REPORT

QUARTERLY ENVIRONMENTAL WATER REPORT JUNE 2024 - AUGUST 2024

S2-FGJV-ENV-REP-0109

NOVEMBER 2024

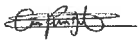
This Report has been prepared to satisfy the reporting requirements in the Main Works – Water Management Plan (WMP) and to meet Condition of Approval (CoA) 31(c)(d) of the Infrastructure Approval Schedule which requires publicly available reporting of the outcomes of the WMP. The Report provides commentary on the performance of the monitoring programs as part of the WMP.

Revision Record

A	07/11/2024	Issued for information	C. Pedraza	E. Porter	D.Drummond
Rev.	**Date**	**Reason for Issue**	**Responsible**	**Accountable**	**Endorsed**

Document Verification

RACIE Record

R responsible:	Name: Carolina Pedraza Job Title: Environmental Approvals Advisor Signed:  Date: 07/11/2024
A ccountable:	Name: Ellen Porter Job Title: Environment Manager Signed:  Date: 28/11/2024
C onsulted:	See distribution list on Page 3.
I nformed:	See distribution list on Page 3.
E ndorsed:	Name: Dave Drummond Job Title: QHSE Director pp.Ellen Porter Signed:  Date: 28/11/2024

RACIE Terms

R	**Responsible** The person who actually produces the document.
A	**Accountable** The person who has the answer for success or failure of the quality and timeliness of the document.
C	**Consulted** Those who must be consulted before the document is published.
I	**Informed** Those who must be informed after the document is published.
E	**Endorsed** Those who must approve the document before publication.

Document Distribution
Consulted Distribution List

Date	Format [1]	Addressee / Job Title	Company	Location [2]

Informed Distribution List

Date	Format [1]	Addressee / Job Title	Company	Location [2]
November 2024	OHC	Central Archive	FGJV	Cooma
November 2024	EC	Chris Buscall	SHL	Cooma

NOTE: *(1) **OHC** – Original Hard Copy / **EC**–Electronic Copy / **HC** – Hard Copy / **Aconex** –Electronic Document Management System*

Revision Tracking

Rev.	Date	Description of Revision
A	07/11/2024	Issued for information

CONTENTS

TABLE OF TABLES

ABBREVIATIONS AND DEFINITIONS

Acronym	Definition
AWS	Automatic weather stations
BoM	Bureau of Meteorology
CoA	Condition of Approval
ECVT	Emergency Cable and Ventilation Tunnel
EPL	Environmental Protection Licence
FGJV	Future Generation Joint Venture
MAT	Main Access Tunnel
MDB	Murray Darling Basin
NEM	National Electricity Market
SHL	Snowy Hydro Limited
Snowy Scheme	Snowy Mountains Hydro-electric Scheme
SWMP	Surface Water Management Plan
TARP	Trigger Action Response Plan
TBM	Tunnel Boring Machine
WMP	Water Management Plan
WQO	Water Quality Objectives

1. INTRODUCTION

Snowy Hydro Limited (SHL) is constructing a pumped hydro-electric expansion of the Snowy Mountains Hydro-electric Scheme (Snowy Scheme), called Snowy 2.0. Snowy 2.0 will be built by the delivery of two projects: Exploratory Works and Snowy 2.0 Main Works (which is ongoing).

Snowy 2.0 is a pumped hydro-electric project that will link the existing Tantangara and Talbingo reservoirs through a series of new underground tunnels and a hydro-electric power station. Most of the project's facilities will be built underground, with approximately 27 kilometres of concrete-lined tunnels constructed to link the two reservoirs and a further 20 kilometres of tunnels required to support the facility. Intake and outlet structures will be built at both Tantangara and Talbingo Reservoirs.

Snowy 2.0 will increase the generation capacity of the Snowy Scheme by an additional 2,200 MW, and at full capacity will provide approximately 350,000 MWh of large-scale energy storage to the National Electricity Market (NEM). This will be enough to ensure the stability and reliability of the NEM, even during prolonged periods of adverse weather conditions.

WeBuild, Clough and Lane have formed the Future Generation Joint Venture (FGJV) and have been engaged to deliver both Stage 2 of Exploratory Works and Snowy 2.0 Main Works.

2. PURPOSE

This Environmental Water Report has been prepared to satisfy the reporting requirements in the Main Works – Water Management Plan (WMP) and to meet Infrastructure Approval CSSI 9687 (CoA) Schedule 3, Condition 31(c)(d) which requires publicly available reporting of the outcomes of the WMP. The Environmental Water Report is intended to provide commentary on the performance of the monitoring programs as part of the WMP (identified in Table 2-1).

Table 2-1: Monitoring overview

Aspect	Objective
Surface Water Monitoring Program	
Routine receiving surface water quality monitoring	• inform and assess the performance of management processes/measures that seek to minimise the Project's impact on surface water quality • help determine source and extent of any water quality changes • collect baseline data to characterise water quality and determine site specific values
Event based wet weather overtopping water quality monitoring	
Groundwater Monitoring Program	
Groundwater level monitoring	• inform and assess the performance of management processes/measures that seek to minimise the Project's impact on regional and local (including alluvial) aquifers and GDEs
Groundwater quality monitoring	
Water extraction monitoring	• inform and assess water consumption, site water balance and compliance with water access licences

3. OVERVIEW

3.1. Reporting period

This Environmental Water Report covers the monitoring period from 01 June to 31 August 2024.

3.2. Construction progress

Table 3-1 summarises the key construction activities which have been undertaken during the reporting period.

Table 3-1: Key construction activities for 01 June to 31 August 2024.

Location	Key construction activities
Lobs Hole Ravine Road	• Asphalt laying of Ravine Road is completed. Signs and line marking remains.
Lobs Hole	MAIN YARD • Construction and commissioning of 350 mm pipeline is completed and currently working to close QC. • LH Main Office Expansion - Design for civil works completed, building IFC ongoing. Bulk earthworks ongoing. • LH Accommodation (Camp Exp.) – IFC currently in progress. Fabrication of block 1 ongoing. • Emergency firefighting water tank farm at pad H is in progress. • MC83 is under design review. ECVT TUNNEL • Additional IPS installation of rings for LSTT (Large Scale Trail Test) ongoing. • Grouting in LST rings and other testing works are ongoing. • TBM 1 has installed 7 additional IPS rings in the reporting period.
Marica	• Excavation works are ongoing, 6.69 m was excavated in Aug-24. Cumulative total depth of 105.3 9m • Excavation and support works are ongoing
Rock Forest	• NA – site under operational use as laydown area.
Talbingo	TALBINGO ADIT & INTAKE • Stage 2 excavation works are ongoing. • Excavation and ground support works are ongoing on EL.521. • Line drilling and drilling for blasting for zone-2 completed EL.525 to 513. • Tower crane FRP completed. • Sediment basin works ongoing at the Intake area. • Utilities installation for intake and TRT completed. RAVINE BAY • Foundation for GCL (geo-synthetic clay liner) completed for 1A. • Stage 2(5000M2) prepared for spoil placement, waiting on QA signoff. • Spoil placement ongoing from Intake and D&B tunnel. • Water Quality Monitoring ongoing.

Location	Key construction activities
Tantangara	TANTANGARA GATE SHAFT • Gate Shaft till 50m completed. • Transition C2 top heading excavation & support completed. • Transition C3 top heading excavation & support completed. • C2 & C3 bottom bench 3 blasting completed, excavation & support works are ongoing. TANTANGARA INTAKE • Stage 2 excavation diffuser side (North) elevation till 1180.5 rock bolting and surface treatment completed. • Stage 2 excavation diffuser side(south) ground support works completed till elevation 1180.5. • Stage 2 Intake 20m platform all blasts till El.1180.5 completed, till El.1184 excavation and support completed. El.1184 to 1180.5 excavation and support ongoing. • Connecting tunnel full face 45.5m excavation completed in Aug-24, a cumulative top heading length of 85.28m was completed. CT excavation and support works were also ongoing from gate shaft side. • C1 bench 1 from Ch.106.42 to Ch.156.42 full length blast 1 completed, excavation and support works completed.

4. WEATHER CONDITIONS

There are several weather stations along the alignment of the project that report real-time data. These include:

- "Lobs Hole" - which is an Automatic Weather Station managed by FGJV in Lobs Hole construction site.
- "Cabramurra" - an Automatic Weather Station located near the lookout in the Cabramurra township managed by the Bureau of Meteorology
- "Tantangara" - an Automatic Weather Station managed by FGJV in Tantangara construction site.

The Tantangara and Cabramurra gauges are in sub-alpine environments, with elevations of approximately 1220 m and 1475 m, respectively. Cabramurra records substantially higher annual rainfall amount than the lower-elevation gauges at Lobs Hole and Tantangara. Tantangara and Lobs Hole weather stations record actual onsite conditions at the respective construction sites, while Cabramurra weather station, at 1470 m is representative of conditions at Marica – which has an elevation of 1480 m and is approximately 15 km north of the Cabramurra Station.

A summary of climate data for the ravine and plateau areas is provided in Table 4.1

Table 4-1: Weather conditions for 01 June to 31 August 2024.

Parameter	Lobs Hole[1]			Marica (Cabramurra)			Tantangara[2]		
	Jun	Jul	Aug	Jun	Jul	Aug	Jun	Jul	Aug
Temperature									
Mean maximum	18.1	16.1	19.3	9.8	9.8	13.9	13.7	12.8	16.6
Mean minimum	-4.7	-4.9	-3.9	-3.9	-5.8	-3.5	-7.1	-6.3	-6.9

Parameter	Lobs Hole[1]			Marica (Cabramurra)			Tantangara[2]		
Rainfall									
Monthly	40.4	112.2	58	103.8	133.6	72.4	83	107.4	84.2
Long Term Average	96	96.6	142.6	119.4	104.3	121.5	60.1	67.8	58.9

1. Lobs Hole long term average rainfall is taken from the Tumbarumba weather station.
2. Tantangara long term average rainfall is taken from the Adaminaby Alpine Tourist Park weather station.

Based on the information shown regarding rainfall and temperature, the rainfall received in Lobs Hole during the quarter, in general, is lower than the long-term average. However, it is observed that in July, the most significant amount of rainfall was received, with 122.2 mm for the month, which is higher than the long-term average. It is observed that the Marica site received the most significant amount of rainfall during the quarter, with July being the highest month with 133.6 mm. The rainfall in Tantangara is higher than the long-term average, with July being the highest month for rainfall, with 107.4 mm.

5. SURFACE WATER MONITORING PROGRAM

5.1. Routine surface water quality monitoring

Routine surface water quality monitoring is undertaken in accordance with CoA Condition 31 and the Environment Protection Licence No. 21266 (EPL - 21266) to determine if project activities are resulting in any impacts to receiving water quality against the Water Quality Objectives (WQO). The water sampling points and specifications are detailed in Appendix B.

Publicly available surface water quality monitoring results undertaken in accordance with EPL - 21266 can be accessed here.

During this reported period, it is noted that most exceedances were observed in July, when the rainfall in each site was the highest. pH, dissolved oxygen, and turbidity parameters outside the WQO were observed at some Surface EPL points due to the precipitation including rainfall and snowfall, which increases the runoff as it melts and directly affects these parameters.

Nutrients were observed to exceed WQO in several areas, including the Yarrangobilly River Tributary Downstream of the road (EPL24), GF01, Tantangara spoil emplacement area, Main Yard, and Lick Hole Gully. Exceedances in Nitrogen, especially in EPL 24, EPL 52, EPL 56, EPL 58, EPL 95 (GF01), EPL 84, EPL 85 and EPL 86 (Main Yard) under an ongoing investigation with weekly comprehensive sampling. FGJV has ongoing actions in these areas, including, but not limited to, dewatering and water treatment, sediment and erosion control improvements and researching to mitigate the impact. Further sedimentatious material that is high in nitrogen compounds, such as wedge pit slurry is taken off-site for disposal.

In general, we have minor exceedances in metals during the reported period. It is essential to note that the exceedances (nutrients and metals) in the Rock Forest surface area are unrelated to our project activities; there is only a laydown yard at this location. No spoiling works have commenced. These exceedances are the consequences of agricultural activities.

Hexavalent chromium analysis has been incorporated to the monitoring following and update to the EPL – 21266.

5.2. Event based monitoring

Event based wet weather overtopping water quality monitoring is undertaken in accordance with the SWMP Trigger Action Response Plan (TARP 2) to monitor stormwater overtopping sediment basin

discharges. Sediment basins for the Project have been designed to meet the design rainfalls depths identified in Table 5-1.

Table 5-1: Design rainfall depths (SWMP Section 5.1.1)

Catchment	Description	85th percentile, 5-day rainfall (mm)	90th percentile, 5-day rainfall (mm)	95th percentile, 5-day rainfall (mm)
Yarrangobilly River	Surface works at Lobs Hole and Marica	28.1	35.6	49.0
Upper Eucumbene River	Surface works between Marica and the Snowy Mountain Highway	35.2	43.4	56.9
Tantangara construction compound	Surface works adjacent to the southern portion of Tantangara Reservoir	30.5	37.0	51.0
Goorudee Rivulet	Surface works at Rock Forest	20.0	25.7	36.1

During the reporting period, rainfall exceeded the design rainfall criteria four times, including:

- 12/06/2024 – 17/06/2024 (39 mm – Tantangara)
- 16/07/2024 – 20/07/2024 (58 mm – Lobs Hole)
- 17/07/2024 – 21/07/2024 (61.2 mm – Tantangara)
- 20/07/2024 – 26/07/2024 (82.8mm – Marica)
- 13/08/2024 – 26/08/2024 (56.2mm – Lobs Hole / 45mm – Marica / 46.6 Tantangara)

Across the sites, water quality results of upstream and downstream were generally consistent following significant rainfall events however, turbidity, electrical conductivity, dissolved oxygen, and pH frequently exceeded the WQO. It is identified in the Surface Water Management Plan that during periods of wet weather, the WQO are frequently exceeded. Water samples were collected for comprehensive water testing and the EPA were notified of the releases in accordance with R4.1 of EPL 21266.

Results of the overtopping events are presented in Appendix D.

6. GROUNDWATER MONITORING PROGRAM

6.1. Groundwater quality

Exceedances were observed in pH in upgradient and downgradient EPL locations at Lobs Hole, Tantangara and Marica due to snowfall and rainfall events in June, July and August 2024. Minor exceedances in metals are observed, and some high nutrient concentrations were also observed close to the spoil emplacement areas. The main exceedances are located downstream of GF01 emplacement, and upstream and downstream of Lobs Hole and Tantangara. The spoil emplacement EPL points (Surface and groundwater) have been monitored with weekly comprehensive sampling. Further, where groundwater quality exceeds WQOs, additional actions are implemented, such as, groundwater extraction and treatment, spoil emplacement permit review, and consultation with construction to develop and implement improvements. FGJV is committed to taking all possible actions to mitigate the environmental impact.

Nitrogen investigation is still ongoing, and the comprehensive weekly sampling is being taken in GF01, and data is being analysed.

During the year's third quarter, FGJV remained committed to mitigating environmental impacts. The construction and environmental teams have been working together through different actions, which are mentioned below

- Weekly environmental inspections
- Nitrogen investigations (Sampling and Data analysis)
- Improvements in work areas (Ravine Bay spoil emplacement set up)
- Improvements in the water treatment plan

6.2. Groundwater levels

Groundwater level monitoring is undertaken in accordance with the Groundwater monitoring program to determine groundwater drawdown as a result from the Project.

Site specific groundwater level triggers as outlined in Attachment B of the Main Works – Groundwater Monitoring Program have been established to monitor whether observed drawdown is greater than construction related predicted drawdown.

For this period, the water levels weren't fluctuating despite the snowfalls and rain events. The additional boreholes were added as a response to the TARP action are being followed by close monitoring and sampling

6.3. Groundwater inflows

Groundwater inflow into the tunnels is monitored during construction. This data is required to monitor the volume of extracted groundwater against water access licence limits (Table 6-1).

Table 6-1: Water access licence

Water Access Licence	Project	Water Source	Share (ML)
WAL42407 – Specific Purpose Access Licence	Exploratory Works	Upper Tumut water source	227
WAL42408 – Groundwater Licence	Exploratory Works	Lachlan Fold Belt MDB	0
WAL42960 – Groundwater Licence	Exploratory Works	Lachlan Fold Belt MDB	354
RO13-19-093 – via Controlled Allocation	Main Works	Lachlan Fold Belt MDB	3,375
RO1-19-092 – via Controlled Allocation	Main Works	Lachlan Fold Belt South Coast	1,722
Specific Purpose Access Licence	Main Works	Tantangara Water Source	532

The monthly inflows for the Construction Water Treatment Plant (CWTP) at the Main Access Tunnel (MAT) Portal are as follows:

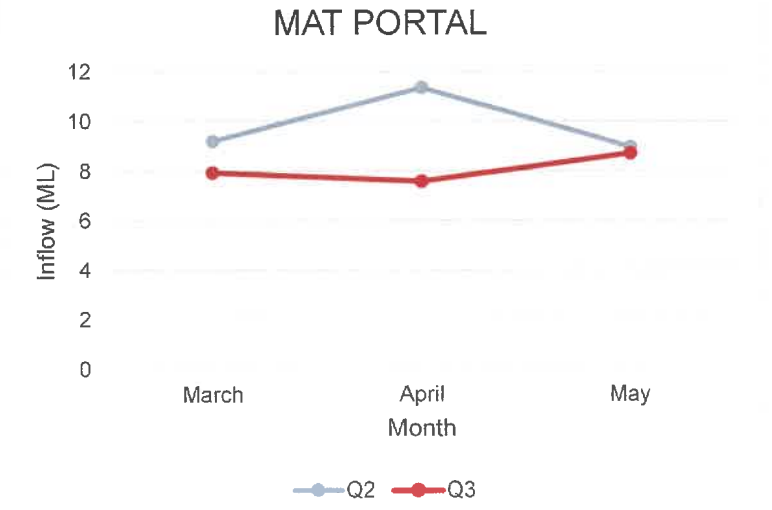
- June 7.93 ML
- July 7.58 ML
- August 8.71 ML

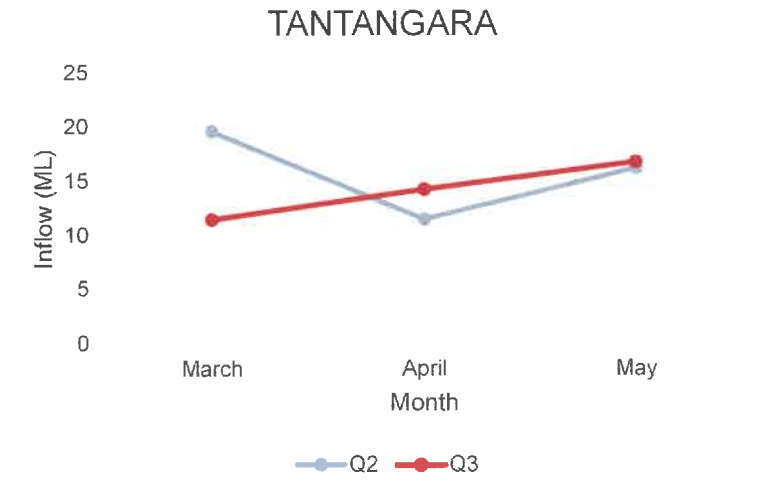
The monthly inflows for the Construction Water Treatment Plant (CWTP) at Tantangara are as follows:

- June 11.39 ML

- July 14.20 ML
- August 16.69 ML

Groundwater inflows in June, July, and August 2024 decreased in the MAT Portal treatment plant and increased in Tantangara compared to the previous quarter. The inflows at the MAT portal decreased by 1.27, 3.79 and 0.25 ML, respectively. In Tantangara, the inflow increased by 2.78 and 0.57 ML in July and August. Relevant procedures are undertaken to shotcrete these tunnels after blasting to minimize inflows.





7. TRENDS

The Mann-Kendall statistical analysis test has been chosen to assess trends within surface water monitoring data. Mann-Kendall is non-parametric test that assesses monotonic trends over time;

identified as increasing, decreasing, or showing no significant trend. This test has been selected because it does not assume a specific distribution of the data and is robust against outliers, making it suitable for environmental datasets that may exhibit non-normal behaviour.

In instances where the Mann-Kendall analysis has been inconclusive due to insufficient data, a comparison of key general statistics has been undertaken, including an evaluation of mean, standard deviation, minimum, and maximum values. This comparative analysis has allowed for an assessment of construction monitoring data and whether it falls within the ranges identified in pre-project, baseline data. When calculating the mean value, non-detects have been considered as the detection limit value, rather than half the detection limit value, for a conservative output and thus the mean results in this Report are biased to a higher value.

Detailed Mann-Kendall trend analysis and metric summaries are provided in Appendix A. For each monitoring location, a summary of trends, mean, minimum, maximum and standard deviation is provided.

Surface water

The following decreasing trends were identified:

- Aluminium – EPL 6, 8, 9, 10, 12, 14, 15, 16, 41, 52, 53, 81, 82, 83, 84, 85, 27, 28, 29, 30, 31, 32, 33, 34, 35, 38, 39 and 36
- Arsenic – EPL 6, 9, 14, 15, 16, 52, 81, 82, 28 and 14
- Chromium III + IV – EPL 10, 14, 15, 16, 52, 53, 81, 82, 84, 28, 34, 35, 51 and 36
- Copper – EPL 25, 56, 57 and 58
- Iron – EPL 10, 12, 14, 16, 24, 29, 30, 32, 33, 35, 36, 41, 50, 52
- Manganese – EPL 8, 9, 10, 14, 15, 16, 52, 53, 81, 82, 84, 28, 30, 31, 32, 33, 34, 35, 38, 39, 40, 51, 36 and 37.
- Nickel – EPL 5, 9, 15, 52, 53, 81, 84, 26, 38, 51 and 37.
- Lead – EPL 9, 14, 15, 52, 53, 82.
- Silver - EPL 9, 14, 15, 51, 52 and 53.
- Zinc – EPL 9, 15, 51, 52, 53, 83 and 84.
- Ammonia – 8, 9, 14, 15, 16, 24, 53, 81, 82, 84, 28, 31, 32, 38, 36 and 37.
- Cyanide – EPL 6, 8, 9, 10, 12, 14, 15, 16, 41, 52, 53, 80, 82, 84, 27, 28, 30, 31, 32, 33, 34, 35, 37, 39, 40, 51, 36 and 37.
- Kjeldahl Nitrogen – EPL 9, 14, 15, 16, 53, 81, 82, 84, 29, 30, 33, and 39
- Nitrate + Nitrite – EPL 6, 8, 9, 14, 15, 16, 52, 53, 81, 82, 84, 28, 34, 51, 36,
- Nitrogen – EPL 6, 9, 14, 15, 16, 53, 81, 82, 84, 28, 29, 30, 32, 33, 34, 38, 39, 51 and 36.
- Total Phosphorus – EPL 9, 53, 82 and 51.
- Reactive Phosphorus – EPL 6, 8, 10, 12, 14, 15, 16, 24, 41, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 38, 39, 40, 50, 36 and 37.
- Hardness – EPL 9, 14, 15, 24, 52, 53, 81, 82 and 51.
- Total suspended solids – EPL 6, 10, 12, 14, 15, 16, 24, and 32.

- Oil and Grease – EPL 6, 8, 9, 10, 12, 14, 15, 16, 24, 41, 52, 27, 28, 31, 32, 34, 35, 38, 51, 36 and 37.

The following increasing trends were identified:

- Arsenic – EPL 5 and 26.
- Chromium III + IV – EPL 5 and 26.
- Ammonia – EPL 5 and 26
- Kjeldahl Nitrogen – EPL 5 and 26
- Nitrate + Nitrite – 5 and 26
- Manganese – EPL 26
- Total suspended solids – EPL 53

Groundwater

The following decreasing trends were identified:

- Aluminium – EPL 2, 25, 56, 57, 58, 91, 94, 95, and 97.
- Arsenic – EPL 25, 56, 57, 58, 72 and 73.
- Chromium III + IV – EPL 56, 57 and 58
- Copper – EPL 25, 56, 57, and 58.
- Iron – EPL 2, 25, 57 and 58.
- Lead – EPL 25, 56, 57 and 58.
- Manganese – EPL 2, 4, 25, 56, 57, 58, 72, 73 and 70.
- Nickel – EPL 25, 56 57, and 58.
- Silver – EPL 25, 56 57, and 58.
- Zinc – EPL 25, 56 57, and 58.
- Ammonia – EPL 25, 56, 57 and 58.
- Cyanide – EPL 56, 57 and 58.
- Kjeldahl Nitrogen – EPL 56, 57, 58, 92 and 73.
- Nitrate + Nitrite – EPL 56, 57 and 58.
- Nitrogen – EPL 2, 56, 57, 58, 92, 72, and 73
- Total Phosphorus – EPL 56, 57, and 58.
- Reactive Phosphorus – EPL 4 and 25.
- Total Suspended solids – EPL 25 and 58.
- Oil and Grease – EPL 56 and 58.

The following increasing trends were identified:

- Arsenic – EPL 2
- Chorium III+IV – EPL 2

- Kjeldahl Nitrogen – EPL 2
- Nitrate + Nitrite – EPL 2
- Total Phosphorus – EPL 2, 4, 88, 93, and 96.
- Reactive Phosphorus – EPL 1, 56, 57, 58 and 72.
- Total Suspended Solids – EPL 2

8. CONCLUSION

During the reporting period, exceedances are observed in DO, pH and turbidity for surface water. Most of the exceedances are found at representative points in the sediment basins. This water is being reused on-site only for dust suppression, and on different occasions, it is sent to the water treatment plant to be treated and meet the reuse criteria.

For the reservoir, water quality is observed to exceed the DO and EC, which are within the historical ranges (refer to the historical reports) and background concentrations (Appendix C). There were minor exceedances in EC and PH for Groundwater; however, most in situ results were within the criteria range.

The metals were within the range criteria for the reporting period, and some exceedances were consistent with the background (Refer to Appendix B). For June, July and August exceedances in Nitrogen, especially in EPL 24, EPL52 (Surface/Lobs Hole), EPL 56, EPL 58, EPL 95, 96 (Groundwater/GF01), EPL 84, EPL 85 and EPL 86 (Main Yard), are under investigation with weekly comprehensive sampling. However, it is noted that for July 2024, the concentrations for (NOx) and Nitrogen (Total) for EPL 24, 52, and 55 decreased compared to the June 2024 results. FGJV is working on different actions, such as borehole purge, sediment and erosion control improvements, and groundwater extraction and treatment to minimize the impact.

APPENDIX A – TREND ANALYSIS SUMMARY

GROUNDWATER

		Heavy Metals																			
		Aluminium (Filtered)					Arsenic					Chromium III + IV					Copper				
Location	Site ID	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 1	7.648	0.00	49.00	12.77	No Trend	0.001	0.00	0.00	0.0003	No Trend	0.000	0.000	0.000	0.000	No Trend	2.103	0.000	17.000	4.466	No Trend
	EPL 2	4.261	0.00	11.00	3.53	Decreasing	0.0004	0.00	0.00	0.00024	Increasing	0.000	0.000	0.000	0.000	Increasing	52.040	0.000	260.000	95.570	No Trend
	EPL 4	33.91	0.00	212.00	71.75	No Trend	0.00136	0.00	0.01	0.00363	No Trend	0.000	0.000	0.009	0.003	No Trend	1.355	0.000	8.300	2.402	No Trend
	EPL 25	6.474	0.00	38.00	9.20	Decreasing	0.363	0.00	5.00	1.253	Decreasing	0.071	0.000	1.000	0.244	No Trend	2.020	0.000	12.000	3.103	Decreasing
	EPL 56	4.858	0.00	130.00	16.66	Decreasing	0.153	0.00	1.00	0.28	Decreasing	1.094	0.000	63.000	7.686	Decreasing	3.440	0.000	25.800	5.533	Decreasing
	EPL 57	8.593	0.00	165.00	27.45	Decreasing	1.546	0.00	5.20	1.711	Decreasing	0.104	0.000	1.000	0.200	Decreasing	0.576	0.000	8.000	1.449	Decreasing
	EPL 58	3.792	0.00	120.00	14.00	Decreasing	0.152	0.00	1.00	0.256	Decreasing	0.398	0.000	4.000	0.765	Decreasing	14.250	0.000	191.000	35.620	Decreasing
	EPL 87	0.0111	0.01	0.05	0.02	No Trend	2.08E-04	0.00	0.00	2.77E-05	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.001	No Trend
	EPL 88	0.0114	0.01	0.05	0.02	No Trend	0.0099	0.01	0.01	0.00305	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 89	0.0118	0.01	0.05	0.02	No Trend	2.73E-04	0.00	0.00	1.62E-04	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 90	0.0231	0.01	0.06	0.03	No Trend	2.09E-04	0.00	0.00	2.00E-04	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 91	0.0111	0.01	0.05	0.02	Decreasing	6.33E-04	0.00	0.00	4.93E-04	No Trend	0.000	0.000	0.001	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 92	0.0114	0.01	0.05	0.02	No Trend	2.80E-04	0.00	0.00	8.37E-05	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 93	0.0109	0.01	0.05	0.02	No Trend	0.0255	0.02	0.04	0.00872	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 94	0.0109	0.01	0.05	0.02	Decreasing	5.50E-04	0.00	0.00	3.32E-04	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 95	0.012	0.01	0.06	0.02	Decreasing	0.00177	0.00	0.00	3.51E-04	No Trend	0.000	0.000	0.001	0.000	No Trend	0.069	0.004	0.180	0.089	No Trend
	EPL 96	0.0109	0.01	0.05	0.02	No Trend	2.08E-04	0.00	0.00	2.77E-05	No Trend	0.000	0.000	0.001	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 97	0.0139	0.01	0.12	0.03	Decreasing	0.00217	0.00	0.0028	6.03E-04	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
Maricia	EPL 72	0.0154	0.005	0.1	0.0256	No Trend	0.000	0.000	0.000	0.000	Decreasing	0.000	0.000	0.000	0.000	No Trend	0.00497	0.00050	0.0428	0.0107	No Trend
	EPL 73	0.0089	0.005	0.05	0.0128	No Trend	0.000	0.000	0.000	0.000	Decreasing	0.000	0.000	0.000	0.000	No Trend	0.00124	0.00050	0.0153	0.003	No Trend
Tantangara	EPL 68	0.0121	0.00	0.05	0.02	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend	0.00058	0.00050	0.00090	0.00018	No Trend
	EPL 69	0.034	0.00	0.06	0.03	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend	0.00050	0.00050	0.00050	0.00050	No Trend
	EPL 70	0.0109	0.00	0.05	0.02	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend	0.00486	0.00050	0.01910	0.00803	No Trend

		Iron					Lead					Manganese					Nickel				
Location	Site ID	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 1	675.1	0.00	2670	980.3	No Trend	0.329	0.0000	1.0000	0.444	No Trend	113.9	0.00	227	96.53	No Trend	7.48	0.00	22	8.953	No Trend
	EPL 2	753.1	0.00	2390	935.1	Decreasing	0.383	0.0000	1.0000	0.459	No Trend	147.3	0.00	245	0.00	Decreasing	7.259	0.00	28	8.636	No Trend
	EPL 4	767.8	0.00	4560	1426	No Trend	0.618	0.0000	4.1000	1.215	No Trend	246.4	0.00	1370	418.4	Decreasing	12.54	0.00	39.7	15.08	No Trend
	EPL 26	2340	0.00	6300	2364	Decreasing	0.794	0.0000	5.0000	1.224	Decreasing	849.6	0.00	1440	574.4	Decreasing	16.5	0.00	74.7	23.05	Decreasing
	EPL 56	5.061	0.00	50	13.64	No Trend	0.14	0.0000	2.3000	0.374	Decreasing	16.17	0.00	108	22.08	Decreasing	0.271	0.00	2.2	0.456	Decreasing
	EPL 57	8.943	0.00	147	28.41	Decreasing	0.0725	0.0000	1.0000	0.186	Decreasing	67.97	0.00	249	76.67	Decreasing	1.066	0.00	13	2.563	Decreasing
	EPL 58	3.828	0.00	70	12.52	Decreasing	0.677	0.0000	4.0000	1.084	Decreasing	19.16	0.00	210	41.26	Decreasing	1.304	0.00	7.2	1.712	Decreasing
	EPL 87	0.002	0.00	0.002	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.25	0.17	0.351	0.0938	No Trend	0.00247	0.00	0.0027	3.21E-04	No Trend
	EPL 88	0.00225	0.00	0.004	6.22E-04	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.165	0.13	0.215	0.0448	No Trend	0.00103	0.00	0.0022	8.06E-04	No Trend
	EPL 89	0.00221	0.00	0.003	4.26E-04	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.0504	0.02	0.0775	0.0277	No Trend	0.0103	0.00	0.0137	0.0117	No Trend
	EPL 90	0.00267	0.00	0.008	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.028	0.01	0.0577	0.0258	No Trend	0.00423	0.00	0.0054	0.00126	No Trend
	EPL 91	0.0028	0.00	0.014	0.0031	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.55	0.53	0.568	0.0208	No Trend	8.83E-04	0.00	0.0016	4.96E-04	No Trend
	EPL 92	0.002	0.002	0.002	0.002	No Trend	0.0025	5.00E-04	0.0063	0.00329	No Trend	0.0999	0.08	0.129	0.0252	No Trend	0.00343	0.00	0.0038	4.73E-04	Decreasing
	EPL 93	0.00206	0.00	0.003	2.43E-04	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.361	0.25	0.489	0.119	No Trend	0.00197	0.00	0.0024	5.13E-04	No Trend
	EPL 94	0.002	0.00	0.002	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.651	0.62	0.685	0.0345	No Trend	0.00178	0.00	0.0025	9.22E-04	No Trend
	EPL 95	0.002	0.00	0.002	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.576	0.37	0.916	0.296	No Trend	0.0182	0.01	0.0244	0.0056	No Trend
	EPL 96	0.002	0.00	0.002	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.0509	0.00	0.125	0.0655	No Trend	0.0022	0.00	0.0032	8.72E-04	No Trend
	EPL 97	0.002	0.00	0.002	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.208	0.14	0.272	0.0661	No Trend	1.13E-03	0.00	0.00185	7.73E-4	No Trend
Maricia	EPL 72	0.0024	0.002	0.015	0.0021	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.018	0.0105	0.0401	0.0069	Decreasing	0.00163	8.00E-04	0.0047	9.47E-04	No Trend
	EPL 73	0.0021	0.002	0.005	5E-04	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.0352	0.0125	0.0486	0.0098	Decreasing	0.0005	0.0005	0.0005	0.0005	No Trend
Tantangara	EPL 68	0.002	0.002	0.002	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.0035	0.0016	0.0066	0.0023	No Trend	0.0005	0.0005	0.0008	0.0005	No Trend
	EPL 69	0.0032	0.002	0.004	0.0011	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	5E-05	0.0008	9E-05	4E-05	No Trend	0.0005	0.0005	0.0005	0.0005	No Trend
	EPL 70	0.002	0.002	0.002	0.002	No Trend	0.00001	0.00001	0.00001	0.00001	No Trend	0.0035	0.0023	0.006	0.0017	Decreasing	0.0005	0.0005	0.0005	0.0005	No Trend

Location	Site ID	Silver					Zinc				
		Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 1	1.432	0.000	5.000	2.342	No Trend	2.358	0.000	6.000	2.372	No Trend
	EPL 2	1.671	0.000	5.000	2.459	No Trend	6.335	0.000	25.000	8.347	No Trend
	EPL 4	0.914	0.000	5.000	2.02	No Trend	3.273	0.000	19.000	5.551	No Trend
	EPL 25	1.941	0.000	5.000	2.459	Decreasing	19.13	0.000	96.000	30.00	Decreasing
	EPL 56	0.186	0.000	5.000	0.746	Decreasing	2.261	0.000	13.000	2.904	Decreasing
	EPL 57	0.0524	0.000	1.000	0.197	Decreasing	0.8	0.000	5.000	1.293	Decreasing
	EPL 58	0.154	0.000	5.000	0.697	Decreasing	5.934	0.000	56.000	9.189	Decreasing
	EPL 87	0.0000	0.0000	0.0000	0.0000	No Trend	0.001	0.001	0.001	0	No Trend
	EPL 88	0.0000	0.0000	0.0000	0.0000	No Trend	0.00167	0.001	0.002	5.77E-04	No Trend
	EPL 89	0.0000	0.0000	0.0000	0.0000	No Trend	0.001	0.001	0.001	0	No Trend
	EPL 90	0.0000	0.0000	0.0000	0.0000	No Trend	0.0197	0.012	0.027	0.00751	No Trend
	EPL 91	0.0000	0.0000	0.0000	0.0000	No Trend	0.003	0.002	0.004	0.001	No Trend
	EPL 92	0.0025	0.0005	0.0063	0.0033	No Trend	0.0287	0.021	0.035	0.00709	No Trend
	EPL 93	0.0000	0.0000	0.0000	0.0000	No Trend	0.002	0.001	0.003	0.001	No Trend
	EPL 94	0.0000	0.0000	0.0000	0.0000	No Trend	0.0077	0.005	0.012	0.00379	No Trend
	EPL 95	0.0000	0.0000	0.0000	0.0000	No Trend	0.0547	0.035	0.074	0.0195	No Trend
	EPL 96	0.0000	0.0000	0.0000	0.0000	No Trend	0.003	0.002	0.005	0.00173	No Trend
	EPL 97	0.0000	0.0000	0.0000	0.0000	No Trend	0.0097	0.006	0.015	0.00473	No Trend
Marica	EPL 72	0.0001	0.0001	0.0001	0.0001	No Trend	0.0088	0	0.021	0.00405	No Trend
	EPL 73	0.0001	0.0001	0.0001	0.0001	No Trend	0.0032	0	0.03	0.00698	No Trend
Tantangara	EPL 68	0.0001	0.0001	0.0001	0.0001	No Trend	0.0025	0.0001	0.003	0.001	No Trend
	EPL 69	0.0001	0.0001	0.0001	0.0001	No Trend	0.0033	0.0001	0.008	0.0032	No Trend
	EPL 70	0.0001	0.0001	0.0001	0.0001	No Trend	0.0013	0.001	0.002	5.00E-04	No Trend

		Nutrients, Inorganics, and TPH																			
		Ammonia					Cyanide					Kjeldahl Nitrogen					Nitrate + Nitrite				
Location	Site ID	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 1	0.0164	0.00	0.18	0.0478	No Trend	3.33E-04	0.000	0.040	0.00115	No Trend	0.0643	0	0.4	0.122	No Trend	0.025	0.00	0.18	0.0532	No Trend
	EPL 2	0.075	0.00	0.72	0.21	No Trend	3.33E-04	0.000	0.004	0.00115	No Trend	0.117	0	1	0.301	Increasing	0.0267	0.00	0.31	0.0893	Increasing
	EPL 4	0.117	0.00	0.97	0.298	No Trend	4.00E-04	0.000	0.004	0.00126	No Trend	0.645	0	5.5	1.671	No Trend	0.00364	0.00	0.02	0.00674	No Trend
	EPL 25	10.01	0.00	160	40	Decreasing	0.000	0.000	0.000	0.000	No Trend	68.79	0	600	188.7	No Trend	3.126	0.00	30	8.732	No Trend
	EPL 56	34.41	0.00	370	74.18	Decreasing	1.44	0.000	4.000	1.93	Decreasing	215.8	0	2100	458.9	Decreasing	127.2	0.00	4480	642	Decreasing
	EPL 57	39.21	0.00	330	53.23	Decreasing	1.394	0.000	4.000	1.917	Decreasing	398.3	0	4900	908.7	Decreasing	36.87	0.00	500	92.72	Decreasing
	EPL 58	21.99	0.00	280	47.39	Decreasing	1.442	0.000	4.000	1.931	Decreasing	1061	0	5400	1508	Decreasing	6221	0.00	23500	7160	Decreasing
	EPL 87	0.0167	0.01	0.02	0.0058	No Trend	0.004	0.004	0.004	0.004	No Trend	1.44	0.1	3	1.332	No Trend	1.58	1.04	2.08	0.521	No Trend
	EPL 88	0.267	0.11	0.54	0.238	No Trend	0.004	0.004	0.004	0.004	No Trend	0.5	0.2	1	0.436	No Trend	0.0133	0.01	0.02	0.00577	No Trend
	EPL 89	0.01	0.01	0.01	0.01	No Trend	0.004	0.004	0.004	0.004	No Trend	0.9	0.1	2	0.821	No Trend	0.0367	0.02	0.05	0.0153	No Trend
	EPL 90	0.01	0.01	0.01	0.01	No Trend	0.004	0.004	0.004	0.004	No Trend	1.183	0.2	2.4	0.854	No Trend	0.79	0.11	1.26	0.603	No Trend
	EPL 91	0.0895	0.04	0.2	0.0819	No Trend	0.004	0.004	0.004	0.004	No Trend	0.2	0.1	0.5	0.16	No Trend	0.0167	0.01	0.03	0.0115	No Trend
	EPL 92	0.01	0.01	0.01	0.01	No Trend	0.004	0.004	0.004	0.004	No Trend	0.507	0.1	4	1.008	Decreasing	0.0133	0.01	0.02	0.00577	No Trend
	EPL 93	0.107	0.03	0.21	0.0929	No Trend	0.004	0.004	0.004	0.004	No Trend	0.886	0.1	2.7	0.867	No Trend	0.0133	0.01	0.02	0.00577	No Trend
	EPL 94	0.06	0.02	0.09	0.0361	No Trend	0.004	0.004	0.004	0.004	No Trend	0.22	0.1	0.5	0.179	No Trend	0.01	0.01	0.01	0.01	No Trend
	EPL 95	0.0467	0.02	0.06	0.0231	No Trend	0.004	0.004	0.004	0.004	No Trend	2.267	0.7	3.6	1.464	No Trend	26.13	21.5	28.5	4.013	No Trend
	EPL 96	0.0967	0.02	0.25	0.133	No Trend	0.004	0.004	0.004	0.004	No Trend	1.1	0.5	2.4	0.762	No Trend	4.21	0.33	11.2	6.066	No Trend
	EPL 97	0.0433	0.03	0.07	0.0231	No Trend	0.004	0.004	0.004	0.004	No Trend	0.111	0.1	0.2	0.0333	No Trend	0.03	0.01	0.06	0.0265	No Trend
Marica	EPL 72	0.0117	0.01	0.02	0.0038	Decreasing	0.004	0.004	0.004	0.004	No Trend	0.324	0.1	2	0.44	No Trend	0.0805	0.01	1.11	0.243	No Trend
	EPL 73	0.0119	0.01	0.02	0.004	No Trend	0.004	0.004	0.004	0.004	No Trend	0.514	0.1	8.5	1.613	Decreasing	0.25	0.02	2.47	0.629	No Trend
Tantangara	EPL 68	0.01	0.01	0.01	0.01	No Trend	0.004	0.004	0.004	0.004	No Trend	0.138	0.1	0.4	0.106	No Trend	0.758	0.7	0.81	0.0479	No Trend
	EPL 69	0.0175	0.01	0.04	0.015	No Trend	0.004	0.004	0.004	0.004	No Trend	0.117	0.1	0.2	0.0408	No Trend	0.423	0.1	1.37	0.632	No Trend
	EPL 70	0.01	0.01	0.01	0.01	No Trend	0.004	0.004	0.004	0.004	No Trend	0.347	0.1	1	0.409	No Trend	0.495	0.47	0.52	0.0208	No Trend

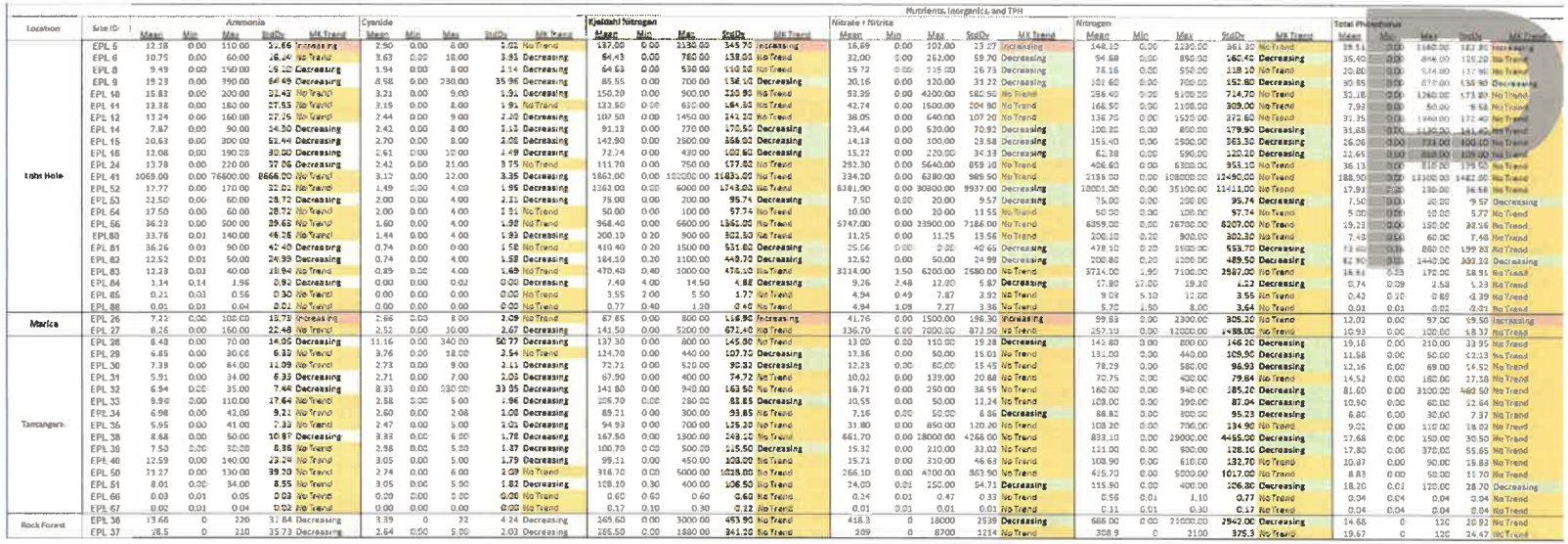
Location	Site ID	Nitrogen					Total Phosphorus					Reactive Phosphorus as P (filtered)					Hardness as CaCO3 (mg/L)				
		Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 1	304.4	0.000	1800.000	466	No Trend	11.45	0.00	90	27.69	No Trend	4.926	0.000	20.000	7.553	Increasing	141.3	16.0	249.0	117.5	No Trend
	EPL 2	1203	0.000	13000.000	3716	Decreasing	43.34	0.00	280	92.47	Increasing	6.091	0.000	29.000	10.750	No Trend	24.0	24.0	24.0	24.0	No Trend
	EPL 4	254.3	0.000	1500.000	427.8	No Trend	10.25	0.00	110	33.09	Increasing	9.903	0.000	34.000	12.820	Decreasing	130.5	36.0	225.0	133.6	No Trend
	EPL 25	541.9	0.000	3060.000	781.7	No Trend	287.7	0.00	4100	993.3	No Trend	1.267	0.000	11.000	2.865	Decreasing	214.0	214.0	214.0	214.0	No Trend
	EPL 56	330.4	0.000	5100.000	833.6	Decreasing	121.1	0.00	2230	374.5	Decreasing	0.002	0.000	0.009	0.003	Increasing	132.9	116.0	151.0	7.6	No Trend
	EPL 57	450.2	0.000	4900.000	937.3	Decreasing	623.4	0.00	10600	1781	Decreasing	0.003	0.000	0.016	0.005	Increasing	131.5	111.0	150.0	8.4	No Trend
	EPL 58	7461	0.000	26300.000	8282	Decreasing	31.1	0.00	690	91.46	Decreasing	0.001	0.000	0.010	0.002	Increasing	190.0	26.0	284.0	62.4	No Trend
	EPL 87	2.933	1.400	4.300	1.457	No Trend	0.492	0.02	2.49	0.624	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 88	0.5	0.500	1.000	0.436	No Trend	0.0677	0.03	0.16	0.0313	Increasing	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 89	0.533	0.100	1.000	0.451	No Trend	0.198	0.03	0.77	0.212	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 90	1.75	0.300	3.700	1.475	No Trend	0.484	0.11	1.42	0.358	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 91	0.233	0.100	0.500	0.175	No Trend	0.101	0.02	0.33	0.0723	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 92	0.569	0.100	4.000	1.074	Decreasing	0.463	0.01	4.96	1.078	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 93	0.886	0.100	2.700	0.867	No Trend	0.466	0.12	253	0.472	Increasing	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 94	0.22	0.100	0.500	0.179	No Trend	0.134	0.03	0.54	0.119	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 95	28.4	24.000	32.100	4.095	No Trend	0.0857	0.01	0.29	0.0806	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 96	4.275	0.800	13.600	6.229	No Trend	0.376	0.02	1.1	0.262	Increasing	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 97	0.15	0.200	0.100	0.0577	No Trend	0.107	0.04	0.19	0.0404	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend
Marica	EPL 72	0.362	0.100	2.000	0.475	Decreasing	0.148	0.02	0.63	0.149	No Trend	0.0128	0.002	0.018	0.0039	Increasing	14.060	9.000	23.000	2.883	No Trend
	EPL 73	0.654	0.000	8.500	1.663	Decreasing	0.0738	0.02	0.53	0.0889	Decreasing	0.0209	0.013	0.028	0.0042	No Trend	34.330	18.000	41.000	5.460	No Trend
Tantangara	EPL 68	0.875	0.000	1.100	0.15	No Trend	0.027	0.01	0.13	0.0244	No Trend	0.003	0.003	0.003	0.003	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 69	0.475	0.000	1.600	0.75	No Trend	0.0336	0.01	0.07	0.0157	No Trend	0.003	0.003	0.003	0.003	No Trend	3.200	1.000	3.200	4.919	No Trend
	EPL 70	0.775	0.500	1.000	0.249	No Trend	0.0943	0.02	0.42	0.0871	No Trend	0.003	0.003	0.003	0.003	No Trend	13.000	13.000	13.000	13.000	No Trend

Location	Site ID	Total Suspended Solids (mg/L)					Oil and Grease (ug/L)				
		Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 1	6.54	0.00	41.00	13.61	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 2	0.46	0.00	5.00	1.51	Increasing	0.091	0.000	1.000	0.302	No Trend
	EPL 4	725.30	0.00	7050.00	2223.00	No Trend	0.000	0.000	0.000	0.000	No Trend
	EPL 25	32.33	0.00	332.00	91.79	Decreasing	0.000	0.000	0.000	0.000	No Trend
	EPL 56	268.20	0.00	3470.00	535.90	No Trend	2.081	0.000	5.000	1.884	Decreasing
	EPL 57	642.30	0.00	8690.00	1445.00	No Trend	2.361	0.000	10.000	2.345	No Trend
	EPL 58	61.66	0.00	550.00	118.20	Decreasing	2.056	0.000	5.000	1.881	Decreasing
	EPL 87	0.000	0.000	0.000	0.000	No Trend	1.458	1.000	7.000	1.444	No Trend
	EPL 88	0.000	0.000	0.000	0.000	No Trend	1.111	1.000	2.000	0.323	No Trend
	EPL 89	0.000	0.000	0.000	0.000	No Trend	1.059	1.000	2.000	0.243	No Trend
	EPL 90	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 91	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 92	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 93	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 94	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 95	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 96	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 97	0.000	0.000	0.000	0.000	No Trend	1.000	1.000	1.000	1.000	No Trend
Marica	EPL 72	395.5	28	1010	305.6	No Trend	1.382	1.000	6.000	1.256	No Trend
	EPL 73	112.1	5	296	93.26	No Trend	1.125	1.000	5.000	0.707	No Trend
Tantangara	EPL 68	53.00	53.00	53.00	53.00	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 69	29.50	5.00	54.00	34.65	No Trend	1.000	1.000	1.000	1.000	No Trend
	EPL 70	126.00	126.00	126.00	126.00	No Trend	1.000	1.000	1.000	1.000	No Trend

SURFACE WATER

Location	Site ID	Aluminium (filtered)					Arsenic (filtered)					Chromium III + VI (filtered)					Heavy Metals: Copper (filtered)					Iron (dissolved)					Manganese (dissolved)				
		Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 5	46.16	0.00	408.00	80.10	No Trend	0.5050	0.0000	1.1000	0.4270	Increasing	0.0002	0.0000	0.0036	0.0007	No Trend	0.6730	0.0000	3.4000	0.6400	No Trend	63.65	0.00	699.00	112.50	No Trend	5.95	0.00	95.20	14.21	No Trend
	EPL 6	20.93	0.00	170.00	35.47	Decreasing	0.46	0.00	1.00	0.42	Decreasing	0.0008	0.0000	0.0251	0.0048	Increasing	0.6830	0.0000	8.6000	0.6850	No Trend	37.40	0.00	292.00	48.84	Decreasing	7.14	0.00	24.90	7.23	Decreasing
	EPL 8	19.59	0.00	185.00	39.75	Decreasing	0.3780	0.0000	1.0000	0.4110	No Trend	0.0150	0.0000	3.6000	0.6936	Increasing	0.5570	0.0000	10.5000	1.3920	No Trend	30.98	0.00	384.00	56.35	No Trend	3.87	0.00	60.10	8.86	Decreasing
	EPL 9	35.98	0.00	486.00	81.35	Decreasing	0.4930	0.0000	1.1000	0.4310	Decreasing	0.0000	0.0000	0.0038	0.0001	Increasing	0.7750	0.0000	4.0000	0.8360	Decreasing	53.35	0.00	748.00	116.16	Decreasing	5.71	0.00	61.30	9.75	Decreasing
	EPL 10	22.58	0.00	197.00	35.86	Decreasing	0.5420	0.0000	1.0000	0.4200	No Trend	0.7930	0.0000	24.0000	2.1860	Decreasing	0.8370	0.0000	4.0000	0.8820	Decreasing	37.56	0.00	100.00	27.76	Decreasing	8.72	0.00	122.00	19.76	Decreasing
	EPL 11	20.19	0.00	135.00	34.02	No Trend	0.5250	0.0000	1.0000	0.4260	No Trend	0.6330	0.0000	8.0000	1.1250	No Trend	1.0210	0.0000	9.0000	1.4500	No Trend	36.19	0.00	98.00	27.56	No Trend	7.49	0.00	104.00	17.25	No Trend
	EPL 12	46.17	0.00	466.00	91.90	Decreasing	0.4570	0.0000	1.1000	0.4400	No Trend	0.6300	0.0000	6.9000	0.9300	No Trend	0.706	0.000	12.000	1.538	No Trend	61.33	0.00	670.00	111.70	Decreasing	5.94	0.00	94.70	15.70	No Trend
	EPL 14	36.96	0.00	590.00	96.56	Decreasing	0.4360	0.0000	1.1000	0.4350	Decreasing	0.4700	0.0000	5.0000	0.8250	Decreasing	0.572	0.000	3.700	0.692	Decreasing	52.84	0.00	756.00	115.70	Decreasing	5.11	0.00	81.10	11.91	Decreasing
	EPL 15	40.93	0.00	490.00	80.85	Decreasing	0.5160	0.0000	1.1000	0.4340	Decreasing	0.4580	0.0000	2.0000	0.4820	Decreasing	0.783	0.000	7.400	1.260	Decreasing	59.84	0.00	780.00	113.90	Decreasing	5.56	0.00	66.70	10.99	Decreasing
	EPL 16	26.34	0.00	367.00	52.23	Decreasing	0.4440	0.0000	1.0000	0.4330	Decreasing	0.4060	0.0000	12.0000	0.9340	Decreasing	0.702	0.000	5.000	0.969	Decreasing	42.13	0.00	587.00	77.87	Decreasing	4.11	0.00	58.80	7.74	Decreasing
	EPL 24	451.00	0.00	30000.00	3557.00	No Trend	0.3300	0.0000	1.0000	0.4230	No Trend	0.4970	0.0000	4.0000	0.7210	No Trend	0.547	0.000	4.000	0.815	No Trend	62.07	0.00	230.00	71.04	No Trend	148.20	0.00	1690.00	318.80	No Trend
	EPL 41	120.50	0.00	3900.00	706.00	Decreasing	0.7030	0.0000	21.0000	1.5535	No Trend	0.4370	0.0000	2.0000	0.4840	No Trend	4.236	0.000	76.000	11.190	No Trend	49.09	0.00	830.00	146.20	Decreasing	3.66	0.00	49.00	8.72	No Trend
	EPL 52	9.17	0.00	57.00	14.69	Decreasing	0.4010	0.0000	1.3000	0.4370	Decreasing	3.6150	0.0000	29.0000	5.0540	Decreasing	0.592	0.000	9.000	1.600	Decreasing	5.41	0.00	52.00	13.66	No Trend	1.09	0.00	8.80	2.09	Decreasing
	EPL 53	19.50	0.00	58.00	27.34	Decreasing	0.5000	0.0000	1.0000	0.4760	No Trend	0.3150	0.0000	1.0000	0.4725	Decreasing	1.825	0.000	5.000	2.378	Decreasing	26.25	0.00	55.00	30.36	Decreasing	0.43	0.00	1.80	0.51	Decreasing
	EPL 54	5.50	0.00	12.00	6.40	No Trend	0.3000	0.0000	1.0000	0.4762	No Trend	0.3150	0.0000	1.0000	0.4720	No Trend	0.375	0.000	1.000	0.479	No Trend	13.50	0.00	50.00	13.69	No Trend	0.38	0.00	1.00	0.48	No Trend
	EPL 55	15.78	0.00	500.00	70.50	No Trend	0.2070	0.0000	1.0000	0.3000	No Trend	0.7140	0.0000	4.0000	0.9920	No Trend	0.481	0.000	3.000	0.713	No Trend	31.16	0.00	489.00	90.92	No Trend	4.15	0.00	88.00	14.87	No Trend
	EPL80	0.935	0.00	5.00	1.98	No Trend	5.764	0.0031	162	5.642	No Trend	0.0402	0.0000	0.2000	0.0816	No Trend	0.146	0.000	1.200	0.317	No Trend	0.42	0.00	2.00	0.83	No Trend	92.14	0.17	171.00	79.65	No Trend
	EPL 81	0.935	0.00	5.00	1.98	Decreasing	5.59	0.0004	121	4.915	Decreasing	0.0372	0.0002	0.2000	0.0791	Decreasing	0.105	0.001	0.500	0.207	Decreasing	0.69	0.00	5.00	1.34	Decreasing	109.40	0.12	109.40	91.49	Decreasing
	EPL 82	0.238	0.00	5.00	1.04	Decreasing	0.0511	3E-05	0.2	0.0993	Decreasing	0.0093	0.0002	0.2000	0.0426	Decreasing	0.044	0.001	1.000	0.203	Decreasing	0.22	0.00	0.00	0.67	Decreasing	94.13	0.06	375.00	187.90	Decreasing
	EPL 83	3.74	0.01	26.00	7.72	Decreasing	4.423	0.0018	11	4.249	No Trend	0.29	0.0002	1.9000	0.574	No Trend	1.434	0.001	10.800	3.944	Decreasing	1.53	0.00	17.00	3.83	No Trend	33.66	0.06	106.00	34.86	No Trend
	EPL 84	1.254	0.01	3.75	1.74	Decreasing	0.0114	0.0033	0.0267	0.0133	No Trend	0.0669	0.0048	0.1040	0.0541	Decreasing	0.004	0.002	0.005	0.002	No Trend	0.01	0.00	0.03	0.01	Decreasing	0.01	0.00	0.01	0.01	Decreasing
	EPL 85	0.1	0.01	0.23	0.10	Decreasing	0.007	0.0062	0.0083	0.00124	No Trend	0.0137	0.0182	0.0315	0.00693	No Trend	0.001	0.001	0.002	0.001	No Trend	0.002	0.002	0.002	0.001	No Trend	0.01	0.00	0.02	0.01	No Trend
	EPL 86	0.0121	0.01	0.05	0.02	No Trend	0.003	0.0023	0.0036	6.66E-04	No Trend	0.00001	1E-05	0.00002	0.00001	No Trend	0.002	0.002	0.002	0.000	No Trend	0.002	0.002	0.002	0.001	No Trend	0.14	0.02	0.24	0.11	No Trend
Marica	EPL 26	9.73	0.00	84.00	11.52	No Trend	0.4200	0.0000	1.0000	0.4470	Increasing	0.4500	0.0000	2.0000	0.4860	Increasing	0.508	0.000	1.000	0.423	No Trend	31.63	0.00	99.00	23.48	No Trend	3.78	0.00	19.00	3.59	No Trend
	EPL 27	8.19	0.00	32.00	9.78	Decreasing	0.3450	0.0000	1.0000	0.4330	No Trend	0.4320	0.0000	3.0000	0.5430	No Trend	0.424	0.000	1.000	0.427	No Trend	32.24	0.00	94.00	22.46	No Trend	3.37	0.00	12.00	2.59	No Trend
Tantangara	EPL 28	35.80	0.00	171.00	41.35	Decreasing	0.5410	0.0000	1.0000	0.4320	Decreasing	0.5770	0.0000	2.0000	0.5230	Decreasing	0.698	0.000	1.000	0.459	Decreasing	123.20	0.00	380.00	108.40	No Trend	11.00	0.00	68.00	14.39	Decreasing
	EPL 29	34.87	0.00	210.00	31.60	Decreasing	0.5140	0.0000	1.0000	0.4350	No Trend	0.4740	0.0000	3.0000	0.5920	No Trend	0.756	0.000	1.000	0.508	No Trend	127.80	0.00	484.00	113.86	Decreasing	10.83	0.00	111.00	21.36	No Trend
	EPL 30	29.11	0.00	154.00	37.46	Decreasing	0.4110	0.0000	1.0000	0.4400	No Trend	0.5380	0.0000	2.0000	0.4910	No Trend	0.562	0.000	3.400	0.568	No Trend	47.16	0.00	127.00	36.35	Decreasing	3.30	0.00	11.00	2.59	Decreasing
	EPL 31	28.59	0.00	350.00	34.35	Decreasing	0.4110	0.0000	1.0000	0.4400	Decreasing	0.4740	0.0000	2.0000	0.5920	No Trend	0.587	0.000	2.100	0.520	Decreasing	46.50	0.00	189.00	38.53	Decreasing	3.38	0.00	15.80	3.28	Decreasing
	EPL 32	33.61	0.00	91.00	31.36	Decreasing	0.5385	0.0000	1.0000	0.4340	Decreasing	0.5380	0.0000	3.0000	0.4910	No Trend	0.667	0.000	2.000	0.477	Decreasing	133.00	0.00	392.00	116.30	Decreasing	10.88	0.00	127.00	21.66	Decreasing
	EPL 33	33.07	0.00	290.00	48.16	Decreasing	0.4600	0.0000	1.0000	0.4370	No Trend	0.4420	0.0000	2.0000	0.4370	No Trend	0.692	0.000	4.000	0.730	No Trend	164.00	0.00	966.00	194.60	Decreasing	21.55	0.00	230.00	45.56	Decreasing
	EPL 34	24.57	0.00	120.00	25.52	Decreasing	0.4260	0.0000	1.0000	0.4430	Decreasing	0.4190	0.0000	1.0000	0.4460	Decreasing	0.553	0.000	1.000	0.496	Decreasing	117.40	0.00	420.00	128.40	Decreasing	4.53	0.00	37.00	5.57	Decreasing
	EPL 35	22.40	0.00	77.00	23.62	Decreasing	0.4180	0.0000	1.0000	0.4180	Decreasing	0.4390	0.0000	3.0000	0.5660	Decreasing	0.548	0.000	2.700	0.547	Decreasing	117.60	0.00	450.00	133.50	Decreasing	4.16	0.00	25.70	4.59	Decreasing
	EPL 38	37.88	0.00	240.00	48.86	No Trend	0.5470	0.0000	1.0000	0.4370	No Trend	0.5350	0.0000	1.0000	0.4940	No Trend	0.991	0.000	7.300	1.471	No Trend	135.30	0.00	420.00	122.30	Decreasing	9.65	0.00	142.00	22.16	Decreasing
	EPL 39	21.60	0.00	110.00	28.05	Decreasing	0.5180	0.0000	1.0000	0.4610	No Trend	0.5100	0.0000	1.0000	0.4600	No Trend	0.646	0.002	2.000	0.460	Decreasing	90.84	0.00	310.00	87.66	Decreasing	6.50	0.00	25.60	5.78	Decreasing
	EPL 40	25.38	0.00	116.00	28.64	No Trend	0.5160	0.0000	1.0000	0.4510	No Trend	0.5180	0.0000	1.0000	0.4610	No Trend	0.623	0.000	1.000	0.402	No Trend	74.20	0.00	230.00	67.58	Decreasing	5.00	0.00	23.80	5.16	Decreasing
	EPL 50	8.40	0.00	21.00	4.75	No Trend	0.4780	0.0000	1.0000	0.4746	No Trend	0.5220	0.0000	2.0000	0.5620	No Trend	0.587	0.000	2.000	0.536	No Trend	22.09	0.00	50.00	25.04	No Trend	1.94	0.00	5.00	2308.00	No Trend
	EPL 51	34.57	0.00	102.00	29.89	No Trend	0.5500	0.0002	1.0000	0.4670	Decreasing	0.5500	0.0000	1.0000	0.4670	Decreasing	0.720	0.001	2.400	0.580	Decreasing	92.09	0.00	340.00	98.50	Decreasing	11.48	0.00	69.00	18.84	Decreasing
	EPL 66	0.06	0.00	0.06	0.00	No Trend	0.0002	0.0002	0.0002	0.0000	No Trend	0.0002	0.0002	0.0002	0.0002	No Trend	0.001	0.001	0.001	0.001	No Trend	0.19	0.19	0.19	0.19	No Trend	0.00	0.00	0.00	0.00	No Trend
	EPL 67	0.04	0.00	0.04	0.00	No Trend	0.0002	0.0002	0.0002	0.0002	No Trend	0.0002	0.0002	0.0002	0.0002	No Trend	0.001	0.001	0.001	0.001	No Trend	0.27	0.27	0.27	0.27	No Trend	0.01	0.01	0.01	0.01	No Trend
RockForest	EPL 36	55.72	0.00	279.00	69.72	Decreasing	0.5340	0.0000	1.0000	0.4220	Decreasing	0.5240	0.0000	2.0000	0.4740	Decreasing	0.640	0.000	1.400	0.552	Decreasing	324.40	0.00	1200.00	310.10	Decreasing	17.13	0.00	87.50	23.59	Decreasing
	EPL 37	56.54	0.00	290.00	73.12	No Trend	0.5670	0.0000	1.3000	0.4410	No Trend	0.5530	0.0000	3.0000	0.5530	No Trend	0.593	0.000	2.000	0.463	No Trend	361.90	0.00	1400.00	382.10	Decreasing	14.77	0.00	142.00	23.25	Decreasing

Location	Site ID	Nickel (dissolved)					Lead (dissolved)					Silver (dissolved)					Zinc (dissolved)				
		Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 5	1.11	0.00	23.00	3.57	Decreasing	0.403	0.000	1.000	0.457	No Trend	1.656	0.000	5.000	2.355	No Trend	2.225	0.000	8.000	2.315	No Trend
	EPL 6	0.84	0.00	13.00	2.01	No Trend	0.393	0.000	1.000	0.455	No Trend	1.656	0.000	5.000	2.355	No Trend	2.275	0.000	8.000	2.331	No Trend
	EPL 8	0.52	0.00	10.00	1.29	No Trend	0.260	0.000	1.000	0.409	No Trend	1.069	0.000	5.000	2.045	No Trend	1.552	0.000	6.000	2.130	No Trend
	EPL 9	0.76	0.00	9.00	1.39	Decreasing	0.405	0.000	1.000	0.459	Decreasing	1.656	0.000	5.000	2.355	Decreasing	2.300	0.000	8.000	2.300	Decreasing
	EPL 10	0.77	0.00	5.00	0.93	No Trend	0.460	0.000	1.000	0.469	No Trend	2.046	0.000	5.000	2.459	No Trend	2.827	0.000	8.000	2.447	No Trend
	EPL 11	0.66	0.00	4.00	0.61	No Trend	0.451	0.000	1.000	0.468	No Trend	2.007	0.000	5.000	2.452	No Trend	2.566	0.000	10.000	2.406	No Trend
	EPL 12	0.58	0.00	4.00	0.63	No Trend	0.409	0.000	2.000	0.499	No Trend	1.591	0.000	5.000	2.314	No Trend	2.155	0.000	10.000	2.412	No Trend
	EPL 14	0.54	0.00	3.00	0.53	No Trend	0.371	0.000	1.000	0.452	Decreasing	1.489	0.000	5.000	2.271	Decreasing	1.968	0.000	6.000	2.195	No Trend
	EPL 15	0.62	0.00	2.00	0.46	Decreasing	0.437	0.000	1.000	0.464	Decreasing	1.774	0.000	5.000	2.378	Decreasing	2.365	0.000	7.000	2.258	Decreasing
	EPL 16	0.52	0.00	1.20	0.43	No Trend	0.369	0.000	1.000	0.452	No Trend	1.513	0.000	5.000	2.282	No Trend	1.967	0.000	5.000	2.175	No Trend
	EPL 24	0.77	0.00	3.90	0.88	No Trend	0.391	0.000	1.000	0.450	No Trend	1.558	0.000	5.000	2.300	No Trend	3.949	0.000	67.000	9.129	No Trend
	EPL 41	0.73	0.00	5.30	1.01	No Trend	0.435	0.000	3.000	0.605	No Trend	1.580	0.000	5.000	2.309	No Trend	24.340	0.000	270.000	51.250	No Trend
	EPL 52	0.30	0.00	1.00	0.33	Decreasing	0.122	0.000	1.000	0.263	Decreasing	0.168	0.000	5.000	0.729	Decreasing	0.922	0.000	5.000	1.397	Decreasing
	EPL 53	0.38	0.00	1.00	0.48	Decreasing	0.325	0.000	1.000	0.472	Decreasing	0.275	0.000	1.000	0.486	Decreasing	2.750	0.000	6.000	3.202	Decreasing
	EPL 54	0.38	0.00	1.00	0.48	No Trend	0.275	0.000	1.000	0.486	No Trend	0.275	0.000	1.000	0.486	No Trend	1.500	0.000	5.000	2.380	No Trend
	EPL 55	0.38	0.00	2.00	0.42	No Trend	0.470	0.000	12.000	1.968	No Trend	0.231	0.000	5.000	0.851	No Trend	1.406	0.000	9.000	2.061	No Trend
	EPL80	14.84	0.01	32.50	13.23	No Trend	0.019	0.000	0.100	0.040	No Trend	0.006	0.000	0.010	0.005	No Trend	2.507	0.000	12.000	4.066	No Trend
	EPL 81	9.27	0.00	46.20	15.34	Decreasing	0.019	0.000	0.100	0.040	No Trend	0.006	0.000	0.010	0.005	No Trend	1.001	0.000	3.000	1.069	No Trend
	EPL 82	3.56	0.01	14.20	7.10	No Trend	0.004	0.000	0.100	0.021	Decreasing	0.003	0.000	0.010	0.005	No Trend	0.755	0.004	3.000	1.497	No Trend
	EPL 83	11.16	0.01	22.50	9.50	No Trend	0.022	0.000	0.100	0.042	No Trend	0.007	0.000	0.010	0.005	No Trend	6.001	0.003	16.000	5.544	Decreasing
	EPL 84	0.0013	0.0009	0.0018	0.0005	Decreasing	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend	0.002	0.001	0.004	0.002	Decreasing
	EPL 85	0.0008	0.0005	0.0010	0.0003	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend	0.001	0.001	0.001	0.000	No Trend
	EPL 86	0.0014	0.0013	0.0016	0.0002	No Trend	0.000	0.000	0.000	0.000	No Trend	0.000	0.000	0.000	0.000	No Trend	0.003	0.001	0.006	0.003	No Trend
Marica	EPL 26	0.585	0.000	1.000	0.401	Decreasing	0.449	0.000	1.000	0.470	No Trend	1.930	0.000	5.000	2.420	No Trend	2.96	0.00	21.00	3.48	No Trend
	EPL 27	0.598	0.000	1.000	0.387	No Trend	0.449	0.000	1.000	0.467	No Trend	1.908	0.000	5.000	2.414	No Trend	2.59	0.00	8.00	2.26	No Trend
Tantangara	EPL 28	0.655	0.000	1.000	0.367	No Trend	0.495	0.000	1.000	0.468	No Trend	2.190	0.000	5.000	2.483	No Trend	3.34	0.00	16.00	3.68	No Trend
	EPL 29	0.658	0.000	2.000	0.474	No Trend	0.460	0.000	1.000	0.468	No Trend	2.030	0.000	5.000	2.457	No Trend	4.42	0.00	91.00	13.37	No Trend
	EPL 30	0.568	0.000	1.000	0.402	No Trend	0.418	0.000	1.000	0.462	No Trend	1.745	0.000	5.000	2.368	No Trend	2.46	0.00	9.00	2.51	No Trend
	EPL 31	0.574	0.000	1.100	0.406	No Trend	0.428	0.000	1.000	0.461	No Trend	1.745	0.000	5.000	2.368	No Trend	2.62	0.00	1.00	2.65	No Trend
	EPL 32	0.673	0.000	2.400	0.469	No Trend	0.480	0.000	1.000	0.472	No Trend	2.141	0.000	5.000	2.476	No Trend	3.13	0.00	24.00	4.05	No Trend
	EPL 33	0.638	0.000	2.000	0.488	No Trend	0.431	0.000	1.000	0.467	No Trend	1.818	0.000	5.000	2.390	No Trend	3.19	0.00	14.00	3.54	No Trend
	EPL 34	0.573	0.000	1.000	0.410	No Trend	0.429	0.000	1.000	0.469	No Trend	1.818	0.000	5.000	2.390	No Trend	2.98	0.00	25.00	3.92	No Trend
	EPL 35	0.577	0.000	2.000	0.459	No Trend	0.406	0.000	1.000	0.464	No Trend	1.711	0.000	5.000	2.357	No Trend	2.77	0.00	16.00	3.53	No Trend
	EPL 38	0.649	0.000	1.000	0.384	Decreasing	0.500	0.000	1.000	0.473	No Trend	2.240	0.000	5.000	2.489	No Trend	3.12	0.00	21.00	3.40	No Trend
	EPL 39	0.623	0.000	1.000	0.403	No Trend	0.486	0.000	1.000	0.473	No Trend	2.189	0.000	5.000	2.483	No Trend	3.50	0.00	21.00	3.93	No Trend
	EPL 40	0.621	0.000	1.000	0.401	No Trend	0.486	0.000	1.000	0.476	No Trend	2.189	0.000	5.000	2.483	No Trend	2.86	0.00	8.00	2.42	No Trend
	EPL 50	0.544	0.000	1.000	0.450	No Trend	0.429	0.000	1.000	0.469	No Trend	1.833	0.000	5.000	2.381	No Trend	3.09	0.00	18.00	4.12	No Trend
	EPL 51	0.625	0.000	1.000	0.425	Decreasing	0.406	0.000	1.000	0.454	No Trend	2.312	0.000	5.000	2.504	Decreasing	2.80	0.00	5.00	2.31	Decreasing
	EPL 66	0.001	0.001	0.001	0.001	No Trend	0.500	0.000	1.000	0.473	No Trend	0.000	0.000	0.000	0.000	No Trend	0.00	0.00	0.00	0.00	No Trend
	EPL 67	0.001	0.001	0.001	0.001	No Trend	0.418	0.000	1.000	0.462	No Trend	0.000	0.000	0.000	0.000	No Trend	0.00	0.00	0.00	0.00	No Trend
Rock Forest	EPL 36	0.728	0.000	2.000	0.527	No Trend	0.434	0.000	1.000	0.468	No Trend	1.845	0.000	5.000	2.398	No Trend	3.12	0.00	21.00	3.40	No Trend
	EPL 37	0.7310	0.0000	2.0000	0.5580	Decreasing	0.453	0.000	1.000	0.467	No Trend	1.9070	0.0000	5.0000	2.4150	No Trend	2.61	0.00	5.00	2.20	No Trend



Location	Site ID	Ammonia					Cyanide					Kjeldahl Nitrogen					Nitrate + Nitrite					Nitrogen					Total Phosphorus				
		Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lake Hole	EPL 5	12.18	0.00	110.00	21.66	Increasing	2.50	0.00	8.00	2.02	No Trend	197.00	0.00	1130.00	345.70	Increasing	16.69	0.00	102.00	23.27	Decreasing	148.10	0.00	2230.00	361.30	No Trend	38.14	0.00	1140.00	182.80	Increasing
	EPL 6	10.75	0.00	60.00	16.24	No Trend	3.63	0.00	18.00	3.85	Decreasing	64.43	0.00	760.00	138.04	No Trend	32.00	0.00	262.00	59.70	Decreasing	94.68	0.00	850.00	162.40	Decreasing	35.40	0.00	898.00	126.20	No Trend
	EPL 8	9.49	0.00	150.00	26.20	Decreasing	1.94	0.00	8.00	2.14	Decreasing	64.63	0.00	530.00	110.20	No Trend	19.72	0.00	135.00	26.73	Decreasing	78.16	0.00	550.00	118.10	No Trend	20.80	0.00	574.00	117.90	No Trend
	EPL 9	19.23	0.00	390.00	64.49	Decreasing	8.58	0.00	230.00	35.96	Decreasing	85.55	0.00	700.00	136.10	Decreasing	20.16	0.00	120.00	31.22	Decreasing	101.60	0.00	700.00	152.80	Decreasing	30.86	0.00	877.00	136.90	Decreasing
	EPL 10	15.83	0.00	200.00	31.43	No Trend	3.21	0.00	9.00	1.94	Decreasing	150.30	0.00	900.00	230.90	No Trend	93.39	0.00	4200.00	582.96	No Trend	286.40	0.00	5100.00	714.70	No Trend	32.18	0.00	1260.00	173.80	No Trend
	EPL 11	13.38	0.00	180.00	27.53	No Trend	3.15	0.00	8.00	1.91	No Trend	123.50	0.00	610.00	184.30	No Trend	42.74	0.00	1500.00	204.90	No Trend	166.50	0.00	2108.00	309.00	No Trend	7.93	0.00	50.00	9.58	No Trend
	EPL 12	13.24	0.00	160.00	27.35	No Trend	2.44	0.00	9.00	2.20	Decreasing	107.50	0.00	1450.00	241.20	No Trend	38.05	0.00	640.00	107.20	No Trend	134.70	0.00	1920.00	272.60	No Trend	31.35	0.00	1440.00	172.40	No Trend
	EPL 14	7.87	0.00	90.00	14.30	Decreasing	2.42	0.00	8.00	1.13	Decreasing	91.13	0.00	770.00	170.50	Decreasing	23.44	0.00	520.00	70.92	Decreasing	100.20	0.00	850.00	179.90	Decreasing	31.88	0.00	1140.00	141.40	No Trend
	EPL 15	20.63	0.00	300.00	51.44	Decreasing	2.70	0.00	8.00	2.06	Decreasing	142.90	0.00	2500.00	356.00	Decreasing	14.13	0.00	100.00	23.58	Decreasing	153.40	0.00	2900.00	363.30	Decreasing	26.06	0.00	733.00	100.10	No Trend
	EPL 16	12.08	0.00	190.00	30.00	Decreasing	2.61	0.00	10.00	1.49	Decreasing	72.74	0.00	430.00	102.60	Decreasing	15.22	0.00	220.00	34.33	Decreasing	61.38	0.00	590.00	120.20	Decreasing	12.65	0.00	358.00	109.00	No Trend
	EPL 24	13.78	0.00	220.00	37.06	Decreasing	2.42	0.00	21.00	3.75	No Trend	111.70	0.00	750.00	177.80	No Trend	292.30	0.00	5640.00	859.10	No Trend	406.60	0.00	6300.00	953.10	No Trend	36.13	0.00	810.00	179.50	No Trend
	EPL 41	1069.00	0.00	76600.00	8666.00	No Trend	3.12	0.00	22.00	3.35	Decreasing	1862.00	0.00	102000.00	11483.00	No Trend	334.30	0.00	6380.00	985.50	No Trend	2195.00	0.00	108000.00	12490.00	No Trend	188.90	0.00	11300.00	1442.00	No Trend
	EPL 52	17.77	0.00	170.00	32.01	No Trend	1.49	0.00	4.00	1.95	Decreasing	1263.00	0.00	6000.00	1743.00	No Trend	8381.00	0.00	30800.00	9937.00	Decreasing	10001.00	0.00	35100.00	11411.00	No Trend	17.91	0.00	130.00	36.58	No Trend
	EPL 53	22.50	0.00	60.00	28.72	Decreasing	2.00	0.00	4.00	2.31	Decreasing	75.00	0.00	200.00	95.74	Decreasing	7.50	0.00	20.00	9.57	Decreasing	75.00	0.00	200.00	95.74	Decreasing	7.50	0.00	20.00	9.57	Decreasing
	EPL 64	17.50	0.00	50.00	28.72	No Trend	2.00	0.00	4.00	2.31	No Trend	50.00	0.00	100.00	57.74	No Trend	10.00	0.00	20.00	11.55	No Trend	50.00	0.00	100.00	57.74	No Trend	5.00	0.00	10.00	5.77	No Trend
	EPL 66	36.23	0.00	500.00	39.63	No Trend	1.60	0.00	4.00	1.98	No Trend	968.40	0.00	6600.00	1361.00	No Trend	5747.00	0.00	23900.00	7186.00	No Trend	6359.00	0.00	26700.00	8207.00	No Trend	19.23	0.00	190.00	32.16	No Trend
	EPL80	33.76	0.01	140.00	46.26	No Trend	1.44	0.00	4.00	1.89	Decreasing	200.10	0.20	900.00	302.30	No Trend	11.25	0.00	11.25	13.56	No Trend	200.10	0.20	900.00	302.30	No Trend	7.48	0.00	60.00	7.48	No Trend
	EPL 81	36.26	0.01	90.00	42.40	Decreasing	0.74	0.00	0.00	1.58	No Trend	410.40	0.20	1500.00	531.80	Decreasing	25.56	0.00	2.00	40.65	Decreasing	478.10	0.20	1600.00	553.70	Decreasing	73.40	0.10	860.00	199.20	No Trend
	EPL 82	12.52	0.01	50.00	24.99	Decreasing	0.74	0.00	4.00	1.58	Decreasing	184.10	0.20	1100.00	448.70	Decreasing	12.52	0.00	50.00	24.99	Decreasing	200.80	0.20	1200.00	489.50	Decreasing	62.90	0.10	1440.00	300.20	Decreasing
	EPL 83	12.23	0.01	40.00	18.84	No Trend	0.85	0.00	4.00	1.69	No Trend	470.40	0.40	1000.00	476.10	No Trend	3214.00	1.50	6200.00	2580.00	No Trend	3714.00	1.90	7100.00	2987.00	No Trend	38.14	0.53	170.00	38.91	No Trend
	EPL 84	1.14	0.14	1.96	0.92	Decreasing	0.00	0.00	0.02	0.00	Decreasing	7.40	4.00	14.50	4.86	Decreasing	9.26	2.48	12.00	5.87	Decreasing	17.80	17.00	19.20	1.22	Decreasing	0.74	0.09	2.58	1.39	No Trend
	EPL 85	0.21	0.03	0.56	0.30	No Trend	0.00	0.00	0.00	0.00	No Trend	3.55	2.00	5.50	1.77	No Trend	4.94	0.49	7.87	2.92	No Trend	9.08	5.10	12.00	3.55	No Trend	0.43	0.10	0.89	0.39	No Trend
	EPL 88	0.01	0.01	0.04	0.01	No Trend	0.00	0.00	0.00	0.00	No Trend	0.77	0.40	1.20	0.40	No Trend	4.94	1.08	7.27	3.36	No Trend	5.72	1.50	8.00	3.64	No Trend	0.01	0.01	0.01	0.01	No Trend
Marica	EPL 26	7.22	0.00	100.00	18.73	Increasing	2.66	0.00	8.00	2.09	No Trend	67.85	0.00	800.00	146.90	Increasing	41.76	0.00	1500.00	196.30	Increasing	99.83	0.00	2300.00	305.20	No Trend	12.02	0.00	97.00	19.56	Increasing
	EPL 27	8.26	0.00	160.00	22.48	No Trend	2.52	0.00	10.00	2.67	Decreasing	141.50	0.00	5200.00	672.40	No Trend	136.70	0.00	7900.00	873.90	No Trend	257.10	0.00	12000.00	1488.00	No Trend	10.93	0.00	100.00	18.37	No Trend
Tantangara	EPL 28	8.48	0.00	70.00	14.05	Decreasing	11.16	0.00	340.00	50.77	Decreasing	137.30	0.00	800.00	145.00	No Trend	13.00	0.00	110.00	19.28	Decreasing	142.80	0.00	800.00	146.20	Decreasing	19.18	0.00	210.00	33.95	No Trend
	EPL 29	6.85	0.00	30.00	6.33	No Trend	3.76	0.00	18.00	2.54	No Trend	134.70	0.00	440.00	107.70	Decreasing	17.38	0.00	50.00	15.01	No Trend	131.00	0.00	440.00	109.90	Decreasing	11.58	0.00	50.00	12.13	No Trend
	EPL 30	7.39	0.00	64.00	11.09	No Trend	2.73	0.00	9.00	2.11	Decreasing	72.71	0.00	520.00	90.82	Decreasing	12.23	0.00	60.00	15.45	No Trend	78.29	0.00	580.00	98.93	Decreasing	12.16	0.00	69.00	14.52	No Trend
	EPL 31	5.91	0.00	34.00	6.33	Decreasing	2.71	0.00	7.00	2.03	Decreasing	67.90	0.00	400.00	74.72	No Trend	10.02	0.00	139.00	20.68	No Trend	72.75	0.00	430.00	79.84	No Trend	14.52	0.00	160.00	27.58	No Trend
	EPL 32	6.94	0.00	35.00	7.48	Decreasing	8.33	0.00	330.00	33.95	Decreasing	141.80	0.00	940.00	163.50	No Trend	16.71	0.00	250.00	36.55	No Trend	160.00	0.00	940.00	185.20	Decreasing	81.60	0.00	3100.00	460.50	No Trend
	EPL 33	9.90	0.00	110.00	17.64	No Trend	2.58	0.00	5.00	1.96	Decreasing	105.70	0.00	280.00	83.85	Decreasing	10.55	0.00	50.00	11.24	No Trend	103.00	0.00	390.00	87.04	Decreasing	10.90	0.00	60.00	12.64	No Trend
	EPL 34	6.98	0.00	42.00	9.21	No Trend	2.60	0.00	8.00	1.08	Decreasing	89.31	0.00	300.00	93.85	No Trend	7.16	0.00	50.00	8.86	Decreasing	88.81	0.00	800.00	95.23	Decreasing	6.80	0.00	30.00	7.37	No Trend
	EPL 36	5.95	0.00	41.00	7.33	No Trend	2.47	0.00	5.00	1.01	Decreasing	94.93	0.00	700.00	125.20	No Trend	31.80	0.00	850.00	120.20	No Trend	108.30	0.00	700.00	134.90	No Trend	9.02	0.00	110.00	18.02	No Trend
	EPL 38	8.68	0.00	50.00	10.97	Decreasing	3.33	0.00	6.00	1.78	Decreasing	167.50	0.00	1300.00	248.10	No Trend	661.70	0.00	28000.00	4266.00	No Trend	833.10	0.00	29000.00	4465.00	Decreasing	17.68	0.00	150.00	30.50	No Trend
	EPL 39	7.50	0.00	30.00	8.36	No Trend	2.98	0.02	5.00	1.87	Decreasing	100.70	0.00	500.00	115.50	Decreasing	15.32	0.00	210.00	33.02	No Trend	121.00	0.00	900.00	128.10	Decreasing	17.80	0.00	370.00	55.65	No Trend
	EPL 40	12.59	0.00	190.00	29.24	No Trend	3.05	0.00	5.00	1.79	Decreasing	98.11	0.00	450.00	103.00	No Trend	15.71	0.00	310.00	46.63	No Trend	108.90	0.00	610.00	132.70	No Trend	10.87	0.00	90.00	16.83	No Trend
	EPL 50	21.27	0.00	130.00	39.59	No Trend	2.74	0.00	6.00	2.09	No Trend	318.70	0.00	5000.00	1018.00	No Trend	266.10	0.00	4700.00	863.90	No Trend	415.70	0.00	5000.00	1017.00	No Trend	8.83	0.00	50.00	11.70	No Trend
	EPL 51	8.01	0.00	34.00	8.55	No Trend	3.05	0.00	5.90	1.82	Decreasing	108.10	0.30	400.00	106.50	No Trend	24.00	0.01	252.00	54.71	Decreasing	115.90	0.00	400.00	106.80	Decreasing	18.20	0.01	120.00	28.70	Decreasing
	EPL 66	0.03	0.01	0.05	0.03	No Trend	0.09	0.00	0.00	0.00	No Trend	0.60	0.60	0.60	0.60	No Trend	0.24	0.01	0.47	0.33	No Trend	0.56	0.01	1.10	0.77	No Trend	0.04	0.04	0.04	0.04	No Trend
	EPL 67	0.02	0.01	0.04	0.02	No Trend	0.00	0.00	0.00	0.00	No Trend	0.17	0.10	0.30	0.12	No Trend	0.01	0.01	0.01	0.01	No Trend	0.11	0.01	0.30	0.17	No Trend	0.04	0.04	0.04	0.04	No Trend
Rock Forest	EPL 36	13.66	0	220	31.84	Decreasing	3.39	0	22	4.24	Decreasing	265.60	0.00	3000.00	453.90	No Trend	418.3	0	18000	2539	Decreasing	685.00	0.00	21000.00	2942.00	Decreasing	14.68	0	120	30.92	No Trend
	EPL 37	28.5	0	210	35.73	Decreasing	2.64	0.00	5.00	2.03	Decreasing	285.50	0.00	1880.00	341.20	No Trend	309	0	8700	1214	No Trend	358.9	0	2100	375.3	No Trend	19.67	0	120	24.47	No Trend

Location	Site ID	Reactive Phosphorus as P (filtered)					Hardnes as CaCO3 (filtered)					Total suspended solids					Oil and Grease (ug/L)				
		Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend	Mean	Min	Max	StdDv	MK Trend
Lobs Hole	EPL 5	3.67	0.00	23.00	5.63	No Trend	0.40	0.00	1.00	0.46	No Trend	84.52	0.00	2190.00	353.10	No Trend	0.00	0.00	0.00	0.00	No Trend
	EPL 6	5.09	0.00	22.00	7.31	Decreasing	0.39	0.00	1.00	0.46	No Trend	45.21	0.00	840.00	143.80	Decreasing	4.44	0.00	15.00	2.84	Decreasing
	EPL 8	2.73	0.00	25.00	5.49	Decreasing	0.26	0.00	1.00	0.41	No Trend	73.97	0.00	1500.00	245.40	No Trend	3.75	0.00	22.00	4.25	Decreasing
	EPL 9	4.14	0.00	[illegible]	[illegible]	No Trend	0.41	0.00	1.00	0.46	Decreasing	[illegible]	0.00	5.00	450.60	No Trend	5.17	0.00	20.00	4.42	Decreasing
	EPL 10	0.81	[illegible]	5.00	1.59	Decreasing	0.46	0.00	1.00	0.47	No Trend	[illegible]	0.00	[illegible]	4.50	Decreasing	6.81	[illegible]	28.00	7.54	Decreasing
	EPL 11	0.74	0.00	5.00	1.50	No Trend	0.45	0.00	1.00	0.47	No Trend	[illegible]	0.00	[illegible]	4.37	No Trend	6.46	0.00	53.00	8.53	No Trend
	EPL 12	2.36	0.00	23.00	4.62	Decreasing	0.41	0.00	2.00	0.50	No Trend	30.53	0.00	[illegible]	247.80	Decreasing	4.26	0.00	24.00	4.66	Decreasing
	EPL 14	2.56	0.00	24.00	5.17	Decreasing	0.37	0.00	1.00	0.45	Decreasing	44.92	0.00	[illegible]	198.30	Decreasing	4.04	0.00	18.00	4.06	Decreasing
	EPL 15	2.94	0.00	23.00	5.30	Decreasing	0.44	0.00	1.00	0.46	Decreasing	53.92	0.00	1510.00	131.40	Decreasing	4.29	0.00	21.00	3.87	Decreasing
	EPL 16	2.27	0.00	23.00	4.84	Decreasing	0.37	0.00	1.00	0.45	No Trend	38.47	0.00	1680.00	208.40	Decreasing	4.26	0.00	30.00	5.08	Decreasing
	EPL 24	1.52	0.00	[illegible]	[illegible]	Decreasing	0.39	0.00	1.00	0.45	Decreasing	[illegible]	0.00	[illegible]	107.30	Decreasing	5.07	0.00	33.00	6.24	Decreasing
	EPL 41	0.00	0.00	[illegible]	[illegible]	Decreasing	0.44	0.00	1.00	0.61	No Trend	[illegible]	0.00	[illegible]	38.22	No Trend	3.32	0.00	26.00	4.75	Decreasing
	EPL 52	0.00	0.00	0.02	0.00	No Trend	0.12	0.00	1.00	0.26	Decreasing	41.60	0.00	922.00	141.70	No Trend	1.15	0.00	5.00	1.12	Decreasing
	EPL 53	0.00	0.00	0.00	0.00	No Trend	0.33	0.00	1.00	0.47	Decreasing	12.33	0.00	32.00	17.21	Increasing	2.00	2.00	2.00	2.00	No Trend
	EPL 54	0.00	0.00	0.00	0.00	No Trend	0.38	0.00	1.00	0.49	No Trend	3.33	0.00	[illegible]	2.89	No Trend	2.00	2.00	2.00	2.00	No Trend
	EPL 55	0.00	0.00	0.00	0.00	No Trend	0.47	0.00	12.00	1.87	No Trend	12.08	0.00	[illegible]	16.10	No Trend	1.32	0.00	5.00	1.27	No Trend
	EPL80	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	21.20	5.00	[illegible]	25.55	No Trend	1.46	1.00	7.00	1.44	No Trend
	EPL 81	0.00	0.00	[illegible]	0.00	No Trend	0.02	0.00	0.10	0.04	Decreasing	[illegible]	[illegible]	[illegible]	639.50	No Trend	1.29	1.00	5.00	0.86	No Trend
	EPL 82	0.00	[illegible]	[illegible]	0.00	No Trend	0.05	0.00	0.10	0.02	Decreasing	[illegible]	[illegible]	[illegible]	2230.00	No Trend	1.20	1.00	5.00	0.88	No Trend
	EPL 83	0.00	0.00	0.00	0.00	No Trend	0.02	0.00	0.10	0.04	No Trend	140.50	20.00	510.00	189.70	No Trend	1.32	1.00	5.00	1.11	No Trend
	EPL 84	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend
	EPL 85	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend
	EPL 86	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend
Marica	EPL 26	1.04	0.00	9.00	2.07	Decreasing	0.45	0.00	1.00	0.47	No Trend	21.38	0.00	964.00	123.80	No Trend	4.29	0.00	17.00	3.64	No Trend
	EPL 27	1.17	0.00	8.00	1.99	Decreasing	0.45	0.00	1.00	0.47	No Trend	5.80	0.00	29.00	4.26	No Trend	5.40	0.00	24.00	5.39	Decreasing
Tantangara	EPL 28	0.54	0.00	3.00	0.95	Decreasing	0.50	0.00	1.00	0.47	No Trend	17.26	0.00	476.00	71.71	No Trend	5.99	0.00	27.00	6.05	Decreasing
	EPL 29	0.43	0.00	3.00	0.80	Decreasing	0.46	0.00	1.00	0.47	No Trend	5.27	0.00	24.00	3.42	No Trend	11.33	0.00	130.00	24.05	No Trend
	EPL 30	0.96	0.00	6.00	1.74	Decreasing	0.42	0.00	1.00	0.46	No Trend	8.08	0.00	52.00	8.16	No Trend	4.70	0.00	24.00	4.82	No Trend
	EPL 31	0.87	0.00	5.00	1.59	Decreasing	0.43	0.00	1.00	0.46	No Trend	8.22	0.00	49.00	7.84	No Trend	5.32	0.00	70.00	10.33	Decreasing
	EPL 32	0.38	0.00	4.00	0.80	Decreasing	0.48	0.00	1.00	0.47	No Trend	6.15	0.00	30.00	5.08	Decreasing	9.36	0.00	140.00	22.80	Decreasing
	EPL 33	0.46	0.00	4.00	0.91	Decreasing	0.43	0.00	1.00	0.47	No Trend	5.11	0.00	15.00	2.86	No Trend	4.70	0.00	52.00	7.68	No Trend
	EPL 34	0.37	0.00	4.00	0.80	Decreasing	0.43	0.00	1.00	0.47	No Trend	4.84	0.00	14.00	2.67	No Trend	4.19	0.00	17.00	4.00	Decreasing
	EPL 35	0.29	0.00	3.00	0.61	Decreasing	0.41	0.00	1.00	0.46	No Trend	4.98	0.00	24.00	3.72	No Trend	4.37	0.00	21.00	4.89	Decreasing
	EPL 38	0.40	0.00	5.00	0.93	Decreasing	0.50	0.00	1.00	0.47	No Trend	6.00	0.00	22.00	4.28	No Trend	6.44	0.00	50.00	8.60	Decreasing
	EPL 39	0.49	0.00	4.00	1.08	Decreasing	0.49	0.00	1.00	0.48	No Trend	7.68	0.00	54.00	10.35	No Trend	5.98	0.00	63.00	10.71	No Trend
	EPL 40	0.40	0.00	5.00	0.93	Decreasing	0.49	0.00	1.00	0.48	No Trend	5.33	0.00	22.00	3.63	No Trend	3.94	0.00	11.00	3.03	No Trend
	EPL 50	0.61	0.00	9.00	1.61	Decreasing	0.46	0.00	1.00	0.49	No Trend	4.65	0.00	7.00	1.53	No Trend	5.35	0.00	30.00	8.31	No Trend
	EPL 51	0.00	0.00	0.00	0.00	No Trend	0.53	0.00	1.00	0.49	Decreasing	12.77	5.00	140.00	30.14	No Trend	5.32	0.00	21.00	5.91	Decreasing
	EPL 66	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	5.00	5.00	5.00	5.00	No Trend	1.00	1.00	1.00	1.00	No Trend
	EPL 67	0.00	0.00	0.00	0.00	No Trend	0.00	0.00	0.00	0.00	No Trend	5.00	5.00	5.00	5.00	No Trend	1.00	1.00	1.00	1.00	No Trend
Rock Forest	EPL 36	0.702	0.000	8.000	1.614	Decreasing	0.434	0	1	0.468	No Trend	6.00	0.00	22.00	4.28	No Trend	6.59	0.00	62.00	10.32	Decreasing
	EPL 37	0.66	0.000	5.000	1.307	Decreasing	0.453	0	1	0.467	No Trend	9.52	0.00	80.00	12.87	No Trend	33.96	0.00	1400.00	201.40	Decreasing

APPENDIX B – SAMPLING POINTS SPECIFICATIONS

SURFACE WATER

SITE	EPL POINT	FRECUENCY
Lobs Hole	EPL 5	Monthly
Lobs Hole	EPL 6	Monthly
Lobs Hole	EPL 8	Monthly
Lobs Hole	EPL9	Monthly
Lobs Hole	EPL 12	Monthly
Lobs Hole	EPL 14	Monthly
Lobs Hole	EPL 15	Monthly
Lobs Hole	EPL16	Monthly
Lobs Hole	EPL 24	Monthly
Marica	EPL 26	Monthly
Marica	EPL 27	Monthly
Tantangara	EPL 30	Monthly
Tantangara	EPL 31	Monthly
Tantangara	EPL 33	Monthly
Tantangara	EPL 34	Monthly
Tantangara	EPL 35	Monthly
Rock Forest	EPL 36	Monthly
Rock Forest	EPL 37	Monthly
Lobs Hole	EPL 52	Monthly
Lobs Hole	EPL 53	Monthly
Lobs Hole	EPL 54	Monthly
Lobs Hole	EPL 55	Monthly
Tantangara	EPL 59*	Monthly
Tantangara	EPL 60*	Monthly
Tantangara	EPL 61*	Monthly
Tantangara	EPL 62*	Monthly
Tantangara	EPL 63*	Monthly
Tantangara	EPL 64*	Monthly
Tantangara	EPL 65*	Monthly
Tantangara	EPL 66	Monthly
Tantangara	EPL 67	Monthly
Marica	EPL 71	Monthly
Rock Forest	EPL 79*	Monthly
Rock Forest	EPL 77*	Monthly

SITE	EPL POINT	FRECUENCY
Rock Forest	EPL 78*	Monthly
Rock Forest	EPL 79*	Monthly
Lobs Hole	EPL 84	Monthly
Lobs Hole	EPL 85	Monthly
Lobs Hole	EPL 86	Monthly

* Not triggered yet

GROUND WATER

SITE	EPL POINT	FRECUENCY
Lobs Hole	EPL 1	Quarterly
Lobs Hole	EPL 2	Quarterly
Lobs Hole	EPL 4	Quarterly
Lobs Hole	EPL 25	Quarterly
Lobs Hole	EPL 56	Monthly
Lobs Hole	EPL 57	Monthly
Lobs Hole	EPL 58	Monthly
Tantangara	EPL 68	Monthly
Tantangara	EPL 69	Monthly
Tantangara	EPL 70	Monthly
Marica	EPL 72	Monthly
Marica	EPL 73	Monthly
Lobs Hole	EPL 80	Monthly
Lobs Hole	EPL 81	Monthly
Lobs Hole	EPL 82	Monthly
Lobs Hole	EPL 83	Monthly
Lobs Hole	EPL 87	Monthly
Lobs Hole	EPL 88	Monthly
Lobs Hole	EPL 89	Monthly
Lobs Hole	EPL 90	Monthly
Lobs Hole	EPL 91	Monthly
Lobs Hole	EPL 92	Monthly
Lobs Hole	EPL 93	Monthly
Lobs Hole	EPL 94	Monthly
Lobs Hole	EPL 95	Monthly
Lobs Hole	EPL 96	Monthly
Lobs Hole	EPL 97	Monthly

RESERVOIR WATER EPL SAMPLING POINTS

SITE	EPL POINT	FRECUENCY
Lobs Hole	EPL 10	Monthly
Lobs Hole	EPL 11	Monthly
Tantangara	EPL 28	Monthly
Tantangara	EPL 29	Monthly
Tantangara	EPL 32	Monthly
Tantangara	EPL 38	Monthly
Tantangara	EPL 39	Monthly
Tantangara	EPL 40	Monthly
Lobs Hole	EPL 41*	Monthly
Tantangara	EPL 46	Monthly
Tantangara	EPL 50	Monthly
Tantangara	EPL 51*	Monthly

*Discharge points

SURFACE WATER EPL WQO

ANALYTE	UNIT	WQO
pH	-	6.5-8
Electrical Conductivity	µS/cm	30-350
Oxidation Reduction Potential	mV	-
Temperature	°C	-
Dissolved Oxygen	%saturation	90-110
Turbidity	NTU	2-25
TSS	mg/L	-
Hardness as CaCO3	mg/L	-
Ammonia as N	µg/L	13
Nitrite+Nitrate as N (NOx)	µg/L	15
Kjeldahi Nitrogen Total	µg/L	-
Nitrogen (Total)	µg/L	250
Reactive Phosphorus	µg/L	15
Phosphorus (Total)	µg/L	20

ANALYTE	UNIT	WQO
Cyanide Total	µg/L	4
Oil and Grease	mg/L	5
Aluminium (dissolved)	µg/L	27
Aluminium (total)	µg/L	-
Arsenic (dissolved)	µg/L	0.8
Arsenic (total)	µg/L	-
Chorium Chromium (III+VI) (dissolved)	µg/L	0.01
Chromium (III+VI) (total)	µg/L	1
Copper (dissolved)	µg/L	1
Copper (total)	µg/L	-
Iron (dissolved)	µg/L	50
Iron (total)	µg/L	-
Lead (dissolved)	µg/L	1
Lead (total)	µg/L	-
Manganese (dissolved)	µg/L	1,200
Maganese (total)	µg/L	-
Nickel (dissolved)	µg/L	8
Nickel (total)	µg/L	-
Silver (dissolved)	µg/L	0.02
Silver (total)	µg/L	-
Zinc (dissolved)	µg/L	2.4
Zinc (total)	µg/L	-

GROUND WATER EPL WQO

ANALYTE	UNIT	WQO
pH	-	6.5-8
Electrical Conductivity	µS/cm	30-350
Oxidation Reduction Potential	mV	-
Temperature	°C	-
Dissolved Oxygen	%saturation	-
Turbidity	NTU	-
TSS	mg/L	-
Hardness as CaCO3	mg/L	-
Ammonia as N	µg/L	13

ANALYTE	UNIT	WQO
Nitrite+Nitrate as N (NOx)	µg/L	15
Kjeldahi Nitrogen Total	µg/L	-
Nitrogen (Total)	µg/L	250
Reactive Phosphorus	µg/L	15
Phosphorus (Total)	µg/L	20
Cyanide Total	µg/L	4
Oil and Grease	mg/L	5
Aluminium (dissolved)	µg/L	27
Aluminium (total)	µg/L	-
Arsenic (dissolved)	µg/L	0.8
Arsenic (total)	µg/L	-
Chorium Chromium (III+VI) (dissolved)	µg/L	0.01
Chromium (III+VI) (total)	µg/L	1
Copper (dissolved)	µg/L	1
Copper (total)	µg/L	-
Iron (dissolved)	µg/L	50
Iron (total)	µg/L	-
Lead (dissolved)	µg/L	1
Lead (total)	µg/L	-
Manganese (dissolved)	µg/L	1,200
Maganese (total)	µg/L	-
Nickel (dissolved)	µg/L	8
Nickel (total)	µg/L	-
Silver (dissolved)	µg/L	0.02
Silver (total)	µg/L	-
Zinc (dissolved)	µg/L	2.4
Zinc (total)	µg/L	-

RESERVOIR WQO

ANALYTE	UNIT	WQO
pH	-	6.5-8
Electrical Conductivity	µS/cm	20-30
Oxidation Reduction Potential	mV	-
Temperature	°C	-

ANALYTE	UNIT	WQO
Dissolved Oxygen	%saturation	90-110
Turbidity	NTU	1-20
TSS	mg/L	-
Hardness as CaCO3	mg/L	-
Ammonia as N	µg/L	10
Nitrite+Nitrate as N (NOx)	µg/L	10
Kjeldahi Nitrogen Total	µg/L	-
Nitrogen (Total)	µg/L	350
Reactive Phosphorus	µg/L	5
Phosphorus (Total)	µg/L	10
Cyanide Total	µg/L	7
Oil and Grease	mg/L	5
Aluminium (dissolved)	µg/L	55
Arsenic (dissolved)	µg/L	13
Chorium Chromium (III+VI) (dissolved)	µg/L	1
Copper (dissolved)	µg/L	14
Iron (dissolved)	µg/L	300
Lead (dissolved)	µg/L	3.4
Manganese (dissolved)	µg/L	1,900
Nickel (dissolved)	µg/L	11
Silver (dissolved)	µg/L	0.05
Zinc (dissolved)	µg/L	8
Faecal Coliforms	CFU/100mL	10/100^
Biochemical Oxygen Demand	mg/L	1/5^

DISCHARGE POINTS WQO

ANALYTE	UNIT	WQO
pH	-	6.5-8.5
Electrical Conductivity	µS/cm	700(EPL41) / 200 (EPL50)
Oxidation Reduction Potential	mV	-
Temperature	°C	15
Dissolved Oxygen	%saturation	-
Turbidity	NTU	<25

TSS	mg/L	5/10
Hardness as CaCO3	mg/L	-
Ammonia as N	µg/L	200/2000^
Kjeldahi Nitrogen Total	µg/L	-
Nitrogen (Total)	µg/L	350/-^
Reactive Phosphorus	µg/L	100/300^
Phosphorus (Total)	µg/L	10
Cyanide Total	µg/L	2/5^
Oil and Grease	mg/L	5
Aluminium (dissolved)	µg/L	55
Arsenic (dissolved)	µg/L	13
Chorium Chromium (III+VI) (dissolved)	µg/L	1
Copper (dissolved)	µg/L	14
Iron (dissolved)	µg/L	300
Lead (dissolved)	µg/L	3.4
Manganese (dissolved)	µg/L	1,900
Nickel (dissolved)	µg/L	11
Silver (dissolved)	µg/L	0.05
Zinc (dissolved)	µg/L	8
Faecal Coliforms	CFU/100mL	10/100^
Biochemical Oxygen Demand	mg/L	5

Note: Treated water was not being discharged at Talbingo ot Tantangara Reservoirs at the time of EPL sampling.
There is no 100th percentile limit for Nitrogen (Total).

* Water Quality Objective values Treated Water reference the predicted values for physical and chemical stressors from the treatment plant as presented in the Main Works EIS.

^ 90 Percentile concentration limit/100 Percentile limit

PARAMETERS AND SAMPLING METHODS

IN-SITU

PARAMETER	FRECUENCY	EPL	SAMPLING METHOD
Dissolved Oxygen	MONTHLY	56,57,58,68,69,70,72,73	In-situ
Elctrical Conductivity			
Oxidation Reduction Potential			
pH			
Temperature			
Turbidity			
Electrical conductivity			
pH			
Oxidation Reduction Potential			
Temperature			
Dissolved Oxygen			
Turbidity			

LABORATORY

PARAMETER	FRECUENCY	EPL	SAMPLING METHOD
Dissolved Oxygen	Quarterly	1,2,4,25	Grab Sample
Electrical conductivity	Quarterly		
Oxidation Reduction Potential	Quarterly		
Turbidity	Quarterly		
Aluminium (Dissolved)	Quarterly		
Copper (Dissolved)	Quarterly		
Iron (Dissolved	Quarterly		
Lead (Dissolved)	Quarterly		
Manganese (Dissolved)	Quarterly		
Nickel (Dissolved)	Quarterly		
Nitrogen (total)	Quarterly		
Silver (Dissolved)	Quarterly		
Zinc (Dissolved)	Quarterly		
Reactive Phosphorus	Quarterly		

PARAMETER	FRECUENCY	EPL	SAMPLING METHOD
Aluminium (Dissolved)	Monthly	5,6,8,9,10,11,12,14,15,16,24,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97	Grab Sample
Copper (Dissolved)			
Iron (Dissolved)			
Lead (Dissolved)			
Manganese (Dissolved)			
Nickel (Dissolved)			
Nitrogen (Total)			
Reactive Phosphorus			
Silver (Dissolved)			
Zinc (Dissolved)			
Arsenic (Dissolved)		5,6,8,9,10,11,12,14,15,16,24,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97	
Chorium (Dissolved)			
Cydane (Total)			
Hardness (As calcium carbonate)			
Oil and grease			
Phosphorus (Total)			
Total Kjeldahl Nitrogen			
Total suspended solids			
Arsenic (Total)		52,53,54,55,,56,57,58,59,60,61,62,63,64,65,67,68,69,70	
Chorium (Total)			
Copper (Total)			
Lead (Total)			
Nickel (Total)			
Silver (Total)			
Iron (Total)			
Mangenese (Total)			
Zinc (Total)			
Aluminium (Total)		52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,72,73	
Ammonia		5,6,8,9,10,11,12,14,15,16,24,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,50,51,52,53,54,55,59,60,61,62,63,64,65,66,67,71,76,77,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97	
Oxidised nitrogen			
Nitrate+Nitrite (Oxidised nitrogen)		36,37,52,53,54,55,59,60,61,62,63,664,65,66,67,71,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97	
BOD		10,11,28,41,50,51	
Faecal Coliforms			

APPENDIX C – BACKGROUND CONDITIONS

SURFACE WATER

	PLATEAU	RAVINE
Major watercourses1 (Dry weather)	• pH generally ranges between 6.2 and 8.5, with occasional lower and upper bound exceedances. • Carbonate and salinity vary seasonally, with higher levels occurring in summer/autumn than winter/spring. • Low concentrations of suspended solids and low turbidity. • Total nitrogen and phosphorus concentrations exceeded WQO values occasionally. • Aluminium concentrations exceeded the WQO value on a frequent basis. Some exceedances were more than 4 x WQO values. • Copper, iron, lead and zinc concentrations exceeded WQO values on an occasional basis. Other metals are generally below WQO values • The water quality during wet weather conditions is poorly understood. It is expected that concentrations of suspended sediment, nutrients, and some metals would be higher than dry weather concentrations.	• pH ranges between 6.2 to 8.5, with occasional lower and upper bound exceedances. • Low concentrations of suspended solids and low turbidity. • Carbonate and salinity vary seasonally, with higher levels occurring in summer/autumn than winter/spring. • Total nitrogen and phosphorus concentrations exceeded WQO values occasionally. • Aluminium concentrations in the Yarrangobilly River exceeded WQO values frequently in winter/spring and occasionally in summer/autumn. Some exceedances were more than 4 x WQO values. • Copper, chromium and zinc concentrations exceeded WQO values occasionally. Other metals are generally below WQO values. • The understanding of water quality during wet weather conditions is informed by data from monitoring undertaken in March and May 2019 following moderate rainfall. Available data indicates that receiving water quality during wet weather conditions is generally poorer relative to dry weather conditions with higher turbidity, lower pH, higher nutrients and metals such as copper and zinc. The median (from five samples) copper concentration was 6 x the WQO value.
Minor watercourses (near proposed surface infrastructure	The water quality of minor watercourses near the	The water quality of minor watercourses in Lobs Hole is

	Tantangara construction compound is generally poorer than major watercourses, with total phosphorus, total nitrogen and aluminium all exceeding WQO values on a frequent basis. Turbidity, copper and iron exceeded WQO values on an occasional basis.	generally poorer than major watercourses, with turbidity, total phosphorus, copper and zinc exceeding WQO values on a frequent basis. Total nitrogen, arsenic and aluminium exceeded WQO values on an occasional basis.
Runoff from existing disturbed areas	No sampling from existing disturbed areas has been undertaken at plateau.	Runoff samples were collected from existing disturbed areas in Lobs Hole such as access tracks and remnant copper mining areas in May and March 2019. Disturbed area runoff is characterised as being mildly acidic, having very high suspended sediment and turbidity levels, high total nitrogen and total phosphorous, and very high aluminium and copper concentrations. During wet weather conditions (when runoff is occurring to local watercourses in Lobs Hole), the water quality in the Yarrangobilly River is expected to be degraded as it passes through Lobs Hole.

Notes: 1. Major watercourses in plateau refer to the Murrumbidgee and Eucumbene rivers, Tantangara, Gooandra, Nungar and Kellys Plain creeks. Major watercourses in ravine refers to the Yarrangobilly River and Wallaces Creek.
2. General note: exceedances are described in the WCR as:
- frequent if the WQO value was exceeded in 20% or more of samples; and
- occasional if the WQO value was exceeded in at least one sample, but in less than 20% of samples.

RESERVOIR

TALBINGO

Water quality characteristics are described as follows:

- pH ranges between 6.3 and 8.2, with occasional lower and upper bound exceedances.
- Low concentrations of suspended solids and low turbidity.
- Carbonate and salinity vary seasonally, with higher levels occurring in summer/autumn, correl ating with the higher salinity of streamflow over summer and autumn months.
- Oxidised nitrogen concentrations exceeded WQO values frequently in winter/spring and occasionally in summer/autumn. This is the opposite trend to the Yarrangobilly River, were ex ceedances are more likely to occur in summer/autumn.
- Ammonia concentrations frequently exceed WQO values during winter/spring, corelating with t he elevated oxidised nitrogen.
- Total phosphorus concentrations exceed WQO values in all summer/autumn samples and in a pproximately 25% of winter/spring samples.
- All dissolved metal concentrations were below WQO values except for:

- *Copper and zinc concentrations exceeded WQO values frequently in summer/autumn and occasionally in winter/spring; and
- *Chromium (total) and lead concentrations occasionally exceeded WQO values in summer/autumn.

It is noted that all but one of the copper and zinc exceedances occurred during March 2018 sampling, where 80% of samples exceeded the WQO values. Different analysis methods (consistent with the methods applied more broadly to EIS sampling) were applied to subsequent sampling (post-March 2018).

- Reservoir water quality during and following wet weather conditions is poorly understood. There is potential for elevated turbidity, nutrients and some metals to occur near watercourse inflow locations for several weeks following a substantial runoff event.

TANTANGARA

Water quality characteristics are described as follows:

- pH ranges between 6.6 and 8.0, with one lower and upper bound exceedance occurring.
- Low levels of suspended solids and low turbidity.
- Carbonate and salinity vary seasonally, with higher levels occurring in summer/autumn.
- Oxidised nitrogen and ammonia occasionally exceeded WQO values in summer/autumn.
- Total phosphorus frequently exceeded WQO values in summer/autumn and winter/spring while reactive phosphorus occasionally exceeded WQO values.
- All dissolved metal concentrations were below WQO values except for:
- * aluminium concentrations exceeded WQO values on a frequent babasis;
- *copper, iron and zinc exceeded WQO values on a frequent basis during summer/autumn; and
- *chromium (total), cobalt and lead exceeded WQO values on an occasional basis during summer/autumn.

It is noted that all of the copper exceedances and the zinc exceedances occurred during March 2018 sampling, where 100% of samples exceeded the WQO values. Different analysis methods (consistent with the methods applied more broadly to EIS sampling) were applied to subsequent sampling (post-March 2018).

- Reservoir water quality during and following wet weather conditions is poorly understood. There is potential for elevated turbidity, nutrients and some metals to occur near watercourse inflow locations for several weeks following a substantial runoff event.

APPENDIX D – OVERTOPPING EVENTS RESULTS

TANTANGARA - 12/06/2024

		Field ID	BATCH PLANT US	BATCH PLANT	BATCH PLANT DS	CH300 US	CH300	CH300 DS	CH2180 US	CH2180	CH2180 DS
		Date	12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024	12/06/2024
	Unit	WQO									
In situ											
pH	-	6.5-8.0	8.72	8.84	8.5	8.72	9.18	8.5	7.99	7.91	7.75
Electric conductivity	µS/cm	30-350	47.3	164.8	109.3	47.3	140.9	109.3	45.2	87.6	2.1
Turbidity	NTU	2.0-25	15.5	419	160	15.5	OVERRANGE	160	26.8	385	44.3
Dissolved Oxygen	%	90-110	86.2	90.3	87.9	86.2	89.9	87.9	86.6	89.9	84.5
Redox potential	mV	-	123.5	220.1	151.2	123.5	158.9	151.2	142.8	141.6	136.7
Temperature	°C	-	7.6	5.8	6.2	7.6	4.8	6.2	4.9	5.5	4.5
Inorganics											
Total Phosphorus as P (Organic Phosphate as P)	mg/L		<0.10	0.17	0.06	<0.10	0.69	0.06	0.09	0.2	0.05
Nitrite + Nitrate as N	mg/L	0.015	0.46	0.83	2.58	0.46	0.55	2.58	0.16	1.03	0.04
Ammonia as N	mg/L		<0.01	0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01
Cyanide Total	mg/L	0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Kjeldahl Nitrogen Total	mg/L	-	<1.0	0.3	0.8	<1.0	<1.0	0.8	0.6	<1.0	0.4
Nitrate (as N)	mg/L	-	0.46	0.8	2.58	0.46	0.52	2.58	0.16	1.02	0.04
Nitrite (as N)	mg/L	-	0.02	0.03	<0.01	0.02	0.03	<0.01	<0.01	0.01	<0.01
Nitrogen (Total)	mg/L	0.25	<1.0	1.1	3.4	<1.0	<1.0	3.4	0.8	1	0.4
Reactive Phosphorus as P	mg/L	-	0.006	0.01	0.004	0.006	0.006	0.004	0.005	0.002	0.002
Hardness as CaCO3	mg/L	-	48	71	25	48	31	25	26	68	36
(Lab)	mg/L	-	82	232	43	82	1170	43	95	147	18
Metals											
Aluminium (filtered)	mg/L	0.027	0.019	0.047	0.133	0.019	0.058	0.133	0.048	0.012	0.044
Arsenic (filtered)	mg/L	0.0008	0.0005	0.0014	<0.0002	0.0005	0.0014	<0.0002	<0.0002	0.0003	<0.0002
Chromium (III+VI) (filtered)	mg/L	0.00001	0.001	0.0024	0.0003	0.001	0.0007	0.0003	<0.0002	0.0013	<0.0002
Copper (filtered)	mg/L	0.001	0.003	0.001	0.0011	0.003	0.0014	0.0011	<0.0005	<0.0005	<0.0005
Iron (filtered)	mg/L	0.3	0.022	<0.002	0.17	0.022	0.017	0.17	0.08	0.011	0.068
Lead (filtered)	mg/L	0.001	0.0001	0.0002	0.0001	0.0001	0.0005	0.0001	<0.0001	<0.0001	<0.0001
Manganese (filtered)	mg/L	1.2	0.0116	0.0072	0.0043	0.0116	0.0038	0.0043	0.0121	0.0136	0.0074
Nickel (filtered)	mg/L	0.0080	<0.0005	0.0008	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005	<0.0005
Silver (filtered)	mg/L	0.00002	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Zinc (filtered)	mg/L	0.002	0.002	0.002	<0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001
TPH											
Oil and Grease	µg/L	-	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000

LOBSHOLE 16/07/2024

	NA	Inorganics																		
	Free Chlorine as Sodium Hypochlorite	Chlorine - Total Residual	Total Phosphorus as P (Organic Phosphate as P)	Chlorine (Free)	Nitrite + Nitrate as N	Ammonia as N	Biochemical Oxygen Demand	Cyanide Total	Kjeldahl Nitrogen Total	Nitrate (as N)	Nitrite (as N)	Nitrogen (Total)	Reactive Phosphorus as P (Orthophosphate as P)	Reactive Phosphorus as P (Orthophosphate as P) (Filtered)	Sodium	Sodium (Filtered)	Sodium Absorption Ratio	Hardness as CaCO3	Hardness as CaCO3 (Filtered)
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	-	mg/L	mg/L
EQL	0.02	0.02	0.005	0.02	0.002	0.005	2	0.004	0.1	0.01	0.01	0.1	0.003	0.001	0.5	0.5	0.1	1	1
ADWG 2022 Health								0.08											
ANZG Freshwater Toxicant Dev't 95% (July 2023)						0.9													
ANZG Freshwater Toxicant Dev't 99% (July 2023)						0.32													
Snowy 2.0 - Bronzewater Guidelines			0.02		0.015			4				0.25							
Snowy 2.0 - Reservoir Water Guidelines					0.01			0.007				0.35							
Snowy 2.0 - Surface water Guidelines					0.015			0.004				0.25							
ANZECC 2000 FW 95%						0.9		0.007		0.1542									
ANZECC 2000 FW 99%						0.32		0.004		0.0034									
ANZECC 2000 Recreational water quality and aesthetics						0.01		0.1		10	1				300	300		500	500
ANZECC 2000 SE Aust Triggers - HV Lakes & reservoirs												0.35	0.005	0.005					
ANZECC 2000 SE Aust Triggers - Upland River												0.25	0.015	0.015					
NEPM 2013 Table 1C(1)5 Drinking Water								0.08											

Field ID	Location Code	Date																	
B3A		20 Jul 2024	<0.20	<0.20	0.68	<0.20	5.73	0.15		<0.004	<3.0	4.90	0.33	5.2		0.006					36
B3B		20 Jul 2024	<0.20	<0.20	5.53	<0.20	3.52	0.06		<0.004	29.1	8.50	0.02	12.6		0.001					47
B3-DS		20 Jul 2024	<0.02	<0.02	0.03	<0.02	0.01	<0.01		<0.004	0.4	0.01	<0.01	0.4		0.004					26
B3-M2		20 Jul 2024	<0.02	<0.02	0.13	<0.02	<0.01	<0.01		<0.004	0.5	<0.01	<0.01	0.5		0.006					28
B3-US		20 Jul 2024	<0.02	<0.02	0.46	<0.02	<0.01	<0.01		<0.004	1.1	<0.01	<0.01	1.1		0.004					24
P5		17 Jul 2024	<0.20	<0.20	0.77	<0.20	7.83	0.07		<0.004	5.2	2.81	0.02	8.0		<0.001					46
P5a DS		16 Jul 2024	<0.02	<0.02	0.03	<0.02	0.04	0.04		<0.004	<0.1	0.04	<0.01	<0.1		0.003					43
P5a M2		16 Jul 2024	<0.04	<0.04	0.09	<0.04	0.24	0.02	<2	<0.004	1.0	0.22	0.03	1.2		0.005					40
P5a SB1		30 Jul 2024	<2.00	<1.96	0.64	<1.00	2.69	0.06		<0.004	<2.0	2.62	0.06	2.7		0.007					56
P5a US		16 Jul 2024	<0.02	<0.02	0.03	<0.02	<0.01	<0.01		<0.004	<0.1	0.03	<0.01	<0.1		0.003					41
P9 DS		16 Jul 2024	0.60	0.60	0.07	0.60	0.02	0.01		<0.004	0.3	0.02	<0.01	0.3		0.001					67
P9 SB		16 Jul 2024	<2.00	<2.00	2.08	<2.00	3.73	0.03		<0.004	4.0	1.64	0.09	7.7		<0.001					21

Statistics																			
Number of Results	62	62	81	62	81	81	7	81	80	60	80	80	2	79	1	1	1	18	78
Number of Detects	8	25	69	7	69	45	4	10	62	48	32	68	2	71	1	1	1	17	73
Minimum Concentration	0.03	0.02	0.01	0.02	0.008	0.01	2	<0.004	0.1	0.01	0.01	0.1	0.002	0.001	61	60	1.5	<1	<1
Minimum Detect	0.02	0.02	0.01	0.02	0.008	0.01	2	0.005	0.1	0.01	0.01	0.1	0.002	0.001	61	60	1.5	2	2
Maximum Concentration	<2	<2	5.53	<2	35.2	6.7	8	0.057	29.1	35.2	2.42	37.7	0.015	0.043	61	60	1.5	483	1,030
Maximum Detect	0.6	0.6	5.53	0.6	35.2	6.7	8	0.057	29.1	35.2	2.42	37.7	0.015	0.043	61	60	1.5	483	1,030
Average Concentration *	0.055	0.091	0.19	0.055	5.2	0.36	2.7	0.0045	1.9	5.1	0.16	7.5	0.0085	0.0062				125	99
Median Concentration *	0.02	0.02	0.04	0.01	0.63	0.02	2	0.002	0.5	0.63	0.005	1.2	0.0085	0.004	61	60	1.5	60.5	46
Standard Deviation *	0.16	0.16	0.66	0.16	8.7	1.3	2.6	0.0073	3.9	8.5	0.49	11	0.0092	0.0075				150	146
95% UCL (Student's-t) *	0.0886	0.0922	0.314	0.0884	6.785	0.601	6.597	0.00622	3.586	6.672	0.253	9.114	0.0095	0.00757				186.6	126.7
% of Detects	13	40	85	11	85	56	57	12	78	85	40	85	100	90	100	100	100	94	94
% of Non-Detects	87	60	15	89	15	44	43	88	22	15	60	15	0	10	0	0	0	6	6

* A Non Detect Multiplier of 0.5 has been applied.

LOBSHOLE 16/07/2024

																					Metals	
			Total Suspended Solids (lab)	Aluminium	Aluminium (filtered)	Arsenic	Arsenic (filtered)	Cadmium	Cadmium (filtered)	Calcium	Calcium (filtered)	Chromium (hexavalent)	Chromium (hexavalent) (filtered)	Chromium (III+VI)	Chromium (III+VI) (filtered)	Copper	Copper (filtered)	Iron	Iron (filtered)	Lead	Lead (filtered)
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			5	0.005	0.005	0.0002	0.0002	0.0002	0.0002	0.5	0.5	0.0005	0.0005	0.0002	0.0002	0.0005	0.0005	0.002	0.002	0.0001	0.0001
ADWG 2022 Health						0.01	0.01	0.002	0.002			0.05	0.05			2	2			0.01	0.01
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)				0.055	0.055			0.0002	0.0002			0.001	0.001			0.0014	0.0014			0.0034	0.0034
ANZG Freshwater Toxicant DGVs LOSP 99% (July 2023)				0.027	0.027			0.00006	0.00006			0.00001	0.00001			0.001	0.001			0.001	0.001
Snowy 2.0 - Groundwater Guidelines				0.027	0.027	0.0008	0.0008	0.00006	0.00006					0.00002	0.00001	0.001	0.001	0.3	0.3	0.001	0.001
Snowy 2.0 - Reservoir Water Guidelines				0.055	0.055	0.013	0.013	0.0002	0.0002					0.001	0.001	0.014	0.014	0.3	0.3	0.0034	0.0034
Snowy 2.0 - Surface Water Guidelines				0.027	0.027	0.0008	0.0008	0.00006	0.00006					0.00001	0.00001	0.001	0.001	0.3	0.3	0.001	0.001
ANZECC 2000 FW 95%				0.055	0.055			0.0002	0.0002			0.001	0.001			0.0014	0.0014			0.0034	0.0034
ANZECC 2000 FW 99%				0.027	0.027			0.00006	0.00006			0.00002	0.00002			0.001	0.001			0.001	0.001
ANZECC 2000 Recreational water quality and aesthetics				0.2	0.2	0.05	0.05	0.005	0.005					0.05	0.05	1	1	0.3	0.3	0.05	0.05
ANZECC 2000 SE Aust Triggers - FW Lakes & Reservoirs																					
ANZECC 2000 SE Aust Triggers - Upland River																					
NHPM 2013 Table 1C Gls, Drinking Water						0.01	0.01	0.002	0.002			0.05	0.05			2	2			0.01	0.01
Field ID	Location Code	Date																				
F3A		20 Jul 2024	1,050		0.023		0.0031								0.0029		0.0007		0.006		<0.0001
F3B		20 Jul 2024	414		0.012		0.0028								0.0046		0.0013		0.016		<0.0001
F3-DS		20 Jul 2024	120		0.033		0.0002								0.0002		<0.0005		0.050		<0.0001
F3-MZ		20 Jul 2024	92		0.024		0.0002								<0.0002		0.0012		0.044		<0.0001
F3-US		20 Jul 2024	80		0.023		0.0003								<0.0002		<0.0005		0.044		<0.0001
F5		20 Jul 2024	367		0.008		0.0023								0.0056		0.0022		0.015		<0.0001
F5a DS		16 Jul 2024	<5		0.009		0.0003								<0.0002		0.0016		0.018		<0.0001
F5a MZ		16 Jul 2024	11		0.145		0.0010								0.0014		0.399		0.188		0.0001
F5a SB		17 Jul 2024	283		0.024		0.0022								0.0070		0.0011		0.053		<0.0001
F5a US		16 Jul 2024	<5		0.007		0.0003								<0.0002		<0.0005		0.017		<0.0001
F9DS		16 Jul 2024	40		0.009		0.0003								0.0004		0.0009		0.021		<0.0001
F9SB		16 Jul 2024	1,290		0.031		0.0065								0.0087		0.0024		0.032		<0.0001
Statistics																						
Number of Results			88	42	80	44	80	2	1	2	1	42	44	44	80	44	80	43	88	44	80	
Number of Detects			68	42	42	36	54	0	0	2	1	15	15	40	45	37	40	43	57	39	10	
Minimum Concentration			<5	0.016	0.005	0.0002	0.0002	<0.0002	<0.0002	4.1	89	0.001	<0.0005	0.0002	0.0002	<0.0005	0.0005	0.02	0.002	<0.0001	0.0001
Minimum Detect			7	0.016	0.005	0.0002	0.0002	ND	ND	4.1	89	0.001	0.001	0.0002	0.0002	0.0006	0.0005	0.02	0.002	0.0002	0.0001
Maximum Concentration			1,290	20.4	0.337	0.0908	0.0175	<0.0002	<0.0002	92	89	0.02	0.021	0.0717	0.149	0.0601	0.399	28.8	2.36	0.139	<0.001
Maximum Detect			1,290	20.4	0.337	0.0908	0.0175	ND	ND	92	89	0.02	0.021	0.0717	0.149	0.0601	0.399	28.8	2.36	0.139	0.0005
Average Concentration *			110	1.3	0.827	0.0075	0.0014	0.0001		48		0.0029	0.0028	0.0073	0.0098	0.0086	0.0059	3.1	0.052	0.011	0.000084
Median Concentration *			27	0.3115	0.0065	0.00135	0.00035	0.0001	0.0001	48.05	89	0.0005	0.0005	0.00355	0.00035	0.0025	0.0005	0.967	0.007	0.00165	0.00005
Standard Deviation *			210	3.9	0.857	0.019	0.0026	0		62		0.0047	0.0047	0.012	0.03	0.016	0.045	5.7	0.26	0.029	0.000099
95% UCL (Student's-t) *			149.3	3.298	0.838	0.0123	0.00184	0.0001		325.5		0.00409	0.00397	0.0103	0.0155	0.0127	0.0142	4.599	0.101	0.0186	0.00010223
% of Detects			89	100	52	82	68	0	0	100	100	36	34	91	56	84	50	100	71	89	13	
% of Non-Detects			20	0	48	18	32	100	100	0	0	64	66	9	44	16	50	0	29	11	88	

* A Non Detect Multiplier of 0.5 has been applied.

LOBSHOLE 16/07/2024

																		TPH
		Magnesium	Magnesium (filtered)	Manganese	Manganese (filtered)	Mercury	Mercury (filtered)	Nickel	Nickel (filtered)	Potassium	Potassium (filtered)	Selenium	Selenium (filtered)	Silver	Silver (filtered)	Zinc	Zinc (filtered)	Oil and Grease
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/l
EQL		0.5	0.5	0.0005	0.0005	0.0001	0.0001	0.0005	0.0005	0.5	0.5	0.001	0.001	0.00001	0.00001	0.001	0.001	1
ADWG 2022 Health				0.5	0.5	0.001	0.001	0.02	0.02			0.01	0.01	0.1	0.1			
ANZG Freshwater Toxicant DGVs LOSP 95% (July 2023)				1.9	1.9	0.00006	0.00006	0.011	0.011			0.011	0.011	0.00005	0.00005	0.008	0.008	
ANZG Freshwater Toxicant DGVs LOSP 99% (July 2023)				1.2	1.2	0.00006	0.00006	0.008	0.008			0.005	0.005	0.00002	0.00002	0.0024	0.0024	
Snowy 2.0 - Groundwater Guidelines				1.2	1.2	0.00006	0.00006	0.008	0.008			0.00002	0.00002	0.00002	0.00002	0.0024	0.0024	
Snowy 2.0 - Reservoir Water Guidelines				1.9	1.9	0.00006	0.00006	0.011	0.011			0.005	0.005	0.00005	0.00005	0.008	0.008	
Snowy 2.0 - Surface Water Guidelines				1.2	1.2	0.00006	0.00006	0.008	0.008			0.005	0.005	0.00003	0.00002	0.0024	0.0024	
ANZECC 2000 FW 95%				1.9	1.9	0.0006	0.0006	0.011	0.011			0.011	0.011	0.00005	0.00005	0.008	0.008	
ANZECC 2000 FW 99%				1.2	1.2	0.00006	0.00006	0.008	0.008			0.005	0.005	0.00002	0.00002	0.0024	0.0024	
ANZECC 2000 Recreational water quality and aesthetics				0.1	0.1	0.001	0.001	0.1	0.1			0.01	0.01	0.05	0.05	5	5	
ANZECC 2000 SE Aust Triggers - FW Lakes & Reservoirs																		
ANZECC 2000 SE Aust Triggers - Upland River																		
NEPM 2013 Table 1C GILs Drinking Water				0.5	0.5	0.001	0.001	0.02	0.02			0.01	0.01	0.1	0.1			
Field ID	**Location Code**	**Date**																
F3A		20 Jul 2024				0.0007			<0.0005						<0.00001		<0.001	<1.0
F3B		20 Jul 2024				0.0030			<0.0005						<0.00001		<0.001	<1.0
F3-DS		20 Jul 2024				0.0009			<0.0005						<0.00001		<0.001	<1.0
F3-MZ		20 Jul 2024				0.0008			<0.0005						<0.00001		<0.001	<1.0
F3-US		20 Jul 2024				0.0008			<0.0005						<0.00001		<0.001	<1.0
F5		17 Jul 2024				0.0030			<0.0005						<0.00001		<0.001	<1.0
F5a DS		16 Jul 2024				0.0021			<0.0005						<0.00001		<0.001	<1.0
F5a MZ		16 Jul 2024				0.0284			0.0014						<0.00001		<0.001	<1.0
F5a SB		17 Jul 2024				0.0080			0.0007						<0.00001		<0.001	<1.0
F5a US		16 Jul 2024				0.0017			<0.0005						<0.00001		<0.001	<1.0
F9DS		16 Jul 2024				0.0895			0.0005						<0.00001		<0.001	<1.0
F9 SB		16 Jul 2024				0.0012			0.0005						<0.00001		<0.001	6.1
Statistics																		
Number of Results			2	1	42	80	2	1	44	80	1	1	1	1	26	80	44	30	78
Number of Detects			2	1	42	68	0	0	39	33	1	1	0	0	10	2	39	27	1
Minimum Concentration			3.3	23	0.0017	<0.0005	<0.0001	<0.0001	0.0005	0.0005	6.2	6	<0.001	<0.001	0.00001	0.00001	0.001	0.001	<1
Minimum Detect			3.3	23	0.0017	0.0006	ND	ND	0.0005	0.0005	6.2	6	ND	ND	0.00001	0.00001	0.001	0.001	6.1
Maximum Concentration			24	23	0.925	0.751	<0.0001	<0.0001	0.0786	0.0169	6.2	6	<0.001	<0.001	0.00026	<0.005	0.481	0.031	6.1
Maximum Detect			24	23	0.925	0.751	ND	ND	0.0786	0.0169	6.2	6	ND	ND	0.00026	0.00003	0.481	0.031	6.1
Average Concentration *			14		0.21	0.066	0.00005		0.0083	0.0012					0.000029	0.000068	0.033	0.0026	0.62
Median Concentration *			13.65	23	0.0852	0.0066	0.00005	0.00005	0.00275	0.00025	6.2	6	0.0005	0.0005	0.000005	0.000005	0.007	0.0005	0.5
Standard Deviation *			15		0.27	0.14	0		0.015	0.0026					0.000055	0.00039	0.08	0.0051	0.7
95% UCL (Student's-t) *			79		0.275	0.0933	0.00005		0.0122	0.0017					0.0000473	0.00014068	0.0529	0.00356	0.756
% of Detects			100	100	100	85	0	0	89	41	100	100	0	0	38	2	89	34	1
% of Non-Detects			0	0	0	15	100	100	11	59	0	0	100	100	62	98	11	66	99

* A Non Detect Multiplier of 0.5 has been applied.

LOBSHOLE 16/07/2024 – IN-SITU

		Field ID	F9_SB	F9_US	F9_DS	F5A_SB	F5A_US	F5A_MZ	F5A_DS	F3A_US	F3A_SB	F3B_SB	F3_MZ	F3_DS
		Date	16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024	20/07/2024	20/07/2024	20/07/2024	20/07/2024	20/07/2024
	Unit	WQO												
In situ														
pH	-	6.5-8.0	9.05	N/A	7.25	8.19	7.62	7.92	7.88	8.00	9.04	8.89	7.96	7.87
Electric conductivity	µS/cm	30-350	301	N/A	217	261	38.00	113.00	40.00	71	305	464	91	68.00
Turbidity	NTU	2.0-25	1000	N/A	47.50	688	5.10	41.90	5.40	54.7	1000	1000	104	65.90
Dissolved Oxygen	%	90-110	61	N/A	51	88.5	11.72	90.30	90.20	124.9	120.7	88.2	127.4	93.60
Redox potential	mV	-	-129	N/A	217	194	234.00	211.00	218.00	54	90	100	102	106.00
Temperature	°C	-	8.94	N/A	10.96	10.23	5.67	9.06	6.28	8.55	7.65	7.55	7.15	6.78

TANTANGARA 17/07/2024

			Field ID	BP_UP	BP_SB	BP_DS	CH2180_UP	CH2180_SB	CH2180_DS
			Date	21/07/2024	21/07/2024	21/07/2024	21/07/2024	21/07/2024	21/07/2024
		Unit	WQO						
In situ									
	pH	-	6.5-8.0	7.37	8.17	8.54	7.51	7.57	7.21
	Electric conductivity	µS/cm	30-350	39.4	226	223.6	91.6	139	76.7
	Turbidity	NTU	2.0-25	35.42	219.14	153.83	15.8	138.85	38.22
	Dissolved Oxygen	%	90-110	89.5	90.7	90.5	90	92.6	88.2
	Redox potential	mV	-	143	154.1	151.6	129.6	176.5	123.8
	Temperature	°C	-	4.8	2.9	3.3	4.2	4.4	4.5
Inorganics									
	Total Phosphorus as P (Organic Phosphate as P)	mg/L		0.08	0.19	0.13	0.06	0.22	0.33
	Nitrite + Nitrate as N	mg/L		0.11	1.27	1.32	0.38	0.83	0.26
	Ammonia as N	mg/L		<0.01	0.02	0.01	<0.01	<0.01	<0.01
	Cyanide Total	mg/L		<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
	Kjeldahl Nitrogen Total	mg/L		0.8	0.7	0.6	0.8	0.8	2.8
	Nitrate (as N)	mg/L		0.11	1.25	1.3	0.38	0.83	0.26
	Nitrite (as N)	mg/L		<0.01	0.02	0.02	<0.01	<0.01	<0.01
	Nitrogen (Total)	mg/L		0.9	2	1.9	1.2	1.4	3.1
	Reactive Phosphorus as P	mg/L		0.015	0.011	0.011	0.004	0.006	0.003
	Hardness as CaCO3	mg/L		18	79	78	53	68	48
	(Lab)	mg/L		11	149	94	32	96	20
Metals									
	Aluminium (filtered)	mg/L		0.337	0.064	0.045	0.033	0.012	0.029
	Arsenic (filtered)	mg/L		<0.0002	0.001	0.0009	<0.0002	0.0002	<0.0002
	Chromium (III+VI) (filtered)	mg/L		0.0005	0.0054	0.0049	<0.0002	0.0017	<0.0002
	Copper (filtered)	mg/L		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Iron (filtered)	mg/L		0.259	<0.002	0.002	0.051	0.013	0.051
	Lead (filtered)	mg/L		0.0002	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001
	Manganese (filtered)	mg/L		0.0045	0.0052	0.0058	0.011	0.0222	0.0104
	Nickel (filtered)	mg/L		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Silver (filtered)	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.000001
	Zinc (filtered)	mg/L		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
TPH									
	Oil and Grease	µg/L		<1000	<1000	<1000	<1000	<1000	<1000

MARICA 20/07/2024

Page	3 of 3
Work Order	ES2424659
Client	FUTURE GENERATION JV
Project	WATER

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	MC-01	MC-03	MC-03-UP	MC-03-DS	----
				Sampling date / time	26-Jul-2024 08:02	26-Jul-2024 08:06	26-Jul-2024 08:04	26-Jul-2024 08:08	----
Compound	CAS Number	LOR	Unit		ES2424659-001	ES2424659-002	ES2424659-003	ES2424659-004	----
					Result	Result	Result	Result	----
EA025: Total Suspended Solids dried at 104 ± 2°C									
Suspended Solids (SS)	----	5	mg/L		28	27	<5	<5	----
EA065: Total Hardness as CaCO3									
Total Hardness as CaCO3	----	1	mg/L		16	21	2	2	----
ED093F: SAR and Hardness Calculations									
Total Hardness as CaCO3	----	1	mg/L		16	21	2	2	----
EG049G LL-F: Dissolved Trivalent Chromium - Low Level									
Trivalent Chromium	16065-83-1	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
EG049G LL-T: Total Trivalent Chromium - Low Level									
Trivalent Chromium	16065-83-1	0.001	mg/L		0.002	0.003	<0.001	<0.001	----
EG050G LL-F: Dissolved Hexavalent Chromium by Discrete Analyser - Low Level									
Hexavalent Chromium	18540-29-9	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
EG050G LL-T: Total Hexavalent Chromium by Discrete Analyser - Low Level									
Hexavalent Chromium	18540-29-9	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
EG094F: Dissolved Metals in Fresh Water by ORC-ICPMS									
Aluminium	7429-90-5	0.005	mg/L		0.005	0.011	0.025	0.019	----
Arsenic	7440-38-2	0.0002	mg/L		<0.0002	<0.0002	<0.0002	<0.0002	----
Chromium	7440-47-3	0.0002	mg/L		<0.0002	0.0002	<0.0002	<0.0002	----
Copper	7440-50-8	0.0005	mg/L		<0.0005	<0.0005	<0.0005	<0.0005	----
Iron	7439-89-6	0.002	mg/L		0.005	0.018	0.015	0.011	----
Lead	7439-92-1	0.0001	mg/L		<0.0001	<0.0001	<0.0001	<0.0001	----
Manganese	7439-96-5	0.0005	mg/L		0.0341	0.0896	0.0027	0.0061	----
Nickel	7440-02-0	0.0005	mg/L		<0.0005	<0.0005	<0.0005	<0.0005	----
Silver	7440-22-4	0.00001	mg/L		<0.00001	<0.00001	<0.00001	<0.00001	----
Zinc	7440-66-6	0.001	mg/L		<0.001	<0.001	<0.001	<0.001	----
EG094T: Total metals in Fresh water by ORC-ICPMS									
Aluminium	7429-90-5	0.005	mg/L		1.76	1.72	0.408	0.505	----
Arsenic	7440-38-2	0.0002	mg/L		0.0053	0.0005	<0.0002	<0.0002	----

MARICA 20/07/2024

Page	4 of 5
Work Order	ES2424659
Client	FUTURE GENERATION JV
Project	WATER

Analytical Results

Sub-Matrix: SURFACE WATER (Matrix: WATER)				Sample ID	MC-01	MC-03	MC-03-UP	MC-03-DS	---
				Sampling date / time	28-Jul-2024 08:02	28-Jul-2024 08:06	28-Jul-2024 08:04	28-Jul-2024 08:06	
Compound	CAS Number	LOR	Unit		ES2424659-001	ES2424659-002	ES2424659-003	ES2424659-004	----------
					Result	Result	Result	Result	---
EG094T: Total metals in Fresh water by ORC-ICPMS - Continued									
Chromium	7440-47-3	0.0002	mg/L		0.0022	0.0026	0.0006	0.0007	---
Copper	7440-50-8	0.0005	mg/L		0.0025	0.0018	0.0005	0.0006	---
Iron	7439-89-6	0.002	mg/L		1.44	1.76	0.340	0.479	---
Lead	7439-92-1	0.0001	mg/L		0.0007	0.0009	0.0002	0.0002	---
Manganese	7439-96-5	0.0005	mg/L		0.0815	0.145	0.0080	0.0235	---
Nickel	7440-02-0	0.0005	mg/L		0.0045	0.0035	0.0007	0.0010	---
Zinc	7440-66-6	0.001	mg/L		0.004	0.005	0.002	0.002	---
EK026SF: Total CN by Segmented Flow Analyser									
Total Cyanide	57-12-5	0.004	mg/L		<0.004	<0.004	<0.004	<0.004	---
EK055G: Ammonia as N by Discrete Analyser									
Ammonia as N	7664-41-7	0.01	mg/L		<0.01	0.03	0.16	0.07	---
EK057G: Nitrite as N by Discrete Analyser									
Nitrite as N	14797-65-0	0.01	mg/L		<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		0.15	0.16	<0.01	<0.01	---
EK059G: Nitrite plus Nitrate as N (NOx) by Discrete Analyser									
Nitrite + Nitrate as N	---	0.01	mg/L		0.15	0.16	<0.01	<0.01	---
EK061G: Total Kjeldahl Nitrogen By Discrete Analyser									
Total Kjeldahl Nitrogen as N	---	0.1	mg/L		0.2	0.2	0.2	0.2	---
EK062G: Total Nitrogen as N (TKN + NOx) by Discrete Analyser									
Total Nitrogen as N	---	0.1	mg/L		0.4	0.4	0.2	0.2	---
EK067G: Total Phosphorus as P by Discrete Analyser									
Total Phosphorus as P	---	0.01	mg/L		0.10	0.06	0.02	0.03	---
EK271A: Reactive Phosphorus									
Reactive Phosphorus as P	14265-44-2	0.001	mg/L		0.003	0.003	0.002	0.002	---
EP020: Oil and Grease (O&G)									
Oil & Grease	---	1.0	mg/L		<1.0	<1.0	<1.0	<1.0	---

LOBSHOLE 26/08/2024

Sampling date	Location Code	Location	Temperature (°C)	pH	ORP (mV)	Electrical Conductivity (µS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Dissolved Oxygen (%)	TDS (mg/L)
26/8/2024, 9:50 am	F5A_SB	Sediment Basin	12.35	8.2	120	618	1000	11.26	105.5	395
26/8/2024, 10:13 am	F5A MZ	Mixing Zone	10.71	8.49	109	139	313	13.58	122.3	91
26/8/2024, 10:25 am	F5A_DS	Downstream	9.7	7.64	169	52	93.1	13.3	117	34
26/8/2024, 11:21 am	F5A_US	Upstream	9.94	8.26	86	49	77.8	13.93	123.3	32

MARICA 26/08/2024

			Field ID	DS-01	MC-02	MC-03	US-01
			Date	26/08/2024	26/08/2024	26/08/2024	26/08/2024
		Unit	WQO				
In situ							
	pH	-	6.5-8.0	6.38	6.19	6.56	5.99
	Electric conductivity	µS/cm	30-350	24	103	77	36
	Turbidity	NTU	2.0-25	21.2	0	705	30.2
	Dissolved Oxygen	%	90-110	88.3	60.3	61.6	67.3
	Redox potential	mV	-	274	251	235	261
	Temperature	°C	-	7.71	7.73	7.39	7.89
Inorganics							
	Total Phosphorus as P (Organic Phosphate as P)	mg/L	-	<0.01	1.45	0.12	<0.01
	Nitrite + Nitrate as N	mg/L	0.015	<0.01	0.2	0.12	<0.01
	Ammonia as N	mg/L	-	0.03	0.08	0.09	0.09
	Cyanide Total	mg/L	0.004	<0.004	<0.004	<0.004	<0.004
	Kjeldahl Nitrogen Total	mg/L	-	0.2	<1.0	0.5	0.3
	Nitrate (as N)	mg/L	-	<0.01	0.2	0.12	<0.01
	Nitrite (as N)	mg/L	-	<0.01	<0.01	<0.01	<0.01
	Nitrogen (Total)	mg/L	0.25	0.2	<1.0	0.6	0.3
	Reactive Phosphorus as P	mg/L	-	0.004	0.01	0.008	0.004
	Hardness as CaCO3	mg/L	-	9	16	21	<1
	(Lab)	mg/L	-	5	522	247	<5
Metals							
	Aluminium (filtered)	mg/L	0.027	0.024	0.019	0.014	0.03
	Arsenic (filtered)	mg/L	0.0008	<0.0002	<0.0002	0.0002	<0.0002
	Chromium (III+VI) (filtered)	mg/L	0.00001	<0.0002	0.0005	0.0007	0.0003
	Copper (filtered)	mg/L	0.001	<0.0005	0.0006	0.0006	<0.0005
	Iron (filtered)	mg/L	0.3	0.023	0.026	0.052	0.02
	Lead (filtered)	mg/L	0.001	<0.0001	<0.0001	<0.0001	<0.0001
	Manganese (filtered)	mg/L	1.2	0.034	0.0217	0.0482	0.002
	Nickel (filtered)	mg/L	0.008	0.001	0.0005	0.0006	0.0022
	Silver (filtered)	mg/L	0.00002	<0.00001	<0.00001	<0.00001	<0.00001
	Zinc (filtered)	mg/L	0.002	0.004	<0.001	<0.001	0.005
TPH							
	Oil and Grease	µg/L	-	<1000	<1000	<1000	<1000

TANTANGARA 26/08/2024

		Field ID	Batch Plant	Batch Plant DS	Batch Plant US
		Date	26/08/2024	26/08/2024	26/08/2024
	Unit	WQO			
In situ					
pH	-	6.5-8.0	7.68	7.95	7.61
Electric conductivity	µS/cm	30-350	188.6	190.8	45.8
Turbidity	NTU	2.0-25	508.47	413.13	117.9
Dissolved Oxygen	%	90-110	90.2	88.5	87.8
Redox potential	mV	-	272.1	171.2	148.9
Temperature	°C	-	8.4	7.9	6.8
Inorganics					
Phosphate as P)	mg/L	-	0.38	0.07	0.09
Nitrite + Nitrate as N	mg/L	0.015	0.7	0.08	0.12
Ammonia as N	mg/L	-	0.02	0.01	0.01
Cyanide Total	mg/L	0.004	<0.004	<0.004	<0.004
Kjeldahl Nitrogen Total	mg/L	-	0.9	0.8	0.9
Nitrate (as N)	mg/L	-	0.68	0.9	1
Nitrite (as N)	mg/L	-	0.005	0.004	0.12
Nitrogen (Total)	mg/L	0.25	0.02	<0.01	<0.01
Reactive Phosphorus as P	mg/L	-	0.005	0.004	0.007
Hardness as CaCO3	mg/L	-	70	16	16
Total Suspended Solids (Lab)	mg/L	-	580	25	30
Metals					
Aluminium (filtered)	mg/L	0.027	0.024	0.278	0.372
Arsenic (filtered)	mg/L	0.0008	0.0009	<0.0002	<0.0002
Chromium (III+VI) (filtered)	mg/L	0.00001	0.0033	0.0005	0.0006
Copper (filtered)	mg/L	0.001	0.0007	<0.0005	0.0006
Iron (filtered)	mg/L	0.3	0.004	0.231	0.321
Lead (filtered)	mg/L	0.001	0.0001	0.0002	0.0002
Manganese (filtered)	mg/L	1.2	0.0046	0.0045	0.005
Nickel (filtered)	mg/L	0.008	<0.0005	<0.0005	<0.0005
Silver (filtered)	mg/L	0.00002	<0.00001	<0.00001	<0.00001
Zinc (filtered)	mg/L	0.002	0.002	<0.001	<0.001
TPH					
Oil and Grease	µg/L	-	<1000	<1000	<1000

Aconex Metadata

Document No	S2-FGJV-ENV-REP-0109
Revision	A
Title	QUARTERLY ENVIRONMENTAL WATER REPORT JUNE 2024 - AUGUST 2024
Type	Report
Status	For Review
Sub Type	N/A
Project Aspect	General
Function	Environment
Discipline	Monitoring
Class	Water
Name	General
Group	N/A
Element	N/A
Item	N/A
Identifier	N/A
For Handover/Turnover	Yes
External Reference	S2-FGJV-ENV-ERS-0261
Revision Date	7/11/2024
Created By	Future Generation Joint Venture
Additional Notes	
Contract No	