Pre-construction Water Quality Monitoring Report

Event 14 2023

Project Number: 22-013

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Document verification

Project Title:	Event 14 2023
Project Number:	22-013
Project File Name:	22-013 Water Quality Monitoring Field and Laboratory Report Event 14 Draft

Revision	Date	Prepared by	Reviewed by	Approved by
Draft V1.0	8/06/2023	C.Hobbs	N. Smith	N. Smith
Final V1.0	16/06/2023	C.Hobbs	N. Smith	N. Smith

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1. Introduction

In 2020 Snowy Hydro Limited (Snowy Hydro) obtained approval (application number SSI 9208 and EPBC 2018/8322) to expand the existing Snowy Mountains Hydro-electric Scheme (Snowy Scheme), by linking the existing Tantangara and Talbingo reservoirs through a series of underground tunnels and constructing a new underground hydro-electric power station (referred to as 'Snowy 2.0').

To connect Snowy 2.0 to the National Energy Market (NEM), a new transmission connection is required. NSW Electricity Networks Operations Pty Ltd as a trustee for NSW Electricity Operations Trust (known as TransGrid and the Proponent) will construct a substation and overhead transmission lines (the Project) to facilitate the connection of Snowy 2.0 to the existing electrical transmission network. The Project location is approximately 27 kilometres (km) east of Tumbarumba, New South Wales (NSW). UGL has been engaged on behalf of the Proponent to undertake the Project.

The purpose of the pre-construction water quality monitoring is to address the requirements of the Environmental Impact Statement (EIS) (Jacobs 2020) that was prepared by the Proponent under Part 5, Division 5.2 of the NSW *Environmental Planning and Assessment Act 1979* to assess the environmental impacts of the proposed Project. Subsequently, an Amendment Report (TransGrid 2021b) was submitted with the Response to Submissions (TransGrid 2021a) to the Department of Planning and Environment (DPE) with updated mitigation measures for the Project.

The objective of the pre-construction surface water quality monitoring is to collect baseline data prior to Project construction works. Baseline data will be compared to ANZG (2018) guidelines to characterise the existing surface water quality. The data will be compared to the water quality objectives (WQO) for the Project area.

2. Program and methodology

The Pre-construction Water Quality Monitoring Program and Methodology (the Program) (NGH 2022) has been prepared to detail the WQOs for the Project, the location of the monitoring locations and the methodology for water sampling.

The Project area within Kosciuszko National Park is an area of high conservation value. Therefore, the water quality objectives for physical and chemical stressors includes **no change beyond natural variability** (ANZG 2018). The Default Guideline Values (DGV) for Upland Rivers has been provided for physical and chemical stressors and is detailed in the Program (NGH 2022).

The location of the sampling points in relation to the Project footprint is provided in Figure 2-1.

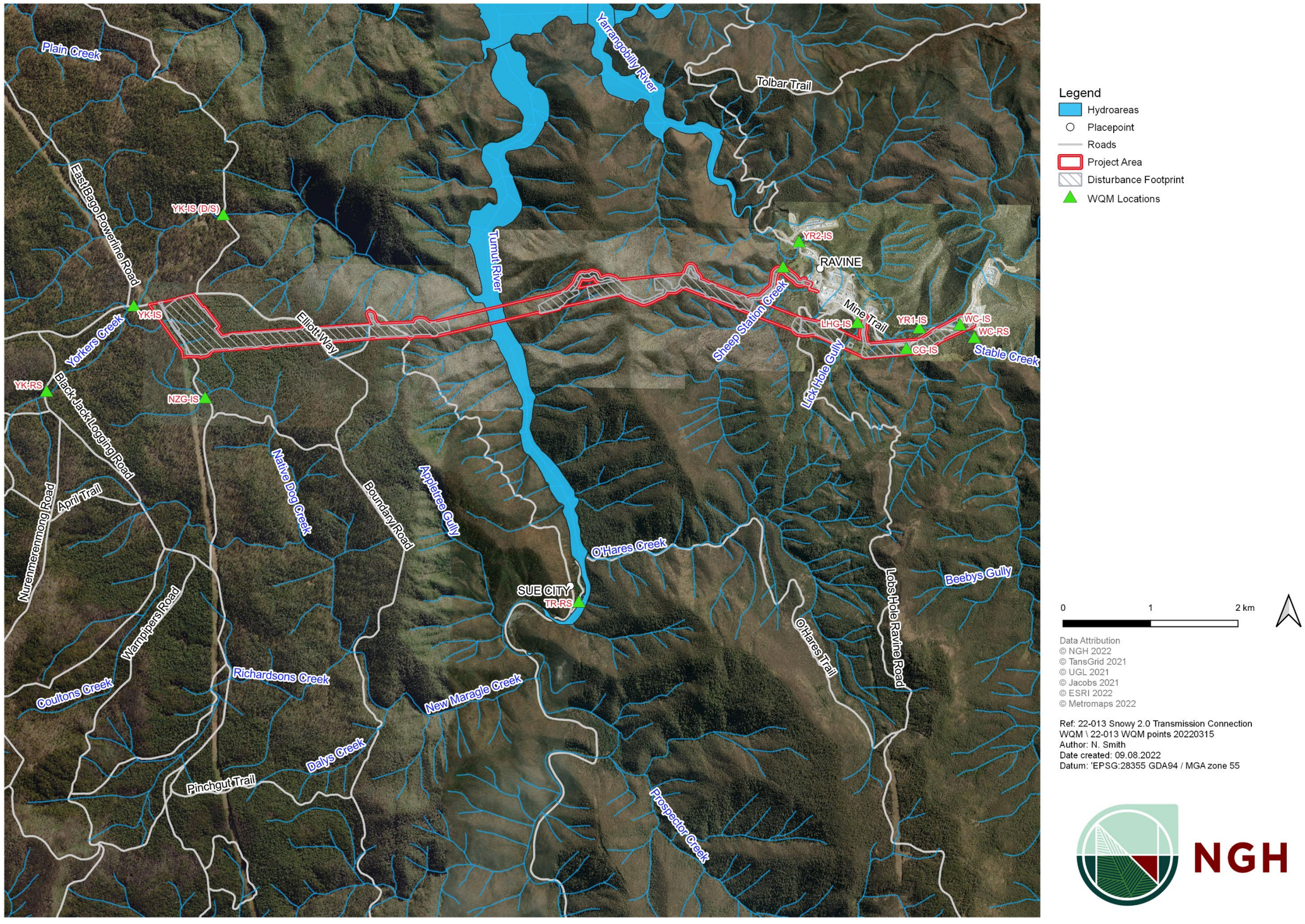

Figure 2-1 WQM locations

3. Monitoring event observations and results

Images for Cave Gully, Talbingo Reservoir and Yorkers Creek are provided as Figure 3-1 to Figure 3-3. Water quality results for each site are provided in Appendix A. Results are highlighted where they exceed the default guideline value (refer to the Program (NGH 2022)). Table 3-1 identifies exceedances of the DGVs for metals, cyanide and nutrients. Physico-chemical results have been provided in Figure 3-4 to Figure 3-33. Field data and observations are provided in Appendix B.

3.1. Event 14

NGH has conducted multiple rounds of sampling, in March (Event 1), April (Event 2), May and early June (Event 3), late June (Event 4), July (Event 5), August (Event 6), early October (Event 7), late October (Event 8), November (Event 9), December (Event 10) 2022, January (Event 11) 2023, February (Event 12) 2023 and March (Event 13) 2023. Reports for each event were prepared following receival of the laboratory results (NGH 2022a; 2022b; 2022c; 2022d; 2022e, 2022f, 2022g, 2022h, 2022i, 2022j, 2023a, 2023b and 2023c). The results of Event 1 through to Event 13 have been compared in this report to the results of Event 14.

NGH Environmental Scientist, Nicola Smith, conducted the Event 14 monitoring event with a UGL representative on 26 and 27 April 2023. The weather was partly cloudy with a slight breeze. Data from the Cabramurra SMHEA automatic weather station on 26 April 2023 (Station ID 072161) indicates that wind speeds were from the north to northwest, with speeds of 46 km/hr in the morning and 13 km/hr in the afternoon. Temperatures on the day included a low of 7°C and a high of 14.6°C. Data from the Tumbarumba weather station for 27 April 2023 (Station ID 072043) indicates that the weather was calm, with temperatures ranging from a low of 5.4°C to a high of 21°C.

Generally, low, clear water flows were observed. Water was observed to be cloudy at YK-IS. No hydrocarbon sheen or odours were noted. The banks of each channel were well vegetated with the vegetation matrix weedier in some locations. Evidence of bank erosion from hooved animals was observed at the New Zealand Gully site, the Yorkers Creek impact site and Yorkers Creek reference site. Flows were observed to have decreased, in comparison to recent sampling events.

Figure 3-1 Cave Gully impact site (CG-IS)

Figure 3-2 Talbingo Reservoir reference site(TR-RS)

Figure 3-3 Yorkers Creek reference site (YK-RS)

3.1.1. Results

The results indicate that the water quality in the locations where samples were taken generally meets the DGVs for Upland Rivers with a 99% species protection level for toxicants. Locations where a laboratory result was returned for a physical or chemical stressor was above the DGV are provided in Table 3-1.

Table 3-1 Results above the DGV for Upland Rivers with 99% species protection level

Site identification	Analyte	DGV	Result	Comment
WC-RS	Aluminium mg/L	0.027	0.04	This is consistent with the prior sampling event.
CG-IS	Aluminium mg/L	0.027	0.05	Always returns a high total dissolved solid result. Results for Zinc and Aluminium are consistent with prior sampling events.
	Zinc mg/L	0.0024	0.004	
	Total Dissolved Solids (TDS) mg/L		273	
LHG-IS	Aluminium mg/L	0.027	0.06	Always returns a high total dissolved solid result. Results for Aluminium, Zinc and TSS are consistent with prior sampling events.
	Zinc mg/L	0.0024	0.004	
	Total Dissolved Solids (TDS) mg/L		319	
WC-IS	Aluminium mg/L	0.027	0.04	This is consistent with prior sampling events.
YK-IS (D/S)	Aluminium mg/L	0.027	0.27	This is consistent with prior sampling events Located within Bago State Forest and adjacent to an unsealed track. Unknown activities within the State Forest upstream. Sample taken upstream of culvert.
NZG-IS	Aluminium mg/L	0.027	0.26	This is consistent with prior sampling events Located within Bago State Forest. Sample taken upstream of timber supported unsealed track bridge. Banks heavily vegetated, shallow channel.
YK-RS	Aluminium mg/L	0.027	0.39	Results for Aluminium and Iron are consistent with prior sampling events Located within Bago State Forest and adjacent to an unsealed track. Unknown activities within the State Forest upstream. Sample taken downstream of culvert under unsealed track. Flow through culvert is restricted upstream causing a wetland environment.
	Iron mg/L	0.3	0.32	

Site identification	Analyte	DGV	Result	Comment
YK-IS	Aluminium mg/L	0.027	0.34	Located within Bago State Forest and adjacent to Elliott Way (road). Unknown activities within the State Forest upstream.
	Iron mg/L	0.3	0.29	
YR1-RS	Aluminium mg/L	0.027	0.06	This is consistent with prior sampling events
YR2-IS	Aluminium mg/L	0.027	0.06	This is consistent with prior sampling events
SSC-IS	Aluminium mg/L	0.027	0.18	This is consistent with prior sampling events

CG-IS and LHG-IS displayed elevated values for total dissolved solids compared to the other sampling locations. Total suspended solids (TSS) at LHG-IS and YK-IS were above the 0.2 mg/L assigned DGV (refer to Figure 3-18).

Water temperatures ranged from 7.3 degrees Celsius at WC-RS to 13.8 degrees Celsius at SSC-IS.

Many of the results are recorded as below (<) the limit of detection. To enable calculation of the statistics, the *Limit of Detection Divided by Two (LOD/2) Method* (Cohen and Ryan 1989) has been applied. This data is provided in Appendix A.

The following time series, Figure 3-4 to Figure 3-23, display physico-chemical water quality through time for monitoring Event 1 (March), Event 2 (April), Event 3 (May/June), Event 4 (June), Event 5 (July), Event 6 (August), Event 7 (early October), Event 8 (late October), Event 9 (November), Event 10 (December), Event 11 (January), Event 12 (February) and Event 13 (March). Where a DGV is available, these values are shown on the graph and have been included for dissolved oxygen (%), conductivity, pH and turbidity.

Seeping flows were present at SSC-IS for Event 14 at the time of sampling. Seepage was not connected to the Yarrongabilly River, and was noted to be flowing upstream.

Although the Talbingo Reservoir is the ultimate catchment for both the Yarrangobilly River and tributaries, and Yorkers Creek and tributaries, the data has been divided into the Talbingo Reservoir catchment, which include the Talbingo Reservoir reference site sampling location and the Yarrangobilly River and its tributaries. These are all located in the Kosciuszko National Park. The Yorkers Creek catchment includes the three sampling locations along Yorkers Creek and New Zealand Gully, which are all located in the Bago State Forest. The confluence of Yorkers Creek with Tumut River (Talbingo Reservoir) is downstream of sampling location TR-RS but upstream of the confluence of the Yarrangobilly River and Tumut River.

Temperatures within the Talbingo Reservoir catchment have generally decreased since Event 13, refer to Figure 3-4. WC-RS registered the greatest decrease in temperature, from 19.4°C during Event 13 to 7.3°C in Event 14. Temperatures within the Yorkers Creek catchment have generally decreased since Event 13, refer to Figure 3-5.

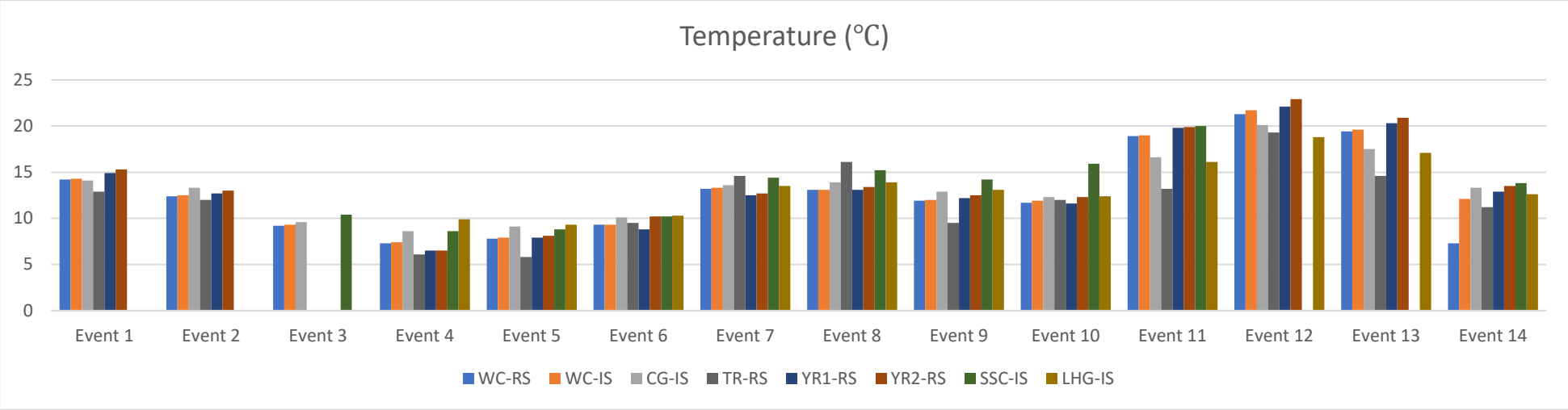

Figure 3-4 Temperature for Talbingo Reservoir catchment

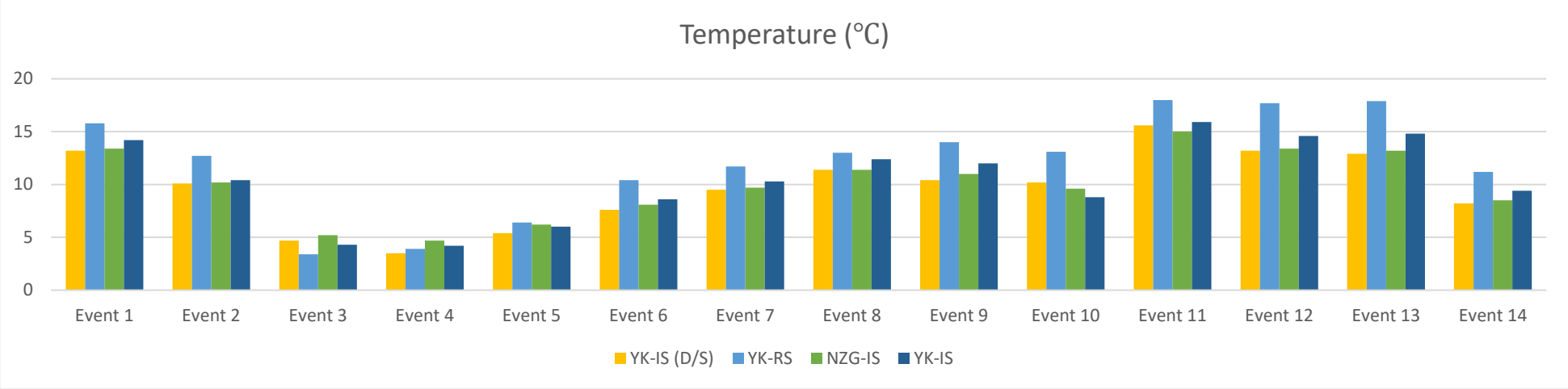

Figure 3-5 Temperature for Yorkers Creek catchment

The results for DO (ppm) for the Talbingo Reservoir catchment have generally increased, when compared with results for Event 13, refer to Figure 3-6. TR-RS registered the highest increase, from 7.73 ppm during Event 13, to 10.93 ppm during Event 14. Results for DO (ppm) within the Yorkers Creek catchment have decreased, refer to Figure 3-7. The highest reading for DO (ppm) was recorded within the Talbingo catchment at YK-RS (11.2 ppm).

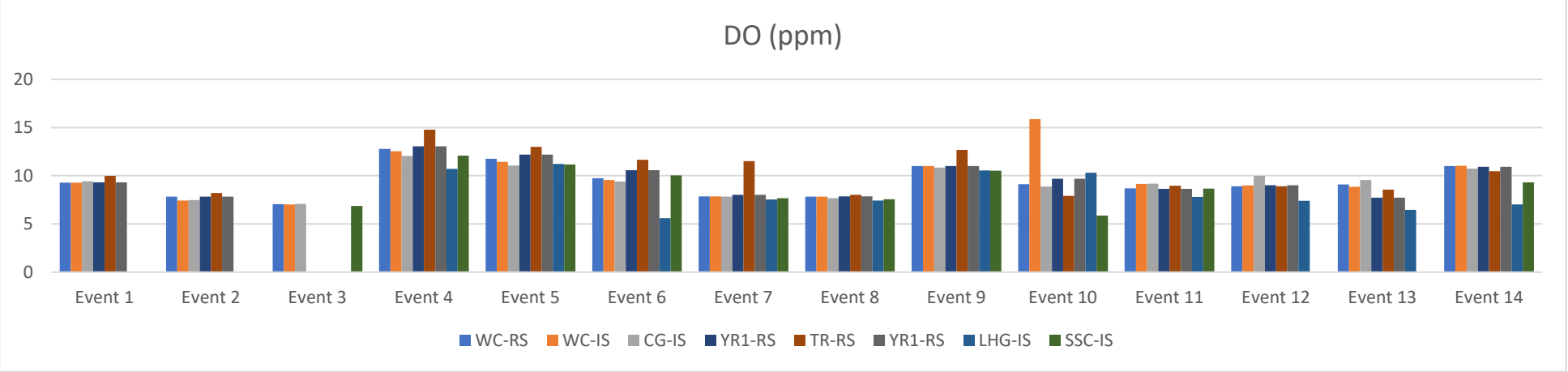

Figure 3-6 Dissolved Oxygen (ppm) for Talbingo Reservoir catchment

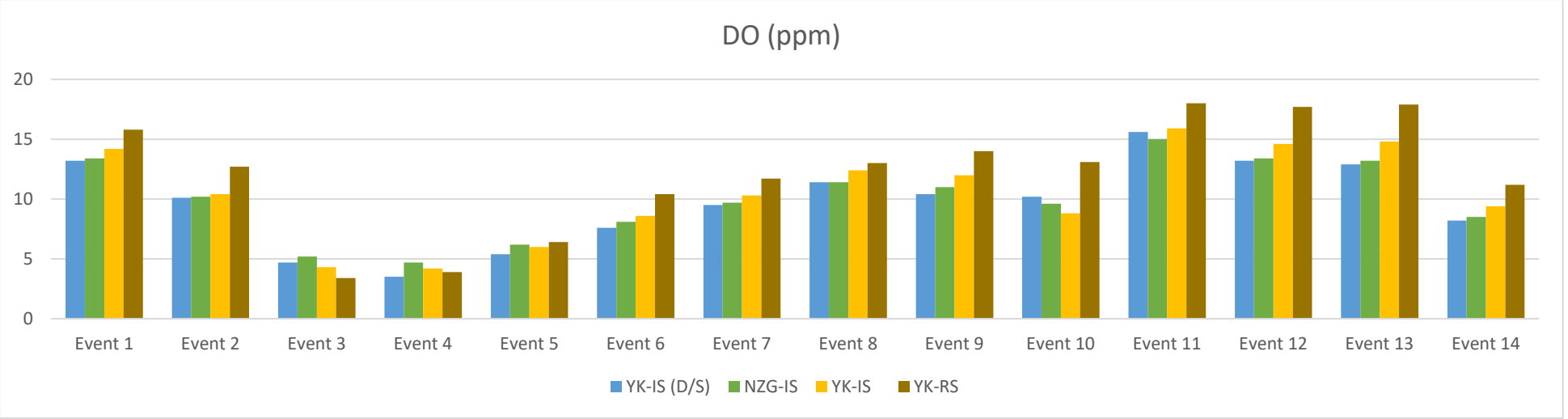

Figure 3-7 Dissolved Oxygen (ppm) for Yorkers Creek catchment

Conductivity within the Talbingo Reservoir catchment has remained similar to Event 13 with a slight increase during Event 14 at CG-IS and LHG-IS when compared with results from Event 13, refer to Figure 3-8. Conductivity at LHG-IS recorded an increase with a reading of 446.8 µS/cm for Event 14, up from 445.6 µS/cm during Event 13. Results for the Yorkers Creek catchment continue to return relatively low conductivity readings, refer to Figure 3-9 . Conductivity at NZG-IS (34 µS/cm) has decreased, when compared with results from Event 13 (39.2 µS/cm). Conductivity results from NZG-IS continues to be greater than the conductivity recorded at the Yorkers Creek sites with a result of 4 µS/cm above the lower DGV threshold. The pattern between sites is mostly reflective of the pattern for specific conductance.

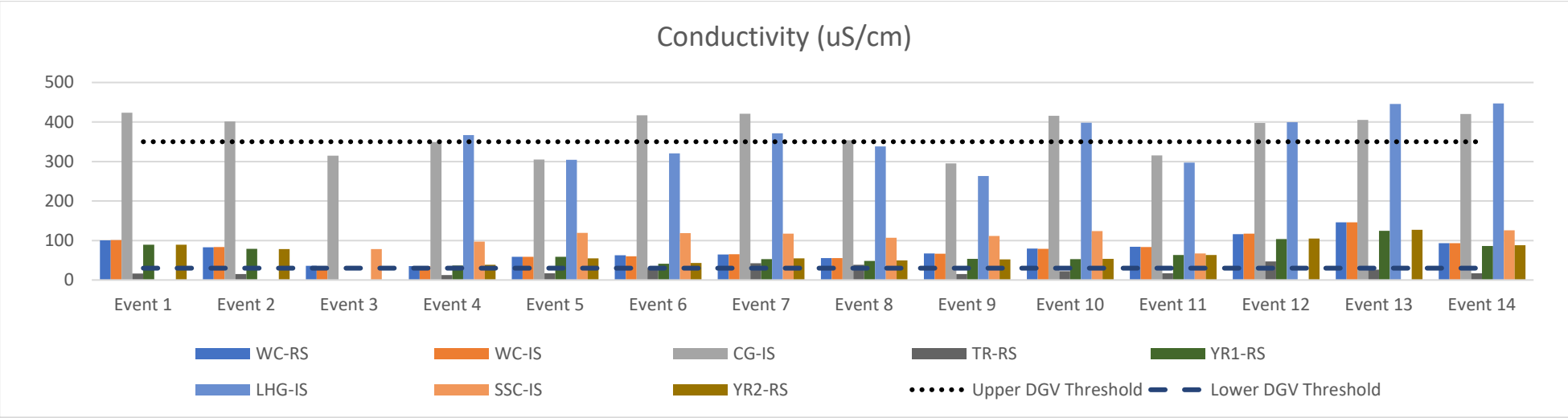

Figure 3-8 Conductivity (µS/cm) for Talbingo Reservoir catchment

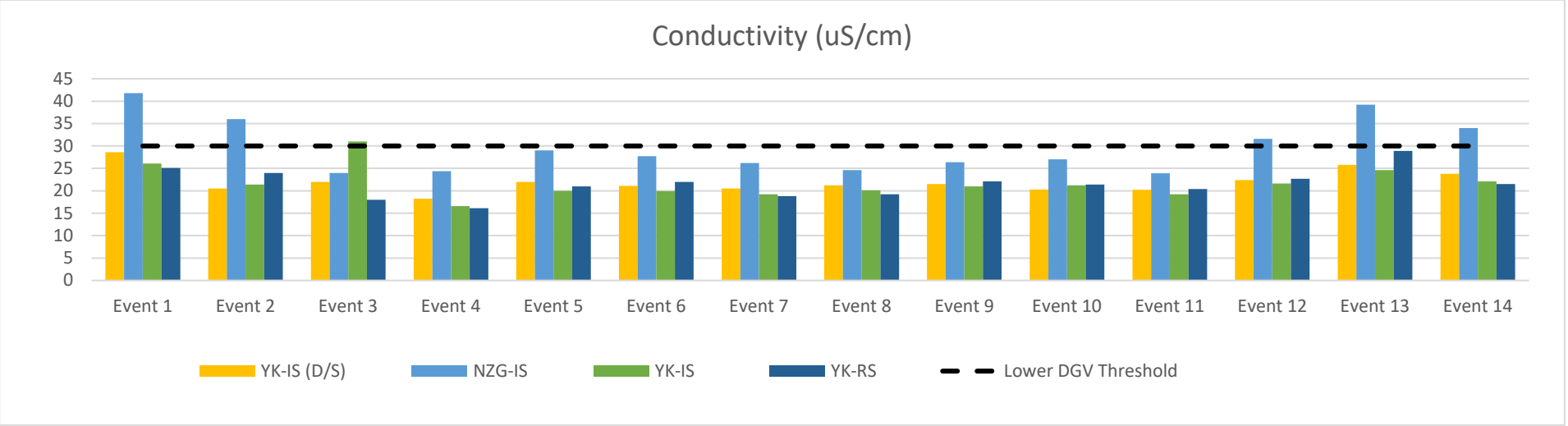

Figure 3-9 Conductivity (µS/cm) for Yorkers Creek catchment

Turbidity values were below the lower DGV threshold (2 NTU) within the Talbingo Reservoir catchment for Event 14. Turbidity readings within the Talbingo Reservoir catchment have notably decreased since Event 8, refer to Figure 3-10 and Figure 3-11. Note that the results for CG-IS have been provided in Figure 3-11 in this report to more accurately display the other sampling locations in the Talbingo reservoir catchment.

Turbidity readings within the Yorkers Creek catchment have remained relatively consistent with the exception of YK-IS (D/S), which recorded a reading of 2 NTU during Event 14, down from 12 NTU during Event 13, refer to Figure 3-12.

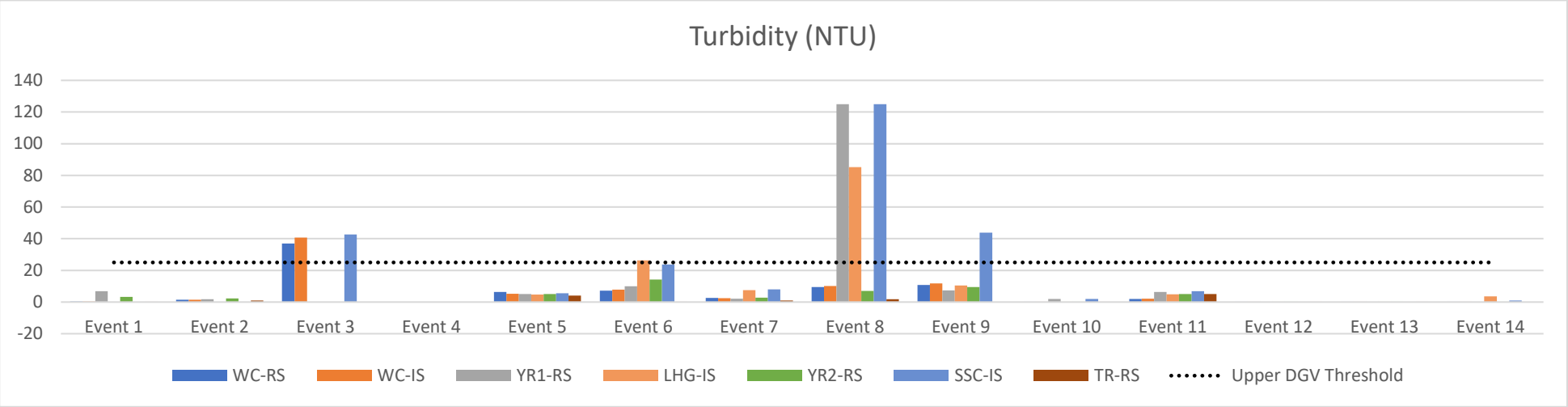

Figure 3-10 Turbidity (NTU) for the Talbingo Reservoir catchment

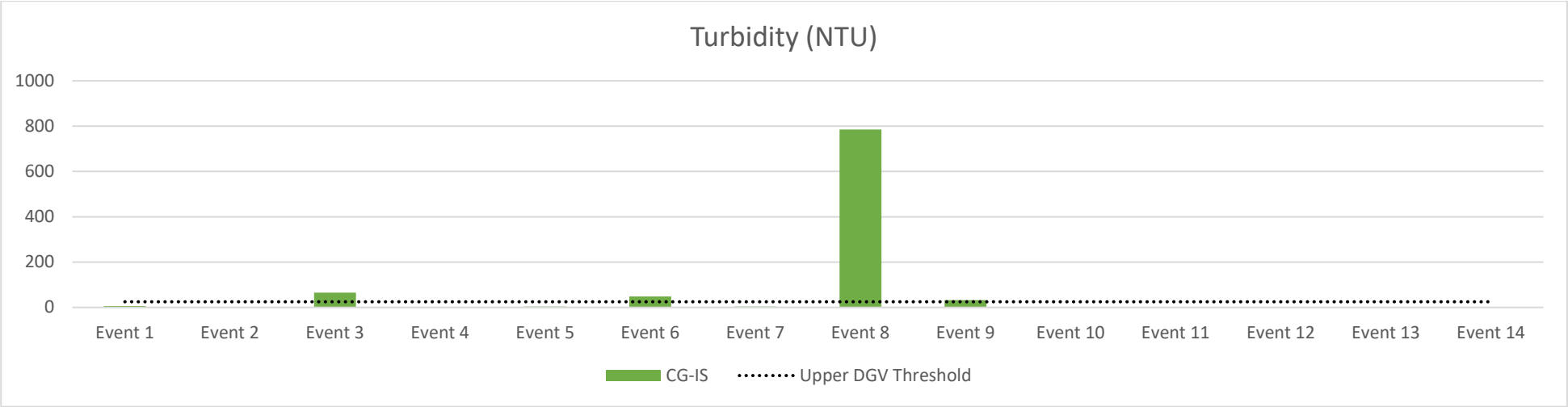

Figure 3-11 Turbidity (NTU) for CG-IS, within the Talbingo Reservoir catchment

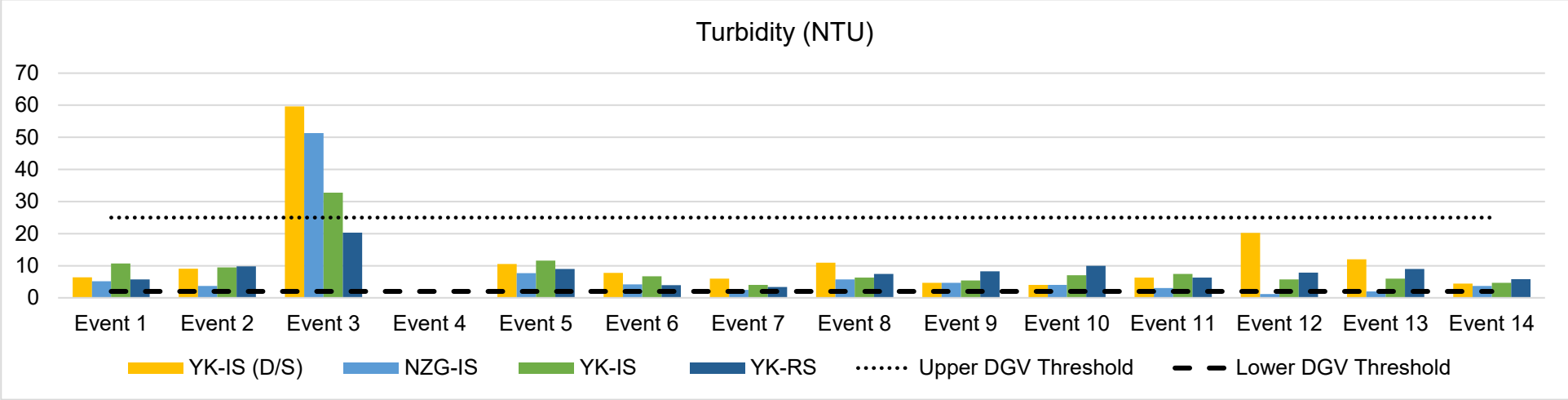

Figure 3-12 Turbidity (NTU) for the Yorkers Creek catchment

Total suspended solids (TSS) have decreased within the Talbingo Reservoir catchment since Event 12, refer to Figure 3-13. Total suspended solids remain low at CG-IS for Event 14, refer to Figure 3-14. Total suspended solids have decreased within Yorkers Creek, with YK-IS (D/S) decreasing from 9 mg/L during Event 13, to 0.1 mg/L during Event 14, refer to Figure 3-15.

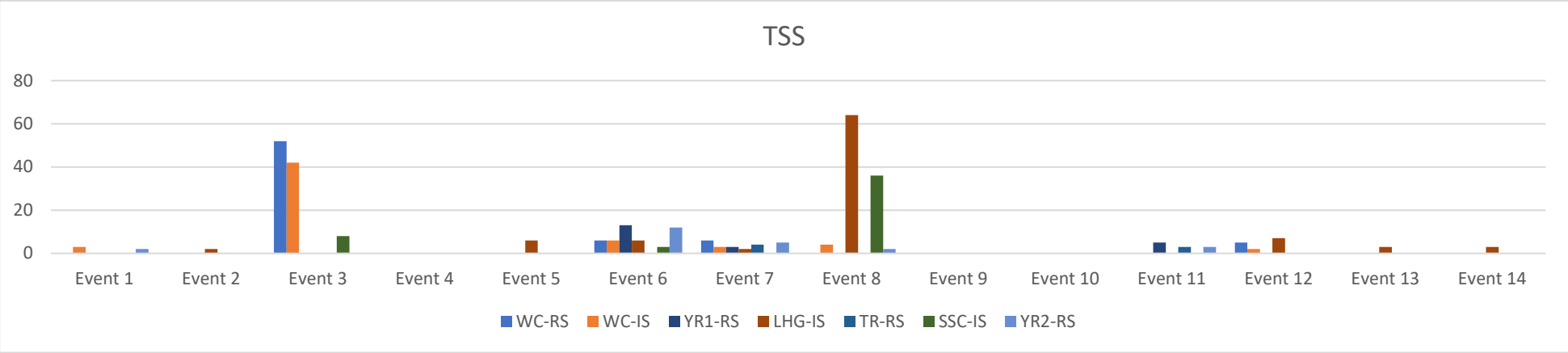

Figure 3-13 Total Suspended Solids for the Talbingo Reservoir catchment

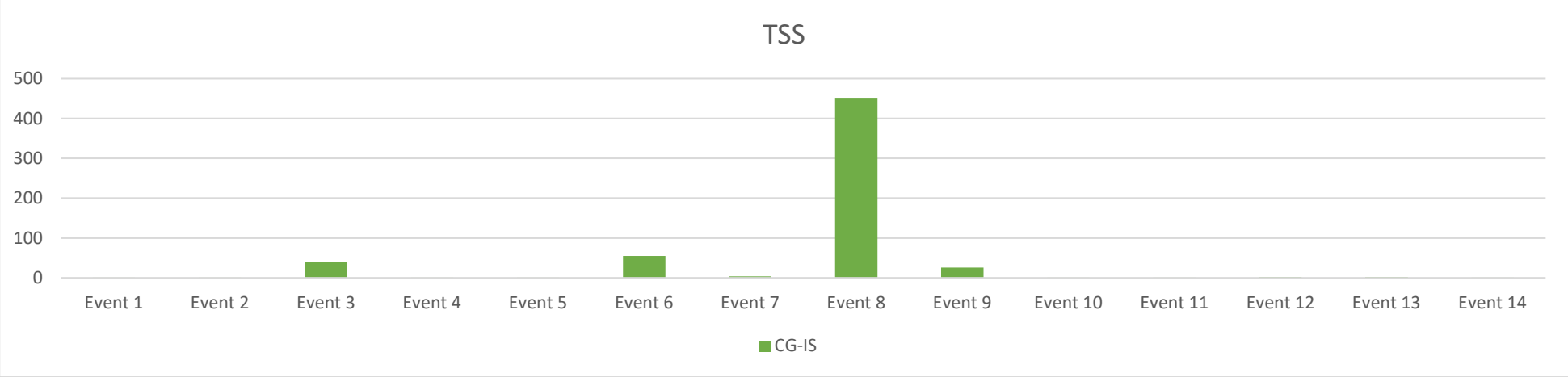

Figure 3-14 Total Suspended Solids for CG-IS, within the Talbingo Reservoir catchment

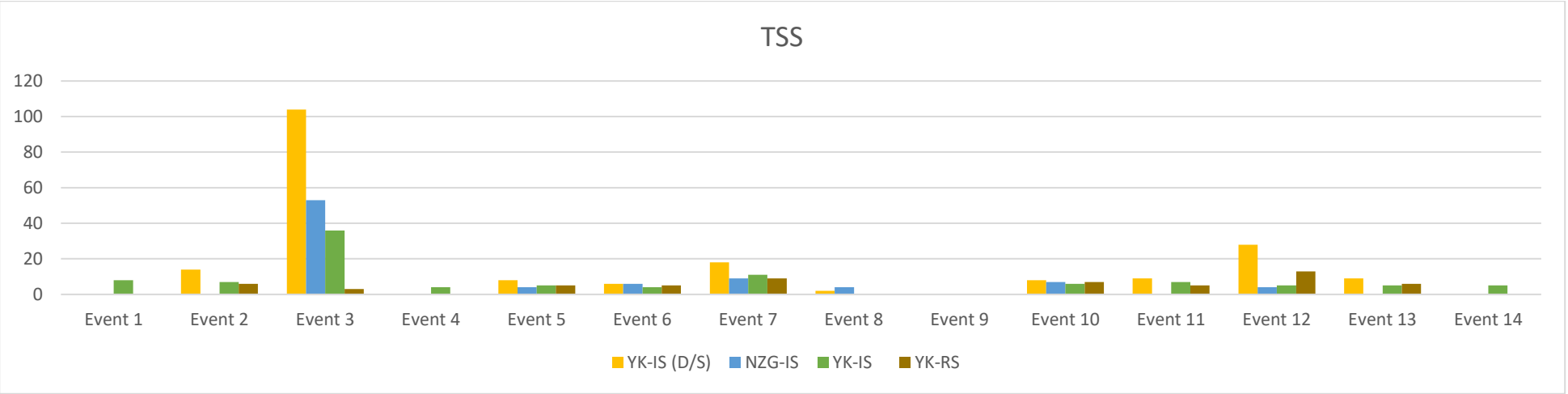

Figure 3-15 Total Suspended Solids for the Yorkers Creek catchment

Values of pH for the Talbingo Reservoir catchment have slightly decreased since Event 13. All sites had values of pH within the DGV range, refer to Figure 3-16.

Values of pH for the Yorkers Creek catchment have slightly increased since Event 13, refer to Figure 3-17. All readings fell within the DGV range for values of pH (6.5 – 8 pH units).

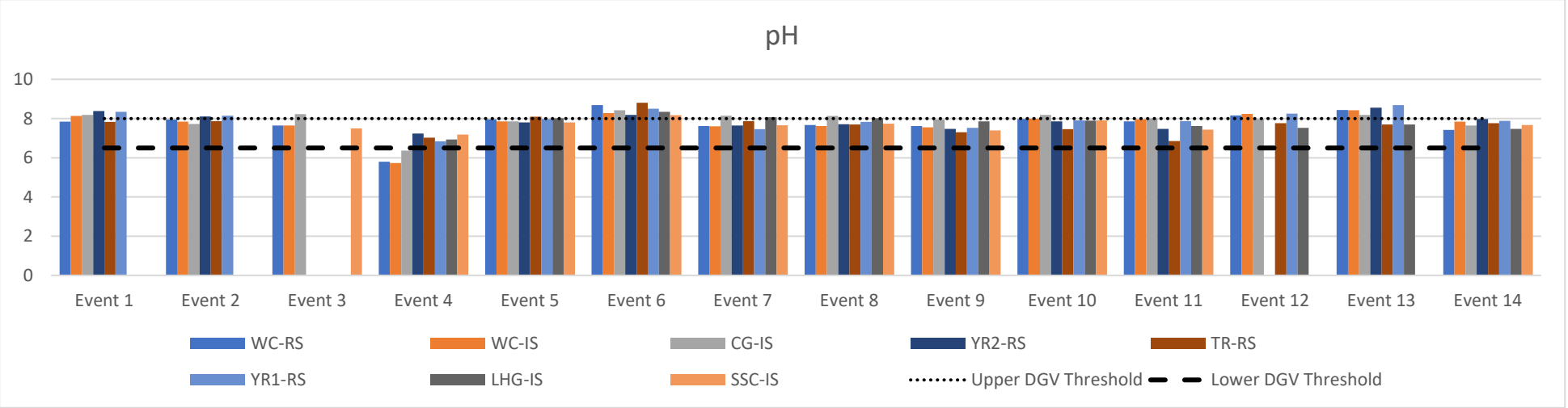

Figure 3-16 Potential of Hydrogen (pH) for Talbingo Reservoir catchment

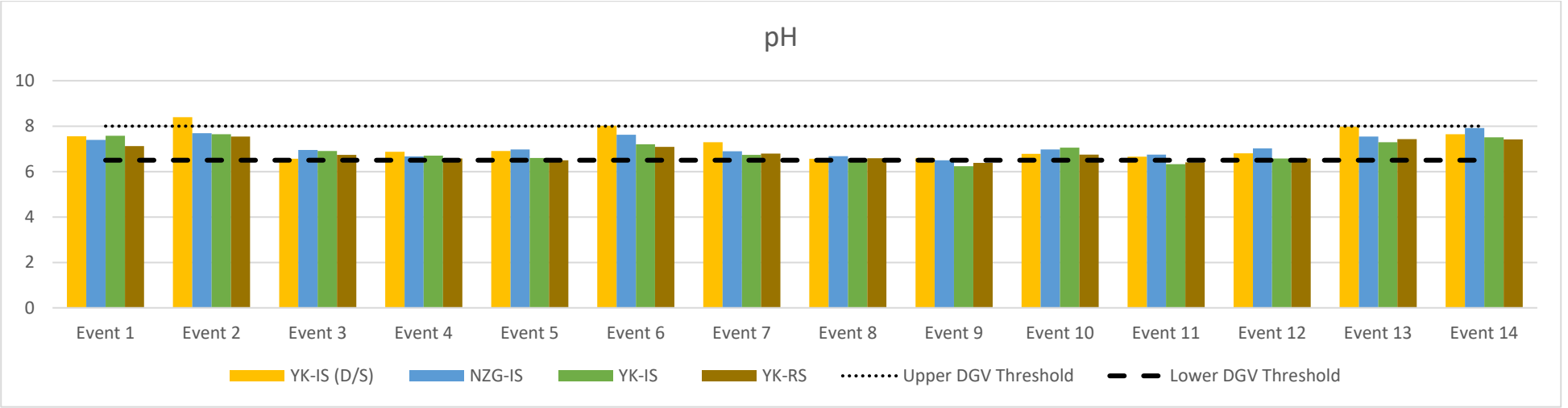

Figure 3-17 Potential of Hydrogen (pH) for Yorkers Creek catchment

The values for oxygen redox potential within the Talbingo Reservoir catchment have increased since Event 13, with the exception of LHG-IS, which decreased from a negative value of 6 mV in Event 13, to -22.7 mV during Event 14, refer to Figure 3-18. Oxygen redox potential has also notably increased within the Yorkers Creek catchment, refer to Figure 3-19.

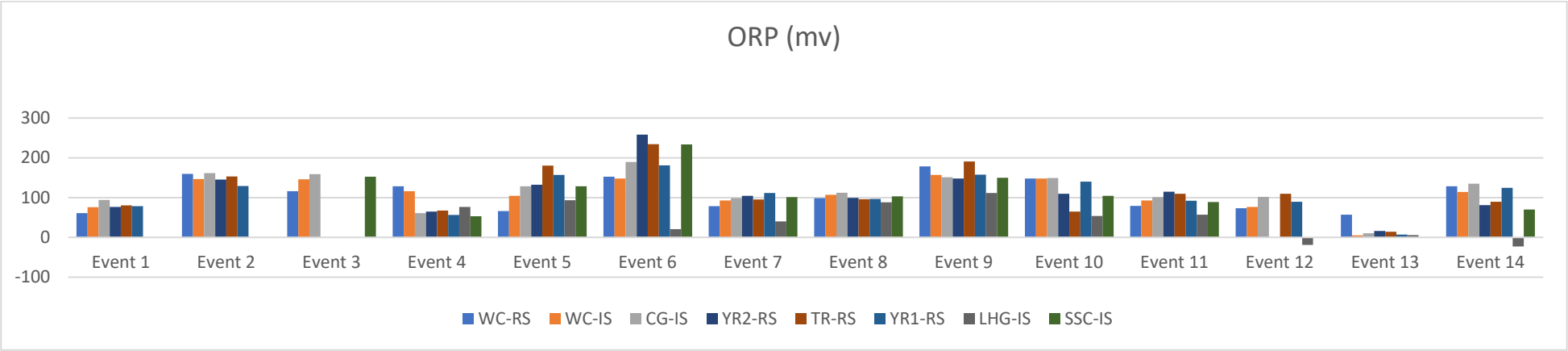

Figure 3-18 Oxygen Redox Potential (ORP) for Talbingo Reservoir catchment

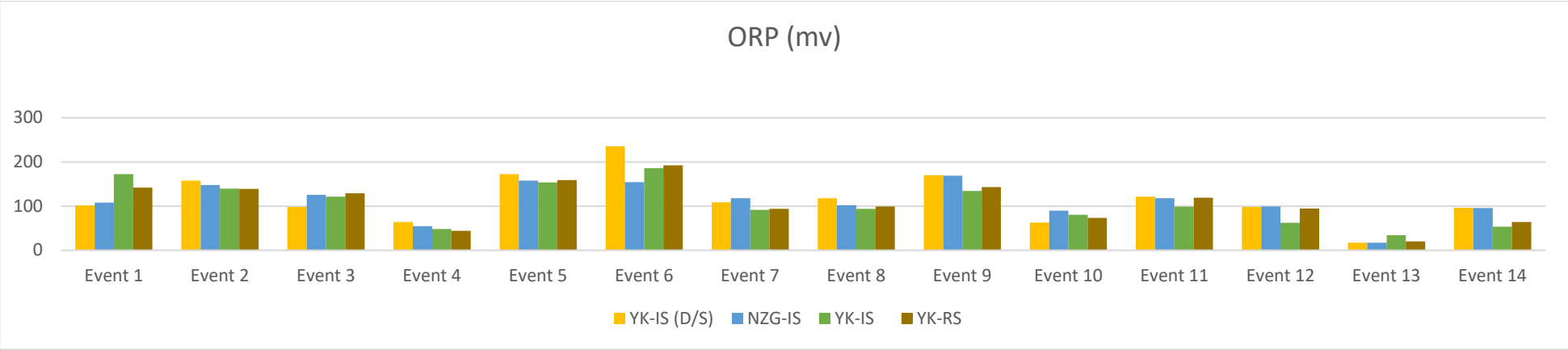

Figure 3-19 Oxygen Redox Potential (ORP) for Yorkers Creek catchment

Nitrogen Oxides (mg/L) have remained consistent within the Talbingo Reservoir, with the exception of TR-RS, which returned a reading of 0.1 mg/L during Event 14, refer to . Nitrogen Oxides (mg/L) within the Yorkers Creek catchment have decreased, refer to Figure 3-20

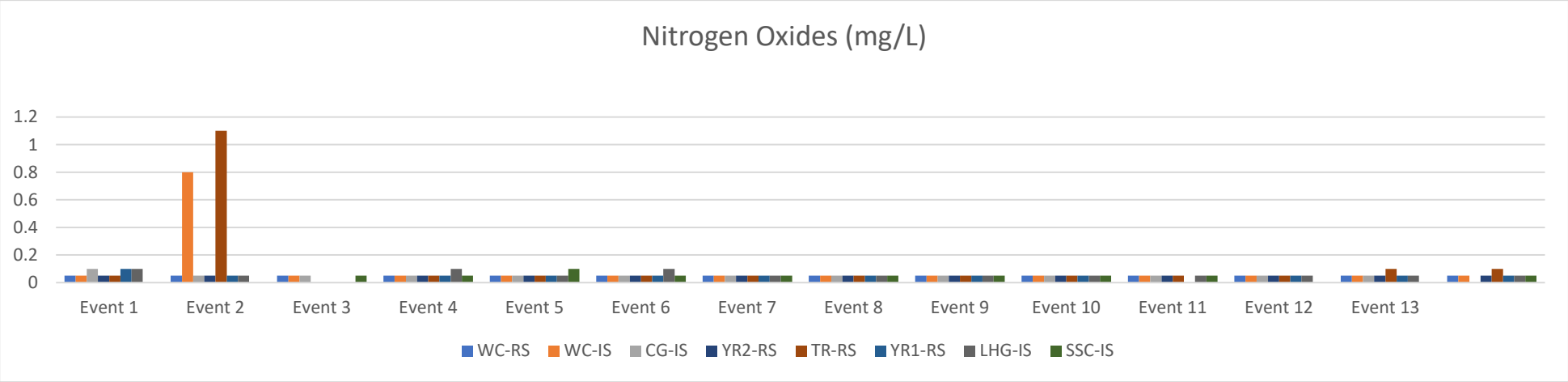

Figure 3-20 Nitrogen Oxides (mg/L) for the Talbingo Reservoir catchment

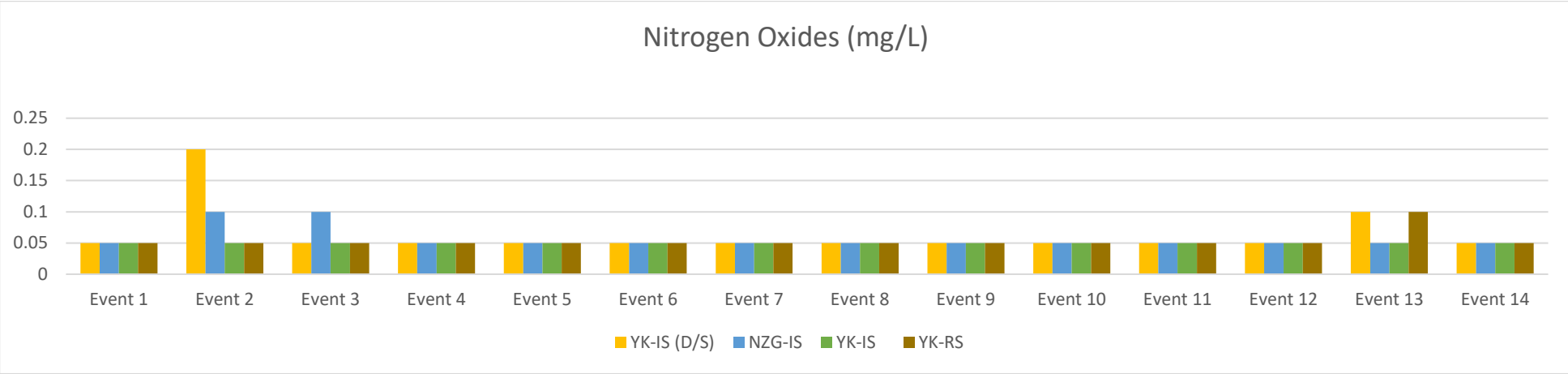

Figure 3-21 Nitrogen Oxides (mg/L) for the Yorkers Creek catchment

Reactive Phosphorous (mg/L) was consistent across the Talbingo Reservoir catchment, refer to Figure 3-22. Reactive Phosphorous was highest at WC-IS (0.05 mg/L) during Event 14. Reactive Phosphorous was below the limit of reporting within the Yorkers Creek catchment for Event 14, refer to Figure 3-23

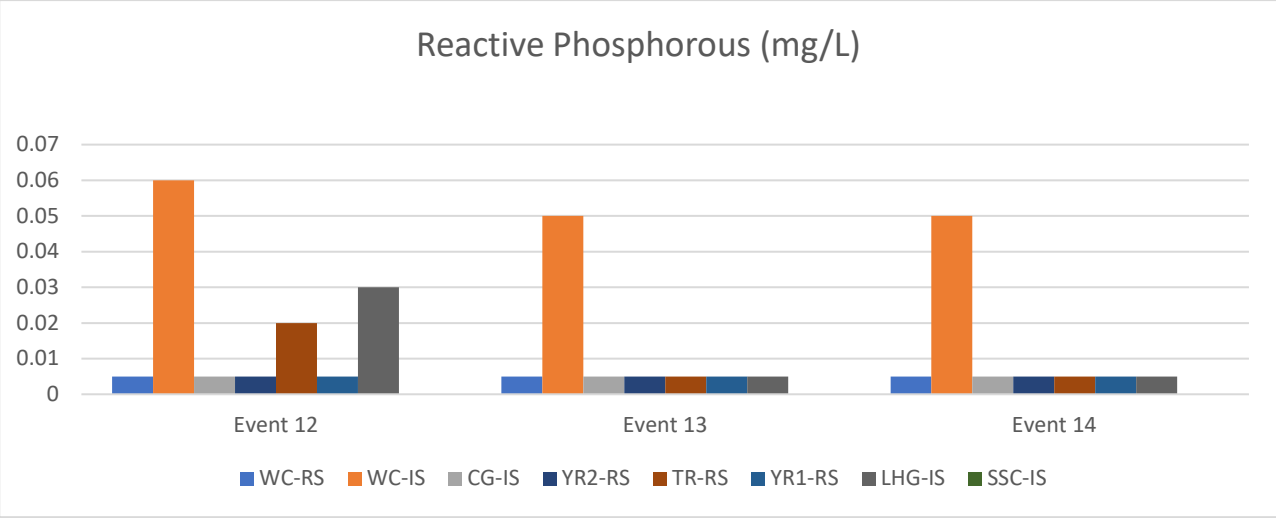

Figure 3-22 Reactive Phosphorous (mg/L) for the Talbingo Reservoir catchment

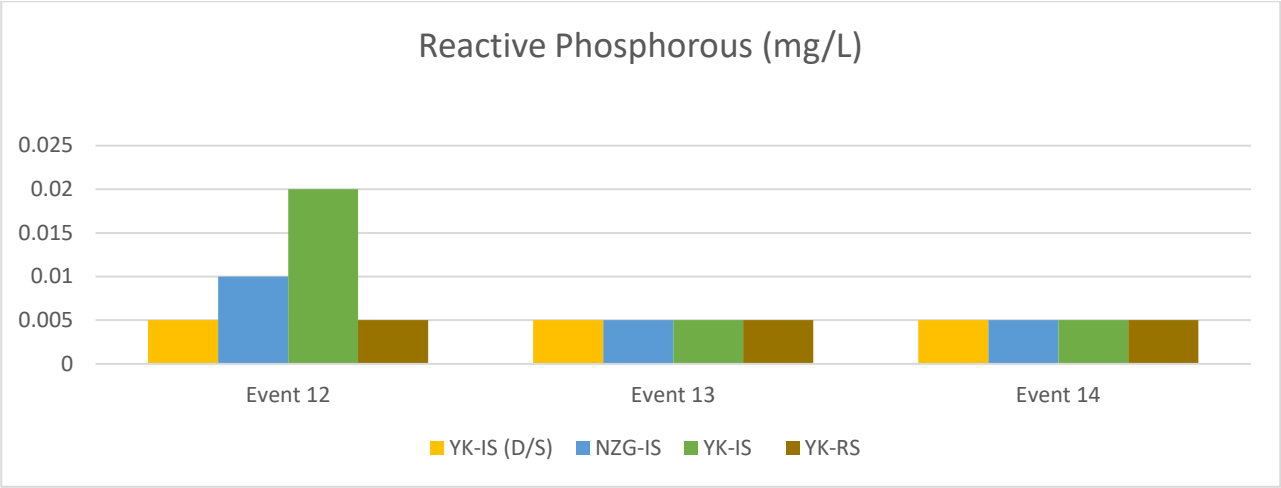

Figure 3-23 Reactive Phosphorous (mg/L) for the Yorkers Creek catchment

Total Hardness ($CaCO_3$, mg/L) within the Talbingo Reservoir catchment for Event 14 varied from very soft at TR-RS (7 mg/L) to hard at LHG-IS (267 mg/L), refer to Figure 3-24. Total Hardness ($CaCO_3$, mg/L) within the Yorkers Creek catchment was generally very soft, ranging from 8-14 mg/L, refer to Figure 3-25.

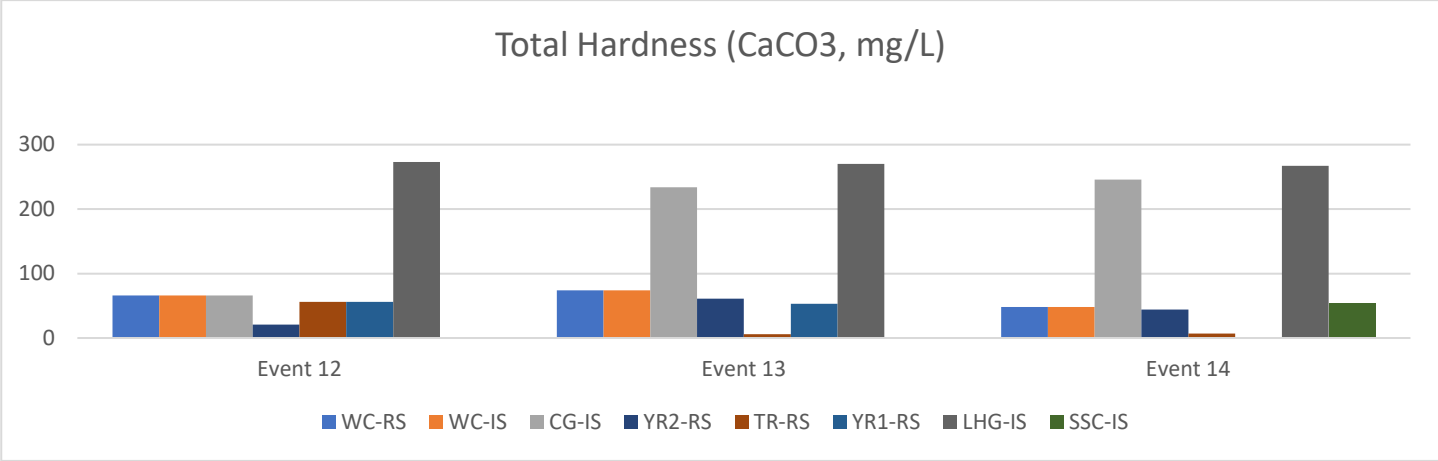

Figure 3-24 Total Hardness ($CaCO_3$) for the Talbingo Reservoir catchment

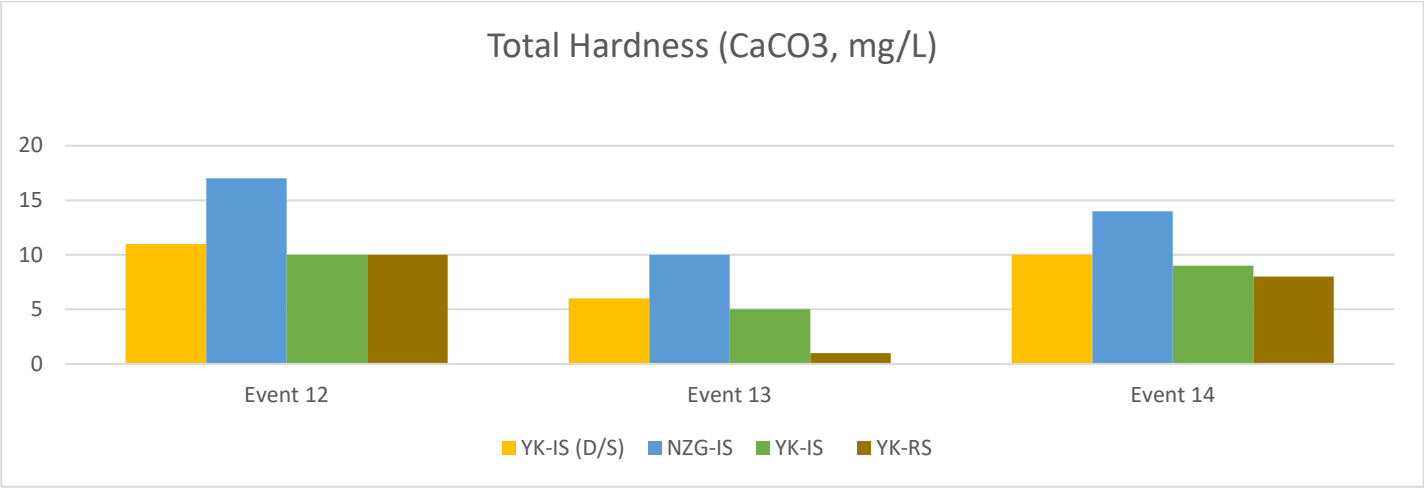

Figure 3-25 Total Hardness ($CaCO_3$) for the Yorkers Creek catchment

Total Kjedahl Nitrogen (TKN, mg/L) has remained relatively consistent for the Talbingo Reservoir and Yorkers Creek catchments, refer to Figure 3-26 and Figure 3-27.

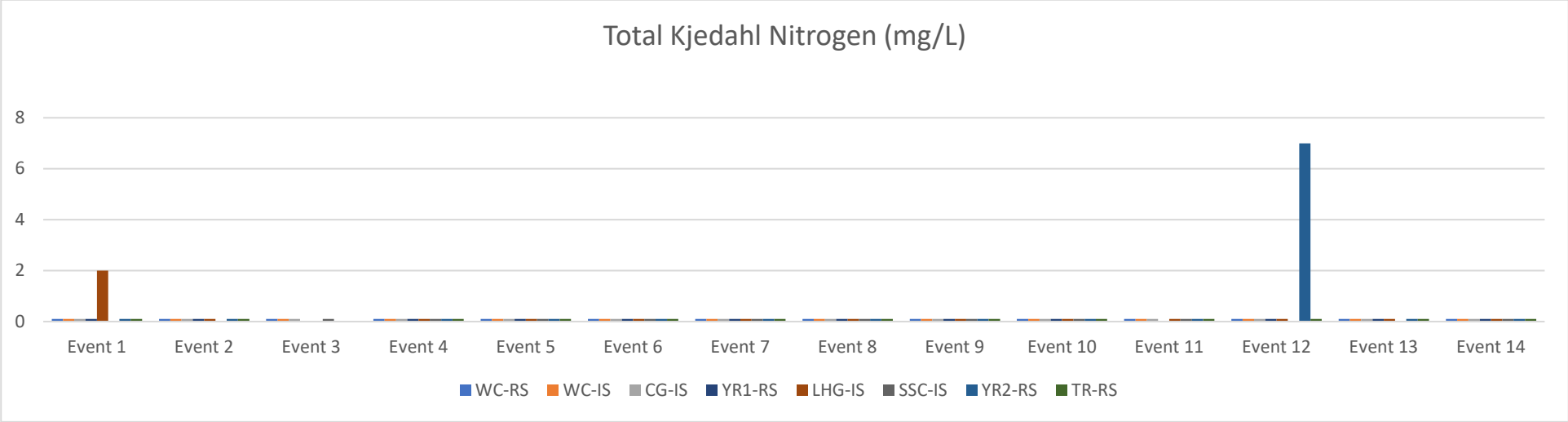

Figure 3-26 Total Kjedahl Nitrogen (TKN) for the Talbingo Reservoir catchment

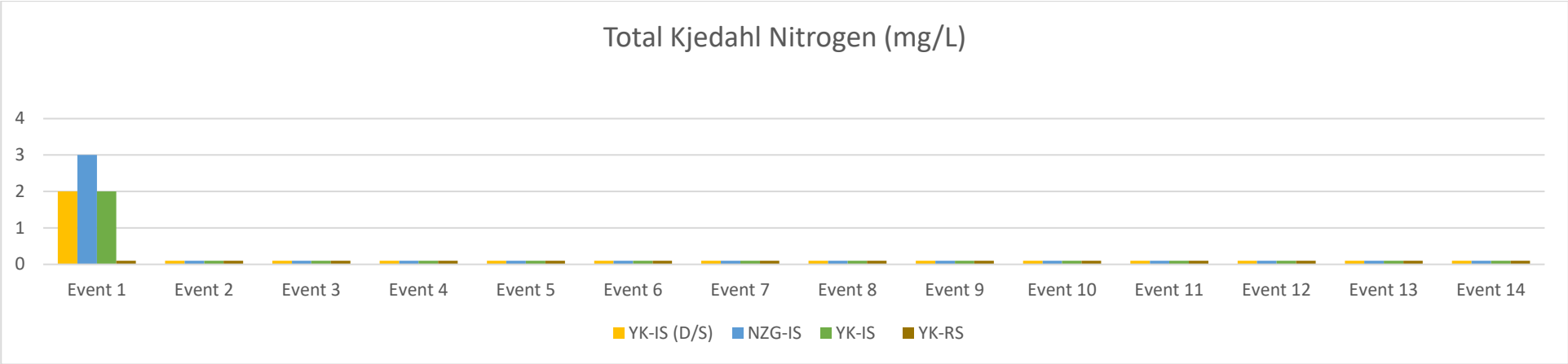

Figure 3-27 Total Kjedahl Nitrogen (TKN) for the Yorkers Creek catchment

3.1.2. Quality Assurance / Quality Control

A Quality Assurance and Quality Control (QA/QC) program was undertaken as part of this investigation including:

- A field duplicate sample, at a rate of one per 20 samples, was taken (DUP01) from the WQM site WC-RS on 26 April 2023. DUP01 was analysed for metals and metalloids. The duplicate sample has been compared against the WC-RS sample by Relative Percentage Difference (RPD) and has returned within an acceptable range (less than 30% for inorganic or less than 5 times the laboratory limit of reporting (LOR)).
- A water blank was supplied by the laboratory. The water blank sample was analysed for metals and metalloids. There were no exceedances of the sample results above the LORs.

NGH consider the QA/QC program to have been effective and the data reliable and representative to achieve the objectives of the investigation.

Refer to Appendix C for the laboratory analysis certificate, Appendix D for the RPD Table and Appendix E for the calibration certificates.

4. Conclusion

Water temperatures for Event 14 have generally decreased across the sites compared to the water temperatures for Event 13. WQM results for Event 14 were lower than Event 13 most likely due to the cooler temperatures over the autumn period and leading into winter.

Results for Event 14 indicate there has been a minor decrease in turbidity (NTU) and total suspended solids (TSS) within the Yorkers Creek catchment. The pH readings within both catchments have remained constant between Event 13 and Event 14, with both catchments registering readings below the upper DGV threshold (8.0 pH units).

There was an increase in Oxygen Redox Potential (ORP) across both catchments, when compared to the previous event. Results for Oxidation Redox Potential (ORP) for Event 14 increased, in comparison with Event 13. There was one negative value of -22.7 mv (LHG-IS). While the environment is no longer reducing, ORP values were notably higher than Event 13.

Results for Ammonia were consistent across the catchments.

Similarly, results for Nitrogen Oxides were consistent across the catchments, with the exception of TR-RS, which returned a reading of 0.1 mg/L for Event 14.

Reactive phosphorous has decreased across the catchments for Event 14.

Total Hardness ($CaCO_3$) generally increased within the Talbingo Reservoir catchment for Event 14, varying from very soft at TR-RS (7 mg/L) to hard at LHG-IS (267 mg/L). Total Hardness ($CaCO_3$) increased at the Yorkers Creek catchment ranging from 8 – 14 mg/L (very soft).

Results for Total Kjedahl Nitrogen (TKN) consistently registered very low readings for Event 14.

Laboratory results for Event 14 were generally consistent with the results of the previous monitoring events, with the majority of analytes reported below the Limit of Reporting. Results exceeded the DGV for:

- Total suspended solids (0.2 mg/L) at YK-IS
- Iron (0.3 mg/L) at LHG-IS, YK-IS (D/S), YK-IS and YK-RS
- Aluminium (0.027 mg/L) at all sites except for TR-RS
- Zinc (0.0024 mg/L) at CG-IS and LHG-IS
- Total Nitrogen (0.25 mg/L) at CG-IS
- Nitrogen Oxides (0.015 mg/L) at TR-RS
- Total dissolved solids were elevated at CG-IS and LHG-IS, which is a pattern that has carried through all events.

All results and statistics are provided in Appendix A.

5. References

Jacobs Pty Ltd. 2020. *Snowy 2.0 Transmission Connection Project EIS.*

NGH Pty Ltd. 2022. *Pre-construction Water Quality Monitoring Program and Methodology*.

NGH Pty Ltd. 2022a. *Pre-construction Water Quality Monitoring Report: Event 1 April 2022*.

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NGH Pty Ltd. 2022e. *Pre-construction Water Quality Monitoring Report: Event 5 July 2022*.

NGH Pty Ltd. 2022f. *Pre-construction Water Quality Monitoring Report: Event 6 August 2022*.

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NGH Pty Ltd. 2022j. *Pre-construction Water Quality Monitoring Report: Event 10 December 2022.*

NGH Pty Ltd. 2023a. *Pre-construction Water Quality Monitoring Report: Event 11 January 2023.*

NGH Pty Ltd. 2023b. *Pre- construction Water Quality Monitoring Report: Event 12 February 2023.*

NGH Pty Ltd. 2023c. *Pre- construction Water Quality Monitoring Report: Event 13 March 2023.*

TransGrid. 2021a. *Snowy 2.0 Transmission Connection Project Submissions Report.*

TransGrid. 2021b. *Snowy 2.0 Transmission Connection Project Amendment Report*.

APPENDIX A EVENT DATA TABLE

22-013 Pre-construction WQM		Sheen/ oil/ grease	Temp. (°C)	Dissolved Oxygen (DO %)	DO (ppm)	Specific EC (SPC uS/cm)	EC (uS/cm)	pH	Redox (mV)	Turbidity (NTU)	Al (mg/L)	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	Cyanide (mg/L)	Fe (mg/L)	Pb (mg/L)	Mn (mg/L)	Hg (mg/L)	Ni (mg/L)	TN (mg/L)	TP (mg/L)	Ag (mg/L)	Zn (mg/L)	Ammonia (mg/L)	Nitrogen Oxides	Reactive Phosphorous	Total Hardness (CaCO3)	Total Kjedahl Nitrogen (TKN)	TDS mg/L	TSS (mg/L)
DGV (Default Guideline Value)		No	-	90-110	-	-	30-350	6.5-8	-	2-25	0.027	0.0008	0.00006	0.00001	0.001	0.004	0.3	0.001	1.2	0.00006	0.008	0.25	0.02	0.00002	0.0024	0.013	0.015	0.015	-	-	-	0.2
WC-RS	Event 1	No	14.2	90.5	9.28	126.8	100.7	7.85	61.2	0.37	0.01	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.011	0.000015	0.0005	3	0.005	0.00001	0.001		0.05			0.1	12	0.1
	Event 2	o but on sedim	12.4	73.5	7.84	109	83.1	7.95	159.4	1.49	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	1	0.1
	Event 3	No	9.2	61.3	7.05	151	36	7.64	116.3	36.96	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	50	52
	Event 4	No	7.3	75.1	12.78	128.9	35.3	5.8	128.4		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	19	0.1
	Event 5	No	7.8	98.9	11.76	88	59	7.96	65.8	6.45	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	56	0.1
	Event 6	No	9.3	79.86	9.74	89.6	62.7	8.69	152.6	7.15	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	44	6
	Event 7	no	13.2	74.9	7.87	83.5	64.6	7.62	78.7	2.62	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	53	6
	Event 8	no	13.1	74.5	7.84	71.8	55.4	7.67	98.4	9.52	0.079	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.08	0.00001	0.001		0.05			0.1	39	0.1
	Event 9	No	11.9	102.1	11.02	90	67.5	7.62	178.4	10.72	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.004	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	24	0.1
	Event 10	No	11.7		9.12		79.5	7.97	147.8	0.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.004	0.000015	0.0005	0.1	0.005	0.00001	0.019		0.05			0.1	74	0.1
	Event 11	No	18.9	100.6	8.7	94.9	83.9	7.86	79.1	1.94	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	52	0.1
	Event 12	No	21.3	106.8	8.92	124.9	116.1	8.16	73.1	0.1	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	66	0.1	1	5
	Event 13	No	19.4		9.11		145.8	8.44	57	0.05	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.1	0.03	0.00001	0.003	0.05	0.05	0.005	74	0.1	129	0.1
	Event 14	No	12	102	11	124.1	93.2	7.42	128.3	0.08	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.0005	0.000015	0.0005	0.1	0.5	0.00001	0.002	0.05	0.05	0.005	48	0.1	79	0.1
	Min		7.30	61.30	7.05	71.80	35.30	5.80	57.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	66.00	0.10	1.00	0.10
	Max		21.30	106.80	12.78	151.00	145.80	8.69	178.40	36.96	0.36	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.01	0.00	0.00	3.00	0.08	0.00	0.02	0.05	0.05	0.01	66.00	0.10	74.00	52.00
	Mean		12.98	86.67	9.43	106.88	77.34	7.76	108.89	5.96	0.05	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.34	0.01	0.00	0.00	0.05	0.05	0.01	66.00	0.10	35.42	5.82
	Count		14.00	11.00	14.00	11.00	14.00	14.00	14.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	1.00	12.00	1.00	1.00	12.00	12.00	12.00
	St. Dev		4.19	15.05	1.74	24.48	23.94	0.68	40.98	10.64	0.10	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.84	0.02	0.00	0.01	#DIV/0!	0.00	#DIV/0!	#DIV/0!	0.00	23.57	14.76
WC-IS	Event 1	No	14.3	90.6	9.28	126.7	100.8	8.14	76	0.32	0.01	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.011	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	80	3
	Event 2	No	12.5	69.9	7.44	109	83.3	7.84	146.8	1.39	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.8	0.005	0.00001	0.001		0.8			0.1	63	0.1
	Event 3	No	9.3	61.2	7.03	48	33	7.64	145.8	40.77	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	41	42
	Event 4	No	7.4	43.7	12.55	52.3	35	5.73	115.9		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	27	0.1
	Event 5	No	7.9	96.4	11.45	87	59	7.86	104.3	5.24	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	48	0.1
	Event 6	No	9.3	72.36	9.55	86.6	60.3	8.28	148	7.78	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	47	6
	Event 7	No	13.3	75.1	7.86	83.8	65.1	7.61	92.6	2.41	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	4	3
	Event 8	No	13.1	74.4	7.82	71.7	55.4	7.62	107.1	10.1	0.076	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	1	4
	Event 9	No	12	102.2	11.02	88.7	66.6	7.55	156.8	11.79	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.003	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	6	0.1
	Event 10	No	11.9		15.88		79.2	7.99	148	0.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.004	0.000015	0.0005	0.1	0.005	0.00001	0.02		0.05			0.1	68	0.1
	Event 11	No	19	105.8	9.15	94	83.2	7.96	92.6	2.15	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	43	0.1
	Event 12	No	21.7	108.2	8.98	125	117.1	8.24	76.2	0.1	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.02	0.05	0.05	0.06	66	0.1	80	2
	Event 13	No	19.6		8.85		146.1	8.43	5	0.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.1	0.01	0.00001	0.003	0.05	0.05	0.05	74	0.1	94	0.1
	Event 14	No	12.1	102.7	11.03	124	93.5	7.84	114.1	0.03	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.0005	0.000015	0.0005	0.1	0.03	0.00001	0.002	0.05	0.05	0.05	48	0.1	57	0.1
	Min		7.40	43.70	7.03	48.00	33.00	5.73	5.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.06	66.00	0.10	1.00	0.10
	Max		21.70	108.20	15.88	126.70	146.10	8.43	156.80	40.77	0.36	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.01	0.00	0.00	0.80	0.02	0.00	0.02	0.05	0.80	0.06	66.00	0.10	94.00	42.00
	Mean		13.10	81.81	9.85	88.44	76.97	7.77	109.23	7.46	0.05	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.16	0.01	0.00	0.00	0.05	0.11	0.06	66.00	0.10	46.31	5.05
	Count		14.00	11.00	14.00	11.00	14.00	14.00	14.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	1.00	12.00	1.00	1.00	12.00	13.00	12.00
	St. Dev		4.25	20.46	2.54	25.50	24.61	0.67	30.18	11.79	0.10	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.20	0.01	0.00	0.01	#DIV/0!	0.22	#DIV/0!	#DIV/0!	0.00	28.14	11.80
CG-IS	Event 1	No	14.1	91.8	9.43	536	423.6	8.19	94.3	6.47	0.01	0.00015	0.00001	0.000005	0.005	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.1			0.1	317	0.1
	Event 2	No	13.3	71.6	7.48	517	401.2	7.73	161.4	1.36	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	293	0.1
	Event 3	No	9.6	62.1	7.07	447	315	8.22	159.2	65.1	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	270	40
	Event 4	No	8.6	44.57	12.06	321.3	349	6.37	61.1		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.05	0.00001	0.001		0.05			0.1	266	0.1
	Event 5	No	9.1	96.1	11.07	473	305	7.86	128.7	4.22	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	293	0.1
	Event 6	No	10.1	73.2	9.4	583	417.2	8.42	189.2	48.5	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	293	55
	Event 7	No	13.6	75.5	7.84	538	420.8	8.15	98.8	3.75	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.002		0.05			0.1	243	4
	Event 8	No	13.9	74.5	7.68	448.3	353.6	8.13	111.9	785.48	1.06	0.00015	0.00001	0.000005	0.0001	0.001	0.52	0.0005	0.011	0.000015	0.0005	0.1	0.35	0.00001	0.002		0.05			0.1	277	450
	Event 9	No	12.9	102.9	10.86	384	294.9	7.95	151.2	32.04	0.44	0.00015	0.00001	0.000005	0.0001	0.001	0.09	0.0005	0.002	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	232	26
	Event 10	No	12.3		8.87		415.7	8.18	149.1	0.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.042		0.05			0.1	299	0.1
	Event 11	No	16.6	101.2	9.17	375.2	315.2	8	101.1	1.2	0.05	0.00015	0.00001	0.000005	0.0001	0.001	0.01	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.004		0.05			0.1	288	0.1
	Event 12	No	20.1	116.9	9.98	438.4	397.7	7.97	101.5	0.1	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.004	0.05	0.05	0.005	66	0.1	292	2
	Event 13	No	17.5		9.56		404.9	8.18	10	0.05	0.11	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	2	0.005	0.00001	0.005	0.05	0.05	0.005	234	0.1	271	2
	Event 14	No	13.3	102.9	10.75	541	420.2	7.64	135	0.01	0.05	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	2	0.005	0.00001	0.004	0.05	0.05	0.005	246	0.1	271	0.1
	Min		8.60	44.57	7.07	321.30	294.90	6.37	10.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	66.00	0.10	232.00	0.10
	Max		20.10	116.90	12.06	583.00	423.60	8.42	189.20	785.48	1.06	0.00	0.00	0.00	0.01	0.00	0.52	0.00	0.01	0.00	0.00	0.10	0.35	0.00	0.04	0.05	0.10	0.01	66.00	0.10	317.00	450.00
	Mean		13.21	82.76	9.37	460.11	373.86	7.93	118.04	86.21	0.14	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.10	0.04	0.00	0.01	0.05	0.05	0.01	66.00	0.10	279.54	44.58
	Count		14.00	11.00	14.00	11.00	14.00	14.00	14.00	11.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	1.00	12.00	1.00	1.00	12.00	13.00	13.00
	St. Dev		3.42	20.96	1.50	79.61	49.44	0.51	47.64	223.55	0.30	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.53	0.10	0.00	0.01	0.00	0.01	0.00	118.79	0.00	23.28	123.15
YR1-RS	Event 1	No	14.9	92.2	9.31	110.7	89.3	8.35	78.3	6.94	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.1			0.1	69	0.1
	Event 2	No	12.7	73.8	7.83	104	79.2	8.15	128.8	1.85	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	50	0.1
	Event 3	No sample																														
	Event 4	No	6.5	24.6	13.05	34.7	36.9	6.84	56.3		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	33	0.1
	Event 5	No	7.9	102.6	12.18	82	59	7.97	157.1	5	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	53	0.1
	Event 6	No	8.8	73.3	10.59	59.7	41.2	8.5	180.9	10	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	36	13
	Event 7	No	12.5	75.5	8.03	69.6	53.1	7.46	111.4	2.19	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	38	3
	Event 8	No	13.1	74.8	7.86	62.9	48.6	7.83	96.6	124.93	0.088	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	35	0.1
	Event 9	No	12.2	102.7	11.02	70.8	53.5	7.53	157.4	7.3	0.3	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.002	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	30	0.1
	Event 10	No	11.6		9.68		53.1	7.91	140.3	2	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.15	0.0005	0.003	0.000015	0.0005	0.1	0.01	0.00001	0.006		0.05			0.1	67	0.1
	Event 11	No	19.8	101.6	8.64	70.5	63.5	7.87	92.3	6.31	0.22	0.00015	0.00001	0.000005	0.0001	0.001	0.16	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.002					0.1	50	5
	Event 12	No	22.1	109.4	9.01	109.7	103.7	8.25	89.5	0.1	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	56	0.1	12	0.1
	Event 13	No	20.3		7.73		124.6	8.69	7	0.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.01	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	53	0.1	73	0.1
	Event 14	No	12.9	103.6	10.93	111.7	85.9	7.88	124.8	-0.1	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.04	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	42	0.1	58	0.1
	Min		6.50	24.60	7.73	34.70	36.90	6.84	7.00	0.10	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	56.00	0.10	12.00	0.10
	Max		22.10	109.40	13.05	110.70	124.60	8.69	180.90	124.93	0.30	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.01	0.05	0.10	0.01	56.00	0.10	73.00	13.00
	Mean		13.48	83.05	9.68	77.46	68.58	7.94	109.28	16.66	0.07	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.06	0.01	56.00	0.10	45.50	1.98
	Count		13.00	10.00	13.00	10.00	13.00	13.00	13.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	12.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	1.00	10.00	1.00	1.00	10.00	12.00	11.00
	St. Dev		4.97	24.97	1.78	24.45	26.74	0.51	48.74	36.55	0.10	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	2.12	0.00	18.20	3.85
LHG-IS	Event 1	No									0.01	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.001	0.000015	0.0005	2	0.005	0.00001	0.001		0.1			2	348	0.1
	Event 2	No									0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	353	2
	Event 3	No sample																														
	Event 4	No	9.9	0	10.71	0	366.9	6.93	76.3		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.1			0.1	295	0.1
	Event 5	No	9.3	97.8	11.22	434	304	8.01	93.1	4.75	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	319	6
	Event 6	No	10.3	49.9	5.59	445.4	320.5	8.34	20.9	26.33	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.1			0.1	268	6
	Event 7	No	13.5	72.4	7.54	476.2	371.3	8.07	39.9	7.45	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.002		0.05			0.1	271	2
	Event 8	No	13.9	72	7.43	429.4	338.3	8.02	88.4	85.15	0.41	0.00015	0.00001	0.000005	0.0001	0.001	0.11	0.0005	0.005	0.000015	0.0005	0.1	0.07	0.00001	0.002		0.05			0.1	273	64
	Event 9	No	13.1	100.5	10.55	340.6	263.3	7.86	111.7	10.46	0.18	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.003	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	200	0.1
	Event 10	No	12.4		10.31		397.9	7.89	53.5	0.05	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.1	0.0005	0.017	0.000015	0.0005	0.1	0.005	0.00001	0.005		0.05			0.1	310	0.1
	Event 11	No	16.1	85.2	7.8	357.9	297	7.62	56.9	4.82	0.05	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.005	0.000015	0.0005	0.1	0.005	0.00001	0.003		0.05			0.1	311	0.1
	Event 12	No	18.8	84.3	7.4	453.4	399.3	7.53	-19.1	0.1	0.05	0.00015	0.00001	0.000005	0.0001	0.001	0.13	0.0005	0.073	0.000015	0.0005	0.1	0.005	0.00001	0.004	0.05	0.05	0.03	273	0.1	280	7
	Event 13	No	17.1		6.45		445.6	7.7	6	0.05	0.13	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.08	0.000015	0.0005	0.1	0.02	0.00001	0.005	0.05	0.05	0.005	270	0.1	293	3
	Event 14	No	12.6	66.2	7.03	585	446.8	7.47	-22.7	3.65	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.13	0.0005	0.039	0.000015	0.0005	0.1	0.005	0.00001	0.004	0.05	0.05	0.005	267	0.1	293	3
	Min		9.30	0.00	5.59	0.00	263.30	6.93	-22.70	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.03	273.00	0.10	200.00	0.10
	Max		18.80	100.50	11.22	476.20	446.80	8.34	111.70	85.15	0.41	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.08	0.00	0.00	2.00	0.07	0.00	0.01	0.05	0.10	0.03	273.00	2.00	353.00	64.00
	Mean		13.36	70.26	8.37	367.11	359.17	7.77	45.90	17.39	0.08	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.02	0.00	0.00	0.27	0.01	0.00	0.00	0.05	0.06	0.03	273.00	0.27	293.42	7.54
	Count		11.00	8.00	11.00	8.00	11.00	11.00	11.00	8.00	12.00	11.00	11.00	11.00	11.00	11.00	12.00	11.00	12.00	11.00	11.00	11.00	11.00	11.00	12.00	1.00	11.00	1.00	1.00	11.00	12.00	12.00
	St. Dev		3.16	32.63	2.01	155.56	55.83	0.39	41.46	27.39	0.12	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.03	0.00	0.00	0.55	0.02	0.00	0.00	0.00	0.02	0.02	2.12	0.55	40.72	17.97
YR2-RS	Event 1	No	15.3	93.1	9.32	109.4	89.2	8.38	76.5	3.28	0.01	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	74	2
	Event 2	No	13	73.6	7.74	101	78.3	8.11	145.4	2.29	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	39	0.1
	Event 3	No sample																														
	Event 4	No	6.5	83.35	19.18	105.2	38.4	7.24	64.5		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	38	0.1
	Event 5	No	8.1	95.2	11.26	82	55	7.81	132.6	5.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	57	0.1
	Event 6	No	10.2	86.3	11.87	62	42.9	8.19	258.3	14.21	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	47	12
	Event 7	No	12.7	75.7	8.02	71.3	54.6	7.65	104.3	2.84	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	67	5
	Event 8	No	13.4	75.1	7.84	131.6	49.7	7.71	99.5	7.06	0.1	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	48	2
	Event 9	No	12.5	103	10.97	68.4	52.1	7.47	148.1	9.56	0.29	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	22	0.1
	Event 10	No	12.3		9.94		53.3	7.86	109.8	0.05	0.22	0.00015	0.00001	0.000005	0.0001	0.001	0.16	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.004		0.05			0.1	63	0.1
	Event 11	No	19.9	101.8	8.3	74.5	63.1	7.48	115	5.07	0.1	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	92	3
	Event 12	No	22.9	108.2	8.79	109.7	105			0.1	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	21	7	1	0.1
	Event 13	No	20.9		8.24		127.4	8.56	16	0.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.01	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.2	0.05	0.005	61	0.1	72	0.1
	Event 14	No	13.5	103	10.74	112.9	88	7.97	81.1	0.18	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.04	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	44	0.1	59	0.1
	Min		6.50	73.60	7.74	62.00	38.40	7.24	16.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	21.00	0.10	1.00	0.10
	Max		22.90	108.20	19.18	131.60	127.40	8.56	258.30	14.21	0.29	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.10	0.02	0.00	0.00	0.05	0.05	0.01	21.00	7.00	92.00	12.00
	Mean		13.94	89.54	10.17	91.51	69.00	7.87	112.59	4.95	0.08	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	21.00	0.73	51.67	2.24
	Count		13.00	10.00	13.00	10.00	13.00	12.00	12.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	12.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	1.00	11.00	1.00	1.00	11.00	12.00	11.00
	St. Dev		5.02	12.59	3.19	22.92	27.19	0.41	60.89	4.42	0.09	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	28.28	1.99	24.79	3.51
SSC-IS	Event 1	No flow																														
	Event 2	No flow																														
	Event 3	No	10.4	61.4	6.87	108	78	7.5	152.2	42.72	0.00015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	84	8
	Event 4	No	8.6	61.4	12.09	108	96.9	7.19	53.1		0.00015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	69	0.1
	Event 5	No	8.8	96.2	11.17	172	119	7.81	128.7	5.49	0.00015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.1			0.1	84	0.1
	Event 6	No	10.2	73	10.04	165.5	118.7	8.17	233.8	23.7	0.00015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	81	3
	Event 7	No	14.4	75	7.66	147.5	117.6	7.66	101.1	8.09	0.00015	0.00015	0.00001	0.000005	0.0001	0.001	0.25	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.002		0.05			0.1	96	0.1
	Event 8	No	15.2	75.3	7.56	63.8	106.9	7.74	103.3	124.93	1.73	0.00015	0.00001	0.000005	0.0001	0.001	0.69	0.0005	0.011	0.000015	0.0005	0.1	0.005	0.00001	0.002		0.05			0.1	81	36
	Event 9	No	14.2	102.6	10.52	140.1	111.2	7.4	150.1	43.88	1.58	0.00015	0.00001	0.000005	0.0001	0.001	0.56	0.0005	0.019	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	47	0.1
	Event 10	No	15.9		5.87		123.7	7.91	104.5	2	0.3	0.00015	0.00001	0.000005	0.0001	0.001	0.14	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.007		0.05			0.1	189	0.1
	Event 11	No	20	97.7	8.66	69.9	67.3	7.44	88.5	6.93	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	38	0.1
	Event 12	No flow																														
	Event 13	No flow																														
	Event 14	No	13.8	89.9	9.31	159.9	125.6	7.67	69.8	1	0.18	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.001	0.000015	0.0005	0.1	0.05	0.00001	0.001		0.05		54	0.1	38	0.1
	Min		8.60	61.40	5.87	63.80	67.30	7.19	53.10	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.00	0.05	0.00	0.00	0.10	38.00	0.10
	Max		20.00	102.60	12.09	172.00	125.60	8.17	233.80	124.93	1.73	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.02	0.00	0.00	0.10	0.01	0.00	0.01	0.00	0.10	0.00	0.00	0.10	189.00	36.00
	Mean		13.15	80.33	8.98	121.85	106.49	7.65	118.51	28.75	0.41	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	#DIV/0!	0.06	#DIV/0!	#DIV/0!	0.10	85.44	5.29
	Count		10.00	8.00	10.00	8.00	10.00	10.00	10.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00	0.00	9.00	0.00	0.00	9.00	9.00	9.00
	St. Dev		3.83	16.36	2.12	41.17	19.83	0.30	51.45	40.99	0.72	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.02	#DIV/0!	#DIV/0!	0.00	43.13	11.82
TR-RS	Event 1	No	12.9	94.6	9.99	21.1	16.2	7.83	80.5	0.07	0.01	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	43	0.1
	Event 2	No	12	76	8.2	20	15	7.87	153	1.02	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	1.1	0.005	0.00001	0.001		1.1			0.1	12	0.1
	Event 3	No Sample																														
	Event 4	No	6.1	85.3	14.78	20.55	12.3	7.03	67.6		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	7	0.1
	Event 5	No	5.8	103.9	13.01	27	17	8.1	180.3	4.15	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	20	0.1
	Event 6	No	9.5	102.2	11.66	42.4	29.8	8.8	233.9	0.2	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	27	0.1
	Event 7	No	14.6	92.4	11.53	52.9	42.5	7.87	95.4	1.01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	52	4
	Event 8	No	16.1	81.5	8.02	46.4	38.6	7.7	95.7	1.84	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	37	0.1
	Event 9	No	9.5	111	12.67	21.5	15.1	7.3	190.8	0	0.08	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	1	0.1
	Event 10	No	12		7.92		22	7.46	64.6	0.05	0.05	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.007		0.05			0.1	37	0.1
	Event 11	No	13.2	91.4	8.97	22.3	17.2	6.86	109.9	5.08	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	1	3
	Event 12	No	19.3	102.3	8.91	52.3	46.7	7.76	109.6	0.1	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.003	0.000015	0.0005	7	0.005	0.00001	0.001	0.05	0.05	0.02	56	0.1	1	0.1
	Event 13	No	14.6		8.57		26	7.7	14	0.05	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.003	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.1	0.005	6	0.1	41	0.1
	Event 14	No	11.2	95.3	10.46	23.4	17.2	7.77	89.3	-0.31	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.1	0.005	7	0.1	9	0.1
	Min		5.80	76.00	7.92	20.00	12.30	6.86	14.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.02	56.00	0.10	1.00	0.10
	Max		19.30	111.00	14.78	52.90	46.70	8.80	233.90	5.08	0.08	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	7.00	0.01	0.00	0.01	0.05	1.10	0.02	56.00	0.10	52.00	4.00
	Mean		12.06	94.06	10.36	32.65	24.28	7.70	114.20	1.35	0.03	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.82	0.01	0.00	0.00	0.05	0.15	0.02	56.00	0.10	21.64	0.72
	Count		13.00	10.00	13.00	10.00	13.00	13.00	13.00	10.00	11.00	11.00	11.00	11.00	11.00	11.00	12.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	1.00	11.00	1.00	1.00	11.00	11.00	11.00
	St. Dev		3.95	11.00	2.30	14.08	11.90	0.51	62.20	1.78	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	1.99	0.00	0.00	0.00	0.00	0.30	0.01	35.36	0.00	18.61	1.34
YK-IS (D/S)	Event 1	No	13.2	91.1	9.56	36.9	28.6	7.55	101.4	6.42	0.26	0.00015	0.00001	0.000005	0.0001	0.001	0.39	0.0005	0.006	0.000015	0.0005	2	0.005	0.00001	0.001		0.05			2	22	0.1
	Event 2	No	10.1	65.9	7.42	29	20.5	8.39	157.8	9.1	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.15	0.0005	0.001	0.000015	0.0005	0.2	0.005	0.00001	0.001		0.2			0.1	1	14
	Event 3	No	4.7	84.4	10.85	36	22	6.56	98.2	59.63	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.17	0.00001	0.001		0.05			0.1	44	104
	Event 4	No	3.5	96.4	12.79	30.8	18.2	6.87	64		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.03	0.00001	0.001		0.05			0.1	18	0.1
	Event 5	No	5.4	91.8	11.6	35	22	6.91	172.4	10.56	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	31	8
	Event 6	No	7.6	88.5	10.58	31.6	21.1	8.02	235.6	7.75	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	24	6
	Event 7	No	9.5	68.7	7.84	29.1	20.5	7.29	108.6	6	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	43	18
	Event 8	No	11.4	68.1	7.44	28.6	21.2	6.57	118	10.96	0.16	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	27	2
	Event 9	No	10.4	94.7	10.59	29.9	21.5	6.6	170	4.67	0.26	0.00015	0.00001	0.000005	0.0001	0.001	0.1	0.0005	0.002	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	1	0.1
	Event 10	No	10.2		8.78		20.3	6.78	63.1	4	0.25	0.00015	0.00001	0.000005	0.0001	0.001	0.23	0.0005	0.004	0.000015	0.0005	0.1	0.01	0.00001	0.003		0.05			0.1	30	8
	Event 11	No	15.6	101.1	8.82	24.7	20.2	6.66	121.2	6.32	0.42	0.00015	0.00001	0.000005	0.0001	0.001	0.47	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	12	9
	Event 12	No	13.2	100.5	9.34	28.9	22.4	6.8	97.8	20.22	0.28	0.00015	0.00001	0.000005	0.0001	0.001	0.37	0.0005	0.006	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	11	0.1	1	28
	Event 13	No	12.9		8.8		25.8	7.97	17	12	0.26	0.00015	0.00001	0.000005	0.0001	0.001	0.31	0.0005	0.003	0.000015	0.0005	9	0.02	0.00001	0.001	0.05	0.1	0.005	6	0.1	1	9
	Event 14	No	8.2	91.8	10.81	35	23.8	7.64	96.2	4.41	0.27	0.00015	0.00001	0.000005	0.0001	0.001	0.27	0.0005	0.005	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	10	0.1	25	0.1
	Min		3.50	65.90	7.42	24.70	18.20	6.56	17.00	4.00	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	11.00	0.10	1.00	0.10
	Max		15.60	101.10	12.79	36.90	28.60	8.39	235.60	59.63	0.42	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.01	0.00	0.00	2.00	0.17	0.00	0.00	0.05	0.20	0.01	11.00	2.00	44.00	104.00
	Mean		9.71	86.47	9.66	30.95	22.01	7.19	115.81	12.46	0.15	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.27	0.02	0.00	0.00	0.05	0.06	0.01	11.00	0.26	21.17	16.44
	Count		14.00	11.00	14.00	11.00	14.00	14.00	14.00	13.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	12.00	1.00	12.00	1.00	1.00	12.00	12.00	12.00
	St. Dev		3.65	13.08	1.64	3.67	2.66	0.63	56.55	15.28	0.14	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	2.48	0.04	0.00	0.00	0.00	0.04	0.00	3.54	0.53	15.56	27.65
NZG-IS	Event 1	No	13.4	91.3	9.54	53.8	41.8	7.39	108.1	5.14	0.14	0.00015	0.00001	0.000005	0.0001	0.001	0.21	0.0005	0.005	0.000015	0.0005	3	0.005	0.00001	0.001		0.05			3	43	0.1
	Event 2	No	10.2	70.2	7.89	50	36	7.69	148	3.67	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.1			0.1	52	0.1
	Event 3	No	5.2	80.8	10.27	39	24	6.95	125.4	51.33	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.1			0.1	48	53
	Event 4	No	4.7	95.4	12.28	39.8	24.4	6.67	54.6		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.03	0.00001	0.001		0.05			0.1	22	0.1
	Event 5	No	6.2	90.4	11.19	45	29	6.97	158	7.68	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	34	4
	Event 6	No	8.1	89	10.53	41	27.7	7.62	154.2	4.18	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	31	6
	Event 7	No	9.7	69	7.84	37	26.2	6.89	117.9	2.46	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	44	9
	Event 8	No	11.4	68.1	7.45	33.2	24.6	6.68	102.2	5.7	0.1	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	27	4
	Event 9	No	11	94.5	10.41	36	26.4	6.5	168.8	4.7	0.19	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.002	0.000015	0.0005	0.1	0.01	0.00001	0.001		0.05			0.1	13	0.1
	Event 10	No	9.6		9.44		27	6.97	90	4	0.17	0.00015	0.00001	0.000005	0.0001	0.001	0.15	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.002		0.05			0.1	39	7
	Event 11	No	15	98.8	8.74	29.6	23.9	6.75	117.8	3.03	0.23	0.00015	0.00001	0.000005	0.0001	0.001	0.22	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	79	0.1
	Event 12	No	13.4	101.2	9.38	40.6	31.6	7.02	99.3	1.2	0.12	0.00015	0.00001	0.000005	0.0001	0.001	0.14	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.01	17	0.1	1	4
	Event 13	No	13.2		9.31		39.2	7.54	17	2	0.11	0.00015	0.00001	0.000005	0.0001	0.001	0.14	0.0005	0.0005	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	10	0.1	1	0.1
	Event 14	No	8.5	92	10.77	49.7	34	7.92	95.8	3.68	0.26	0.00015	0.00001	0.000005	0.0001	0.001	0.2	0.0005	0.003	0.000015	0.0005	0.1	0.06	0.00001	0.001	0.05	0.05	0.005	14	0.1	32	0.1
	Min		4.70	68.10	7.45	29.60	23.90	6.50	17.00	1.20	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	17.00	0.10	1.00	0.10
	Max		15.00	101.20	12.28	53.80	41.80	7.92	168.80	51.33	0.23	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.01	0.00	0.00	3.00	0.03	0.00	0.00	0.05	0.10	0.01	17.00	3.00	79.00	53.00
	Mean		9.97	86.25	9.65	40.45	29.70	7.11	111.22	7.60	0.09	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.34	0.01	0.00	0.00	0.05	0.06	0.01	17.00	0.34	36.08	7.29
	Count		14.00	11.00	14.00	11.00	14.00	14.00	14.00	13.00	13.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	1.00	12.00	1.00	1.00	12.00	12.00	12.00
	St. Dev		3.30	12.24	1.39	7.04	6.01	0.39	42.56	13.78	0.08	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.80	0.01	0.00	0.00	0.00	0.02	0.00	4.95	0.80	21.54	14.24
YK-IS	Event 1	No	14.2	94	9.63	32.9	26.1	7.58	172.4	10.66	0.41	0.00015	0.00001	0.000005	0.0001	0.001	0.49	0.0005	0.011	0.000015	0.0005	2	0.005	0.00001	0.001		0.05			2	20	8
	Event 2	No	10.4	69.7	7.8	30	21.4	7.65	139.3	9.44	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.2	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	24	7
	Event 3	No	4.3	81.5	10.6	31	31	6.9	121.6	32.77	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	46	36
	Event 4	No	4.2	93.8	12.23	27.6	16.6	6.7	48.1		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	14	4
	Event 5	No	6	91.2	11.35	32	20	6.6	153.5	11.62	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	19	5
	Event 6	No	8.6	85.6	10	29	19.9	7.2	185.8	6.67	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	34	4
	Event 7	No	10.3	67.2	7.54	26.7	19.2	6.74	91.7	4.04	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.09	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	39	11
	Event 8	No	12.4	66.6	7.12	26.5	20.1	6.57	93.8	6.29	0.18	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.1	0.03	0.00001	0.001		0.05			0.1	27	0.1
	Event 9	No	12	92	9.92	27.9	21	6.24	134.2	5.39	0.28	0.00015	0.00001	0.000005	0.0001	0.001	0.12	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	1	0.1
	Event 10	No	8.8		10.45		21.2	7.05	80.5	7	0.33	0.00015	0.00001	0.000005	0.0001	0.001	0.26	0.0005	0.006	0.000015	0.0005	0.1	0.01	0.00001	0.002		0.05			0.1	35	6
	Event 11	No	15.9	96	8.29	23.3	19.2	6.33	98.6	7.47	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.4	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	2	7
	Event 12	No	14.6	98.3	8.84	27	21.6	6.58	62.5	5.72	0.3	0.00015	0.00001	0.000005	0.0001	0.001	0.39	0.0005	0.007	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.02	10	0.1	1	5
	Event 13	No	14.8		8.38		24.6	7.29	34	6	0.32	0.00015	0.00001	0.000005	0.0001	0.001	0.35	0.0005	0.003	0.000015	0.0005	5	0.02	0.00001	0.001	0.05	0.05	0.005	5	0.1	1	5
	Event 14	No	9.4	89.6	10.26	31.5	22.1	7.51	53.3	4.7	0.34	0.00015	0.00001	0.000005	0.0001	0.001	0.29	0.0005	0.007	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.005	9	0.1	21	5
	Min		4.20	66.60	7.12	23.30	16.60	6.24	34.00	4.04	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.02	10.00	0.10	1.00	0.10
	Max		15.90	98.30	12.23	32.90	31.00	7.65	185.80	32.77	0.41	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.01	0.00	0.00	2.00	0.03	0.00	0.00	0.05	0.05	0.02	10.00	2.00	46.00	36.00
	Mean		10.42	85.08	9.46	28.54	21.71	6.92	104.95	9.06	0.17	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.26	0.01	0.00	0.00	0.05	0.05	0.02	10.00	0.26	21.83	7.77
	Count		14.00	11.00	14.00	11.00	14.00	14.00	14.00	13.00	13.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	12.00	1.00	12.00	1.00	1.00	12.00	12.00	12.00
	St. Dev		3.97	12.02	1.55	2.79	3.68	0.45	47.04	7.68	0.16	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.00	1.42	0.01	0.00	0.00	0.00	0.00	0.01	3.54	0.53	15.72	9.04
YK-RS	Event 1	No	15.8	87.5	8.96	30.5	25.1	7.12	142	5.71	0.35	0.00015	0.00001	0.000005	0.0001	0.001	0.45	0.0005	0.005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	20	0.1
	Event 2	No	12.7	71.4	7.58	31	24	7.54	138.9	9.77	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.19	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	30	6
	Event 3	No	3.4	82	10.91	31	18	6.73	128.8	20.28	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	40	3
	Event 4	No	3.9	95.3	12.53	26.9	16.1	6.58	44.2		0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	15	0.1
	Event 5	No	6.4	88.7	10.95	32	21	6.5	158.8	8.97	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	25	5
	Event 6	No	10.4	91.9	10.29	30.5	22	7.09	192.4	3.93	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	18	5
	Event 7	No	11.7	70.8	7.69	25.2	18.8	6.79	93.8	3.41	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.12	0.0005	0.0005	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	40	9
	Event 8	No	13	68.9	7.26	24.9	19.2	6.59	99.1	7.45	0.18	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.003	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	1	0.1
	Event 9	No	14	99.1	10.2	28	22.1	6.38	143.2	8.25	0.32	0.00015	0.00001	0.000005	0.0001	0.001	0.16	0.0005	0.003	0.000015	0.0005	0.1	0.02	0.00001	0.001		0.05			0.1	1	0.1
	Event 10	No	13.1		6.76		21.4	6.75	73.6	10	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.31	0.0005	0.009	0.000015	0.0005	0.1	0.01	0.00001	0.002		0.05			0.1	31	7
	Event 11	No	18	101.3	8.35	23.5	20.4	6.4	119.1	6.3	0.37	0.00015	0.00001	0.000005	0.0001	0.001	0.54	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001		0.05			0.1	78	5
	Event 12	No	17.7	101.3	8.5	26.3	22.7	6.58	94.6	7.89	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.41	0.0005	0.004	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	10	0.1	1	13
	Event 13	No	17.9		7.68		28.9	7.43	20	9	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.37	0.0005	0.003	0.000015	0.0005	6	0.04	0.00001	0.001	0.05	0.1	0.005	1	0.1	1	6
	Event 14	No	11.2	93.3	10.23	29.2	21.5	7.42	64	5.82	0.39	0.00015	0.00001	0.000005	0.0001	0.001	0.32	0.0005	0.005	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	8	0.1	25	0.1
	Min		3.40	68.90	6.76	23.50	16.10	6.38	20.00	3.41	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	10.00	0.10	1.00	0.10
	Max		18.00	101.30	12.53	32.00	28.90	7.54	192.40	20.28	0.37	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.01	0.00	0.00	0.10	0.02	0.00	0.00	0.05	0.05	0.01	10.00	0.10	78.00	13.00
	Mean		12.09	87.11	9.14	28.16	21.51	6.85	108.04	8.21	0.18	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.05	0.05	0.01	10.00	0.10	25.00	4.45
	Count		14.00	11.00	14.00	11.00	14.00	14.00	14.00	13.00	13.00	12.00	12.00	12.00	12.00	12.00	13.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	1.00	12.00	1.00	1.00	12.00	12.00	12.00
	St. Dev		4.98	12.29	1.76	2.97	3.31	0.38	47.36	4.31	0.17	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	1.64	0.01	0.00	0.00	0.00	0.01	0.00	6.36	0.00	21.90	3.91

d are half the Limit of reporting for statistical use (LOR/2)

APPENDIX B OBSERVATIONS AND FIELD DATA

26th + 27th April 2023. 26.04.23 → sunny, calm, warm.

22-013 Pre-construction WQM		Grease/oil/ sheen	Temperature (°C)	Dissolved Oxygen (%)	Dissolved Oxygen (ppm)	Specific Conductivity (SPC uS/cm)	Conductivity (uS/cm)	pH	Oxidation Reduction Potential (mV)	Turbidity (NTU)
WC-RS	Month	NO	12.0	102.0	11.0	124.1	93.2	7.42	128.3	0.08
	Comment	DUP01. low flow, clear, low NTU.								
WC-IS	Month	No	12.1	102.7	11.03	124.0	93.5	7.84	114.1	0.03
	Comment	low flow, clear, low NTU.								
CG-IS	Month	No	~~12~~ 13.3	102.9	10.75	541	420.2	7.64	135.0	0.01
	Comment	Very low flow Algal growth, very in used channel.								
YR1-RS	Month	NO	12.9	103.6	10.93	111.7	85.9	7.88	124.8	-0.10
	Comment	low flow, clear, v. low NTU (-)								

22-013 Pre-construction WQM		Grease/oil/ sheen	Temperature (°C)	Dissolved Oxygen (%)	Dissolved Oxygen (ppm)	Specific Conductivity (SPC uS/cm)	Conductivity (uS/cm)	pH	Oxidation Reduction Potential (mV)	Turbidity (NTU)
LHG-IS	Month	NO	12.6	66.2	7.03	585	446.8	7.47	-22.7	3.65
	Comment	low flow, pool for sampling, algae.								
YR2-RS	Month	NO	13.5	103.0	10.74	112.9	88.0	7.97	81.1	0.18
	Comment	low flow, low NTU.								
SSC-IS	Month	NO	13.8	89.9	9.31	159.9	125.6	7.67	~~269.8~~	1.00
	Comment	Beeping flow, unconnected to YR. Extent of flow @ the point the path ended, flowing U/S.								
TR-RS	Month	NO	11.2	95.3	10.46	~~523.4~~	17.2	7.77	89.3	-0.31
	Comment	Sediment plume from wave achon (boat) refer to photo. Sample + probe beyond sediment plume using 4m extension.								
YK-IS (D/S)	Month	NO	8.2	91.8	10.81	35.0	23.8	7.64	96.2	4.41
	Comment	low flow.								

<0.04
27.04

breeze
sunny
partly-
cloudy.

22-013 Pre-construction WQM		Grease/oil/ sheen	Temperature (°C)	Dissolved Oxygen (%)	Dissolved Oxygen (ppm)	Specific Conductivity (SPC uS/cm)	Conductivity (uS/cm)	pH	Oxidation Reduction Potential (mV)	Turbidity (NTU)
NZG-IS	Month	No	8.5	92.0	10.77	49.7	34.0	7.92	95.8	3.68
	Comment	low flow.								
YK-IS	Month	No	9.4	89.6	10.26	31.5	22.1	7.51	53.3	4.7
	Comment	Milky water, low flow.								
YK-RS	Month	No	11.2	93.3	10.23	29.2	21.5	7.42	64.0	5.82
	Comment	low flow.								

APPENDIX C LABORATORY CERTIFICATES

Charles Sturt University

ENVIRONMENTAL AND ANALYTICAL LABORATORIES

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NGH Environmental
Suite 1/39 Fitzmaurice Strret
Wagga Wagga NSW 2650
Attention: Nicole Isles

Friday, May 19, 2023

NATA Accredited Laboratory Number: 9597

Accredited for compliance with ISO/IEC 17025 - Testing

LABORATORY ANALYSIS REPORT

Report Number:2304-0083
Page 1 of 17
For all enquiries related to this report please quote document number: 2304-0083

Facility:

Order #

Date Analysis Commenced
28-April-2023

Sample Type
Water

Collected By
N. Smith

Date Received
28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0507	**WC-RS** 26.03.23					
		Aluminium (dissolved)	**0.04**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**15.8**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**48**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.03**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**2.21**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.003**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**<0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**0.50**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**79**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2

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Water

Collected By
N. Smith

Date Received
28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0507	**WC-RS** 26.03.23					
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0508	**WC-IS** 26.03.23					
		Aluminium (dissolved)	**0.04**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**15.5**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**48**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.03**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**2.15**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.003**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**0.01**	mg/L	LTM-W-030	0.01

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Report Number:2304-0083
Page 3 of 17
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Facility:

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Date Analysis Commenced
28-April-2023

Sample Type
Water

Collected By
N. Smith

Date Received
28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0508	**WC-IS** 26.03.23					
		Phosphorus, Total	**0.03**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**57**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0509	**CG-IS** 26.03.23					
		Aluminium (dissolved)	**0.05**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**89.1**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**246**	mg/L	LTM-W-038	2
		Iron (dissolved)	**<0.01**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**5.61**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000

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Friday, May 19, 2023

NATA Accredited Laboratory Number: 9597

Accredited for compliance with ISO/IEC 17025 - Testing

LABORATORY ANALYSIS REPORT

Report Number:2304-0083

For all enquiries related to this report please quote document number: 2304-0083

Facility:

Order #

Date Analysis Commenced
28-April-2023

Sample Type
Water

Collected By
N. Smith

Date Received
28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0509	**CG-IS** 26.03.23					
		Nickel (dissolved)	**0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**<0.01**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**273**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.004**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0510	**YR1-IS** 26.03.23					
		Aluminium (dissolved)	**0.06**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**14.0**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**42**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.04**	mg/L	APHA 3030 B/3120 B	0.01

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Attention: Nicole Isles

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N. Smith

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23Apr-0510	**YR1-IS** 26.03.23					
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**<0.01**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**58**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0511	**LHG-IS** 26.03.23					
		Aluminium (dissolved)	**0.06**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**97.4**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000

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28-April-2023

Sample Type
Water

Collected By
N. Smith

Date Received
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23Apr-0511	**LHG-IS** 26.03.23					
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**267**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.13**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**5.69**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.039**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**<0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**<0.01**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**319**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.004**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0512	**YR2-IS** 26.03.23					
		Aluminium (dissolved)	**0.06**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1

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Water

Collected By
N. Smith

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28-April-2023

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23Apr-0512	**YR2-IS** 26.03.23					
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**14.5**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**44**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.04**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.002**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**<0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**<0.01**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**59**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.002**	mg/L	APHA 3030 B/3120 B	0.002

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Water

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N. Smith

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EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0513	**SSC-IS** 26.03.23					
		Aluminium (dissolved)	**0.18**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**13.0**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**54**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.07**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**5.14**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**0.002**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**0.05**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**71**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2

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23Apr-0513	**SSC-IS** 26.03.23					
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0514	**TR-RS** 27.03.23					
		Aluminium (dissolved)	**<0.03**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**7**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.03**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**<0.01**	mg/L	LTM-W-030	0.01

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23Apr-0514	**TR-RS** 27.03.23					
		Phosphorus, Total	**<0.01**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**9**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0515	**YK-IS (d/s)** 27.03.23					
		Aluminium (dissolved)	**0.27**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**10**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.27**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.005**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000

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23Apr-0515	**YK-IS (d/s)** 27.03.23					
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**<0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**0.02**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**25**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0516	**NZG-IS** 27.03.23					
		Aluminium (dissolved)	**0.26**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**3.17**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**14**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.20**	mg/L	APHA 3030 B/3120 B	0.01

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LABORATORY ANALYSIS REPORT

Report Number:2304-0083

For all enquiries related to this report please quote document number: 2304-0083

Facility:

Order #

Date Analysis Commenced
28-April-2023

Sample Type
Water

Collected By
N. Smith

Date Received
28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0516	**NZG-IS** 27.03.23					
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.003**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**0.06**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**32**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0517	**YK-IS** 27.03.23					
		Aluminium (dissolved)	**0.34**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000

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Wagga Wagga NSW 2650
Attention: Nicole Isles

Friday, May 19, 2023

NATA Accredited Laboratory Number: 9597

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Date Analysis Commenced
28-April-2023

Sample Type
Water

Collected By
N. Smith

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28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0517	**YK-IS** 27.03.23					
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**9**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.29**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.007**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**0.03**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**21**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0518	**YK-RS** 27.03.23					
		Aluminium (dissolved)	**0.39**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1

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N. Smith

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28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0518	**YK-RS** 27.03.23					
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**8**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.32**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.005**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**0.02**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**25**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002

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Water

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EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0519	**DUP01** 26.03.23					
		Aluminium (dissolved)	**0.04**	mg/L	APHA 3030 B/3120 B	0.03
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Iron (dissolved)	**0.03**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Manganese (dissolved)	**0.003**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Apr-0520	**Water Blank**					
		Aluminium (dissolved)	**<0.03**	mg/L	APHA 3030 B/3120 B	0.03
		Ammonia as N	**<0.1**	mg/L	LTM-W-042	0.1
		Arsenic (dissolved)	**<0.0003**	mg/L	APHA 3030 B/3120 B	0.0003
		Cadmium (dissolved)	**<0.00002**	mg/L	APHA 3030 B/3120 B	0.0000
		Calcium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002

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28-April-2023

Sample Type
Water

Collected By
N. Smith

Date Received
28-April-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Apr-0520	**Water Blank**					
		Total Hardness as CaCO3	**<2**	mg/L	LTM-W-038	2
		Iron (dissolved)	**<0.01**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**<2.00**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Mercury (dissolved)	**<0.00003**	mg/L	APHA 3030 B/3120 B	0.0000
		Nickel (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Nitrogen, total	**<0.2**	mg/L	* APHA 4500-Norg B + 4110 B	0.2
		Nitrate/Nitrite as N	**<0.1**	mg/L	LTM-W-014	0.1
		Ortho-Phosphate as P	**<0.01**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**<0.01**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**<2**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**<0.2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002

Note:

**** NATA Accreditation does not cover the performance of this service.***

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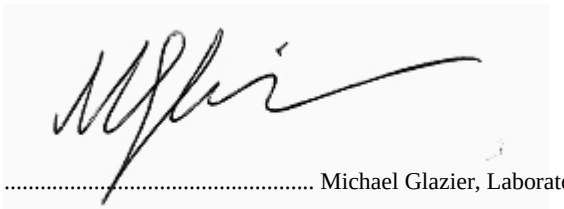
		28-April-2023
Sample Type	**Collected By**	**Date Received**
Water	N. Smith	28-April-2023

EAL ID	Client ID. Date/Time sample taken	Test	Result (units)	Method Reference	Limit of Reporting



Signed ..... Michael Glazier, Laboratory Manager.

All samples analysed as received.
All soil results are reported on a dry basis.
The EAL takes no responsibility for the end use of results within this report.
This report shall not be reproduced except in full.
This report replaces any previously issued report

APPENDIX D RPD TABLE

			Al (mg/L)	As (mg/L)	Cd (mg/L)	Cr (mg/L)	Cu (mg/L)	Cyanide (mg/L)	Fe (mg/L)	Pb (mg/L)	Mn (mg/L)	Hg (mg/L)	Ni (mg/L)	Ag (mg/L)	Zn (mg/L)
DUP01	Event 1	DUP01	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.003	0.000015	0.0005	0.00001	0.001
		YR1-IS	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.003	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Event 2	DUP01	<0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.000015	0.0005	0.00001	0.001
		WC-IS	<0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.002	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range except Mn**	0%	0%	0%	0%	0%	0%	0%	0%	67%	0%	0%	0%	0%
	Event 3	DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		Yk-IS (D/S	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
		DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		WC-RS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Event 4	DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		WC-RS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Event 5	DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		WC-RS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Event 6	DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		WC-RS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Event 7	DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		WC-RS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Event 8	DUP01	1.79	0.00015	0.00001	0.000005	0.0001	0.001	0.73	0.0005	0.011	0.000015	0.0005	0.00001	0.002
		SSC-IS	1.73	0.00015	0.00001	0.000005	0.0001	0.001	0.69	0.0005	0.011	0.000015	0.0005	0.00001	0.002
		RPD% - **Acceptable Range**	3.4090909	0%	0%	0%	0%	0%	5.63380282	0%	0%	0%	0%	0%	0%
	Event 9	DUP01	0.35	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.003	0.000015	0.0005	0.00001	0.001
		WC-RS	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.004	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	2.82	0%	0%	0%	0%	0%	28.57	0%	0%	0%	0%	0%	0%
	Event 10	DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.09	0.0005	0.005	0.000015	0.0005	0.00001	0.006
		WC-RS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.08	0.0005	0.004	0.000015	0.0005	0.00001	0.019
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	11.76	0%	0%	0%	0%	0%	0%
	Event 11	DUP01	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		WC-RS	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
	Event 12	DUP01	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.006	0.000015	0.0005	0.00001	0.002
		WC-RS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	60%	0%	85%	0%	0%	0%	33%
	Event 13	DUP01	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.00001	0.002
		WC-IS	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.00001	0.003
		RPD% - **Acceptable Range**	33%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	20%
	Event 14	DUP01	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.0005	0.000015	0.0005	0.00001	0.002
		WC-RS	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.03	0.0005	0.0005	0.000015	0.0005	0.00001	0.05
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	92%
Water Blan	Event 1	**Nothing above LOR**	<0.02	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 2	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 3	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 4	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 5	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 6	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 7	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 8	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 9	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 10	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 11	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 12	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 13	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002
	Event 14	**Nothing above LOR**	<0.03	<0.0003	<0.00002	<0.00001	<0.0002	<0.002	<0.01	<0.001	<0.001	<0.00003	<0.001	<0.00002	<0.002

RPD % $|(x_2 - x_1)|/((x_2 + x_1)/2)$

How to calculate the Relative Percent Difference (RPD)

The basic equation for RPD is

$$RPD = \frac{|R1 - R2|}{\left(\frac{R1 + R2}{2}\right)} \times 100,$$

where

$R1$ is sample 1, and

$R2$ is sample 2.

R1 and R2 are your sample and duplicate values. Basically, this equation has you calculate the RPD by dividing the difference between the sample and duplicate by the average of the two. Using absolute value signs ensures the RPD doesn't end up as a negative percentage, which wouldn't make sense when looking for a percent difference.

The equation you plug into Excel looks like this:

=ABS((B3-C3)/AVERAGE(B3:C3)*100)

ABS stands for Absolute Value. Using the cell labels in the equation, as seen above (B3, C3), allows you to use the equation down for all your sample/duplicate pairs so you don't have to write a new equation each time. You can do this by clicking on the cell with the equation in it, then click and drag the bottom right corner of the cell down for the rest of your samples.

APPENDIX E CALIBRATION CERTIFICATES

Multi Parameter Water Meter

Instrument **YSI Pro DSS**
Serial No. **15J100066**

Air-Met Scientific Pty Ltd
1300 137 067

Item	Test	Pass	Comments
Battery	Charge Condition	✓	
	Fuses	✓	
	Capacity	✓	
	Recharge OK?	✓	
Switch/keypad	Operation	✓	
Display	Intensity	✓	
	Operation (segments)	✓	
Grill Filter	Condition	✓	
	Seal	✓	
PCB	Condition	✓	
Connectors	Condition	✓	
Sensor	1. pH	✓	
	2. Turbidity	✓	
	3. Conductivity	✓	
	4. D.O	✓	
	5. Temp	✓	
	6. Depth	✓	
Alarms	Beeper		
	Settings		
Software	Version		
Data logger	Operation		
Download	Operation		
Other tests:			

Certificate of Calibration

This is to certify that the above instrument has been calibrated to the following specifications:

Sensor	Serial no	Standard Solutions	Certified	Solution Bottle Number	Instrument Reading
1. EC		2.760mS		401089	2.762mS
2. Temp		20.6°C		Testo	20.6°C
3. pH 4		pH 4.00		399527	pH 3.91
4. pH 7		pH 7.00		399304	pH 6.92
6. DO		0%		12110	-0.1%
7.Turbidity		100 NTU		396426	102 NTU
8. mV		238.68mV		A393379/B402268	238.4mV

Calibrated by: **Jesse Stenroos**

Calibration date: **25/05/2023**

Next calibration due: **24/06/2023**