Pre-construction Water Quality Monitoring Report

Event 22 2023

Project Number: 22-013

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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.

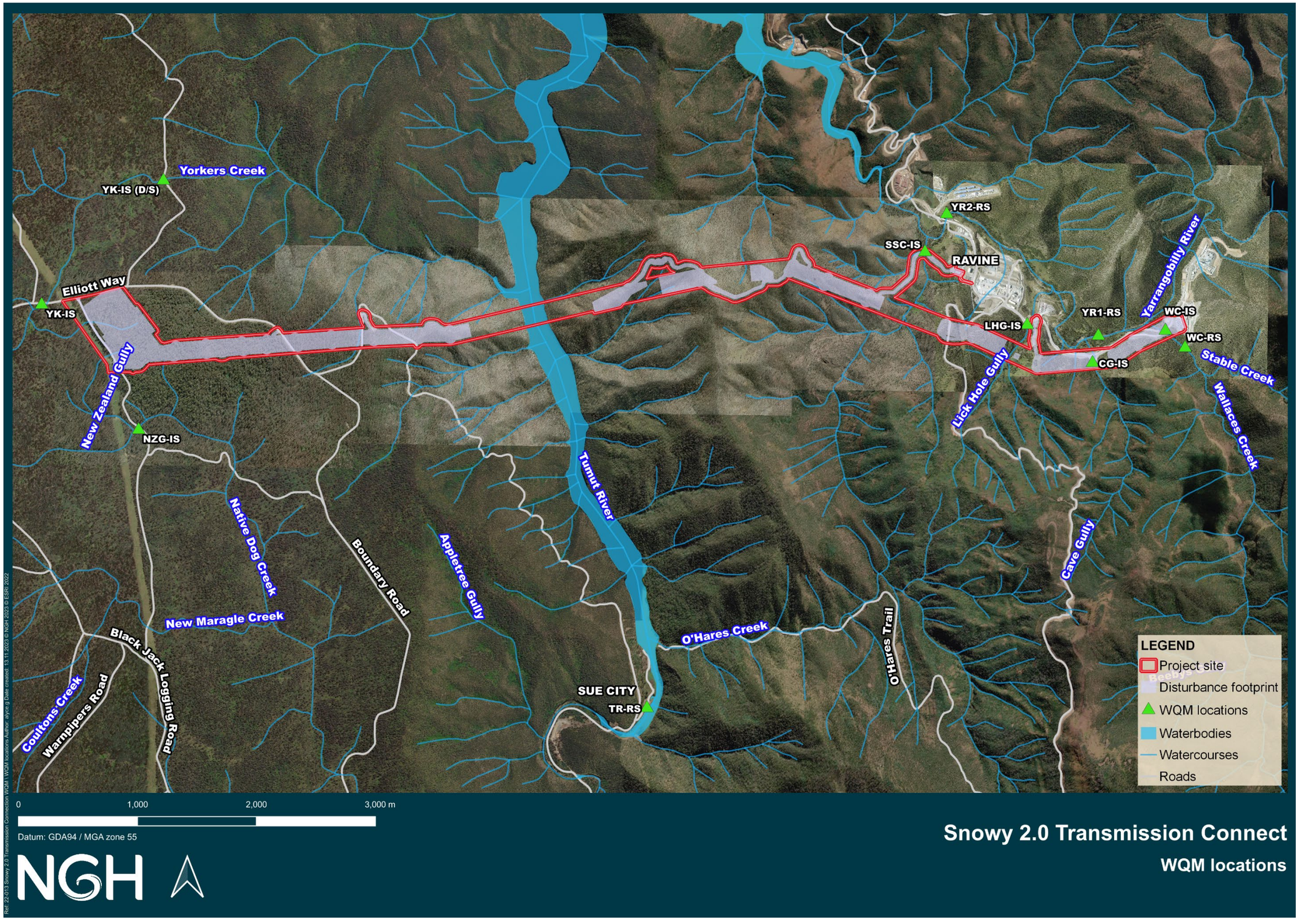

Figure 2-1 WQM locations

3. Monitoring event observations and results

Images for Yarrangobilly River (YR1-RS), Yarrangobilly River (YR2-RS) and Wallaces Creek (WC-RS) 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 22

NGH has conducted monthly sampling events since March 2022 (Event 1). Reports for each event were prepared following receival of the laboratory results (NGH 2022a – 2023j). The results of Event 1 through to Event 21 have been compared in this report to the results of Event 22.

NGH Environmental Scientist Martin Wyburn conducted monitoring for Event 22 with a UGL representative on 13 December 2023. The weather was partly cloudy. Data from the Tumbarumba weather station (Station ID 072043) indicates that winds were from the east, with speeds of 7 km/hr, with temperatures ranging from a low of 17.5°C to a high of 32.5°C. Between the 15 November 2023 and 13 December 2023 106 millimetres (mL) of rainfall was recorded. Data from the Cabramurra SMHEA automatic weather station (Station ID 072161) indicates that morning winds were from the north, with speeds of 11 km/hr. During the afternoon, winds were from the north-northwest with speeds of 31 km/hr. Temperatures on the day included a low of 18.1°C and a high of 23.6°C. Between the 15 November 2023 and 13 December 2023 156.4 mL of rainfall was recorded.

Clear, low flows were observed at most locations. Algae coverage has increased at CG-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 the Yorkers Creek reference site. Water was observed to have slow to moderate flows.

Figure 3-1 Yarrangobilly Creek (YR1-RS)

Figure 3-2 Yarrangobilly River (YR2-RS)

Figure 3-3 Wallaces Creek (WC-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 above the DGV, which are not provided in the figures following, 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	0.05	The results for Aluminium and Total Phosphorous have increased, when compared with Event 21; however, the results are consistent with previous sampling events.
	Total Phosphorus mg/L	0.02	0.08	
WC-IS	Aluminium mg/L	0.027	0.04	The results for Aluminium have remained consistent with previous sampling events.
CG-IS	Aluminium mg/L	0.027	0.04	The results for Aluminium and Zinc are consistent with previous sampling events. The results for Copper are elevated, which is atypical for this location. The results for Total Dissolved Solids are elevated, which is a consistent trend for this sampling location.
	Copper	0.001	0.002	
	Zinc mg/L	0.0024	0.004	
	Total Dissolved Solids mg/L	-	287	
YR1-RS	Aluminium mg/L	0.027	0.08	The results for Aluminium are consistent with previous sampling events.
LHG-IS	Aluminium mg/L	0.027	0.16	The results for Aluminium, Copper and Zinc are consistent with previous sampling events. The results for Total Dissolved Solids are elevated, which is a consistent trend for this sampling location.
	Copper	0.001	0.003	
	Zinc mg/L	0.0024	0.004	
	Total Dissolved Solids mg/L	-	334	
YK-IS (D/S)	Aluminium mg/L	0.027	0.32	The results for Aluminium and Iron are consistent with previous sampling events. The results for Copper are elevated, which is atypical for this location.
	Copper mg/L	0.001	0.002	

Site identification	Analyte	DGV	Result	Comment
	Iron mg/L	0.3	0.33	
NZG-IS	Aluminium mg/L	0.027	0.16	The results for Aluminium and Copper are consistent with previous sampling events.
	Copper mg/L	0.001	0.002	
YK-RS	Aluminium mg/L	0.027	0.87	The results for Aluminium, Copper and Iron are consistent with previous 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.
	Copper mg/L	0.001	0.002	
	Iron mg/L	0.3	0.74	
YK-IS	Aluminium mg/L	0.027	0.51	The results for Aluminium, Copper and Iron are consistent with previous sampling events.
	Copper mg/L	0.001	0.002	
	Iron mg/L	0.3	0.46	
YR2-RS	Aluminium mg/L	0.027	0.08	The results for Aluminium are consistent with previous sampling events.
TR-RS	Aluminium mg/L	0.027	0.04	The results for Aluminium are consistent with previous sampling events.

Water temperatures ranged from 12.3 degrees Celsius at TR-RS to 20.0 degrees Celsius at YR2-RS, refer to Figure 3-4 and Figure 3-5.

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 figures, Figure 3-4 to Figure 3-33 display physico-chemical water quality through time for monitoring events 1 (March 2022) to 19 (September 2023). Where a DGV is available, these values are shown on the graph and have been included for dissolved oxygen (%), conductivity, pH and turbidity.

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 increased with the exception of TR-RS, which recorded a temperature of 12.3°C, down from 14.2°C during Event 21. Temperatures within the Yorkers Creek catchment have also increased, with the exception of YK-IS and YK-RS, refer to Figure 3-5. YK-RS recorded the most significant decrease across both catchments, dropping from 23.3°C during Event 21 to 15.8°C during Event 22.

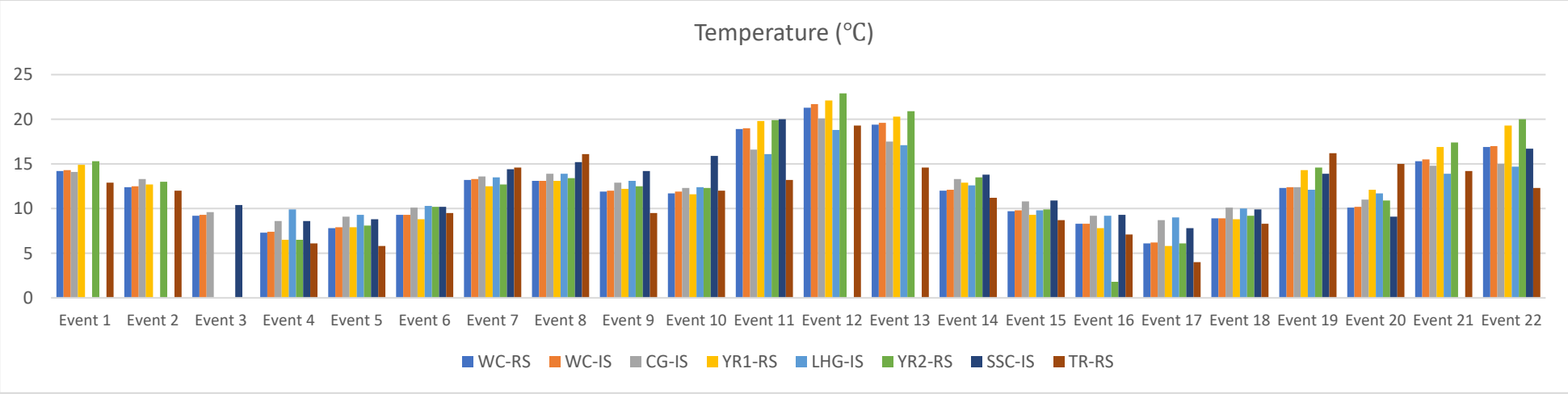

Figure 3-4 Temperature for Talbingo Reservoir catchment

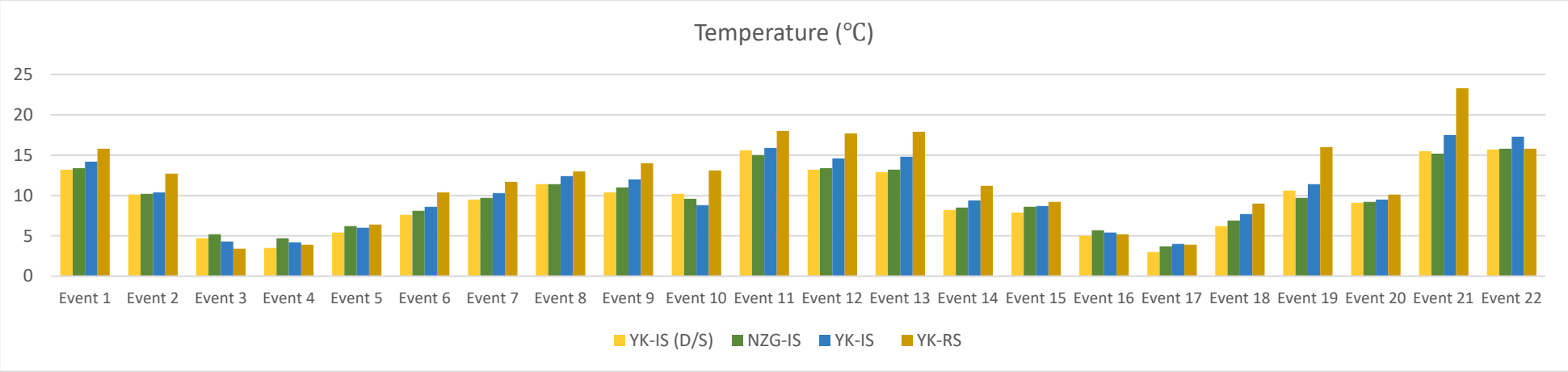

Figure 3-5 Temperature for Yorkers Creek catchment

All DO (%) results for the Talbingo Reservoir catchment were above the lower DGV threshold value (90%) for Event 22, with the exception of LHG-IS (83.3%). YR2-RS recorded the highest DO (%) reading of 99%. DO (%) results for the Yorkers Creek catchment were below the lower DGV threshold value (90%) at NZG-IS (89.6%) and YK-RS (89.6%), refer to Figure 3-7. YK-IS (D/S) (90.6%) and YK-IS (90.8%) were just above the lower DGV threshold value.

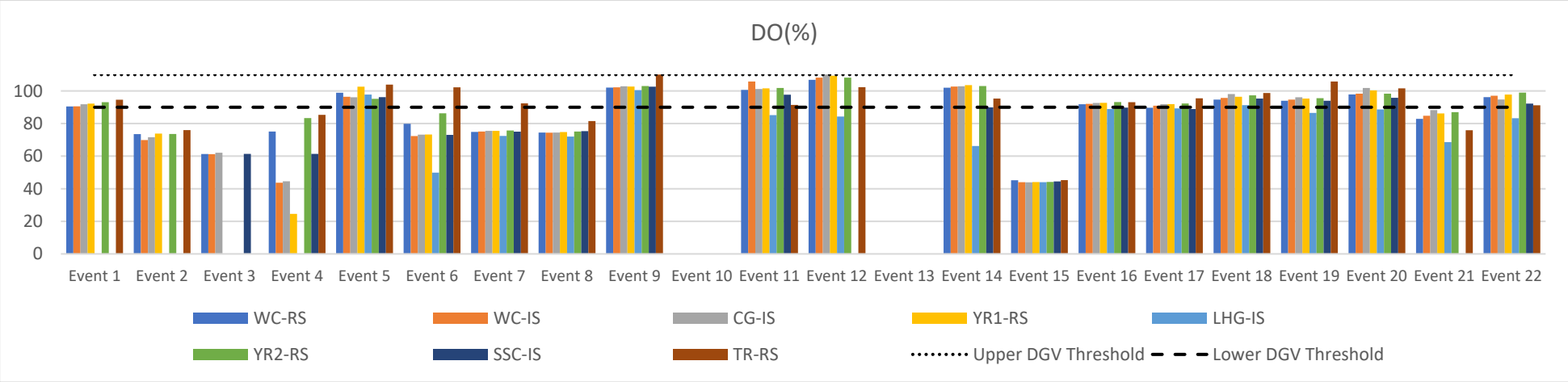

Figure 3-6 Dissolved oxygen (DO%) for Talbingo Reservoir catchment

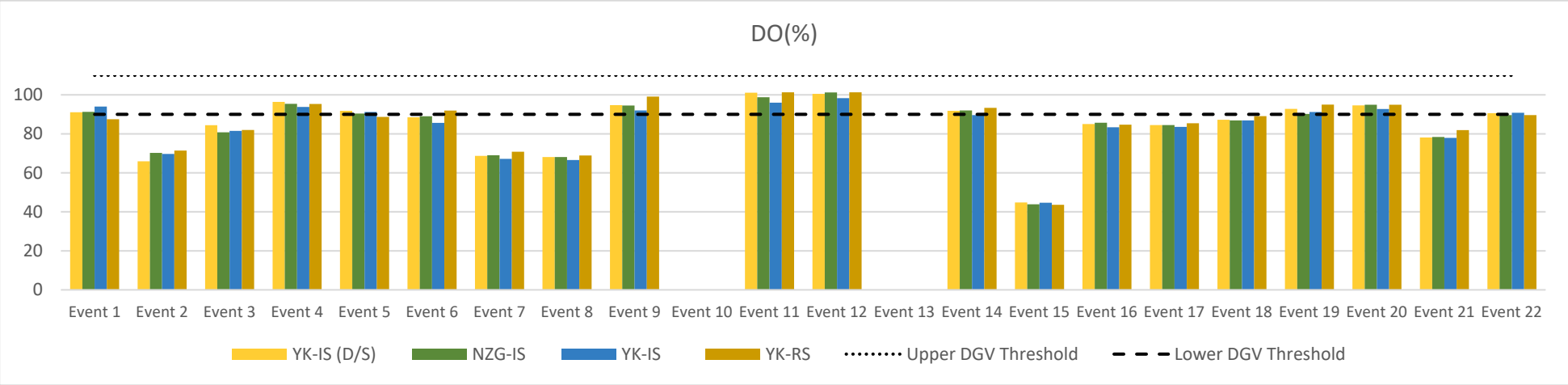

Figure 3-7 Dissolved oxygen (DO%) for Yorkers Creek catchment

The results for DO (ppm) for the Talbingo Reservoir catchment have slightly increased when compared with Event 21, refer to Figure 3-8. The highest reading for DO (ppm) was recorded at TR-RS (9.77 ppm). Results for DO (ppm) within the Yorkers Creek catchment have also increased since Event 21. The highest reading for DO (ppm) was at YK-IS (D/S) (9 ppm), refer to Figure 3-9.

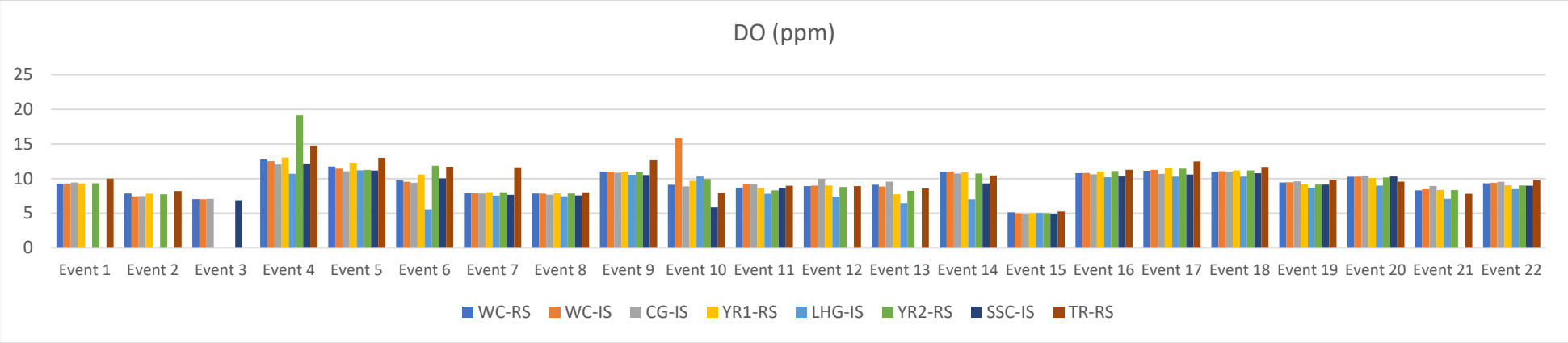

Figure 3-8 Dissolved Oxygen (ppm) for Talbingo Reservoir catchment

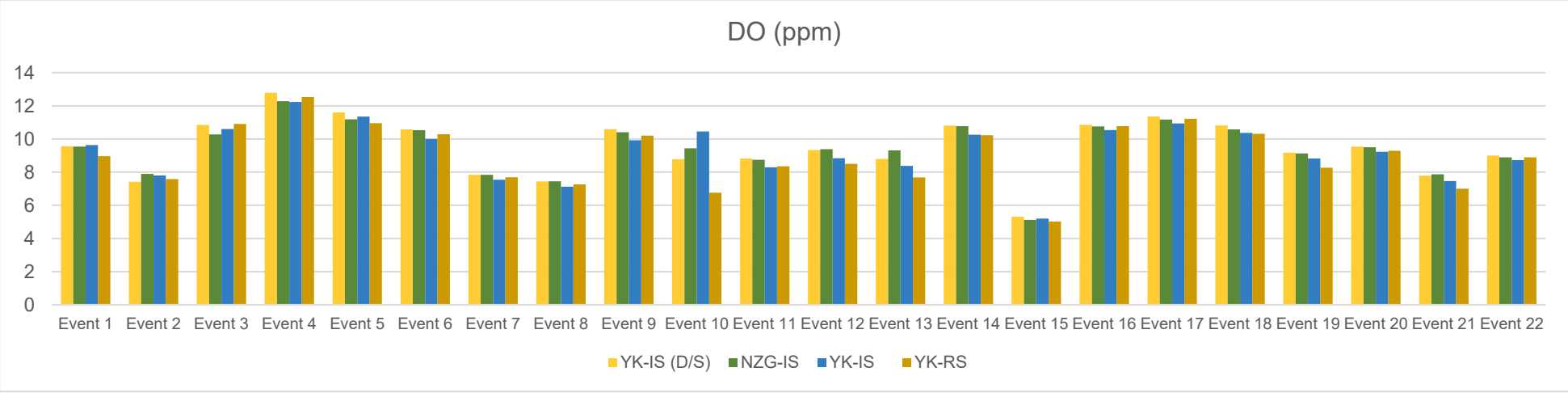

Figure 3-9 Dissolved Oxygen (ppm) for Yorkers Creek catchment

Results for specific conductance within the Talbingo Reservoir catchment have decreased, when compared with recent sampling events, refer to Figure 3-10. LHG-IS and CG-IS returned elevated results of 551 µS/cm and 486.8 µS/cm, respectively. Results for specific conductance within the Yorkers Creek catchment have decreased for Event 22 with the exception of YK-RS, refer to Figure 3-11. YK-RS (50.9 µS/cm) registered an increase from 37.2 µS/cm during Event 21.

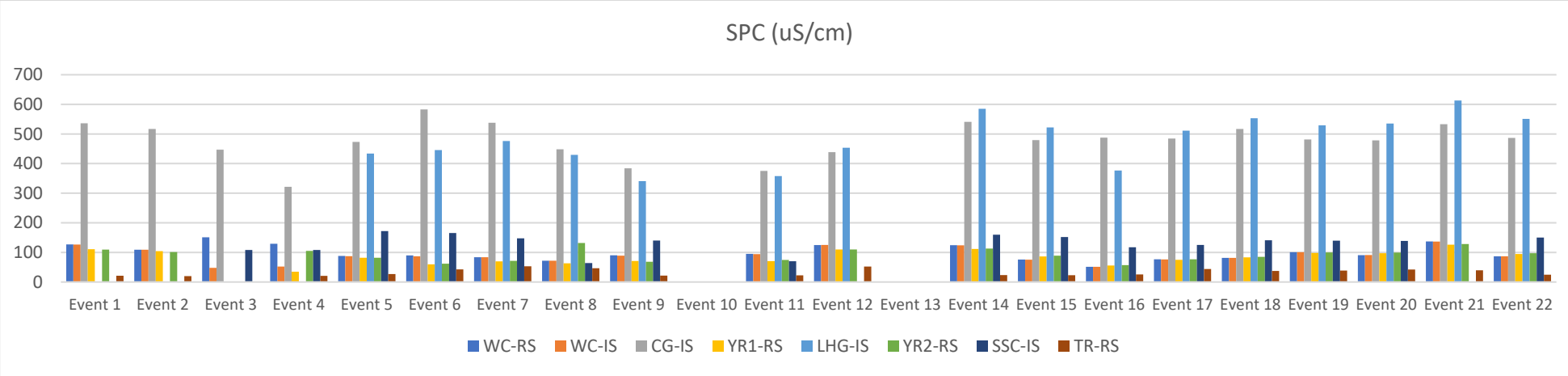

Figure 3-10 Specific Conductance (SPC µS/cm) for Talbingo Reservoir catchment

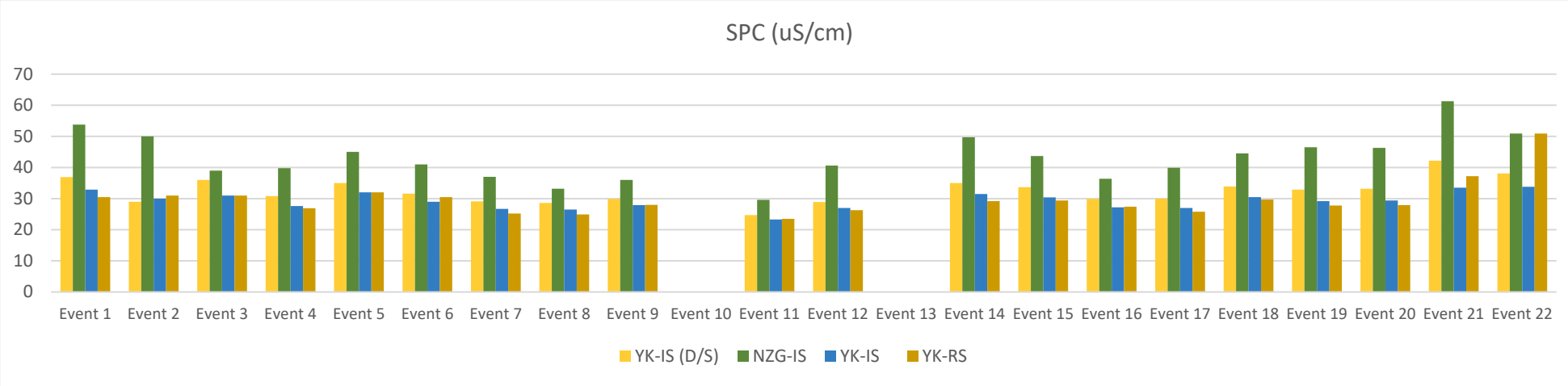

Figure 3-11 Specific Conductance (SPC µS/cm) for Yorkers Creek catchment

Conductivity readings within the Talbingo Reservoir catchment have decreased when compared with recent sampling events, refer to Figure 3-12. Conductivity (µS/cm) results for CG-IS and LHG-IS continues to be notably higher than the other sites with readings above the upper DGV value (350 µS/cm). Conductivity readings within the Yorkers Creek catchment have decreased at all sites with the exception of YK-RS, refer to Figure 3-13. YK-RS and NZG-IS both returned readings of 41.9 µS/cm, which is above the lower DGV value (30 µS/cm).

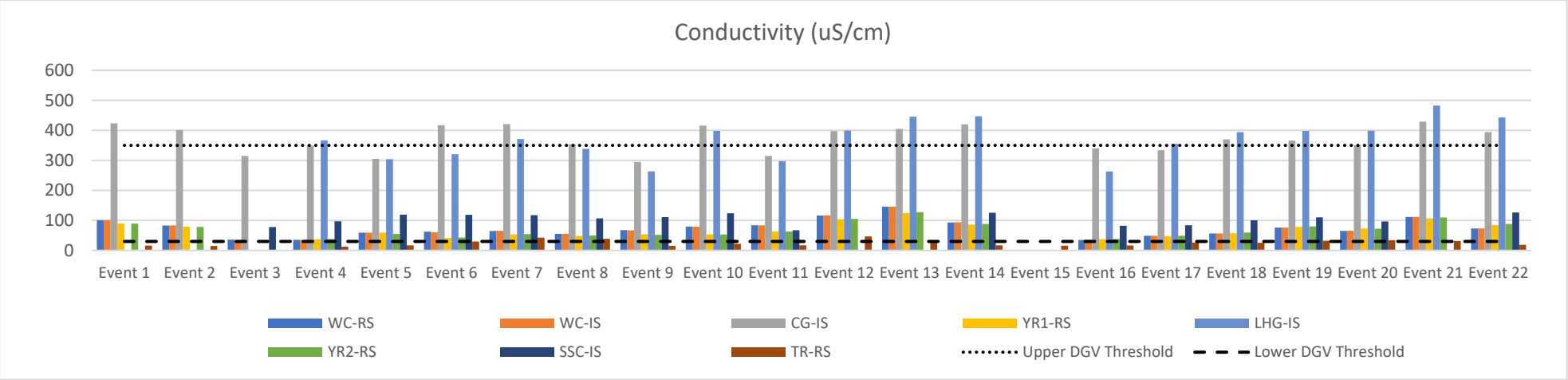

Figure 3-12 Conductivity (µS/cm) for Talbingo Reservoir catchment

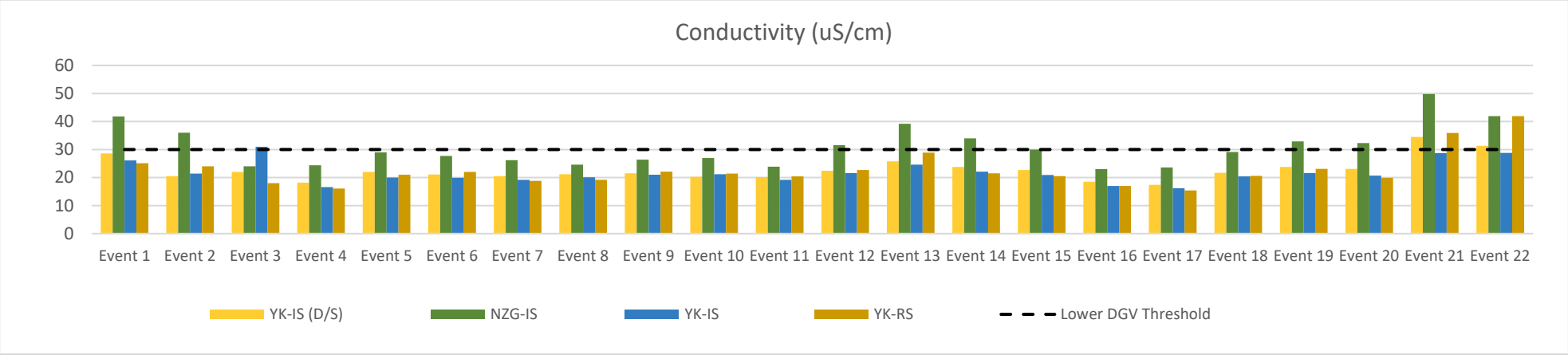

Figure 3-13 Conductivity (µS/cm) for Yorkers Creek catchment

Turbidity values were predominantly below the upper DGV threshold (25 NTU) for all locations within the Talbingo Reservoir catchment with the exception of LHG-IS (53.74 NTU), refer to Figure 3-14. Results for LHG-IS are elevated compared with previous sampling events. This may be due to recent rainfall within the catchment.

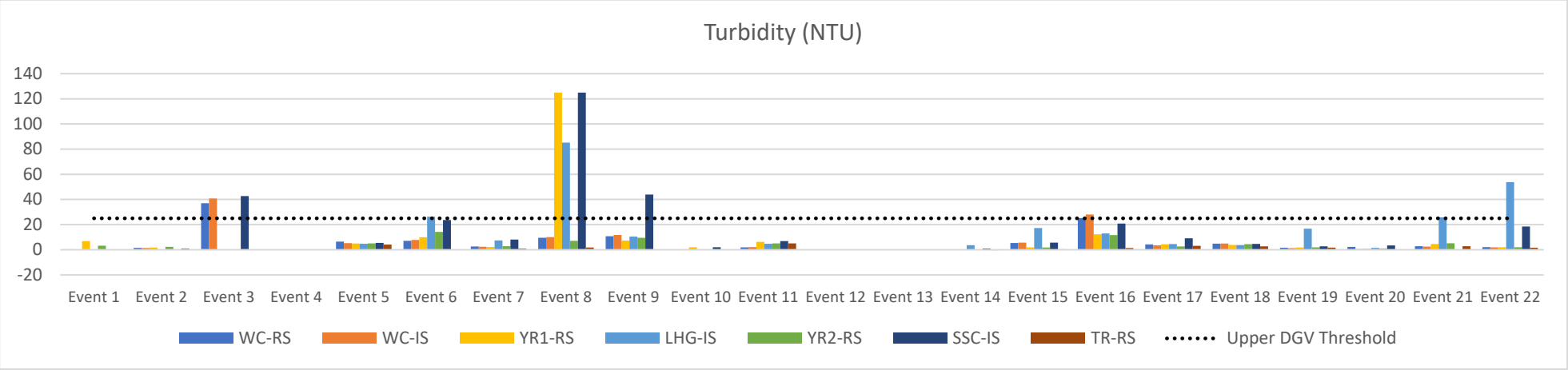

Figure 3-14 Turbidity (NTU) for the Talbingo Reservoir catchment

Turbidity (NTU) readings at CG-IS (-0.19 NTU) continue to be below the lower DGV threshold (2 NTU), refer to Figure 3-15.

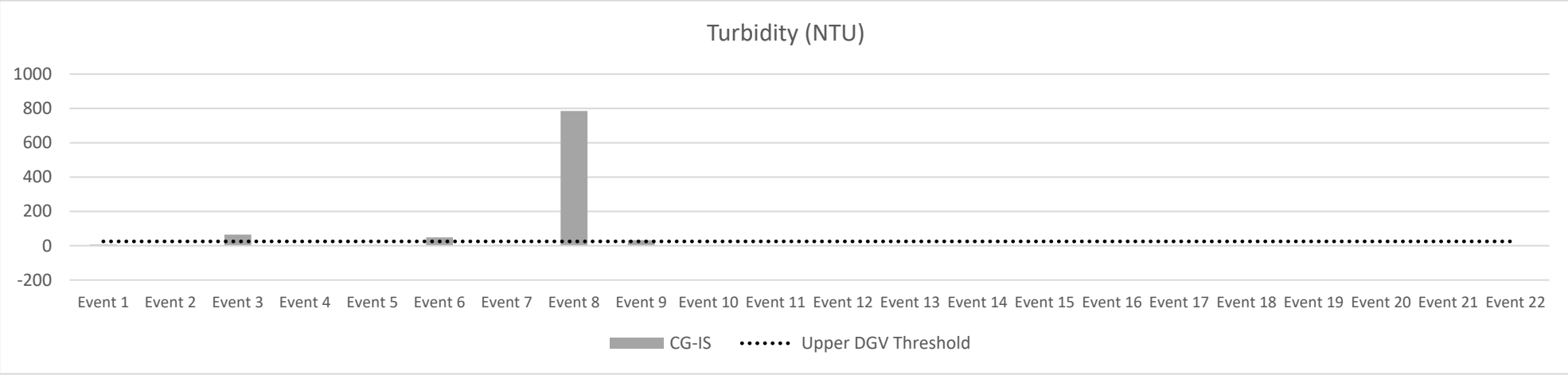

Figure 3-15 Turbidity (NTU) readings for CG-IS, within the Talbingo Reservoir catchment

Turbidity readings within the Yorkers Creek catchment have decreased since Event 21, refer to Figure 3-16. All other sites were within the DGV range (2 – 25 NTU).

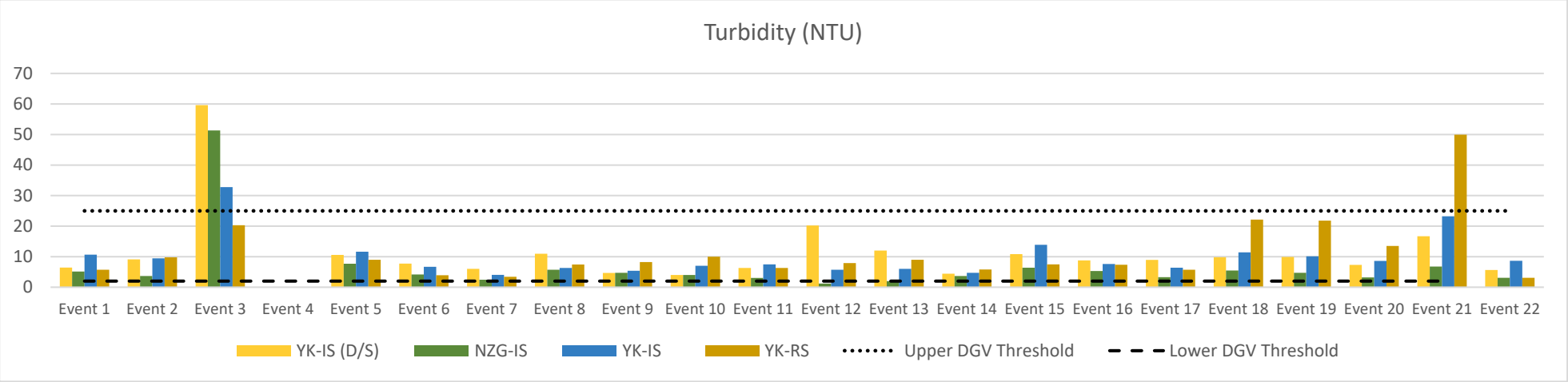

Figure 3-16 Turbidity (NTU) for the Yorkers Creek catchment

Results for total suspended solids (TSS) within the Talbingo Reservoir catchment for Event 22 were below the Limit of Reporting (LOR) with the exception of LHG-IS (4 mg/L) and WC-RS (2 mg/L), refer to Figure 3-17. Results for CG-IS were consistent with recent sampling events, with a TSS result of 3 mg/L for Event 22, refer to Figure 3-18.

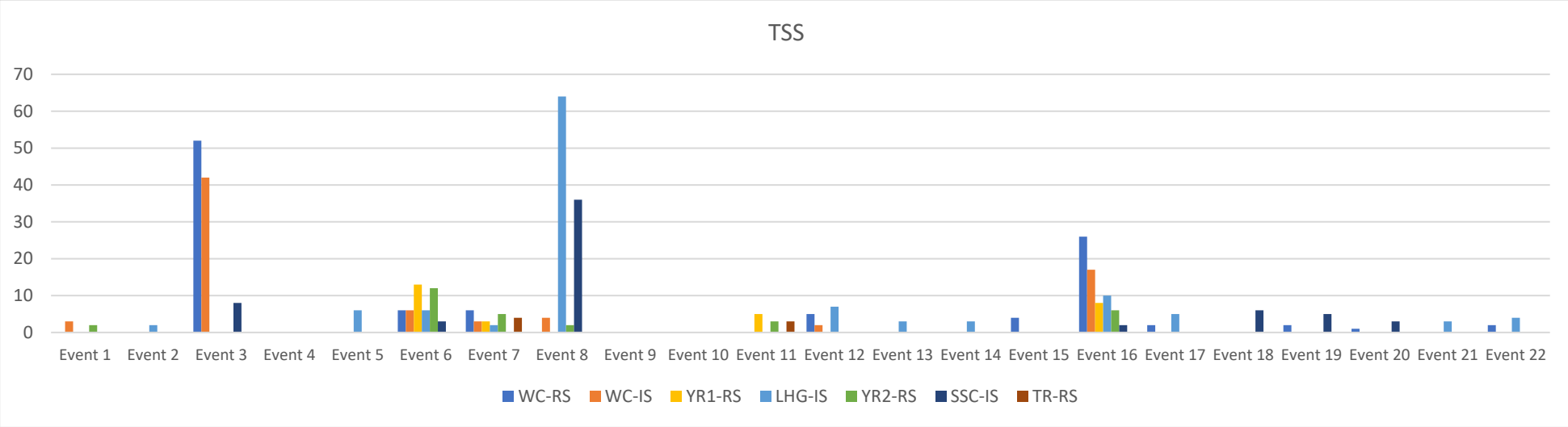

Figure 3-17 Total Suspended Solids for the Talbingo Reservoir catchment

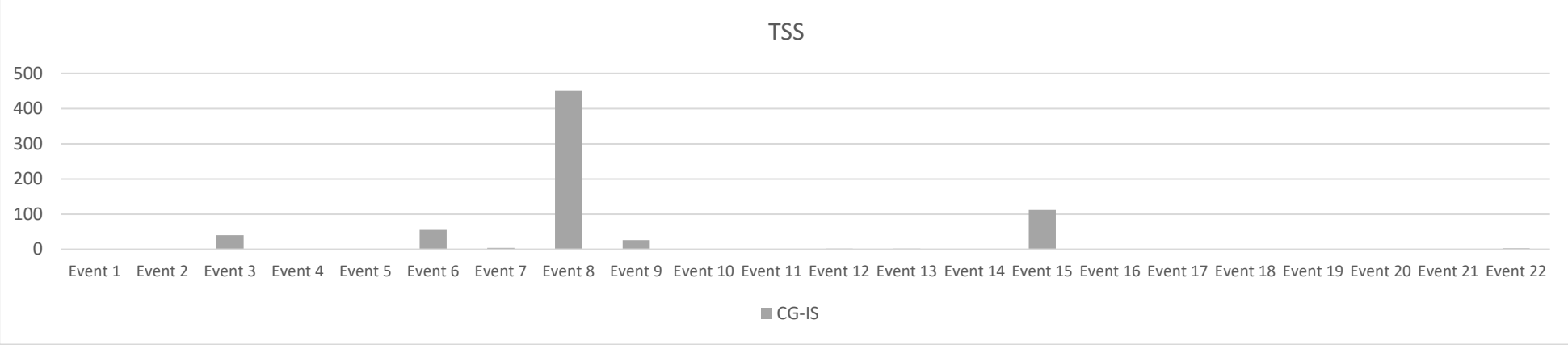

Figure 3-18 Total Suspended Solids for CG-IS, within the Talbingo Reservoir catchment

Results for total suspended solids were all below the LOR within the Yorkers Creek Catchment, which is consistent with recent events, refer to Figure 3-19.

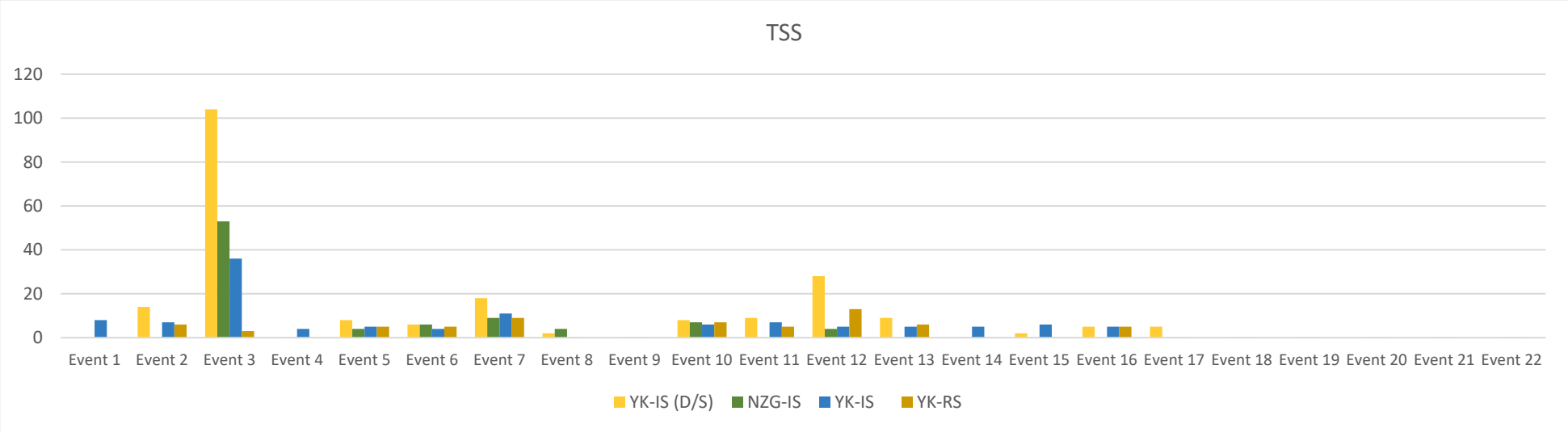

Figure 3-19 Total Suspended Solids for the Yorkers Creek catchment

Values of pH for the Talbingo Reservoir catchment have generally decreased, when compared with Event 21. All sampled locations had values of pH within the DGV range (6.5 – 8 pH units), refer to Figure 3-20. Values of pH for the Yorkers Creek catchment have slightly increased at all sites, refer to Figure 3-21. All sites had values of pH above the lower DGV threshold (6.5 pH units), with the exception of YK-IS (6.38 pH units).

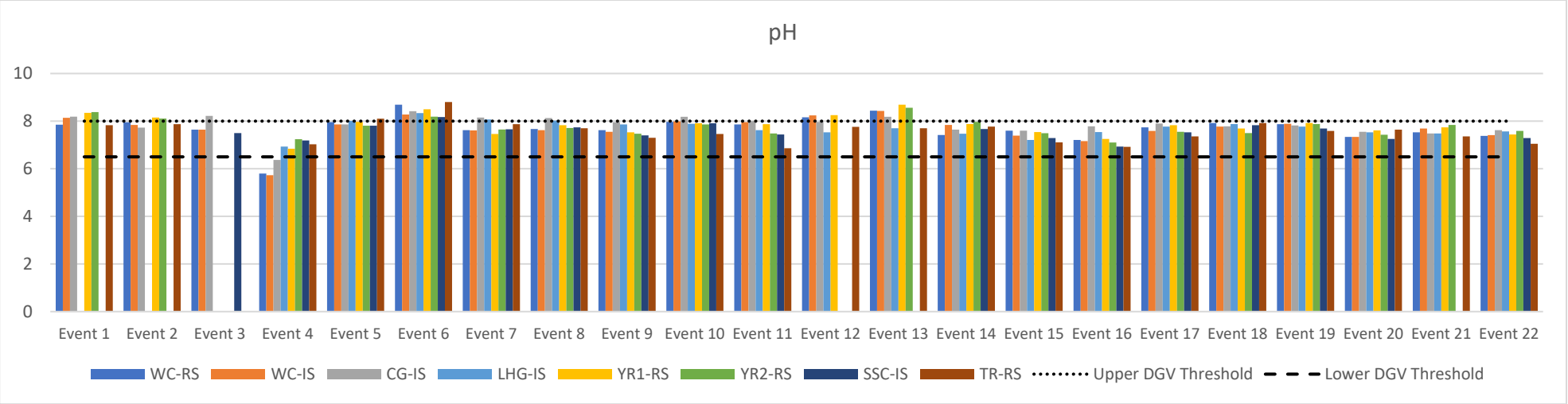

Figure 3-20 Potential of Hydrogen (pH) for Talbingo Reservoir catchment

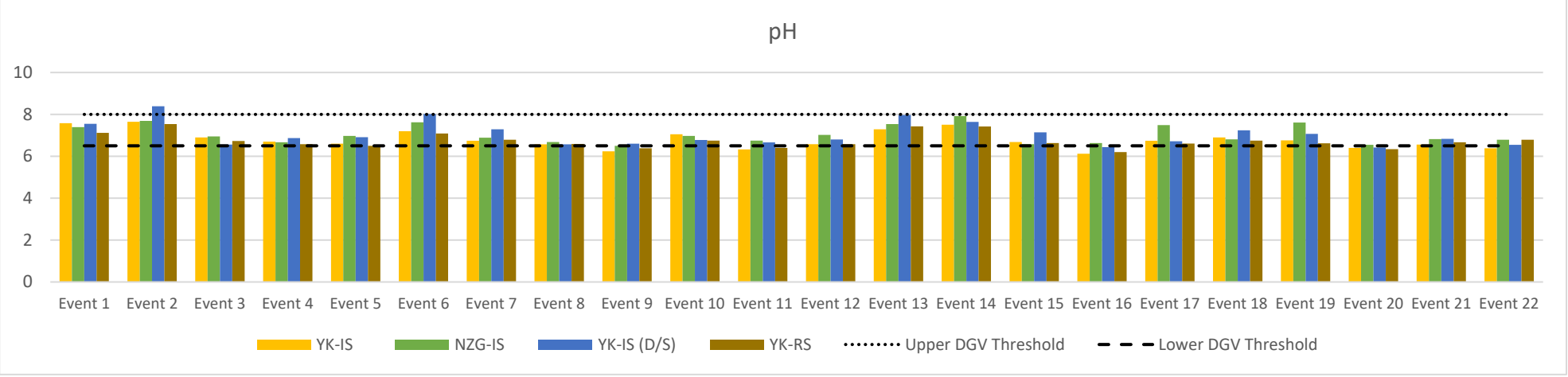

Figure 3-21 Potential of Hydrogen (pH) for Yorkers Creek catchment

The values for oxygen redox potential (ORP) within the Talbingo Reservoir catchment have increased at all sites when compared to Event 21, refer to Figure 3-22. Results varied from 25.2 mV at LHG-IS to 126.1 at CG-IS. ORP has also increased across all sites within the Yorkers Creek catchment, refer to Figure 3-23.

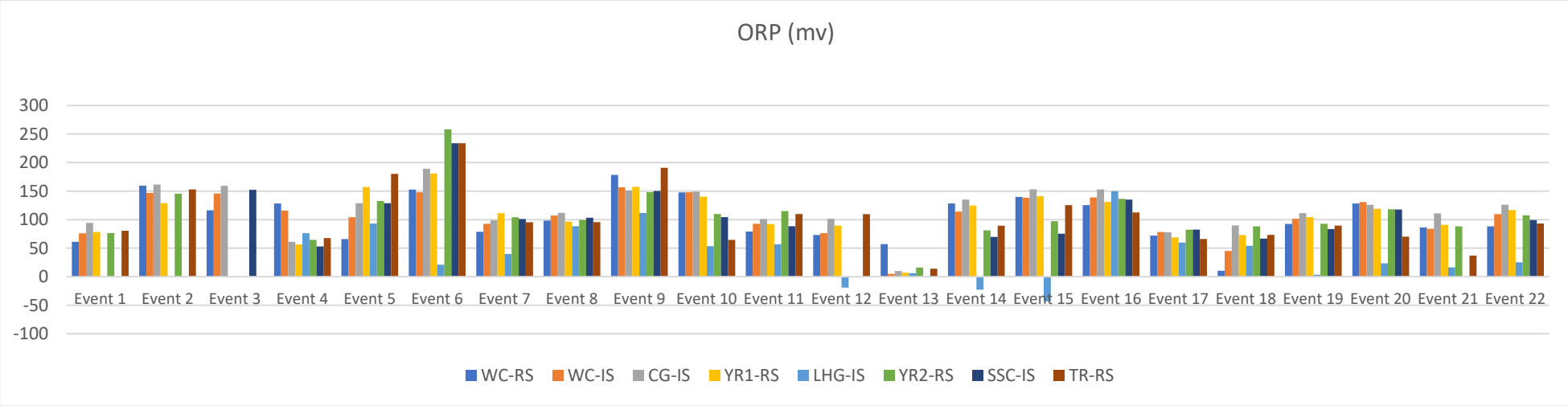

Figure 3-22 Oxygen Redox Potential (ORP) for Talbingo Reservoir catchment

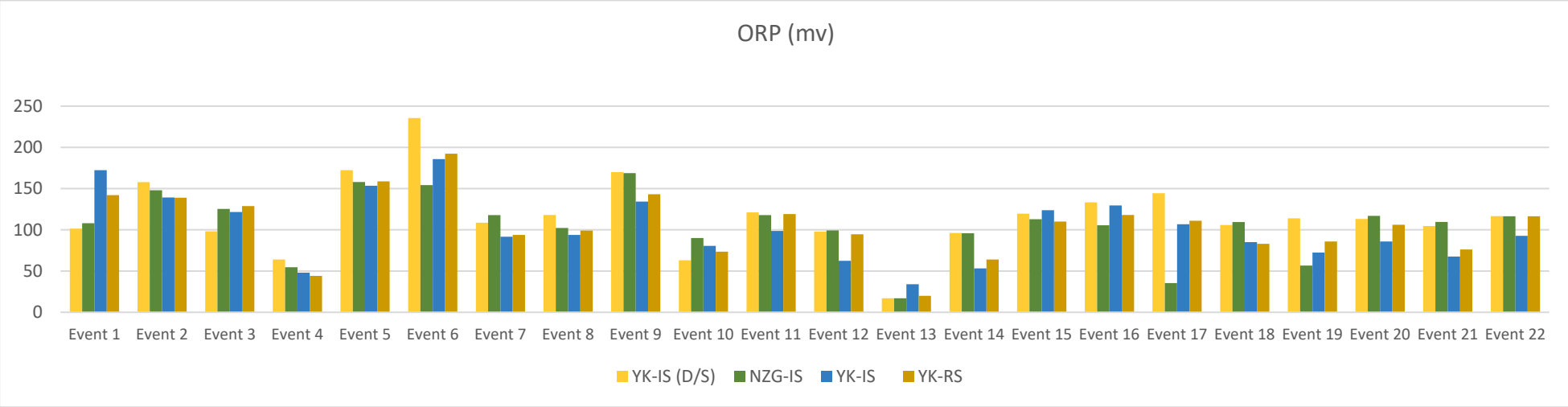

Figure 3-23 Oxygen Redox Potential (ORP) for Yorkers Creek catchment

Nitrogen Oxides (mg/L) were below the laboratory LOR (0.015 mg/L) at all sites within the Talbingo Reservoir and Yorkers Creek catchments, refer to Figure 3-24 and Figure 3-25.

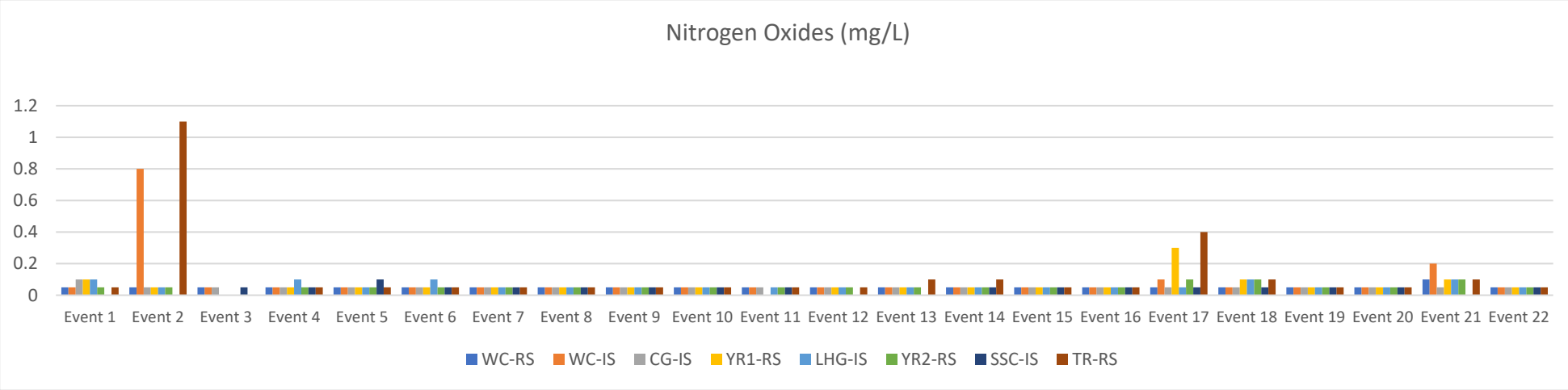

Figure 3-24 Nitrogen Oxides (mg/L) for the Talbingo Reservoir catchment

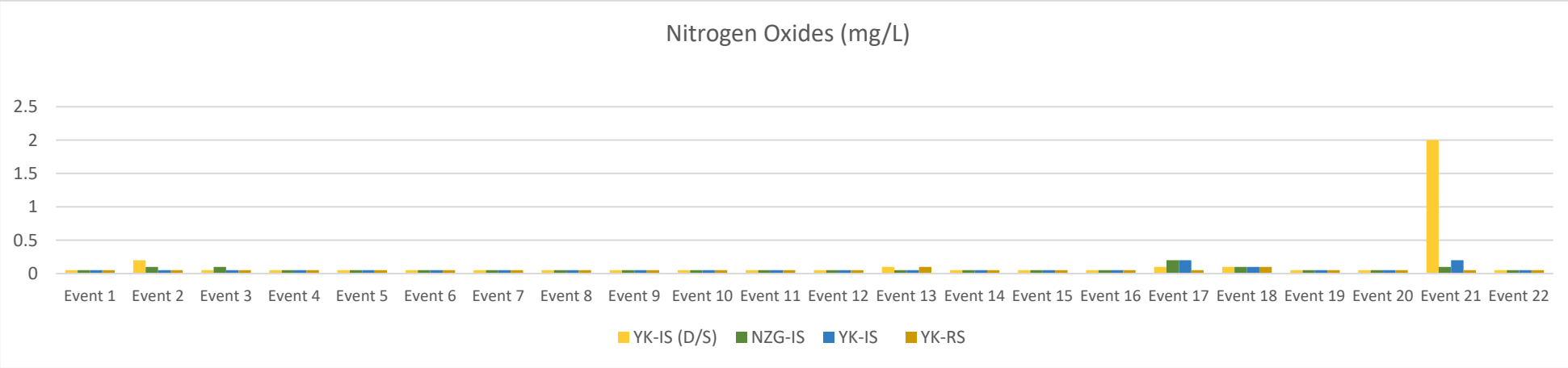

Figure 3-25 Nitrogen Oxides (mg/L) for the Yorkers Creek catchment

Results for Reactive Phosphorous (mg/L) were below the laboratory's LOR, with the exception of WC-RS (0.02 mg/L) and WC-IS (0.02 mg/L) within the Talbingo Reservoir catchment, refer to Figure 3-26. Results for Reactive Phosphorous within the Yorkers Creek catchment were below the laboratory LOR across all sites, refer to Figure 3-27.

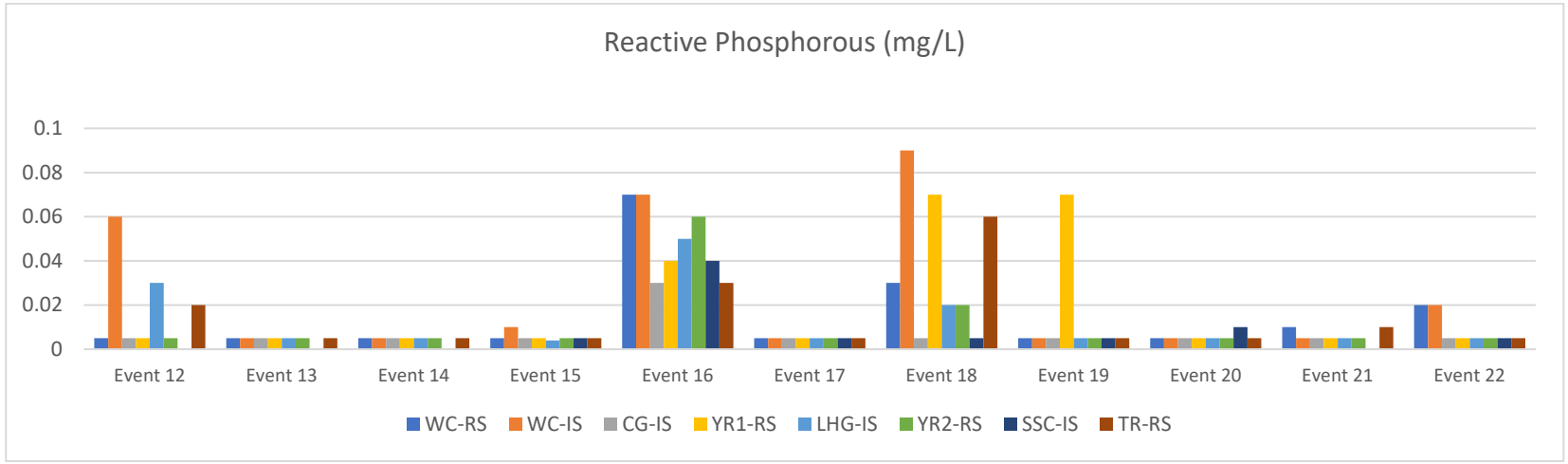

Figure 3-26 Reactive Phosphorous (mg/L) for the Talbingo Reservoir catchment

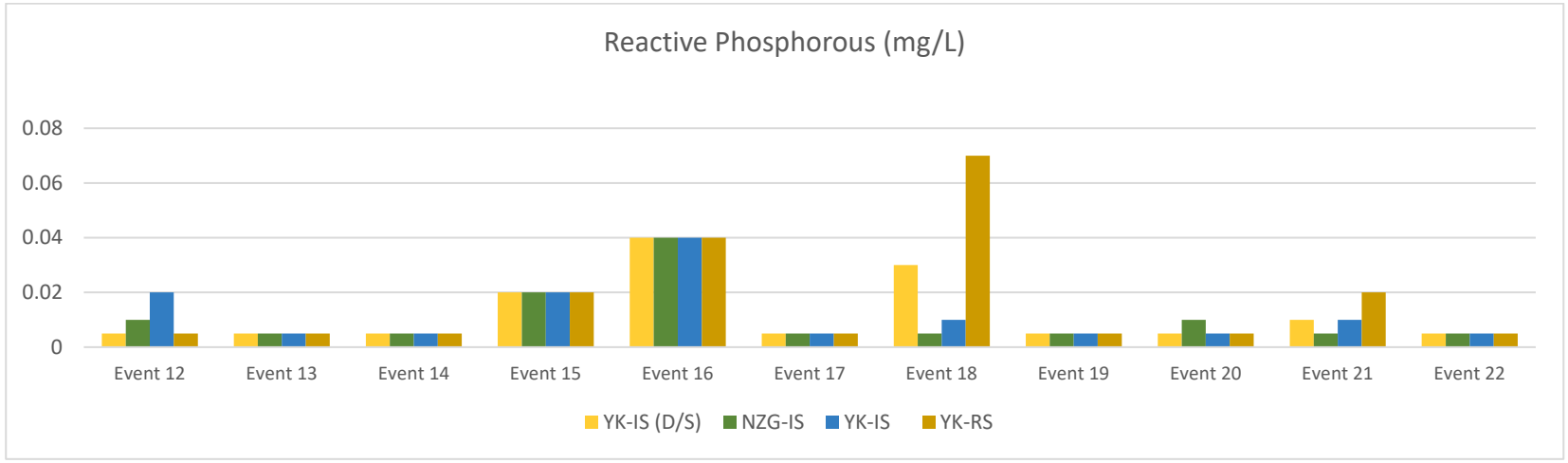

Figure 3-27 Reactive Phosphorous (mg/L) for the Yorkers Creek catchment

Total Hardness ($CaCO_3$, mg/L) within the Talbingo Reservoir catchment has remained relatively consistent, with results varying from below the laboratory LOR (2 mg/L) at TR-RS to hard at LHG-IS (277 mg/L), refer to Figure 3-28. Results for Total Hardness ($CaCO_3$, mg/L) within the Yorkers Creek catchment ranged from below the laboratory LOR (2 mg/L) at YK-RS to very soft (8 mg/L) at NZG-IS, refer to Figure 3-29.

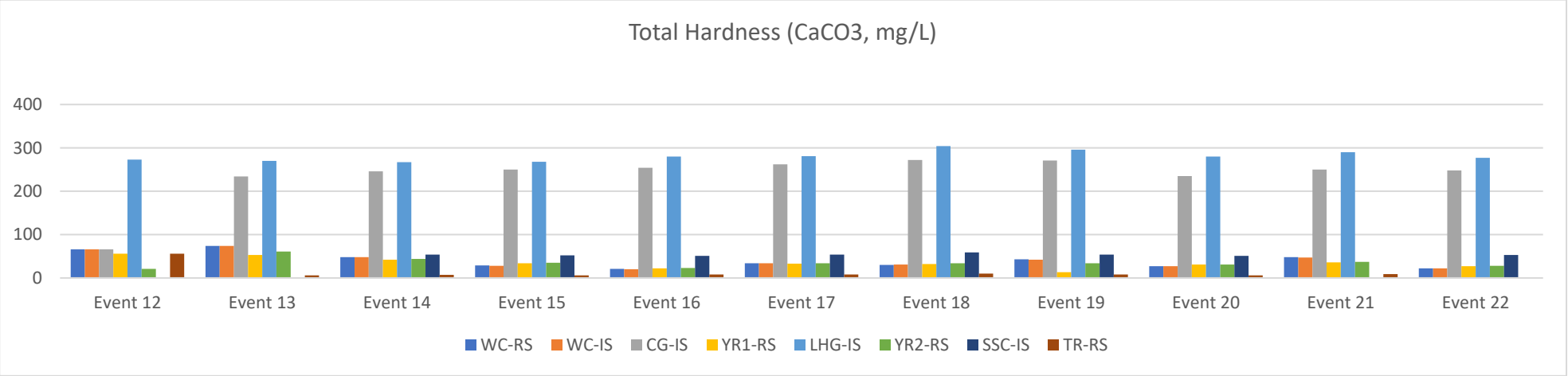

Figure 3-28 Total Hardness ($CaCO_3$) for the Talbingo Reservoir catchment

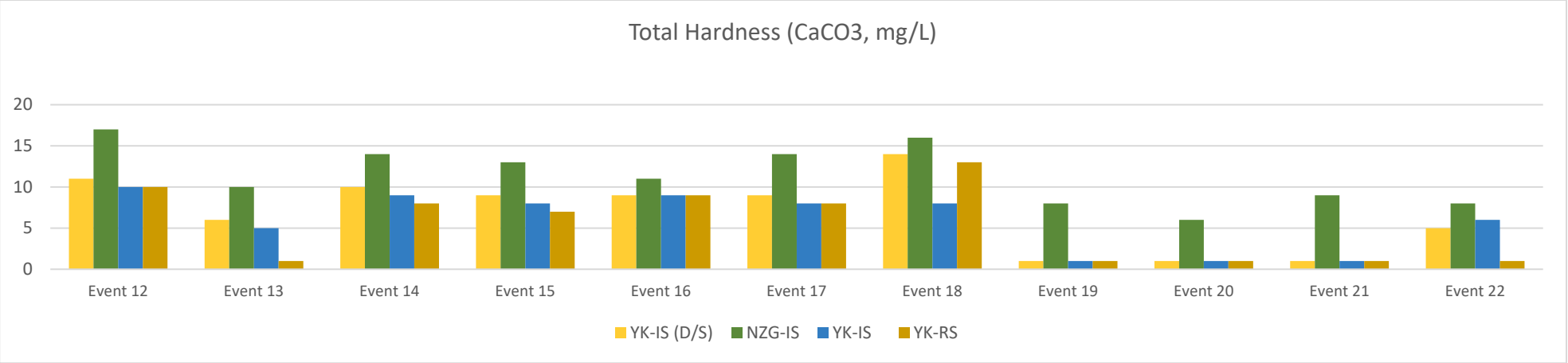

Figure 3-29 Total Hardness ($CaCO_3$) for the Yorkers Creek catchment

Results for Total Kjeldahl Nitrogen (TKN, mg/L) were below the LOR for all sites within the Talbingo Reservoir and Yorkers Creek catchments, refer to Figure 3-30 and Figure 3-31. These results are consistent with earlier sampling events (Event 2 to Event 16).

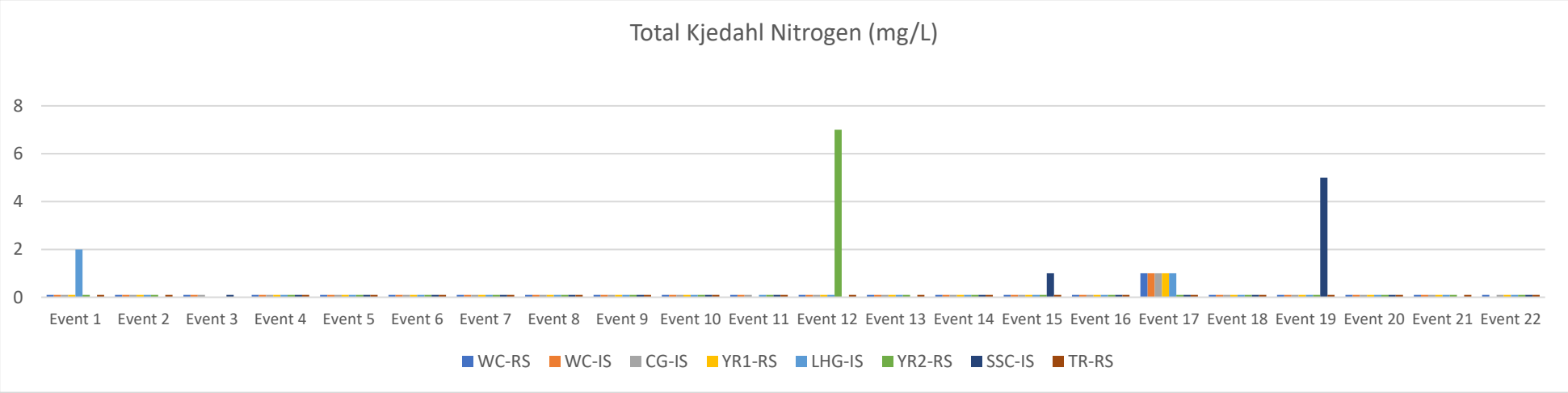

Figure 3-30 Total Kjeldahl Nitrogen (TKN) for the Talbingo Reservoir catchment

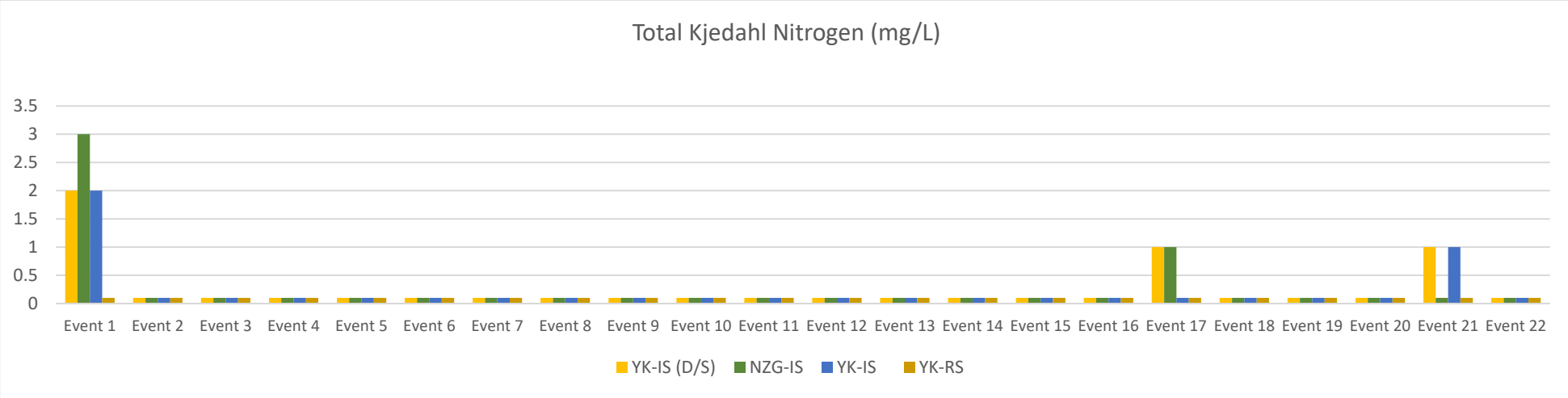

Figure 3-31 Total Kjeldahl Nitrogen (TKN) for the Yorkers Creek catchment

Ammonia (mg/L) levels were below the laboratory LOR for all sites within the Talbingo Reservoir and Yorkers Creek catchments, refer to Figure 3-32 and Figure 3-33. These results are consistent with earlier sampling events (Event 14 to Event 20).

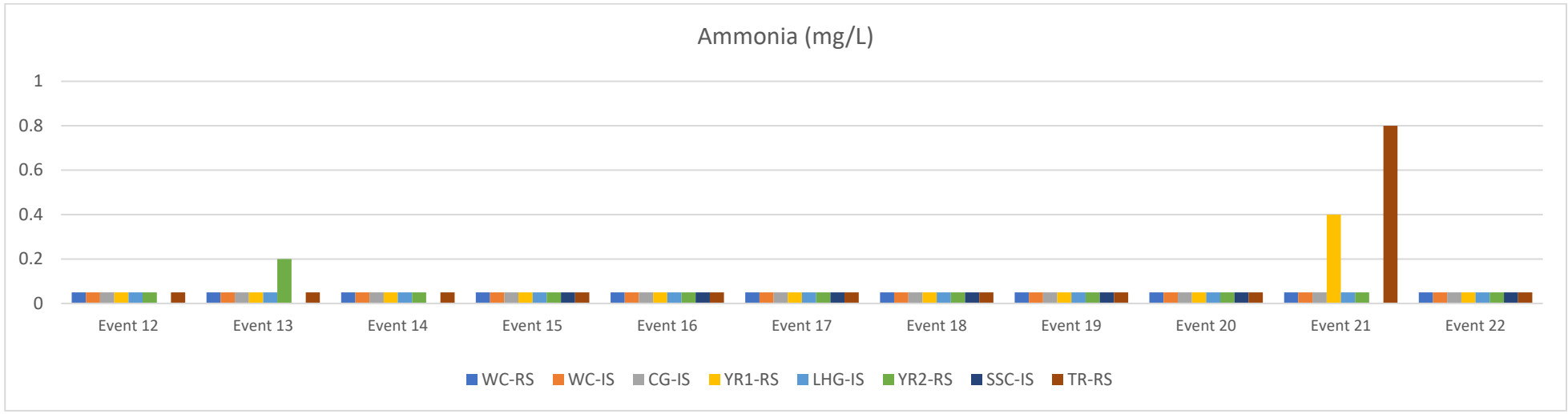

Figure 3-32 Ammonia (mg/L) for the Talbingo Reservoir catchment

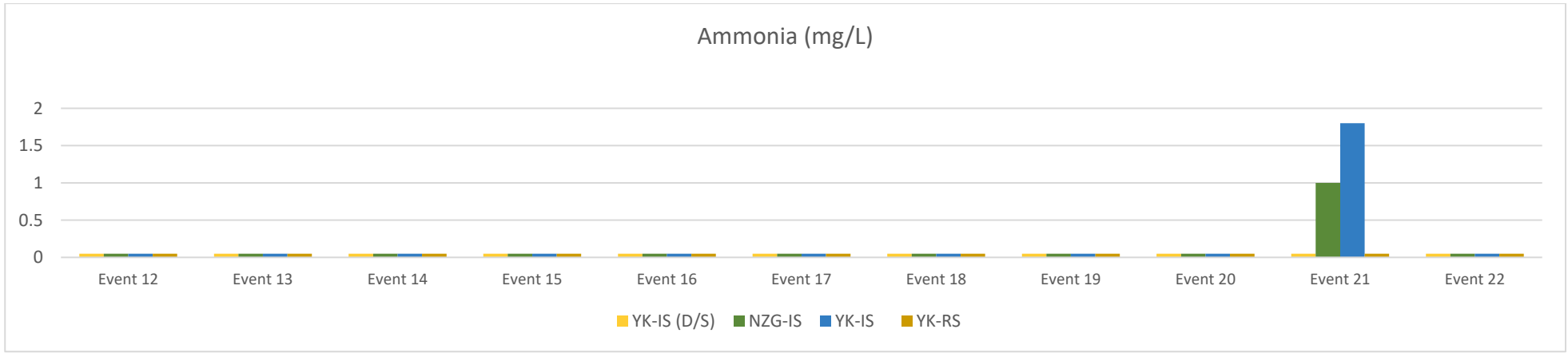

Figure 3-33 Ammonia (mg/L) for the Yorkers Creek catchment

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 YK-RS on 13 December 2023. DUP01 was analysed for metals and metalloids. The duplicate sample has been compared against the YK-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 LOR).
- A water blank was supplied by the laboratory; the results were below the laboratory LOR for all analytes.

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 22 have generally increased across both catchments. Water temperatures within the area are considered to be consistent with seasonal changes.

Results for DO (%) were above the lower DGV threshold value (90%) for the Talbingo Reservoir catchment, with the exception of LHG-IS (83.3%). DO (%) results for the Yorkers Creek catchment were below the lower DGV threshold value (90%) at NZG-IS (89.6%) and YK-RS (89.6%). Contrary to this, DO (ppm) has increased across both catchments.

Specific conductance (µS/cm) has generally decreased across both catchments when compared with results for Event 21. Results for CG-IS (486.8 µS/cm) and LHG-IS (551 µS/cm) continue to be notably higher than other sites within the Talbingo Reservoir catchment. Within the Yorkers Creek catchment, YK-RS registered a notable increase from 37.2 µS/cm to 50.9 µS/cm for Event 22.

pH has decreased across both catchments when compared to Event 21. All sampled locations had values of pH within the DGV range (6.5 – 8 pH units), with the exception of YK-IS (6.38 pH units).

Turbidity values were predominantly below the upper DGV threshold (25 NTU) for all locations within the Talbingo Reservoir catchment, with the exception of LHG-IS (53.74 NTU). Turbidity readings within the Yorkers Creek catchment have decreased since Event 21, with all sites within the DGV range (2-25 NTU).

The values for oxygen redox potential (ORP) have increased across both catchments. Results continue to be highly variable within the Talbingo Reservoir catchment, with results varying from 25.2 mV at LHG-IS to 126.1 at CG-IS

Results for TSS were below the laboratory LOR for the Talbingo Reservoir catchment, with the exception of LHG-IS (4 mg/L), WC-RS (2 mg/L) and CG-IS (3 mg/L). Results for the Yorkers Creek catchment were all below the laboratory LOR.

Nitrogen Oxides (mg/L) were below the laboratory LOR for both catchments.

Reactive Phosphorous (mg/L) was below the laboratory's LOR within the Talbingo Reservoir catchment, with the exception of WC-RS (0.02 mg/L) and WC-IS (0.02 mg/L). Within the Yorkers Creek catchment, Reactive Phosphorous was below the LOR at all sites.

Total Hardness ($CaCO_3$) remained consistent within the Talbingo Reservoir catchment for Event 22, varying from below the laboratory LOR (2 mg/L) at TR-RS to hard at LHG-IS (277 mg/L). Similarly, results for the Yorkers Creek catchment ranged from below the laboratory LOR (2 mg/L) at YK-RS to very soft (8 mg/L) at NZG-IS.

Results for Total Kjeldahl Nitrogen (TKN, mg/L) were below the laboratory LOR for the Talbingo Reservoir and Yorkers Creek catchments. These results are consistent with earlier sampling events (Event 2 to Event 16).

Results for Ammonia (mg/L) were also below the laboratory LOR for the Talbingo Reservoir and Yorkers Creek catchments, which is consistent with earlier sampling events (Event 2 to Event 16).

Laboratory results for Event 22 were generally consistent with the results of the previous monitoring events, with most analytes reported below the Limit of Reporting. Results exceeded the DGV for:

- Aluminium (0.027 mg/L) at all sites
- Copper (0.001 mg/L) at CG-IS, LHG-IS, NZG-IS, YK-RS and YK-IS
- Zinc (0.0024 mg/L) at CG-IS and LHG-IS
- Iron (0.3 mg/L) at YK-IS (D/S), YK-RS and YK-IS
- Total Phosphorus (0.02 mg/L) at WC-RS
- Total Dissolved Solids at CG-IS and LHG-IS.

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*.

NGH Pty Ltd. 2022b. *Pre-construction Water Quality Monitoring Report: Event 2 April 2022*.

NGH Pty Ltd. 2022c. *Pre-construction Water Quality Monitoring Report: Event 3 May and June 2022*.

NGH Pty Ltd. 2022d. *Pre-construction Water Quality Monitoring Report: Event 4 June 2022*.

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*.

NGH Pty Ltd. 2022g. *Pre-construction Water Quality Monitoring Report: Event 7 October 2022.*

NGH Pty Ltd. 2022h. *Pre-construction Water Quality Monitoring Report: Event 8 October 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.*

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NGH Pty Ltd. 2023k. *Pre- construction Water Quality Monitoring Report: Event 21 November 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	0.0006	0.00001	0.001	0.004	0.3	0.001	1.2	0.0001	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	0.00001	0.0001	0.001	0.03	0.0005	0.011	0.00002	0.0005	3	0.005	0.00001	0.001		0.05			0.1	12	0.1
	Event 2	o but on sedime	12.4	73.5	7.84	109	83.1	7.95	159.4	1.49	0.015	0.00015	0.00001	0.00001	0.0001	0.001	0.005	0.0005	0.001	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.002	0.00002	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	0.00001	0.0001	0.001	0.08	0.0005	0.004	0.00002	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	0.00001	0.0001	0.001	0.08	0.0005	0.004	0.00002	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	0.00001	0.0001	0.001	0.02	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.02	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.03	0.0005	0.0005	0.00002	0.0005	0.1	0.5	0.00001	0.002	0.05	0.05	0.005	48	0.1	79	0.1
	Event 15	No	9.7	45.2	5.13	75.6		7.6	139.9	5.39	0.11	0.00015	0.00001	0.00001	0.0001	0.001	0.09	0.0005	0.001	0.00002	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.005	29	0.1	1	4
	Event 16	No	8.3	91.8	10.8	51.3	34.9	7.21	125.5	25.22	0.75	0.00015	0.00001	0.00001	0.0001	0.001	0.46	0.0005	0.004	0.00002	0.0005	0.1	0.05	0.00001	0.002	0.05	0.05	0.07	21	0.1	1	26
	Event 17	No	6.1	89.7	11.13	76.7	49	7.74	71.9	4.29	0.11	0.00015	0.00001	0.00001	0.0001	0.001	0.08	0.0005	0.003	0.00002	0.0005	1	0.06	0.00001	0.001	0.05	0.05	0.005	34	1	178	2
	Event 18	No	8.9	94.7	10.97	81.6	56.5	7.92	10.4	4.85	0.19	0.00015	0.00001	0.00001	0.0001	0.001	0.09	0.0005	0.002	0.00002	0.001	0.1	0.005	0.00001	0.003	0.05	0.05	0.03	30	0.1	5	0.1
	Event 19	No	12.3	94	9.43	100.5	76.1	7.87	92.4	1.6	0.04	0.00015	0.00001	0.004	0.0001	0.001	0.02	0.0005	0.002	0.00002	0.0005	0.1	0.04	0.00001	0.001	0.05	0.05	0.005	43	0.1	6	2
	Event 20	No	10.1	97.9	10.28	90.8	65	7.34	128.4	2.3	0.015	0.00015	0.00001	0.00001	0.0001	0.001	0.01	0.0005	0.0005	0.00002	0.001	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	27	0.1	69	1
	Event 21	No	15.3	82.9	8.29	136.9	111.7	7.53	86.4	2.81	0.03	0.00015	0.00001	0.00001	0.0001	0.001	0.03	0.0005	0.003	0.00002	0.001	0.1	0.01	0.00001	0.001	0.05	0.1	0.01	48	0.1	75	0.1
	Event 22	No	16.9	96.2	9.32	86.8	73.3	7.38	88.2	2.16	0.05	0.00015	0.00001	0.00001	0.0001	0.001	0.05	0.0005	0.002	0.00002	0.0005	0.1	0.08	0.00001	0.001	0.05	0.05	0.02	22	0.1	343	2
	Min		6.10	45.20	5.13	51.30	34.90	5.80	10.40	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		21.30	106.80	12.78	151.00	145.80	8.69	178.40	36.96	0.75	0.00	0.00	0.00	0.00	0.00	0.46	0.00	0.01	0.00	0.00	3.00	0.50	0.00	0.02	0.05	0.10	0.07	74.00	1.00	343.00	52.00
	Mean		12.24	86.62	9.43	99.14	73.78	7.69	103.07	6.01	0.09	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.27	0.04	0.00	0.00	0.05	0.05	0.02	40.18	0.14	59.59	4.87
	Count		22.00	20.00	22.00	20.00	21.00	22.00	22.00	21.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	11.00	22.00	11.00	11.00	22.00	22.00	22.00
	St. Dev		4.10	15.60	1.74	25.48	28.25	0.55	40.70	9.08	0.17	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.64	0.10	0.00	0.00	0.00	0.01	0.02	17.55	0.19	77.37	11.92
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	0.00001	0.0001	0.001	0.03	0.0005	0.011	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.002	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.005	0.0005	0.001	0.00002	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	0.00001	0.0001	0.001	0.08	0.0005	0.003	0.00002	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	0.00001	0.0001	0.001	0.08	0.0005	0.004	0.00002	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	0.00001	0.0001	0.001	0.03	0.0005	0.0005	0.00002	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	0.00001	0.0001	0.001	0.02	0.0005	0.003	0.00002	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	0.00001	0.0001	0.001	0.02	0.0005	0.0005	0.00002	0.0005	0.1	0.01	0.00001	0.003	0.05	0.05	0.005	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	0.00001	0.0001	0.001	0.03	0.0005	0.0005	0.00002	0.0005	0.1	0.03	0.00001	0.002	0.05	0.05	0.005	48	0.1	57	0.1
	Event 15	No	9.8	44	4.99	75.3		7.39	138.4	5.64	0.1	0.00015	0.00001	0.00001	0.0001	0.001	0.06	0.0005	0.001	0.00002	0.0005	0.1	0.13	0.00001	0.001	0.05	0.05	0.01	28	0.1	1	0.1
	Event 16	No	8.3	92.1	10.82	51.2	34.9	7.16	138.9	28.1	0.67	0.00015	0.00001	0.00001	0.0001	0.001	0.39	0.0005	0.004	0.00002	0.0005	0.1	0.15	0.00001	0.001	0.05	0.05	0.07	20	0.1	9	17
	Event 17	No	6.2	91	11.27	76.4	48.9	7.59	78.2	3.54	0.1	0.00015	0.00001	0.00001	0.004	0.001	0.06	0.0005	0.002	0.00002	0.0005	1.1	0.07	0.00001	0.002	0.05	0.1	0.005	34	1	44	0.1
	Event 18	No	8.9	95.7	11.08	81.3	56.4	7.77	45.2	5.01	0.18	0.00015	0.00001	0.00001	0.0001	0.001	0.08	0.001	0.002	0.00002	0.0005	0.1	0.005	0.00001	0.003	0.05	0.05	0.09	31	0.1	21	0.1
	Event 19	No	12.4	94.7	9.48	100.5	76.1	7.89	101.6	1.3	0.04	0.00015	0.00001	0.003	0.0001	0.001	0.02	0.0005	0.002	0.00002	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	42	0.1	15	0.1
	Event 20	No	10.2	98.3	10.3	91.1	65.4	7.34	130.7	0.6	0.015	0.00015	0.00001	0.00001	0.0001	0.001	0.01	0.0005	0.001	0.00002	0.001	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	27	0.1	72	0.1
	Event 21	No	15.5	84.8	8.47	136.7	111.8	7.69	84	2.53	0.03	0.00015	0.00001	0.00001	0.0001	0.001	0.02	0.001	0.003	0.00002	0.0005	0.2	0.005	0.00001	0.001	0.05	0.2	0.005	47	0.1	22	0.1
	Event 22	No	17	97.1	9.39	86.5	73.2	7.41	109.7	1.94	0.04	0.00015	0.00001	0.00001	0.0001	0.001	0.04	0.0005	0.002	0.00002	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.02	22	0.1	38	0.1
	Min		6.20	43.70	4.99	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	0.01	20.00	0.10	1.00	0.10
	Max		21.70	108.20	15.88	136.70	146.10	8.43	156.80	40.77	0.67	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.01	0.00	0.00	1.10	0.15	0.00	0.02	0.05	0.80	0.09	74.00	1.00	94.00	42.00
	Mean		12.35	85.01	9.71	89.79	73.54	7.68	107.09	6.23	0.08	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.18	0.02	0.00	0.00	0.05	0.09	0.03	39.91	0.14	40.05	3.57
	Count		22.00	20.00	22.00	20.00	21.00	22.00	22.00	21.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	11.00	22.00	11.00	11.00	22.00	22.00	22.00
	St. Dev		4.15	19.07	2.22	25.10	28.65	0.54	37.53	10.15	0.15	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.25	0.04	0.00	0.01	0.00	0.16	0.03	17.62	0.19	28.30	9.38
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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	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	0.00002	0.0005	2	0.005	0.00001	0.004	0.05	0.05	0.005	246	0.1	271	0.1
	Event 15	No	10.8	43.9	4.86	479.3		7.6	153.2	0.001	0.005	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.0005	0.00002	0.0005	0.1	0.1	0.00001	0.004	0.05	0.05	0.005	250	0.1	161	112
	Event 16	No	9.2	92.6	10.64	487.5	340.3	7.78	152.8	2.65	0.16	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.0005	0.00002	0.002	0.1	0.005	0.00001	0.005	0.05	0.05	0.03	254	0.1	242	0.1
	Event 17	No	8.7	91.9	10.68	484.7	334.1	7.9	77.8	0.002	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.00002	0.001	1.3	0.005	0.00001	0.004	0.05	0.05	0.005	262	1	232	0.1
	Event 18	No	10.1	98.1	11.02	517	369.9	7.78	89.7	0.41	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.004	0.001	0.00002	0.002	0.1	0.005	0.00001	0.006	0.05	0.05	0.005	272	0.1	224	0.1
	Event 19	No	12.4	96.1	9.6	481.4	366	7.82	111.4	0	0.06	0.00015	0.00001	0.003	0.0001	0.001	0.005	0.0005	0.0005	0.00002	0.002	0.1	0.005	0.00001	0.004	0.05	0.05	0.005	271	0.1	155	0.1
	Event 20	No	11	101.8	10.45	478.2	350.6	7.55	125.8	0.8	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.0005	0.001	0.00002	0.002	0.1	0.005	0.00001	0.006	0.05	0.05	0.005	235	0.1	257	0.1
	Event 21	No	14.8	88.3	8.93	533	429.3	7.48	111	0.57	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.005	0.002	0.0005	0.00002	0.002	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	250	0.1	215	0.1
	Event 22	No	15	94.8	9.54	486.8	394.2	7.62	126.1	-0.19	0.04	0.00015	0.00001	0.000005	0.002	0.001	0.005	0.0005	0.0005	0.00002	0.0005	0.1	0.005	0.00001	0.004	0.05	0.05	0.005	248	0.1	287	3
	Min		8.60	43.90	4.86	321.30	294.90	6.37	10.00	-0.19	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	155.00	0.10
	Max		20.10	116.90	12.06	583.00	429.30	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	2.00	0.35	0.00	0.04	0.05	0.10	0.03	272.00	1.00	317.00	450.00
	Mean		12.59	86.04	9.41	477.51	372.30	7.84	118.20	45.36	0.10	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.33	0.03	0.00	0.00	0.05	0.05	0.01	235.27	0.14	258.09	31.60
	Count		22.00	20.00	22.00	20.00	21.00	22.00	22.00	21.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00	11.00	22.00	11.00	11.00	22.00	22.00	22.00
	St. Dev		3.05	19.50	1.64	63.10	43.82	0.41	39.42	170.51	0.23	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.60	0.08	0.00	0.01	0.00	0.01	0.01	57.49	0.19	42.26	97.20
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					0.1	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	0.001					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
	Event 15	No	9.3	44.1	5	86.3		7.54	141	1.97	0.08	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.001	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.005	34	0.1	21	0.1
	Event 16	No	7.8	92.7	11.04	55.6	37.3	7.25	131.1	12.25	0.47	0.00015	0.00001	0.000005	0.0001	0.001	0.3	0.0005	0.003	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.04	22	0.1	6	8
	Event 17	No	5.8	91.9	11.5	75	47.5	7.83	68.7	4.33	0.1	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.002	0.000015	0.0005	1.3	0.18	0.00001	0.001	0.05	0.3	0.005	33	1	41	0.1
	Event 18	No	8.8	96.4	11.19	83.2	57.5	7.69	72.9	3.81	0.17	0.00015	0.00001	0.000005	0.0001	0.001	0.09	0.005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.002	0.05	0.1	0.07	32	0.1	4	0.1
	Event 19	No	14.3	95.3	9.15	98.2	78.1	7.92	104.5	1.8	0.06	0.00015	0.00001	0.002	0.0001	0.001	0.03	0.0005	0.001	0.000015	0.0005	0.1	0.38	0.00001	0.001	0.05	0.05	0.07	13.3	0.1	3	0.1
	Event 20	No	12.1	100.3	10.08	97.3	73.3	7.61	119	0.9	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.02	0.0005	0.001	0.000015	0.001	0.1	0.005	0.00001	0.003	0.05	0.05	0.005	31	0.1	67	0.1
	Event 21	No	16.9	86.2	8.35	126.1	106.6	7.74	91	4.52	0.05	0.00015	0.00001	0.000005	0.0001	0.001	0.04	0.0005	0.002	0.000015	0.001	0.1	0.005	0.00001	0.001	0.4	0.1	0.005	36	0.1	12	0.1
	Event 22	No	19.3	97.8	9.02	94.8	84.4	7.44	116.9	2.07	0.08	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	27	0.1	50	0.1
	Min		5.80	24.60	5.00	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	13.30	0.10	3.00	0.10
	Max		22.10	109.40	13.05	126.10	124.60	8.69	180.90	124.93	0.47	0.00	0.00	0.00	0.00	0.00	0.30	0.01	0.00	0.00	0.00	1.30	0.38	0.00	0.01	0.40	0.30	0.07	56.00	1.00	73.00	13.00
	Mean		12.84	86.25	9.58	84.36	68.82	7.82	107.90	9.91	0.09	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.16	0.03	0.00	0.00	0.08	0.07	0.02	34.48	0.15	38.48	1.46
	Count		21.00	19.00	21.00	19.00	20.00	21.00	21.00	20.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	11.00	20.00	11.00	11.00	20.00	21.00	21.00
	St. Dev		4.70	21.58	1.85	23.25	24.65	0.43	39.57	27.28	0.12	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.26	0.09	0.00	0.00	0.11	0.06	0.03	12.43	0.20	22.45	3.33
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
	Event 15	No	9.8	44	5.04	522		7.21	-43.2	17.27	0.07	0.00015	0.00001	0.000005	0.002	0.001	0.04	0.0005	0.007	0.000015	0.0005	0.1	0.03	0.00001	0.004	0.05	0.05	0.004	268	0.1	316	0.1
	Event 16	No	9.2	88.9	10.2	376.6	263.2	7.54	149.8	13.03	0.38	0.00015	0.00001	0.000005	0.013	0.001	0.19	0.0005	0.013	0.000015	0.006	0.1	0.01	0.00001	0.008	0.05	0.05	0.05	280	0.1	228	10
	Event 17	No	9	89.3	10.29	511	355	7.77	59.7	4.57	0.09	0.00015	0.00001	0.000005	0.0001	0.001	0.04	0.0005	0.005	0.000015	0.002	1	0.03	0.00001	0.005	0.05	0.05	0.005	281	1	272	5
	Event 18	No	10	91.3	10.29	553	394.3	7.88	54.1	3.73	0.14	0.00015	0.00001	0.000005	0.003	0.001	0.07	0.007	0.009	0.000015	0.004	0.1	0.005	0.00001	0.008	0.05	0.1	0.02	304	0.1	312	0.1
	Event 19	No	12.1	86.5	8.71	529	398.2	7.77	3.3	16.8	0.07	0.00015	0.00001	0.003	0.002	0.001	0.05	0.005	0.012	0.000015	0.002	0.1	0.005	0.00001	0.004	0.05	0.05	0.005	296	0.1	144	0.1
	Event 20	No	11.7	88.7	8.98	535	398.8	7.53	23.4	1.5	0.04	0.00015	0.00001	0.000005	0.003	0.001	0.01	0.0005	0.004	0.000015	0.003	0.1	0.005	0.00001	0.008	0.05	0.05	0.005	280	0.1	316	0.1
	Event 21	No	13.9	68.6	7.08	613	482.7	7.48	16.3	25.83	0.07	0.00015	0.00001	0.000005	0.0001	0.001	0.21	0.0005	0.092	0.000015	0.003	0.1	0.01	0.00001	0.004	0.05	0.1	0.005	290	0.1	288	3
	Event 22	No	14.7	83.3	8.49	551	443.3	7.57	25.2	53.74	0.16	0.00015	0.00001	0.000005	0.003	0.001	0.14	0.0005	0.022	0.000015	0.005	0.1	0.005	0.00001	0.004	0.05	0.05	0.005	277	0.1	334	4
	Min		9.00	0.00	5.04	0.00	263.20	6.93	-43.20	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	0.00	267.00	0.10	144.00	0.10
	Max		18.80	100.50	11.22	613.00	482.70	8.34	149.80	85.15	0.41	0.00	0.00	0.00	0.01	0.00	0.21	0.01	0.09	0.00	0.01	2.00	0.07	0.00	0.01	0.05	0.10	0.05	304.00	2.00	353.00	64.00
	Mean		12.49	74.64	8.48	453.68	371.47	7.69	41.76	15.52	0.10	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.02	0.00	0.00	0.23	0.01	0.00	0.00	0.05	0.06	0.01	280.55	0.23	286.86	5.52
	Count		19.00	17.00	19.00	17.00	18.00	19.00	19.00	18.00	21.00	20.00	20.00	20.00	20.00	21.00	21.00	21.00	21.00	20.00	20.00	20.00	20.00	20.00	21.00	10.00	20.00	10.00	11.00	21.00	21.00	21.00
	St. Dev		2.82	24.70	1.85	140.86	64.02	0.32	48.84	21.93	0.11	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.03	0.00	0.00	0.45	0.02	0.00	0.00	0.00	0.02	0.01	11.84	0.45	48.71	13.70
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
	Event 15	No	9.9	44.2	5	88.7		7.49	97.2	1.83	0.07	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	35	0.1	56	0.1
	Event 16	No	1.8	93.2	11.1	56.9	38.2	7.1	136.4	11.65	0.46	0.00015	0.00001	0.000005	0.0001	0.001	0.29	0.0005	0.003	0.000015	0.001	0.1	0.05	0.00001	0.002	0.05	0.05	0.06	23	0.1	11	6
	Event 17	No	6.1	92.3	11.46	76.6	49	7.55	82.3	2.59	0.1	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.002	0.000015	0.0005	0.1	0.017	0.00001	0.001	0.05	0.1	0.005	34	0.1	51	0.1
	Event 18	No	9.2	97.3	11.19	85	59.4	7.5	88.3	4.45	0.17	0.00015	0.00001	0.000005	0.0001	0.001	0.09	0.0005	0.002	0.000015	0.001	0.1	0.005	0.00001	0.005	0.05	0.1	0.02	34	0.1	132	0.1
	Event 19	No	14.6	95.6	9.14	99.9	80	7.88	92.7	1.9	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.04	0.001	0.001	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	34	0.1	10	0.1
	Event 20	No	10.9	98.3	10.17	99.3	72.5	7.43	118.1	1	0.03	0.00015	0.00001	0.000005	0.002	0.001	0.02	0.0005	0.001	0.000015	0.001	0.1	0.005	0.00001	0.003	0.05	0.05	0.005	31	0.1	60	0.1
	Event 21	No	17.4	87	8.33	128.4	109.9	7.84	88.2	5.16	0.06	0.00015	0.00001	0.000005	0.0001	0.001	0.04	0.0005	0.002	0.000015	0.001	0.1	0.01	0.00001	0.001	0.05	0.1	0.005	37	0.1	52	0.1
	Event 22	No	20	99	9	97.2	88	7.59	107.6	2	0.08	0.00015	0.00001	0.000005	0.0001	0.001	0.07	0.0005	0.003	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	28	0.1	59	0.1
	Min		1.80	44.20	5.00	56.90	38.20	7.10	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	0.46	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.10	0.05	0.00	0.01	0.20	0.10	0.06	61.00	7.00	132.00	12.00
	Mean		12.91	89.75	9.89	92.63	69.70	7.74	108.10	4.02	0.09	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.10	0.01	0.00	0.00	0.07	0.06	0.01	34.73	0.43	52.86	1.50
	Count		21.00	19.00	21.00	19.00	20.00	20.00	20.00	20.00	21.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	10.00	20.00	10.00	11.00	21.00	21.00	21.00
	St. Dev		5.30	14.82	2.71	21.29	25.26	0.37	46.52	3.95	0.11	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.05	0.02	0.02	10.81	1.51	28.96	2.96
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
	Event 15	No	10.9	44.5	4.92	151.7		7.29	75.4	5.7	0.11	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.0005	0.000015	0.0005	1	0.01	0.00001	0.001	0.05	0.05	0.005	52	1	83	0.1
	Event 16	No	9.3	89.8	10.31	117.4	82.2	6.93	135	20.87	1.49	0.00015	0.00001	0.000005	0.0001	0.001	0.72	0.0005	0.007	0.000015	0.003	0.1	0.005	0.005	0.003	0.05	0.05	0.04	51	0.1	24	2
	Event 17	No	7.8	88.9	10.59	125	83.8	7.53	82.6	9.14	0.74	0.00015	0.00001	0.000005	0.0001	0.001	0.3	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.005	0.001	0.05	0.05	0.005	54	0.1	7	0.1
	Event 18	No	9.9	95.3	10.79	141.1	100.3	7.83	66.8	4.62	0.4	0.00015	0.00001	0.000005	0.0001	0.001	0.15	0.006	0.001	0.000015	0.003	0.1	0.005	0.005	0.003	0.05	0.05	0.005	59	0.1	1	6
	Event 19	No	13.9	94	9.13	139.8	110.1	7.69	83.4	2.7	0.25	0.00015	0.00001	0.002	0.002	0.001	0.09	0.001	0.001	0.000015	0.001	5	0.04	0.00001	0.001	0.05	0.05	0.005	54	5	1	5
	Event 20	No	9.1	95.8	10.32	138.7	96.7	7.25	117.8	3.5	0.2	0.00015	0.00001	0.000005	0.002	0.001	0.08	0.0005	0.001	0.000015	0.001	0.1	0.04	0.005	0.003	0.05	0.05	0.01	51	0.1	54	3
	Event 21	No flow																														
	Event 22	No	16.7	92.2	8.97	150.3	126.4	7.29	99.2	18.54	1.72	0.00015	0.00001	0.000005	0.002	0.001	0.77	0.0005	0.004	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	53	0.1	96	0.1
	Min		7.80	44.50	4.92	63.80	67.30	6.93	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	0.05	0.05	0.01	51.00	0.10	1.00	0.10
	Max		20.00	102.60	12.09	172.00	126.40	8.17	233.80	124.93	1.73	0.00	0.00	0.00	0.00	0.00	0.77	0.01	0.02	0.00	0.00	5.00	0.05	0.01	0.00	0.05	0.10	0.04	59.00	5.00	189.00	36.00
	Mean		12.30	83.31	9.10	131.17	104.03	7.55	108.55	20.24	0.51	0.00	0.00	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00	0.44	0.01	0.00	0.00	0.05	0.05	0.01	53.50	0.44	63.12	3.76
	Count		17.00	16.00	17.00	16.00	16.00	17.00	17.00	16.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	17.00	7.00	17.00	7.00	8.00	17.00	17.00	17.00
	St. Dev		3.48	16.45	1.96	31.23	18.45	0.31	43.17	31.04	0.67	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.00	1.19	0.01	0.00	0.00	0.00	0.01	0.01	2.56	1.19	46.07	8.67
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
	Event 15	No	8.7	45.3	5.27	22.7	15.7	7.11	125.3	0.42	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.04	0.0005	0.002	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	6	0.1	1	0.1
	Event 16	No	7.1	93.1	11.29	25.3	16.6	6.92	112.6	1.42	0.05	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.002	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.03	8	0.1	3	0.1
	Event 17	No	4	95.5	12.5	43.8	26.2	7.36	66.1	3.15	0.03	0.00015	0.00001	0.000005	0.0001	0.001	0.05	0.0005	0.005	0.000015	0.0005	0.4	0.05	0.00001	0.001	0.05	0.4	0.005	8	0.1	5	0.1
	Event 18	No	8.3	98.7	11.59	37.5	25.6	7.92	73.3	2.77	0.11	0.00015	0.00001	0.000005	0.0001	0.001	0.1	0.0005	0.005	0.000015	0.0005	0.1	0.005	0.00001	0.002	0.05	0.1	0.06	10	0.1	71	0.1
	Event 19	No	16.2	105.8	9.85	38.7	32.2	7.59	89.5	1.7	0.015	0.00015	0.00001	0.000005	0.0001	0.001	0.1	0.02	0.002	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.005	8	0.1	11	0.1
	Event 20	No	15	101.6	9.57	42.3	34.2	7.64	70.2	0.3	0.015	0.00015	0.00001	0.000005	0.002	0.001	0.02	0.0005	0.001	0.000015	0.0005	0.1	0.005	0.00001	0.002	0.05	0.05	0.005	6	0.1	297	0.1
	Event 21	No	14.2	75.9	7.8	39.5	31.3	7.36	37.1	2.85	0.08	0.00015	0.00001	0.000005	0.0001	0.001	0.12	0.002	0.005	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.8	0.1	0.01	9	0.1	15	0.1
	Event 22	No	12.3	91.2	9.77	24.6	18.6	7.05	93.2	1.6	0.04	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.005	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	1	0.1	13	0.1
	Min		4.00	45.30	5.27	20.00	12.30	6.86	14.00	-0.31	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	1.00	0.10	1.00	0.10
	Max		19.30	111.00	14.78	52.90	46.70	8.80	233.90	5.08	0.11	0.00	0.00	0.00	0.00	0.00	0.12	0.02	0.01	0.00	0.00	7.00	0.05	0.00	0.01	0.80	1.10	0.06	56.00	0.10	297.00	4.00
	Mean		11.55	91.74	10.11	32.86	24.57	7.57	102.47	1.37	0.03	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.51	0.01	0.00	0.00	0.13	0.13	0.02	11.36	0.10	33.52	0.42
	Count		21.00	19.00	21.00	19.00	21.00	21.00	21.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	21.00	20.00	20.00	20.00	20.00	20.00	21.00	20.00	20.00	10.00	20.00	10.00	11.00	21.00	21.00	21.00
	St. Dev		3.95	14.76	2.21	11.57	9.97	0.46	51.67	1.53	0.03	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	1.51	0.01	0.00	0.00	0.23	0.24	0.02	14.99	0.00	63.47	1.03
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
	Event 15	No	7.9	44.8	5.31	33.7	22.7	7.14	119.6	10.85	0.34	0.00015	0.00001	0.000005	0.0001	0.001	0.31	0.0005	0.005	0.000015	0.0005	0.1	0.06	0.00001	0.001	0.05	0.05	0.02	9	0.1	1	2
	Event 16	No	5	85	10.86	29.9	18.5	6.44	133.3	8.79	0.4	0.00015	0.00001	0.000005	0.005	0.001	0.27	0.0005	0.005	0.000015	0.001	0.1	0.05	0.00001	0.003	0.05	0.05	0.04	9	0.1	1	5
	Event 17	No	3	84.5	11.36	30	17.4	6.72	144.4	8.93	0.32	0.00015	0.00001	0.000005	0.0001	0.001	0.25	0.0005	0.0005	0.000015	0.0005	1.1	0.005	0.00001	0.001	0.05	0.1	0.005	9	1	12	5
	Event 18	No	6.2	87.2	10.82	33.9	21.7	7.24	105.9	9.82	0.36	0.00015	0.00001	0.000005	0.0001	0.001	0.24	0.0005	0.012	0.000015	0.0005	0.1	0.005	0.00001	0.022	0.05	0.1	0.03	14	0.1	19	0.1
	Event 19	No	10.6	92.8	9.17	32.9	23.8	7.07	113.9	9.9	0.34	0.00015	0.00001	0.007	0.0001	0.001	0.26	0.0005	0.003	0.000015	0.0005	0.1	0.02	0.00001	0.001	0.05	0.05	0.005	1	0.1	9	0.1
	Event 20	No	9.1	94.6	9.54	33.2	23.1	6.42	113.1	7.3	0.26	0.00015	0.00001	0.000005	0.0001	0.001	0.2	0.0005	0.002	0.000015	0.001	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	1	0.1	106	0.1
	Event 21	No	15.5	78.1	7.79	42.2	34.5	6.83	104.6	16.69	0.31	0.00015	0.00001	0.000005	0.002	0.001	0.33	0.0005	0.006	0.000015	0.001	1.2	0.02	0.00001	0.004	0.05	2	0.01	1	1	20	0.1
	Event 22	No	15.7	90.6	9	38.1	31.3	6.55	116.6	5.64	0.32	0.00015	0.00001	0.000005	0.002	0.001	0.33	0.0005	0.007	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	5	0.1	24	0.1
	Min		3.00	44.80	5.31	24.70	17.40	6.42	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	1.00	0.10	1.00	0.10
	Max		15.70	101.10	12.79	42.20	34.50	8.39	235.60	59.63	0.42	0.00	0.00	0.01	0.01	0.00	0.47	0.00	0.01	0.00	0.00	9.00	0.17	0.00	0.02	0.05	2.00	0.04	14.00	2.00	106.00	104.00
	Mean		9.50	85.03	9.50	32.47	22.78	7.05	116.94	11.43	0.22	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.72	0.02	0.00	0.00	0.05	0.16	0.01	6.91	0.28	21.45	9.95
	Count		22.00	20.00	22.00	20.00	22.00	22.00	22.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	22.00	22.00	22.00	21.00	21.00	21.00	21.00	21.00	21.00	10.00	21.00	10.00	11.00	21.00	22.00	22.00
	St. Dev		3.87	13.83	1.72	4.04	4.12	0.56	43.72	11.72	0.14	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	1.92	0.04	0.00	0.00	0.00	0.41	0.01	4.46	0.47	23.10	22.17
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
	Event 15	No	8.6	43.9	5.12	43.7	30	6.58	112.8	6.41	0.21	0.00015	0.00001	0.000005	0.004	0.001	0.18	0.0005	0.0005	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.02	13	0.1	8	0.1
	Event 16	No	5.7	85.7	10.76	36.4	23	6.63	105.6	5.3	0.3	0.00015	0.00001	0.000005	0.0001	0.001	0.21	0.0005	0.004	0.000015	0.002	0.1	0.005	0.00001	0.001	0.05	0.05	0.04	11	0.1	9	0.1
	Event 17	No	3.7	84.5	11.17	39.9	23.6	7.49	35.5	3.29	0.15	0.00015	0.00001	0.000005	0.0001	0.001	0.16	0.0005	0.006	0.000015	0.0005	1.2	0.07	0.00001	0.001	0.05	0.2	0.005	14	1	23	0.1
	Event 18	No	6.9	86.9	10.58	44.5	29.1	6.81	109.4	5.48	0.22	0.00015	0.00001	0.000005	0.0001	0.001	0.14	0.004	0.004	0.000015	0.0005	0.1	0.005	0.00001	0.003	0.05	0.1	0.005	16	0.1	1	0.1
	Event 19	No	9.7	90.2	9.13	46.5	32.9	7.61	56.6	4.7	0.19	0.00015	0.00001	0.000005	0.0001	0.001	0.14	0.004	0.002	0.000015	0.0005	0.1	0.04	0.00001	0.001	0.05	0.05	0.005	8	0.1	1	0.1
	Event 20	No	9.2	94.9	9.5	46.3	32.3	6.55	116.9	3.2	0.13	0.00015	0.00001	0.000005	0.002	0.001	0.1	0.0005	0.001	0.000015	0.0005	0.1	0.01	0.00001	0.003	0.05	0.05	0.01	6	0.1	24	0.1
	Event 21	No	15.2	78.4	7.87	61.3	49.8	6.82	109.6	6.77	0.13	0.00015	0.00001	0.000005	0.002	0.001	0.14	0.0005	0.003	0.000015	0.0005	0.1	0.01	0.00001	0.001	1	0.1	0.005	9	0.1	10	0.1
	Event 22	No	15.8	89.6	8.89	50.9	41.9	6.79	116.4	3.09	0.16	0.00015	0.00001	0.000005	0.002	0.001	0.18	0.0005	0.004	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	8	0.1	33	0.1
	Min		3.70	43.90	5.12	29.60	23.00	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	6.00	0.10	1.00	0.10
	Max		15.80	101.20	12.28	61.30	49.80	7.92	168.80	51.33	0.30	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.01	0.00	0.00	3.00	0.07	0.00	0.00	1.00	0.20	0.04	17.00	3.00	79.00	53.00
	Mean		9.75	84.74	9.46	43.21	30.84	7.04	105.45	6.52	0.13	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.29	0.02	0.00	0.00	0.15	0.07	0.01	11.45	0.27	25.81	4.02
	Count		22.00	20.00	22.00	20.00	22.00	22.00	22.00	21.00	22.00	21.00	21.00	21.00	21.00	21.00	22.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00	10.00	21.00	10.00	11.00	22.00	21.00	22.00
	St. Dev		3.54	13.47	1.58	7.56	7.16	0.43	37.85	10.39	0.09	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.65	0.02	0.00	0.00	0.29	0.04	0.01	3.59	0.64	20.11	11.27
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
	Event 15	No	8.7	44.7	5.2	30.4	20.9	6.68	123.8	13.88	0.42	0.00015	0.00001	0.000005	0.0001	0.001	0.37	0.0005	0.006	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.02	8	0.1	1	6
	Event 16	No	5.4	83.4	10.54	27.2	17	6.12	129.5	7.61	0.39	0.00015	0.00001	0.000005	0.0001	0.001	0.26	0.0005	0.007	0.000015	0.0005	0.1	0.05	0.00001	0.001	0.05	0.05	0.04	9	0.1	9	5
	Event 17	No	4	83.6	10.94	27	16.2	6.74	106.7	6.41	0.25	0.00015	0.00001	0.000005	0.0001	0.001	0.2	0.0005	0.007	0.000015	0.0005	0.2	0.01	0.00001	0.001	0.05	0.2	0.005	8	0.1	5	0.1
	Event 18	No	7.7	86.9	10.37	30.5	20.4	6.9	85	11.42	0.48	0.00015	0.00001	0.000005	0.0001	0.001	0.31	0.003	0.008	0.000015	0.001	0.1	0.005	0.00001	0.005	0.05	0.1	0.01	8	0.1	1	0.1
	Event 19	No	11.4	91.2	8.82	29.2	21.6	6.76	72.5	10.1	0.49	0.00015	0.00001	0.000005	0.002	0.001	0.32	0.0005	0.004	0.000015	0.0005	0.1	0.11	0.00001	0.001	0.05	0.05	0.005	1	0.1	1	0.1
	Event 20	No	9.5	92.7	9.23	29.4	20.7	6.4	85.9	8.6	0.35	0.00015	0.00001	0.000005	0.002	0.001	0.24	0.0005	0.002	0.000015	0.0005	0.1	0.005	0.00001	0.016	0.05	0.05	0.005	1	0.1	46	0.1
	Event 21	No	17.5	77.9	7.46	33.5	28.7	6.56	67.6	23.23	0.52	0.00015	0.00001	0.000005	0.0001	0.001	0.41	0.0005	0.006	0.000015	0.0005	1.2	0.02	0.00001	0.002	1.8	0.2	0.01	1	1	4	0.1
	Event 22	No	17.3	90.8	8.73	33.8	28.8	6.38	92.7	8.64	0.51	0.00015	0.00001	0.000005	0.002	0.001	0.46	0.0005	0.015	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	6	0.1	21	0.1
	Min		4.00	44.70	5.20	23.30	16.20	6.12	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	0.01	1.00	0.10	1.00	0.10
	Max		17.50	98.30	12.23	33.80	31.00	7.65	185.80	32.77	0.52	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.02	0.00	0.00	5.00	0.11	0.00	0.02	1.80	0.20	0.04	10.00	2.00	46.00	36.00
	Mean		10.34	83.47	9.26	29.32	21.74	6.79	101.50	9.89	0.27	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.48	0.02	0.00	0.00	0.23	0.07	0.01	6.00	0.23	16.71	5.22
	Count		22.00	19.00	22.00	20.00	22.00	22.00	22.00	21.00	22.00	21.00	21.00	21.00	21.00	21.00	22.00	21.00	22.00	21.00	21.00	21.00	21.00	21.00	21.00	10.00	21.00	10.00	11.00	21.00	21.00	22.00
	St. Dev		4.17	13.09	1.63	2.71	3.89	0.43	39.93	6.69	0.18	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	1.11	0.02	0.00	0.00	0.53	0.04	0.01	3.49	0.44	15.61	7.59
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
	Event 15	No	9.2	43.6	5.02	29.4	20.5	6.63	110.1	7.48	0.47	0.00015	0.00001	0.000005	0.0001	0.001	0.41	0.0005	0.012	0.000015	0.0005	0.1	0.06	0.00001	0.001	0.05	0.05	0.02	7	0.1	10	0.1
	Event 16	No	5.2	84.7	10.77	27.4	17	6.2	118	7.37	0.34	0.00015	0.00001	0.000005	0.0001	0.001	0.28	0.0005	0.013	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.04	9	0.1	6	5
	Event 17	No	3.9	85.4	11.22	25.8	15.4	6.61	111	5.72	0.28	0.00015	0.00001	0.000005	0.0001	0.001	0.23	0.0005	0.009	0.000015	0.0005	0.1	0.005	0.00001	0.001	0.05	0.05	0.005	8	0.1	16	0.1
	Event 18	No	9	89.1	10.31	29.7	20.6	6.75	83	22.13	0.71	0.00015	0.00001	0.000005	0.0001	0.001	0.47	0.0005	0.037	0.000015	0.001	0.1	0.005	0.00001	0.026	0.05	0.1	0.07	13	0.1	5	0.1
	Event 19	No	16	95	8.27	27.8	23.1	6.62	85.9	21.8	0.69	0.00015	0.00001	0.000005	0.002	0.001	0.53	0.004	0.007	0.000015	0.001	0.1	0.08	0.00001	0.003	0.05	0.05	0.005	1	0.1	1	0.1
	Event 20	No	10.1	94.9	9.29	27.9	19.9	6.34	106.1	13.5	0.47	0.00015	0.00001	0.000005	0.0001	0.001	0.3	0.0005	0.003	0.000015	0.0005	0.1	0.03	0.00001	0.001	0.05	0.05	0.005	1	0.1	42	0.1
	Event 21	No	23.3	81.9	7	37.2	35.9	6.67	76.2	49.93	0.86	0.00015	0.00001	0.000005	0.002	0.001	0.64	0.0005	0.01	0.000015	0.0005	0.1	0.03	0.00001	0.002	0.05	0.05	0.02	1	0.1	5	0.1
	Event 22	No	15.8	89.6	8.89	50.9	41.9	6.79	116.4	3.09	0.87	0.00015	0.00001	0.000005	0.002	0.001	0.74	0.0005	0.021	0.000015	0.0005	0.1	0.005	0.00001	0.003	0.05	0.05	0.005	1	0.1	32	0.1
	Min		3.40	43.60	5.02	23.50	15.40	6.20	20.00	3.09	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	1.00	0.10	1.00	0.10
	Max		23.30	101.30	12.53	50.90	41.90	7.54	192.40	49.93	0.87	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.04	0.00	0.00	6.00	0.08	0.00	0.03	0.05	0.10	0.07	13.00	0.10	78.00	13.00
	Mean		11.90	85.79	9.03	29.76	22.52	6.75	105.42	11.32	0.34	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.01	0.00	0.00	0.38	0.02	0.00	0.00	0.05	0.05	0.02	5.45	0.10	19.57	2.96
	Count		22.00	20.00	22.00	20.00	22.00	22.00	22.00	21.00	22.00	21.00	21.00	21.00	21.00	21.00	22.00	21.00	22.00	21.00	21.00	21.00	21.00	21.00	21.00	10.00	21.00	10.00	11.00	22.00	21.00	22.00
	St. Dev		5.30	13.72	1.81	5.84	6.16	0.36	38.53	10.46	0.27	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.01	0.00	0.00	1.26	0.02	0.00	0.01	0.00	0.01	0.02	4.52	0.00	19.10	3.70

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

APPENDIX B OBSERVATIONS AND FIELD DATA

Lobs Hole + Maraglé (1 Day) 13/12/22 E22

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	16.9	96.2	9.32	86.8	73.3	7.38	88.2	2.16
	Comment	clear, fast flow								
WC-IS	Month	no	17.0	97.1	9.39	86.5	73.2	7.41	109.7	1.94
	Comment	clear, fast flow woody debris present in stream								
CG-IS	Month	no	15.0	94.8	9.54	486.8	394.2	7.62	126.1	-0.19
	Comment	algal presence increased slow, consistent flow								
YR1-RS	Month	no	19.3	97.8	9.02	94.8	84.4	7.44	116.9	2.07
	Comment	Clear fast flow Increased vegetation cover along banks difficulty getting to site due to vegetation overgrown								

Sunny, slightly cloudy. no wind.

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	14.7	83.3	8.49	551	443.3	7.57	25.2	53.74
	Comment	decreased aquatic vegetation present slow flow								
YR2-RS	Month	no	20.0	99.0	9.00	97.2	88.0	7.59	107.6	2.00
	Comment	fast clear flow. trees cleared near river alternate path to site required.								
SSC-IS	Month	no	16.7	92.2	8.97	150.3	126.4	7.29	99.2	18.54
	Comment	water level replenished from EZ1. ~~Slow~~ slow flow. debris present								
TR-RS	Month	no	12.3	91.2	9.77	24.6	18.6	7.05	93.2	1.60
	Comment	clear moderate slow exposed rock bank								
YK-IS (D/S)	Month	no	15.7	90.6	9.00	38.1	31.3	6.55	116.6	5.64
	Comment	moderate flow woody debris present evidence of mica on stream bed.								

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	15.8	89.6	8.89	50.9	41.9	6.79	116.4	3.09
	Comment	clear moderate flow high vegetation cover on banks evidence of animal tracks near stream								
YK-IS	Month	no	17.3	90.8	8.73	33.8	28.8	6.38	92.7	8.64
	Comment	cloudy ~~opaqueness~~ / turbid~~ity~~ water moderate flow ~~presence~~ presence of mica								
YK-RS	Month	no	15.8	89.6	8.89	50.9	41.9	6.79	116.4	3.09
	Comment	cloudy / turbid water sandy bank raised mid stream moderate flow.								

DUP01

APPENDIX C LABORATORY CERTIFICATES

2312-0055

Charles Sturt University

CLIENT:	NGH Pty Ltd		
CONTACT:	Nicola Smith		
ADDRESS:	35 Kincaid Street Wagga Wagga NSW 2650 ABN: 31 124 444 622		
TELEPHONE:	0410 411 660	E-mail	nicola.s@nghconsulting.com.au

ANALYTES REQUIRED *Complete & tick as required*

SAMPLE IDENTIFICATION	NATURE OF SAMPLE	DATE SAMPLED	TIME SAMPLED	CONTAINER TYPE	NUMBER OF CONTAINERS	Total Nitrogen	Total Phosphorus	Cyanide	Total Suspended Solids	Total Dissolved Solids	Dissolved Metals (Al, As, Cd, Cr, Cu, Pb, Hg, Ni, Zn,	Toal hardness	Ammonia	Reactive Phosphorus
WC-RS	Water	13/12	7:48am ~~pm~~	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
WC-IS	Water	13/12	7:59am ~~pm~~	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
CG-IS	Water	13/12	8:18am ~~pm~~	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
YR1-IS	Water	13/12	8:32am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
LHG-IS	Water	13/12	8:48am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
YR2-IS	Water	13/12	9:06am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
SSC-IS	Water	13/12	9:18am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
TR-RS	Water	13/12	10:42am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
YK-IS (d/s)	Water	13/12	11:09am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
NZG-IS	Water	13/12	11:27am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
YK-IS	Water	13/12	18:39am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
YK-RS	Water	13/12	11:51am	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓
DUP01	Water	13/12	11:52am	JAR	1						✓			
WATER BLANK	Water	13/12	–	JAR	3	✓	✓	✓	✓	✓	✓	✓	✓	✓

	NAME	SIGNATURE	ORGANISATION	DATE	TIME
RELINQUISHED BY:	Martin Nyburn ~~Nicola Smith~~	[signature]	NGH Pty Ltd	13/12/23	2:30pm
Mode of Transport Include Consignment Note # if applicable	Delivery				
RECEIVED BY:	M.GAZI	[signature]	[illegible]	13/12	2:30

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NGH Environmental

35 Kincaid Street

Wagga Wagga NSW 2650

Attention: Nicola Smith

Thursday, December 21, 2023

NATA Accredited Laboratory Number: 9597

Accredited for compliance with ISO/IEC 17025 - Testing

LABORATORY ANALYSIS REPORT

Report Number:2312-0055
Page 1 of 17
For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0136	**WC-RS** 13.12.23 7.48am					
		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)	**8.96**	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	**22**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.05**	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	**0.02**	mg/L	LTM-W-030	0.01
		Phosphorus, Total	**0.08**	mg/L	LTM-W-030	0.01
		Silver (dissolved)	**<0.00002**	mg/L	* APHA 3030 B/3120 B	0.0000
		Total Dissolved Solids	**343**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2

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NGH Environmental

35 Kincaid Street

Wagga Wagga NSW 2650

Attention: Nicola Smith

Thursday, December 21, 2023

NATA Accredited Laboratory Number: 9597

Accredited for compliance with ISO/IEC 17025 - Testing

LABORATORY ANALYSIS REPORT

Report Number:2312-0055
Page 2 of 17
For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0136	**WC-RS** 13.12.23 7.48am					
		Total Suspended Solids	**2**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**<0.002**	mg/L	APHA 3030 B/3120 B	0.002
23Dec-0137	**WC-IS** 13.12.23 7.59am					
		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)	**8.91**	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	**22**	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	**0.02**	mg/L	LTM-W-030	0.01

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NGH Environmental

35 Kincaid Street

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Attention: Nicola Smith

Thursday, December 21, 2023

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LABORATORY ANALYSIS REPORT

Report Number:2312-0055
Page 3 of 17
For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0137	**WC-IS** 13.12.23 7.59am					
		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	**38**	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
23Dec-0138	**CG-IS** 13.12.23 8.18am					
		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)	**90.8**	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	**248**	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)	**5.08**	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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LABORATORY ANALYSIS REPORT

Report Number:2312-0055
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For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0138	**CG-IS** 13.12.23 8.18am					
		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	**287**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**3**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.004**	mg/L	APHA 3030 B/3120 B	0.002
23Dec-0139	**YR1-IS** 13.12.23 8.32am					
		Aluminium (dissolved)	**0.08**	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)	**10.8**	mg/L	APHA 3030 B/3120 B	2
		Chromium (dissolved)	**<0.00001**	mg/L	APHA 3030 B/3120 B	0.0000
		Copper (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**27**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.07**	mg/L	APHA 3030 B/3120 B	0.01

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NGH Environmental

35 Kincaid Street

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Attention: Nicola Smith

Thursday, December 21, 2023

NATA Accredited Laboratory Number: 9597

Accredited for compliance with ISO/IEC 17025 - Testing

LABORATORY ANALYSIS REPORT

Report Number:2312-0055
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Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0139	**YR1-IS** 13.12.23 8.32am					
		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	**50**	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
23Dec-0140	**LHG-IS** 13.12.23 8.48am					
		Aluminium (dissolved)	**0.16**	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)	**101**	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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Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0140	**LHG-IS** 13.12.23 8.48am					
		Copper (dissolved)	**0.003**	mg/L	APHA 3030 B/3120 B	0.002
		Cyanide	**<0.002**	mg/L	* APHA 4500-CN E	0.002
		Total Hardness as CaCO3	**277**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.14**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**6.06**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.022**	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	**334**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2
		Total Suspended Solids	**4**	mg/L	APHA 2540 D	0.2
		Zinc (dissolved)	**0.004**	mg/L	APHA 3030 B/3120 B	0.002
23Dec-0141	**YR2-IS** 13.12.23 9.06am					
		Aluminium (dissolved)	**0.08**	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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Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0141	**YR2-IS** 13.12.23 9.06am					
		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)	**11.4**	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	**28**	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)	**<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	**<0.01**	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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Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0142	**SSC-IS** 13.12.23 9.18am					
		Aluminium (dissolved)	**1.72**	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)	**12.5**	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	**53**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.77**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Magnesium (dissolved)	**5.33**	mg/L	APHA 3030 B/3120 B	2
		Manganese (dissolved)	**0.004**	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	**96**	mg/L	LTM-W-035	2
		Total Kjeldahl Nitrogen	**<0.2**	mg/L	LTM-W-034	0.2

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Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0142	**SSC-IS** 13.12.23 9.18am					
		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
23Dec-0143	**TR-RS** 13.12.23 10.42am					
		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)	**<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	**<2**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.06**	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

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Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0143	**TR-RS** 13.12.23 10.42am					
		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	**13**	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
23Dec-0144	**YK-IS (d/s)** 13.12.23 11.09am					
		Aluminium (dissolved)	**0.32**	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)	**2.09**	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	**5**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.33**	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

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Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0144	**YK-IS (d/s)** 13.12.23 11.09am					
		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	**24**	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
23Dec-0145	**NZG-IS** 13.12.23 11.27am					
		Aluminium (dissolved)	**0.16**	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)	**3.22**	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)	**0.18**	mg/L	APHA 3030 B/3120 B	0.01

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13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0145	**NZG-IS** 13.12.23 11.27am					
		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)	**0.004**	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	**33**	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
23Dec-0146	**YK-IS** 13.12.23 11.39am					
		Aluminium (dissolved)	**0.51**	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)	**2.35**	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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NGH Environmental

35 Kincaid Street

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Attention: Nicola Smith

Thursday, December 21, 2023

NATA Accredited Laboratory Number: 9597

Accredited for compliance with ISO/IEC 17025 - Testing

LABORATORY ANALYSIS REPORT

Report Number:2312-0055

For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0146	**YK-IS** 13.12.23 11.39am					
		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	**6**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.46**	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)	**0.015**	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	**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
23Dec-0147	**YK-RS** 13.12.23 11.51am					
		Aluminium (dissolved)	**0.87**	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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LABORATORY ANALYSIS REPORT

Report Number:2312-0055
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For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0147	**YK-RS** 13.12.23 11.51am					
		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	**<2**	mg/L	LTM-W-038	2
		Iron (dissolved)	**0.74**	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)	**0.021**	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	**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)	**0.003**	mg/L	APHA 3030 B/3120 B	0.002

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Thursday, December 21, 2023

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LABORATORY ANALYSIS REPORT

Report Number:2312-0055
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For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0148	**DUP01** 13.12.23 11.52					
		Aluminium (dissolved)	**0.87**	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)	**0.72**	mg/L	APHA 3030 B/3120 B	0.01
		Lead (dissolved)	**<0.001**	mg/L	APHA 3030 B/3120 B	0.001
		Manganese (dissolved)	**0.022**	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
23Dec-0149	**WATER BLANK** 13.12.23					
		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

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LABORATORY ANALYSIS REPORT

Report Number:2312-0055
Page 16 of 17
For all enquiries related to this report please quote document number: 2312-0055

Facility:

Order #

Date Analysis Commenced
13-December-2023

Sample Type
Water

Collected By
M. Wyburn

Date Received
13-December-2023

EAL ID	Client ID. / Date/Time sample taken	Test	Result (units)		Method Reference	Limit of Reporting
23Dec-0149	**WATER BLANK** 13.12.23					
		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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LABORATORY ANALYSIS REPORT

Report Number:2312-0055
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For all enquiries related to this report please quote document number: 2312-0055

Facility:	Order #	Date Analysis Commenced
		13-December-2023
Sample Type	**Collected By**	**Date Received**
Water	M. Wyburn	13-December-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%
	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**	3.409090909	0%	0%	0%	0%	0%	5.633802817	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%
	Event 15	DUP01	0.08	0.00015	0.00001	0.000005	0.0001	0.001	0.06	0.0005	0.001	0.000015	0.0005	0.00001	0.001
		WC-RS	0.11	0.00015	0.00001	0.000005	0.0001	0.001	0.09	0.0005	0.001	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	16%	0%	0%	0%	0%	0%	20%	0%	0%	0%	0%	0%	0%
	Event 16	DUP01	0.67	0.00015	0.00001	0.000005	0.0001	0.001	0.39	0.0005	0.004	0.000015	0.0005	0.00001	0.001
		WC-IS	0.6	0.00015	0.00001	0.000005	0.0001	0.001	0.34	0.0005	0.004	0.000015	0.0005	0.00001	0.002
		RPD% - **Acceptable Range**	6%	0%	0%	0%	0%	0%	7%	0%	0%	0%	0%	0%	33%
	Event 17	DUP01	0.4	0.00015	0.00001	0.000005	0.0001	0.001	0.3	0.0005	0.011	0.000015	0.0005	0.00001	0.001
		YK-RS	0.28	0.00015	0.00001	0.000005	0.0001	0.001	0.23	0.0005	0.009	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	18%	0%	0%	0%	0%	0%	13%	0%	10%	0%	0%	0%	0%
	Event 18	DUP01	0.72	0.00015	0.00001	0.000005	0.0001	0.001	0.49	0.001	0.021	0.000015	0.002	0.00001	0.007
		YK-RS	0.71	0.00015	0.00001	0.000005	0.0001	0.001	0.47	0.0005	0.037	0.000015	0.001	0.00001	0.026
		RPD% - **Acceptable Range**	1%	0%	0%	0%	0%	0%	2%	33%	28%	0%	33%	0%	58%
	Event 19	DUP01	0.015	0.00015	0.00001	0.000005	0.001	0.001	0.02	0.004	0.001	0.000015	0.0005	0.00001	0.001
		TR-RS	0.015	0.00015	0.00001	0.000005	0.001	0.001	0.02	0.002	0.002	0.000015	0.0005	0.00001	0.001
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	33%	33%	0%	0%	0%	0%
	Event 20	DUP01	0.015	0.00015	0.00001	0.00001	0.002	0.00	0.01	0.0005	0.001	0.00002	0.00	0.00001	0.00
		WC-RS	0.015	0.00015	0.00001	0.00001	0.0001	0.001	0.01	0.0005	0.0005	0.00002	0.001	0.00001	0.002
		RPD% - **Acceptable Range**	0%	0%	0%	0%	90%	0%	0%	0%	33%	0%	0%	0%	20%
	Event 21	DUP01	0.13	0.00015	0.00001	0.00001	0.002	0.00	0.14	0.0005	0.003	0.00002	0.00	0.00001	0.00
		NZG-IS	0.13	0.00015	0.00001	0.000005	0.002	0.001	0.14	0.0005	0.003	0.000015	0.0005	0.00001	0.00
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%	0%	0%
	Event 22	DUP01	0.87	0.00015	0.00001	0.00001	0.002	0.001	0.72	0.0005	0.02	0.000015	0.0005	0.00001	0.003
		YK-RS	0.87	0.00015	0.00001	0.000005	0.002	0.001	0.74	0.0005	0.021	0.000015	0.00	0.00001	0.00
		RPD% - **Acceptable Range**	0%	0%	0%	0%	0%	0%	1%	0%	2%	0%	0%	0%	0%
Water Blank	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
	Event 15	**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 16	**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 17	**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 18	**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 19	**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 20	**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 21	**Nothing above LOR**	-	-	-	-	-	-	-	-	-	-	-	-	-
	Event 22	**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 % $|(X2 - X1)|/((X2 + X1)/2)$

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. **21K104034**

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/ORP	✓	
	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		2760mS		406852	2760mS
2. Temp		20.9°C		Testo	21.3°C
3. pH 4		pH 4.00		405966	pH 3.98
4. pH 7		pH 7.00		413975	pH 7.01
5. DO		0.0%		407802	-0.1%
6.Turbidity		100NTU		413840	100.15NTU
7. mV		237.14mV		A406331/B398193	237.3mV

Calibrated by: **Sara Angelini**

Calibration date: **05/12/2023**

Next calibration due: **04/01/2024**