email	wdadmin@gmbex.com.au

WILLEM STOLTZ

- *AU Certificate of Analysis - NATA (COA)	Email	willem.stoltz@gbmex.com.au
- *AU Interpretive QC Report - DEFAULT (Anon QCI Rep) (QCI)	Email	willem.stoltz@gbmex.com.au
- *AU QC Report - DEFAULT (Anon QC Rep) - NATA (QC)	Email	willem.stoltz@gbmex.com.au
- A4 - AU Sample Receipt Notification - Environmental HT (SRN)	Email	willem.stoltz@gbmex.com.au
- A4 - AU Tax Invoice (INV)	Email	willem.stoltz@gbmex.com.au
- Chain of Custody (CoC) (COC)	Email	willem.stoltz@gbmex.com.au
- EDI Format - ENMRG (ENMRG)	Email	willem.stoltz@gbmex.com.au
- EDI Format - XTab (XTAB)	Email	willem.stoltz@gbmex.com.au

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EG035T: Total Recoverable Mercury by FIMS

(WATER) EG020T: Total Metals by ICP-MS

CHAIN OF CUSTODY

Mandatory Fields

Page 1 of 1

CLIENT CODE:	WHIDAM	*PROJECT MANAGER:	Willem Stoltz	SAMPLER:	Jo Foster
*CLIENT:	GBM Resources (White Dam Gold Mine)	*PM MOBILE:	0409 979 457	SAMPLER MOBILE:	0402 598 666
OFFICE: (Invoiced Office)	White Dam	ALS QUOTE # (Client PL if blank)	EM24WHIDAM0002	PURCHASE ORDER NO.:	WD4889
PROJECT NO./PROJECT:	White Dam Gold Mine			SITE:	White Dam Gold Mine
*INVOICE TO: (client default if nil)	willem.stolz@gmbex.com.au jo.foster@gmbex.com.au			X	CC Invoice to PM
*EMAIL REPORTS TO: (default to PM if blank)	jo.foster@gmbex.com.au, willem.stolz@gmbex.com.au, wdadmin@gmbex.com.au				
EDD Format/Type →		EDD Email Address:			

CoC #: (if applicable)

BIOSECURITY

Country of Origin: (if not Australia)

*** STORAGE REQUIREMENTS**
Please check box. →
Standard Storage time from receipt of samples:
Waters - 3 weeks
Soils - 2 months

X Standard Storage
☐ Extended Storage
Specify Disposal Date:
Note: Extended storage incurs a fee and requires a signed agreement.

*** TURNAROUND**
Please check box. →
(Not all tests can be expedited, contact Client Services for more information)

X 5+ days (no surcharge)
☐ 3 day (+15%)
☐ 2 day (+30%)
☐ 1 day (+50%)

***ANALYSIS REQUIRED**
(NB. ALS Quote No. and/or Analysis Suite Codes must be listed to attract suite/quoted price)
Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required)
Mark an X in the boxes below analysis to indicate the parameter listed above to be tested on that sampl

FREIGHT

Environmental Division
Melbourne
Work Order Reference
EM2415986

Telephone : + 61-3-8549 9600

Comments: Note * Total Metals Al, As, Au, Be, B, Cd, Cr, Co, Cu, Fe, Li, Pb, Mn, Mo, Ni, Se, U, V, Zn & Hg

ALS Use Only Lab ID	Sample ID	Depth/Description	Date/Time	No. Bottles	MATRIX/SUBMATRIX: Soil/Solid(S) Water(W) Sediments (SD), Dust (D), Product (P), Biota (B), Biosolid (BS)	NT-12	Total, WAD & Free Cyanide	W-4	NT-8	Total Metals*	Sulphide							Lab QC (additional bottles req.) Dup	Lab QC (additional bottles req.) MS	Additional Information (Comment on hazards - e.g., asbestos, known high contamination)
1	MB01	47.9m/slight smell	15/09/2024	7	W	X	X	X	X	X	X							☐	☐	
2	MB02	46.7m/clear	15/09/2024	7	W	X	X	X	X	X	X							☐	☐	
3	MB03	55m/clear	15/09/2024	7	W	X	X	X	X	X	X							☐	☐	
4	MB04	44.9m/cloudy	15/09/2024	7	W	X	X	X	X	X	X							☐	☐	
																		☐	☐	7 BORE SAMPLES SUPPLIED
5	MB06	51m/clear	15/09/2024	7	W	X	X	X	X	X	X							☐	☐	
6	MB07	42m/crystal clear	15/09/2024	7	W	X	X	X	X	X	X							☐	☐	
-	RB04	no sample																☐	☐	
																		☐	☐	
7	HF PIT	from source/bucket/murky	15/09/2024	7	W	X	X	X	X	X	X							☐	☐	
-	RB08 Bullo	no sample																☐	☐	

| | | | | | | | | | | | | | | | | | |

CERTIFICATE OF ANALYSIS

Work Order	: **EM2415986**	Page	: 1 of 11
Client	: **WHITE DAM GOLD PRODUCTION JOINT VENTURE**	Laboratory	: Environmental Division Melbourne
Contact	: WILLEM STOLTZ	Contact	: Kieren Burns
Address	: White Dam Gold Mine PMB 23 Via Cockburn SOUTH AUSTRALIA	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61881625130
Project	: White Dam Gold Mine	Date Samples Received	: 18-Sep-2024 12:15
Order number	: WD4889	Date Analysis Commenced	: 20-Sep-2024
C-O-C number	: ----	Issue Date	: 28-Sep-2024 20:36
Sampler	: JO FOSTER		
Site	: White Dam Gold Mine		
Quote number	: EM24WHIDAM0002		
No. of samples received	: 7		
No. of samples analysed	: 7		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- As per QWI – EN55-3 Data Interpreting Procedures, Ionic balances are typically calculated using Major Anions - Chloride, Alkalinity and Sulfate; and Major Cations - Calcium, Magnesium, Potassium and Sodium. Where applicable and dependent upon sample matrix, the Ionic Balance may also include the additional contribution of Ammonia, Dissolved Metals by ICPMS and H+ to the Cations and Nitrate, SiO2 and Fluoride to the Anions.
- EK085: EM2415986 #1has been diluted prior to analysis and LOR has been raised accordingly.
- EG035: Poor matrix spike recovery was obtained for Mercury on sample EM2415986 # 1. Confirmed by re-analysis.
- Ionic Balance out of acceptable limits for sample #3 due to analytes not quantified in this report.
- EA016: Calculated TDS is determined from Electrical conductivity using a conversion factor of 0.65.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- ED045G: The presence of Thiocyanate, Thiosulfate and Sulfite can positively contribute to the chloride result, thereby may bias results higher than expected. Results should be scrutinised accordingly.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MB01 47.9m/slight smell	MB02 46.7m/clear	MB03 55m/clear	MB04 44.9m/cloudy	MB06 51m/clear
				Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00
Compound	CAS Number	LOR	Unit		EM2415986-001	EM2415986-002	EM2415986-003	EM2415986-004	EM2415986-005
					Result	Result	Result	Result	Result
EA005P: pH by PC Titrator									
pH Value	----	0.01	pH Unit		7.41	7.65	7.69	7.22	7.28
EA010P: Conductivity by PC Titrator									
Electrical Conductivity @ 25°C	----	1	µS/cm		54500	27500	19900	30900	33200
EA016: Calculated TDS (from Electrical Conductivity)									
Total Dissolved Solids (Calc.)	----	1	mg/L		35400	17900	12900	20100	21600
EA065: Total Hardness as CaCO3									
Total Hardness as CaCO3	----	1	mg/L		9560	5370	2800	5460	5470
ED037P: Alkalinity by PC Titrator									
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L		<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L		<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L		183	168	209	130	112
Total Alkalinity as CaCO3	----	1	mg/L		183	168	209	130	112
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA									
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L		2760	2650	1720	2650	2370
ED045G: Chloride by Discrete Analyser									
Chloride	16887-00-6	1	mg/L		19500	8910	6190	10100	11100
ED093F: Dissolved Major Cations									
Calcium	7440-70-2	1	mg/L		2080	1160	492	1240	1180
Magnesium	7439-95-4	1	mg/L		1060	600	382	575	613
Sodium	7440-23-5	1	mg/L		8580	4830	2680	5040	4410
Potassium	7440-09-7	1	mg/L		51	66	38	34	44
EG020T: Total Metals by ICP-MS									
Aluminium	7429-90-5	0.01	mg/L		1.68	0.16	0.06	0.33	0.06
Arsenic	7440-38-2	0.001	mg/L		0.004	<0.001	<0.001	0.002	<0.001
Beryllium	7440-41-7	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L		<0.0001	0.0014	<0.0001	0.0018	0.0002
Chromium	7440-47-3	0.001	mg/L		0.002	0.001	0.001	0.016	<0.001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MB01 47.9m/slight smell	MB02 46.7m/clear	MB03 55m/clear	MB04 44.9m/cloudy	MB06 51m/clear
				Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00
Compound	CAS Number	LOR	Unit		EM2415986-001	EM2415986-002	EM2415986-003	EM2415986-004	EM2415986-005
					Result	Result	Result	Result	Result
EG020T: Total Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		**1.92**	**0.050**	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L		**0.005**	**0.088**	<0.001	**0.002**	**0.002**
Lead	7439-92-1	0.001	mg/L		**0.001**	<0.001	<0.001	**0.002**	<0.001
Lithium	7439-93-2	0.001	mg/L		**0.031**	**0.034**	**0.020**	**0.024**	**0.022**
Manganese	7439-96-5	0.001	mg/L		**18.3**	**0.949**	**0.384**	**0.012**	**0.011**
Molybdenum	7439-98-7	0.001	mg/L		**0.232**	**0.028**	**0.015**	**0.018**	**0.040**
Nickel	7440-02-0	0.001	mg/L		**0.096**	**0.107**	<0.001	**0.044**	**0.001**
Selenium	7782-49-2	0.01	mg/L		**0.03**	<0.01	<0.01	**0.01**	<0.01
Uranium	7440-61-1	0.001	mg/L		**0.218**	**0.099**	**0.009**	**0.084**	**0.021**
Vanadium	7440-62-2	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	7440-66-6	0.005	mg/L		**0.082**	**0.250**	**0.016**	**0.134**	**0.051**
Boron	7440-42-8	0.05	mg/L		**3.98**	**3.25**	**2.75**	**3.02**	**3.19**
Iron	7439-89-6	0.05	mg/L		**1.32**	**0.29**	**1.09**	**0.27**	**0.10**
Gold	7440-57-5	0.001	mg/L		**0.011**	<0.001	<0.001	**0.002**	**0.003**
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	0.004	mg/L		**0.056**	<0.004	<0.004	<0.004	<0.004
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		**1.47**	**0.005**	<0.004	<0.004	<0.004
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		**0.052**	<0.004	<0.004	<0.004	<0.004
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**1.8**	**2.6**	**2.4**	**1.1**	**2.3**
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.06**	**0.07**	**0.04**	**0.05**	**0.04**
EK057G: Nitrite as N by Discrete Analyser									

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MB01 47.9m/slight smell	MB02 46.7m/clear	MB03 55m/clear	MB04 44.9m/cloudy	MB06 51m/clear
				Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00
Compound	CAS Number	LOR	Unit		EM2415986-001	EM2415986-002	EM2415986-003	EM2415986-004	EM2415986-005
					Result	Result	Result	Result	Result
EK057G: Nitrite as N by Discrete Analyser - Continued									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	<0.01	<0.01	<0.01
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.29**	**0.14**	**1.45**	**0.62**	**1.44**
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.29**	**0.14**	**1.45**	**0.62**	**1.44**
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		**47.1**	**0.3**	**0.2**	**0.3**	**0.3**
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ Total Nitrogen as N	----	0.1	mg/L		**47.4**	**0.4**	**1.6**	**0.9**	**1.7**
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		**0.16**	**0.02**	**0.03**	**0.52**	**0.01**
EK085M: Sulfide as S2-									
Sulfide as S2-	18496-25-8	0.1	mg/L		<1.0	<0.1	<0.1	**0.1**	<0.1
EN055: Ionic Balance									
ø Total Anions	----	0.01	meq/L		**611**	**310**	**214**	**343**	**365**
ø Total Cations	----	0.01	meq/L		**566**	**319**	**174**	**329**	**302**
ø Ionic Balance	----	0.01	%		**3.88**	**1.46**	**10.6**	**1.99**	**9.36**
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	<20	<20	<20
C10 - C14 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L		<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L		<50	<50	<50	<50	<50
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L		<20	<20	<20	<20	<20
>C10 - C16 Fraction	----	100	µg/L		<100	<100	<100	<100	<100

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MB01 47.9m/slight smell	MB02 46.7m/clear	MB03 55m/clear	MB04 44.9m/cloudy	MB06 51m/clear
				Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00	15-Sep-2024 00:00
Compound	CAS Number	LOR	Unit		EM2415986-001	EM2415986-002	EM2415986-003	EM2415986-004	EM2415986-005
					Result	Result	Result	Result	Result
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C16 - C34 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L		<100	<100	<100	<100	<100
^ >C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L		<100	<100	<100	<100	<100
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L		<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L		<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L		<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L		<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L		<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L		<5	<5	<5	<5	<5
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**104**	**104**	**98.6**	**107**	**104**
Toluene-D8	2037-26-5	2	%		**92.4**	**93.8**	**92.6**	**93.6**	**92.7**
4-Bromofluorobenzene	460-00-4	2	%		**105**	**105**	**105**	**104**	**104**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	MB07 42m/crystal clear	HF PIT from source/bucket/murky	----	----	----
			Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit	EM2415986-006	EM2415986-007	--------	--------	--------
				Result	Result	----	----	----
EA005P: pH by PC Titrator								
pH Value	----	0.01	pH Unit	**7.50**	**7.18**	----	----	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	**31800**	**14500**	----	----	----
EA016: Calculated TDS (from Electrical Conductivity)								
Total Dissolved Solids (Calc.)	----	1	mg/L	**20700**	**9420**	----	----	----
EA065: Total Hardness as CaCO3								
Total Hardness as CaCO3	----	1	mg/L	**5860**	**2870**	----	----	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	----	----	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	----	----	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	**128**	**66**	----	----	----
Total Alkalinity as CaCO3	----	1	mg/L	**128**	**66**	----	----	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	**2260**	**1390**	----	----	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	**10600**	**4400**	----	----	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	**1300**	**504**	----	----	----
Magnesium	7439-95-4	1	mg/L	**636**	**391**	----	----	----
Sodium	7440-23-5	1	mg/L	**5580**	**2740**	----	----	----
Potassium	7440-09-7	1	mg/L	**44**	**39**	----	----	----
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	0.01	mg/L	<0.01	**0.48**	----	----	----
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	----	----	----
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	----	----	----
Cadmium	7440-43-9	0.0001	mg/L	**0.0003**	**0.0886**	----	----	----
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MB07 42m/crystal clear	HF PIT from source/bucket/murky	----	----	----
				Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2415986-006	EM2415986-007	--------	--------	--------
					Result	Result	----	----	----
EG020T: Total Metals by ICP-MS - Continued									
Cobalt	7440-48-4	0.001	mg/L		<0.001	**1.31**	----	----	----
Copper	7440-50-8	0.001	mg/L		**0.002**	**0.965**	----	----	----
Lead	7439-92-1	0.001	mg/L		<0.001	**0.002**	----	----	----
Lithium	7439-93-2	0.001	mg/L		**0.018**	**0.038**	----	----	----
Manganese	7439-96-5	0.001	mg/L		<0.001	**3.82**	----	----	----
Molybdenum	7439-98-7	0.001	mg/L		**0.012**	**0.013**	----	----	----
Nickel	7440-02-0	0.001	mg/L		**0.001**	**1.59**	----	----	----
Selenium	7782-49-2	0.01	mg/L		<0.01	**0.31**	----	----	----
Uranium	7440-61-1	0.001	mg/L		**0.064**	**0.249**	----	----	----
Vanadium	7440-62-2	0.01	mg/L		<0.01	<0.01	----	----	----
Zinc	7440-66-6	0.005	mg/L		**0.065**	**13.1**	----	----	----
Boron	7440-42-8	0.05	mg/L		**3.26**	**1.52**	----	----	----
Iron	7439-89-6	0.05	mg/L		<0.05	**2.27**	----	----	----
Gold	7440-57-5	0.001	mg/L		**0.003**	<0.001	----	----	----
EG035T: Total Recoverable Mercury by FIMS									
Mercury	7439-97-6	0.0001	mg/L		<0.0001	<0.0001	----	----	----
EK025SF: Free CN by Segmented Flow Analyser									
Free Cyanide	----	0.004	mg/L		<0.004	<0.004	----	----	----
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		<0.004	<0.004	----	----	----
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser									
Weak Acid Dissociable Cyanide	----	0.004	mg/L		<0.004	<0.004	----	----	----
EK040P: Fluoride by PC Titrator									
Fluoride	16984-48-8	0.1	mg/L		**2.0**	**1.3**	----	----	----
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		**0.04**	**0.09**	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MB07 42m/crystal clear	HF PIT from source/bucket/murky	----	----	----
				Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2415986-006	EM2415986-007	--------	--------	--------
					Result	Result	----	----	----
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<0.01	<0.01	----	----	----
EK058G: Nitrate as N by Discrete Analyser									
Nitrate as N	14797-55-8	0.01	mg/L		**0.11**	**0.18**	----	----	----
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	----	0.01	mg/L		**0.11**	**0.18**	----	----	----
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	----	0.1	mg/L		**0.2**	**0.4**	----	----	----
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
^ **Total Nitrogen as N**	----	0.1	mg/L		**0.3**	**0.6**	----	----	----
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	----	0.01	mg/L		<0.01	**0.02**	----	----	----
EK085M: Sulfide as S2-									
Sulfide as S2-	18496-25-8	0.1	mg/L		<0.1	<0.1	----	----	----
EN055: Ionic Balance									
ø **Total Anions**	----	0.01	meq/L		**349**	**154**	----	----	----
ø **Total Cations**	----	0.01	meq/L		**361**	**178**	----	----	----
ø **Ionic Balance**	----	0.01	%		**1.75**	**6.97**	----	----	----
EP080/071: Total Petroleum Hydrocarbons									
C6 - C9 Fraction	----	20	µg/L		<20	<20	----	----	----
C10 - C14 Fraction	----	50	µg/L		<50	<50	----	----	----
C15 - C28 Fraction	----	100	µg/L		<100	<100	----	----	----
C29 - C36 Fraction	----	50	µg/L		<50	<50	----	----	----
^ **C10 - C36 Fraction (sum)**	----	50	µg/L		<50	<50	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions									
C6 - C10 Fraction	C6_C10	20	µg/L		<20	<20	----	----	----
^ **C6 - C10 Fraction minus BTEX (F1)**	C6_C10-BTEX	20	µg/L		<20	<20	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)				Sample ID	MB07 42m/crystal clear	HF PIT from source/bucket/murky	----	----	----
				Sampling date / time	15-Sep-2024 00:00	15-Sep-2024 00:00	----	----	----
Compound	CAS Number	LOR	Unit		EM2415986-006	EM2415986-007	--------	--------	--------
					Result	Result	----	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued									
>C10 - C16 Fraction	----	100	µg/L		<100	<100	----	----	----
>C16 - C34 Fraction	----	100	µg/L		<100	<100	----	----	----
>C34 - C40 Fraction	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C40 Fraction (sum)**	----	100	µg/L		<100	<100	----	----	----
^ **>C10 - C16 Fraction minus Naphthalene (F2)**	----	100	µg/L		<100	<100	----	----	----
EP080: BTEXN									
Benzene	71-43-2	1	µg/L		<1	<1	----	----	----
Toluene	108-88-3	2	µg/L		<2	<2	----	----	----
Ethylbenzene	100-41-4	2	µg/L		<2	<2	----	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L		<2	<2	----	----	----
ortho-Xylene	95-47-6	2	µg/L		<2	<2	----	----	----
^ **Total Xylenes**	----	2	µg/L		<2	<2	----	----	----
^ **Sum of BTEX**	----	1	µg/L		<1	<1	----	----	----
Naphthalene	91-20-3	5	µg/L		<5	<5	----	----	----
EP080S: TPH(V)/BTEX Surrogates									
1.2-Dichloroethane-D4	17060-07-0	2	%		**104**	**102**	----	----	----
Toluene-D8	2037-26-5	2	%		**97.8**	**92.7**	----	----	----
4-Bromofluorobenzene	460-00-4	2	%		**109**	**100**	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	73	129
Toluene-D8	2037-26-5	70	125
4-Bromofluorobenzene	460-00-4	71	129

Inter-Laboratory Testing

Analysis conducted by ALS Sydney, NATA accreditation no. 825, site no. 10911 (Chemistry / Biology).

(WATER) EG020T: Total Metals by ICP-MS

(WATER) EG035T: Total Recoverable Mercury by FIMS

QUALITY CONTROL REPORT

Work Order	: **EM2415986**	Page	: 1 of 10
Client	: **WHITE DAM GOLD PRODUCTION JOINT VENTURE**	Laboratory	: Environmental Division Melbourne
Contact	: WILLEM STOLTZ	Contact	: Kieren Burns
Address	: White Dam Gold Mine PMB 23 Via Cockburn SOUTH AUSTRALIA	Address	: 4 Westall Rd Springvale VIC Australia 3171
Telephone	: ----	Telephone	: +61881625130
Project	: White Dam Gold Mine	Date Samples Received	: 18-Sep-2024
Order number	: WD4889	Date Analysis Commenced	: 20-Sep-2024
C-O-C number	: ----	Issue Date	: 28-Sep-2024
Sampler	: JO FOSTER		
Site	: White Dam Gold Mine		
Quote number	: EM24WHIDAM0002		
No. of samples received	: 7		
No. of samples analysed	: 7		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Dilani Fernando	Laboratory Coordinator	Melbourne Inorganics, Springvale, VIC
Jarwis Nheu	Non-Metals Team Leader	Melbourne Inorganics, Springvale, VIC
Xing Lin	Senior Organic Chemist	Melbourne Organics, Springvale, VIC

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC
* = The final LOR has been raised due to dilution or other sample specific cause; adjusted LOR is shown in brackets. The duplicate ranges for Acceptable RPD% are applied to the final LOR where applicable.

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EA005P: pH by PC Titrator (QC Lot: 6068387)									
EM2415986-001	MB01 47.9m/slight smell	EA005-P: pH Value	----	0.01	pH Unit	7.41	7.51	1.3	0% - 20%
EM2415961-006	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	7.22	7.18	0.6	0% - 20%
EA005P: pH by PC Titrator (QC Lot: 6068390)									
EM2415989-001	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	6.98	6.96	0.3	0% - 20%
EM2415990-006	Anonymous	EA005-P: pH Value	----	0.01	pH Unit	6.11	6.10	0.2	0% - 20%
EA010P: Conductivity by PC Titrator (QC Lot: 6068389)									
EM2415986-001	MB01 47.9m/slight smell	EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	54500	53800	1.4	0% - 20%
EM2415989-001	Anonymous	EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	3660	3630	0.9	0% - 20%
ED037P: Alkalinity by PC Titrator (QC Lot: 6068388)									
EM2415989-001	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	126	129	2.3	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	126	129	2.3	0% - 20%
EM2415961-006	Anonymous	ED037-P: Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	0.0	No Limit
		ED037-P: Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	418	415	0.8	0% - 20%
		ED037-P: Total Alkalinity as CaCO3	----	1	mg/L	418	415	0.8	0% - 20%
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QC Lot: 6073600)									
EM2415850-001	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	<1	0.0	No Limit
EM2416094-002	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	405	405	0.0	0% - 20%

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report					
				LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
ED045G: Chloride by Discrete Analyser (QC Lot: 6073599)									
EM2415850-001	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	47	48	0.0	0% - 20%
EM2416094-002	Anonymous	ED045G: Chloride	16887-00-6	1	mg/L	1410	1430	1.1	0% - 20%
ED093F: Dissolved Major Cations (QC Lot: 6075597)									
EM2415907-002	Anonymous	ED093F: Calcium	7440-70-2	1	mg/L	13	14	0.0	0% - 50%
		ED093F: Magnesium	7439-95-4	1	mg/L	2	2	0.0	No Limit
		ED093F: Sodium	7440-23-5	1	mg/L	204	205	0.0	0% - 20%
		ED093F: Potassium	7440-09-7	1	mg/L	205	208	1.4	0% - 20%
EM2415986-002	MB02 46.7m/clear	ED093F: Calcium	7440-70-2	1 (2)*	mg/L	1160	1100	5.7	0% - 20%
		ED093F: Magnesium	7439-95-4	1 (2)*	mg/L	600	568	5.5	0% - 20%
		ED093F: Sodium	7440-23-5	1 (2)*	mg/L	4830	4570	5.4	0% - 20%
		ED093F: Potassium	7440-09-7	1 (2)*	mg/L	66	62	5.2	0% - 20%
EG020T: Total Metals by ICP-MS (QC Lot: 6070926)									
EM2415986-001	MB01 47.9m/slight smell	EG020E-T: Gold	7440-57-5	0.001	mg/L	0.011	0.010	0.0	0% - 50%
EG020T: Total Metals by ICP-MS (QC Lot: 6070927)									
EW2404289-001	Anonymous	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Lithium	7439-93-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Molybdenum	7439-98-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	<0.005	0.0	No Limit
		EG020A-T: Aluminium	7429-90-5	0.01	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-T: Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-T: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-T: Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	0.0	No Limit
		EG020A-T: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EM2415986-001	MB01 47.9m/slight smell	EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
		EG020A-T: Arsenic	7440-38-2	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-T: Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-T: Chromium	7440-47-3	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-T: Cobalt	7440-48-4	0.001	mg/L	1.92	1.94	0.7	0% - 20%
		EG020A-T: Copper	7440-50-8	0.001	mg/L	0.005	0.005	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EG020T: Total Metals by ICP-MS (QC Lot: 6070927) - continued									
EM2415986-001	MB01 47.9m/slight smell	EG020A-T: Lead	7439-92-1	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-T: Lithium	7439-93-2	0.001	mg/L	0.031	0.025	19.2	0% - 20%
		EG020A-T: Manganese	7439-96-5	0.001	mg/L	18.3	18.2	0.5	0% - 20%
		EG020A-T: Molybdenum	7439-98-7	0.001	mg/L	0.232	0.237	1.8	0% - 20%
		EG020A-T: Nickel	7440-02-0	0.001	mg/L	0.096	0.097	1.7	0% - 20%
		EG020A-T: Zinc	7440-66-6	0.005	mg/L	0.082	0.083	1.9	0% - 50%
		EG020A-T: Aluminium	7429-90-5	0.01	mg/L	1.68	1.75	3.9	0% - 20%
		EG020A-T: Selenium	7782-49-2	0.01	mg/L	0.03	0.04	0.0	No Limit
		EG020A-T: Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	0.0	No Limit
		EG020A-T: Boron	7440-42-8	0.05	mg/L	3.98	3.40	15.7	0% - 20%
		EG020A-T: Iron	7439-89-6	0.05	mg/L	1.32	1.37	3.3	0% - 20%
EG020T: Total Metals by ICP-MS (QC Lot: 6070928)									
EM2415986-001	MB01 47.9m/slight smell	EG020B-T: Uranium	7440-61-1	0.001	mg/L	0.218	0.214	1.8	0% - 20%
EG035T: Total Recoverable Mercury by FIMS (QC Lot: 6075830)									
EM2415986-002	MB02 46.7m/clear	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EN2411329-003	Anonymous	EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	0.0	No Limit
EK025SF: Free CN by Segmented Flow Analyser (QC Lot: 6069222)									
EM2415963-008	Anonymous	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2415959-001	Anonymous	EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6069220)									
EM2415970-008	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EM2415959-001	Anonymous	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK026SF: Total CN by Segmented Flow Analyser (QC Lot: 6069223)									
EM2415986-003	MB03 55m/clear	EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QC Lot: 6069221)									
EM2416016-003	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	0.005	0.006	20.0	No Limit
EM2415959-001	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	<0.004	0.0	No Limit
EK040P: Fluoride by PC Titrator (QC Lot: 6068385)									
EM2415779-002	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.1	0.1	0.0	No Limit
EM2415961-006	Anonymous	EK040P: Fluoride	16984-48-8	0.1	mg/L	0.5	0.5	0.0	No Limit
EK055G: Ammonia as N by Discrete Analyser (QC Lot: 6073701)									
EM2415938-007	Anonymous	EK055G: Ammonia as N	7664-41-7	0.01	mg/L	0.01	0.01	0.0	No Limit
EM2415986-002	MB02 46.7m/clear	EK055G: Ammonia as N	7664-41-7	0.01 (0.02)*	mg/L	0.07	0.06	17.1	No Limit
EK057G: Nitrite as N by Discrete Analyser (QC Lot: 6073598)									
EM2415850-001	Anonymous	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit
EM2416094-002	Anonymous	EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	<0.01	0.0	No Limit

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*LOR*	*Unit*	*Original Result*	*Duplicate Result*	*RPD (%)*	*Acceptable RPD (%)*
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QC Lot: 6073702)									
EM2415938-007	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	0.04	0.04	0.0	No Limit
EM2415986-002	MB02 46.7m/clear	EK059G: Nitrite + Nitrate as N	----	0.01 (0.02)*	mg/L	0.14	0.12	11.0	No Limit
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QC Lot: 6074961)									
EM2415907-001	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	0.1 (0.5)*	mg/L	7.0	7.0	0.0	0% - 50%
EM2415986-002	MB02 46.7m/clear	EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	0.3	0.4	0.0	No Limit
EK067G: Total Phosphorus as P by Discrete Analyser (QC Lot: 6074962)									
EM2415907-001	Anonymous	EK067G: Total Phosphorus as P	----	0.01 (0.05)*	mg/L	10.6	11.3	6.9	0% - 20%
EM2415986-002	MB02 46.7m/clear	EK067G: Total Phosphorus as P	----	0.01	mg/L	0.02	0.03	0.0	No Limit
EK085M: Sulfide as S2- (QC Lot: 6069067)									
EM2415953-001	Anonymous	EK085: Sulfide as S2-	18496-25-8	0.1	mg/L	0.1	0.1	0.0	No Limit
EP080/071: Total Petroleum Hydrocarbons (QC Lot: 6066786)									
EM2415758-019	Anonymous	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EM2415986-002	MB02 46.7m/clear	EP080: C6 - C9 Fraction	----	20	µg/L	<20	<20	0.0	No Limit
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QC Lot: 6066786)									
EM2415758-019	Anonymous	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EM2415986-002	MB02 46.7m/clear	EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	0.0	No Limit
EP080: BTEXN (QC Lot: 6066786)									
EM2415758-019	Anonymous	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit
EM2415986-002	MB02 46.7m/clear	EP080: Benzene	71-43-2	1	µg/L	<1	<1	0.0	No Limit
		EP080: Toluene	108-88-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: Ethylbenzene	100-41-4	2	µg/L	<2	<2	0.0	No Limit
		EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	0.0	No Limit
		EP080: ortho-Xylene	95-47-6	2	µg/L	<2	<2	0.0	No Limit
		EP080: Naphthalene	91-20-3	5	µg/L	<5	<5	0.0	No Limit

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EA005P: pH by PC Titrator (QCLot: 6068387)								
EA005-P: pH Value	----	----	pH Unit	----	4 pH Unit	99.2	98.8	101
				----	7 pH Unit	100	99.3	101
EA005P: pH by PC Titrator (QCLot: 6068390)								
EA005-P: pH Value	----	----	pH Unit	----	4 pH Unit	99.2	98.8	101
				----	7 pH Unit	100	99.3	101
EA010P: Conductivity by PC Titrator (QCLot: 6068389)								
EA010-P: Electrical Conductivity @ 25°C	----	1	µS/cm	<1	1412 µS/cm	102	85.0	119
ED037P: Alkalinity by PC Titrator (QCLot: 6068388)								
ED037-P: Total Alkalinity as CaCO3	----	----	mg/L	----	200 mg/L	98.2	85.0	116
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6073600)								
ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<1	500 mg/L	104	90.0	110
				<1	25 mg/L	102	90.0	110
ED045G: Chloride by Discrete Analyser (QCLot: 6073599)								
ED045G: Chloride	16887-00-6	1	mg/L	<1	1000 mg/L	104	90.0	110
				<1	10 mg/L	103	90.0	110
ED093F: Dissolved Major Cations (QCLot: 6075597)								
ED093F: Calcium	7440-70-2	1	mg/L	<1	50 mg/L	99.2	80.0	120
ED093F: Magnesium	7439-95-4	1	mg/L	<1	50 mg/L	98.3	80.0	120
ED093F: Sodium	7440-23-5	1	mg/L	<1	50 mg/L	98.4	80.0	120
ED093F: Potassium	7440-09-7	1	mg/L	<1	50 mg/L	95.8	80.0	120
EG020T: Total Metals by ICP-MS (QCLot: 6070926)								
EG020E-T: Gold	7440-57-5	0.001	mg/L	<0.001	0.1 mg/L	73.3	70.0	130
EG020T: Total Metals by ICP-MS (QCLot: 6070927)								
EG020A-T: Aluminium	7429-90-5	0.01	mg/L	<0.01	0.5 mg/L	89.7	82.0	120
EG020A-T: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	92.8	82.0	114
EG020A-T: Beryllium	7440-41-7	0.001	mg/L	<0.001	0.1 mg/L	109	79.0	119
EG020A-T: Cadmium	7440-43-9	0.0001	mg/L	<0.0001	0.1 mg/L	91.3	84.0	112
EG020A-T: Chromium	7440-47-3	0.001	mg/L	<0.001	0.1 mg/L	88.9	86.0	116
EG020A-T: Cobalt	7440-48-4	0.001	mg/L	<0.001	0.1 mg/L	90.6	84.0	116
EG020A-T: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	91.7	83.0	118

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020T: Total Metals by ICP-MS (QCLot: 6070927) - continued								
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1 mg/L	90.2	85.0	115
EG020A-T: Lithium	7439-93-2	0.001	mg/L	<0.001	0.1 mg/L	106	82.0	122
EG020A-T: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	89.9	85.0	113
EG020A-T: Molybdenum	7439-98-7	0.001	mg/L	<0.001	0.1 mg/L	95.4	83.0	121
EG020A-T: Nickel	7440-02-0	0.001	mg/L	<0.001	0.1 mg/L	93.1	84.0	116
EG020A-T: Selenium	7782-49-2	0.01	mg/L	<0.01	0.1 mg/L	96.9	68.0	126
EG020A-T: Vanadium	7440-62-2	0.01	mg/L	<0.01	0.1 mg/L	89.8	85.0	113
EG020A-T: Zinc	7440-66-6	0.005	mg/L	<0.005	0.1 mg/L	94.9	79.0	117
EG020A-T: Boron	7440-42-8	0.05	mg/L	<0.05	0.5 mg/L	102	75.0	129
EG020A-T: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	88.1	85.0	117
EG020T: Total Metals by ICP-MS (QCLot: 6070928)								
EG020B-T: Uranium	7440-61-1	0.001	mg/L	<0.001	0.1 mg/L	88.9	85.0	115
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6075830)								
EG035T: Mercury	7439-97-6	0.0001	mg/L	<0.0001	0.01 mg/L	90.0	77.0	111
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6069222)								
EK025SF: Free Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	90.2	85.8	115
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6069220)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	104	77.7	116
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6069223)								
EK026SF: Total Cyanide	57-12-5	0.004	mg/L	<0.004	0.2 mg/L	83.6	77.7	116
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6069221)								
EK028SF: Weak Acid Dissociable Cyanide	----	0.004	mg/L	<0.004	0.2 mg/L	102	82.6	119
EK040P: Fluoride by PC Titrator (QCLot: 6068385)								
EK040P: Fluoride	16984-48-8	0.1	mg/L	<0.1	5 mg/L	94.5	80.8	118
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6073701)								
EK055G: Ammonia as N	7664-41-7	0.01	mg/L	<0.01	1 mg/L	92.7	90.0	110
EK057G: Nitrite as N by Discrete Analyser (QCLot: 6073598)								
EK057G: Nitrite as N	14797-65-0	0.01	mg/L	<0.01	0.5 mg/L	91.8	90.0	110
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 6073702)								
EK059G: Nitrite + Nitrate as N	----	0.01	mg/L	<0.01	0.5 mg/L	104	90.0	110
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 6074961)								
EK061G: Total Kjeldahl Nitrogen as N	----	0.1	mg/L	<0.1	10 mg/L	88.8	70.0	117
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 6074962)								
EK067G: Total Phosphorus as P	----	0.01	mg/L	<0.01	4.42 mg/L	96.0	71.9	114

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EK085M: Sulfide as S2- (QCLot: 6069067)								
EK085: Sulfide as S2-	18496-25-8	0.1	mg/L	<0.1	0.5 mg/L	106	81.9	116
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6066786)								
EP080: C6 - C9 Fraction	----	20	µg/L	<20	360 µg/L	109	66.2	134
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6067880)								
EP071: C10 - C14 Fraction	----	50	µg/L	<50	4840 µg/L	110	47.2	122
EP071: C15 - C28 Fraction	----	100	µg/L	<100	15400 µg/L	119	52.9	131
EP071: C29 - C36 Fraction	----	50	µg/L	<50	8450 µg/L	115	50.4	127
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6066786)								
EP080: C6 - C10 Fraction	C6_C10	20	µg/L	<20	450 µg/L	108	66.2	132
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6067880)								
EP071: >C10 - C16 Fraction	----	100	µg/L	<100	6590 µg/L	112	49.1	125
EP071: >C16 - C34 Fraction	----	100	µg/L	<100	20400 µg/L	120	51.6	128
EP071: >C34 - C40 Fraction	----	100	µg/L	<100	1500 µg/L	118	47.2	130
EP080: BTEXN (QCLot: 6066786)								
EP080: Benzene	71-43-2	1	µg/L	<1	20 µg/L	101	68.8	127
EP080: Toluene	108-88-3	2	µg/L	<2	20 µg/L	103	72.9	129
EP080: Ethylbenzene	100-41-4	2	µg/L	<2	20 µg/L	105	71.7	130
EP080: meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	40 µg/L	111	72.3	136
EP080: ortho-Xylene	95-47-6	2	µg/L	<2	20 µg/L	112	75.9	134
EP080: Naphthalene	91-20-3	5	µg/L	<5	5 µg/L	106	68.3	131

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA (QCLot: 6073600)							
EM2415937-008	Anonymous	ED041G: Sulfate as SO4 - Turbidimetric	14808-79-8	100 mg/L	122	70.0	130
ED045G: Chloride by Discrete Analyser (QCLot: 6073599)							
EM2415937-008	Anonymous	ED045G: Chloride	16887-00-6	400 mg/L	103	70.0	142
EG020T: Total Metals by ICP-MS (QCLot: 6070927)							
EM2415986-002	MB02 46.7m/clear	EG020A-T: Arsenic	7440-38-2	1 mg/L	102	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EG020T: Total Metals by ICP-MS (QCLot: 6070927) - continued							
EM2415986-002	MB02 46.7m/clear	EG020A-T: Beryllium	7440-41-7	1 mg/L	79.7	70.0	130
		EG020A-T: Cadmium	7440-43-9	0.25 mg/L	89.6	70.0	130
		EG020A-T: Chromium	7440-47-3	1 mg/L	84.2	70.0	130
		EG020A-T: Cobalt	7440-48-4	1 mg/L	91.2	70.0	130
		EG020A-T: Copper	7440-50-8	1 mg/L	86.4	70.0	130
		EG020A-T: Lead	7439-92-1	1 mg/L	90.0	70.0	130
		EG020A-T: Manganese	7439-96-5	1 mg/L	88.2	70.0	130
		EG020A-T: Nickel	7440-02-0	1 mg/L	88.9	70.0	130
		EG020A-T: Vanadium	7440-62-2	1 mg/L	89.5	70.0	130
		EG020A-T: Zinc	7440-66-6	1 mg/L	90.1	70.0	130
EG035T: Total Recoverable Mercury by FIMS (QCLot: 6075830)							
EM2415986-001	MB01 47.9m/slight smell	EG035T: Mercury	7439-97-6	0.01 mg/L	# 57.3	70.0	130
EK025SF: Free CN by Segmented Flow Analyser (QCLot: 6069222)							
EM2415959-004	Anonymous	EK025SF: Free Cyanide	----	0.2 mg/L	93.6	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6069220)							
EM2415959-004	Anonymous	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	100	70.0	130
EK026SF: Total CN by Segmented Flow Analyser (QCLot: 6069223)							
EM2415986-004	MB04 44.9m/cloudy	EK026SF: Total Cyanide	57-12-5	0.2 mg/L	101	70.0	130
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser (QCLot: 6069221)							
EM2415959-004	Anonymous	EK028SF: Weak Acid Dissociable Cyanide	----	0.2 mg/L	121	70.0	130
EK040P: Fluoride by PC Titrator (QCLot: 6068385)							
EM2415779-003	Anonymous	EK040P: Fluoride	16984-48-8	5 mg/L	88.4	70.0	130
EK055G: Ammonia as N by Discrete Analyser (QCLot: 6073701)							
EM2415939-001	Anonymous	EK055G: Ammonia as N	7664-41-7	1 mg/L	93.4	70.0	130
EK057G: Nitrite as N by Discrete Analyser (QCLot: 6073598)							
EM2415937-008	Anonymous	EK057G: Nitrite as N	14797-65-0	0.5 mg/L	102	80.0	114
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser (QCLot: 6073702)							
EM2415939-001	Anonymous	EK059G: Nitrite + Nitrate as N	----	0.5 mg/L	99.9	70.0	130
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser (QCLot: 6074961)							
EM2415907-002	Anonymous	EK061G: Total Kjeldahl Nitrogen as N	----	25 mg/L	71.1	70.0	130
EK067G: Total Phosphorus as P by Discrete Analyser (QCLot: 6074962)							
EM2415907-002	Anonymous	EK067G: Total Phosphorus as P	----	5 mg/L	84.7	70.0	130
EK085M: Sulfide as S2- (QCLot: 6069067)							
EM2415986-001	MB01 47.9m/slight smell	EK085: Sulfide as S2-	18496-25-8	5 mg/L	76.0	70.0	130

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	*Sample ID*	*Method: Compound*	*CAS Number*	*Concentration*	*MS*	*Low*	*High*
EP080/071: Total Petroleum Hydrocarbons (QCLot: 6066786)							
EM2415758-020	Anonymous	EP080: C6 - C9 Fraction	----	280 µg/L	96.6	33.9	126
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions (QCLot: 6066786)							
EM2415758-020	Anonymous	EP080: C6 - C10 Fraction	C6_C10	330 µg/L	91.1	34.0	122
EP080: BTEXN (QCLot: 6066786)							
EM2415758-020	Anonymous	EP080: Benzene	71-43-2	20 µg/L	113	56.3	133
		EP080: Toluene	108-88-3	20 µg/L	115	60.4	132

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **EM2415986**	Page	: 1 of 12
Client	: **WHITE DAM GOLD PRODUCTION JOINT VENTURE**	Laboratory	: Environmental Division Melbourne
Contact	: WILLEM STOLTZ	Telephone	: +61881625130
Project	: White Dam Gold Mine	Date Samples Received	: 18-Sep-2024
Site	: White Dam Gold Mine	Issue Date	: 28-Sep-2024
Sampler	: JO FOSTER	No. of samples received	: 7
Order number	: WD4889	No. of samples analysed	: 7

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **Matrix Spike outliers exist - please see following pages for full details.**
- **For all regular sample matrices, where applicable to the methodology, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **Analysis Holding Time Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **WATER**

Compound Group Name	Laboratory Sample ID	Client Sample ID	Analyte	CAS Number	Data	Limits	Comment
Matrix Spike (MS) Recoveries							
EG035T: Total Recoverable Mercury by FIMS	EM2415986--001	MB01 47.9m/slight smell	**Mercury**	7439-97-6	57.3 %	70.0-130%	**Recovery less than lower data quality objective**

Outliers : Analysis Holding Time Compliance

Matrix: **WATER**

Method / Container / Client Sample ID(s)		Extraction / Preparation: Date extracted	Extraction / Preparation: Due for extraction	Extraction / Preparation: Days overdue	Analysis: Date analysed	Analysis: Due for analysis	Analysis: Days overdue
EA005P: pH by PC Titrator							
Clear Plastic Bottle - Natural							
MB01 - 47.9m/slight smell,	MB02 - 46.7m/clear,	----	----	----	23-Sep-2024	15-Sep-2024	**8**
MB03 - 55m/clear,	MB04 - 44.9m/cloudy,						
MB06 - 51m/clear,	MB07 - 42m/crystal clear,						
HF PIT - from source/bucket/murky							
EA065: Total Hardness as CaCO3							
Clear Plastic Bottle - Natural							
MB01 - 47.9m/slight smell,	MB02 - 46.7m/clear,	----	----	----	24-Sep-2024	22-Sep-2024	**2**
MB03 - 55m/clear,	MB04 - 44.9m/cloudy,						
MB06 - 51m/clear,	MB07 - 42m/crystal clear,						
HF PIT - from source/bucket/murky							
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural							
MB01 - 47.9m/slight smell,	MB02 - 46.7m/clear,	----	----	----	24-Sep-2024	22-Sep-2024	**2**
MB03 - 55m/clear,	MB04 - 44.9m/cloudy,						
MB06 - 51m/clear,	MB07 - 42m/crystal clear,						
HF PIT - from source/bucket/murky							
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural							
MB01 - 47.9m/slight smell,	MB02 - 46.7m/clear,	----	----	----	24-Sep-2024	17-Sep-2024	**7**
MB03 - 55m/clear,	MB04 - 44.9m/cloudy,						
MB06 - 51m/clear,	MB07 - 42m/crystal clear,						
HF PIT - from source/bucket/murky							

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type / Analytical Methods	Method	Count: QC	Count: Regular	Rate (%): Actual	Rate (%): Expected	Quality Control Specification
Laboratory Duplicates (DUP)						
TRH - Semivolatile Fraction	EP071	0	20	0.00	10.00	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)						

Matrix: **WATER**

Quality Control Sample Type		Count		Rate (%)		Quality Control Specification
Analytical Methods	Method	QC	Regular	Actual	Expected	
Matrix Spikes (MS) - Continued						
TRH - Semivolatile Fraction	EP071	0	20	0.00	5.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*	*Sample Date*	*Extraction / Preparation*			*Analysis*		
		Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EA005P: pH by PC Titrator							
Clear Plastic Bottle - Natural (EA005-P)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**23-Sep-2024**	15-Sep-2024	×
EA010P: Conductivity by PC Titrator							
Clear Plastic Bottle - Natural (EA010-P)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**23-Sep-2024**	13-Oct-2024	✓
EA065: Total Hardness as CaCO3							
Clear Plastic Bottle - Natural (ED093F)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**24-Sep-2024**	22-Sep-2024	×
ED037P: Alkalinity by PC Titrator							
Clear Plastic Bottle - Natural (ED037-P)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**23-Sep-2024**	29-Sep-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA							
Clear Plastic Bottle - Natural (ED041G)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**24-Sep-2024**	13-Oct-2024	✓
ED045G: Chloride by Discrete Analyser							
Clear Plastic Bottle - Natural (ED045G)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**24-Sep-2024**	13-Oct-2024	✓
ED093F: Dissolved Major Cations							
Clear Plastic Bottle - Natural (ED093F)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**24-Sep-2024**	22-Sep-2024	×
EG020T: Total Metals by ICP-MS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG020E-T)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**21-Sep-2024**	14-Mar-2025	✓	**23-Sep-2024**	14-Mar-2025	✓
EG035T: Total Recoverable Mercury by FIMS							
Clear Plastic Bottle - Nitric Acid; Unfiltered (EG035T)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**26-Sep-2024**	13-Oct-2024	✓
EK025SF: Free CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK025SF)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**23-Sep-2024**	29-Sep-2024	✓
EK026SF: Total CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK026SF)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**23-Sep-2024**	29-Sep-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK028SF: Weak Acid Dissociable CN by Segmented Flow Analyser							
Black Opaque Plastic Bottle - NaOH (EK028SF)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**23-Sep-2024**	29-Sep-2024	✓
EK040P: Fluoride by PC Titrator							
Clear Plastic Bottle - Natural (EK040P)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**23-Sep-2024**	13-Oct-2024	✓
EK055G: Ammonia as N by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK055G)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**26-Sep-2024**	13-Oct-2024	✓
EK057G: Nitrite as N by Discrete Analyser							
Clear Plastic Bottle - Natural (EK057G)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**24-Sep-2024**	17-Sep-2024	×
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK059G)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**26-Sep-2024**	13-Oct-2024	✓
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK061G)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**25-Sep-2024**	13-Oct-2024	✓	**25-Sep-2024**	13-Oct-2024	✓
EK067G: Total Phosphorus as P by Discrete Analyser							
Clear Plastic Bottle - Sulfuric Acid (EK067G)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**25-Sep-2024**	13-Oct-2024	✓	**25-Sep-2024**	13-Oct-2024	✓

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)	Sample Date	Extraction / Preparation			Analysis		
		Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EK085M: Sulfide as S2-							
Clear Plastic Bottle - Zinc Acetate/NaOH (EK085)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**----**	----	----	**20-Sep-2024**	22-Sep-2024	✓
EP080/071: Total Petroleum Hydrocarbons							
Amber Glass Bottle - Unpreserved (EP071)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**20-Sep-2024**	22-Sep-2024	✓	**24-Sep-2024**	30-Oct-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**20-Sep-2024**	29-Sep-2024	✓	**20-Sep-2024**	29-Sep-2024	✓
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions							
Amber Glass Bottle - Unpreserved (EP071)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**20-Sep-2024**	22-Sep-2024	✓	**24-Sep-2024**	30-Oct-2024	✓
Amber VOC Vial - Sulfuric Acid (EP080)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**20-Sep-2024**	29-Sep-2024	✓	**20-Sep-2024**	29-Sep-2024	✓
EP080: BTEXN							
Amber VOC Vial - Sulfuric Acid (EP080)							
MB01 - 47.9m/slight smell, MB02 - 46.7m/clear, MB03 - 55m/clear, MB04 - 44.9m/cloudy, MB06 - 51m/clear, MB07 - 42m/crystal clear, HF PIT - from source/bucket/murky	**15-Sep-2024**	**20-Sep-2024**	29-Sep-2024	✓	**20-Sep-2024**	29-Sep-2024	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Alkalinity by Auto Titrator	ED037-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by Auto Titrator	EK040P	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	2	14	**14.29**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH by Auto Titrator	EA005-P	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfide as S2-	EK085	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	3	29	**10.34**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	2	11	**18.18**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite B	EG020B-T	1	10	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite E	EG020E-T	1	9	**11.11**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	20	**0.00**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	2	16	**12.50**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	2	20	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Alkalinity by Auto Titrator	ED037-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Ammonia as N by Discrete analyser	EK055G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by Auto Titrator	EK040P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
pH by Auto Titrator	EA005-P	4	40	**10.00**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	2	19	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfide as S2-	EK085	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Control Samples (LCS) - Continued							
Total Cyanide by Segmented Flow Analyser	EK026SF	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite B	EG020B-T	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite E	EG020E-T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Conductivity by Auto Titrator	EA010-P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by Auto Titrator	EK040P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Major Cations - Dissolved	ED093F	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfide as S2-	EK085	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite B	EG020B-T	1	10	**10.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite E	EG020E-T	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Ammonia as N by Discrete analyser	EK055G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Chloride by Discrete Analyser	ED045G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Fluoride by Auto Titrator	EK040P	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Free CN by Segmented Flow Analyser	EK025SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Nitrite as N by Discrete Analyser	EK057G	1	14	**7.14**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Matrix Spikes (MS) - Continued							
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Sulfide as S2-	EK085	1	9	**11.11**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Cyanide by Segmented Flow Analyser	EK026SF	2	29	**6.90**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Mercury by FIMS	EG035T	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Metals by ICP-MS - Suite A	EG020A-T	1	11	**9.09**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Total Phosphorus as P By Discrete Analyser	EK067G	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
TRH - Semivolatile Fraction	EP071	0	20	**0.00**	**5.00**	×	NEPM 2013 B3 & ALS QC Standard
TRH Volatiles/BTEX	EP080	1	16	**6.25**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	1	20	**5.00**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	Method	Matrix	Method Descriptions
pH by Auto Titrator	EA005-P	WATER	In house: Referenced to APHA 4500 H+ B. This procedure determines pH of water samples by automated ISE. This method is compliant with NEPM Schedule B(3)
Conductivity by Auto Titrator	EA010-P	WATER	In house: Referenced to APHA 2510 B. This procedure determines conductivity by automated ISE. This method is compliant with NEPM Schedule B(3)
Calculated TDS (from Electrical Conductivity)	EA016	WATER	In house: Calculation from Electrical Conductivity (APHA 2510 B) using a conversion factor specified in the analytical report. This method is compliant with NEPM Schedule B(3)
Alkalinity by Auto Titrator	ED037-P	WATER	In house: Referenced to APHA 2320 B This procedure determines alkalinity by automated measurement (e.g. PC Titrate) on a settled supernatant aliquot of the sample using pH 4.5 for indicating the total alkalinity end-point. This method is compliant with NEPM Schedule B(3)
Sulfate (Turbidimetric) as SO4 2- by Discrete Analyser	ED041G	WATER	In house: Referenced to APHA 4500-SO4. Dissolved sulfate is determined in a 0.45um filtered sample. Sulfate ions are converted to a barium sulfate suspension in an acetic acid medium with barium chloride. Light absorbance of the BaSO4 suspension is measured by a photometer and the SO4-2 concentration is determined by comparison of the reading with a standard curve. This method is compliant with NEPM Schedule B(3)
Chloride by Discrete Analyser	ED045G	WATER	In house: Referenced to APHA 4500 Cl - G.The thiocyanate ion is liberated from mercuric thiocyanate through sequestration of mercury by the chloride ion to form non-ionised mercuric chloride. In the presence of ferric ions the liberated thiocynate forms highly-coloured ferric thiocynate which is measured at 480 nm.
Major Cations - Dissolved	ED093F	WATER	In house: Referenced to APHA 3120 and 3125; USEPA SW 846 - 6010 and 6020; Cations are determined by either ICP-AES or ICP-MS techniques. This method is compliant with NEPM Schedule B(3) Sodium Adsorption Ratio is calculated from Ca, Mg and Na which determined by ALS in house method QWI-EN/ED093F. This method is compliant with NEPM Schedule B(3) Hardness parameters are calculated based on APHA 2340 B. This method is compliant with NEPM Schedule B(3)
Total Metals by ICP-MS - Suite A	EG020A-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite B	EG020B-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Total Metals by ICP-MS - Suite E	EG020E-T	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.

Analytical Methods	Method	Matrix	Method Descriptions
Total Mercury by FIMS	EG035T	WATER	In house: Referenced to APHA 3112 Hg - B (Flow-injection (SnCl2)(Cold Vapour generation) AAS) FIM-AAS is an automated flameless atomic absorption technique. A bromate/bromide reagent is used to oxidise any organic mercury compounds in the unfiltered sample. The ionic mercury is reduced online to atomic mercury vapour by SnCl2 which is then purged into a heated quartz cell. Quantification is by comparing absorbance against a calibration curve. This method is compliant with NEPM Schedule B(3).
Free CN by Segmented Flow Analyser	EK025SF	WATER	In house: Referenced to ASTM D7237, APHA 4500-CN-C&O and ISO 14403: Using an automated segmented flow analyser, a sample at high pH (sodium hydroxide preserved) is buffered to pH 6.0. The hydrogen cyanide present passes across a gas dialysis membrane into an acceptor stream consisting of 0.01 M sodium hydroxide. The acceptor stream mixes with a buffer at pH 5.2 and reacts with chloramine-T to form cyanogen chloride. Cyanogen chloride reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour, measured at 600nm. This method is compliant with NEPM Schedule B(3)
Total Cyanide by Segmented Flow Analyser	EK026SF	WATER	In house: Referenced to APHA 4500-CN C&O / ASTM D7511 / ISO 14403. Sodium hydroxide preserved samples are introduced into an automated segmented flow analyser. Complex bound cyanide is decomposed in a continuously flowing stream, at a pH of 3.8, by the effect of UV light. A UV-B lamp (312 nm) and a decomposition spiral of borosilicate glass are used to filter out UV light with a wavelength of less than 290 nm thus preventing the conversion of thiocyanate into cyanide. The hydrogen cyanide present at a pH of 3.8 is separated by gas dialysis. The hydrogen cyanide is then determined photometrically, based on the reaction of cyanide with chloramine-T to form cyanogen chloride. This then reacts with 4-pyridine carboxylic acid and 1,3-dimethylbarbituric acid to give a red colour which is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Weak Acid Dissociable Cyanide by Segmented Flow Analyser	EK028SF	WATER	In house: Referenced to APHA 4500-CN C&O / ISO 14403. Samples preserved with sodium hydroxide are introduced into an automated segmented flow analyser. Hydrogen cyanide is liberated from a slightly acidified (pH 4.5) and is dialysed. Tight cyanide complexes that would not be amenable to oxidation by chlorine are not converted. Iron cyanide complexes are precipitated with zinc acetate. Liberated HCN diffuses through a membrane into a stream of sodium hydroxide where it is carried as CN- The cyanide in caustic solution is buffered to pH 5.2 and further converted to cyanogen chloride by reaction with chloramine-T. Cyanogen chloride subsequently reacts with 4-pyridine carboxylic and 1,3-dimethylbarbituric acids to give a red colour complex. This colour is measured at 600 nm. This method is compliant with NEPM Schedule B(3)
Fluoride by Auto Titrator	EK040P	WATER	In house: Referenced to APHA 4500-F C: CDTA is added to the sample to provide a uniform ionic strength background, adjust pH, and break up complexes. Fluoride concentration is determined by either manual or automatic ISE measurement. This method is compliant with NEPM Schedule B(3)
Ammonia as N by Discrete analyser	EK055G	WATER	In house: Referenced to APHA 4500-NH3 G Ammonia is determined by direct colorimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrite as N by Discrete Analyser	EK057G	WATER	In house: Referenced to APHA 4500-NO2- B. Nitrite is determined by direct colourimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)
Nitrate as N by Discrete Analyser	EK058G	WATER	In house: Referenced to APHA 4500-NO3- F. Nitrate is reduced to nitrite by way of a chemical reduction followed by quantification by Discrete Analyser. Nitrite is determined seperately by direct colourimetry and result for Nitrate calculated as the difference between the two results. This method is compliant with NEPM Schedule B(3)
Nitrite and Nitrate as N (NOx) by Discrete Analyser	EK059G	WATER	In house: Referenced to APHA 4500-NO3- F. Combined oxidised Nitrogen (NO2+NO3) is determined by Chemical Reduction and direct colourimetry by Discrete Analyser. This method is compliant with NEPM Schedule B(3)

Analytical Methods	Method	Matrix	Method Descriptions
Total Kjeldahl Nitrogen as N By Discrete Analyser	EK061G	WATER	In house: Referenced to APHA 4500-Norg D (In house). An aliquot of sample is digested using a high temperature Kjeldahl digestion to convert nitrogenous compounds to ammonia. Ammonia is determined colorimetrically by discrete analyser. This method is compliant with NEPM Schedule B(3)
Total Nitrogen as N (TKN + Nox) By Discrete Analyser	EK062G	WATER	In house: Referenced to APHA 4500-Norg / 4500-NO3-. This method is compliant with NEPM Schedule B(3)
Total Phosphorus as P By Discrete Analyser	EK067G	WATER	In house: Referenced to APHA 4500-P H, Jirka et al, Zhang et al. This procedure involves sulphuric acid digestion of a sample aliquot to break phosphorus down to orthophosphate. The orthophosphate reacts with ammonium molybdate and antimony potassium tartrate to form a complex which is then reduced and its concentration measured at 880nm using discrete analyser. This method is compliant with NEPM Schedule B(3)
Sulfide as S2-	EK085	WATER	In house: Referenced to APHA 4500-S2- D. Sulfide species present in water samples are immediately precipitated when collected in pretreated caustic/zinc acetate preserved sample containers. The sulfides are coloured using methylene blue indicator. Non-detects may be screened by comparison against a standard at half-LOR, otherwise samples are measured using UV-VIS detection at 664nm. This method is compliant with NEPM Schedule B(3)
Ionic Balance by PCT DA and Turbi SO4 DA	* EN055 - PG	WATER	In house: Referenced to APHA 1030E. This method is compliant with NEPM Schedule B(3)
TRH - Semivolatile Fraction	EP071	WATER	In house: Referenced to USEPA SW 846 - 8015 The sample extract is analysed by Capillary GC/FID and quantification is by comparison against an established 5 point calibration curve of n-Alkane standards. This method is compliant with the QC requirements of NEPM Schedule B(3)
TRH Volatiles/BTEX	EP080	WATER	In house: Referenced to USEPA SW 846 - 8260 Water samples are directly purged prior to analysis by Capillary GC/MS and quantification is by comparison against an established 5 point calibration curve. Alternatively, a sample is equilibrated in a headspace vial and a portion of the headspace determined by GCMS analysis. This method is compliant with the QC requirements of NEPM Schedule B(3)

Preparation Methods	Method	Matrix	Method Descriptions
TKN/TP Digestion	EK061/EK067	WATER	In house: Referenced to APHA 4500 Norg - D; APHA 4500 P - H. This method is compliant with NEPM Schedule B(3)
Digestion for Total Recoverable Metals	EN25	WATER	In house: Referenced to USEPA SW846-3005. Method 3005 is a Nitric/Hydrochloric acid digestion procedure used to prepare surface and ground water samples for analysis by ICPAES or ICPMS. This method is compliant with NEPM Schedule B(3)
Separatory Funnel Extraction of Liquids	ORG14	WATER	In house: Referenced to USEPA SW 846 - 3510 100 mL to 1L of sample is transferred to a separatory funnel and serially extracted three times using DCM for each extract. The resultant extracts are combined, dehydrated and concentrated for analysis. This method is compliant with NEPM Schedule B(3) . ALS default excludes sediment which may be resident in the container.
Volatiles Water Preparation	ORG16-W	WATER	A 5 mL aliquot or 5 mL of a diluted sample is added to a 40 mL VOC vial for purging.

SAMPLE RECEIPT ADVICE

SE271434

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOL
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4890**
Samples	7

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Mon 23/9/2024
Report Due	Mon 30/9/2024
SGS Reference	**SE271434**

SUBMISSION DETAILS

This is to confirm that 7 samples were received on Monday 23/9/2024. Results are expected to be ready by COB Monday 30/9/2024. Please quote SGS reference SE271434 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	7 Water	Type of documentation received	COC
Date documentation received	23/9/2024	Samples received in good order	Yes
Samples received without headspace	N/A	Sample temperature upon receipt	17.5°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

Gold will not be analysed.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

SAMPLE RECEIPT ADVICE

SE271434

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Anions by Ion Chromatography in Water	Nitrite in Water	pH in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Phosphorus by Kjeldahl Digestion DA in	TRH (Total Recoverable Hydrocarbons) in Water	Volatile Petroleum Hydrocarbons in Water
001	MB01	1	4	2	1	2	1	9	7
002	MB02	1	4	2	1	2	1	9	7
003	MB03	1	4	2	1	2	1	9	7
004	MB04	1	4	2	1	2	1	9	7
005	MB06	1	4	2	1	2	1	9	7
006	MB07	1	4	2	1	2	1	9	7
007	HF PIT	1	4	2	1	2	1	9	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE271434

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity	Conductivity and TDS by Calculation - Water	Free Cyanide in water	Metals in Water (Total) by ICPOES	Sulfide by Titration in Water	Total Cyanide in water by Discrete Analyser	Total Dissolved Solids (TDS) in water	Trace Metals (Total) in Water by ICPMS	Weak Acid Dissociable Cyanide in Water by
001	MB01	1	1	1	4	1	1	1	17	1
002	MB02	1	1	1	4	1	1	1	17	1
003	MB03	1	1	1	4	1	1	1	17	1
004	MB04	1	1	1	4	1	1	1	17	1
005	MB06	1	1	1	4	1	1	1	17	1
006	MB07	1	1	1	4	1	1	1	17	1
007	HF PIT	1	1	1	4	1	1	1	17	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE271434

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (total) in Water
001	MB01	1
002	MB02	1
003	MB03	1
004	MB04	1
005	MB06	1
006	MB07	1
007	HF PIT	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CHAIN OF CUSTODY & ANALYSIS REQUEST

SGS al Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	GBM/ POLYMETALS OPERATIONS Pty Ltd	Project Name/No:	White Dam Gold Mine
Address:	PMB 23 via Cockburn Via Boolcoomata Rd,	Purchase Order No:	WD4890
	Near Mingary SA 5440	Results Required By:	
		Telephone:	08 8919 4455 m: 0402598666 m:0409979457
Contact Name:	Jo Foster /Willem Stoltz	Facsimile:	
		Email Results:	Jo.Foster@gbmex.com.au / willem.stoltz@gbmex.com.au / wdadmin@gbmex.com.au

SGS EHS Sydney COC
SE271434

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Physical Properties (pH, TDS, Calcium, Bicarbonate, EC,)	Contaminants: Total Cyanide, WAD Cyanide, Free Cyanide, Total Petroleum Hydrocarbons.	Sulfide and sulphates	Calcium, Magnesium, Sodium	Total Heavy Metals & Metalloids: Al, As, Au, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, U, V, Li, Zn(ft.-lowest	Fluoride, Selenium, Chloride, Nitrate, Nitrite	Total Nitrogen, Total Phosphorus	Ammonia, NOx	
MB01	15/09/2024	1	x			7	x	x	x	x	x	x	x	x	SLIGHT SMELL
MB02	15/09/2024	2	x			7	x	x	x	x	x	x	x	x	CLEAR
MB03	15/09/2024	3	x			7	x	x	x	x	x	x	x	x	CLEAR
MB04	15/09/2024	4	x			7	x	x	x	x	x	x	x	x	CLOUDY
MB06	15/09/2024	5	x			7	x	x	x	x	x	x	x	x	CLEAR
MB07	15/09/2024	6	x			7	x	x	x	x	x	x	x	x	CRYSTAL CLEAR
(RB04 Larry Mac)															NO SAMPLE
GUM BORE (GUMB)															NO SAMPLE/IN USE
GUM BORE QC (QC1)															NO SAMPLE/IN USE
HF PIT (PIT)	15/09/2024	7	x			7	x	x	x	x	x	x	x	x	BROWNISH TO CLEAR
RB08 Bulloo															NO SAMPLE
RB12 Cutana															NO SAMPLE/TEARS BAGS

Relinquished By: Jo Foster	Date/Time 15/09/2024	Received By: B. Rubayay	Date/Time 23/09/24 @ 12:15
Relinquished By:	Date/Time://	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:
	Comments 7 WATER SAMPLES		

source: SE_Autoscan.pdf page: 1 SGS Ref: SE271434_COC

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GC
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4890**
Samples	7

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE271434 R0**
Date Received	23/9/2024
Date Reported	30/9/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

Ammonia Nitrogen - The Limit of Reporting (LOR) has been raised due to matrix interference.

Anions by Ion Chromatography - The Limit of Reporting (LOR) has been raised due to high conductivity of the sample requiring dilution.

SIGNATORIES

Dong LIANG
Metals/Inorganics Team Leader

Kamrul AHSAN
Senior Chemist

Ly Kim HA
Organic Section Head

Ying Ying ZHANG
Laboratory Technician

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 27/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Benzene (F0)	µg/L	0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40
TRH C6-C10	µg/L	50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 26/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320	<320	<320

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
TRH C10-C14	µg/L	50	<50	<50
TRH C15-C28	µg/L	200	<200	<200
TRH C29-C36	µg/L	200	<200	<200
TRH C37-C40	µg/L	200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500
TRH C10-C40	µg/L	320	<320	<320

Anions by Ion Chromatography in Water [AN245] Tested: 25/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Chloride	mg/L	1	22000	9000	6200	11000	12000
Sulfate, SO4	mg/L	1	2900	2600	1800	2800	2600
Fluoride	mg/L	0.1	1.6	2.4	2.4	1.1	2.2
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.50↑	<0.10↑	1.2	<0.25↑	<0.25↑

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Chloride	mg/L	1	11000	4300
Sulfate, SO4	mg/L	1	2500	1600
Fluoride	mg/L	0.1	1.9	1.3
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.25↑	<0.10↑

Nitrite in Water [AN277] Tested: 24/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	<0.005	<0.005	**1.2**	<0.005	<0.005

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	**0.007**
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	<0.005	**0.071**

TKN Kjeldahl Digestion by Discrete Analyser [AN292] Tested: 25/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Kjeldahl Nitrogen	mg/L	0.05	52	0.32	0.13	0.27	0.24
Total Nitrogen (calc)	mg/L	0.05	52	0.32	1.4	0.27	0.24

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Kjeldahl Nitrogen	mg/L	0.05	0.19	0.46
Total Nitrogen (calc)	mg/L	0.05	0.20	0.53

Ammonia Nitrogen by Discrete Analyser [AN291] Tested: 24/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	**38**	<0.05↑	<0.05↑	<0.05↑	<0.05↑

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.05↑	**0.17**

Total Phosphorus by Kjeldahl Digestion DA in Water [AN279/AN293(Sydney only)] Tested: 25/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.10	0.07	0.06	0.13	0.08

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.07	0.03

pH in water [AN101] Tested: 24/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
pH**	No unit	-	**7.1**	**7.2**	**7.2**	**7.1**	**6.8**

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
pH**	No unit	-	**7.2**	**7.2**

Conductivity and TDS by Calculation - Water [AN106] Tested: 24/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Conductivity @ 25 C	µS/cm	2	47000	25000	17000	27000	30000

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Conductivity @ 25 C	µS/cm	2	28000	13000

Total Dissolved Solids (TDS) in water [AN113] Tested: 25/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Dissolved Solids Dried at 175-185°C	mg/L	10	42000	20000	15000	23000	26000

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Dissolved Solids Dried at 175-185°C	mg/L	10	23000	10000

Alkalinity [AN135] Tested: 25/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Alkalinity as CaCO3	mg/L	5	190	170	220	140	110

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Alkalinity as CaCO3	mg/L	5	130	64

Total Cyanide in water by Discrete Analyser [AN077/AN287] Tested: 25/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Cyanide	mg/L	0.004	**1.8**	<0.004	<0.004	**0.004**	<0.004

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Cyanide	mg/L	0.004	<0.004	**0.005**

Free Cyanide in water [AN076/AN287] Tested: 30/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	HF PIT WATER - 15/9/2024 SE271434.007
Free Cyanide	mg/L	0.004	**0.086**	**0.004**

Weak Acid Dissociable Cyanide in Water by Discrete Analyser) [AN078/AN287] Tested: 26/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Weak Acid Dissociable Cyanide	mg/L	0.004	**1.6**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Weak Acid Dissociable Cyanide	mg/L	0.004	<0.004	**0.004**

Sulfide by Titration in Water [AN149] Tested: 26/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Sulfide	mg/L	0.5	**1.4**	**1.0**	<0.5	**0.6**	<0.5

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Sulfide	mg/L	0.5	<0.5	<0.5

Metals in Water (Total) by ICPOES [AN022/AN320] Tested: 30/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Calcium	mg/L	0.1	2200	1000	600	1200	1300
Total Magnesium	mg/L	0.1	1200	490	450	520	650
Total Sodium	mg/L	0.1	9300	4500	3500	5200	5500
Total Lithium, Li	mg/L	0.005	0.030	0.044	0.029	0.032	0.030

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Calcium	mg/L	0.1	1100	490
Total Magnesium	mg/L	0.1	530	250
Total Sodium	mg/L	0.1	6200	2400
Total Lithium, Li	mg/L	0.005	0.025	0.050

Trace Metals (Total) in Water by ICPMS [AN022/AN318] Tested: 30/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Aluminium	µg/L	5	1700	260	640	2000	680
Total Arsenic	µg/L	1	5	<1	<1	3	<1
Total Beryllium	µg/L	1	<1	<1	<1	<1	<1
Total Boron	µg/L	5	4900	4600	3800	4400	4700
Total Cadmium	µg/L	0.1	<0.1	1.5	<0.1	1.9	0.2
Total Chromium	µg/L	1	4	<1	2	26	2
Total Cobalt	µg/L	1	2000	76	5	3	2
Total Copper	µg/L	1	7	100	6	10	5
Total Iron	µg/L	5	1800	530	2900	2300	1200
Total Lead	µg/L	1	2	2	1	4	1
Total Manganese	µg/L	1	21000	1200	590	43	65
Total Molybdenum	µg/L	1	270	33	14	21	45
Total Nickel	µg/L	1	100	120	1	52	2
Total Uranium	µg/L	1	230	110	8	96	24
Total Vanadium	µg/L	1	3	<1	2	6	2
Total Zinc	µg/L	5	71	280	31	180	32
Total Selenium	µg/L	1	30	8	2	12	6

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Aluminium	µg/L	5	79	540
Total Arsenic	µg/L	1	<1	<1
Total Beryllium	µg/L	1	<1	<1
Total Boron	µg/L	5	4700	2100
Total Cadmium	µg/L	0.1	0.4	96
Total Chromium	µg/L	1	<1	1
Total Cobalt	µg/L	1	2	1500
Total Copper	µg/L	1	4	970
Total Iron	µg/L	5	120	2200
Total Lead	µg/L	1	<1	2
Total Manganese	µg/L	1	10	4600
Total Molybdenum	µg/L	1	13	16
Total Nickel	µg/L	1	2	1800
Total Uranium	µg/L	1	72	270
Total Vanadium	µg/L	1	<1	3
Total Zinc	µg/L	5	87	16000
Total Selenium	µg/L	1	3	290

Mercury (total) in Water [AN311(Perth) /AN312] Tested: 25/9/2024

PARAMETER	UOM	LOR	MB01 WATER - 15/9/2024 SE271434.001	MB02 WATER - 15/9/2024 SE271434.002	MB03 WATER - 15/9/2024 SE271434.003	MB04 WATER - 15/9/2024 SE271434.004	MB06 WATER - 15/9/2024 SE271434.005
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

PARAMETER	UOM	LOR	MB07 WATER - 15/9/2024 SE271434.006	HF PIT WATER - 15/9/2024 SE271434.007
Total Mercury	mg/L	0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN022/AN318	Following acid digestion of un filtered sample, determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN022/AN320	Total (acid soluble) Metals by ICP-OES: Samples are digested in nitric or nitric and hydrochloric acids prior to analysis for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN022	The water sample is digested with Nitric Acid and made up to the original volume similar to APHA3030E.
AN076/AN287	Discrete Analyser. A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration.
AN077	Hydrogen cyanide is liberated from an acidified sample by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution. The scrubbing solution will then be analysed for cyanide by the appropriate method.
AN078	Hydrogen cyanide is liberated from a slightly acidified sample (pH 4.5-6.0) by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN149	sulfide by Iodometric Titration: sulfide is precipitated as zinc sulfide to overcome interferences with sulphite and thiosulfate. After filtration, sulfide is determined titrimetrically. Reference APHA 4500-S2-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN277	Nitrite ions, when reacted with a reagent containing sulphanilamide and N-(1-naphthyl)-ethylenediamine dihydrochloride produce a highly coloured azo dye that is measured photometrically at 540nm.
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digestor with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.
AN287	A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration by DA.
AN291	Ammonia in solution reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 660 nm by Discrete Analyser.
AN311(Perth) /AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions taken from unfiltered sample are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.

AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements . Reference APHA 3120 B.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoveerable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported . APHA4500CO2 D.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

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SAMPLE RECEIPT ADVICE

SE275899

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOL
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4952**
Samples	10

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
Samples Received	Mon 16/12/2024
Report Due	Mon 23/12/2024
SGS Reference	**SE275899**

SUBMISSION DETAILS

This is to confirm that 10 samples were received on Monday 16/12/2024. Results are expected to be ready by COB Monday 23/12/2024. Please quote SGS reference SE275899 when making enquiries. Refer below for details relating to sample integrity upon receipt.

Sample counts by matrix	10 Water	Type of documentation received	COC
Date documentation received	16/12/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	22.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

Unless otherwise instructed, water and bulk samples will be held for one month from date of report, and soil samples will be held for two months.

COMMENTS

Gold will not be analysed.
For RB08 Bulloo, only Cyanides will be analysed.
Sample not supplied for TRH analysis.

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SAMPLE RECEIPT ADVICE

SE275899

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Ammonia Nitrogen by Discrete Analyser	Anions by Ion Chromatography in Water	Nitrite in Water	pH in water	TKN Kjeldahl Digestion by Discrete Analyser	Total Phosphorus by Kjeldahl Digestion DA in	TRH (Total Recoverable Hydrocarbons) in Water	Volatile Petroleum Hydrocarbons in Water
001	MB01	1	4	2	1	2	1	9	7
002	MB03	1	4	2	1	2	1	9	7
003	MB04	1	4	2	1	2	1	9	7
004	MB06	1	4	2	1	2	1	9	7
005	MB07	1	4	2	1	2	1	9	7
006	RB04 (RB04 Larry Mac)	1	4	2	1	2	1	9	7
007	GUM BORE (GUMB)	1	4	2	1	2	1	9	7
008	GUM BORE QC (QC1)	1	4	2	1	2	1	9	7
009	HF PIT	1	4	2	1	2	1	9	7

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE275899

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Alkalinity	Conductivity and TDS by Calculation - Water	Free Cyanide in water	Metals in Water (Total) by ICPOES	Sulfide by Titration in Water	Total Cyanide in water by Discrete Analyser	Total Dissolved Solids (TDS) in water	Trace Metals (Total) in Water by ICPMS	Weak Acid Dissociable Cyanide in Water by
001	MB01	1	1	1	4	1	1	1	17	1
002	MB03	1	1	1	4	1	1	1	17	1
003	MB04	1	1	1	4	1	1	1	17	1
004	MB06	1	1	1	4	1	1	1	17	1
005	MB07	1	1	1	4	1	1	1	17	1
006	RB04 (RB04 Larry Mac)	1	1	1	4	1	1	1	17	1
007	GUM BORE (GUMB)	1	1	1	4	1	1	1	17	1
008	GUM BORE QC (QC1)	1	1	1	4	1	1	1	17	1
009	HF PIT	1	1	1	4	1	1	1	17	1
010	RB08 Bulloo	-	-	1	-	-	1	-	-	1

CONTINUED OVERLEAF

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

SAMPLE RECEIPT ADVICE

SE275899

CLIENT DETAILS

Client POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GOLD PROD Project White Dam Gold Mine

SUMMARY OF ANALYSIS

No.	Sample ID	Mercury (total) in Water
001	MB01	1
002	MB03	1
003	MB04	1
004	MB06	1
005	MB07	1
006	RB04 (RB04 Larry Mac)	1
007	GUM BORE (GUMB)	1
008	GUM BORE QC (QC1)	1
009	HF PIT	1

The above table represents SGS' interpretation of the client-supplied Chain Of Custody document.
The numbers shown in the table indicate the number of results requested in each package.
Please indicate as soon as possible should your request differ from these details .
Testing as per this table shall commence immediately unless the client intervenes with a correction .

CHAIN OF CUSTODY & ANALYSIS REQUEST

Page ___1_ of __1__

SGS al Services
Unit 16, 33 Maddox Street
Alexandria NSW 2015
Telephone No: (02) 85940400
Facsimile No: (02) 85940499
Email: au.samplereceipt.sydney@sgs.com

Company Name:	GBM/ POLYMETALS OPERATIONS Pty Ltd	Project Name/No:	White Dam Gold Mine
Address:	PMB 23 via Cockburn Via Boolcoomata Rd,	Purchase Order No:	WD4952
	Near Mingary SA 5440	Results Required By:	asap
		Telephone:	08 8919 4455 m: 0402598666 m:0409979457
Contact Name:	Jo Foster /Willem Stoltz	Facsimile:	
		Email Results:	Jo.Foster@gbmex.com.au / willem.stoltz@gbmex.com.au / wdadmin@gbmex.com.au

SGS EHS Sydney COC
SE275899

Client Sample ID	Date Sampled	Lab Sample ID	WATER	SOIL	PRESERVATIVE	NO OF CONTAINERS	Physical Properties (pH, TDS, Calcium, Bicarbonate, EC.)	Contaminants: Total Cyanide, WAD Cyanide, Free Cyanide, Total Petroleum Hydrocarbons	Sulfide and sulphates	Calcium, Magnesium, Sodium	Total Heavy Metals & Metalloids: Al, As, Au, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Mo, Ni, U, V, Li, Zn (Lowest	Fluoride, Selenium, Chloride, Nitrate, Nitrite	Total Nitrogen, Total Phosphorus	Ammonia, NOx	
MB01	10/12/2024	1	x			7	x	x	x	x	x	x	x	x	SLIGHT SMELL
MB02															No Sample
MB03	09/12/2024	2	x			7	x	x	x	x	x	x	x	x	CLEAR
MB04	10/12/2024	3	x			7	x	x	x	x	x	x	x	x	clear
MB06	10/12/2024	4	x			7	x	x	x	x	x	x	x	x	Slight greenish hue
MB07	09/12/2024	5	x			4	x	x	x	x	x	x	x	x	CRYSTAL CLEAR/small sample
(RB04 Larry Mac)	09/12/2024	6	x			7	x	x	x	x	x	x	x	x	clear
GUM BORE (GUMB)	10/12/2024	7	x			7	x	x	x	x	x	x	x	x	clear
GUM BORE QC (QC1)	10/12/2024	8	x			7	x	x	x	x	x	x	x	x	clear
HF PIT (PIT)	10/12/2024	9	x			7	x	x	x	x	x	x	x	x	clear
RB08 Bulloo	09/12/2024	10	x			1		x							Slight dark hue
RB12 Cutana															NO SAMPLE/TEARS BAGS

Relinquished By: Jo Foster	Date/Time 11/12/2024	Received By: B. Bubarey	Date/Time 16/12/24 @ 11:15
Relinquished By:	Date/Time://	Received By:	Date/Time
Samples Intact: Yes/ No	Temperature: Ambient / Chilled	Sample Cooler Sealed: Yes/ No	Laboratory Quotation No:

source: SE_Autoscan.pdf page: 1 SGS Ref: SE275899_COC

SITE	WHITEDAM
DATE	9-12 / 10-12-2024
TIME	AM TO LUNCH

EMS FORM 5.5-B
GROUNDWATER SAMPLING RECORD SHEET

Use ball point pen & complete in CAPITAL letters

SAMPLED BY	**Name: JOANNE FOSTER KANE FORBES**
SAMPLE METHOD	Murray-Darling Basin Groundwater Quality Sampling Guidelines

FIELD MEASUREMENTS

SAMPLE ID	BORE NUMBER	BORE DATE	DEPTH TO GROUNDWATER (Dipper reading)	APPEARANCE	pH	EC (µS/cm)	T (°C)	PRESERVATIVE Or BOTTLE LABEL COLOUR	OBSERVATIONS/COMMENTS
MB01	MB01	10-12	48M	SLIGHT HUE	7.48	44.8MS	29		SLIGHT SMELL
MB02	MB02	09-12	47M						NO SAMPLE
MB03	MB03	09-12	55M	CLEAR	7.17	7.61MS	33.3		CLEAR
MB04	MB04	10-12		CLEAR	8.22	26.1MS	30		CLEAR
MB05	MB05	N/A	N/A						
MB06	MB06	10-12	51M	SLIGHTGREENISH HUE	6.17	31.0MS	24.6		SLIGHT GREENISH HUE
MB07	MB07	09-12	42M	CLEAR	6.88	25.9MS	35.8		CRYSTALCLEAR/SMALLSAMPLE

SITE	WHITEDAM
DATE	9-12/10-12-2024
TIME	AM TO LUNCH

EMS FORM 5.5-B
GROUNDWATER SAMPLING RECORD SHEET

Use ball point pen & complete in CAPITAL letters

SAMPLED BY	**Name: JOANNE FOSTER KANE FORBES**
SAMPLE METHOD	Murray-Darling Basin Groundwater Quality Sampling Guidelines

FIELD MEASUREMENTS

SAMPLE ID	BORE NAME	BORE DATE	DEPTH TO GROUNDWATER (Dipper reading)	APPEARANCE	pH	EC (µS/cm)	T (°C)	PRESERVATIVE Or BOTTLE LABEL COLOUR	OBSERVATIONS/COMMENTS
RB04	LARRY MAC	09-12	10M	CLEAR	11.30	20.9MS	28.6		SLIGHT GRASS ROOTS
RB013	OONARTRA	N/A	N/A						
GUMB	GUM BORE	10-12	TAPPED	CLEAR	7.21	3.06MS	29.3		CLEAR
QC1	GUM BORE	10-12	TAPPED	CLEAR	7.21	3.06MS	29.3		CLEAR
RB08	BULLOO	09-12	14M	CLEARTO BLUEISH					SMALL SAMPLE/ 3 ATTEMPTS
RB12	CUTANA	N/A	N/A						
PIT	PIT	10-12	OPEN	CLEAR	8.02	4.04MS	24		CLEAR

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM GC
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4952**
Samples	10

LABORATORY DETAILS

Manager	Shane McDermott
Laboratory	SGS Alexandria Environmental
Address	Unit 16, 33 Maddox St Alexandria NSW 2015
Telephone	+61 2 8594 0400
Facsimile	+61 2 8594 0499
Email	au.environmental.sydney@sgs.com
SGS Reference	**SE275899 R0**
Date Received	16/12/2024
Date Reported	23/12/2024

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(4354).

Ammonia Nitrogen by Discrete Analyser - The Limit of Reporting (LOR) has been raised for SE275899/3,5,6 due sample interferences requiring dilution.
TKN - The Limit of Reporting (LOR) has been raised for SE275899/3,5 due sample interferences requiring dilution.
TP - The Limit of Reporting (LOR) has been raised for SE275899/1,3,4,5 due sample interferences requiring dilution.

Anions Ion Chromatography - The Limit of Reporting (LOR) has been raised due to high conductivity of the sample requiring dilution.

SIGNATORIES

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

Ying Ying ZHANG
Laboratory Technician

Volatile Petroleum Hydrocarbons in Water [AN433] Tested: 20/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50	<50

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Benzene (F0)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5
TRH C6-C9	µg/L	40	<40	<40	<40	<40
TRH C6-C10	µg/L	50	<50	<50	<50	<50
TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	<50	<50

TRH (Total Recoverable Hydrocarbons) in Water [AN403] Tested: 17/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
TRH C10-C14	µg/L	50	<50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	**1100**	<200	<200	<200	<200
TRH C29-C36	µg/L	200	**700**	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	**1600**	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	**1900**	<320	<320	<320	<320

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
TRH C10-C14	µg/L	50	<50	<50	<50	<50
TRH C15-C28	µg/L	200	<200	<200	<200	<200
TRH C29-C36	µg/L	200	<200	<200	<200	<200
TRH C37-C40	µg/L	200	<200	<200	<200	<200
TRH >C10-C16	µg/L	60	<60	<60	<60	<60
TRH >C10-C16 - Naphthalene (F2)	µg/L	60	<60	<60	<60	<60
TRH >C16-C34 (F3)	µg/L	500	<500	<500	<500	<500
TRH >C34-C40 (F4)	µg/L	500	<500	<500	<500	<500
TRH C10-C40	µg/L	320	<320	<320	<320	<320

Anions by Ion Chromatography in Water [AN245] Tested: 19/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Chloride	mg/L	1	**20000**	**2200**	**11000**	**12000**	**12000**
Sulfate, SO4	mg/L	1	**3100**	**790**	**2700**	**2600**	**2500**
Fluoride	mg/L	0.1	**2.1**	**5.2**	**1.3**	**2.7**	**2.3**
Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.25↑	**7.6**	**0.57**	<0.10↑	<0.10↑

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Chloride	mg/L	1	**7100**	**170**	**160**	**1200**
Sulfate, SO4	mg/L	1	**3000**	**460**	**460**	**370**
Fluoride	mg/L	0.1	**7.0**	**1.0**	**1.1**	**0.54**
Nitrate Nitrogen, NO3-N	mg/L	0.005	**4.6**	<0.005	**3.4**	<0.025↑

Nitrite in Water [AN277] Tested: 17/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	<0.005	<0.005	**0.009**	<0.005
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	<0.005	**7.6**	**0.57**	**0.009**	<0.005

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005	**0.007**	<0.005	<0.005
Total Oxidised Nitrogen, NOx-N	mg/L	0.005	**4.6**	**0.007**	**3.4**	<0.005

TKN Kjeldahl Digestion by Discrete Analyser [AN292] Tested: 18/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Kjeldahl Nitrogen	mg/L	0.05	**49**	**0.06**	<0.20↑	**0.32**	<0.20↑
Total Nitrogen (calc)	mg/L	0.05	**49**	**7.7**	**0.63**	**0.33**	<0.05

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Total Kjeldahl Nitrogen	mg/L	0.05	**0.25**	**0.14**	**0.11**	**0.56**
Total Nitrogen (calc)	mg/L	0.05	**4.9**	**0.14**	**3.5**	**0.57**

Ammonia Nitrogen by Discrete Analyser [AN291] Tested: 17/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	**39**	<0.01	<0.05↑	**0.59**	<0.05↑

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.05↑	**0.02**	<0.01	**0.03**

Total Phosphorus by Kjeldahl Digestion DA in Water [AN279/AN293(Sydney only)] Tested: 18/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.10↑	**0.04**	<0.08↑	<0.08↑	<0.08↑

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	**0.07**	<0.02	<0.02	**0.06**

pH in water [AN101] Tested: 16/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
pH**	No unit	-	**6.9**	**7.6**	**7.2**	**6.9**	**7.5**

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
pH**	No unit	-	**7.5**	**7.2**	**7.1**	**8.0**

Conductivity and TDS by Calculation - Water [AN106] Tested: 16/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Conductivity @ 25 C	µS/cm	2	58000	7600	35000	37000	36000

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Conductivity @ 25 C	µS/cm	2	27000	1900	1900	4000

Total Dissolved Solids (TDS) in water [AN113] Tested: 17/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Dissolved Solids Dried at 175-185°C	mg/L	10	40000	4700	21000	23000	21000

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Total Dissolved Solids Dried at 175-185°C	mg/L	10	13000	1400	1400	2500

Alkalinity [AN135] Tested: 19/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Alkalinity as CaCO3	mg/L	5	170	250	130	110	130

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Total Alkalinity as CaCO3	mg/L	5	470	490	480	83

Total Cyanide in water by Discrete Analyser [AN077/AN287] Tested: 19/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Cyanide	mg/L	0.004	**0.42**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009	RB08 Bulloo WATER - 9/12/2024 SE275899.010
Total Cyanide	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004

Free Cyanide in water [AN076/AN287] Tested: 19/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Free Cyanide	mg/L	0.004	**0.067**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009	RB08 Bulloo WATER - 9/12/2024 SE275899.010
Free Cyanide	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004

Weak Acid Dissociable Cyanide in Water by Discrete Analyser) [AN078/AN287] Tested: 19/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Weak Acid Dissociable Cyanide	mg/L	0.004	**0.19**	<0.004	<0.004	<0.004	<0.004

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009	RB08 Bulloo WATER - 9/12/2024 SE275899.010
Weak Acid Dissociable Cyanide	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004

Sulfide by Titration in Water [AN149] Tested: 20/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Sulfide	mg/L	0.5	**2.0**	**1.4**	**1.2**	**1.8**	<0.5

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Sulfide	mg/L	0.5	<0.5	**2.0**	**1.8**	<0.5

Metals in Water (Total) by ICPOES [AN022/AN320] Tested: 18/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Calcium	mg/L	0.1	2300	160	1400	1600	1400
Total Magnesium	mg/L	0.1	1100	110	610	790	650
Total Sodium	mg/L	0.1	10000	1600	5500	5000	5400
Total Lithium, Li	mg/L	0.005	0.041	0.016	0.041	0.040	0.034

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Total Calcium	mg/L	0.1	330	240	230	140
Total Magnesium	mg/L	0.1	390	38	39	68
Total Sodium	mg/L	0.1	5100	200	200	680
Total Lithium, Li	mg/L	0.005	0.023	<0.005	<0.005	0.012

Trace Metals (Total) in Water by ICPMS [AN022/AN318] Tested: 18/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Aluminium	µg/L	5	460	550	560	450	210
Total Arsenic	µg/L	1	5	2	2	<1	<1
Total Beryllium	µg/L	1	<1	<1	<1	<1	<1
Total Boron	µg/L	5	4400	3500	4100	4600	4400
Total Cadmium	µg/L	0.1	<0.1	<0.1	2.0	0.2	0.5
Total Chromium	µg/L	1	<1	13	21	2	<1
Total Cobalt	µg/L	1	1800	3	<1	1	<1
Total Copper	µg/L	1	29	3	2	4	3
Total Iron	µg/L	5	390	700	520	3000	210
Total Lead	µg/L	1	<1	<1	1	<1	<1
Total Manganese	µg/L	1	22000	18	10	55	7
Total Molybdenum	µg/L	1	300	44	21	49	13
Total Nickel	µg/L	1	93	1	53	2	2
Total Uranium	µg/L	1	250	20	100	27	81
Total Vanadium	µg/L	1	<1	18	3	3	1
Total Zinc	µg/L	5	65	30	100	19	120
Total Selenium	µg/L	1	29	19	12	4	3

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Total Aluminium	µg/L	5	460	59	22	1200
Total Arsenic	µg/L	1	5	<1	<1	1
Total Beryllium	µg/L	1	<1	<1	<1	<1
Total Boron	µg/L	5	9600	590	580	700
Total Cadmium	µg/L	0.1	0.2	<0.1	<0.1	9.8
Total Chromium	µg/L	1	3	3	<1	1
Total Cobalt	µg/L	1	1	<1	<1	56
Total Copper	µg/L	1	7	4	3	160
Total Iron	µg/L	5	540	960	320	1100
Total Lead	µg/L	1	2	<1	<1	<1
Total Manganese	µg/L	1	10	17	9	440
Total Molybdenum	µg/L	1	190	4	4	7
Total Nickel	µg/L	1	5	2	1	61
Total Uranium	µg/L	1	340	17	17	81
Total Vanadium	µg/L	1	80	3	3	8
Total Zinc	µg/L	5	30	72	63	170
Total Selenium	µg/L	1	10	1	1	48

Mercury (total) in Water [AN311(Perth) /AN312] Tested: 17/12/2024

PARAMETER	UOM	LOR	MB01 WATER - 10/12/2024 SE275899.001	MB03 WATER - 9/12/2024 SE275899.002	MB04 WATER - 10/12/2024 SE275899.003	MB06 WATER - 10/12/2024 SE275899.004	MB07 WATER - 9/12/2024 SE275899.005
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

PARAMETER	UOM	LOR	RB04 (RB04 Larry Mac) WATER - 9/12/2024 SE275899.006	GUM BORE (GUMB) WATER - 10/12/2024 SE275899.007	GUM BORE QC (QC1) WATER - 10/12/2024 SE275899.008	HF PIT WATER - 10/12/2024 SE275899.009
Total Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001

METHOD	METHODOLOGY SUMMARY
AN022/AN318	Following acid digestion of un filtered sample, determination of elements at trace level in waters by ICP-MS technique, referenced to USEPA 6020B and USEPA 200.8 (5.4).
AN022/AN320	Total (acid soluble) Metals by ICP-OES: Samples are digested in nitric or nitric and hydrochloric acids prior to analysis for a wide range of metals and some non-metals. This solution is measured by Inductively Coupled Plasma. Solutions are aspirated into an argon plasma at 8000-10000K and emit characteristic energy or light as a result of electron transitions through unique energy levels. The emitted light is focused onto a diffraction grating where it is separated into components.
AN022	The water sample is digested with Nitric Acid and made up to the original volume similar to APHA3030E.
AN076/AN287	Discrete Analyser. A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration.
AN077	Hydrogen cyanide is liberated from an acidified sample by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution. The scrubbing solution will then be analysed for cyanide by the appropriate method.
AN078	Hydrogen cyanide is liberated from a slightly acidified sample (pH 4.5-6.0) by distillation and purging with air. The hydrogen cyanide gas is then collected by passing it through a sodium hydroxide scrubbing solution.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode (glass plus reference electrode) and is calibrated against 3 buffers purchased commercially. For soils, an extract with water is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos/cm or µS/cm @ 25°C. For soils, an extract with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Total Dissolved Salts can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. SGS use 0.6. Reference APHA 2510 B.
AN106	Salinity may be calculated in terms of NaCl from the sample conductivity. This assumes all soluble salts present, measured by the conductivity, are present as NaCl.
AN113	Total Dissolved Solids: A well-mixed filtered sample of known volume is evaporated to dryness at 180°C and the residue weighed. Approximate methods for correlating chemical analysis with dissolved solids are available. Reference APHA 2540 C.
AN113	The Total Dissolved Solids residue may also be ignited at 550 C and volatile TDS (Organic TDS) and non-volatile TDS (Inorganic) can be determined.
AN135	Alkalinity (and forms of) by Titration: The sample is titrated with standard acid to pH 8.3 (P titre) and pH 4.5 (T titre) and permanent and/or total alkalinity calculated. The results are expressed as equivalents of calcium carbonate or recalculated as bicarbonate, carbonate and hydroxide. Reference APHA 2320. Internal Reference AN135
AN149	sulfide by Iodometric Titration: sulfide is precipitated as zinc sulfide to overcome interferences with sulphite and thiosulfate. After filtration, sulfide is determined titrimetrically. Reference APHA 4500-S2-
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B
AN277	Nitrite ions, when reacted with a reagent containing sulphanilamide and N-(1-naphthyl)-ethylenediamine dihydrochloride produce a highly coloured azo dye that is measured photometrically at 540nm.
AN279/AN293(Sydney)	The sample is digested with Sulphuric acid, K2SO4 and CuSO4. All forms of phosphorus are converted into orthophosphate. The digest is cooled and placed on the discrete analyser for colorimetric analysis.
AN281	An unfiltered water or soil sample is first digested in a block digestor with sulfuric acid, K2SO4 and CuSO4. The ammonia produced following digestion is then measured colourimetrically using the Discrete Analyser. A portion of the digested sample is buffered to an alkaline pH, and interfering cations are complexed. The ammonia then reacts with salicylate and hypochlorite to give a blue colour whose absorbance is measured at 660nm and compared with calibration standards. This is proportional to the concentration of Total Kjeldahl Nitrogen in the original sample.

AN287	A buffered distillate or water sample is treated with chloramine/barbituric acid reagents and the intensity of the colour developed is proportional to the cyanide concentration by DA.
AN291	Ammonia in solution reacts with hypochlorite ions from Sodium Dichloroisocyanuate, and salicylate in the presence of Sodium Nitroprusside to form indophenol blue and measured at 660 nm by Discrete Analyser.
AN311(Perth) /AN312	Mercury by Cold Vapour AAS in Waters: Mercury ions taken from unfiltered sample are reduced by stannous chloride reagent in acidic solution to elemental mercury. This mercury vapour is purged by nitrogen into a cold cell in an atomic absorption spectrometer or mercury analyser. Quantification is made by comparing absorbances to those of the calibration standards. Reference APHA 3112/3500.
AN320	Photomultipliers or CCDs are used to measure the light intensity at specific wavelengths. This intensity is directly proportional to concentration. Corrections are required to compensate for spectral overlap between elements. Reference APHA 3120 B.
AN403	Total Recoverable Hydrocarbons: Determination of Hydrocarbons by gas chromatography after a solvent extraction. Detection is by flame ionisation detector (FID) that produces an electronic signal in proportion to the combustible matter passing through it. Total Recoverable Hydrocarbons (TRH) are routinely reported as four alkane groupings based on the carbon chain length of the compounds: C6-C9, C10-C14, C15-C28 and C29-C36 and in recognition of the NEPM 1999 (2013), >C10-C16 (F2), >C16-C34 (F3) and >C34-C40 (F4). Where F2 is corrected for Naphthalene, the VOC data for Naphthalene is used.
AN403	Additionally, the volatile C6-C9/C6-C10 fractions may be determined by a purge and trap technique and GC/MS because of the potential for volatiles loss. Total Recoveerable Hydrocarbons - Silica (TRH-Silica) follows the same method of analysis after silica gel cleanup of the solvent extract. Aliphatic/Aromatic Speciation follows the same method of analysis after fractionation of the solvent extract over silica with differential polarity of the eluent solvents.
AN403	The GC/FID method is not well suited to the analysis of refined high boiling point materials (ie lubricating oils or greases) but is particularly suited for measuring diesel, kerosene and petrol if care to control volatility is taken. This method will detect naturally occurring hydrocarbons, lipids, animal fats, phenols and PAHs if they are present at sufficient levels, dependent on the use of specific cleanup/fractionation techniques. Reference USEPA 3510B, 8015B.
AN433	VOCs and C6-C9 Hydrocarbons by GC-MS P&T: VOC`s are volatile organic compounds. The sample is presented to a gas chromatograph via a purge and trap (P&T) concentrator and autosampler and is detected with a Mass Spectrometer (MSD). Solid samples are initially extracted with methanol whilst liquid samples are processed directly. References: USEPA 5030B, 8020A, 8260.
Calculation	Free and Total Carbon Dioxide may be calculated using alkalinity forms only when the samples TDS is <500mg/L. If TDS is >500mg/L free or total carbon dioxide cannot be reported. APHA4500CO2 D.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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STATEMENT OF QA/QC PERFORMANCE

SE275899 R0

CLIENT DETAILS

Contact	Jo Foster
Client	POLYMETALS OPERATIONS PTY LTD T/A WHITE DAM G
Address	PO BOX 1295 MILTON QLD 4064
Telephone	0402 598 666
Facsimile	(Not specified)
Email	Jo.Foster@gbmex.com.au
Project	**White Dam Gold Mine**
Order Number	**WD4952**
Samples	10

LABORATORY DETAILS

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SGS Reference	**SE275899 R0**
Date Received	16 Dec 2024
Date Reported	23 Dec 2024

COMMENTS

All the laboratory data for each environmental matrix was compared to SGS' stated Data Quality Objectives (DQO). Comments arising from the comparison were made and are reported below.

The data relating to sampling was taken from the Chain of Custody document.
This QA/QC Statement must be read in conjunction with the referenced Analytical Report.
The Statement and the Analytical Report must not be reproduced except in full.

All Data Quality Objectives were met with the exception of the following:

Extraction Date	Nitrite in Water	9 items
	pH in water	9 items
	Sulfide by Titration in Water	9 items
	Total Dissolved Solids (TDS) in water	3 items
	TRH (Total Recoverable Hydrocarbons) in Water	3 items
Analysis Date	Nitrite in Water	18 items
	pH in water	9 items
	Sulfide by Titration in Water	9 items
	Total Dissolved Solids (TDS) in water	9 items

SAMPLE SUMMARY

Sample counts by matrix	10 Water	Type of documentation received	COC
Date documentation received	16/12/2024	Samples received in good order	Yes
Samples received without headspace	Yes	Sample temperature upon receipt	22.4°C
Sample container provider	SGS	Turnaround time requested	Standard
Samples received in correct containers	Yes	Sufficient sample for analysis	Yes
Sample cooling method	Ice Bricks	Samples clearly labelled	Yes
Complete documentation received	Yes		

HOLDING TIME SUMMARY

SE275899 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333955	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
MB03	SE275899.002	LB333955	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	20 Dec 2024
MB04	SE275899.003	LB333955	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
MB06	SE275899.004	LB333955	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
MB07	SE275899.005	LB333955	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	20 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333955	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	20 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333955	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333955	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
HF PIT	SE275899.009	LB333955	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333493	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
MB03	SE275899.002	LB333493	09 Dec 2024	16 Dec 2024	06 Jan 2025	17 Dec 2024	06 Jan 2025	17 Dec 2024
MB04	SE275899.003	LB333493	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
MB06	SE275899.004	LB333493	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
MB07	SE275899.005	LB333493	09 Dec 2024	16 Dec 2024	06 Jan 2025	17 Dec 2024	06 Jan 2025	17 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333493	09 Dec 2024	16 Dec 2024	06 Jan 2025	17 Dec 2024	06 Jan 2025	17 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333493	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333493	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
HF PIT	SE275899.009	LB333493	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333860	10 Dec 2024	16 Dec 2024	07 Jan 2025	19 Dec 2024	07 Jan 2025	23 Dec 2024
MB03	SE275899.002	LB333860	09 Dec 2024	16 Dec 2024	06 Jan 2025	19 Dec 2024	06 Jan 2025	23 Dec 2024
MB04	SE275899.003	LB333860	10 Dec 2024	16 Dec 2024	07 Jan 2025	19 Dec 2024	07 Jan 2025	23 Dec 2024
MB06	SE275899.004	LB333860	10 Dec 2024	16 Dec 2024	07 Jan 2025	19 Dec 2024	07 Jan 2025	23 Dec 2024
MB07	SE275899.005	LB333860	09 Dec 2024	16 Dec 2024	06 Jan 2025	19 Dec 2024	06 Jan 2025	23 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333860	09 Dec 2024	16 Dec 2024	06 Jan 2025	19 Dec 2024	06 Jan 2025	23 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333860	10 Dec 2024	16 Dec 2024	07 Jan 2025	19 Dec 2024	07 Jan 2025	23 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333860	10 Dec 2024	16 Dec 2024	07 Jan 2025	19 Dec 2024	07 Jan 2025	23 Dec 2024
HF PIT	SE275899.009	LB333860	10 Dec 2024	16 Dec 2024	07 Jan 2025	19 Dec 2024	07 Jan 2025	23 Dec 2024

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333425	10 Dec 2024	16 Dec 2024	07 Jan 2025	16 Dec 2024	07 Jan 2025	16 Dec 2024
MB03	SE275899.002	LB333425	09 Dec 2024	16 Dec 2024	06 Jan 2025	16 Dec 2024	06 Jan 2025	16 Dec 2024
MB04	SE275899.003	LB333425	10 Dec 2024	16 Dec 2024	07 Jan 2025	16 Dec 2024	07 Jan 2025	16 Dec 2024
MB06	SE275899.004	LB333425	10 Dec 2024	16 Dec 2024	07 Jan 2025	16 Dec 2024	07 Jan 2025	16 Dec 2024
MB07	SE275899.005	LB333425	09 Dec 2024	16 Dec 2024	06 Jan 2025	16 Dec 2024	06 Jan 2025	16 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333425	09 Dec 2024	16 Dec 2024	06 Jan 2025	16 Dec 2024	06 Jan 2025	16 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333425	10 Dec 2024	16 Dec 2024	07 Jan 2025	16 Dec 2024	07 Jan 2025	16 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333425	10 Dec 2024	16 Dec 2024	07 Jan 2025	16 Dec 2024	07 Jan 2025	16 Dec 2024
HF PIT	SE275899.009	LB333425	10 Dec 2024	16 Dec 2024	07 Jan 2025	16 Dec 2024	07 Jan 2025	16 Dec 2024

Free Cyanide in water

Method: ME-(AU)-[ENV]AN076/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333942	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
MB03	SE275899.002	LB333942	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	20 Dec 2024
MB04	SE275899.003	LB333942	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
MB06	SE275899.004	LB333942	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
MB07	SE275899.005	LB333942	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	20 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333942	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	20 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333942	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333942	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
HF PIT	SE275899.009	LB333942	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	20 Dec 2024
RB08 Bulloo	SE275899.010	LB333942	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	20 Dec 2024

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Sample Name	Sample No.	QC Ref

HOLDING TIME SUMMARY

SE275899 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

Mercury (total) in Water (continued)

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333507	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
MB03	SE275899.002	LB333507	09 Dec 2024	16 Dec 2024	06 Jan 2025	17 Dec 2024	06 Jan 2025	17 Dec 2024
MB04	SE275899.003	LB333507	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
MB06	SE275899.004	LB333507	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
MB07	SE275899.005	LB333507	09 Dec 2024	16 Dec 2024	06 Jan 2025	17 Dec 2024	06 Jan 2025	17 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333507	09 Dec 2024	16 Dec 2024	06 Jan 2025	17 Dec 2024	06 Jan 2025	17 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333507	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333507	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024
HF PIT	SE275899.009	LB333507	10 Dec 2024	16 Dec 2024	07 Jan 2025	17 Dec 2024	07 Jan 2025	17 Dec 2024

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333708	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
MB03	SE275899.002	LB333708	09 Dec 2024	16 Dec 2024	07 Jun 2025	18 Dec 2024	07 Jun 2025	19 Dec 2024
MB04	SE275899.003	LB333708	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
MB06	SE275899.004	LB333708	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
MB07	SE275899.005	LB333708	09 Dec 2024	16 Dec 2024	07 Jun 2025	18 Dec 2024	07 Jun 2025	19 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333708	09 Dec 2024	16 Dec 2024	07 Jun 2025	18 Dec 2024	07 Jun 2025	19 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333708	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333708	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
HF PIT	SE275899.009	LB333708	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333493	10 Dec 2024	16 Dec 2024	14 Dec 2024	17 Dec 2024†	14 Dec 2024	23 Dec 2024†
MB03	SE275899.002	LB333493	09 Dec 2024	16 Dec 2024	13 Dec 2024	17 Dec 2024†	13 Dec 2024	23 Dec 2024†
MB04	SE275899.003	LB333493	10 Dec 2024	16 Dec 2024	14 Dec 2024	17 Dec 2024†	14 Dec 2024	23 Dec 2024†
MB06	SE275899.004	LB333493	10 Dec 2024	16 Dec 2024	14 Dec 2024	17 Dec 2024†	14 Dec 2024	23 Dec 2024†
MB07	SE275899.005	LB333493	09 Dec 2024	16 Dec 2024	13 Dec 2024	17 Dec 2024†	13 Dec 2024	23 Dec 2024†
RB04 (RB04 Larry Mac)	SE275899.006	LB333493	09 Dec 2024	16 Dec 2024	13 Dec 2024	17 Dec 2024†	13 Dec 2024	23 Dec 2024†
GUM BORE (GUMB)	SE275899.007	LB333493	10 Dec 2024	16 Dec 2024	14 Dec 2024	17 Dec 2024†	14 Dec 2024	23 Dec 2024†
GUM BORE QC (QC1)	SE275899.008	LB333493	10 Dec 2024	16 Dec 2024	14 Dec 2024	17 Dec 2024†	14 Dec 2024	23 Dec 2024†
HF PIT	SE275899.009	LB333493	10 Dec 2024	16 Dec 2024	14 Dec 2024	17 Dec 2024†	14 Dec 2024	23 Dec 2024†

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333425	10 Dec 2024	16 Dec 2024	11 Dec 2024	16 Dec 2024†	11 Dec 2024	16 Dec 2024†
MB03	SE275899.002	LB333425	09 Dec 2024	16 Dec 2024	10 Dec 2024	16 Dec 2024†	10 Dec 2024	16 Dec 2024†
MB04	SE275899.003	LB333425	10 Dec 2024	16 Dec 2024	11 Dec 2024	16 Dec 2024†	11 Dec 2024	16 Dec 2024†
MB06	SE275899.004	LB333425	10 Dec 2024	16 Dec 2024	11 Dec 2024	16 Dec 2024†	11 Dec 2024	16 Dec 2024†
MB07	SE275899.005	LB333425	09 Dec 2024	16 Dec 2024	10 Dec 2024	16 Dec 2024†	10 Dec 2024	16 Dec 2024†
RB04 (RB04 Larry Mac)	SE275899.006	LB333425	09 Dec 2024	16 Dec 2024	10 Dec 2024	16 Dec 2024†	10 Dec 2024	16 Dec 2024†
GUM BORE (GUMB)	SE275899.007	LB333425	10 Dec 2024	16 Dec 2024	11 Dec 2024	16 Dec 2024†	11 Dec 2024	16 Dec 2024†
GUM BORE QC (QC1)	SE275899.008	LB333425	10 Dec 2024	16 Dec 2024	11 Dec 2024	16 Dec 2024†	11 Dec 2024	16 Dec 2024†
HF PIT	SE275899.009	LB333425	10 Dec 2024	16 Dec 2024	11 Dec 2024	16 Dec 2024†	11 Dec 2024	16 Dec 2024†

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB334098	10 Dec 2024	16 Dec 2024	17 Dec 2024	20 Dec 2024†	17 Dec 2024	20 Dec 2024†
MB03	SE275899.002	LB334098	09 Dec 2024	16 Dec 2024	16 Dec 2024	20 Dec 2024†	16 Dec 2024	20 Dec 2024†
MB04	SE275899.003	LB334098	10 Dec 2024	16 Dec 2024	17 Dec 2024	20 Dec 2024†	17 Dec 2024	20 Dec 2024†
MB06	SE275899.004	LB334098	10 Dec 2024	16 Dec 2024	17 Dec 2024	20 Dec 2024†	17 Dec 2024	20 Dec 2024†
MB07	SE275899.005	LB334098	09 Dec 2024	16 Dec 2024	16 Dec 2024	20 Dec 2024†	16 Dec 2024	20 Dec 2024†
RB04 (RB04 Larry Mac)	SE275899.006	LB334098	09 Dec 2024	16 Dec 2024	16 Dec 2024	20 Dec 2024†	16 Dec 2024	20 Dec 2024†
GUM BORE (GUMB)	SE275899.007	LB334098	10 Dec 2024	16 Dec 2024	17 Dec 2024	20 Dec 2024†	17 Dec 2024	20 Dec 2024†
GUM BORE QC (QC1)	SE275899.008	LB334098	10 Dec 2024	16 Dec 2024	17 Dec 2024	20 Dec 2024†	17 Dec 2024	20 Dec 2024†
HF PIT	SE275899.009	LB334098	10 Dec 2024	16 Dec 2024	17 Dec 2024	20 Dec 2024†	17 Dec 2024	20 Dec 2024†

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	23 Dec 2024
MB03	SE275899.002	LB333714	09 Dec 2024	16 Dec 2024	06 Jan 2025	18 Dec 2024	06 Jan 2025	23 Dec 2024

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TKN Kjeldahl Digestion by Discrete Analyser (continued)

Method: ME-(AU)-[ENV]AN292

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB04	SE275899.003	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	23 Dec 2024
MB06	SE275899.004	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	23 Dec 2024
MB07	SE275899.005	LB333714	09 Dec 2024	16 Dec 2024	06 Jan 2025	18 Dec 2024	06 Jan 2025	23 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333714	09 Dec 2024	16 Dec 2024	06 Jan 2025	18 Dec 2024	06 Jan 2025	23 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	23 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	23 Dec 2024
HF PIT	SE275899.009	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	23 Dec 2024

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333854	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
MB03	SE275899.002	LB333854	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024
MB04	SE275899.003	LB333854	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
MB06	SE275899.004	LB333854	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
MB07	SE275899.005	LB333854	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333854	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333854	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333854	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
HF PIT	SE275899.009	LB333854	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
RB08 Bulloo	SE275899.010	LB333854	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333561	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	17 Dec 2024	18 Dec 2024†
MB03	SE275899.002	LB333561	09 Dec 2024	16 Dec 2024	16 Dec 2024	17 Dec 2024†	16 Dec 2024	18 Dec 2024†
MB04	SE275899.003	LB333561	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	17 Dec 2024	18 Dec 2024†
MB06	SE275899.004	LB333561	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	17 Dec 2024	18 Dec 2024†
MB07	SE275899.005	LB333561	09 Dec 2024	16 Dec 2024	16 Dec 2024	17 Dec 2024†	16 Dec 2024	18 Dec 2024†
RB04 (RB04 Larry Mac)	SE275899.006	LB333561	09 Dec 2024	16 Dec 2024	16 Dec 2024	17 Dec 2024†	16 Dec 2024	18 Dec 2024†
GUM BORE (GUMB)	SE275899.007	LB333561	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	17 Dec 2024	18 Dec 2024†
GUM BORE QC (QC1)	SE275899.008	LB333561	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	17 Dec 2024	18 Dec 2024†
HF PIT	SE275899.009	LB333561	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	17 Dec 2024	18 Dec 2024†

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	19 Dec 2024
MB03	SE275899.002	LB333714	09 Dec 2024	16 Dec 2024	06 Jan 2025	18 Dec 2024	06 Jan 2025	19 Dec 2024
MB04	SE275899.003	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	19 Dec 2024
MB06	SE275899.004	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	19 Dec 2024
MB07	SE275899.005	LB333714	09 Dec 2024	16 Dec 2024	06 Jan 2025	18 Dec 2024	06 Jan 2025	19 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333714	09 Dec 2024	16 Dec 2024	06 Jan 2025	18 Dec 2024	06 Jan 2025	19 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	19 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	19 Dec 2024
HF PIT	SE275899.009	LB333714	10 Dec 2024	16 Dec 2024	07 Jan 2025	18 Dec 2024	07 Jan 2025	19 Dec 2024

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333716	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
MB03	SE275899.002	LB333716	09 Dec 2024	16 Dec 2024	07 Jun 2025	18 Dec 2024	07 Jun 2025	19 Dec 2024
MB04	SE275899.003	LB333716	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
MB06	SE275899.004	LB333716	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
MB07	SE275899.005	LB333716	09 Dec 2024	16 Dec 2024	07 Jun 2025	18 Dec 2024	07 Jun 2025	19 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333716	09 Dec 2024	16 Dec 2024	07 Jun 2025	18 Dec 2024	07 Jun 2025	19 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333716	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333716	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024
HF PIT	SE275899.009	LB333716	10 Dec 2024	16 Dec 2024	08 Jun 2025	18 Dec 2024	08 Jun 2025	19 Dec 2024

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333514	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	26 Jan 2025	23 Dec 2024
MB03	SE275899.002	LB333514	09 Dec 2024	16 Dec 2024	16 Dec 2024	17 Dec 2024†	26 Jan 2025	23 Dec 2024
MB04	SE275899.003	LB333514	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	26 Jan 2025	23 Dec 2024

HOLDING TIME SUMMARY

SE275899 R0

SGS holding time criteria are drawn from current regulations and are highly dependent on sample container preservation as specified in the SGS "Field Sampling Guide for Containers and Holding Time" (ref: GU-(AU)-ENV.001). Soil samples guidelines are derived from NEPM "Schedule B(3) Guideline on Laboratory Analysis of Potentially Contaminated Soils". Water sample guidelines are derived from "AS/NZS 5667.1 : 1998 Water Quality - sampling part 1" and APHA "Standard Methods for the Examination of Water and Wastewater" 21st edition 2005.

Extraction and analysis holding time due dates listed are calculated from the date sampled, although holding times may be extended after laboratory extraction for some analytes. The due dates are the suggested dates that samples may be held before extraction or analysis and still be considered valid.

Extraction and analysis dates are shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria. If the

TRH (Total Recoverable Hydrocarbons) in Water (continued)

Method: ME-(AU)-[ENV]AN403

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB06	SE275899.004	LB333514	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	26 Jan 2025	23 Dec 2024
MB07	SE275899.005	LB333514	09 Dec 2024	16 Dec 2024	16 Dec 2024	17 Dec 2024†	26 Jan 2025	23 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333514	09 Dec 2024	16 Dec 2024	16 Dec 2024	17 Dec 2024†	26 Jan 2025	23 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333514	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	26 Jan 2025	23 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333514	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	26 Jan 2025	23 Dec 2024
HF PIT	SE275899.009	LB333514	10 Dec 2024	16 Dec 2024	17 Dec 2024	17 Dec 2024	26 Jan 2025	23 Dec 2024

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB334063	10 Dec 2024	16 Dec 2024	24 Dec 2024	20 Dec 2024	24 Dec 2024	23 Dec 2024
MB03	SE275899.002	LB334063	09 Dec 2024	16 Dec 2024	23 Dec 2024	20 Dec 2024	23 Dec 2024	23 Dec 2024
MB04	SE275899.003	LB334063	10 Dec 2024	16 Dec 2024	24 Dec 2024	20 Dec 2024	24 Dec 2024	23 Dec 2024
MB06	SE275899.004	LB334063	10 Dec 2024	16 Dec 2024	24 Dec 2024	20 Dec 2024	24 Dec 2024	23 Dec 2024
MB07	SE275899.005	LB334063	09 Dec 2024	16 Dec 2024	23 Dec 2024	20 Dec 2024	23 Dec 2024	23 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB334063	09 Dec 2024	16 Dec 2024	23 Dec 2024	20 Dec 2024	23 Dec 2024	23 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB334063	10 Dec 2024	16 Dec 2024	24 Dec 2024	20 Dec 2024	24 Dec 2024	23 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB334063	10 Dec 2024	16 Dec 2024	24 Dec 2024	20 Dec 2024	24 Dec 2024	23 Dec 2024
HF PIT	SE275899.009	LB334063	10 Dec 2024	16 Dec 2024	24 Dec 2024	20 Dec 2024	24 Dec 2024	23 Dec 2024

Weak Acid Dissociable Cyanide in Water by Discrete Analyser)

Method: ME-(AU)-[ENV]AN078/AN287

Sample Name	Sample No.	QC Ref	Sampled	Received	Extraction Due	Extracted	Analysis Due	Analysed
MB01	SE275899.001	LB333878	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
MB03	SE275899.002	LB333878	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024
MB04	SE275899.003	LB333878	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
MB06	SE275899.004	LB333878	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
MB07	SE275899.005	LB333878	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024
RB04 (RB04 Larry Mac)	SE275899.006	LB333878	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024
GUM BORE (GUMB)	SE275899.007	LB333878	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
GUM BORE QC (QC1)	SE275899.008	LB333878	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
HF PIT	SE275899.009	LB333878	10 Dec 2024	16 Dec 2024	24 Dec 2024	19 Dec 2024	24 Dec 2024	19 Dec 2024
RB08 Bulloo	SE275899.010	LB333878	09 Dec 2024	16 Dec 2024	23 Dec 2024	19 Dec 2024	23 Dec 2024	19 Dec 2024

Surrogate results are evaluated against upper and lower limit criteria established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). At least two of three routine level soil sample surrogate spike recoveries for BTEX/VOC are to be within 70-130% where control charts have not been developed and within the established control limits for charted surrogates. Matrix effects may void this as an acceptance criterion. Water sample surrogate spike recoveries are to be within 40-130%. The presence of emulsions, surfactants and particulates may void this as an acceptance criterion.

Result is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Volatile Petroleum Hydrocarbons in Water — **Method: ME-(AU)-[ENV]AN433**

Parameter	Sample Name	Sample Number	Units	Criteria	Recovery %
Bromofluorobenzene (Surrogate)	MB01	SE275899.001	%	40 - 130%	84
	MB03	SE275899.002	%	40 - 130%	85
	MB04	SE275899.003	%	40 - 130%	87
	MB06	SE275899.004	%	40 - 130%	86
	MB07	SE275899.005	%	40 - 130%	87
	RB04 (RB04 Larry Mac)	SE275899.006	%	40 - 130%	83
	GUM BORE (GUMB)	SE275899.007	%	40 - 130%	87
	GUM BORE QC (QC1)	SE275899.008	%	40 - 130%	86
	HF PIT	SE275899.009	%	40 - 130%	85
d4-1,2-dichloroethane (Surrogate)	MB01	SE275899.001	%	60 - 130%	96
	MB03	SE275899.002	%	60 - 130%	91
	MB04	SE275899.003	%	60 - 130%	90
	MB06	SE275899.004	%	60 - 130%	95
	MB07	SE275899.005	%	60 - 130%	92
	RB04 (RB04 Larry Mac)	SE275899.006	%	60 - 130%	88
	GUM BORE (GUMB)	SE275899.007	%	60 - 130%	90
	GUM BORE QC (QC1)	SE275899.008	%	60 - 130%	89
	HF PIT	SE275899.009	%	60 - 130%	89
d8-toluene (Surrogate)	MB01	SE275899.001	%	40 - 130%	90
	MB03	SE275899.002	%	40 - 130%	90
	MB04	SE275899.003	%	40 - 130%	89
	MB06	SE275899.004	%	40 - 130%	90
	MB07	SE275899.005	%	40 - 130%	90
	RB04 (RB04 Larry Mac)	SE275899.006	%	40 - 130%	88
	GUM BORE (GUMB)	SE275899.007	%	40 - 130%	89
	GUM BORE QC (QC1)	SE275899.008	%	40 - 130%	90
	HF PIT	SE275899.009	%	40 - 130%	90

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Alkalinity

Method: ME-(AU)-[ENV]AN135

Sample Number	Parameter	Units	LOR	Result
LB333955.001	Total Alkalinity as CaCO3	mg/L	5	<5

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result
LB333493.001	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	<0.01

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result
LB333860.001	Chloride	mg/L	1	<0.05
	Sulfate, SO4	mg/L	1	<1.0
	Fluoride	mg/L	0.1	<0.10
	Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result
LB333425.001	Conductivity @ 25 C	µS/cm	2	<2

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Number	Parameter	Units	LOR	Result
LB333708.001	Total Calcium	mg/L	0.1	<0.1
	Total Lithium, Li	mg/L	0.005	<0.005
	Total Magnesium	mg/L	0.1	<0.1
	Total Sodium	mg/L	0.1	<0.1
LB333708.025	Total Calcium	mg/L	0.1	<0.1
	Total Lithium, Li	mg/L	0.005	<0.005
	Total Magnesium	mg/L	0.1	<0.1
	Total Sodium	mg/L	0.1	<0.1

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result
LB333493.001	Nitrite Nitrogen, NO2 as N	mg/L	0.005	<0.005

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Number	Parameter	Units	LOR	Result
LB334098.001	Sulfide	mg/L	0.5	<0.5

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result
LB333854.001	Total Cyanide	mg/L	0.004	<0.004

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Sample Number	Parameter	Units	LOR	Result
LB333561.001	Total Dissolved Solids Dried at 175-185°C	mg/L	10	<10

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result
LB333714.001	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	<0.02

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR

Blank results are evaluated against the limit of reporting (LOR), for the chosen method and its associated instrumentation, typically 2.5 times the statistically determined method detection limit (MDL).

Result is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result
LB333716.001	Total Aluminium	µg/L	5	<5
	Total Arsenic	µg/L	1	<1
	Total Beryllium	µg/L	1	<1
	Total Boron	µg/L	5	<5
	Total Cadmium	µg/L	0.1	<0.1
	Total Chromium	µg/L	1	<1
	Total Cobalt	µg/L	1	<1
	Total Copper	µg/L	1	<1
	Total Iron	µg/L	5	<5
	Total Lead	µg/L	1	<1
	Total Manganese	µg/L	1	<1
	Total Molybdenum	µg/L	1	<1
	Total Nickel	µg/L	1	<1
	Total Selenium	µg/L	1	<1
	Total Uranium	µg/L	1	<1
	Total Vanadium	µg/L	1	<1
	Total Zinc	µg/L	5	<5

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number	Parameter	Units	LOR	Result
LB333514.001	TRH C10-C14	µg/L	50	<50
	TRH C15-C28	µg/L	200	<200
	TRH C29-C36	µg/L	200	<200
	TRH C37-C40	µg/L	200	<200

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result
LB334063.001		TRH C6-C9	µg/L	40	<40
	Surrogates	d4-1,2-dichloroethane (Surrogate)	%	-	91
		d8-toluene (Surrogate)	%	-	96
		Bromofluorobenzene (Surrogate)	%	-	103

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

Alkalinity

Method: ME-(AU)-[ENV]AN135

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.008	LB333955.013	Total Alkalinity as CaCO3	mg/L	5	480	490	16	1
SE275910.002	LB333955.024	Total Alkalinity as CaCO3	mg/L	5	110	110	20	0

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.007	LB333493.014	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.02	0.02	70	8
SE275904.007	LB333493.025	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	0.09	0.09	26	2

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275781.001	LB333860.025	Sulfate, SO4	mg/L	1	77	75	16	2
		Nitrate Nitrogen, NO3-N	mg/L	0.005	<0.005	<0.005	200	0
SE275899.008	LB333860.014	Chloride	mg/L	1	160	160	15	1
		Sulfate, SO4	mg/L	1	460	440	15	2
		Fluoride	mg/L	0.1	1.1	1.1	24	1
		Nitrate Nitrogen, NO3-N	mg/L	0.005	3.4	3.3	15	3

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.009	LB333425.013	Conductivity @ 25 C	µS/cm	2	4000	3900	15	0

Free Cyanide in water

Method: ME-(AU)-[ENV]AN076/AN287

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.010	LB333942.014	Free Cyanide	mg/L	0.004	<0.004	<0.004	200	0

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.009	LB333507.014	Total Mercury	µg/L	0.0001	<0.0001	<0.0001	200	0

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275783.001	LB333708.014	Total Sodium	mg/L	0.1	1300	1300	15	2
SE275899.007	LB333708.028	Total Calcium	mg/L	0.1	240	230	15	4
		Total Lithium, Li	mg/L	0.005	<0.005	<0.005	134	0
		Total Magnesium	mg/L	0.1	38	39	15	2
		Total Sodium	mg/L	0.1	200	200	15	1
SE275912.001	LB333708.032	Total Sodium	mg/L	0.1	5.9	5.8	24	1

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.007	LB333493.014	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.007	0.007	86	1
SE275904.007	LB333493.025	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.008	0.008	78	3

pH in water

Method: ME-(AU)-[ENV]AN101

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.009	LB333425.013	pH**	pH Units	-	8.0	8.1	16	1

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

Original	Duplicate	Parameter	Units	LOR

Duplicates are calculated as Relative Percentage Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

NOTE: The RPD reported is calculated from the unrounded data for the original and replicate result. Manual calculation of the RPD from the rounded data reported may

TKN Kjeldahl Digestion by Discrete Analyser (continued)

Method: ME-(AU)-[ENV]AN292

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275774.001	LB333714.014	Total Kjeldahl Nitrogen	mg/L	0.05	16	16	15	2
SE275899.009	LB333714.027	Total Kjeldahl Nitrogen	mg/L	0.05	0.56	0.66	23	16

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.003	LB333854.017	Total Cyanide	mg/L	0.004	<0.004	<0.004	200	0

Total Dissolved Solids (TDS) in water

Method: ME-(AU)-[ENV]AN113

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.001	LB333561.014	Total Dissolved Solids Dried at 175-185°C	mg/L	10	40000	42000	15	4
SE275903.001	LB333561.025	Total Dissolved Solids Dried at 175-185°C	mg/L	10	4700	4800	15	4

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275774.001	LB333714.014	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	3.7	3.7	16	1
SE275899.009	LB333714.027	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	0.06	0.07	46	18

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Original	Duplicate	Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.009	LB333716.013	Total Aluminium	µg/L	5	1200	1200	15	0
		Total Arsenic	µg/L	1	1	1	96	4
		Total Beryllium	µg/L	1	<1	<1	200	0
		Total Boron	µg/L	5	700	690	16	1
		Total Cadmium	µg/L	0.1	9.8	10	16	5
		Total Chromium	µg/L	1	1	1	88	8
		Total Cobalt	µg/L	1	56	57	17	2
		Total Copper	µg/L	1	160	160	16	3
		Total Iron	µg/L	5	1100	1100	15	0
		Total Lead	µg/L	1	<1	<1	200	0
		Total Manganese	µg/L	1	440	450	15	3
		Total Molybdenum	µg/L	1	7	7	29	5
		Total Nickel	µg/L	1	61	63	17	2
		Total Selenium	µg/L	1	48	48	17	1
		Total Uranium	µg/L	1	81	81	16	1
		Total Vanadium	µg/L	1	8	8	28	1
		Total Zinc	µg/L	5	170	170	18	1

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Original	Duplicate		Parameter	Units	LOR	Original	Duplicate	Criteria %	RPD %
SE275899.001	LB334063.026		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.6	11.4	30	17
			d8-toluene (Surrogate)	µg/L	-	9.0	9.2	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	8.4	10.3	30	20
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0
SE275904.004	LB334063.027		TRH C6-C10	µg/L	50	<50	<50	200	0
			TRH C6-C9	µg/L	40	<40	<40	200	0
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.8	11.7	30	18
			d8-toluene (Surrogate)	µg/L	-	8.9	9.1	30	2
			Bromofluorobenzene (Surrogate)	µg/L	-	8.6	10.7	30	22
		VPH F Bands	Benzene (F0)	µg/L	0.5	<0.5	<0.5	200	0
			TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	<50	200	0

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333493.002	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.5	2.5	80 - 120	99

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333860.002	Chloride	mg/L	1	20	20	80 - 120	98
	Sulfate, SO4	mg/L	1	20	20	80 - 120	100
	Fluoride	mg/L	0.1	1.9	2	80 - 120	97
	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.1	2	80 - 120	103

Conductivity and TDS by Calculation - Water

Method: ME-(AU)-[ENV]AN106

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333425.002	Conductivity @ 25 C	µS/cm	2	290	303	90 - 110	94

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333708.002	Total Calcium	mg/L	0.1	52	50.5	80 - 120	102
	Total Lithium, Li	mg/L	0.005	0.10	0.1	80 - 120	100
	Total Magnesium	mg/L	0.1	48	50.5	80 - 120	94
	Total Sodium	mg/L	0.1	48	50.5	80 - 120	95
LB333708.026	Total Calcium	mg/L	0.1	51	50.5	80 - 120	102
	Total Lithium, Li	mg/L	0.005	0.10	0.1	80 - 120	100
	Total Magnesium	mg/L	0.1	45	50.5	80 - 120	89
	Total Sodium	mg/L	0.1	48	50.5	80 - 120	95

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333493.002	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.10	0.1	80 - 120	102

pH in water

Method: ME-(AU)-[ENV]AN101

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333425.003	pH**	No unit	-	7.4	7.415	98 - 102	100

Sulfide by Titration in Water

Method: ME-(AU)-[ENV]AN149

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB334098.002	Sulfide	mg/L	0.5	78	100	70 - 130	78

Total Cyanide in water by Discrete Analyser

Method: ME-(AU)-[ENV]AN077/AN287

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333854.002	Total Cyanide	mg/L	0.004	0.024	0.025	80 - 120	97

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333714.002	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.1	1	80 - 120	105

Trace Metals (Total) in Water by ICPMS

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333716.002	Total Aluminium	µg/L	5	21	20	80 - 120	106
	Total Arsenic	µg/L	1	18	20	80 - 120	91
	Total Beryllium	µg/L	1	22	20	80 - 120	108
	Total Boron	µg/L	5	20	20	80 - 120	101
	Total Cadmium	µg/L	0.1	20	20	80 - 120	102

Laboratory Control Standard (LCS) results are evaluated against an expected result, typically the concentration of analyte spiked into the control during the sample preparation stage, producing a percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA /QC plan (Ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended dagger symbol (†) when outside suggested criteria.

Trace Metals (Total) in Water by ICPMS (continued)

Method: ME-(AU)-[ENV]AN022/AN318

Sample Number	Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333716.002	Total Chromium	µg/L	1	21	20	80 - 120	107
	Total Cobalt	µg/L	1	22	20	80 - 120	111
	Total Copper	µg/L	1	22	20	80 - 120	109
	Total Iron	µg/L	5	21	20	80 - 120	103
	Total Lead	µg/L	1	21	20	80 - 120	103
	Total Manganese	µg/L	1	21	20	80 - 120	104
	Total Molybdenum	µg/L	1	21	20	80 - 120	106
	Total Nickel	µg/L	1	21	20	80 - 120	107
	Total Selenium	µg/L	1	17	20	80 - 120	84
	Total Uranium	µg/L	1	21	20	80 - 120	105
	Total Vanadium	µg/L	1	21	20	80 - 120	104
	Total Zinc	µg/L	5	19	20	80 - 120	94

TRH (Total Recoverable Hydrocarbons) in Water

Method: ME-(AU)-[ENV]AN403

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB333514.002		TRH C10-C14	µg/L	50	1100	1200	60 - 140	96
		TRH C15-C28	µg/L	200	1300	1200	60 - 140	109
		TRH C29-C36	µg/L	200	1400	1200	60 - 140	113
	TRH F Bands	TRH >C10-C16	µg/L	60	1200	1200	60 - 140	104
		TRH >C16-C34 (F3)	µg/L	500	1400	1200	60 - 140	113
		TRH >C34-C40 (F4)	µg/L	500	680	600	60 - 140	114

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

Sample Number		Parameter	Units	LOR	Result	Expected	Criteria %	Recovery %
LB334063.002		TRH C6-C10	µg/L	50	920	946.63	60 - 140	97
		TRH C6-C9	µg/L	40	780	818.71	60 - 140	96
	Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	10.5	10	60 - 140	105
		d8-toluene (Surrogate)	µg/L	-	11.0	10	70 - 130	110
		Bromofluorobenzene (Surrogate)	µg/L	-	10.3	10	70 - 130	103
	VPH F Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	620	639.67	60 - 140	97

Matrix Spike (MS) results are evaluated as the percentage recovery of an expected result, typically the concentration of analyte spiked into a field sub -sample during the sample preparation stage. The original sample's result is subtracted from the sub-sample result before determining the percentage recovery. The criteria applied to the percentage recovery is established in the SGS QA/QC plan (ref: MP-(AU)-[ENV]QU-022). For more information refer to the footnotes in the concluding page of this report.

Recovery is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the end of this report for failure reasons.

Ammonia Nitrogen by Discrete Analyser

Method: ME-(AU)-[ENV]AN291

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE275904.003	LB333493.027	Ammonia Nitrogen, NH_3 as N	mg/L	0.01	2.5	<0.05	2.5	101

Anions by Ion Chromatography in Water

Method: ME-(AU)-[ENV]AN245

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE275865.001	LB333860.004	Nitrate Nitrogen, NO3-N	mg/L	0.005	2.1	0.064	2	102

Mercury (total) in Water

Method: ME-(AU)-[ENV]AN311(Perth) /AN312

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE275897.001	LB333507.004	Total Mercury	mg/L	0.0001	0.0020	0.072	-	-

Metals in Water (Total) by ICPOES

Method: ME-(AU)-[ENV]AN022/AN320

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE275763.001	LB333708.004	Total Sodium	mg/L	0.1	310	270	50.5	96
SE275899.009	LB333708.030	Total Calcium	mg/L	0.1	190	140	50.5	102
		Total Lithium, Li	mg/L	0.005	0.012	0.012	-	-
		Total Magnesium	mg/L	0.1	110	68	50.5	93
		Total Sodium	mg/L	0.1	740	680	50.5	113

Nitrite in Water

Method: ME-(AU)-[ENV]AN277

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE275904.003	LB333493.027	Nitrite Nitrogen, NO2 as N	mg/L	0.005	0.090	<0.005	0.1	88

TKN Kjeldahl Digestion by Discrete Analyser

Method: ME-(AU)-[ENV]AN292

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE275986.002	LB333714.028	Total Kjeldahl Nitrogen	mg/L	0.05	2.7	0.11	2.5	102

Total Phosphorus by Kjeldahl Digestion DA in Water

Method: ME-(AU)-[ENV]AN279/AN293(Sydney only)

QC Sample	Sample Number	Parameter	Units	LOR	Result	Original	Spike	Recovery%
SE275986.002	LB333714.028	Total Phosphorus (Kjeldahl Digestion) as P	mg/L	0.02	1.1	<0.02	1	109

Volatile Petroleum Hydrocarbons in Water

Method: ME-(AU)-[ENV]AN433

QC Sample	Sample Number		Parameter	Units	LOR	Original	Spike	Recovery%
SE275904.001	LB334063.025		TRH C6-C10	µg/L	50	<50	946.63	106
			TRH C6-C9	µg/L	40	<40	818.71	107
		Surrogates	d4-1,2-dichloroethane (Surrogate)	µg/L	-	9.5	-	88
			d8-toluene (Surrogate)	µg/L	-	8.9	-	108
			Bromofluorobenzene (Surrogate)	µg/L	-	8.4	-	105
		VPH F	Benzene (F0)	µg/L	0.5	<0.5	-	-
		Bands	TRH C6-C10 minus BTEX (F1)	µg/L	50	<50	639.67	111

MATRIX SPIKE DUPLICATES

SE275899 R0

Matrix spike duplicates are calculated as Relative Percent Difference (RPD) using the formula: RPD = | OriginalResult - ReplicateResult | x 100 / Mean

The original result is the analyte concentration of the matrix spike. The Duplicate result is the analyte concentration of the matrix spike duplicate.

The RPD is evaluated against the Maximum Allowable Difference (MAD) criteria and can be graphically represented by a curve calculated from the Statistical Detection Limit (SDL) and Limiting Repeatability (LR) using the formula: MAD = 100 x SDL / Mean + LR

Where the Maximum Allowable Difference evaluates to a number larger than 200 it is displayed as 200.

RPD is shown in **Green** when within suggested criteria or **Red** with an appended reason identifer when outside suggested criteria. Refer to the footnotes section at the

No matrix spike duplicates were required for this job.

Samples analysed as received.

Solid samples expressed on a dry weight basis.

QC criteria are subject to internal review according to the SGS QA/QC plan and may be provided on request or alternatively can be found here: https://www.sgs.com.au/~/media/Local/Australia/Documents/Technical Documents/MP-AU-ENV-QU-022 QA QC Plan.pdf

*	NATA accreditation does not cover the performance of this service.
**	Indicative data, theoretical holding time exceeded.
***	Indicates that both * and ** apply.
-	Sample not analysed for this analyte.
IS	Insufficient sample for analysis.
LNR	Sample listed, but not received.
LOR	Limit of reporting.
QFH	QC result is above the upper tolerance.
QFL	QC result is below the lower tolerance.
①	At least 2 of 3 surrogates are within acceptance criteria.
②	RPD failed acceptance criteria due to sample heterogeneity.
③	Results less than 5 times LOR preclude acceptance criteria for RPD.
④	Recovery failed acceptance criteria due to matrix interference.
⑤	Recovery failed acceptance criteria due to the presence of significant concentration of analyte (i.e. the concentration of analyte exceeds the spike level).
⑥	LOR was raised due to sample matrix interference.
⑦	LOR was raised due to dilution of significantly high concentration of analyte in sample.
⑧	Reanalysis of sample in duplicate confirmed sample heterogeneity and inconsistency of results.
⑨	Recovery failed acceptance criteria due to sample heterogeneity.
⑩	LOR was raised due to high conductivity of the sample (required dilution).
†	Refer to relevant report comments for further information.

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Appendix F

Surface Water Data

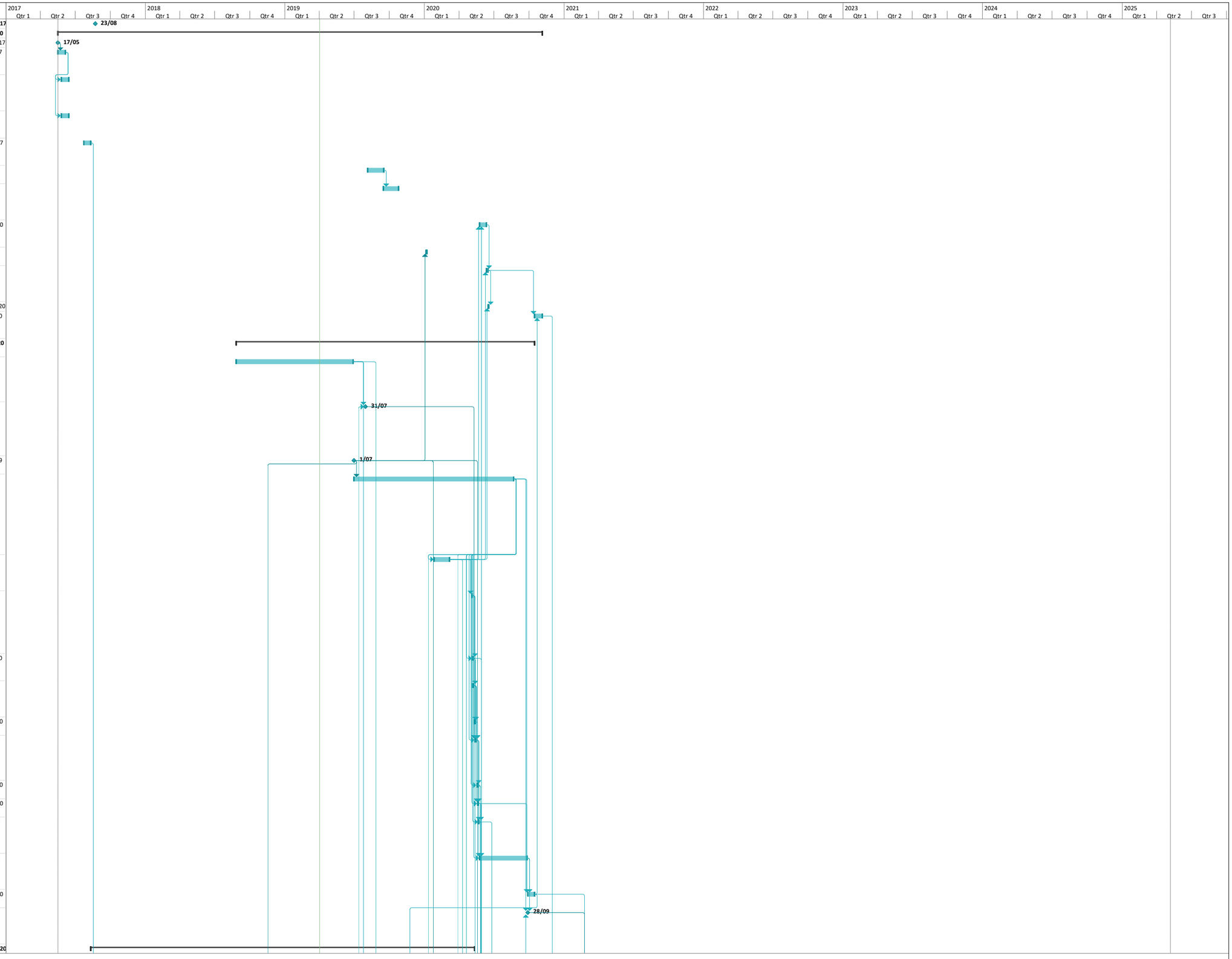
None for the reporting period.

Appendix G

WDGM Rehabilitation and Closure Schedule

Note: Extent of planned rehabilitation works will depend on outcomes of resource evaluation studies and potential additional mining and ore processing.

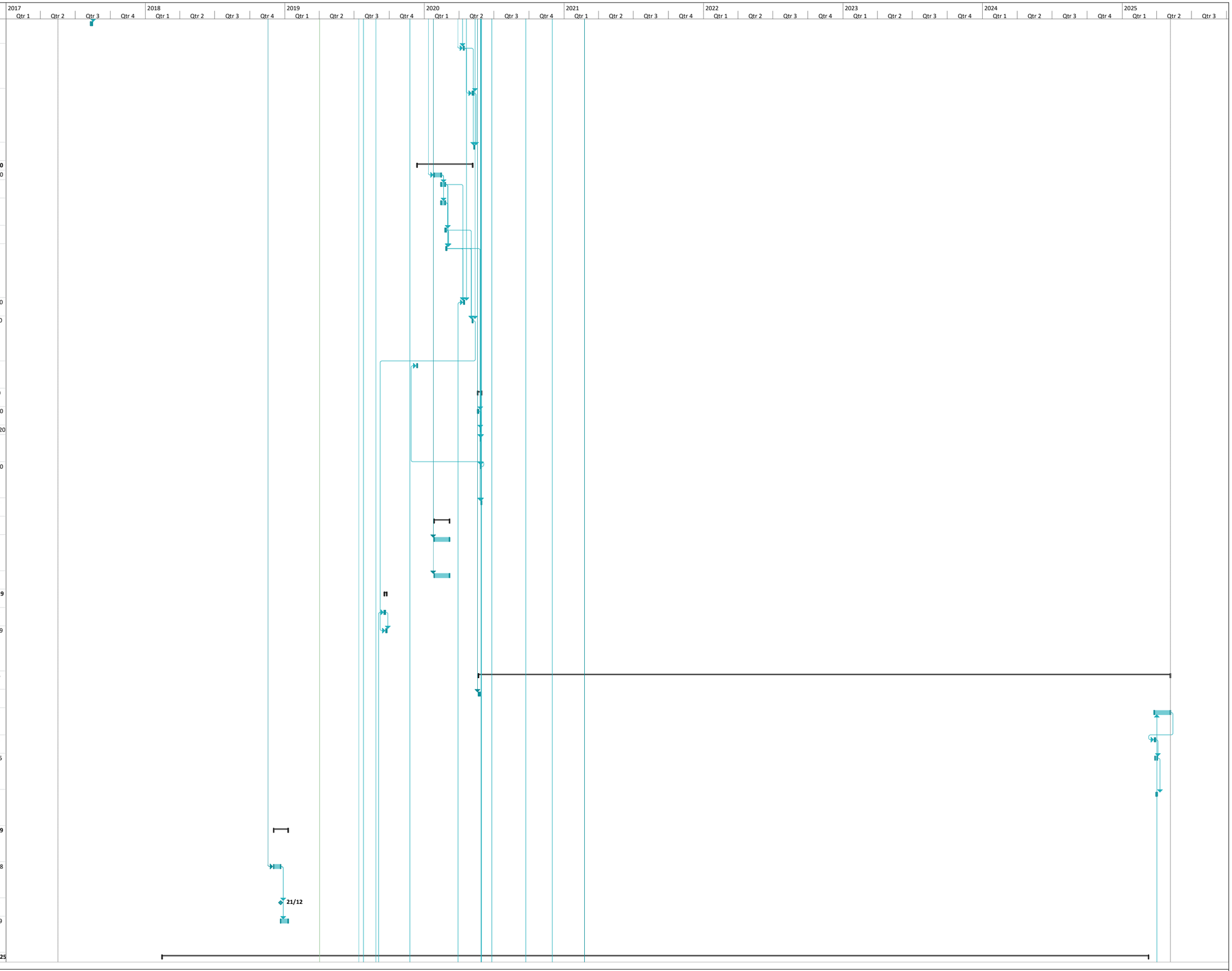
ID	Task Mode	Task Name	Duration	Start	Finish
1		**PEPR Review (v3)**	**0 days**	**Wed 23/08/17**	**Wed 23/08/17**
2		**Domain 1: Open Pits**	**906 days**	**Wed 17/05/17**	**Wed 4/11/20**
3		End of mining in pits	0 days	Wed 17/05/17	Wed 17/05/17
4		All PAF waste rock encapsulated with 5m thickness of NAF	14 days	Wed 17/05/17	Mon 5/06/17
5		Inpit WRDs coarse NAF graded towards outer batter and depressions removed, slopes at angle of repose	14 days	Fri 26/05/17	Wed 14/06/17
6		Block model of in-pit WRD and PAF encapsulation	14 days	Fri 26/05/17	Wed 14/06/17
7		End of mine geotechnical pit wall stability assessment	14 days	Mon 24/07/17	Thu 10/08/17
8		Review flood protection / abandonment bunds	30 days	Tue 6/08/19	Mon 16/09/19
9		Engineering design of flood protection bunds / stream diversion	30 days	Mon 16/09/19	Fri 25/10/19
10		Construction works on sections of stream diversion & flood bund	14 days	Mon 25/05/20	Thu 11/06/20
11		Decommission any pit bore & pumps	2 days	Mon 6/01/20	Tue 7/01/20
12		Abandonement bunds constructed over entrance to prevent access to pits & HF WRD	2 days	Fri 12/06/20	Mon 15/06/20
13		Seed disturbed areas	2 days	Tue 16/06/20	Wed 17/06/20
14		Audit (as constructed) flood protection / abandonement bund	14 days	Fri 16/10/20	Wed 4/11/20
15		**Domain 2: Heap Leach Pad**	**559 days**	**Mon 27/08/18**	**Thu 15/10/20**
16		Heap Leach trial cover columns to determine cover thickness of NAF/topsoil	220 days	Mon 27/08/18	Fri 28/06/19
17		SA govt. approve cover design based on trials and prelim numerical model, prior to placement on the heap	0 days	Wed 31/07/19	Wed 31/07/19
18		Heap Leach no longer economicaly viable	0 days	Mon 1/07/19	Mon 1/07/19
19		Stop addition of make up water, continue irrigating with process water in circuit until no further pumping possible, residual seepage to evaporate in ponds	300 days	Mon 1/07/19	Fri 21/08/20
20		Monitor seepage flow in W drain to confirm 0L/sec flow for 4 consecutive weeks	30 days	Mon 27/01/20	Fri 6/03/20
21		2m thick NAF bund around future toe of heap leach batter slopes. NAF recovered from HF in-pit NAF WRD or toe of the surface HF WRD nearest the pit	2 days	Mon 4/05/20	Tue 5/05/20
22		Bury (encapsulate) contaminated soil from HF WRD within heap	1 day	Wed 6/05/20	Wed 6/05/20
23		Batter slopes dozed down to meet inner edge of NAF bund (15 degrees)	2 days	Thu 7/05/20	Fri 8/05/20
24		NAF toe bund pushed up batter slope	2 days	Mon 11/05/20	Tue 12/05/20
25		Cover batter slopes with recovered NAF rock by end dumping from crest & dozer spreading to 0.2m thickness	3 days	Wed 13/05/20	Fri 15/05/20
26		Spread 0.3m topsoil over NAF cover	2 days	Mon 18/05/20	Tue 19/05/20
27		Close space contour rip and seed	2 days	Wed 20/05/20	Thu 21/05/20
28		Construct containment bund (v-drain and bund) around perimeter of heap to contain run-off	1 day	Fri 22/05/20	Fri 22/05/20
29		Monitor surface run-off and residual seepage (if any) for quality	90 days	Mon 25/05/20	Fri 25/09/20
30		Audit by SQP (as constructed)	14 days	Mon 28/09/20	Thu 15/10/20
31		Remove containment bund and replace with fence (livestock and fauna proof)	0 days	Mon 28/09/20	Mon 28/09/20
32		**Domain 3: Surface WRD**	**717 days**	**Fri 11/08/17**	**Mon 11/05/20**



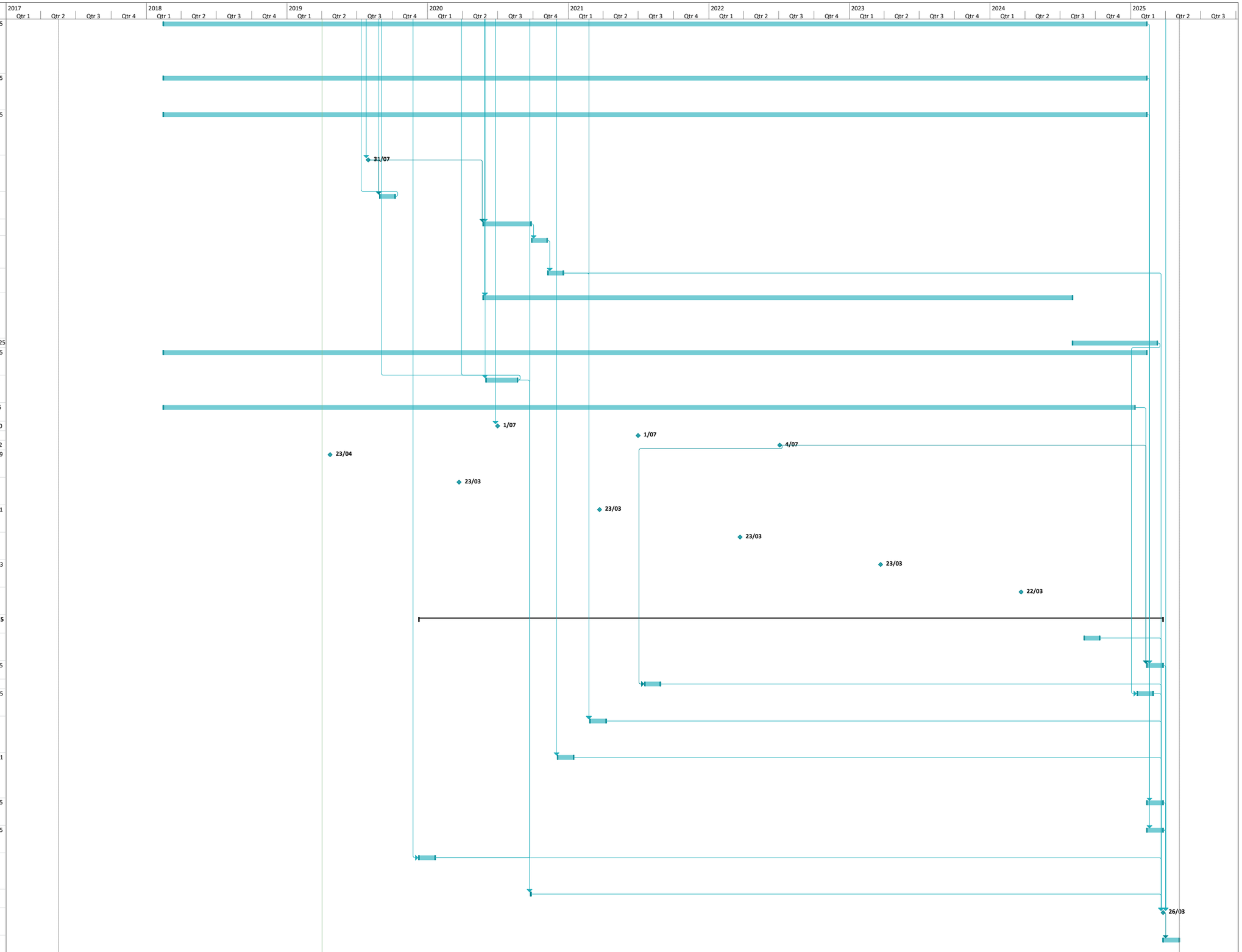
Project: 20190402-GC-WDGM Reh
Date: Tue 2/04/19

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Progress | Manual Progress

ID	Task Mode	Task Name	Duration	Start	Finish
33		Grade over cracks in HF WRD toe, restrict access and monitor	2 days	Fri 11/08/17	Mon 14/08/17
34		Remove hydrocarbon contaminated soil to the heap leach for encapsulation prior to cover	1 day	Mon 13/04/20	Mon 13/04/20
35		Recover NAF material from HF dump toe nearest the pit for the Heap leach cover if required, reshape, topsoil, rip and seed	3 days	Wed 6/05/20	Fri 8/05/20
36		Implement soil remediation if required	1 day	Mon 11/05/20	Mon 11/05/20
37		**Domain 4: Plant & Admin**	**104 days?**	**Fri 13/12/19**	**Wed 6/05/20**
38		Wash and clean plant	14 days	Mon 27/01/20	Thu 13/02/20
39		Dismantle plant & remove from site	7 days	Fri 14/02/20	Mon 24/02/20
40		Decommission RO plant, workshops, offices and other support facilities	7 days	Fri 14/02/20	Mon 24/02/20
41		Remove footings and pipes to a depth of 1m	2 days	Tue 25/02/20	Wed 26/02/20
42		Recover salvageable infrastructure and assets. Abandon buried cables and pipelines in situ (survey and record in place)	2 days	Thu 27/02/20	Fri 28/02/20
43		Implement soil remediation if required	1 day?	Tue 14/04/20	Tue 14/04/20
44		Contour to original surface and establish drainage, rip hardstand areas, topsoil if available and seed	1 day?	Wed 6/05/20	Wed 6/05/20
45		Close main access to site, Install signage and lock gates	1 day	Fri 13/12/19	Fri 13/12/19
46		**Domain 5: Process Ponds and W-drains**	**8 days**	**Wed 20/05/20**	**Fri 29/05/20**
47		Plug slotted w-drain pipe	2 days	Wed 20/05/20	Thu 21/05/20
48		Remove fencing	1 day	Wed 27/05/20	Wed 27/05/20
49		Liner in dry ponds cut & folded into bottom of ponds	1 day	Wed 27/05/20	Wed 27/05/20
50		Walls of ponds used to backfill ponds to natural ground surface	1 day	Thu 28/05/20	Thu 28/05/20
51		Implement soil remediation if required	1 day	Fri 29/05/20	Fri 29/05/20
52		**Domain 6: Internal & access roads & pipelines**	**30 days**	**Mon 27/01/20**	**Fri 6/03/20**
53		All supporting infrastructure above ground decommissioned and dismantled	30 days	Mon 27/01/20	Fri 6/03/20
54		Regrade roads, scarify and spread of seed	30 days	Mon 27/01/20	Fri 6/03/20
55		**Domain 7: Camp Admin & Accomm.**	**4 days**	**Thu 19/09/19**	**Tue 24/09/19**
56		Implement soil remediation if required	2 days	Thu 19/09/19	Fri 20/09/19
57		Contour to original surface and establish drainage, rip hardstand areas and seed	2 days	Mon 23/09/19	Tue 24/09/19
58		**Domain 8: Borefield (Regional & Monitoring)**	**1293 days**	**Fri 22/05/20**	**Tue 6/05/25**
59		Remove bore pumping equipment	2 days	Fri 22/05/20	Mon 25/05/20
60		Obtain permits to permanantly seal a well from SA govt.	30 days	Wed 26/03/25	Tue 6/05/25
61		Photograph bores prior to sealing	2 days	Thu 27/03/25	Fri 28/03/25
62		Decommission, cut collar and backfill bore in accordance with national guidelines	4 days	Fri 28/03/25	Wed 2/04/25
63		Visual inspection and photo of decommissioned bores	2 days	Mon 31/03/25	Tue 1/04/25
64		**Domain 9: Contractors Workshop, go bay, laydown yard, explosives**	**28 days**	**Mon 3/12/18**	**Wed 9/01/19**
65		Contractor dismantles areas & removes from site including mobile equipment	14 days	Mon 3/12/18	Thu 20/12/18
66		Implement soil remediation if required	0 days	Fri 21/12/18	Fri 21/12/18
67		Contour to original surface and establish drainage, rip hardstand areas and seed	14 days	Fri 21/12/18	Wed 9/01/19
68		**Closure Monitoring**	**1844 days**	**Wed 14/02/18**	**Mon 10/03/25**



ID	Task Mode	Task Name	Duration	Start	Finish
69		Surface Water Monitoring (after rainfall events ~ 25mm in 24 hrs) / Sediment monitoring if no rainfall within 12 months	1825 days	Wed 14/02/18	Tue 11/02/25
70		Groundwater level and quality monitoring for monitoring and regional bores (quarterly)	1825 days	Wed 14/02/18	Tue 11/02/25
71		Photographic evidence of rehabiltation and analogue site vegetation condition , cover & erosion	1825 days	Wed 14/02/18	Tue 11/02/25
72		HLP: Preliminary Numerical Model and performance monitoring plan	0 days	Wed 31/07/19	Wed 31/07/19
73		HLP: DPC review and endorse numerical model	28 days	Fri 30/08/19	Tue 8/10/19
74		HLP: performance monitoring	90 days	Mon 25/05/20	Fri 25/09/20
75		HLP: Numerical model validation (using performance monitoring)	30 days	Mon 28/09/20	Fri 6/11/20
76		HLP: Final numerical model (predictive rainfall events)	30 days	Mon 9/11/20	Fri 18/12/20
77		Year 1 to 3 Annual Land Function Analysis (first three years after heap leach cover placement)	1095 days	Mon 25/05/20	Fri 2/08/24
78		Year 4 Final LFA	157 days	Sat 3/08/24	Mon 10/03/25
79		Weed and Feral Animal monitoring and management	1825 days	Wed 14/02/18	Tue 11/02/25
80		Soil Contamination Investigation (all domains)	60 days	Mon 1/06/20	Fri 21/08/20
81		Monitor gullies and rills on landforms	1804 days	Wed 14/02/18	Sat 11/01/25
82		LiDAR Survey 1	0 days	Wed 1/07/20	Wed 1/07/20
83		LiDAR Survey 2	0 days	Thu 1/07/21	Thu 1/07/21
84		LiDAR Survey 3	0 days	Mon 4/07/22	Mon 4/07/22
85		Annual Mine and Rehabilitation Compliance Report 1	0 days	Tue 23/04/19	Tue 23/04/19
86		Annual Mine and Rehabilitation Compliance Report 2	0 days	Mon 23/03/20	Mon 23/03/20
87		Annual Mine and Rehabilitation Compliance Report 3	0 days	Tue 23/03/21	Tue 23/03/21
88		Annual Mine and Rehabilitation Compliance Report 4	0 days	Wed 23/03/22	Wed 23/03/22
89		Annual Mine and Rehabilitation Compliance Report 5	0 days	Thu 23/03/23	Thu 23/03/23
90		Annual Mine and Rehabilitation Compliance Report 6	0 days	Fri 22/03/24	Fri 22/03/24
91		**Mine Completion Report**	**1381 days?**	**Tue 10/12/19**	**Tue 25/03/25**
92		Geotechnical Assessment & Monitoring Report	30 days	Mon 2/09/24	Fri 11/10/24
93		Erosion Monitoring Complaince Report	30 days	Wed 12/02/25	Tue 25/03/25
94		LiDAR Survey Report	30 days	Mon 19/07/21	Fri 27/08/21
95		Land Function Analysis Report and Vegetation Monitoring Report	30 days	Sat 18/01/25	Thu 27/02/25
96		Heap Leach Decommissioning Report (& as constructed survey)	30 days	Fri 26/02/21	Thu 8/04/21
97		As constructed and compaction survey reports (flood protection bund and stream diversion)	30 days	Fri 4/12/20	Thu 14/01/21
98		Surface Water Monitoring Compliance Report	30 days	Wed 12/02/25	Tue 25/03/25
99		Ground Water Monitoring Compliance Report	30 days	Wed 12/02/25	Tue 25/03/25
100		Evidence of Landholder agreement to maintain fence	30 days	Tue 10/12/19	Mon 20/01/20
101		Mine Contamination Assessment	1 day?	Fri 25/09/20	Fri 25/09/20
102		Submit Mine Completion Criteria to SA govt.	0 days	Wed 26/03/25	Wed 26/03/25
103		Relinquishment and Bond Return	30 days	Wed 26/03/25	Tue 6/05/25



Project: 20190402-GC-WDGM Reh
Date: Tue 2/04/19

Task | Milestone | Project Summary | External Milestone | Inactive Milestone | Manual Task | Manual Summary Rollup | Start-only | Deadline | Manual Progress
Split | Summary | External Tasks | Inactive Task | Inactive Summary | Duration-only | Manual Summary | Finish-only | Progress

Appendix H

2024 Approvals and Renewed Licences

LICENCE TO POSSESS A RADIATION SOURCE

Radiation Protection and Control Act, 2021

Licence Number:	50993
Owner Number:	39640
Issue Date:	14/01/2025
Expiry Date:	28/02/2026

POLYMETALS OPERATIONS PTY LTD
Attention: Willem Stoltz
PMB 23
COCKBURN SA 5440

The business or person named below has been granted a Licence to Possess a radiation source pursuant to **Section 22 of the Radiation Protection and Control Act 2021.** This licence is issued subject to the conditions listed on the reverse side of this certificate and remains valid from the date of issue until the date of expiry.

The following licence holder details are recorded:

Licencee Name:	POLYMETALS OPERATIONS PTY LTD White Dam Gold Production JV
Licencee Address:	PMB 23 COCKBURN SA 5440
Authorised Person:	Willem Stoltz

Category I Licence to Possess

The licensee is authorised to possess up to 5 sealed radioactive sources or x-ray apparatus and up to 2 premises for the use or storage of unsealed radioactive substances.

IMPORTANT NOTICE - CHANGE OF DETAILS

Please notify the Radiation Protection Branch (email address EPARadiationProtectionBranch@sa.gov.au) of any changes to the licence details above as soon as possible.

IMPORTANT NOTICE - LICENCE CONDITIONS

Please carefully review the condition(s) attached to the licence and if you believe the licence condition(s) are incorrect, please contact the Radiation Protection Branch immediately using the details below.

CONDITIONS OF LICENCE

SCHEDULE 802 Licence to Possess

CONDITION DETAILS

SCHEDULE 802

1. At least once in any 12 month period the Licensee must carry out an audit of the radiation sources in their possession.

DANGEROUS SUBSTANCES LICENCE

Government of South Australia
SafeWork SA

Client No: 6054475 **Printed Date:** 19/07/2024

Polymetals Operations Pty Ltd
T/A White Dam Gold Production Joint Venture
PO BOX 1295
MILTON QLD 4064

Contact Details

Address: Level 4
33 Richmond Road,
KESWICK SA 5035

Postal: GPO BOX 465
ADELAIDE SA 5001

Phone: 1300 365 255

Email: licensing.safework@sa.gov.au

Website: safework.sa.gov.au

DETAILS

The licence holder **Polymetals Operations Pty Ltd T/A White Dam Gold Production Joint Venture and the premises specified herein are licenced for the following products, the quantities specified below, in accordance with the Dangerous Substances Act 1979.**

Dangerous Substances Site Licence No: 154006

Site address: - Via Boolcoomatta Road, MINGARY SA 5440

Licence to Keep Liquefied Petroleum Gas (Class 2) Expiry Date: 30/06/2025 Licence No : 158017

Substance	Class	Packing Group	Quantity	Storage Type
LPG (KL) UN1075	2		22.5kL (3 x 7.5kL)	Gas Tank Above Ground External
LPG (KG) UN1075	2		690kg	Gas Cylinder Above Ground External

Licence to Keep Dangerous Goods (Classes 6 and 8) Expiry Date: 30/06/2025 Licence No : 154007

Substance	Class	Packing Group	Quantity	Storage Type
Nitric Acid UN2031	8	II	200L	Package External - Drum/Can/Bin/Box
Hydrochloric Acid (KL) UN1789	8	III	6kL	Package External - Drum/Can/Bin/Box
Sodium Hydroxide (Solution) (KL) UN1824	6	III	15kL	Package External - Drum/Can/Bin/Box
Solid Cyanide UN1689	6	I	13000kg	Package External - Drum/Can/Bin/Box
Cyanide Solution UN1935	6	I	5250kg	Package External - Drum/Can/Bin/Box
Sulfuric Acid UN1830	8	II	20kL	Liquid Tank Above Ground Internal

Licence to Keep Flammable Liquids (Class 3) Expiry Date: 30/06/2025 Licence No : 158018

NOTE: This licence is not transferrable

DANGEROUS SUBSTANCES LICENCE

Government of South Australia
SafeWork SA

The licence holder **Polymetals Operations Pty Ltd T/A White Dam Gold Production Joint Venture and the premises specified herein are licenced for the following products, the quantities specified below, in accordance with the Dangerous Substances Act 1979.**

Dangerous Substances Site Licence No: 154006

Site address: - Via Boolcoomatta Road, MINGARY SA 5440

Substance	Class	Packing Group	Quantity	Storage Type
Petrol UN1203	3	II	200L	Package External - Drum/Can/Bin/Box

NOTES: The licensee must ensure that the provisions of the regulations from time to time in force under the Dangerous Substances Act 1979 are complied with in relation to the products kept under the authority of this licence under Section 15 of the Dangerous Substances Act 1979.

Executive Director

NOTE: This licence is not transferrable

Form: GL172

Government of South Australia
SA Health

Lachlan Hutchison
☎ (08) 8226 7138
✉ Lachlan.Hutchison@sa.gov.au

4 May 2022

Health Protection & Licensing Services
Citi Centre Building
11 Hindmarsh Square
Adelaide SA 5000
PO Box 6
Rundle Mall SA 5000
DX 243
Tel 08 8226 7100
Fax 08 8226 7102
ABN 97 643 356 590
www.health.sa.gov.au

POLYMETALS OPERATIONS PTY LTD
PO BOX 1295
MILTON QLD 4064

Dear Sir/Madam,

IMPORTANT INFORMATION ABOUT THIS LICENCE

Please find enclosed Licence to Possess Regulation 25 Poisons **2022-77676** issued in accordance with the Controlled Substances Act 1984 to POLYMETALS OPERATIONS PTY LTD, of WHITE DAM GOLD MINE VIA, OLARY SA 5440.

Please note the specific endorsements and conditions of the licence and any individuals specifically approved by SA Health.

The conditions of the licence should be read in conjunction with relevant provisions of the Controlled Substances (Poisons) Regulations 2011. Current controlled substances legislation (Act and Regulations) may be found at www.legislation.sa.gov.au/index.aspx, or by contacting the Controlled Substances Licensing section, Health Protection and Licensing Services, SA Health.

Any persons with responsibilities, obligations or functions under this licence must be advised of the conditions of the licence, including any attached policies or requirements to make reports to SA Health.

If any changes to the licence are required, such changes may only be made by SA Health after receipt of a written application.

Yours faithfully

Lachlan Hutchison
Licensing Officer
Controlled Substances Licensing
SA Health

Government of South Australia
SA Health

CONTROLLED SUBSTANCES ACT, 1984

164441

Licence Number: 2022-77676

LICENCE TO POSSESS REGULATION 25 POISONS

POLYMETALS OPERATIONS PTY LTD
PO BOX 1295
MILTON QLD 4064

is hereby licensed, in accordance with section 22 of the *Controlled Substances Act 1984* (hereafter referred to as 'the Act') to possess section 22 poisons at the following location(s):

WHITE DAM GOLD MINE VIA, OLARY SA 5440

Subject to the following conditions:

1. The poison(s) that may be possessed are:

   SODIUM CYANIDE

2. The poison(s) shall be used only for the purpose of:

   GOLD EXTRACTION

3. The licensee shall store the poison(s), when not in use, in suitable containers, labelled legibly and distinctly with the words "DANGEROUS POISON" in capital letters and the name of the poison, kept in a locked shed or enclosure protected from rainfall and stormwater intrusion.

4. The poison(s) shall be used solely for the purposes specified in this licence, and must not be re-sold, supplied or disposed of by gift or barter.

5. The poison(s) shall not be kept elsewhere than at the premises specified.

6. Ponds constructed for the purpose of heap leaching are to be located on areas well removed from any watercourse or flood prone land.

7. All ponds are to be sealed using plastic liners or other suitable impervious material.

8. Stormwater flow from upgradient areas is to be diverted away from the treatment site with contour drains or other suitable methods.

9. Stormwater runoff from the treated tailings and processing area should be directed to a sealed pond of sufficient capacity to prevent overflow.

THIS LICENCE WILL EXPIRE ON 31/05/2025

Dated at Adelaide this 01/06/2022

delegate of the Minister, Controlled Substances Act.

AMOUNT PAID: $477.00
RECEIPT No.: 0000034258

Lachlan Hutchison, Licensing Officer and System Administrator,
Controlled Substances Licensing Unit

164442

10. Prior to spreading treated tailings for rehabilitation purposes, or disposal of stormwater/waste water from any ponds, samples should be obtained and analysed for rehabilitation/disposal suitability. If the tailings or stormwater/waste water are found to be unsuitable for rehabilitation purposes or other disposal, ponds should be constructed and lined to prevent leachate contaminating local water resources.

11. All equipment, plant and chemicals should be removed from the site prior to rehabilitation.

12. Any spill or discharge that occurs during the operation life of the plant and or prior to rehabilitation should be immediately reported to the:

    Communications Sergeant
    South Australia Police
    Phone (08) 131 444

delegate of the Minister, Controlled Substances Act.

Lachlan Hutchison, Licensing Officer and System Administrator,
Controlled Substances Licensing Unit

Government of South Australia
SA Health

TAX RECEIPT

Payment received from

POLYMETALS OPERATIONS PTY LTD
PO BOX 1295
MILTON QLD 4064

Receipt #: 0000034258

Amount Paid:	$477.00
Payment Method:	BPAY
Licence Number:	77676

Date: 2 May 2022

Quantity Supplied	Description	GST Tax Code	Unit Price (ex GST)	Total (ex GST)
1	CSL - Reg 25	Free	$477.00	$477.00

SA HEALTH
Controlled Substances Licensing

ABN: 97 643 356 590

PO Box 6
RUNDLE MALL SA 5000

Telephone: (08) 8226 7100
Facsimile: (08) 8226 6681
Email: healthcontrolledsubstances@sa.gov.au

Invoice Total (ex GST):	**$477.00**
Total GST:	**$0.00**
Invoice Total:	**$477.00**
Amount Paid:	**$477.00**
Balance:	**$0.00**

Appendix I

Reportable Incident Information

None for the reporting period.

Appendix J

SafeWork SA Improvement Notices

None for the reporting period.