Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 31 January 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 6 June 2023, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: Exceedances are observed for some analytes in some points. However, the majority are within the WQO. The high concentration of nutrients is under investigation with constant sampling to understand and find the root cause though this could result from rainfall events, temperature changes, and fluctuations of naturally occurring bacteria. Regarding metals, some minor exceedances are observed which were within historical ranges and similar to background concentrations in the respective locations.
Reservoir Results: Overall the monitoring results were generally compliant against WQO's for both Tantangara and Talbingo reservoirs. Those that did have exceedances were minor and were within historical values. Nutrients exceedances remain under investigation with weekly sampling being conducted to understand the root cause. Faecal coliform concentrations were due to natural occurrences of algal blooms as the results of water quality at the discharge locations show no faecal coliforms detected.
Discharge Results: The majority of the WQO are met, however, there is an exceedance of the 90th percentile limited for Nitrogen at Talbingo and Tantangara. Due to this exceedance in WQO, treated water was not discharged to Talbingo Reservoir with only limited water discharged to Tantangara Reservoir . Options for improvements to treatment systems with regards to nutrients is being investigated and in situ nitrogen monitors have been ordered and will be installed by March 2024 to provide real time
Leachate Results: There are exceedances in Nutrients such as Ammonia, Nitrite, and Phosphorus at GF01 which are being investigated. There are exceedances in nutrients, to a lesser extent, at Tantangara and Marica, upgradient as well as down gradient in January 2024, similarly to December 2023. The water from the leachate basins is taken to the water treatment plants for treatment. Water from EPL55, downstream from GF01, is pumped to the leachate basin at GF01 when there is flow and is taken for treatement. Spoil emplacement areas are heavily monitored for changes in water quality due to the construction of the area and constant moving of spoil. Comprehensive sampling is conducted weekly to monitor the changes in water quality. EPL59-67 and EPL76-79 are not yet active.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01-31 January 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73
Physiochemical				23/01/2024	23/01/2024	23/01/2024	17/01/2024	17/01/2024	17/01/2024	17/01/2024	17/01/2024
pH	**pH Unit**	-	6.5-8.0	7.82	7.38	6.55	5.98	5.97	6.18	5.54	6.69
Electrical Conductivity	**µS/cm**	-	30-350	270	276	721	18.8	21.8	66.6	29	120.8
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	84	153	170	128	137.7	104.3	15.7	2.2
Temperature	**°C**	-	No Water Quality Objective Value	17.84	21.02	20.35	15.9	15.7	14.8	12	14.8
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	75.9	99.6	90.1	83.5	80.2	77.7	51.6	60.8
Turbidity	**NTU**	-	No Water Quality Objective Value	39	60.2	29.7	27.27	15.16	38.33	820	82.9
Laboratory analytes											
TSS	**mg/L**	5	No Water Quality Objective Value	82	184	560	138	238	84	675	296
Hardness as CaCO3	**mg/L**	1	No Water Quality Objective Value	124	127	216	2	5	31	16	41
Nutrients											
Ammonia as N	**µg/L**	10	13	20	30	<10	20	10	<10	<10	<10
Nitrite + Nitrate as N (Nox)	**µg/L**	10	15	<10	2900	51200	890	140	500	30	50
Kjeldahl Nitrogen Total	**µg/L**	100	No Water Quality Objective Value	100	300	4800	200	<100	<100	<100	<100
Nitrogen (Total)	**µg/L**	10	250	100	3200	56000	1100	100	500	<100	<100
Reactive Phosphorus	**µg/L**	10	15	3	8	4	2	5	15	16	17
Phosphorus (Total)	**µg/L**	10	20	120	120	280	190	70	40	210	120
Inorganics											
Cyanide Total	**µg/L**	4	4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons											
Oil and Grease	**mg/L**	5	5	<1	<1	<1	<5	<5	<5	<5	<5
Metals											
Aluminium (dissolved)	**µg/L**	5	27	<5	<5	<5	<5	11	<5	<5	<5
Aluminium (total)	**µg/L**	5	No Water Quality Objective Value	1800	5680	6510	2190	3360	2190	11600	4840
Arsenic (dissolved)	**µg/L**	0.2	0.8	0.3	2.8	0.5	<0.2	<0.2	<0.2	0.3	<0.2
Arsenic (total)	**µg/L**	0.2	No Water Quality Objective Value	0.9	6	9.5	0.4	1.2	0.3	4.9	0.8
Chromium (III+VI) (dissolved)	**µg/L**	0.2	0.01	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	0.4
Chromium (III+VI) (total)	**µg/L**	0.2	No Water Quality Objective Value	5	11.2	16.3	1.5	3.6	3.7	15.2	8.6
Copper (dissolved)	**µg/L**	0.5	1	1.6	0.5	<0.5	5.4	6.5	1.9	<0.5	0.7
Copper (total)	**µg/L**	0.5	No Water Quality Objective Value	48.1	53.3	10.9	22	39.2	21	21.9	8.1
Iron (dissolved)	**µg/L**	2	300	<2	<2	<2	<2	11	<2	<2	<2
Iron (total)	**µg/L**	2	No Water Quality Objective Value	2720	7070	11500	1590	2900	1340	16600	3390
Lead (dissolved)	**µg/L**	1	1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	**µg/L**	1	No Water Quality Objective Value	9.7	17.7	52.8	3.7	8.4	3.4	19.5	16.7
Manganese (dissolved)	**µg/L**	5	1,200	47.4	81.5	75.6	4.8	1.9	6.6	19.3	26.5
Manganese (total)	**µg/L**	5	No Water Quality Objective Value	137	366	394	124	157	48.8	356	311
Nickel (dissolved)	**µg/L**	5	8	0.8	<0.5	8.2	0.5	<0.5	0.5	1.1	0.6
Nickel (total)	**µg/L**	5	No Water Quality Objective Value	8.1	20.5	33.1	2	3.9	3.1	22.4	4.7
Silver (dissolved)	**µg/L**	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	**µg/L**	0.01	No Water Quality Objective Value	0.25	0.04	0.16	0	0	0	0	0
Zinc (dissolved)	**µg/L**	1	2.4	1	<1	16	15	25	5	7	2
Zinc (total)	**µg/L**	1	No Water Quality Objective Value	32	42	86	23	44	21	71	26

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 January 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				13/1/24	13/1/24	19/1/24	19/1/24	19/1/24	19/1/24	19/1/24	19/1/24	19/1/24	19/1/24
pH	pH Unit	-	6.5-8.0	6.98	6.64	7.79	7.93	7.96	7.82	7.55	7.82	7.97	7.91
Electrical Conductivity	µS/cm	-	20-30	62	57	26	25	25	26	27	28	26	27
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	256	243	149	130	128	132	139	133	113	127
Temperature	°C	-	No Water Quality Objective Value	28.04	28.29	19.46	19.83	20.08	19.59	18.97	16.18	19.48	19.93
Dissolved Oxygen	% saturation	-	90-110	67.2	70.4	101.9	91.4	102	98.7	100	97.4	101.9	102.2
Turbidity	NTU	-	1-20	2.4	2.9	12.8	9.8	10.4	13.3	12.6	13.2	8.2	10.2
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	6	<5	8	8	12	9	<5	<5	10	8
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	24	31	9	9	9	9	5	5	9	9
Nutrients													
Ammonia as N	µg/L	10	10	20	<10	30	<10	10	<10	<10	<10	<10	300
Nitrite + Nitrate as N (NOx)	µg/L	10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	100	100	500	500	500	500	500	200	500	500
Nitrogen (Total)	µg/L	10	350	100	100	500	500	500	500	500	200	500	500
Reactive Phosphorus	µg/L	10	5	3	4	5	4	3	3	3	4	2	3
Phosphorus (Total)	µg/L	10	10	20	20	40	50	10	10	10	10	10	10
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	5	5	<1	<1	0	0	0	0	0	0	0	0
Metals													
Aluminium (dissolved)	µg/L	5	55	8	9	41	41	39	38	39	32	49	41
Arsenic (dissolved)	µg/L	0.2	13	0.3	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	0.6	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	14	16	126	119	115	123	120	98	123	119
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	<0.5	1.4	1.2	1.1	1.2	1.4	2.4	0.9	1.2
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	140**	320**	8**	-	-	-	-	-	-	15**
Biochemical Oxygen Demand	mg/L	2	1/5^	<2	<2	3	10	3.00	6	3	<2	<2	<2

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

** Algal blooms can present as feacal coliforms - green tinge noted in Talbingo Resevroir water at time of sampling.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 January 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL17	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL71	EPL84	EPL85	EPL86
Field				10/01/24	10/01/24	10/01/24	8/01/24	10/01/24	10/01/24	10/01/24	10/01/24	10/01/24	10/01/24	21/01/24	21/01/24	16/01/24	16/01/24	16/01/24	16/01/24	16/01/24	16/01/24	16/01/24	23/01/24	-	-	23/01/24	17/01/24	31/01/24	31/01/24	31/01/24
pH	-	-	6.5-8.0	7.86	7.69	7.97	7.57	8.24	7.77	7.59	6.94	7.72	7.47	6.41	6.9	7.61	7.8	7.64	7.46	7.64	7.82	7.97	7.68	Dry	Dry	7.72	6.96	10.14	7.78	8.66
Electrical Conductivity	µS/cm	-	30-350	74	81	88	86	77	72	71	83	488	389	32	30	29	22	34	16	17	49	52	710	Dry	Dry	725	43.2	492	830	117.4
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	181	189	181	152	164	183	194	197	208	159	202	172	220	222	219	223	224	343	270	119	Dry	Dry	120	1.9	30	9	62
Temperature	°C	-	No Water Quality Objective Value	20.65	21.16	23.5	21.83	19.98	21.86	22.22	24.26	21.84	22.86	14.77	13.9	16.94	17.16	19.26	16.85	17.58	18.67	20.06	19.43	Dry	Dry	18.47	14.1	31.52	27.89	30.21
Dissolved Oxygen	% saturation	-	90-110	70.8	52.9	56	74.3	61.6	69.7	68.9	67.3	60.3	66.8	68.5	99.1	56.6	59.3	67	65.6	73.8	70.6	61.5	108.9	Dry	Dry	97.6	64.2	122.6	102.3	117.4
Turbidity	NTU	-	2-25	10.4	4.6	3.8	12.1	10.9	4.1	4	3	7.7	12	2.5	1.7	4.7	3.6	3.4	3.5	3	4.5	15.3	5	Dry	Dry	5.1	74.2	72.1	9.1	21.9
Laboratory analytes																														
TSS	mg/L	5	No Water Quality Objective Value	13	8	13	32	13	10	8	13	41	54	<5	<5	<5	<5	<5	<5	<5	7	17	10	Dry	Dry	6	28	79	18	20
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	36	38	36	43	36	36	36	38	313	91	12	9	13	9	16	4	4	24	24	208	Dry	Dry	148	27	37	212	215
Nutrients																														
Ammonia as N	µg/L	10	13	<10	10	<10	<10	<10	<10	<10	10	20	<10	<10	70	<10	<10	<10	<10	<10	10	20	30	Dry	Dry	120	40	40	60	10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	<10	<10	10	<10	<10	<10	30	13300	<10	<10	20	<10	20	<10	<10	120	120	37900	Dry	Dry	7760	<10	650	3190	900
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	600	100	400	200	200	500	200	900	1100	900	100	200	<100	<100	300	200	100	600	800	3000	Dry	Dry	1900	100	1300	700	900
Nitrogen (Total)	µg/L	10	250	600	100	400	200	200	500	200	900	1100	14200	100	200	<100	<100	300	200	100	700	900	40900	Dry	Dry	9700	100	2000	3900	1800
Reactive Phosphorus	µg/L	10	15	7	9	7	11	8	9	9	9	5	3	3	4	3	3	3	2	3	6	7	2	Dry	Dry	4	1	<1	4	42
Phosphorus (Total)	µg/L	10	20	30	20	20	40	20	20	20	20	30	30	10	10	30	20	30	30	40	60	90	10	Dry	Dry	30	30	160	40	160
Inorganics																														
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	<4	<4	<4	<4
Hydrocarbons																														
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	<1	<5	<1	<1	<1
Metals																														
Aluminium (dissolved)	µg/L	5	27	27	6	26	9	30	28	30	29	<5	6	6	6	18	17	18	27	27	440	103	<5	Dry	Dry	10	11	32	34	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	193	Dry	Dry	146	-	-	-	-
Arsenic (dissolved)	µg/L	0.2	5	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	0.3	0.2	0.8	0.8	1	Dry	Dry	0.4	0.5	4.7	0.3	4.1
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101	Dry	Dry	0.5	-	-	-	-
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	0.2	<0.2	<0.2	<0.2	0.2	0.2	<0.2	0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.3	1	Dry	Dry	0.3	<0.2	3.5	<0.2	0.5
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	Dry	Dry	0.6	-	-	-	-
Copper (dissolved)	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	0.7	0.7	<0.5	Dry	Dry	1.4	<0.5	1	1.8	1.8
Copper (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	Dry	Dry	2.2	-	-	-	-
Iron (dissolved)	µg/L	2	300	63	20	59	23	63	60	60	63	2	7	25	24	49	38	248	212	208	1270	865	<2	Dry	Dry	13	46	4	103	2
Iron (total)	µg/L	2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	264	Dry	Dry	196	-	-	-	-
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	0.1	<0.1	Dry	Dry	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	Dry	Dry	0.4	-	-	-	-
Manganese (dissolved)	µg/L	5	1,200	2.1	4.2	2.1	1.1	2.2	2	2.2	2.8	1.5	30.5	4.8	3.4	4.4	2.6	120	4.4	4.4	22.8	20.9	5.2	Dry	Dry	18.1	62.7	3	673	2.4
Manganese (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	Dry	Dry	29.4	-	-	-	-
Nickel (dissolved)	µg/L	5	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	<0.5	<0.5	1.2	0.6	0.6	0.8	0.9	0.8	Dry	Dry	0.9	1	<0.5	14.5	0.9
Nickel (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	Dry	Dry	1.4	-	-	-	-
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	0.01	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.03	Dry	Dry	0.01	-	-	-	-
Zinc (dissolved)	µg/L	1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	8	<1	<1	<1	<1	4	<1	<1	<1	<1	6	Dry	Dry	1	<1	<1	40	2
Zinc (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	Dry	Dry	3	-	-	-	-

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 January 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				21/01/2024							16/01/2024
Inflow#	**ML/day**	-	-	-	0.0000	0.3586	0.0386	0.1423	0.0674	0.1496	-
Outflow#	**ML/day**	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	**pH Unit**	-	6.5-8.5	7.64	-	-	-	-	-	-	8.15
Electrical Conductivity	**µS/cm**	-	700 (EPL 41) / 200 (EPL 50)	106	-	-	-	-	-	-	22
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	248	-	-	-	-	-	-	191
Temperature	**°C**	-	15	19.2	-	-	-	-	-	-	19.0
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	94.8	-	-	-	-	-	-	68.6
Turbidity	**NTU**	-	<25	4.2	-	-	-	-	-	-	3.7
Laboratory analytes											
Total suspended solids	**mg/L**	5	5/10	<5	-	-	-	-	-	-	8.0
Hardness as $CaCO_3$ (filtered)	**mg/L**	1	No Water Quality Objective Value	26.0	-	-	-	-	-	-	9.0
Nutrients											
Ammonia as N	**µg/L**	5	200/2000^	10.0	-	-	-	-	-	-	10.0
Kjeldahl Nitrogen Total	**µg/L**	10	No Water Quality Objective Value	300	-	-	-	-	-	-	500
Nitrogen (Total)	**µg/L**	10	350/-^	1600	-	-	-	-	-	-	500
Reactive Phosphorus	**µg/L**	1	No Water Quality Objective Value	4.0	-	-	-	-	-	-	3.0
Phosphorus (Total)	**µg/L**	5	100/300^	20.0	-	-	-	-	-	-	10.0
Inorganics											
Cyanide Total	**µg/L**	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	**mg/L**	5	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	**µg/L**	5	55	64.0	-	-	-	-	-	-	41.0
Arsenic (dissolved)	**µg/L**	0.2	13	0.4	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	**µg/L**	0.2	1	0.3	-	-	-	-	-	-	<0.2
Copper (dissolved)	**µg/L**	0.5	14	2.2	-	-	-	-	-	-	<0.5
Iron (dissolved)	**µg/L**	2	300	27.0	-	-	-	-	-	-	119
Lead (dissolved)	**µg/L**	0.1	3.4	0.2	-	-	-	-	-	-	<0.1
Manganese (dissolved)	**µg/L**	0.5	1,900	<0.5	-	-	-	-	-	-	1.2
Nickel (dissolved)	**µg/L**	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	**µg/L**	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	**µg/L**	1	8	31	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	**CFU/100mL**	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	**mg/L**	<5	5	9.0	-	-	-	-	-	-	3.0

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 December 2023 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/01/2024	-	-	0.29	0.05	0.13	0.07	0.51
2/01/2024	-	-	0.20	0.04	0.14	0.04	0.43
3/01/2024	-	-	0.28	0.02	0.10	0.07	0.57
4/01/2024	-	-	0.09	0.04	0.12	0.10	0.43
5/01/2024	-	-	0.28	0.05	0.18	0.08	0.41
6/01/2024	-	0.31	0.33	0.03	0.16	0.07	0.52
7/01/2024	-	0.69	0.17	0.04	0.12	0.05	0.51
8/01/2024	-	-	0.30	0.04	0.10	0.06	0.41
9/01/2024	-	-	0.23	0.06	0.21	0.08	0.19
10/01/2024	-	-	0.28	0.05	0.15	0.07	0.52
11/01/2024	-	-	0.24	0.04	0.14	0.10	0.39
12/01/2024	-	-	0.23	0.08	0.07	0.07	0.43
13/01/2024	-	-	0.22	0.02	0.26	0.08	0.43
14/01/2024	-	0.33	0.29	0.04	0.19	0.09	0.59
15/01/2024	-	0.40	0.08	0.05	0.04	0.04	0.29
16/01/2024	-	0.27	0.28	0.05	0.19	0.09	0.54
17/01/2024	-	-	0.27	0.05	0.16	0.08	0.62
18/01/2024	-	-	0.25	0.02	0.11	0.07	0.56
19/01/2024	-	-	0.18	0.08	0.18	0.09	0.65
20/01/2024	-	-	0.23	0.04	0.23	0.08	0.55
21/01/2024	-	-	0.33	0.04	0.15	0.01	0.28
22/01/2024	-	-	0.29	0.05	0.16	0.06	0.31
23/01/2024	-	-	0.34	0.03	0.04	0.07	0.58
24/01/2024	-	-	0.34	0.04	0.31	0.10	0.62
25/01/2024	-	0.31	0.22	0.04	0.14	0.05	0.47
26/01/2024	-	0.46	0.30	0.06	0.23	0.10	0.39
27/01/2024	-	-	0.25	0.05	0.17	0.08	0.32
28/01/2024	-	-	0.28	0.04	0.19	0.08	0.32
29/01/2024	-	-	0.27	0.05	0.16	0.08	0.53
30/01/2024	-	-	0.39	0.04	0.14	0.08	0.69
31/01/2024	-	-	0.26	0.07	0.22	0.06	0.66

-

Water not discharged on this day

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* EPL 44 volume inflows were not recorded in October 2023 due to the technology upgrades.

^ The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 0.0 L/s.

\- The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 8 L/s.

-- Water not discharged on this day
Flow meter non-operational. Water volumes are considered to be similar daily flows to those recorded for each respective plant as works progressed at the same rate.

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 29 February 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 6 June 2023, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: For the month of February, some exceedances are observed in pH, EC, and DO, being constant with the behavior of these variables according to the area's historical baseline. Regarding nutrients, there are exceedances in Ammonia, Nitrates, Nitrogen, and Phosphorus due to the natural springs and runoff in the area that contain high levels of nutrients, which are carried away, resulting in increased concentration levels. Also, there are some exceedances in metals such as Aluminum, Iron and Zinc. However, the majority of the EPLs are within the WQO.
Reservoir Results: Exceedances on nutrients remain within historical variation, as nutrient concentrations tend to be higher than expected at this time of year due to the high temperatures. There are some minor exceedances in metals; however, most EPLs are within the WQO.
Discharge Results: Due to Nitrogen exceedance for EPL 41, the discharge of treated water during recent months has been limited. This water is being treated and reused onsite for irrigation. The site remains under periodic investigation involving comprehensive sampling to monitor the changes in water quality.
Leachate results: Some minor exceedances are observed in pH and EC. However, it is consistent with the baseline history data. There are exceedances in nutrients, to a lesser extent, at Tantangara and Marica, upgradient as well as down gradient in February 2024 similarly to January 2024 and December 2023. The site is heavily monitored for changes in water quality due to the construction of the area and constant moving of spoil. Comprehensive sampling is conducted weekly to monitor the changes in water quality. Water from leachate basins is treated through the respective site water treatment plants.
Groundwater results: Minor metal exceedances for EPL1, EPL2 and EPL4 which are representative of natural conditions as these metals occur naturally within the project area. The EPL25 minor metals exceedances for zinc, nickel and copper fall within historical ranges in this well, and the iron exceedance remains consistent with previous quarterly results. Shallower wells (EPL1, EPL25, EPL 56 and EPL58) are more likely to see higher nutrient exceedances as nutrients likely leach through the soil into the aquifer during rainfall. The nutrient exceedances fall within standard variation for these wells with no evidence of impacts to Yarrangobilly River. The high levels of nutrient concentration in the points of Main Yard, Lick Hole Gully and GF01 are under investigation, with water extraction for treatement ongoing.

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Revision A

No-objection (Notice)

SHL DocControl - Snowy Hydro Limited
Jun 4, 2024, 9:44 AM GMT+10:00

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01-29 February 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL1	EPL2	EPL4	EPL25	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73
Physiochemical				1/02/2024	2/02/2024	1/02/2024	1/02/2024	14/02/2024	14/02/2024	14/02/2024	21/02/2024	21/02/2024	21/02/2024	18/02/2024	18/02/2024
pH	**pH Unit**	-	6.5-8	7.81	7.46	8.03	7.37	7.81	7.95	6.34	6.05	6.19	6.53	6.31	6.75
Electrical Conductivity	**µS/cm**	-	30-350	259	498	1050	449	259	264	721	21.6	22.9	69.3	31.7	71.3
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	196	8	-161	48	196	192	155	186.2	186	146.6	246.7	174.7
Temperature	**°C**	-	No Water Quality Objective Value	17.2	15.96	16.84	18.83	17.2	17.08	18.29	13	14.7	15.1	15.4	14.1
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	73	69.3	16.5	44.3	73	81	73	82.3	74.2	72.6	72.6	67.6
Turbidity	**NTU**	-	No Water Quality Objective Value	9.7	15.8	583	71.7	9.7	28.4	22.8	42.76	14.77	29.94	375.79	22.32
Laboratory analytes															
TSS	**mg/L**	5	No Water Quality Objective Value	30	41	7,050	153	42	80	6	73	44	61	651	89
Hardness as CaCO3	**mg/L**	1	No Water Quality Objective Value	159	249	225	214	133	127	236	2	2	29	13	36
Nutrients															
Ammonia as N	**µg/L**	10	13	180	30	310	30	10	30	30	<10	<10	<10	20	20
Nitrite + Nitrate as N (Nox)	**µg/L**	10	15	180	70	<10	<10	50	10	47	860	120	4100	10	40
Kjeldahl Nitrogen Total	**µg/L**	10	No Water Quality Objective Value	400	200	1500	300	100	200	5100	<100	<100	600	<100	<100
Nitrogen (Total)	**µg/L**	10	250	600	300	1500	300	200	200	52100	900	100	4700	<100	<100
Reactive Phosphorus	**µg/L**	10	15	29	5	12	4	3	12	3	6	8	22	12	23
Phosphorus (Total)	**µg/L**	10	20	70	70	870	160	10	230	10	10	20	80	370	240
Inorganics															
Cyanide Total	**µg/L**	4	4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons															
Oil and Grease	**mg/L**	5	5	-	-	-	-	<1	<1	<1	<1	<1		<1	<1
Metals															
Aluminium (dissolved)	**µg/L**	5	27	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aluminium (total)	**µg/L**	5	No Water Quality Objective Value	-	-	-	-	522	1520	18	1790	1440	1610	6000	1130
Arsenic (dissolved)	**µg/L**	0.2	0.8	1	0.4	2.8	0.4	0.2	2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2
Arsenic (total)	**µg/L**	0.2	No Water Quality Objective Value	-	-	-	-	0.5	3.4	<0.2	0.3	0.6	0.3	3.3	0.3
Chromium (III+VI) (dissolved)	**µg/L**	0.2	0.01	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (total)	**µg/L**	0.2	No Water Quality Objective Value	-	-	-	-	1.6	3.8	0.4	0.8	1.4	1.6	9.5	2.4
Copper (dissolved)	**µg/L**	0.5	1	25	13	<0.5	27.4	2.4	<0.5	<0.5	<0.5	<0.5	<0.5	23.5	15.3
Copper (total)	**µg/L**	0.5	No Water Quality Objective Value	-	-	-	-	10.2	20.6	1	3.4	2.1	6.3	97.8	69.7
Iron (dissolved)	**µg/L**	2	300	<2	4	234	<2	<2	<2	<2	<2	4	<2	<2	5
Iron (total)	**µg/L**	2	No Water Quality Objective Value	-	-	-	-	713	2020	16	1140	1110	1130	8960	855
Lead (dissolved)	**µg/L**	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.6	<0.1	<0.1	<0.1	<0.1	0.1
Lead (total)	**µg/L**	1	No Water Quality Objective Value	-	-	-	-	2.7	5.5	5.2	0.8	1	0.8	14	7.8
Manganese (dissolved)	**µg/L**	5	1,200	126	191	426	932	24.2	46.4	24	4.8	<0.5	2.7	16.4	43.5
Manganese (total)	**µg/L**	5	No Water Quality Objective Value	-	-	-	-	49.4	158	22.3	58	46.4	34	159	97.9
Nickel (dissolved)	**µg/L**	5	8	12	2.4	2.6	28.8	<0.5	<0.5	5.8	0.5	<0.5	1	1.4	<0.5
Nickel (total)	**µg/L**	5	No Water Quality Objective Value	-	-	-	-	2.1	12.1	5.9	1.5	1.6	3.2	12.2	1.4
Silver (dissolved)	**µg/L**	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	**µg/L**	0.01	No Water Quality Objective Value	-	-	-	-	0.08	0.03	0.04	<0.01	<0.01	<0.01	0	0
Zinc (dissolved)	**µg/L**	1	2.4	1	5	<1	82	2	<1	12	0	0	0	21	30
Zinc (total)	**µg/L**	1	No Water Quality Objective Value	-	-	-	-	13	502	13	2	<1	<1	51	38

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 29 February 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				7/2/24	7/2/24	27/2/24	27/2/24	27/2/24	27/2/24	27/2/24	27/2/24	27/2/24	27/2/24
pH	pH Unit	-	6.5-8	7.63	7.65	7.96	8.06	7.78	7.9	7.53	7.77	8.1	8.05
Electrical Conductivity	µS/cm	-	20-30	95	90	28	25.4	25.4	27	23.8	32	25.4	28
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	261	242	221	204.9	136	202	231.6	157	178.2	183
Temperature	°C	-	No Water Quality Objective Value	23.99	23.93	21.52	21	16.27	21.19	18.7	18.98	29.09	21.23
Dissolved Oxygen	% saturation	-	90-110	141.4	146.7	159.9	83.8	114.2	125.7	81.3	139.3	82.1	130.2
Turbidity	NTU	-	1-20	7.4	14.1	2.4	12.77	0	1.8	6.57	0	9.09	0.2
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	15	<5	13	<5	<5	<5	5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	43	41	9	9	9	9	9	9	9	9
Nutrients													
Ammonia as N	µg/L	5	10	20	10	70	190	110	90	10	10	100	100
Nitrite + Nitrate as N (NOx)	µg/L	10	10	<10	10	10	<10	<10	<10	<10	<10	20	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	300	100	500	800	600	600	300	100	600	600
Nitrogen (Total)	µg/L	10	350	300	100	500	800	600	600	300	100	600	600
Reactive Phosphorus	µg/L	1	5	4	4	8	7	6	6	5	7	6	<1
Phosphorus (Total)	µg/L	5	10	<10	20	20	30	20	20	20	10	20	20
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals													
Aluminium (dissolved)	µg/L	5	55	<5	<5	40	49	51	51	38	19	50	50
Arsenic (dissolved)	µg/L	0.2	13	0.4	0.5	0.3	0.2	0.3	0.2	0.3	<0.2	0.2	0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	18	19	279	166	170	167	274	118	174	171
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	<0.5	7.7	7.1	7	8.2	7.6	3.5	12.5	6.2
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	37	35	17	-	-	-	-	-	-	90
Biochemical Oxygen Demand	mg/L	2	1/5^	<2	<2	<2	-	-	-	-	-	-	<2

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

** Algal blooms can present as feacal coliforms - green tinge noted in Talbingo Resevroir water at time of sampling.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 29 February 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL71
Field				1/02/24	1/02/24	1/02/24	1/02/24	1/02/24	1/02/24	1/02/24	1/02/24	1/02/24	13/02/24	13/02/24	7/02/24	7/02/24	7/02/24	7/02/24	7/02/24	7/02/24	7/02/24	14/02/24	-	-	-	18/02/24
pH	-	-	6.5-8	8.84	8.45	7.7	8.05	8.21	7.84	7.73	8.57	6.28	7.96	7.94	8.46	8.43	8.2	8.26	8.48	7.91	8.55	8.74	Dry	Dry	Dry	7.36
Electrical Conductivity	µS/cm	-	30-350	110	111	112	114	110	107	109	117	410	40	45	37	26	36	24	15	42	42	969	Dry	Dry	Dry	49.6
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	23	72	149	147	171	132	145	145	194	182	174	180	201	204	260	260	221	221	93	Dry	Dry	Dry	126.9
Temperature	°C	-	No Water Quality Objective Value	20.51	24.71	25.54	26.08	19.44	24.89	25.77	27.67	22.89	17.95	16.18	17.99	17.7	20.96	16.55	16.41	20.99	20.99	22.25	Dry	Dry	Dry	16.6
Dissolved Oxygen	% saturation	-	90-110	108.1	112.4	108.6	99.6	117.6	98.8	98.6	100.9	128.2	109.6	109.3	115	136.4	109.7	141.9	141.6	113.2	113.2	116	Dry	Dry	Dry	87.8
Turbidity	NTU	-	2-25	2.5	0	0	0	0	0	0	0	0	0	0	0	0	6.4	0.1	0	16.1	7.4	30.1	Dry	Dry	Dry	26.78
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	<5	<5	33	15	<5	<5	<5	<5	<5	<5	7	<5	18	Dry	Dry	Dry	12
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	51	48	53	51	51	51	51	51	86	16	16	9	7	12	7	7	13	13	169	Dry	Dry	Dry	25
Nutrients																										
Ammonia as N	µg/L	5	13	<10	10	20	<10	<10	<10	20	<10	<10	50	<10	<10	20	20	20	10	<10	20	60	Dry	Dry	Dry	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	<10	<10	10	<10	<10	<10	20600	<10	<10	10	<10	20	<10	<10	160	100	29900	Dry	Dry	Dry	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	100	<100	100	200	<100	200	200	<100	1600	<100	<100	<100	<100	500	200	200	400	500	4700	Dry	Dry	Dry	<100
Nitrogen (Total)	µg/L	10	250	100	<100	100	200	<100	200	200	<100	22200	<100	<100	<100	<100	500	200	200	600	600	34600	Dry	Dry	Dry	<100
Reactive Phosphorus	µg/L	1	15	8	11	8	6	6	8	7	6	1	6	5	4	2	4	2	1	5	6	5	Dry	Dry	Dry	7
Phosphorus (Total)	µg/L	5	20	<10	20	<10	10	<10	<10	<10	<10	<10	30	<10	30	30	40	50	40	60	70	40	Dry	Dry	Dry	20
Inorganics																										
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	Dry	<4
Hydrocarbons																										
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	Dry	<1
Metals																										
Aluminium (dissolved)	µg/L	5	27	8	<5	9	9	8	9	9	10	6	6	<5	10	10	18	21	20	57	64	14	Dry	Dry	Dry	8
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	899	Dry	Dry	Dry	841
Arsenic (dissolved)	µg/L	1	0.8	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.3	0.3	0.5	0.5	2.9	Dry	Dry	Dry	0.4
Arsenic (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	Dry	Dry	Dry	1.3
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	1.5	Dry	Dry	Dry	<0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	Dry	Dry	Dry	1.3
Copper (dissolved)	µg/L	1	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	Dry	Dry	Dry	<0.5
Copper (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	Dry	Dry	Dry	2.1
Iron (dissolved)	µg/L	50	300	18	19	19	22	16	17	17	21	<2	32	22	38	30	82	232	222	340	364	<2	Dry	Dry	Dry	26
Iron (total)	µg/L	50	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1150	Dry	Dry	Dry	926
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	Dry	<0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	Dry	Dry	Dry	0.6
Manganese (dissolved)	µg/L	5	1,200	1.1	2.8	1.3	2.9	1	0.9	1	1.9	38.6	9.6	3.2	1.7	2	1.2	2.7	3.4	8	2.7	<0.5	Dry	Dry	Dry	53.5
Manganese (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.1	Dry	Dry	Dry	62.7
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	5.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	Dry	1
Nickel (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	Dry	Dry	Dry	2.6
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	Dry	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	Dry	#
Zinc (dissolved)	µg/L	5	2.4	<1	<1	<1	<1	<1	<1	<1	<1	39	1	<1	<1	<1	4	<1	<1	4	<1	<1	Dry	Dry	Dry	<1
Zinc (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	Dry	Dry	Dry	4

NT Not triggered yet

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

\# Sample result not returned.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 29 February 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				4/02/2024							7/02/2024
Inflow#	**ML/day**	-	-	-	0.0000	0.3586	0.0386	0.1423	0.0674	0.1496	-
Outflow#	**ML/day**	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	**pH Unit**	-	6.5-8.5	8.4	-	-	-	-	-	-	8.42
Electrical Conductivity	**µS/cm**	-	700 (EPL 41) / 200 (EPL 50)	99	-	-	-	-	-	-	14
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	181	-	-	-	-	-	-	179
Temperature	**°C**	-	15	21.93	-	-	-	-	-	-	21.31
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	97.2	-	-	-	-	-	-	92.3
Turbidity	**NTU**	-	<25	0.1	-	-	-	-	-	-	0.1
Laboratory analytes											
Total suspended solids	**mg/L**	5	5/10	<5	-	-	-	-	-	-	<5
Hardness as $CaCO_3$ (filtered)	**mg/L**	1	No Water Quality Objective Value	29	-	-	-	-	-	-	48
Nutrients											
Ammonia as N	**µg/L**	5	200/2000^	<10	-	-	-	-	-	-	10
Kjeldahl Nitrogen Total	**µg/L**	10	No Water Quality Objective Value	300	-	-	-	-	-	-	100
Nitrogen (Total)	**µg/L**	10	350/-^	1600	-	-	-	-	-	-	100
Reactive Phosphorus	**µg/L**	1	No Water Quality Objective Value	6	-	-	-	-	-	-	1
Phosphorus (Total)	**µg/L**	5	100/300^	10	-	-	-	-	-	-	10
Inorganics											
Cyanide Total	**µg/L**	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	**mg/L**	5	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	**µg/L**	5	55	65	-	-	-	-	-	-	5
Arsenic (dissolved)	**µg/L**	0.2	13	0.5	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	**µg/L**	0.2	1	0.4	-	-	-	-	-	-	<0.2
Copper (dissolved)	**µg/L**	0.5	14	10.8	-	-	-	-	-	-	<0.5
Iron (dissolved)	**µg/L**	2	300	32	-	-	-	-	-	-	2
Lead (dissolved)	**µg/L**	0.1	3.4	5	-	-	-	-	-	-	<0.1
Manganese (dissolved)	**µg/L**	0.5	1,900	1.9	-	-	-	-	-	-	<0.5
Nickel (dissolved)	**µg/L**	0.5	11	0.7	-	-	-	-	-	-	<0.5
Silver (dissolved)	**µg/L**	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	**µg/L**	1	8	75	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	**CFU/100mL**	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	**mg/L**	<5	1/5^	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 29 February 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/02/2024	-	-	0.24	0.05	0.14	0.07	0.87
2/02/2024	-	-	0.26	0.05	0.17	0.08	0.97
3/02/2024	-	-	0.29	0.05	0.18	0.08	0.67
4/02/2024	-	-	0.32	0.06	0.19	0.08	0.67
5/02/2024	-	-	0.36	0.06	0.17	0.08	0.62
6/02/2024	-	-	0.30	0.04	0.21	0.07	0.64
7/02/2024	-	-	0.33	0.05	0.16	0.09	0.88
8/02/2024	-	-	0.37	0.06	0.19	0.06	0.55
9/02/2024	-	-	0.28	0.05	0.20	0.07	0.79
10/02/2024	-	-	0.37	0.05	0.20	0.08	0.65
11/02/2024	-	-	0.41	0.04	0.18	0.07	0.53
12/02/2024	-	-	0.33	0.05	0.16	0.07	0.61
13/02/2024	-	-	0.29	0.03	0.12	0.08	0.62
14/02/2024	-	-	0.27	0.05	0.16	0.07	0.71
15/02/2024	-	-	0.38	0.05	0.19	0.07	0.34
16/02/2024	-	-	0.31	0.06	0.24	0.09	0.66
17/02/2024	-	-	0.31	0.05	0.21	0.07	0.99
18/02/2024	-	-	0.26	0.05	0.20	0.09	0.85
19/02/2024	-	-	0.37	0.04	0.24	0.08	0.67
20/02/2024	-	0.65	0.21	0.05	0.06	0.07	0.42
21/02/2024	-	-	0.26	0.05	0.17	0.07	0.91
22/02/2024	-	-	0.18	0.05	0.15	0.07	0.47
23/02/2024	-	-	0.22	0.07	0.20	0.08	0.72
24/02/2024	-	-	0.19	0.06	0.18	0.08	0.88
25/02/2024	-	-	0.25	0.03	0.19	0.07	0.92
26/02/2024	-	-	0.28	0.11	0.21	0.08	0.73
27/02/2024	-	-	0.03	0.05	0.15	0.07	0.38
28/02/2024	-	-	0.03	0.06	0.16	0.10	0.96
29/02/2024	-	-	0.06	0.07	0.21	0.07	0.84

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

- Water not discharged on this day

* EPL 44 volume inflows were not recorded in October 2023 due to the technology upgrades.

^ The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 0.0 L/s.

- The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 7.5 L/s.

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 31 March 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results:There are some exceedances in pH, EC, DO and Turbidity attributed to natural variation and precipitation as the variations are observed at locations upstream of the construction works. The majority of parameters are within the WQO limits, with minor exceedances in metals and nutrients in EPL15. There was no visual indicators to suggest the source during sampling. This exceedance will be monitored.
Reservoir Results: Minor exceedances in pH and turbidity were observed. Some algal blooms were present in the reservoirs, resulting in exceeding concentrations of nutrients at the majority of locations. This was most likely due to runoff from natural springs and natural river flows into the reservoir, as there was no discharge from the plant. Importantly, despite these observations, the majority of EPL locations had WQO within parameters for most analytes.
Discharge Results: The majority of the WQO are met. The 90th percentile limit for Nitrogen and Zinc at Talbingo exceed the WQO. Due to this exceedance in WQO, treated water was not discharged to the reservoir. Only limited water was discharged to the Tantangara reservoir. Options for improvements to treatment systems about nutrients are being investigated. In situ nitrogen monitors have been installed and are awaiting some minor electrical configuration prior to commissioning.
Groundwater Results: Some exceedances in pH and EC were observed, particularly at Tantangara (Emplacement area) and Lobs Hole (Lick Hole Gully, Main Yard and GF01). These exceedances, which are due natural variation and preceiptation events are consistent with background conditions. Nutrient exceedances are under investigation, including comprehensive weekly sampling and thorough analysis.
Leachate results: Exceedances in pH, EC, DO, and turbidity are observed. High levels of nutrients are observed, especially at EPL points 24, 52, 84, 85 and 86, which are currently under investigation to determine the root cause and source. The ongoing comprehensive weekly sampling, monitoring, and treatment where required, of both surface and groundwater data and construction activities demonstrate our commitment to identifying and addressing environmental issues.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-31 March 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physiochemical				21/03/2024	21/03/2024	21/03/2024	10/03/2024	10/03/2024	10/03/2024	2/03/2024	2/03/2024	1/03/2024	1/03/2024	1/03/2024	1/03/2024	1/03/2024	1/03/2024	1/03/2024	21/03/2024	21/03/2024	21/03/2024	21/03/2024	21/03/2024	21/03/2024	21/03/2024	21/03/2024
pH	pH Unit	.	6.5-8	7.02	7.38	7.06	7.74	8.12	8.79	7.67	7.89	6.92	6.96	6.28	6.15	6.47	6.91	6.44	6.97	7.28	7.82	7.29	6.91	7.51	6.62	7.58
Electrical Conductivity	µS/cm	.	30-350	259	260	123	18.8	23.4	73.8	30.4	75.6	843	472	675	432	292	725	262	78	233	95	287	197	427	328	328
Oxidation Reduction Potential	mV	.	No Water Quality Objective Value	150	169	123	171.6	129.6	221.7	204.2	224.3	13	-30	183	155	226	-95	105	144	51	182	86	-33	164	105	105
Temperature	°C	.	No Water Quality Objective Value	12.86	13.57	17.53	13.1	14.9	15.8	18.1	18.2	25.02	20.22	30.78	27.15	31.74	23.61	23.25	18.84	18.44	14.4	15.79	16.94	18.12	16.93	20
Dissolved Oxygen	% saturation	.	No Water Quality Objective Value	77.8	79	73.3	82.1	76	70.3	68.1	67.9	51.1	77.8	56	65.5	58.5	70.5	70.6	83.9	58.7	101.8	72.7	66.5	90.1	70.3	73.9
Turbidity	NTU	.	No Water Quality Objective Value	52	51.9	3.2	6.98	4.93	11.41	72.98	9.78	25.5	256	1000	155	226	48.9	283	449	30.6	0	1000	365	9.5	753	175
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	221	202	<5	32	22	24	194	<5	16	479	2190	40	2470	30	916	539	22	1,770	2,770	349	<5	726	370
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	125	119	182	<1	2	24	13	32	352	316	267	85	84	129	59	15	118	23	130	83	144	128	79
Nutrients																										
Ammonia as N	µg/L	5	13	10	10	30	<10	10	<10	<10	<10	30	30	20	10	20	540	10	10	200	10	210	70	60	250	30
Nitrite + Nitrate as N (Nox)	µg/L	10	15	20	20	39000	780	120	500	30	50	<10	<10	20	5390	1620	<10	20	110	10	20	10	10	28500	11200	60
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	200	<100	5900	<100	<100	<100	<100	<100	200	500	2200	400	2700	1000	500	200	400	800	2700	500	3600	2400	100
Nitrogen (Total)	µg/L	10	250	200	<100	44900	800	100	500	<100	<100	200	500	2200	5800	4300	1000	500	300	400	800	2700	500	32100	13600	200
Reactive Phosphorus	µg/L	1	15	2	5	3	<1	8	18	17	18	4	3	4	2	2	6	4	10	22	6	137	6	12	10	17
Phosphorus (Total)	µg/L	5	20	30	50	<10	20	20	40	80	20	50	570	4000	80	2490	160	560	370	80	430	2530	300	30	480	120
Inorganics																										
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																										
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2	<1	<1	<1	<1	<1	1	<1	<1	<1
Metals																										
Aluminium (dissolved)	µg/L	5	27	<5	<5	6	<5	5	<5	<5	<5	<5	<5	<5	18	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	12
Aluminium (total)	µg/L	5	No Water Quality Objective Value	1890	2240	11	1430	798	1290	3000	105	37	3970	9180	480	42700	576	5170	3800	24	17900	40200	4960	63	13100	2990
Arsenic (dissolved)	µg/L	1	0.8	0.2	2.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	7.5	3.4	0.3	3.1	0.2	9	0.6	<0.2	0.4	0.4	35.4	0.5	1.8	0.3	2.1
Arsenic (total)	µg/L	1	No Water Quality Objective Value	0.8	3.5	<0.2	0.3	0.3	0.2	1.4	<0.2	48	91.4	33.4	25.3	40.8	34	10.6	2.4	2.2	9.8	123	22.6	2.1	16.4	8.6
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.8	<0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	5.6	5.6	0.3	0.9	1.1	1.1	4.9	0.6	0.5	7.7	24.7	1.3	101	2.4	11.9	9.2	<0.2	20.8	119	15.3	1.3	38.7	9.3
Copper (dissolved)	µg/L	1	1	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	13.1	9.8	0.5	1.5	0.6	0.9	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<0.5	68.8	0.8	5.3
Copper (total)	µg/L	1	No Water Quality Objective Value	18.4	16	0.8	2.1	1	2.4	49.1	49.9	1.2	30.2	17.9	3	120	4.6	13.9	9.2	<0.5	31	89.4	11.2	109	39.7	5.2
Iron (dissolved)	µg/L	50	300	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	2	3	<2	14	<2	3	<2	<2	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	2490	3000	9	905	525	834	4160	65	1480	11000	14400	903	74600	1230	9870	5350	222	14400	73100	12800	94	26300	5630
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	2.9	<0.1	<0.1	<0.1	0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.7	<0.1	<2	<0.1	<0.1	<0.1	0.5
Lead (total)	µg/L	1	No Water Quality Objective Value	9.3	8.5	6.1	0.7	0.5	1.9	11.1	4.3	<0.1	9.4	5	0.4	76.6	1.8	5.3	18.2	0.3	346	230	24	0.4	171	75.6
Manganese (dissolved)	µg/L	5	1,200	25.9	42.6	25.3	3.7	0.7	3.2	15.2	44.5	174	230	207	114	232	215	51.6	15.4	554	129	489	685	371	0.8	140
Manganese (total)	µg/L	5	No Water Quality Objective Value	102	150	24.5	58.8	17	56.2	102	51.5	188	273	378	144	2210	254	182	170	612	684	2530	1080	361	1120	381
Nickel (dissolved)	µg/L	1	8	<0.5	0.6	5.7	<0.5	<0.5	<0.5	1.1	<0.5	13.2	4.2	14.1	11.2	2.6	2.2	2.7	2.9	1.4	3.6	2.4	2.5	16.7	1.8	1.8
Nickel (total)	µg/L	1	No Water Quality Objective Value	6.5	10.1	6.3	1.3	0.9	1.7	6.8	0.8	19.2	19.2	40.5	18.2	136	5.1	23.8	19.3	2.3	37.3	223	28.9	18.2	49.9	16.1
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	0.02	0.02	<0.01	0	0	0	0	0	0.05	0.11	0.03	<0.01	0.79	<0.01	0.1	0.03	<0.01	0.28	0.56	0.06	<0.01	0.28	0.06
Zinc (dissolved)	µg/L	5	2.4	2	<1	15	3	8	1	0	0	1	1	4	3	<1	2	<1	12	2	21	2	5	74	2	15
Zinc (total)	µg/L	5	No Water Quality Objective Value	26	15	15	6	27	4	38	17	4	31	42	9	228	18	26	56	5	323	777	296	81	189	323

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 March 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				24/3/24	24/3/24	5/3/24	5/3/24	5/3/24	5/3/24	5/3/24	5/3/24	5/3/24	5/3/24
pH	pH Unit	-	6.5-8	7.83	7.86	7.98	7.6	7.61	7.79	7.83	7.58	6.89	7.39
Electrical Conductivity	µS/cm	-	20-30	76	71	26	27	26	26	26	29	26	27
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	224	226	180	184	193	188	146	186	223	193
Temperature	°C	-	No Water Quality Objective Value	21.38	20.58	21.28	21.08	21.04	21.02	20.11	17.91	20.48	20.74
Dissolved Oxygen	% saturation	-	90-110	107.3	108	109.7	109.6	109.4	108	107.8	109	108.3	109
Turbidity	NTU	-	1-20	0	0.9	24.7	3.8	8	5.3	1.2	1.3	1.8	1.2
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	6	7	<5	6	<5	<5	<5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	38	33	9	9	<1	9	9	9	9	9
Nutrients													
Ammonia as N	µg/L	5	10	10	<10	<10	40	30	50	40	60	120	80
Nitrite + Nitrate as N (NOx)	µg/L	10	10	40	20	<10	30	<10	<10	<10	<10	20	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	300	100	400	800	700	600	500	100	600	700
Nitrogen (Total)	µg/L	10	350	300	100	400**	800**	700**	600**	500**	100	600**	700**
Reactive Phosphorus	µg/L	1	5	2	4	4	5	4	3	4	4	3	2
Phosphorus (Total)	µg/L	5	10	30	20	10	20	30	20	30	10	30	20
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals													
Aluminium (dissolved)	µg/L	5	55	<5	<5	53	51	51	49	50	18	49	50
Arsenic (dissolved)	µg/L	0.2	13	0.4	0.4	0.3	0.2	0.2	0.2	0.3	<0.2	0.2	0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	14	12	192	177	176	174	248	115	184	187
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	<0.5	2.3	3	2.4	2.5	3.6	5.7	16.7	18.6
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	2	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	408	3000	25	-	-	-	-	-	-	26
Biochemical Oxygen Demand	mg/L	2	1/5^	-	-	-	-	-	-	-	-	-	-

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

** Algal blooms can present as feacal coliforms - green tinge noted in Talbingo Resevroir water at time of sampling.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 March 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL71	EPL84	EPL85	EPL86
Field				2/03/24	2/03/24	2/03/24	2/03/24	2/03/24	2/03/24	2/03/24	2/03/24	20/03/24	17/03/24	17/03/24	9/03/24	9/03/24	9/03/24	9/03/24	9/03/24	9/03/24	9/03/24	21/03/24	-	-	31/03/24	2/03/24	5/03/24	5/03/24	5/03/24
pH	-	-	6.5-8	8.11	8.08	8.41	8.28	8.15	8.12	8.21	7.91	7.14	7.98	7.87	7.7	8.04	7.51	7.59	7.6	7.38	7.17	8.98	Dry	Dry	8.57	8.64	9.32	9.17	8.45
Electrical Conductivity	µS/cm	-	30-350	126	133	139	127	125	127	127	137	671	69	38	30	28	27	28	27	44	53	818	Dry	Dry	829	88.7	1800	1110	902
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	174	179	167	178	176	176	127	187	152	192	204	216	204	191	214	202	218	220	113	Dry	Dry	128	98.1	175	190	203
Temperature	°C	-	No Water Quality Objective Value	18.79	17.98	19.89	20.82	19.38	19.03	19.87	21.17	21.15	16.31	15.13	15.07	16.7	20.64	19.28	18.97	16.05	21.91	20.1	Dry	Dry	28.03	18.8	12.22	12.31	12.81
Dissolved Oxygen	% saturation	-	90-110	105.9	109.6	94.2	104.6	109.9	108.2	108	103.6	71.6	109.7	96.1	80.1	83.7	81.8	63.1	82.7	70.6	63.3	104	Dry	Dry	96.7	88.7	68.9	117.1	94.8
Turbidity	NTU	-	2-25	2	0	0.5	0.2	0	1.1	0.2	0.3	164	3.5	1.7	1.6	2.8	25	4.7	3.5	3.3	48.5	481	Dry	Dry	11.6	19.97	1000	672	11.8
Laboratory analytes																													
TSS	mg/L	5	No Water Quality Objective Value	6	<5	<5	<5	12	<5	<5	<5	82	<5	8	<5	<5	<5	<5	<5	<5	10	304	Dry	Dry	28	10	6,290	440	13
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	61	63	63	63	63	63	63	63	149	16	16	9	9	9	7	9	17	13	98	Dry	Dry	74	21	36	129	284
Nutrients																													
Ammonia as N	µg/L	5	13	<10	10	<10	<10	<10	10	20	<10	30	10	10	10	10	10	10	40	10	50	50	Dry	Dry	50	<10	140	40	40
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	10	<10	10	<10	20	<10	21000	<10	<10	<10	<10	10	10	10	90	20	18600	Dry	Dry	10	<10	2480	490	1090
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	100	100	100	200	200	100	500	100	2900	100	100	<100	100	700	200	200	100	400	3400	Dry	Dry	1900	<100	14500	4600	400
Nitrogen (Total)	µg/L	10	250	100	100	100	200	200	100	500	100	23900	100	100	<100	100	700	200	200	200	400	22000	Dry	Dry	1900	<100	17000	5100	1500
Reactive Phosphorus	µg/L	1	15	8	10	9	9	7	7	10	7	5	4	4	6	5	5	3	4	4	4	6	Dry	Dry	5	7	10	7	6
Phosphorus (Total)	µg/L	5	20	<10	<10	<10	<10	<10	<10	60	<10	50	10	20	<10	<10	20	10	10	10	20	180	Dry	Dry	160	20	2580	600	20
Inorganics																													
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	<4	<4	<4	<4
Hydrocarbons																													
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	<1	<1	<1	<1	<1
Metals																													
Aluminium (dissolved)	µg/L	5	27	6	<5	6	6	7	6	10	6	<5	10	6	12	11	46	23	23	21	26	13	Dry	Dry	30	9	14	19	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8950	Dry	Dry	83	622	36800	3640	378
Arsenic (dissolved)	µg/L	1	0.8	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.4	<0.2	<0.2	<0.2	<0.2	0.3	0.2	0.2	0.2	0.4	5.5	Dry	Dry	0.9	0.4	26.7	6.2	3.2
Arsenic (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	Dry	Dry	0.9	0.9	38.4	7.7	3.4
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.1	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	4.8	Dry	Dry	0.9	<0.2	4.8	18.2	0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35.8	Dry	Dry	1.2	0.8	114	27.9	0.9
Copper (dissolved)	µg/L	1	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	Dry	Dry	1.9	<0.5	5.4	1.7	2.1
Copper (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4	Dry	Dry	2.7	1.3	77.2	8.6	2.8
Iron (dissolved)	µg/L	50	300	26	26	16	16	13	14	15	16	2	35	14	43	33	246	232	243	144	167	<2	Dry	Dry	19	37	7	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13700	Dry	Dry	82	644	64100	5940	352
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	0.2	<0.1	<0.1	<0.1	<0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.7	Dry	Dry	19	0.4	111	9.6	0.5
Manganese (dissolved)	µg/L	5	1,200	3.2	5.8	1.8	3.4	2.1	1.4	2.6	2.3	109	4.7	1.1	2.9	2.5	10.2	5.3	5.8	26.1	4.2	0.7	Dry	Dry	2.4	18.4	12.8	22.3	237
Manganese (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	286	Dry	Dry	15.1	26.5	1600	156	274
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	Dry	Dry	0.6	0.9	1.8	1	1.6
Nickel (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	Dry	Dry	0.9	1.9	163	17.6	2.6
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	<0.01	0	0.19	0.03	<0.01
Zinc (dissolved)	µg/L	5	2.4	<1	<1	<1	<1	<1	<1	<1	2	2	<1	<1	<1	<1	<1	<1	<1	4	<1	<1	Dry	Dry	1	<1	<1	<1	<1
Zinc (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	Dry	Dry	3	2	348	29	3

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 March 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				3/03/2024							9/03/2024
Inflow[#]	ML/day	-	-	-	0.0000	0.3586	0.0386	0.1423	0.0674	0.1496	-
Outflow[#]	ML/day	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	pH Unit	-	6.5-8.5	8.08	-	-	-	-	-	-	6.89
Electrical Conductivity	µS/cm	-	700 (EPL 41) / 200 (EPL 50)	105	-	-	-	-	-	-	67
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	143	-	-	-	-	-	-	136
Temperature	°C	-	15	18.87	-	-	-	-	-	-	19.36
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	95	-	-	-	-	-	-	95.3
Turbidity	NTU	-	<25	26.4	-	-	-	-	-	-	1.9
Laboratory analytes											
Total suspended solids	mg/L	5	5/10	<5	-	-	-	-	-	-	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	29	-	-	-	-	-	-	<1
Nutrients											
Ammonia as N	µg/L	5	200/2000^	40	-	-	-	-	-	-	50
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	200	-	-	-	-	-	-	100
Nitrogen (Total)	µg/L	10	350/-^	1600	-	-	-	-	-	-	200
Reactive Phosphorus	µg/L	1	No Water Quality Objective Value	4	-	-	-	-	-	-	<1
Phosphorus (Total)	µg/L	5	100/300^	<10	-	-	-	-	-	-	<10
Inorganics											
Cyanide Total	µg/L	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	mg/L	5	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	µg/L	5	55	55	-	-	-	-	-	-	<5
Arsenic (dissolved)	µg/L	0.2	13	0.4	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	0.3	-	-	-	-	-	-	<0.2
Copper (dissolved)	µg/L	0.5	14	2.9	-	-	-	-	-	-	<0.5
Iron (dissolved)	µg/L	2	300	24	-	-	-	-	-	-	<2
Lead (dissolved)	µg/L	0.1	3.4	0.6	-	-	-	-	-	-	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	-	-	-	-	-	-	<0.5
Nickel (dissolved)	µg/L	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	µg/L	1	8	131	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	CFU/100mL	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	<5	5	<2	-	-	-	-	-	-	<2

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

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

\- Sample not required at this location.

^ 90 Percentile concentration limit/100 Percentile limit

[#] Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 March 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
	-	-	0.10	0.054	0.30	0.08	0.29
2/03/2024	-	-	0.26	0.0600	0.21	0.08	0.50
3/03/2024	-	-	0.23	0.0440	0.20	0.06	0.91
4/03/2024	-	-	0.25	0.049	0.14	0.07	0.80
5/03/2024	-	-	0.39	0.05	0.20	0.85	0.34
6/03/2024	-	0.31	0.25	0.05	0.22	0.07	0.86
7/03/2024	-	0.69	0.29	0.05	0.18	0.08	0.43
8/03/2024	-	-	0.22	0.05	0.21	0.10	0.43
9/03/2024	-	0.20	0.17	0.05	0.20	0.04	0.29
10/03/2024	-	-	0.40	0.05	0.31	0.11	0.28
11/03/2024	-	-	0.36	0.06	0.08	0.04	0.77
12/03/2024	-	-	0.35	0.05	0.17	0.08	0.70
13/03/2024	-	-	0.34	0.05	0.16	0.11	0.57
14/03/2024	-	0.33	0.21	0.05	0.16	0.03	0.93
15/03/2024	-	0.40	0.14	0.06	0.20	0.09	0.76
16/03/2024	-	0.27	0.30	0.06	0.19	0.07	0.91
17/03/2024	-	0.001	0.24	0.05	0.19	0.08	0.71
18/03/2024	-	-	0.33	0.05	0.18	0.08	0.92
19/03/2024	-	-	0.09	0.04	0.13	0.09	0.69
20/03/2024	-	-	0.21	0.05	0.22	0.05	0.79
21/03/2024	-	-	0.56	0.05	0.18	0.15	0.51
22/03/2024	-	-	0.53	0.08	0.27	0.13	0.70
23/03/2024	-	-	0.39	0.07	0.20	0.08	0.77
24/03/2024	-	-	0.21	0.04	0.18	0.08	0.91
25/03/2024	-	0.31	0.25	0.06	0.18	0.09	0.31
26/03/2024	-	0.46	0.39	0.05	0.15	0.08	0.31
27/03/2024	-	-	0.27	0.04	0.18	0.07	0.32
28/03/2024	-	-	0.50	0.05	0.28	0.11	0.97
29/03/2024	-	-	0.24	0.07	0.41	0.07	0.49
30/03/2024	-	-	0.32	0.05	0.18	0.09	0.86
31/03/2024	-	-	0.40	0.04	0.18	0.10	0.52

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

- Water not discharged on this day

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 0.0 L/s.

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 7.99 L/s

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 30 April 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: Some exceedances in pH, EC, DO, and turbidity are attributed to natural variation and precipitation. Minor exceedances in metals and exceedances on nutrients, mainly in the spoil emplacement areas at Lobs Hole and Marica, which are being heavily monitored, and comprehensive sampling is being taken weekly.
Reservoir Results: In general, the majority of the results are within the WQO. However, exceedances in nutrients and fecal coliforms are observed, which are related to natural conditions due to ecosystem behavior at this time of the year, such as algae and phosphorus presence. In addition, the water discharge to the reservoir has been controlled and limited to avoid adding pollutants to the reservoir water. There have been no discharges of water from the Project with detected faecal coliform concentrations.
Discharge Results: Most parameters are within WQO, with a minor exceedance in total nitrogen, this has been reported to the EPA and an investigation is being conducted to determine how this occurred and implement actions to assure that is does not recur. As part of a continuous improvement program, FGJV has pruchased specific nitrogen treatment plants which are due in June; meanwhile, on-site, the treated water discharge to the reservoir is limited, and the weekly comprehensive sampling undertaken.
Groundwater (GF01) Results: Exceedances in pH and turbidity due to rain events and runoff cause the carryover of natural nutrients, which naturally affect parameters such as pH and turbidity, as well as some biological. The High nutrient levels are mainly in Spoil emplacement areas across the sites. This issue is being investigated, and actions are being taken to manage and mitigate the issue, including water extraction and treatment, and liner installation. Metals concentration decreased this month compared to March results, with minor exceedances due to the rain events and runoff within the area.
Leachate results: Exceedances in pH, EC, DO, and turbidity are observed. High levels of nutrients are observed, especially at EPL points 24, 52, 55, 58, 84, 85 and 86, which are currently under investigation and extraction while appropriate treatment options are implemented. The ongoing comprehensive weekly sampling, monitoring, and treatment of surface and groundwater data and construction activities, where required, demonstrate our commitment to identifying and addressing environmental issues.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01-30 April 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physiochemical				19/04/2024	19/04/2024	19/04/2024	17/04/2024	17/04/2024	17/04/2024	7/04/2024	7/04/2024	18/04/2024	18/04/2024	18/04/2024	18/04/2024	18/04/2024	18/04/2024	18/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024	19/04/2024
pH	pH Unit	-	6.5-8	7.78	8.05	6.19	5.85	6.27	6.88	5.53	7.42	7.46	7.46	6.82	7.64	7.78	7.82	7.24	6.16	6.98	7.24	7.41	6.99	6.5	6.99	7.27
Electrical Conductivity	µS/cm	-	30-350	250	252	748	15	19.7	56.9	46	160	751	614	728	567	382	816	289	460	235	128	279	199	387	1	355
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	94	72	181	199	187.5	179.1	267	214	29	58	190	141	242	8	121	121	49	117	61	60	180	114	125
Temperature	°C	-	No Water Quality Objective Value	16.72	15.86	18.45	12.3	12.2	9.4	12.49	13.3	16.86	15.43	19.34	15.31	13.88	14.91	16.11	16.27	20.9	19.74	23.19	23.11	18.49	17.77	15.75
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	15.9	19.5	81.6	76	73.6	47.7	53.6	119.6	119.9	109.4	54	124.1	121.1	71.1	70.6	120	81.5	92.6	35.3	38	94.4	80	56.5
Turbidity	NTU	-	No Water Quality Objective Value	75.5	79	2.9	7.77	6.15	29.84	267	7.9	114	1000	732	1000	317	0	1000	302	11.5	38.1	53.1	13.4	17.9	90.1	79
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	30	20	6	44	52	40	245	68	56	2,020	529	508	685	8	1,270	1,690	41	46	90	28	26	476	558
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	131	118	224	<1	2	26	13	36	312	295	242	109	96	118	56	43	111	22	117	83	128	70	94
Nutrients																										
Ammonia as N	µg/L	5	13	10	20	10	10	10	<10	<10	<10	50	10	<10	30	20	110	<10	10	90	<10	80	20	60	20	30
Nitrite + Nitrate as N (Nox)	µg/L	10	15	10	30	45500	740	100	490	20	40	<0.01	<0.01	40	6470	2080	20	50	1260	<10	<10	<10	<10	21500	1100	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	200	100	11000	100	<100	<100	100	<100	300	1600	200	1400	1000	200	1000	2400	200	<100	300	100	2500	600	200
Nitrogen (Total)	µg/L	10	250	200	100	56500	800	100	500	100	<0.1	300	1600	200	7900	3100	200	1000	3700	200	<100	300	100	24000	1700	200
Reactive Phosphorus	µg/L	1	15	3	4	5	<1	5	24	15	23	5	6	6	14	4	17	4	6	<1	10	51	11	10	6	9
Phosphorus (Total)	µg/L	5	20	130	40	10	40	40	40	130	20	50	880	240	370	610	80	770	1370	40	<10	120	30	20	250	140
Inorganics																										
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																										
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1
Metals																										
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	<5	5	<5	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	902	845	64	1410	711	920																	
Arsenic (dissolved)	µg/L	1	0.8	<0.2	1.4	0.2	<0.2	<0.2	<0.2	0.3	<0.2	3.7	1.4	0.3	5.1	0.3	7.4	0.6	<0.2	0.3	0.3	21.9	1	2.1	<0.2	2.8
Arsenic (total)	µg/L	1	No Water Quality Objective Value	0.3	2.1	0.3	0.3	0.2	<0.2																	
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	0.9	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	2.3	1.8	0.6	1	0.8	0.9																	
Copper (dissolved)	µg/L	1	1	2.3	0.8	0.5	0.9	<0.5	3	0.6	<0.5	<0.5	<0.5	<0.5	1.9	<0.5	<0.5	0.7	0.6	<0.5	<0.5	<0.5	<0.5	3.8	<0.5	<0.5
Copper (total)	µg/L	1	No Water Quality Objective Value	28.4	15.3	1.3	4.7	0.7	11																	
Iron (dissolved)	µg/L	50	300	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	3	3	<2	<2	<2	<2	<2	<2	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	1010	933	73	945	454	597																	
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	3.1	3.8	3.6	0.6	0.3	0.4																	
Manganese (dissolved)	µg/L	5	1,200	6.1	33	49.3	1.6	<0.5	2.3	10.6	34.6	186	121	61.2	62.3	166	153	77.5	11	527	87.1	254	616	916	26.9	212
Manganese (total)	µg/L	5	No Water Quality Objective Value	44.5	107	51.9	0	12.7	17.9																	
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	4.7	0.7	<0.5	3.4	1.2	<0.5	13.6	8.6	8.4	5.4	2.1	0.5	4.4	4.4	0.8	2.9	1.4	1.7	24.4	1.6	0.8
Nickel (total)	µg/L	1	No Water Quality Objective Value	2.6	2.8	5.2	1.8	<0.5	4.7																	
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01																	
Zinc (dissolved)	µg/L	5	2.4	3	<1	27	1	<1	<1	7	1	50	2	6	3	1	2	<1	20	3	30	3	6	55	2	8
Zinc (total)	µg/L	5	No Water Quality Objective Value	17	8	29	4	2	2																	

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 April 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				20/4/24	20/4/24	15/4/24	15/4/24	15/4/24	15/4/24	15/4/24	15/4/24	15/4/24	15/4/24
pH	pH Unit	-	6.5-8	7.58	7.43	8.17	7.85	7.87	7.64	7.62	7.84	7.91	7.88
Electrical Conductivity	µS/cm	-	20-30	68	68	22.2	23	22.8	22.6	21.3	21.2	22.9	22.7
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	174	181	143.2	110.1	131.7	118	207.9	131.5	208.5	114.8
Temperature	°C	-	No Water Quality Objective Value	16.66	16.2	14.7	15.7	15.5	15.2	15.9	12	15.5	15.2
Dissolved Oxygen	% saturation	-	90-110	104.1	105.4	86.5	89.9	89.3	87.5	96.7	85	90.5	88.7
Turbidity	NTU	-	1-20	0.4	1	7.38	8.41	8.64	9.31	3.69	8.5	8.82	9.17
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	<5	<5	7	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	24	24	9	9	9	9	9	9	9	9
Nutrients													
Ammonia as N	µg/L	5	10	<10	<10	<10	<10	<10	10	20	<10	<10	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	10	<10	<10	<10	<10	<10	<10	<10	<10	40	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	100	100	300	400	400	500	300	200	500	300
Nitrogen (Total)	µg/L	10	350	100	100	300	400	400	500	300	200	500	300
Reactive Phosphorus	µg/L	1	5	7	5	6	6	6	4	4	5	3	5
Phosphorus (Total)	µg/L	5	10	30	20	30	20	20	40	30	20	20	20
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals													
Aluminium (dissolved)	µg/L	5	55	<5	<5	38	38	39	39	38	30	39	39
Arsenic (dissolved)	µg/L	0.2	13	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	9	9	185	184	192	185	207	157	188	188
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	<0.5	1.5	1.5	1.5	1.5	2.2	2.2	1.6	1.5
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	14000	1400	5**	-	-	-	-	-	-	5**
Biochemical Oxygen Demand	mg/L	2	1/5^	-	-	-	-	-	-	-	-	-	-

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

** Algal blooms can present as feacal coliforms - visible algal growth noted in Tantangara Resevroir water at time of sampling.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 April 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL17	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL71	EPL84	EPL85	EPL86
Field				3/04/24	3/04/24	3/04/24	3/04/24	3/04/24	3/04/24	3/04/24	3/04/24	3/04/24	17/04/24	8/04/24	8/04/24	19/04/24	19/04/24	19/04/24	19/04/24	19/04/24	19/04/24	19/04/24	19/04/24	-	-	19/04/24	7/04/24	17/04/24	17/04/24	17/04/24
pH	-	-	6.5-8	7.72	8.08	8.38	8.38	8.33	8.33	8.37	8.43	8.15	7.82	7.75	7.64	7.18	7.11	6.96	7.34	7.07	7.02	7.21	9.4	Dry	Dry	7.81	6.44	8.06	10.19	8.46
Electrical Conductivity	µS/cm	-	30-350	154	145	157	148	147	148	148	150	479	702	42	38	37	30	34	27	24	41	44	813	Dry	Dry	709	130	1097	610	1010
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	145	91	101	103	115	86	120	130	114	69	207	173	155	160	166	184	170	280	273	170	Dry	Dry	148	264	-2	151	180
Temperature	°C	-	No Water Quality Objective Value	17.21	16.14	18.96	18.5	16.83	17.06	18.9	18.47	17.54	21.56	11.3	11.19	12.12	11.34	11.97	11.21	10.93	10.91	12.49	17.28	Dry	Dry	16.83	12.3	15.7	13.72	14.2
Dissolved Oxygen	% saturation	-	90-110	102.3	99.5	94.5	103.1	112.3	91.8	108	114.8	91.1	90.2	106.1	100.5	99.7	103.9	100.3	95	108.7	74.4	65.2	143	Dry	Dry	93.07	52	93.3	95.6	138
Turbidity	NTU	-	2-25	3.3	4.9	2.5	0	0.2	0.8	0	0	6.4	3.8	0.8	0.2	3.7	2.7	3.4	12.1	6.4	19.5	17.1	4.3	Dry	Dry	65	239	48.8	134	14
Laboratory analytes																														
TSS	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	6	6	11	19	12	7	8	Dry	Dry	28	118	115	107	19
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	66	67	66	66	63	68	66	66	239	144	18	16	13	7	9	7	2	13	13	178	Dry	Dry	152	50	105	50	289
Nutrients																														
Ammonia as N	µg/L	5	13	<10	<10	<10	<10	<10	10	20	<10	<10	<10	<10	<10	10	10	<10	<10	<10	<10	<10	40	Dry	Dry	10	10	1320	560	10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	10	<10	<10	<10	40	<10	20	23000	30	10	<10	<10	10	<10	<10	100	80	29700	Dry	Dry	22300	60	12800	7870	7290
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	100	<100	100	<100	100	<100	100	<100	200	<2000	100	<100	100	<100	300	100	100	400	400	5100	Dry	Dry	4000	300	4400	2100	700
Nitrogen (Total)	µg/L	10	250	100	<100	100	<100	100	<100	100	<100	200	23000	100	<100	100	<100	300	100	100	500	500	34800	Dry	Dry	26300	400	17200	10000	8000
Reactive Phosphorus	µg/L	1	15	6	9	3	5	9	4	4	7	5	6	7	7	6	6	5	3	3	4	6	<10	Dry	Dry	2	6	28	5	3
Phosphorus (Total)	µg/L	5	20	<10	10	<10	10	10	10	10	10	20	10	30	40	20	20	20	<10	10	30	30	40	Dry	Dry	60	300	90	100	<10
Inorganics																														
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<1	<4	15	<4	<4
Hydrocarbons																														
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	<1	<1	<1	<1	<1
Metals																														
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	13	8	11	12	27	16	15	78	88	<5	Dry	Dry	<5	10	112	20	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	118	Dry	Dry	699	9180	1490	5430	132
Arsenic (dissolved)	µg/L	1	0.8	0.6	0.4	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.3	<0.2	<0.2	<0.2	<0.2	0.3	0.2	<0.2	0.4	0.4	2.2	Dry	Dry	<0.2	0.5	4.2	6.5	2.3
Arsenic (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	Dry	Dry	0.5	3.6	4.9	8.7	2.6
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.9	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.2	2.8	Dry	Dry	0.6	<0.2	104	21.5	0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	Dry	Dry	2.3	17.2	115	40.5	0.5
Copper (dissolved)	µg/L	1	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	0.5	0.6	3.5	0.8	1.7
Copper (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	Dry	Dry	1.9	12.6	7	8.2	2.3
Iron (dissolved)	µg/L	50	300	34	21	8	8	8	7	8	8	3	<2	76	45	39	30	190	101	98	339	332	<2	Dry	Dry	<2	33	3	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101	Dry	Dry	850	11100	1730	6880	124
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	Dry	Dry	2.6	2.4	2.9	9.8	0.1
Manganese (dissolved)	µg/L	5	1,200	3	2.5	1.2	2.3	1	<0.5	1	1.4	<0.5	160	8.1	3.4	5.7	4.7	1.3	5.7	5.2	12.7	6.6	<0.5	Dry	Dry	<0.5	31.1	12.7	<0.5	163
Manganese (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	Dry	Dry	51.6	224	62.0	166	225
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	<0.5	1.4	1.1	<0.5	1.4
Nickel (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	Dry	Dry	2.8	35.9	6.4	22.6	1.9
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	<0.01	<0.01	0.04	<0.01	<0.01
Zinc (dissolved)	µg/L	5	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	3	<1	<1	2	3	2	2	2	<1	<1	<1	Dry	Dry	1	<1	2	<1	<1
Zinc (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	Dry	Dry	13	20	19	34	1.0

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 April 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				21/04/2024							19/04/2024
Inflow#	**ML/day**	-	-	-	0.0277	0.4371	0.0444	0.1255	0.0738	0.1370	-
Outflow#	**ML/day**	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	**pH Unit**	-	6.5-8.5	7.19	-	-	-	-	-	-	7.56
Electrical Conductivity	**µS/cm**	-	700 (EPL 41) / 200 (EPL 50)	37	-	-	-	-	-	-	29
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	208	-	-	-	-	-	-	231
Temperature	**°C**	-	15	14.62	-	-	-	-	-	-	15.08
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	93.5	-	-	-	-	-	-	94.4
Turbidity	**NTU**	-	<25	2.3	-	-	-	-	-	-	0
Laboratory analytes											
Total suspended solids	**mg/L**	5	5/10	<5	-	-	-	-	-	-	7
Hardness as $CaCO_3$ (filtered)	**mg/L**	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Nutrients											
Ammonia as N	**µg/L**	5	200/2000^	<10	-	-	-	-	-	-	30
Kjeldahl Nitrogen Total	**µg/L**	10	No Water Quality Objective Value	<100	-	-	-	-	-	-	200
Nitrogen (Total)	**µg/L**	10	350/-^	<100	-	-	-	-	-	-	500
Reactive Phosphorus	**µg/L**	1	No Water Quality Objective Value	2	-	-	-	-	-	-	4
Phosphorus (Total)	**µg/L**	5	100/300^	20	-	-	-	-	-	-	<10
Inorganics											
Cyanide Total	**µg/L**	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	**mg/L**	5	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	**µg/L**	5	55	<5	-	-	-	-	-	-	<5
Arsenic (dissolved)	**µg/L**	0.2	13	0.6	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	**µg/L**	0.2	1	0.3	-	-	-	-	-	-	0.5
Copper (dissolved)	**µg/L**	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	**µg/L**	2	300	<2	-	-	-	-	-	-	<2
Lead (dissolved)	**µg/L**	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	**µg/L**	0.5	1,900	<0.5	-	-	-	-	-	-	<0.5
Nickel (dissolved)	**µg/L**	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	**µg/L**	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	**µg/L**	1	8	<1	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	**CFU/100mL**	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	**mg/L**	<5	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 April 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/04/2024	-	-	0.41	0.05	0.25	0.07	0.46
2/04/2024	-	-	0.36	0.05	0.14	0.06	0.10
3/04/2024	-	-	0.39	0.05	0.23	0.07	0.54
4/04/2024	-	-	0.33	0.04	0.13	0.09	0.27
5/04/2024	-	-	0.07	0.06	0.21	0.08	0.47
6/04/2024	-	-	0.32	0.05	0.13	0.07	0.66
7/04/2024	-	-	0.36	0.06	0.15	0.08	0.71
8/04/2024	-	-	0.23	0.04	0.18	0.10	0.73
9/04/2024	-	-	0.81	0.06	0.25	0.09	0.80
10/04/2024	-	0.47	0.57	0.06	0.08	0.05	0.87
11/04/2024	0.21	-	0.33	0.06	0.19	0.10	0.89
12/04/2024	-	-	0.30	0.06	0.20	0.05	0.41
13/04/2024	-	-	0.36	0.06	0.21	0.08	0.42
14/04/2024	-	0.62	0.41	0.06	0.19	0.08	0.01
15/04/2024	-	0.15	0.24	0.05	0.15	0.07	0.01
16/04/2024	-	-	0.43	0.05	0.17	0.10	0.11
17/04/2024	-	-	0.42	0.04	0.20	0.09	0.12
18/04/2024	0.10	-	0.31	0.05	0.19	0.08	0.01
19/04/2024	-	0.79	0.68	0.07	0.22	0.09	0.07
20/04/2024	0.20	-	0.39	0.07	0.23	0.07	0.003
21/04/2024	0.18	0.31	0.32	0.03	0.11	0.10	0.001
22/04/2024	-	0.38	0.33	0.05	0.18	0.08	0.001
23/04/2024	0.15	-	0.36	0.05	0.18	0.08	0.002
24/04/2024	-	-	0.29	0.05	0.13	0.08	0.30
25/04/2024	-	-	0.38	0.05	0.19	0.09	0.54
26/04/2024	-	-	0.34	0.05	0.25	0.06	0.70
27/04/2024	-	-	0.35	0.06	0.23	0.09	0.67
28/04/2024	-	-	0.98	0.05	0.17	0.10	0.82
29/04/2024	-	-	0.03	0.04	0.20	0.06	0.38
30/04/2024	-	-	0.29	0.06	0.22	0.08	0.38

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 2.43 L/s.

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 9.14 L/s

\- Water not discharged on this day

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 31 May 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuszko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 6 June 2023, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: Some exceedances are observed in pH, DO, and turbidity due to the rain events. Regarding nutrients, some exceedances were observed upstream and downstream of the spoil emplacement areas at Lobs Hole and Marica, which are being monitored weekly. Minor exceedances in metals are observed.
Reservoir Results: The reservoir results are generally within the range of the WQO for recorded Field parameters. Some exceedances in nutrients were observed. This was most likely due to runoff from natural springs, as there was minimal discharge for the month, which is not representative of increasing the nutrient levels. The metals and biological results are within the WQO.
Discharge Results: Most parameters are within WQO, with a minor exceedance in total nitrogen at Tantangara. This has been reported to the EPA, and an investigation is being conducted to determine how this occurred and implement actions to ensure that it does not recur. As part of a continuous improvement program, FGJV has purchased specific nitrogen treatment plants due in June; meanwhile, on-site treatment of the water discharge to the reservoir is limited, and weekly comprehensive sampling is undertaken.
Groundwater Results: Exceedances in pH and EC due to rain events and runoff cause the carryover of natural nutrients, which naturally affect parameters such as pH, as well as some biological. The elevated nutrient concentrations are mainly in Spoil the vicinity of emplacement areas across the sites. This issue is being investigated, and actions are being taken to manage and mitigate the problem, including water extraction, treatment, and liner installation. Minor exceedances in metals were due to our rain events during the month.
Leachate results: Exceedances in pH, EC, DO, and turbidity are observed. High levels of nutrients are observed, especially at EPL points 24, 52, 55, 58, 84, 85 and 86, which are currently under investigation and extraction while appropriate treatment options are implemented. The ongoing comprehensive weekly sampling, monitoring, and treatment of surface and groundwater data and construction activities, where required, demonstrate our commitment to identifying and addressing environmental issues.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01-31 May 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL1	EPL2	EPL4	EPL25	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physiochemical				1/05/2024	1/05/2024	1/05/2024	1/05/2024	25/05/2024	25/05/2024	25/05/2024	4/05/2024	4/05/2024	4/05/2024	4/05/2024	4/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024	14/05/2024	25/05/2024	25/05/2024	25/05/2024	25/05/2024	25/05/2024	25/05/2024	25/05/2024	25/05/2024
pH	**pH Unit**	-	6.5-8	6.77	7.61	7.58	7.88	8	8.05	6.14	5.92	6.02	6.16	5.96	7.29	6.89	6.75	7.03	6.05	6.87	6.81	6.5	5.92	7.11	6.59	7.28	7.02	6.46	6.92	7.02
Electrical Conductivity	**µS/cm**	-	30-350	370	781	1007	191	168	252	538	13	16.1	43.9	55	37	645	577	1067	364	310	627	250	148	151	14	188	120	390	120	275
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	8	-42	-34	186	188	72	208	262.9	232.5	216.2	270	251	39	-50	27	104	85	-43	101	203	102	106	-67	-40	184	120	23
Temperature	**°C**	-	No Water Quality Objective Value	14.75	16.33	18.17	11.02	12.29	15.86	15.63	11.3	13.1	10.6	10.82	13.9	16.37	16.39	19.02	20.11	19.68	18.29	14.26	14.73	13.11	13.42	14.02	14.51	15.19	14.73	16.5
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	41.1	22.5	98.7	42.5	93	19.5	83.6	84.3	76.2	73.9	63.3	83.2	16.7	0	21.8	7.4	3.8	17.9	21.2	82.9	77.7	96.8	51	91.4	96.7	93.5	73.1
Turbidity	**NTU**	-	No Water Quality Objective Value	61.7	30.1	1000	39.3	88.8	79	1.8	14.18	11.44	25	223	3.8	37.7	58	51.8	35.6	147	13.9	51	609	17.9	52.6	329	177	5.7	221	82.7
Laboratory analytes																														
TSS	**mg/L**	5	No Water Quality Objective Value	124	8	1,550	140	17	41	<5	12	44	49	336	75	15	118	30	115	48	13	12	654	2,560	99	1,120	335	<5	264	52
Hardness as CaCO3	**mg/L**	1	No Water Quality Objective Value	271	151	205	213	124	125	214	<1	2	26	13	30	335	363	884	94	104	115	47	28	111	26	122	89	179	72	96
Nutrients																														
Ammonia as N	**µg/L**	5	13	10	180	970	120	<10	20	<10	<10	<10	<10	<10	<10	10	40	50	<10	<10	150	<10	<10	40	10	30	90	20	20	70
Nitrite + Nitrate as N (Nox)	**µg/L**	10	15	90	<10	<10	<10	20	60	37300	700	100	470	40	20	<10	<10	<10	1500	1040	10	40	1000	30	<10	20	<10	28400	330	20
Kjeldahl Nitrogen Total	**µg/L**	10	No Water Quality Objective Value	200	400	5500	400	<100	200	300	400	<100	200	100	<100	200	200	300	400	400	300	100	<500	500	<100	600	300	700	500	100
Nitrogen (Total)	**µg/L**	10	250	300	400	5500	400	<100	300	37600	1100	100	700	100	<100	200	200	300	1900	1400	300	100	1000	500	<100	600	300	29100	800	100
Reactive Phosphorus	**µg/L**	1	15	5	29	30	4	5	9	6	<1	4	10	18	18	6	2	10	2	2	12	5	13	10	3	17	15	12	7	12
Phosphorus (Total)	**µg/L**	5	20	100	50	1830	120	350	270	10	20	30	90	130	40	50	210	30	110	120	90	30	700	330	10	350	110	10	120	150
Inorganics																														
Cyanide Total	**µg/L**	4	4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																														
Oil and Grease	**mg/L**	5	5	-	-	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1	<1
Metals																														
Aluminium (dissolved)	**µg/L**	5	27	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	10	<5	<5	<5	<5	18	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5
Aluminium (total)	**µg/L**	5	No Water Quality Objective Value	-	-	-	-	486	1750	26	534	407	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic (dissolved)	**µg/L**	1	0.8	0.6	0.8	12	0.5	<0.2	1.1	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	3.1	13.6	3.6	1.8	<0.2	13.3	<0.2	<0.2	1.2	0.3	19.1	0.5	1.4	<0.2	1.6
Arsenic (total)	**µg/L**	1	No Water Quality Objective Value	-	-	-	-	0.2	1.9	<0.2	<0.2	<0.2	<0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (dissolved)	**µg/L**	1	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1	<0.2	0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.7	<0.2	<0.2	<0.2	0.6	<0.2	<0.2
Chromium (III+VI) (total)	**µg/L**	1	No Water Quality Objective Value	-	-	-	-	1.3	3.9	1.1	0.4	0.5	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (dissolved)	**µg/L**	1	1	2.9	14.1	<0.5	5.5	2.5	<0.5	2	<0.5	<0.5	19.1	1.5	<0.5	0.7	<0.5	<0.5	0.7	<0.5	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	180	<0.5	<0.5
Copper (total)	**µg/L**	1	No Water Quality Objective Value	-	-	-	-	15.9	21	2.6	0.7	1	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron (dissolved)	**µg/L**	50	300	13	<2	63	2	<2	<2	<2	<2	4	<2	<2	<2	<2	2	<2	38	<2	4	3	8	<2	<2	<2	<2	<2	<2	<2
Iron (total)	**µg/L**	50	No Water Quality Objective Value	-	-	-	-	516	1900	28	226	151	652	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (dissolved)	**µg/L**	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.2	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6.3	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	**µg/L**	1	No Water Quality Objective Value	-	-	-	-	2.3	5.5	3.9	0.1	0.1	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese (dissolved)	**µg/L**	5	1,200	258	107	609	1190	3.7	30.5	29.2	2.1	0.9	2.4	10.5	26.1	168	231	244	90.2	351	128	22.2	57.7	568	83.7	339	653	442	125	272
Manganese (total)	**µg/L**	5	No Water Quality Objective Value	-	-	-	-	29.4	165	32.7	11.5	2.6	20.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (dissolved)	**µg/L**	1	8	1.9	3.1	3.7	5.1	<0.5	<0.5	4.2	<0.5	<0.5	2.1	1.4	<0.5	14.1	4.2	7.8	11.2	2.7	0.9	23.7	5.4	1.6	3.8	2.1	2.4	13.5	3.2	0.8
Nickel (total)	**µg/L**	1	No Water Quality Objective Value	-	-	-	-	1.6	6.1	4.4	0.7	0.6	2.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver (dissolved)	**µg/L**	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	**µg/L**	5	No Water Quality Objective Value	-	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (dissolved)	**µg/L**	5	2.4	3	2	<1	19	5	<1	12	3	2	1	9	1	7	1	11	6	<1	1	<1	27	4	35	<1	12	35	5	6
Zinc (total)	**µg/L**	5	No Water Quality Objective Value	-	-	-	-	13	14	14	3	2	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 May 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				26/5/24	26/5/24	7/5/24	7/5/24	7/5/24	7/5/24	7/5/24	7/5/24	7/5/24	7/5/24
pH	pH Unit	-	6.5-8	7.55	7.47	7.77	6.82	6.97	7.02	6.71	6.83	6.83	6.93
Electrical Conductivity	µS/cm	-	20-30	0	0	21	21	24	21	20	21	22	21
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	199	199	290	290	277	286	305	329	266	244
Temperature	°C	-	No Water Quality Objective Value	11.11	10.3	11.4	11.63	11.55	11.57	9.87	9.69	11.49	11.46
Dissolved Oxygen	% saturation	-	90-110	98.5	71.4	100.9	95.4	96.5	94.7	95.6	94.3	96.3	91.1
Turbidity	NTU	-	1-20	2.4	10.9	4	3.7	7	8.6	2.8	4	4.2	3.7
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	7	<5	5	<5	<5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	19	19	13	9	9	9	9	9	9	9
Nutrients													
Ammonia as N	µg/L	5	10	<10	<10	60	60	70	40	10	10	40	40
Nitrite + Nitrate as N (NOx)	µg/L	10	10	20	20	<10	<10	<10	<10	<10	10	40	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	200	100	300	500	400	500	400	300	400	400
Nitrogen (Total)	µg/L	10	350	200	100	300	500	400	500	400	300	400	400
Reactive Phosphorus	µg/L	1	5	3	2	4	4	6	5	4	5	4	5
Phosphorus (Total)	µg/L	5	10	20	30	20	20	20	40	30	30	20	20
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals													
Aluminium (dissolved)	µg/L	5	55	<5	<5	37	38	36	38	30	26	35	37
Arsenic (dissolved)	µg/L	0.2	13	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	6	5	177	182	177	184	163	142	177	178
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	1.5	0.5	1.3	1.4	1.3	1.4	1.1	0.9	1.3	1.4
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	1	2	<1	-	-	-	-	-	-	<1
Biochemical Oxygen Demand	mg/L	2	1/5^	-	-	3	-	-	-	-	-	-	3

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

** Algal blooms can present as faecal coliforms - green tinge noted in Talbingo Reservoir water at time of sampling.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 May 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL66	EPL67	EPL71	EPL84	EPL85	EPL86
Field				6/05/24	6/05/24	6/05/24	6/05/24	6/05/24	6/05/24	6/05/24	6/05/24	6/05/24	13/05/24	13/05/24	10/05/24	10/05/24	10/05/24	10/05/24	10/05/24	10/05/24	10/05/24	25/05/24	-	-	25/05/24	4/05/24	4/05/24	4/05/24	15/05/24	15/05/24	15/05/24
pH	-	-	6.5-8	7.84	7.56	8.19	8.19	7.8	7.79	8.12	8.32	6.66	7.65	7.53	7.03	7.28	6.67	7.61	6.9	7.04	6.98	8.68	Dry	Dry	7.88	6.52	6.66	6.98	8.6	8.86	8.15
Electrical Conductivity	µS/cm	-	30-350	95	100	103	95	92	96	94	99	530	39	33	27	24	25	96	18	47	40	1020	Dry	Dry	807	16.1	16.4	74	135	828	912
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	208	276	262	269	247	274	261	258	315	228	230	216	200	223	198	208	192	194	118	Dry	Dry	140	217.7	156.9	307	132	146	166
Temperature	°C	-	No Water Quality Objective Value	13.71	12.06	14.25	13.92	12.47	12.71	12.1	15.65	16.12	6.65	6.85	10.96	11.02	11.7	11.22	10.95	12.6	12.27	11.86	Dry	Dry	13.2	10	11.1	10.96	17.3	16.49	15.94
Dissolved Oxygen	% saturation	-	90-110	109.6	107.3	94.4	108.7	109.3	98.7	95.1	91.7	101.5	96.1	73	88.2	80.3	88.8	103.6	90.4	94.1	79.6	90.8	Dry	Dry	72.2	86.7	83.5	52.6	109	79.5	105.1
Turbidity	NTU	-	2-25	2.5	3.1	2.5	3	1.8	5.7	1.2	4.5	1.8	1.5	2.4	0.7	1.1	3.7	6.9	1.7	10.5	15.1	29.8	Dry	Dry	7.10	11.18	13.27	2.7	23.8	1000	19.4
Laboratory analytes																															
TSS	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	<5	<5	10	<5	<5	<5	<5	<5	<5	<5	<5	7	15	Dry	Dry	<5	<5	<5	<5	18	952	9
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	63	67	63	61	63	61	63	63	171	18	18	<1	<1	<1	<1	<1	11	4	196	Dry	Dry	149	9	9	25	71	77	340
Nutrients																															
Ammonia as N	µg/L	5	13	<10	50	<10	<10	<10	<10	<10	<10	<10	10	60	30	<10	50	<10	<10	<10	<10	750	Dry	Dry	20	<10	40	20	1960	30	10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	50	<10	<10	<10	<10	<10	28500	<10	<10	<10	<10	<10	10	<10	110	90	34000	Dry	Dry	22200	10	<10	<10	12500	6470	6440
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	<100	<100	<100	<100	<100	<100	700	<100	4500	<100	<100	200	<100	400	100	100	300	500	1600	Dry	Dry	1200	500	500	<100	6700	5500	1200
Nitrogen (Total)	µg/L	10	250	<100	<100	<100	<100	<100	<100	700	<100	33000	<100	<100	200	<100	400	100	100	400	600	35600	Dry	Dry	23400	500	500	<100	19200	12000	7600
Reactive Phosphorus	µg/L	1	15	11	10	10	8	8	9	9	8	6	7	7	6	5	4	<1	<1	3	6	12	Dry	Dry	7	1	4	5	19	9	6
Phosphorus (Total)	µg/L	5	20	10	40	20	20	20	<10	<10	<10	<10	30	<10	40	<10	40	20	20	40	40	50	Dry	Dry	20	30	60	10	90	890	20
Inorganics																															
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																															
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	<1	<1	<1	<1	<1	<1	<1
Metals																															
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	12	12	32	13	13	62	65	38	Dry	Dry	<5	39	37	<5	375	10	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	872	Dry	Dry	187	137	68	-	-	-	-
Arsenic (dissolved)	µg/L	1	0.8	0.4	<0.2	0.4	0.4	0.4	0.4	0.4	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.3	0.4	2.9	Dry	Dry	0.3	0.2	0.3	<0.2	3.3	8.3	3.6
Arsenic (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	Dry	Dry	0.3	0.3	0.3	-	-	-	-
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.2	51.4	Dry	Dry	9.9	<0.2	<0.2	<0.2	91.9	31.5	0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58.1	Dry	Dry	11.2	0.2	<0.2	-	-	-	-
Copper (dissolved)	µg/L	1	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	Dry	Dry	1	<0.5	<0.5	<0.5	2	1.8	1.9
Copper (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	Dry	Dry	1.2	0.5	<0.5	-	-	-	-
Iron (dissolved)	µg/L	50	300	6	12	6	7	4	5	6	6	<2	15	11	33	24	178	67	72	229	227	2	Dry	Dry	3	175	192	12	16	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	978	Dry	Dry	143	348	316	-	-	-	-
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	Dry	Dry	0.4	<0.1	<0.1	-	-	-	-
Manganese (dissolved)	µg/L	5	1,200	1.5	3.8	1.2	2.9	0.8	1.3	1.2	2	192	2.9	0.9	2.2	1.3	1	2.3	2.4	6.7	5.4	<0.5	Dry	Dry	1.4	1.5	1.4	9.1	4	<0.5	16.8
Manganese (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.1	Dry	Dry	5	25	37.3	-	-	-	-
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	2.3	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	Dry	Dry	0.6	<0.5	<0.5	0.6	0.9	0.9	1.3
Nickel (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	Dry	Dry	1.1	<0.5	<0.5	-	-	-	-
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	<0.01	<0.01	<0.01	-	-	-	-
Zinc (dissolved)	µg/L	5	2.4	<1	<1	<1	<1	<1	<1	<1	<1	11	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	Dry	Dry	3	<1	<1	<1	4	<1	6
Zinc (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	Dry	Dry	8	<1	<1	-	-	-	-

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 May 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				22/05/2024							10/05/2024
Inflow#	**ML/day**	-	-	-	0.0257	0.4831	0.0447	0.1969	0.0721	0.1330	-
Outflow#	**ML/day**	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	**pH Unit**	-	6.5-8.5	7.68	-	-	-	-	-	-	7.09
Electrical Conductivity	**µS/cm**	-	700 (EPL 41) / 200 (EPL 50)	183	-	-	-	-	-	-	16
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	171	-	-	-	-	-	-	212
Temperature	**°C**	-	15	12.21	-	-	-	-	-	-	13.34
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	75.4	-	-	-	-	-	-	62.8
Turbidity	**NTU**	-	<25	49.5	-	-	-	-	-	-	0
Laboratory analytes											
Total suspended solids	**mg/L**	5	5/10	<5	-	-	-	-	-	-	<5
Hardness as $CaCO_3$ (filtered)	**mg/L**	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Nutrients											
Ammonia as N	**µg/L**	5	200/2000^	20	-	-	-	-	-	-	100
Kjeldahl Nitrogen Total	**µg/L**	10	No Water Quality Objective Value	400	-	-	-	-	-	-	300
Nitrogen (Total)	**µg/L**	10	350/-^	400	-	-	-	-	-	-	400
Reactive Phosphorus	**µg/L**	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Phosphorus (Total)	**µg/L**	5	100/300^	20	-	-	-	-	-	-	<1
Inorganics											
Cyanide Total	**µg/L**	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	**mg/L**	5	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	**µg/L**	5	55	<5	-	-	-	-	-	-	<5
Arsenic (dissolved)	**µg/L**	0.2	13	0.3	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	**µg/L**	0.2	1	0.4	-	-	-	-	-	-	<0.2
Copper (dissolved)	**µg/L**	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	**µg/L**	2	300	<2	-	-	-	-	-	-	<2
Lead (dissolved)	**µg/L**	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	**µg/L**	0.5	1,900	<0.5	-	-	-	-	-	-	<0.5
Nickel (dissolved)	**µg/L**	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	**µg/L**	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	**µg/L**	1	8	<1	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	**CFU/100mL**	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	**mg/L**	<5	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 May 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/05/2024	-	-	0.24	0.046	0.13	0.07	0.75
2/05/2024	-	0.44	0.33	0.05	0.28	0.08	0.73
3/05/2024	0.28	-	0.07	0.06	0.09	0.08	0.65
4/05/2024	0.12	-	0.21	0.06	0.21	0.09	0.64
5/05/2024	-	-	0.13	0.05	0.22	0.09	0.58
6/05/2024	-	-	0.25	0.05	0.12	0.09	0.43
7/05/2024	-	0.67	0.38	0.04	0.15	0.08	0.54
8/05/2024	-	-	0.33	0.05	0.20	0.08	0.42
9/05/2024	-	0.52	0.36	0.04	0.26	0.08	0.60
10/05/2024	-	-	0.63	0.06	0.10	0.06	0.36
11/05/2024	-	0.51	0.35	0.07	0.19	0.07	0.85
12/05/2024	-	-	0.25	0.06	0.28	0.09	0.33
13/05/2024	-	-	0.38	0.05	0.13	0.06	0.27
14/05/2024	-	-	0.28	0.03	0.18	0.10	0.76
15/05/2024	-	0.69	0.26	0.07	0.22	0.07	0.87
16/05/2024	-	0.71	0.28	0.05	0.18	0.07	0.68
17/05/2024	-	-	0.24	0.07	0.24	0.09	0.71
18/05/2024	-	-	0.21	0.06	0.20	0.08	0.70
19/05/2024	0.40	-	0.32	0.06	0.22	0.07	0.66
20/05/2024	-	-	0.20	0.04	0.14	0.08	0.38
21/05/2024	-	-	0.26	0.05	0.17	0.09	0.33
22/05/2024	-	-	0.22	0.05	0.21	0.09	0.40
23/05/2024	-	-	0.52	0.04	0.09	0.09	0.27
24/05/2024	-	-	0.23	0.06	0.30	0.07	0.23
25/05/2024	-	0.46	0.26	0.05	0.22	0.07	0.55
26/05/2024	-	-	0.26	0.04	0.17	0.07	0.35
27/05/2024	-	-	0.30	0.05	0.18	0.11	0.48
28/05/2024	-	-	0.38	0.05	0.18	0.08	0.61
29/05/2024	-	-	0.31	0.05	0.21	0.08	0.20
30/05/2024	-	-	0.17	0.04	0.16	0.08	0.25
31/05/2024	-	-	0.35	0.06	0.26	0.09	0.54

- Water not discharged on this day

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 4.62 L/s

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 8.21 L/s

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 30 June 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: For the reported month (June), most of the parameters for the surface water for Lobshole, Marica, Tantangara and Rock Forest are within the WQO. Exceedances in pH, EC, DO, and Turbidity are observed in GF01, Main Yard, Lick Hole Gully, and the Tantangara spoil emplacement area.
Regarding nutrients, they were observed to exceed WQO in several areas, including the Yarangobolly River Tributary Downstream of the road (EPL24), GF01, Tantangara spoil emplacement area, Main Yard, and Lick Hole Gully. However, it is essential to note that the exceedances in the Rock Forest surface area are unrelated to our project activities, there is only a laydown yard at this location. No spoiling works haveo commenced. These exceedances are the consequences of agricultural activities—minor exceedances in metals for this month.
Reservoir Results: The majority of the parameters are within the WQO for the June results; some minor exceedances are observed in EC, DO, turbidity, and Nutrients. This was most likely due to runoff from natural springs and natural river flows into the reservoir as there was limited discharge from the plant**.**
Discharge Results: All the parameters are within the WQO except for Nitrogen (Total) at EPL 50 (Tantangara). For this reason, no discharge to reservoir occurred in June. Instead, the water was treated and reused on site (Irrigation and dust suppression), ensuring that our environmental impact was minimized.
Groundwater (GF01) Results: Minor exceedances in pH and EC and exceedances in nutrients are observed, with elevated Nitrogen concentrations downstream GF01. The GF01 boreholes have been purged, and the water is being treated while the investigation is ongoing. In general, the site is being monitored for changes in water quality due to the area's construction. Comprehensive sampling is conducted weekly to monitor the changes in water quality.
Leachate results: Some minor exceedances in pH, EC, DO and turbidity. Exceedances in Nitrogen especially in EPL 24, EPL52, EPL 56, EPL 58, EPL 95 (GF01), EPL 84, EPL 85 and EPL 86 (Main Yard) under investigation with weekly comprehensive sampling. FGJV is working on different actions for instance borehole purge, sediment and erosion control improvements and researching to mitigate the impact.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01-30 June 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physiochemical				4/06/2024	4/06/2024	4/06/2024	16/06/2024	16/06/2024	16/06/2024	2/06/2024	2/06/2024	7/06/2024	7/06/2024	7/06/2024	7/06/2024	7/06/2024	7/06/2024	7/06/2024	4/06/2024	4/06/2024	4/06/2024	4/06/2024	4/06/2024	4/06/2024	4/06/2024	4/06/2024
pH	pH Unit	-	6.5-8	7.43	7.92	6.26	5.8	6.2	6.3	6.97	7.79	7	6.92	6.83	7.03	7.05	7.03	6.93	6.49	6.85	6.9	7.09	6.72	6.28	7.08	7.04
Electrical Conductivity	µS/cm	-	30-350	179	158	504	10.9	143	45.4	32	44	483	402	1680	485	274	485	177	196	163	46	167	112	340	188	245
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	165	162	191	10.9	143	45.4	211	256	6	-24	-16	-60	57	-60	179	185	98	206	19	88	176	152	91
Temperature	°C	-	No Water Quality Objective Value	12.84	13.05	14.93	10.5	9.8	10.4	8.94	1.25	15.38	14.81	15.55	15.84	14.92	15.84	15.55	13.54	14.49	12.83	12.88	13.39	13.82	13.92	14.07
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	30.7	24.6	36.4	80.9	70.7	70.6	86.8	99.7	95.6	18.8	91.2	25.8	15.5	25.8	29.7	65.5	32.1	65.1	52.3	33.9	52.3	40.9	30.2
Turbidity	NTU		No Water Quality Objective Value	19.1	71.5	5.5	12.1	22.6	106	37.1	18.9	63.7	241	52.4	7.6	44.7	7.6	107	241	50.8	49	158	89.1	12	510	95.2
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	94	<5	<5	26	162	122	218	79	38	264	38	93	38	12	699	442	52	119	216	240	8	374	126
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	116	138	207	<1	2	26	13	30	312	314	1,140	264	103	120	52	21	125	29	132	83	169	85	112
Nutrients																										
Ammonia as N	µg/L	5	13	30	<10	110	<10	20	<10	<10	40	40	50	110	30	10	160	<10	60	50	30	70	100	10	<10	20
Nitrite + Nitrate as N (Nox)	µg/L	10	15	140	30	37800	720	120	550	20	40	10	20	<10	8060	1800	10	80	460	10	200	<0.01	<0.01	24500	430	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	<100	<100	9600	200	200	<1000	<100	<100	200	300	200	1800	300	300	300	200	200	<100	400	400	3100	400	200
Nitrogen (Total)	µg/L	10	250	100	<100	47400	900	300	<1000	<100	<100	200	300	200	9900	2100	300	400	700	200	200	400	400	27600	800	200
Reactive Phosphorus	µg/L	1	15	1	4	5	3	6	25	17	26	3	<1	<1	2	3	10	4	15	18	8	31	7	11	6	12
Phosphorus (Total)	µg/L	5	20	100	20	10	<10	40	260	70	60	100	250	<10	90	20	30	200	140	60	20	440	150	60	290	110
Inorganics																										
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																										
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals																										
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	8	57	<5	9	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	2600	262	111	471	2090	1830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic (dissolved)	µg/L	1	0.8	1.1	<0.2	0.2	<0.2	<0.2	<0.2	0.2	<0.2	3.4	2	2.7	1.8	<0.2	9.2	<0.2	<0.2	0.4	0.2	18.7	0.8	1.6	0.2	1.1
Arsenic (total)	µg/L	1	No Water Quality Objective Value	2.4	<0.2	0.2	<0.2	0.6	0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	6.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	1.6	<0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	6.4	0.9	6.7	0.4	2.2	1.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (dissolved)	µg/L	1	1	<0.5	1	1	3.7	<0.5	1.8	1	<0.5	0.9	0.7	<0.5	2.8	<0.5	<0.5	5.6	1	<0.5	<0.5	<0.5	<0.5	75.4	<0.5	<0.5
Copper (total)	µg/L	1	No Water Quality Objective Value	22.8	8.4	1.6	6.2	3.6	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron (dissolved)	µg/L	50	300	<2	<2	<2	6	80	<2	<2	<2	<2	<2	620	<2	<2	9	2	<2	<2	<2	<2	<2	<2	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	3310	352	88	218	1580	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	0.9	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	3.8	<0.1	<0.1	<0.1	<0.1	0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	8	1.1	3.2	0.1	1.3	0.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese (dissolved)	µg/L	5	1,200	6.8	1.7	15.3	1.8	0.7	3	8.2	22.6	172	183	308	75.7	150	142	19.6	37	638	102	342	661	603	25.3	291
Manganese (total)	µg/L	5	No Water Quality Objective Value	331	17.5	17.7	12.8	65.9	29.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	2.8	1.6	<0.5	0.8	1.2	<0.5	16.7	3.1	1.2	16.8	2.4	7.7	3.2	5.2	1.1	6	1.4	2.3	15.6	2.1	1.6
Nickel (total)	µg/L	1	No Water Quality Objective Value	9.2	1.1	3.3	2.4	2	1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (dissolved)	µg/L	5	2.4	<1	4	5	3	2	1	7	<1	7	1	<1	6	1	16	2	23	3	178	<1	8	32	2	11
Zinc (total)	µg/L	5	No Water Quality Objective Value	20	10	6	5	6	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 June 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				23/6/24	23/6/24	28/6/24	28/6/24	28/6/24	28/6/24	28/6/24	28/6/24	28/6/24	28/6/24
pH	pH Unit	-	6.5-8	7.52	7.08	7.18	7.36	6.97	7.3	7.12	7.55	7.32	7.34
Electrical Conductivity	µS/cm	-	20-30	0	0	18	19.1	24	18.7	11.23	16	19.3	19.4
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	178	216	115.6	166.9	277	180	154.6	90.8	168.4	165.9
Temperature	°C	-	No Water Quality Objective Value	9.38	9.45	5.7	6.1	11.55	5.9	4.2	4.4	6.1	6.1
Dissolved Oxygen	% saturation	-	90-110	89.5	76.6	86.2	84.9	96.5	84.6	86.2	85.4	84.4	84.4
Turbidity	NTU	-	1-20	2	5.3	1.56	1.39	7	148	3.67	199.32	1.39	1.37
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	8	<5	<5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	14	12	9	9	12	9	2	9	9	9
Nutrients													
Ammonia as N	µg/L	5	10	<10	<10	100	140	120	110	10	30	120	120
Nitrite + Nitrate as N (NOx)	µg/L	10	10	30	30	20	10	50	10	<10	50	40	<10
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	200	200	300	300	400	300	100	<100	400	300
Nitrogen (Total)	µg/L	10	350	200	200	300	300	400	300	100	<100	400	300
Reactive Phosphorus	µg/L	1	5	6	4	5	5	3	3	1	3	3	3
Phosphorus (Total)	µg/L	5	10	30	20	20	10	<10	20	10	10	30	10
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals													
Aluminium (dissolved)	µg/L	5	55	<5	<5	14	14	14	14	14	12	13	13
Arsenic (dissolved)	µg/L	0.2	13	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	3	<2	39	40	40	41	40	43	39	41
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	0.8	<0.5	<0.5	<0.5	<0.5	<0.5	4	4.8	<0.5	<0.5
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	1	<1	<1	-	-	-	-	-	-	<1
Biochemical Oxygen Demand	mg/L	2	1/5^	<2	<2	3	-	-	-	-	-	-	3

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 30 June 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL66	EPL67	EPL84	EPL85	EPL86
Field				8/06/24	8/06/24	8/06/24	1/06/24	8/06/24	8/06/24	8/06/24	8/06/24	6/06/24	9/06/24	9/06/24	12/06/24	12/06/24	12/06/24	12/06/24	12/06/24	12/06/24	12/06/24	11/06/24			11/06/24	16/06/24	16/06/24	21/06/24	21/06/24	21/06/24
pH	-	-	6.5-8	8.25	7.96	7.89	8.43	8.08	7.89	7.85	7.92	7.21	8.49	8.35	7.83	7.94	7.87	7.86	7.82	7.75	7.71	9.01	Dry	Dry	7.98	6.31	7.25	9.82	9.1	8.22
Electrical Conductivity	µS/cm	-	30-350	68	84	30	58	67	69	30	30	421	30	31	32	35	30	15	18	37	39	731	Dry	Dry	626	15.2	9.9	676	432	903
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	199	219	226	183	210	224	228	225	185	157	162	227	179	186	202	188	444	458	216	Dry	Dry	236	213.5	153.7	29	85	131
Temperature	°C	-	No Water Quality Objective Value	9.36	9.32	10.84	8.4	9.45	9.9	10.41	10.6	11.71	8.19	9.06	10.96	11.02	11.7	11.22	10.95	12.6	12.27	7.74	Dry	Dry	10.02	7.2	3.8	11.97	10.86	10.84
Dissolved Oxygen	% saturation	-	90-110	118.1	89.8	93.4	93.4	100.9	98.2	102.3	96.3	68.8	100.2	106.6	96.8	102.7	101.3	99.4	100.2	93.8	94.4	98.6	Dry	Dry	63.7	89.3	86.6	117.9	95.6	97.5
Turbidity	NTU	-	2-25	3.2	3.4	3.4	37.5	3.1	3	7.1	3.6	7.7	0.3	22.6	24.5	20.7	0	9.4	15.5	15	17.5	50.7	Dry	Dry	16.00	3.74	6.08	543	75.5	19.7
Laboratory analytes																														
TSS	mg/L	5	No Water Quality Objective Value	<5	<5	<5	24	<5	20	<5	<5	64	<5	<5	16	12	6	16	17	12	14	20	Dry	Dry	<5	<5	<5	267	24	6
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	48	61	51	29	48	<1	53	51	139	12	12	13	9	9	<1	<1	13	13	150	Dry	Dry	153	9	<1	21	76	342
Nutrients																														
Ammonia as N	µg/L	5	13	<10	<10	<10	<10	<10	<10	<10	<10	10	10	<10	<10	<10	120	20	30	10	20	2040	Dry	Dry	210	90	<10	990	40	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	10	<10	10	<10	<10	<10	<10	<10	23000	60	<10	40	<10	20	10	20	50	60	31700	Dry	Dry	28800	40	<10	15300	6730	11100
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	100	<100	100	500	<100	<100	<100	100	2800	100	<100	300	300	400	300	300	800	900	8000	Dry	Dry	6000	500	200	11900	1100	3000
Nitrogen (Total)	µg/L	10	250	100	<100	<100	500	<100	<100	<100	<100	25800	200	<100	300	300	400	300	300	800	1000	39700	Dry	Dry	34800	500	200	27200	7800	14100
Reactive Phosphorus	µg/L	1	15	6	6	5	6	5	5	4	4	2	5	7	5	7	<1	<1	<1	3	3	8	Dry	Dry	6	4	4	14	2	6
Phosphorus (Total)	µg/L	5	20	<10	<10	<10	90	<10	<10	<10	<10	<10	<10	<10	60	140	30	40	40	80	110	70	Dry	Dry	50	10	10	730	50	20
Inorganics																														
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	<4	<4	<4	<4	<4
Hydrocarbons																														
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	<1	<1	<1	<1	<1	<1
Metals																														
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	70	<5	<5	<5	<5	<5	6	5	61	63	23	41	40	133	137	7	Dry	Dry	<5	22	25	19	12	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1030	Dry	Dry	240	71	357	-	-	-
Arsenic (dissolved)	µg/L	1	0.8	0.4	0.2	0.4	0.3	0.4	0.4	0.4	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.4	0.5	2.4	Dry	Dry	0.3	<0.2	<0.2	3.9	4.6	2.2
Arsenic (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	Dry	Dry	0.4	0.2	<0.2	-	-	-
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	0.6	0.2	0.2	0.2	0.2	<0.2	<0.2	<0.2	0.4	0.4	45.6	Dry	Dry	11	<0.2	<0.2	64.6	16	2.4
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.3	Dry	Dry	11.7	<0.2	0.4	-	-	-
Copper (dissolved)	µg/L	1	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1	0.6	<0.5	<0.5	0.8	1	1.3	Dry	Dry	0.8	<0.5	<0.5	2.7	0.7	1.7
Copper (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	Dry	Dry	1.1	<0.5	<0.5	-	-	-
Iron (dissolved)	µg/L	50	300	12	8	12	143	11	10	11	12	<2	14	10	85	81	114	68	68	292	294	<2	Dry	Dry	<2	126	55	6	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1090	Dry	Dry	163	280	265	-	-	-
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	Dry	Dry	0.4	<0.1	0.1	-	-	-
Manganese (dissolved)	µg/L	5	1,200	0.8	3.3	1	4.9	0.6	<0.5	0.8	1.7	198	1.8	0.6	3.3	2.8	<0.5	5.7	5.5	6.8	8	<0.5	Dry	Dry	1.6	<0.5	5.2	<0.5	<0.5	16.8
Manganese (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.9	Dry	Dry	4.8	44.9	11.8	-	-	-
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.9	1	Dry	Dry	0.5	<0.5	<0.5	0.8	<0.5	1.1
Nickel (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	Dry	Dry	0.9	<0.5	<0.5	-	-	-
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.23	0.03	<0.01	0.02	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.02	Dry	Dry	<0.02	<0.01	<0.01	-	-	-
Zinc (dissolved)	µg/L	5	2.4	<1	<1	<1	<1	<1	<1	<1	<1	5	<1	<1	2	1	1	4	4	3	4	1	Dry	Dry	1	<1	<1	1	<1	6
Zinc (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	Dry	Dry	3	<1	<1	-	-	-

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Samples not required

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 June 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				12/06/2024							12/06/2024
Inflow[#]	ML/day	-	-	-	0.0120	0.4283	0.0557	0.1439	0.0729	0.1081	-
Outflow[#]	ML/day	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	pH Unit	-	6.5-8.5	7.57	-	-	-	-	-	-	6.75
Electrical Conductivity	µS/cm	-	700 (EPL 41) / 200 (EPL 50)	25	-	-	-	-	-	-	7
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	229	-	-	-	-	-	-	366
Temperature	°C	-	15	13.72	-	-	-	-	-	-	8.24
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	73.5	-	-	-	-	-	-	91
Turbidity	NTU	-	<25	20.8	-	-	-	-	-	-	0
Laboratory analytes											
Total suspended solids	mg/L	5	5/10	<5	-	-	-	-	-	-	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Nutrients											
Ammonia as N	µg/L	5	200/2000^	30	-	-	-	-	-	-	80
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	200	-	-	-	-	-	-	400
Nitrogen (Total)	µg/L	10	350/-^	300	-	-	-	-	-	-	500
Reactive Phosphorus	µg/L	1	No Water Quality Objective Value	3	-	-	-	-	-	-	<1
Phosphorus (Total)	µg/L	5	100/300^	<10	-	-	-	-	-	-	70
Inorganics											
Cyanide Total	µg/L	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	mg/L	5	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	µg/L	5	55	<5	-	-	-	-	-	-	<5
Arsenic (dissolved)	µg/L	0.2	13	1.8	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	0.2	-	-	-	-	-	-	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	µg/L	2	300	<2	-	-	-	-	-	-	<2
Lead (dissolved)	µg/L	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	-	-	-	-	-	-	<0.5
Nickel (dissolved)	µg/L	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	-	-	-	-	-	-	0.04
Zinc (dissolved)	µg/L	1	8	<1	-	-	-	-	-	-	2
Biological											
Faecal Coliforms	CFU/100mL	1	10/100^	<0.02	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	<5	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

[#] Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 30 May 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/06/2024	-	-	0.48	0.050	0.20	0.07	0.63
2/06/2024	0.11	-	0.34	0.047	0.32	0.13	0.55
3/06/2024	-	-	0.35	0.050	0.05	0.09	0.42
4/06/2024	-	-	0.47	0.068	0.21	0.08	0.46
5/06/2024	-	-	0.11	0.074	0.24	0.09	0.62
6/06/2024	-	-	0.20	0.057	0.14	0.06	0.42
7/06/2024	0.25	-	0.31	0.071	0.19	0.10	0.20
8/06/2024	-	-	0.32	0.045	0.10	0.10	0.38
9/06/2024	-	-	0.35	0.053	0.27	0.11	0.63
10/06/2024	-	-	0.57	0.068	0.04	0.05	0.47
11/06/2024	-	-	0.27	0.071	0.23	0.11	0.34
12/06/2024	-	-	0.25	0.052	0.13	0.09	0.52
13/06/2024	-	-	0.19	0.058	0.17	0.10	0.38
14/06/2024	-	-	0.22	0.087	0.31	0.10	0.29
15/06/2024	-	-	0.28	0.069	0.08	0.08	0.42
16/06/2024	-	-	0.18	0.067	0.17	0.09	0.15
17/06/2024	-	-	0.18	0.050	0.14	0.09	0.49
18/06/2024	-	-	0.27	0.048	0.12	0.09	0.35
19/06/2024	-	-	0.19	0.046	0.15	0.07	0.50
20/06/2024	-	-	0.09	0.070	0.31	0.09	0.15
21/06/2024	-	-	0.21	0.057	0.05	0.09	0.47
22/06/2024	-	-	0.19	0.070	0.13	0.06	0.23
23/06/2024	-	-	0.27	0.078	0.06	0.05	0.32
24/06/2024	-	-	0.27	0.058	0.21	0.07	0.46
25/06/2024	-	-	0.22	0.078	0.10	0.11	0.28
26/06/2024	-	-	0.38	0.072	0.15	0.06	0.46
27/06/2024	-	-	0.20	0.072	0.17	0.06	0.39
28/06/2024	-	-	0.22	0.069	0.15	0.09	0.21
29/06/2024	-	-	0.13	0.051	0.23	0.11	0.09
30/06/2024	-	-	0.22	0.057	0.09	0.08	0.13
			0.14	0.071	0.16	0.08	0.20

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 2.89 ML/day.

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 0.0 ML/day

\- Water not discharged on this day

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 31 July 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: pH, dissolved oxygen, and turbidity parameters outside the WQO were observed at some Surface EPL points; this is most likely due the weather and season including snowfall on site and up the catchments in July 2024, which increases the runoff asit melts and directly affects these parameters. Some minor exceedances in metals and nutrients during July were recorded but are within historical ranges. High nutrient concentrations around the leachate spoil emplacement areas (GF01/Lobshole) will be discussed in the leachate results discussion.
Reservoir Results: In general, the results in the reservoir are mostly within the WQO. Some minor exceedances in EC and nutrients are observed, noting that the exceedances are close to the WQO range and within historocal ranges.
Discharge Results: FGJV is committed to mitigating environmental impacts, so the Environmental Team controls the water discharge into the reservoir, ensuring the parameters are within the WQO. There were no discharges during July as the pH wasn't within the WQO.
Groundwater Results: Exceedances were observed in pH in Upstream and Downstream EPL points at Lobshole, Tantangara and Marica due to the rain and snowfall events in July 2024. Minor exceedances in metals are observed, and some high nutrient concentrations were also observed close to the spoil emplacement areas; the higher exceedances are located downstream of GF01 emplacement, and upstream and downstream of Lobs Hole and Tantangara. The spoil emplacement EPL points (Surface and groundwater) have been heavily monitored with weekly comprehensive sampling, as well as some different actions, including groundwater extraction and treatment, spoil emplacement permit review, and meetings with construction to keep working on improvements. FGJV is committed to taking all possible actions to mitigate the environmental impact.
Leachate results: Some minor exceedances in pH, EC, DO and turbidity. Exceedances in Nitrogen, especially in EPL 24, EPL52 (Surface/Lobshole), EPL 56, EPL 58, EPL 95, 96 (Groundwater/GF01), EPL 84, EPL 85 and EPL 86 (Main Yard), are under investigation with weekly comprehensive sampling. However, it is noted that for July 2024, the concentrations for (NOx) and Nitrogen (Total) for EPL 24, 52, and 55 decreased compared to the June 2024 results. FGJV is working on different actions, such as borehole purge, sediment and erosion control improvements, and groundwater extraction and treatment to minimise the impact.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-31 July 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physicochemical				3/07/2024	3/07/2024	3/07/2024	27/07/2024	27/07/2024	27/07/2024	2/07/2024	2/07/2024	26/07/2024	26/07/2024	26/07/2024	26/07/2024	26/07/2024	26/07/2024	26/07/2024	23/07/2024	23/07/2024	23/07/2024	23/07/2024	23/07/2024	23/07/2024	23/07/2024	23/07/2024
pH	pH Unit	-	6.5-8	8	8.21	6.58	5.8	5.93	6.19	5.52	6.15	6.8	6.76	6.64	6.6	6.39	6.8	7.3	5.92	6.64	6.35	7.19	6.72	6.14	7.34	6.7
Electrical Conductivity	µS/cm	-	30-350	219	185	703	26.3	17.1	59.2	27.6	51.5	599	518	2170	470	269	674	250	330	253	79	236	157	428	1030	388
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	148	144	211	213.9	178.3	237.7	231	219.2	185	87	67	180	182	19	154	203	66	327	39	85	339	267	185
Temperature	°C	-	No Water Quality Objective Value	13.49	12.16	14.7	11.7	10.8	11.6	10.5	10.1	14.89	14.37	15.17	15.71	14.45	15.6	12.81	13.78	14.55	13.48	13.75	13.68	15.64	15.01	14.54
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	27.5	20.4	27.2	88.3	82.3	67.1	61.7	62.5	24.9	50.2	16.7	109	65.4	95	45.4	53.1	20.5	71.7	34.4	40.3	55.4	61	40.1
Turbidity	NTU	-	No Water Quality Objective Value	18.5	168	38	15.11	11.77	25.4	31.24	5.96	24.2	163	8.4	110	140	47.9	34.5	417	52.1	268	332	131	2.8	417	136
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	45	82	6	25	52	40	304	42	17	511	11	194	98	168	74	780	85	343	365	228	9	380	179
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	134	119	179	<1	2	26	13	27	304	309	1,190	112	84	129	52	21	121	29	116	81	116	419	134
Nutrients																										
Ammonia as N	µg/L	5	13	10	20	40	<10	10	<10	<10	60	40	60	100	<10	10	140	20	20	90	10	30	30	10	<10	<10
Nitrite + Nitrate as N (Nox)	µg/L	10	15	<10	330	29800	1170	140	420	20	30	<10	<10	<10	4430	2829	<10	310	3110	<0.01	40	<0.01	10	20400	46700	260
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	100	<100	8000	100	100	200	<100	<100	300	800	200	700	700	300	100	<1000	400	<100	<1000	500	2800	4200	<100
Nitrogen (Total)	µg/L	10	250	100	300	37800	1300	200	600	<100	<100	300	800	200	5100	3500	300	400	3100	400	<100	<1000	500	23200	50900	300
Reactive Phosphorus	µg/L	1	15	3	6	8	<1	<1	14	19	19	4	5	3	9	3	9	6	5	37	3	68	5	7	10	10
Phosphorus (Total)	µg/L	5	20	<10	40	10	20	70	100	120	80	150	2050	<10	90	90	40	40	430	250	80	380	90	30	20	100
Inorganics																										
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																										
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<7	<2	<1	<1	<1	<2	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals																										
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	8	75	<5	10	<5	<5	<5	<5	8	<5	<5	<5	43	<5	<5	<5	<5	<5	<5	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	1090	2410	481	1100	1640	3210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic (dissolved)	µg/L	1	0.8	<0.2	1.1	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	1.9	3.1	2.7	2.5	<0.2	11.1	0.2	<0.2	0.2	<0.2	20.8	0.8	1.4	0.3	0.4
Arsenic (total)	µg/L	1	No Water Quality Objective Value	0.4	2.1	0.4	0.2	0.5	0.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium (III+VI) (dissolved)	µg/L	1	0.01	<0.2	<0.2	10.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	14	0.6	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	0.4	1.9	<0.2
Chromium (III+VI) (total)	µg/L	1	No Water Quality Objective Value	3.4	5.5	12.1	1.5	1.9	3.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper (dissolved)	µg/L	1	1	2.1	<0.5	1.3	<0.5	0.6	5	0.6	<0.5	0.5	0.7	<0.5	1.9	<0.5	3.6	22.7	0.8	<0.5	<0.5	<0.5	<0.5	14.3	0.8	<0.5
Copper (total)	µg/L	1	No Water Quality Objective Value	10.4	28.4	2.2	2.6	6.2	22.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron (dissolved)	µg/L	50	300	<2	<2	<2	4	61	<2	<2	<2	<2	<2	1080	2	<2	<2	3	57	3	<2	<2	<2	<2	<2	<2
Iron (total)	µg/L	50	No Water Quality Objective Value	1430	2740	375	482	1070	2050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead (dissolved)	µg/L	1	1	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	<0.1	<0.1	<0.1	<0.1	0.1
Lead (total)	µg/L	1	No Water Quality Objective Value	8.4	7.9	5	0.4	1.2	2.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese (dissolved)	µg/L	5	1,200	2.6	0.6	16.7	2.2	1	2.7	8	19.3	182	172	339	30.9	66.8	171	14.1	16.4	571	94.8	299	555	277	14.6	478
Manganese (total)	µg/L	5	No Water Quality Objective Value	77.2	193	24.2	20.8	50.8	76.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel (dissolved)	µg/L	1	8	<0.5	<0.5	2	<0.5	<0.5	0.7	1.1	<0.5	16.7	3.8	7.2	1.9	1.8	5.4	1.7	3.4	0.7	2.5	1.4	1.8	8.2	2.4	3
Nickel (total)	µg/L	1	No Water Quality Objective Value	4.1	9	3.4	1.6	1.6	4.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver (dissolved)	µg/L	5	0.02	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	5	No Water Quality Objective Value	<0.01	0.04	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (dissolved)	µg/L	5	2.4	3	<1	6	2	<1	1	6	<1	4	3	5	13	<1	4	<1	10	2	15	<1	5	17	2	32
Zinc (total)	µg/L	5	No Water Quality Objective Value	18	18	15	5	4	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 July 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				17/7/24	17/7/24	30/7/24	31/7/24	31/7/24	30/7/24	30/7/24	30/7/24	30/7/24	30/7/24
pH	pH Unit	-	6.5-8	7.79	7.78	7.17	6.7	8.56	7.07	7.01	7.17	7.63	7.75
Electrical Conductivity	µS/cm	-	20-30	35	34	10	15.6	22.4	12.1	10.3	10.1	17.8	17.6
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	247	260	148	44.4	29.8	176.7	148	149	150.9	135.6
Temperature	°C	-	No Water Quality Objective Value	8.83	8.87	2.2	3.7	3.7	3.7	2.4	2.3	4.2	5
Dissolved Oxygen	% saturation	-	90-110	63.2	83.2	90.9	92.8	93.5	90.4	93.1	92.8	91.5	90.1
Turbidity	NTU	-	1-20	0.5	0.5	3.89	5.37	6.33	5.63	7.54	115.98	3.76	4.6
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	8	<5	<5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	14	14	9	9	12	9	2	9	9	9
Nutrients													
Ammonia as N	µg/L	5	10	20	<10	30	60	50	40	50	<100	70	70
Nitrite + Nitrate as N (NOx)	µg/L	10	10	70	120	20	100	60	30	10	10	40	40
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	100	<100	200	300	300	300	200	100	400	400
Nitrogen (Total)	µg/L	10	350	200	100	200	400	400	300	200	100	400	400
Reactive Phosphorus	µg/L	1	5	2	1	<1	15	3	<1	<1	1	1	3
Phosphorus (Total)	µg/L	5	10	30	80	<10	30	<10	40	20	20	20	20
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals													
Aluminium (dissolved)	µg/L	5	55	<5	<5	28	25	24	36	25	23	18	21
Arsenic (dissolved)	µg/L	0.2	13	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	7	7	55	62	63	68	40	39	56	58
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	06	<0.5	21.9	9.2	8.3	19.5	3.8	3.2	7.1	6.4
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	1	<1	<1	-	-	-	-	-	-	<1
Biochemical Oxygen Demand	mg/L	2	1/5^	8	4	<2	-	-	-	-	-	-	<2

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 July 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL59	EPL60	EPL61	EPL62	EPL63	EPL64	EPL65	EPL66	EPL67	EPL71	EPL77	EPL78	EPL79	EPL84	EPL85	EPL86
Field				14/07/24	14/07/24	14/07/24	14/07/24	14/07/24	14/07/24	14/07/24	14/07/24	19/07/24	19/07/24	10/07/24	22/07/24	22/07/24	22/07/24	22/07/24	22/07/24	22/07/24	22/07/24	3/07/24			3/07/24									27/07/24		27/07/24				17/07/24	17/07/24	17/07/26
pH	-	-	6.5-8	7.93	8.28	8.3	8.84	8.26	8.31	8.4	8.88	7.71	7.52	7.05	6.72	6.7	7.34	7.13	6.83	6.97	7.16	8.54	Dry	Dry	8.03	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	6.62	Dry	6.41	Not triggered	Not triggered	Not triggered	9.33	8.96	8.5
Electrical Conductivity	uS/cm	-	30-350	96	109	102	99	91	94	95	100	300	22.7	8.2	35	20	25	11	11	40	42	1021	Dry	Dry	1001	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	10.6	Dry	24	Not triggered	Not triggered	Not triggered	638	462	1004
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	268	262	263	240	255	263	263	245	250	123.3	132.7	289	302	263	233	250	277	264	150	Dry	Dry	158	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	188.2	Dry	342	Not triggered	Not triggered	Not triggered	226	245	259
Temperature	°c	-	No Water Quality Objective Value	8.52	7.08	10.18	8.4	6.97	7.72	7.14	8.5	8.05	3.4	3.1	5.16	5.39	4.46	3.22	3.55	7.53	8.09	9.81	Dry	Dry	10.36	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	9.1	Dry	8.6	Not triggered	Not triggered	Not triggered	8.93	10.2	11.2
Dissolved Oxygen	% saturation	-	90-110	98.5	81.9	88.5	88.5	82.3	78.8	78.9	75.5	70	90.2	88.3	83.6	73.6	91.7	89.8	90.1	80	89.9	91.2	Dry	Dry	74.3	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	100.9	Dry	169.6	Not triggered	Not triggered	Not triggered	98.1	43.1	51.1
Turbidity	NTU	-	2-25	1.9	5.7	0.9	1.5	1.6	1.7	0.9	1.5	6.6	4.99	3.55	7.8	5	2.2	5.6	4.9	9.1	10.3	330	Dry	Dry	65.70	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	5.56	Dry	117.00	Not triggered	Not triggered	Not triggered	1,000	196	45.2
Laboratory analytes																																									
TSS	mg/L	5	No Water Quality Objective Value	<5	10	<5	<5	<5	<5	<5	<5	64	<5	<5	16	12	6	16	17	12	14	119	Dry	Dry	20	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<5	Dry	22	Not triggered	Not triggered	Not triggered	366	19	19
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	46	53	51	48	46	48	48	48	63	9	5	8	7	<1	<1	<1	13	11	108	Dry	Dry	152	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<1	Dry	16	Not triggered	Not triggered	Not triggered	44	105	324
Nutrients				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia as N	ug/L	5	13	<10	<10	<10	<10	<10	<10	20	30	<30	<10	<10	<10	<10	90	<10	140	<10	30	3120	Dry	Dry	360	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<10	Dry	<30	Not triggered	Not triggered	Not triggered	720	60	<10
Nitrite + Nitrate as N (NOx)	ug/L	10	15	<10	<10	70	20	40	30	70	40	8140	10	10	70	20	20	20	20	70	70	12300	Dry	Dry	14700	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<10	Dry	<30	Not triggered	Not triggered	Not triggered	3300	4500	13800
Kjeldahl Nitrogen Total	ug/L	10	No Water Quality Objective Value	<100	<100	<100	100	<100	<100	<100	<100	1000	<100	<100	<100	100	300	200	<100	600	700	4900	Dry	Dry	2300	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	600	Dry	<100	Not triggered	Not triggered	Not triggered	3200	800	3400
Nitrogen (Total)	ug/L	10	250	<100	<100	<100	100	<100	<100	<100	<100	9100	<100	<100	<100	100	300	200	<100	700	800	17200	Dry	Dry	17000	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	600	Dry	<100	Not triggered	Not triggered	Not triggered	6500	5400	17200
Reactive Phosphorus	ug/L	1	15	8	8	7	4	1	3	4	4	4	16	4	5	3	5	2	<0.001	3	3	14	Dry	Dry	10	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<1	Dry	4	Not triggered	Not triggered	Not triggered	2	10	5
Phosphorus (Total)	ug/L	5	20	20	40	100	40	40	20	20	40	20	30	<10	10	20	<10	<10	<10	40	80	<200	Dry	Dry	40	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	40	Dry	50	Not triggered	Not triggered	Not triggered	420	40	60
Inorganics				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	ug/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<4	Dry	<4	Not triggered	Not triggered	Not triggered	<4	<4	<4
Hydrocarbons				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and Grease	mg/L	5	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	<1	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<1	Dry	<1	Not triggered	Not triggered	Not triggered	<1	<1	<1
Metals				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminium (dissolved)	ug/L	5	27	8	<5	6	8	8	7	9	8	6	<5	<5	48	66	12	25	26	95	115	6	Dry	Dry	<5	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	92	Dry	10	Not triggered	Not triggered	Not triggered	10	<5	<5
Aluminium (total)	ug/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6490	Dry	Dry	1860	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	545	Dry	-	-	-	-	-	-	-
Arsenic (dissolved)	ug/L	1	0.8	0.4	<0.2	0.4	0.4	0.4	0.3	0.6	0.4	0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.3	0.4	2.2	Dry	Dry	0.7	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	0.2	Dry	<0.2	Not triggered	Not triggered	Not triggered	2.9	1.5	2
Arsenic (total)	ug/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	Dry	Dry	1.4	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	92	Dry	-	-	-	-	-	-	-
Chromium (III+VI) (dissolved)	ug/L	1	0.01	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.4	51.3	Dry	Dry	26.5	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	0.2	Dry	<0.2	Not triggered	Not triggered	Not triggered	20.6	12.2	1.8
Chromium (III+VI) (total)	ug/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	67.8	Dry	Dry	31.4	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	0.5	Dry	-	-	-	-	-	-	-
Copper (dissolved)	ug/L	1	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.6	1.3	Dry	Dry	1.1	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	0.9	Dry	<0.5	Not triggered	Not triggered	Not triggered	1.6	0.7	1.9
Copper (total)	ug/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.5	Dry	Dry	4	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	1.3	Dry	-	-	-	-	-	-	-
Iron (dissolved)	ug/L	50	300	17	7	14	18	15	15	17	19	20	<2	<2	60	64	37	33	34	198	217	3	Dry	Dry	<2	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	73	Dry	21	Not triggered	Not triggered	Not triggered	8	<2	<2
Iron (total)	ug/L	50	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8850	Dry	Dry	2210	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	233	Dry	-	-	-	-	-	-	-
Lead (dissolved)	ug/L	1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	<0.1	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<0.1	Dry	<0.1	Not triggered	Not triggered	Not triggered	<0.1	<0.1	<0.1
Lead (total)	ug/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	Dry	Dry	7	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	0.2	Dry	-	-	-	-	-	-	-
Manganese (dissolved)	ug/L	5	1,200	0.8	1.6	1.2	2.4	0.8	0.9	1.1	2.3	37.4	0.9	<0.5	2.1	1	<0.5	2	2	7	5.2	5.2	Dry	Dry	1.2	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	0.6	Dry	8.4	Not triggered	Not triggered	Not triggered	<0.5	<0.5	3.6
Manganese (total)	ug/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	206	Dry	Dry	77.2	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	5.3	Dry	-	-	-	-	-	-	-
Nickel (dissolved)	ug/L	1	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7	0.8	Dry	Dry	0.7	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<0.5	Dry	0.8	Not triggered	Not triggered	Not triggered	0.6	<0.5	0.8
Nickel (total)	ug/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	Dry	Dry	6.2	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<0.5	Dry	-	-	-	-	-	-	-
Silver (dissolved)	ug/L	5	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<0.01	Dry	<0.01	Not triggered	Not triggered	Not triggered	<0.01	<0.01	<0.01
Silver (total)	ug/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02	Dry	Dry	<0.01	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<0.01	Dry	-	-	-	-	-	-	-
Zinc (dissolved)	ug/L	5	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2	1	Dry	Dry	1	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	<1	Dry	1	Not triggered	Not triggered	Not triggered	<1	<1	<1
Zinc (total)	ug/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	Dry	Dry	15	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	Not triggered	2	Dry	-	-	-	-	-	-	-

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 July 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				31/07/2024							23/07/2024
Inflow[#]	ML/day	-	-	-	0.0000	0.2710	0.0471	0.1529	0.0713	0.1326	-
Outflow[#]	ML/day	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	pH Unit	-	6.5-8.5	6.52	-	-	-	-	-	-	5.5
Electrical Conductivity	µS/cm	-	700 (EPL 41) / 200 (EPL 50)	72	-	-	-	-	-	-	2.6
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	257	-	-	-	-	-	-	189.5
Temperature	°C	-	15	8.85	-	-	-	-	-	-	7.3
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	86.9	-	-	-	-	-	-	95.4
Turbidity	NTU	-	<25	7.9	-	-	-	-	-	-	1.67
Laboratory analytes											
Total suspended solids	mg/L	5	5/10	<5	-	-	-	-	-	-	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Nutrients											
Ammonia as N	µg/L	5	200/2000^	30	-	-	-	-	-	-	30
Kjeldahl Nitrogen Total	µg/L	10	No Water Quality Objective Value	200	-	-	-	-	-	-	200
Nitrogen (Total)	µg/L	10	350/-^	300	-	-	-	-	-	-	200
Reactive Phosphorus	µg/L	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Phosphorus (Total)	µg/L	5	100/300^	<10	-	-	-	-	-	-	<10
Inorganics											
Cyanide Total	µg/L	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	7.00
Hydrocarbons											
Oil and Grease	mg/L	5	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	µg/L	5	55	<5	-	-	-	-	-	-	<5
Arsenic (dissolved)	µg/L	0.2	13	<0.2	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	0.9	-	-	-	-	-	-	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	µg/L	2	300	<2	-	-	-	-	-	-	<2
Lead (dissolved)	µg/L	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	-	-	-	-	-	-	<0.5
Nickel (dissolved)	µg/L	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	µg/L	1	8	<1	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	CFU/100mL	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	<5	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

[#] Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 July 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/07/2024	-	-	0.17	0.071	0.12	0.77	0.20
2/07/2024	-	-	0.23	0.071	0.15	0.08	0.08
3/07/2024	-	-	0.16	0.052	0.08	0.07	0.19
4/07/2024	-	-	0.26	0.047	0.16	0.08	0.42
5/07/2024	-	-	0.20	0.059	0.25	0.03	0.19
6/07/2024	-	-	0.20	0.050	0.17	0.07	0.26
7/07/2024	-	-	0.20	0.049	0.17	0.08	0.37
8/07/2024	-	-	0.21	0.046	0.17	0.08	0.44
9/07/2024	-	-	0.32	0.048	0.23	0.08	0.43
10/07/2024	-	-	0.33	0.049	0.08	0.08	0.51
11/07/2024	-	-	0.10	0.055	0.15	0.08	0.46
12/07/2024	-	-	0.21	0.063	0.17	0.09	0.19
13/07/2024	-	-	0.23	0.051	0.18	0.08	0.28
14/07/2024	-	-	0.21	0.045	0.17	0.13	0.25
15/07/2024	-	-	0.32	0.045	0.18	0.04	0.06
16/07/2024	-	-	0.32	0.062	0.19	0.08	0.48
17/07/2024	-	-	0.21	0.048	0.16	0.08	0.76
18/07/2024	-	-	0.21	0.046	0.15	0.08	0.79
19/07/2024	-	-	0.18	0.064	0.21	0.16	0.78
20/07/2024	-	-	0.24	0.069	0.18	0.08	0.71
21/07/2024	-	-	0.29	0.053	0.18	0.07	0.45
22/07/2024	-	-	0.27	0.057	0.14	0.08	0.82
23/07/2024	-	-	0.35	0.051	0.15	0.09	0.36
24/07/2024	-	-	0.26	0.054	0.24	0.08	0.87
25/07/2024	-	-	0.25	0.042	0.19	0.06	0.76
26/07/2024	-	-	0.30	0.085	0.21	0.08	0.87
27/07/2024	-	-	0.27	0.055	0.20	0.08	0.49
28/07/2024	-	-	0.44	0.053	0.19	0.09	0.88
29/07/2024	-	-	0.28	0.039	0.24	0.08	0.39
30/07/2024	-	-	0.21	0.048	0.20	0.16	0.40
31/07/2024	-	-	0.17	0.068	0.21	0.09	0.03

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 0.0 ML/day.

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 0.0 ML/day

\- Water not discharged on this day

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 31 Aug 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuszko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: Elevated in-situ results are noted to occur sporadically throughout the reporting period. Influences such as rainfall events, location specific water level reduction and increasing surface temperatures are all attributed to such reporting fluctuations. Specifically , elevated EC and turbidity results recorded near the conclusion of the reporting period are considered impacted from rainfall recorded within the days preceding sampling. Elevated nutrient concentrations are noted to primarily comprise of leachate basin locations and will be discussed in the leachate results discussion.
Reservoir Results: Results are generally within acceptability ranges with nutrient concentrations noted to contain influences from both organic and inorganic speciation. Elevations in the in-situ parameters are noted to be influenced by recent rainfall events within the immediate days prior to sampling.
Discharge Results: FGJV is committed to mitigating environmental impacts, so the Environmental Team controls the water discharge into the reservoir, ensuring the parameters are within the WQO.
Groundwater Results: Groundwater analytical results comprise varying degrees of analytical fluctuations. In-situ results such a pH are reported as below minimum acceptability in Tantangara, and greater than acceptability in some Lobs Hole locations. Comprehensive nutrient results comprise locations within the vicinity of spoil emplacement and are noted to contain some influence from organic speciation. Locations with elevated concentrations are subject to investigation conidiations and additional management controls. These locations are closely scrutinised with results reviewed weekly prior to data-driven management control implementation.
Leachate results: Elevated concentrations of in-situ and comprehensive analytes are observed and expected within the engineered containment systems such as the leachate basins. These containment controls are subject to weekly inspections through our digitised inspection system, accessible all supervisors, managers, advisors and personnel responsible for their management.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01-31 Aug 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*
Physiochemical			
pH	pH Unit	-	6.5-8
Electrical Conductivity	µS/cm	-	30-350
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value
Temperature	°C	-	No Water Quality Objective Value
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value
Turbidity	NTU	-	No Water Quality Objective Value
Laboratory analytes			
TSS	mg/L	5	No Water Quality Objective Value
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value
Nutrients			
Ammonia as N	µg/L	10	13
Nitrite + Nitrate as N (NOx)	µg/L	10	15
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value
Nitrogen (Total)	µg/L	100	250
Reactive Phosphorus	µg/L	1	15
Phosphorus (Total)	µg/L	10	20
Inorganics			
Cyanide Total	µg/L	4	4
Hydrocarbons			
Oil and Grease	mg/L	1	5
Metals			
Aluminium (dissolved)	µg/L	5	27
Aluminium (total)	µg/L	5	No Water Quality Objective Value
Arsenic (dissolved)	µg/L	0.2	0.8
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value
Copper (dissolved)	µg/L	0.5	1
Copper (total)	µg/L	0.5	No Water Quality Objective Value
Iron (dissolved)	µg/L	2	300
Iron (total)	µg/L	2	No Water Quality Objective Value
Lead (dissolved)	µg/L	0.1	1
Lead (total)	µg/L	0.1	No Water Quality Objective Value
Manganese (dissolved)	µg/L	0.5	1,200
Manganese (total)	µg/L	0.5	No Water Quality Objective Value
Nickel (dissolved)	µg/L	0.5	8
Nickel (total)	µg/L	0.5	No Water Quality Objective Value
Silver (dissolved)	µg/L	0.01	0.02
Silver (total)	µg/L	0.01	No Water Quality Objective Value
Zinc (dissolved)	µg/L	1	2.4
Zinc (total)	µg/L	1	No Water Quality Objective Value

	EPL1	EPL2	EPL4	EPL25	EPLS6	EPLS7	EPLS8	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
	4/08/2024	4/08/2024	3/08/2024	3/08/2024	5/08/2024	5/08/2024	5/08/2024	3/08/2024	11/08/2024	3/08/2024	4/08/2024	4/08/2024	2/08/2024	2/08/2024	2/08/2024	2/08/2024	2/08/2024	2/08/2024	2/08/2024	5/08/2024	5/08/2024	5/08/2024	5/08/2024	5/08/2024	5/08/2024	5/08/2024	5/08/2024
pH	8.2	6.71	6.98	7.83	7.94	8.16	6.48	5.9	6.07	6.23	5.53	6.1	7.07	6.82	6.92	8.06	6.48	7.15	7.66	6.19	6.93	7.34	7.28	6.93	6.4	6.75	6.92
Electrical Conductivity	736	384	365	861	186	171	532	27.6	18.2	58.5	27.7	48.6	511	467	1890	327	293	574	263	154	179	68	192	130	338	854	318
Oxidation Reduction Potential	139	35	2	-76	301	285	384	218.7	185.9	174.4	234.6	241.7	68	70	126	183	243	7	209	240	246	277	134	158	279	256	209
Temperature	11.25	11.85	12.7	13.34	13.06	13.48	14.9	10.7	9.4	9.5	11.2	10.4	15.96	11.75	15.48	16.31	11.22	13.52	14.4	13.18	13.81	8.66	12.85	12.15	14.08	13.17	13.33
Dissolved Oxygen	30.8	23.8	55.1	29.1	26.3	24	46.2	92.9	86.3	75.9	56.5	70.7	28.4	21.4	25.3	56.3	46.6	74.6	46.2	59	29.8	99.8	41	20	38.1	66.5	33.1
Turbidity	1000	1000	50	218	2.3	87.3	8.4	15.19	7.43	36.9	6.24	18.37	37.6	218	7.7	17.5	384	3.8	190	444	13.9	14.2	244	34.1	13.8	316	42.3
TSS	35	110	12100	1430	58	102	<5	42	<5	57	94	770	16	174	26	202	350	12	1410	1620	153	43	454	34	120	758	184
Hardness as CaCO3	229	125	174	206	124	103	220	2	2	26	13	22	317	327	1160	89	75	122	50	26	113	26	124	80	128	484	140
Ammonia as N	10	180	340	150	<10	20	10	20	100	30	<10	<10	70	30	100	20	<10	130	<10	<10	50	<10	70	<10	30	<10	<10
Nitrite + Nitrate as N (NOx)	130	180	3500	<10	30	56	42900	1190	160	460	20	40	<10	<10	40	6350	2060	<10	270	670	30	50	100	40	17300	48400	300
Kjeldahl Nitrogen Total	100	700	3800	2200	100	200	5100	200	200	200	<100	<100	100	200	300	1100	2100	300	300	300	200	<100	300	<100	2900	4900	200
Nitrogen (Total)	200	900	7300	2200	100	800	48000	1400	400	700	<100	<100	100	200	300	7400	4200	300	600	1000	200	<100	400	<100	20200	53300	500
Reactive Phosphorus	6	38	28	-	5	4	5	3	1	16	-	17	8	5	4	<1	6	10	7	10	19	2	64	5	5	4	6
Phosphorus (Total)	70	120	1480	960	60	50	<100	10	10	130	40	40	40	37	20	40	530	90	180	390	100	30	730	40	50	520	100
Cyanide Total	-	-	-	-	<4	<4	<4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Oil and Grease	-	-	-	-	<1	<1	<1	<1	<1	<1.0	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Aluminium (dissolved)	<5	<5	<5	<5	<5	<5	<5	<5	22	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<0.5	<5
Aluminium (total)	-	-	-	-	1.11	2620	39	1660	672	2580	-	4630	121	2310	196	6860	9290	164	15300	29100	2070	414	8750	508	1850	11100	3540
Arsenic (dissolved)	0.5	1.1	5.5	1	<2	1.1	<0.2	130	<0.2	<0.2	<0.2	<0.2	3.1	1.4	0.7	1.5	0.2	12.6	0.2	<0.2	0.4	<0.2	18.7	0.5	1.1	0.2	0.3
Arsenic (total)	-	-	-	-	4	2.5	<0.2	<0.2	<0.2	0.3	-	-	89.6	130	6.7	12.9	3.1	56.6	13.1	12.6	4.1	0.5	39.3	7.4	7.1	25	10.8
Chromium (III+VI) (dissolved)	<0.2	<0.2	<0.2	<0.2	2	<0.2	0.9	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	4.1	1.4	<0.2	<0.2	<0.2	<0.2	0.2	0.3	<0.2	<0.2	0.7	<0.2
Chromium (III+VI) (total)	-	-	-	-	3.6	5.8	1.1	1.4	0.7	3.3	-	-	2.3	4.7	0.3	27.4	23.4	2.1	35.8	79.9	4.5	1.1	23.7	1.4	5.6	38	11.9
Copper (dissolved)	1.1	2.4	2.5	<0.5	5.9	0.9	<0.5	0.7	<0.5	2.9	1.4	<0.5	<0.5	<0.5	<0.5	1.7	<0.5	2.4	3.9	<0.5	<0.5	<0.5	<0.5	<0.5	96.6	0.7	<0.5
Copper (total)	-	-	-	-	60.5	58.4	0.9	4.7	1.9	90	-	-	1.2	5	<0.5	27.7	14	35.8	413	91.7	2.3	1.3	14.3	0.6	467	51.4	7.6
Iron (dissolved)	49	<2	3	483	<2	<2	<2	<2	17	<2.0	<2.0	<2	3	11	9	<2	3	17	9	<2	<2	<2	<2	<2	<2	<2	<2
Iron (total)	-	-	-	-	1430	2940	33	668	351	1840	-	-	3830	13100	751	9630	11200	1300	23900	46300	3560	380	14300	2090	2890	37100	7800
Lead (dissolved)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	2.4	<0.1	<0.1	<0.1	<0.1	0.1
Lead (total)	-	-	-	-	5.8	9	4.5	0.4	0.3	2	-	-	0.2	5	0.3	12.5	13.9	2.3	19	176	21.3	16.4	45	2.7	10.1	381	160
Manganese (dissolved)	200	99.2	433	1250	3.2	14.1	13.3	2	<0.5	2.3	6.6	12.4	184	206	328	1.14	27.6	175	19.6	23.8	489	53.8	268	531	424	1.7	478
Manganese (total)	-	-	-	-	72.1	260	14.6	27.7	7.5	66.3	-	-	224	252	354	240	228	242	409	2310	658	76.8	680	663	610	2180	881
Nickel (dissolved)	2.2	4.2	1.3	6.8	<0.5	<0.5	3.4	0.9	<0.5	<0.5	1.2	<0.5	17.5	2.7	8.6	4.8	1.5	3.8	2	4.5	0.8	4.5	1.7	1.7	13.2	4	3.5
Nickel (total)	-	-	-	-	4.1	10.1	3.8	3	0.7	4.3	-	-	24.6	10.7	10.2	31	31.7	7	54.2	193	7.9	6.5	41.5	4.4	22.4	75.2	24.6
Silver (dissolved)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	-	-	-	-	<0.01	<0.01	<0.01	-	<0.01	-	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.23	0.03	<0.01	0.07	<0.01	0.02	0.62	0.12
Zinc (dissolved)	3	<1	<1	24	3	<1	9	1	4	<1.0	6	<1	3	<1	4	5	<1	2	<1	24	<1	35	<1	4	33	2	29
Zinc (total)	-	-	-	-	20	22	11	5	1	8	-	-	18	20	8	72	52	8	88	529	30	48	126	31	56	266	404

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 Aug 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				18/8/24	18/8/24	27/8/24	27/8/24	27/8/24	27/8/24	27/8/24	27/8/24	27/8/24	27/8/24
pH	pH Unit	-	6.5-8	6.73	6.73	6.25	7.05	7.13	6.7	6.59	6.62	7.13	7.09
Electrical Conductivity	µS/cm	-	20-30	49	49	15.2	14.7	14.7	13	15.9	15.8	16.6	15.6
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	-5	178	286.5	303.1	289.9	307.9	279.6	278.1	275	270
Temperature	°C	-	No Water Quality Objective Value	10.72	10.72	8.6	8.4	8.5	8.9	8.8	8.7	9	9.3
Dissolved Oxygen	% saturation	-	90-110	79.5	79.5	88.1	92.8	94.1	94.1	87.8	87.9	94.2	94.7
Turbidity	NTU	-	1-20	2.3	2.3	33.11	3.88	3.53	10.54	36.77	36.48	8.84	10.04
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	30	<5	<5	<5	34	31	23	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	17	17	2	2	2	2	2	2	2	2
Nutrients													
Ammonia as N	µg/L	10	10	<10	<10	30	120	20	20	50	40	100	20
Nitrite + Nitrate as N (NOx)	µg/L	10	10	30	30	40	<10	<10	<10	100	80	20	20
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	100	100	800	300	200	300	600	600	300	300
Nitrogen (Total)	µg/L	100	350	100	100	800	300	200	300	700	700	300	300
Reactive Phosphorus	µg/L	1	5	<1	<1	5	4	2	3	7	6	5	4
Phosphorus (Total)	µg/L	10	10	360	10	50	<10	10	<10	60	40	40	<10
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	1	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Metals													
Aluminium (dissolved)	µg/L	5	55	7	6	145	20	19	24	127	151	24	24
Arsenic (dissolved)	µg/L	0.2	13	0.3	0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	0.3	0.3	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	14	11	177	55	54	60	160	183	63	59
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	4.1	2	19.1	0.8	0.7	0.9	15.6	19	1	1
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	1	<1	1	-	-	-	-	-	-	1
Biochemical Oxygen Demand	mg/L	2	1/5^	**	**	6	-	-	-	-	-	-	2

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

** Samples not analysed for this location - incident raised.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 Aug 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL66	EPL67	EPL71	EPL84	EPL85	EPL86
Field				3/08/24	3/08/24	3/08/24	3/08/24	3/08/24	3/08/24	3/08/24	3/08/24	2/08/24	10/08/24	3/08/24	12/08/24	12/08/24	12/08/24	12/08/24	12/08/24	12/08/24	12/08/24	6/08/24	Dry	Dry	5/08/24	11/08/24	27/08/24	4/08/24	29/08/24	29/08/24	29/08/24
pH	-	-	6.5-8	7.9	7.91	7.89	7.33	7.83	7.68	7.76	7.59	7.8	7.23	6.65	7.84	7.1	7.85	7.91	7.74	7.34	7.57	8.33	Dry	Dry	8.05	6.67	6.51	6.84	8.2	9.31	7.95
Electrical Conductivity	µS/cm	-	30-350	51	36	66	67	52	46	50	66	194	27	19.8	31	491	32	15	15	56	52	615	Dry	Dry	584	16.8	15.9	33	984	431	1080
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	133	222	230	268	206	248	254	257	164	231	226.5	99	106	107	111	109	124	117	307	Dry	Dry	306	150.4	283.1	226.5	68	60	95
Temperature	°C	-	No Water Quality Objective Value	6.38	5.78	8.27	7.05	4.71	5.05	5.35	6.56	11.38	4.13	7.6	6.8	8.41	7.14	5.6	5.54	10.08	10.72	11.46	Dry	Dry	10.8	6.2	8.8	6.4	13.74	13.59	16.21
Dissolved Oxygen	% saturation	-	90-110	88	96.4	103.6	99.1	102.7	101.3	101	97.3	76.2	90.3	90.7	90.1	105.2	92.1	93.7	84.3	75.7	79.5	104	Dry	Dry	95.8	91.3	87.9	94.9	72.3	76.1	88.1
Turbidity	NTU	-	2-25	4.6	4.3	17.7	5.8	0.9	3	0.7	0	6	0	3.2	6.3	7	6.8	4.8	4.7	6.6	9.6	9.1	Dry	Dry	3.50	3.22	37.47	23.6	282	229	405
Laboratory analytes																															
TSS	mg/L	5	No Water Quality Objective Value	<5	16	<5	<5	<5	20	<5	<5	6	6	<5	9	<5	7	<5	<5	5	8	6	Dry	Dry	<5	50	30	6	532	77	44
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	33	19	24	33	31	31	33	33	63	5	9	7	7	2	<1	<1	17	17	240	Dry	Dry	208	2	2	16	64	56	263
Nutrients																															
Ammonia as N	µg/L	10	13	<10	<10	<10	<10	<10	<10	<10	<10	<100	<100	<100	<10	<10	30	<10	<10	<10	20	10	Dry	Dry	140	60	40	<10	580	50	60
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	50	10	<10	<10	<10	10	10600	10	50	<10	<10	30	<10	<10	80	80	37000	Dry	Dry	32400	70	40	<10	5500	4100	19100
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	<100	<100	<100	<100	300	100	<100	<0.1	1.9	0.2	0.1	<100	<100	200	<100	<100	300	400	4600	Dry	Dry	3100	600	600	<100	3100	4000	300
Nitrogen (Total)	µg/L	100	250	<100	<100	<100	<100	300	100	<100	<100	12500	200	200	<100	<100	200	<100	<100	400	500	41600	Dry	Dry	35500	700	600	<100	8600	8100	19400
Reactive Phosphorus	µg/L	1	15	10	6	6	9	8	8	6	6	4	8	4	1	1	2	<1	<1	<1	5	2	Dry	Dry	2	3	6	5	11	5	5
Phosphorus (Total)	µg/L	10	20	10	20	<10	<10	60	20	10	10	20	10	10	10	20	20	20	10	30	50	10	Dry	Dry	10	40	30	40	530	120	120
Inorganics																															
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	<4	<4	4	<4	<4	<4
Hydrocarbons																															
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	Dry	Dry	<1	<1	<1	<1	<1.0	<1.0	<1
Metals																															
Aluminium (dissolved)	µg/L	5	27	12	5	13	12	14	14	14	14	<5	8	8	11	11	22	11	10	40	56	<5	Dry	Dry	<5	30	128	8	10	29	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	311	Dry	Dry	150	871	1580	1070	18700	5530	2140
Arsenic (dissolved)	µg/L	0.2	0.8	0.2	<0.2	0.2	0.2	0.2	0.2	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.3	0.8	Dry	Dry	0.3	0.2	<0/2	<0.2	3.9	3.5	1.9
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	Dry	Dry	0.3	0.5	0.5	0.4	10.5	5.3	5.2
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.2	4.6	Dry	Dry	2.7	<0.2	0.3	<0.2	51.7	52.6	7.8
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	Dry	Dry	3.1	1	2	2.1	102	66.8	11.6
Copper (dissolved)	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	<0.5	<0.5	<0.5	<0.5	1.8	0.7	2.1
Copper (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	Dry	Dry	0.6	1.4	1.4	0.9	42.1	10.1	6
Iron (dissolved)	µg/L	2	300	18	9	17	17	20	19	16	18	10	12	17	16	13	49	24	23	124	163	<2	Dry	Dry	<2	158	160	17	6	<2	<2
Iron (total)	µg/L	2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	258	Dry	Dry	133	1830	1080	1210	29000	7620	2820
Lead (dissolved)	µg/L	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Lead (total)	µg/L	0.1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	Dry	Dry	0.4	0.9	1.2	0.3	49	14.2	6.1
Manganese (dissolved)	µg/L	0.5	1,200	1	1.7	1.2	3.7	0.9	1.1	1.3	2.1	43.4	1.1	3.2	1.6	1	0.7	3.2	3.3	9.2	9.1	<0.5	Dry	Dry	1.1	61.9	16.3	7.2	2.8	<0.5	0.6
Manganese (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	Dry	Dry	7	160	41.3	25.6	743	195	101
Nickel (dissolved)	µg/L	0.5	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.7	Dry	Dry	<0.5	<0.5	<0.5	0.7	0.9	<0.5	0.7
Nickel (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	Dry	Dry	0.9	0.8	1	4.5	86.7	25.4	5.8
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	0.01	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	Dry	Dry	<1	<1	<1	3	<1	<1	<1
Zinc (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	Dry	Dry	3	4	4	<1	155	42	14

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2018), they are not pollutant limits imposed by EPL 21266.

\- Samples not required

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 Aug 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate											
Inflow#	**ML/day**	-	-	11/08/2024	11/08/2024	11/08/2024	11/08/2024	11/08/2024	11/08/2024	11/08/2024	12/08/2024
Outflow#	**ML/day**	-	4.32 (EPL 43 / 50)	-	0.0076	0.0246	0.0043	0.0176	0.0074	0.0202	-
Field				-	-	-	-	-	-	-	-
pH	**pH Unit**	-	6.5-8.5	5.7	-	-	-	-	-	-	7.91
Electrical Conductivity	**µS/cm**	-	700 (EPL 41) / 200 (EPL 50)	84	-	-	-	-	-	-	36
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	178	-	-	-	-	-	-	75
Temperature	**°C**	-	15	11.71	-	-	-	-	-	-	9.65
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	53.2	-	-	-	-	-	-	69.4
Turbidity	**NTU**	-	<25	4.5	-	-	-	-	-	-	5.8
Laboratory analytes											
Total suspended solids	**mg/L**	5	5/10	<5							<5
Hardness as $CaCO_3$ (filtered)	**mg/L**	1	No Water Quality Objective Value	<1							<1
Nutrients											
Ammonia as N	**µg/L**	10	200/2000^	40	-	-	-	-	-	-	960
Kjeldahl Nitrogen Total	**µg/L**	100	No Water Quality Objective Value	200	-	-	-	-	-	-	1800
Nitrogen (Total)	**µg/L**	100	350/-^	300	-	-	-	-	-	-	2500
Reactive Phosphorus	**µg/L**	1	No Water Quality Objective Value	5	-	-	-	-	-	-	<1
Phosphorus (Total)	**µg/L**	10	100/300^	<10	-	-	-	-	-	-	30
Inorganics											
Cyanide Total	**µg/L**	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	**mg/L**	1	2/5^	<1	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	**µg/L**	5	55	<5	-	. -	-	-	-	-	<5
Arsenic (dissolved)	**µg/L**	0.2	13	0.4	-	. -	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	**µg/L**	0.2	1	0.8	-	. -	-	-	-	-	<0.2
Copper (dissolved)	**µg/L**	0.5	14	<0.5	-	. -	-	-	-	-	<0.5
Iron (dissolved)	**µg/L**	2	300	<2	-	. -	-	-	-	-	<2
Lead (dissolved)	**µg/L**	0.1	3.4	<0.1	-	. -	-	-	-	-	<0.1
Manganese (dissolved)	**µg/L**	0.5	1,900	<0.5	-	. -	-	-	-	-	<0.5
Nickel (dissolved)	**µg/L**	0.5	11	<0.5	-	. -	-	-	-	-	<0.5
Silver (dissolved)	**µg/L**	0.01	0.05	<0.01	-	. -	-	-	-	-	<0.01
Zinc (dissolved)	**µg/L**	1	8	<1	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	**CFU/100mL**	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	**mg/L**	2	5	11	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 Aug 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/08/2024	-	-	0.35	0.063	0.16	0.01	0.47
2/08/2024	-	-	0.27	0.07	0.28	0.06	0.44
3/08/2024	-	-	0.32	0.05	0.10	0.08	0.18
4/08/2024	0.13	-	0.29	0.07	0.25	0.07	0.21
5/08/2024	0.05	-	0.12	0.11	0.22	0.02	0.54
6/08/2024	-	-	0.30	0.08	0.20	0.11	0.48
7/08/2024	-	-	0.33	0.07	0.12	0.06	0.49
8/08/2024	-	-	0.34	0.04	0.20	0.06	0.27
9/08/2024	-	-	0.30	0.06	0.27	0.09	0.55
10/08/2024	-	-	0.33	0.03	0.30	0.05	0.84
11/08/2024	-	-	0.42	0.06	0.02	0.01	0.05
12/08/2024	-	-	0.34	0.05	0.22	0.16	0.31
13/08/2024	-	-	0.36	0.06	0.20	0.08	0.85
14/08/2024	-	-	0.33	0.07	0.21	0.07	0.46
15/08/2024	-	-	0.26	0.05	0.29	0.02	0.60
16/08/2024	-	-	0.21	0.06	0.07	0.02	0.52
17/08/2024	-	-	0.22	0.04	0.15	0.08	0.76
18/08/2024	-	-	0.22	0.04	0.17	0.09	0.60
19/08/2024	0.16	-	0.16	0.04	0.22	0.08	0.61
20/08/2024	-	-	0.30	0.04	0.13	0.08	0.32
21/08/2024	-	-	0.21	0.05	0.18	0.07	0.35
22/08/2024	-	-	0.19	0.05	0.18	0.10	0.66
23/08/2024	-	-	0.19	0.05	0.08	0.06	0.63
24/08/2024	-	-	0.10	0.04	0.27	0.08	0.65
25/08/2024	-	-	0.24	0.05	0.20	0.08	0.66
26/08/2024	-	-	0.48	0.05	0.19	0.08	0.71
27/08/2024	-	0.39	0.26	0.05	0.20	0.20	0.76
28/08/2024	-	-	0.31	0.05	0.17	0.07	0.49
29/08/2024	-	-	0.12	0.05	0.22	0.09	0.85
30/08/2024	-	-	0.45	0.04	0.20	0.10	0.60
31/08/2024	-	-	0.40	0.05	0.24	0.07	0.79

- Water not discharged on this day

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 1.85 L/s

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 4.51 L/s

-- Water not discharged on this day

flows to those recorded for each respective plant as works progressed at the same

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 30 September 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: Surface water monitoring revealed exceedances in pH, dissolved oxygen, and turbidity at certain EPL points such as EPL5, EPL6, EPL8, EPL9 EPL12, EPL15, EPL16 at Lobs Hole. These deviations are likely attributed to seasonal fluctuations, such as snowfall and increased flow velocity in September 2024, which contributed to elevated runoff and rainfall events. Minor exceedances in phosphorus and nutrients observed during spring align with baseline studies and historical data. Elevated nutrient concentrations around leachate spoil emplacement areas (GF01/Lobshole and Mainyard) will be further analysed in the leachate results discussion.
Reservoir Results: Reservoir water quality generally aligns with WQO standards. Minor exceedances in parameters such as phosphorus, metals, and nutrients were observed during the spring, consistent with baseline studies and historical data. These exceedances are likely attributed to a combination of decreased water levels and elevated suspended solids. However, they remained within historical ranges.
Discharge Results: Per the EPL, only water within discharge criteria can be released into Talbingo and Tantangara reservoirs from the final discharge points. FGJV is committed to mitigating environmental impacts, so the Environmental Team only permits discharge if all parameters are within WQO. There were no discharges during September at Tantangara Reservoir as the pH wasn't within acceptability criteria. However, as the water met reuse criteria, the water was reused.
Groundwater Results: Elevated pH levels were observed in upstream and downstream EPL points at Lobshole, Tantangara, and Marica, aligning with surrounding conditions in September 2024. Nitrate (as N) was consistently detected in upstream locations such as EPL56, EPL57, EPL80, EPL82 at Lobs Hole, EPL70 at Tantangara, and EPL72 at Marica. However, nitrate levels remained relatively stable within historical ranges, likely influenced by rainfall patterns. To mitigate environmental impacts at spoil emplacement EPL points, we have implemented a comprehensive monitoring program with weekly sampling. Additional measures such as groundwater extraction and treatment, spoil emplacement permit review, and collaborative efforts with construction teams have been undertaken. FGJV remains committed to implementing all necessary actions to minimize environmental impacts. Total silver was not reported due to laboratory failure.
Leachate results: Leachate analysis revealed minor exceedances in pH, electrical conductivity (EC), dissolved oxygen (DO), and turbidity. Notably, nitrogen levels, particularly at EPL24 and EPL55 (Surface/Lobshole), have been consistently monitored weekly. It is crucial to emphasize the ongoing weekly monitoring of EPL24. Leachate basins such as EPL84, EPL85, EPL86 at Main Yard, and EPL52 at GFO1 are under investigation with comprehensive weekly sampling. Due to recent heavy rainfall events, runoff accumulation in these basins has increased during September. In response, FGJV is implementing various mitigation measures, including borehole purging, sediment and erosion control improvements, and groundwater extraction and treatment.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-30 September 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physicochemical				3/09/2024	3/09/2024	3/09/2024	07/09./2024	21/09./2024	07/09./2024	07/09./2024	07/09./2024	5/09/2024	5/09/2024	5/09/2024	5/09/2024	5/09/2024	5/09/2024	5/09/2024	2/09/2024	2/09/2024	3/09/2024	3/09/2024	3/09/2024	2/09/2024	2/09/2024	2/09/2024
pH	pH Unit	-	6.5-8	5.65	4.82	7.87	5.74	5.82	6.1	6.11	8.09	6.88	7.04	7.14	7.65	7.02	7.18	7.74	5.39	6.67	6.64	6.94	7.13	5.88	6.83	6.54
Electrical Conductivity	uS/cm	-	30-350	503	237	819	27.7	18.6	112.7	54	560	812	696	2670	649	517	842	323	186	262	193	295	202	560	457	481
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	197	209	104	182.1	165.1	195.9	136	140	-23	-85	-16	2	148	-27	42	66	51	199	-74	-39	39	92	133
Temperature	°C	-	No Water Quality Objective Value	11.25	13.22	15.79	13.2	10.9	13.9	11.64	11.92	18.31	15.27	18.38	13.53	10.91	13.17	14.97	13.11	14.41	14.67	14.47	14.6	14.37	13.87	14.07
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	111.5	110.3	95.5	92.1	83.6	66.7	47.1	88.9	33.4	54.8	69.1	89	66	29.9	66.9	49.5	26.2	76.5	105.7	100.1	64.7	35.9	71.8
Turbidity	NTU	-	No Water Quality Objective Value	23.4	328	79.5	4.88	5.57	15.53	108	760	50.9	309	181	790	1000	1.3	106	1000	39.3	1000	436	135	225	759	85.4
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	45	206	109	22	11	48	68	378	13	460	841	568	2,110	20	50	1,820	34	2,510	1,500	195	372	903	106
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	136	121	261	2	<1	26	13	22	354	362	1,270	110	78	124	56	26	126	66	135	83	156	154	146
Nutrients																										
Ammonia as N	ug/L	10	13	<10	30	<10	<10	20	10	<10	<10	30	50	100	<10	20	200	<10	<10	<10	10	70	20	<10	<10	10
Nitrite + Nitrate as N (Nox)	ug/L	10	15	<10	490	50,000	1,440	470	360	290	2,430	<10	<10	<10	5,500	3,430	<10	200	1,320	60	30	<10	10	26,000	12,200	430
Kjeldahl Nitrogen Total	ug/L	100	No Water Quality Objective Value	<100	200	1,100	500	200	200	100	100	200	200	400	1,200	2,800	400	100	<1,000	<100	<1,000	200	300	1,700	1,700	100
Nitrogen (Total)	ug/L	100	250	<100	700	51,100	1,900	700	600	400	2,500	200	200	400	6,700	6,200	400	300	1,300	<100	<1,000	200	300	27,700	13,900	500
Reactive Phosphorus	ug/L	1	15	3	4	3	<1	2	14	19	20	6	4	4	7	7	11	8	14	9	7	34	2	5	4	4
Phosphorus (Total)	ug/L	10	20	40	310	120	20	40	80	70	70	50	340	70	500	1,330	60	50	1,420	70	640	370	100	270	690	80
Inorganics																										
Cyanide Total	µg/L	4	4	10	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																										
Oil and Grease	mg/L	1	5	<4.0	<2.0	<1.0	<1.0	<1	<1.0	<6.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals																										
Aluminium (dissolved)	ug/L	5	27	<5	<5	<5	<5	<5	8	<5	10	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	835	5,910	2,090	732	667	3,400	201	727	10	4,450	3,220	12,000	64,800	211	899	30,500	444	20,200	24,900	3,380	5,720	15,700	1,450
Arsenic (dissolved)	ug/L	0.2	0.8	<0.2	1.4	0.2	<0.2	<0.2	<0.2	0.2	<0.2	2.4	1.2	0.4	2.5	0.2	0.3	<0.2	<0.2	0.3	0.5	18.8	0.8	1.3	<0.2	0.4
Arsenic (total)	ug/L	0.2	No Water Quality Objective Value	0.5	4.0	2.6	<0.2	<0.2	0.2	0.5	0.3	<0.2	20.5	294	57.4	44.4	18.1	33.1	0.6	14.7	2.7	16.8	55.1	13.2	16.4	19.5	4.3
Chromium (III+VI) (dissolved)	ug/L	0.2	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.3	<0.2	<0.2	<0.2	24.5	1.8	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	3.2	13.2	6.8	1.7	0.7	5.5	0.9	0.7	0.2	10.3	6.3	64.3	191	2.7	1.7	82.1	1.2	29.0	66.3	10.3	13.8	45.9	4.6
Copper (dissolved)	ug/L	0.5	1	6.3	3.9	0.6	4.5	<0.5	53.4	2.4	<0.5	<0.5	<0.5	<0.5	2.4	0.7	<0.5	38.4	<0.5	<0.5	<0.5	<0.5	<0.5	1.2	<0.5	<0.5
Copper (total)	ug/L	0.5	No Water Quality Objective Value	71.1	438	4.5	9.2	1.3	124	4.9	1.7	<0.5	15.4	3.8	44.4	143	14.3	98.2	87.4	0.6	47.9	43.7	6.2	31.9	47.6	2.4
Iron (dissolved)	ug/L	2	300	145	<2	<2	<2	7	<2	2	<2	<2	<2	66	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Iron (total)	ug/L	2	No Water Quality Objective Value	1,430	6,660	3,340	335	344	2,390	144	222	891	23,800	8,500	18,400	95,200	1,040	820	47,000	990	18,900	38,800	7,540	8,090	38,000	3,070
Lead (dissolved)	ug/L	0.1	1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (total)	ug/L	0.1	No Water Quality Objective Value	7.1	20.5	37.0	0.3	0.3	2.7	0.6	0.9	<0.1	13.4	10.3	23.3	143	1.6	0.6	180	2.7	964	140	18.4	48.4	316	43.4
Manganese (dissolved)	µg/L	0.5	1,200	35.2	26.2	263	3.1	<0.5	3.4	9.4	9.9	186	190	330	8.3	35.0	9.7	11.4	23.3	248	250	291	593	344	6.5	546
Manganese (total)	ug/L	0.5	No Water Quality Objective Value	89.1	550	352	15.5	7.4	80.2	12.2	15.2	216	257	422	518	2,060	251	22.7	2,040	314	1,360	1,270	834	850	2,960	735
Nickel (dissolved)	ug/L	0.5	8	<0.5	<0.5	4.7	1.5	<0.5	2.2	1.7	<0.5	18.4	1.8	7.2	3.8	1.2	<0.5	2.7	4.4	<0.5	3.4	2.7	1.7	11.2	1.9	3.8
Nickel (total)	ug/L	0.5	No Water Quality Objective Value	3.9	22.7	12.0	2.7	0.6	7.1	2.4	0.6	22.2	19.9	15.1	55.8	287	8.2	4.7	177	1.9	51.8	116	16.3	32.2	94.9	11.2
Silver (dissolved)	ug/L	0.01	0.02	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	ug/L	0.01	No Water Quality Objective Value	0.06	0.05	0.10	-	-	-	0.08	<0.01	<0.01	0.06	0.01	0.08	0.29	<0.01	<0.01	0.29	<0.01	0.54	0.26	0.03	0.10	0.40	0.03
Zinc (dissolved)	ug/L	1	2.4	2	<1	12	4	<1	2	12	<1	2	<1	9	3	<1	<1	2	22	2	7	<1	3	26	1	37
Zinc (total)	ug/L	1	No Water Quality Objective Value	22	48	29	6	3	10	14	2	5	43	68	100	565	12	5	487	10	313	341	172	91	254	186

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not received due to laboratory error.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-30 September 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL50
Field				8/9/24	8/9/24	24/9/24	24/9/24	22/9/24	24/9/24	24/9/24	24/9/24	24/9/24	29/9/24
pH	pH Unit	-	6.5-8	6.83	6.96	7.42	6.94	7.73	6.99	8.63	7.07	6.77	7.54
Electrical Conductivity	µS/cm	-	20-30	80	75	18	17	16	16	19	18	17	17
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	-14	-21	126	205	158	170	136	84	211	173
Temperature	°C	-	No Water Quality Objective Value	13.07	13.27	8.71	9.49	9.41	9.12	9.25	8.5	9.42	9.41
Dissolved Oxygen	% saturation	-	90-110	99.6	99.1	83.4	87	81.8	80.8	89	79.8	80.2	80.7
Turbidity	NTU	-	1-20	3.7	3.8	236	3.8	3.9	5	10.7	51.4	3.8	3.8
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	36	33	5	2	2	2	<1	9	2	<1
Nutrients													
Ammonia as N	µg/L	10	10	<10	80	40	20	50	20	40	80	20	30
Nitrite + Nitrate as N (NOx)	µg/L	10	10	20	30	<10	10	20	10	10	<10	20	20
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	100	100	200	200	200	200	100	200	200	200
Nitrogen (Total)	µg/L	100	350	100	100	200	200	200	200	100	200	200	200
Reactive Phosphorus	µg/L	1	5	5	3	2	2	2	2	<1	2	2	2
Phosphorus (Total)	µg/L	10	10	<10	<10	30	30	30	40	<10	20	30	60
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals													
Aluminium (dissolved)	µg/L	5	55	7	8	10	15	14	14	13	20	15	<5
Arsenic (dissolved)	µg/L	0.2	13	0.3	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	17	16	53	56	57	67	32	102	55	2
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	13.1	9.3	50.7	0.9	0.9	1.0	2.9	52.0	0.9	3.7
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	10	2	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	2	1/5^	5	5	2	-	-	-	-	-	-	<2

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 September 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL66	EPL67	EPL71	EPL84	EPL85	EPL86
Field				4/09/24	4/09/24	4/09/24	4/09/24	4/09/24	4/09/24	4/09/24	4/09/24	6/09/24	7/09/24	7/09/24	13/09/24	13/09/24	13/09/24	13/09/24	13/09/24	21/09/24	21/09/24	3/09/24			3/09/24	21/09/24	22/09/24	21/09/24	5/09/24	5/09/24	5/09/24
pH	-	-	6.5-8	8.25	8.03	7.99	8.02	8.2	8	8.05	8.01	7.28	7.81	7.94	8.5	7.88	7.51	7.78	7.88	5.84	6.59	8.56	Dry	Dry	7.06	8.13	8.07	6.87	8.39	10.07	7.78
Electrical Conductivity	µS/cm	-	30-350	156	55	93	76	81	74	79	76	386	37	64	36	24	23	15	15	36	33	939	Dry	Dry	752	0	14	185	1030	483	1170
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	124	140	156	157	133	150	149	158	146	-68	109	97	114	130	104	112	182	145	71	Dry	Dry	-26	204	156	254	146	107	-26
Temperature	°C	-	No Water Quality Objective Value	12.33	9.65	13.67	12.98	11.48	11.97	11.29	12.55	16	11.8	12.2	8.95	8.94	11.28	9.34	11.87	8.08	7.84	15.57	Dry	Dry	12.8	8.7	10.02	6.22	10.76	10.92	15.85
Dissolved Oxygen	% saturation	-	90-110	170.7	120.6	116.9	205	106.1	176.4	114.9	177.8	74	92.1	91.3	131.7	100.9	92	97.1	97.3	57.4	71.8	111.9	Dry	Dry	106.1	66.1	67	257.6	92.9	103.9	88.4
Turbidity	NTU	-	2-25	11.8	4.9	8.7	8.5	11	6.3	0	1.3	11.6	5.8	3.4	12	16.7	13.5	2.1	5.1	28.6	42.1	12.7	Dry	Dry	0	11.4	10.9	15	1000	90.1	55.5
Laboratory analytes																															
TSS	mg/L	5	No Water Quality Objective Value	<5	<5	<5	7	<5	<5	<5	6	<5	<5	<5	5	5	5	<5	<5	<5	<5	6	Dry	Dry	<5	28	<5	<5	469	34	19
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	36	23	38	33	36	33	33	36	93	9	9	2	7	<1	2	<1	11	13	230	Dry	Dry	183	<1	<1	54	64	38	311
Nutrients																															
Ammonia as N	µg/L	10	13	<10	<10	<10	30	<10	<10	<10	30	<10	<10	<10	30	<10	10	90	80	10	<10	10	Dry	Dry	<10	80	50	60	600	110	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	10	<10	40	10	<10	<10	<10	<10	14,900	<10	<10	<10	<10	<10	20	<10	20	20	34,700	Dry	Dry	24,200	140	<10	110	5,860	4,240	20,900
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	100	<100	100	<100	100	100	<100	100	200	300	300	100	<100	200	300	200	500	500	3,700	Dry	Dry	1,800	400	<100	<100	2,400	900	2,300
Nitrogen (Total)	µg/L	100	250	100	<100	100	<100	100	100	<100	100	15,100	300	300	100	<100	200	300	200	500	500	38,400	Dry	Dry	26,000	500	<100	100	8,300	5,100	23,200
Reactive Phosphorus	ue/L	1	15	3	8	4	5	3	4	4	4	5	1	1	2	3	<1	2	<1	2	88	<1	Dry	Dry	3	2	<1	4	9	<1	7
Phosphorus (Total)	µg/L	10	20	30	40	20	30	30	<10	20	<10	140	20	10	40	40	30	40	50	30	140	40	Dry	Dry	30	60	<10	20	410	50	40
Inorganics																															
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																															
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	Dry	Dry	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals																															
Aluminium (dissolved)	µg/L	5	27	10	<5	8	9	11	9	9	8	<5	16	14	12	12	16	19	16	62	81	<5	Dry	Dry	<5	17	13	<5	<5	32	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	196	93	145	148	184	182	157	176	332	68	62	-	-	-	-	-	-	-	120	Dry	Dry	142	411	196	278	17,300	1,260	999
Arsenic (dissolved)	µg/L	0.2	0.8	0.2	<0.2	0.2	0.2	0.2	0.2	0.3	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	0.5	1.7	Dry	Dry	<0.2	<0.2	<0.2	0.2	<5	2.5	2.4
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	0.3	<0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	<0.2	<0.2	-	-	-	-	-	-	-	1.7	Dry	Dry	0.2	0.3	<0.2	0.2	10.6	2.8	3.3
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.3	7.2	Dry	Dry	1.4	<0.2	<0.2	<0.2	54.9	90.5	5.2
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	0.5	<0.2	0.4	0.4	0.5	0.5	0.5	0.5	1.0	0.3	2.2	-	-	-	-	-	-	-	7.2	Dry	Dry	1.5	0.6	0.4	0.5	104	87.0	7.2
Copper (dissolved)	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	<0.5	<0.5	<0.5	<0.5	1.7	0.6	2.1
Copper (total)	µg/L	0.5	No Water Quality Objective Value	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.7	<0.5	-	-	-	-	-	-	-	0.6	Dry	Dry	0.5	0.6	<0.5	0.6	39.9	2.8	3.9
Iron (dissolved)	µg/L	2	300	16	6	16	14	16	16	14	16	3	26	24	16	20	30	48	32	260	267	<2	Dry	Dry	<2	87	32	4	4	<2	<2
Iron (total)	µg/L	2	No Water Quality Objective Value	132	60	95	96	125	127	101	128	240	78	84	-	-	-	-	-	-	-	89	Dry	Dry	110	628	211	239	26,300	1,640	1,080
Lead (dissolved)	µg/L	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Lead (total)	µg/L	0.1	No Water Quality Objective Value	0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	0.3	<0.1	<0.1	-	-	-	-	-	-	-	0.1	Dry	Dry	0.3	0.3	0.1	<0.1	46.0	2.9	2.5
Manganese (dissolved)	µg/L	0.5	1,200	1.2	1.4	1.4	4.0	1.3	1.4	2.0	2.4	49.8	2.2	1.8	2.2	2.3	4.0	1.0	4.1	20.4	18.3	<0.5	Dry	Dry	3.6	67.0	2.8	10.1	0.9	<0.5	2.1
Manganese (total)	µg/L	0.5	No Water Quality Objective Value	3.4	2.7	2.7	5.6	3.2	4.0	3.3	5.4	61.2	3.1	2.7	-	-	-	-	-	-	-	5.1	Dry	Dry	6.2	123	5.7	11.9	675	41.7	68.8
Nickel (dissolved)	µg/L	0.5	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	1.0	<0.5	Dry	Dry	<0.5	<0.5	<0.5	1.9	0.9	<0.5	1.0
Nickel (total)	µg/L	0.5	No Water Quality Objective Value	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.1	<0.5	<0.5	-	-	-	-	-	-	-	0.9	Dry	Dry	0.6	<0.5	<0.5	2.2	84.9	5.8	3.2
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	0.01	No Water Quality Objective Value	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	-	-	-	-	-	-	-	<0.01	Dry	Dry	<0.01	<0.01	<0.01	-	0.06	<0.01	<0.01
Zinc (dissolved)	µg/L	1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	1	<1	2	1	1	1	Dry	Dry	<1	<1	<1	<1	<1	<1	<1
Zinc (total)	µg/L	1	No Water Quality Objective Value	<1	<1	<1	<1	<1	<1	<1	<1	4	<1	<1	-	-	-	-	-	-	-	6	Dry	Dry	2	1	<1	<1	152	8	6

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 September 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				4/09/2024							29/09/2024
Inflow[#]	ML/day	-	-	-	0.0000	0.0483	0.0135	0.0473	0.0164	0.0384	-
Outflow[#]	ML/day	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	pH Unit	-	6.5-8.5	7.45	-	-	-	-	-	-	5.69
Electrical Conductivity	µS/cm	-	700 (EPL 41) / 200 (EPL 50)	315	-	-	-	-	-	-	222
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	105	-	-	-	-	-	-	35.1
Temperature	°C	-	15	11.38	-	-	-	-	-	-	14.2
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	52.2	-	-	-	-	-	-	67.2
Turbidity	NTU	-	<25	25.8	-	-	-	-	-	-	2.5
Laboratory analytes											
Total suspended solids	mg/L	5	5/10	<5	-	-	-	-	-	-	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	2	-	-	-	-	-	-	<1
Nutrients											
Ammonia as N	µg/L	10	200/2000^	170	-	-	-	-	-	-	1060
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	200	-	-	-	-	-	-	2100
Nitrogen (Total)	µg/L	100	350/-^	500	-	-	-	-	-	-	5900
Reactive Phosphorus	µg/L	1	No Water Quality Objective Value	7	-	-	-	-	-	-	<1
Phosphorus (Total)	µg/L	10	100/300^	10	-	-	-	-	-	-	10
Inorganics											
Cyanide Total	µg/L	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	11.00
Hydrocarbons											
Oil and Grease	mg/L	1	2/5^	<1.0	-	-	-	-	-	-	<1.0
Metals											
Aluminium (dissolved)	µg/L	5	55	<5	-	-	-	-	-	-	12
Arsenic (dissolved)	µg/L	0.2	13	0.5	-	-	-	-	-	-	0.5
Chromium (III+VI) (dissolved)	µg/L	0.2	1	36.8	-	-	-	-	-	-	2.8
Copper (dissolved)	µg/L	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	µg/L	2	300	<2	-	-	-	-	-	-	<2
Lead (dissolved)	µg/L	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	7.1	-	-	-	-	-	-	<0.5
Nickel (dissolved)	µg/L	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	µg/L	1	8	<1	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	CFU/100mL	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	2	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

[#] Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 September 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/09/2024	-	-	0.17	0.071	0.12	0.77	0.20
2/09/2024	-	-	0.23	0.071	0.15	0.08	0.08
3/09/2024	-	-	0.16	0.052	0.08	0.07	0.19
4/09/2024	-	-	0.26	0.047	0.16	0.08	0.42
5/09/2024	-	-	0.20	0.059	0.25	0.03	0.19
6/09/2024	-	-	0.20	0.050	0.17	0.07	0.26
7/09/2024	-	-	0.20	0.049	0.17	0.08	0.37
8/09/2024	-	-	0.21	0.046	0.17	0.08	0.44
9/09/2024	-	-	0.32	0.048	0.23	0.08	0.43
10/09/2024	-	-	0.33	0.049	0.08	0.08	0.51
11/09/2024	-	-	0.10	0.055	0.15	0.08	0.46
12/09/2024	-	-	0.21	0.063	0.17	0.09	0.19
13/09/2024	-	-	0.23	0.051	0.18	0.08	0.28
14/09/2024	-	-	0.21	0.045	0.17	0.13	0.25
15/09/2024	-	-	0.32	0.045	0.18	0.04	0.06
16/09/2024	-	-	0.32	0.062	0.19	0.08	0.48
17/09/2024	-	-	0.21	0.048	0.16	0.08	0.76
18/09/2024	-	-	0.21	0.046	0.15	0.08	0.79
19/09/2024	-	-	0.18	0.064	0.21	0.16	0.78
20/09/2024	-	-	0.24	0.069	0.18	0.08	0.71
21/09/2024	-	-	0.29	0.053	0.18	0.07	0.45
22/09/2024	-	-	0.27	0.057	0.14	0.08	0.82
23/09/2024	-	-	0.35	0.051	0.15	0.09	0.36
24/09/2024	-	-	0.26	0.054	0.24	0.08	0.87
25/09/2024	-	-	0.25	0.042	0.19	0.06	0.76
26/09/2024	0.63	-	0.30	0.085	0.21	0.08	0.87
27/09/2024	-	-	0.27	0.055	0.20	0.08	0.49
28/09/2024	-	-	0.44	0.053	0.19	0.09	0.88
29/09/2024	-	-	0.28	0.039	0.24	0.08	0.39
30/09/2024	-	-	0.21	0.048	0.20	0.16	0.40
	-	-	0.17	0.068	0.21	0.09	0.03

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 0.0 ML/day.

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 0.0 ML/day

\- Water not discharged on this day

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 31 October 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuzko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: Surface water monitoring revealed exceedances in pH and dissolved oxygen at several EPL points within the Tantangara watercourses (EPL30, EPL31, EPL33, EPL34, and EPL35), these exceedances align with historical data for Nungar Creek, Kellys Plain Creek, and the Murrumbidgee River, where similar trends have been observed, particularly during periods of low flow. Additionally, minor exceedances in phosphorus and nutrients were detected at some locations, including EPL8, EPL14, EPL8, EPL16, and EPL24 at Lobs Hole and EPL36, EPL37 at Rock Forest, these exceedances are likely influenced by dry weather conditions, which can concentrate nutrients in water bodies. Notably, nitrogen levels, particularly at EPL24 and EPL55 (Surface/Lobshole), have been consistently monitored weekly. It is crucial to emphasize the ongoing weekly monitoring of EPL24. Elevated nutrient concentrations near leachate spoil emplacement areas (GF01/Lobshole and Mainyard) will be further examined in the leachate results discussion.
Reservoir Results: Reservoir water recorded for October generally aligns with the historical data. Minor exceedances in parameters such as phosphorus, metals, and nutrients were observed during the dry weather, consistent with baseline studies and historical data. These exceedances are likely attributed to a combination of decreased water levels and elevated suspended solids. However, they remained within historical ranges and were close to WQO limits.
Discharge Results: Per the EPL, only water within discharge criteria can be released into Talbingo and Tantangara reservoirs from the final discharge points. FGJV is committed to mitigating environmental impacts, so the Environmental Team only permits discharge if all parameters are within WQO. There were no discharges during October at Tantangara Reservoir as the pH wasn't within the WQO. However, as the water met reuse criteria, the water was reused instead of discharged.
Groundwater Results: Low pH levels were observed upstream at Tantangara and downstream at Lobs Hole, which these groundwater quality aligning with surrounding conditions in October 2024. Nitrogen (Total) spikes were detected in upstream locations such as EPL82 at Main Yard Lobs Hole and the downstream locations such as EPL88 and EPL89 are consistent with the upgradient conditions. However, at Tantantangara and Marica Upstream and downstream locations remained relatively stable within historical ranges, likely influenced by the altered climatic conditions. To mitigate environmental impacts at spoil emplacement EPL points, we have implemented a comprehensive monitoring program with weekly sampling. Additional measures such as groundwater extraction and treatment, spoil emplacement permit review, and collaborative efforts with construction teams have been undertaken. FGJV remains committed to implementing all necessary actions to minimize environmental impacts.
Leachate results: Leachate analysis revealed minor exceedances in pH, electrical conductivity (EC), dissolved oxygen (DO), and turbidity. Leachate basins such as EPL84, EPL85, EPL86 at Main Yard, and EPL52 at GFO1 are under investigation with comprehensive weekly sampling. Due to the dry weather conditions in October and the level of water decreased the suspended solids in the basins have a notable influence on turbidity. In response, FGJV is implementing various mitigation measures, including borehole purging, sediment and erosion control improvements, and groundwater extraction and treatment.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-31 October 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physicochemical				15/10/2024	15/10/2024	15/10/2024	19/10/2024	19/10/2024	19/10/2024	6/10/2024	6/10/2024	1/10/2024	1/10/2024	1/10/2024	1/10/2024	1/10/2024	1/10/2024	1/10/2024	15/10/2024	15/10/2024	15/10/2024	15/10/2024	15/10/2024	15/10/2024	15/10/2024	15/10/2024
pH	pH Unit	-	6.5-8	7.43	7.95	5.88	7.88	7.25	5.78	7.84	7.69	6.75	6.41	6.66	6.81	6.74	6.92	7.51	6.17	6.92	7.05	6.74	7.32	5.8	6.81	6.42
Electrical Conductivity	uS/cm	-	30-350	269	252	809	30	28	146	36	64	963	772	2970	643	597	1910	348	363	325	160	682	273	550	842	478
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	192	213	266	186	213	278	218	263	-6	-112	17	114	116	9	108	182	209	174	80	230	271	243	220
Temperature	°C	-	No Water Quality Objective Value	15.96	17.95	18.06	13.63	13.57	13.04	10.24	10.16	19.2	16.75	17.13	20.62	15.02	17.05	15.96	17.51	17.5	16.69	16.76	17.17	19.45	18.98	18.12
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	22.7	36.5	50.1	78.7	87.1	71.2	82.1	81.3	75.7	34.1	18.6	61.1	89.8	23.6	61.7	61	28.3	58.7	26.4	45.1	15.9	25.5	31
Turbidity	NTU	-	No Water Quality Objective Value	185	196	60.1	6.8	4.1	64.5	45.9	54.1	79.1	105	175	1000	1000	7.1	114	246	92.7	1000	200	283	108	293	107
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	31	101	170	25	54	34	117	394	36	116	224	2,520	1,260	<5	68	578	59	620	176	196	160	1,240	229
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	137	127	269	<1	<1	16	11	20	387	344	1,250	89	78	124	59	15	126	50	131	87	183	287	153
Nutrients																										
Ammonia as N	ug/L	10	13	<10	10	20	<10	<10	70	<10	20	30	40	110	10	20	260	<10	<10	40	30	10	<10	10	<10	10
Nitrite + Nitrate as N (Nox)	ug/L	10	15	<10	640	48,000	1,240	160	400	<10	10	10	20	10	4,780	3,830	<10	220	290	20	<10	20	<10	29,400	28,000	600
Kjeldahl Nitrogen Total	ug/L	100	No Water Quality Objective Value	200	400	16,100	<100	<100	200	<100	200	200	200	900	1,600	2,400	600	300	400	200	400	300	200	8,400	6,000	400
Nitrogen (Total)	ug/L	100	250	200	1,000	64,100	1,200	200	600	<100	200	200	200	900	6,400	6,200	600	500	700	200	400	300	200	37,800	34,000	1,000
Reactive Phosphorus	ug/L	1	15	3	9	2	<1	2	12	12	10	4	6	4	18	9	13	11	4	7	2	30	4	5	4	5
Phosphorus (Total)	ug/L	10	20	60	260	70	20	40	70	50	50	110	260	510	810	840	100	100	260	160	340	250	130	200	250	170
Inorganics																										
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																										
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals																										
Aluminium (dissolved)	ug/L	5	27	<5	<5	<5	<5	<5	15	<5	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	554	1,640	2,830	929	1,340	1,140	1,950	1,010	581	1,410	1,020	26,200	22,600	14	910	3,540	975	2,860	518	932	1,080	5,130	1,560
Arsenic (dissolved)	ug/L	0.2	0.8	<0.2	2.0	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	9.4	1.9	4.4	3.9	0.3	9.5	0.2	<0.2	0.5	0.4	14.8	0.5	1.2	<0.2	1.0
Arsenic (total)	ug/L	0.2	No Water Quality Objective Value	0.4	2.9	4.1	0.2	0.5	0.2	-	-	66.5	66.0	19.1	53.2	7.9	21.5	0.7	2.6	4.4	2.2	17.4	6.7	4.1	6.2	4.6
Chromium (III+VI) (dissolved)	ug/L	0.2	0.01	<0.2	<0.2	1.2	<0.2	<0.2	<0.2	<0.2	0.2	0.6	<0.2	<0.2	25.8	17.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	1.9	3.8	9.8	1.4	1.3	1.8	-	-	1.2	2.1	1.6	100	75.7	0.3	1.5	8.0	2.8	3.0	1.2	2.8	3.1	13.4	4.0
Copper (dissolved)	ug/L	0.5	1	20.1	4.0	<0.5	3.5	<0.5	29.5	280	1.3	<0.5	<0.5	<0.5	3.4	1.2	<0.5	8.0	<0.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5
Copper (total)	ug/L	0.5	No Water Quality Objective Value	63.0	75.3	5.4	7.4	2.2	45.7	-	-	0.7	2.4	0.5	88.6	41.8	1.8	33.9	7.9	1.5	4.4	0.6	1.8	11.1	12.5	1.8
Iron (dissolved)	ug/L	2	300	<2	<2	<2	<2	11	<2	<2	<2	<2	6	918	3	5	3	<2	<2	<2	<2	<2	<2	<2	<2	4
Iron (total)	ug/L	2	No Water Quality Objective Value	718	1,990	5,080	413	864	702	-	-	3,520	6,900	3,760	36,100	28,100	311	841	4,700	2,200	1,900	670	2,680	1,740	9,790	2,900
Lead (dissolved)	ug/L	0.1	1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.7	<0.1	<0.1	<0.1	<0.1	0.2
Lead (total)	ug/L	0.1	No Water Quality Objective Value	3.0	4.6	51.8	0.3	1.0	0.6	-	-	<0.1	2.0	1.9	49.1	33.4	<0.1	0.6	11.6	17.7	62.1	2.1	4.0	6.2	48.5	22.7
Manganese (dissolved)	ug/L	0.5	1,200	5.7	47.6	51.0	2.8	<0.5	3.6	7.1	9.4	222	227	386	13.9	32.2	184	10.3	21.0	69.6	183	256	668	411	5.1	537
Manganese (total)	ug/L	0.5	No Water Quality Objective Value	47.4	168	144	17.4	51.9	23.0	-	-	242	253	415	913	500	231	20.4	115	327	246	281	608	455	502	624
Nickel (dissolved)	ug/L	0.5	8	<0.5	<0.5	2.8	0.8	<0.5	1.0	1.7	1.6	18.2	2.4	3.2	2.1	1.7	4.9	2.2	3.2	<0.5	3.8	1.4	2.1	10.2	3.2	4.9
Nickel (total)	ug/L	0.5	No Water Quality Objective Value	2.2	6.4	11.2	1.7	1.4	2.0	-	-	22.0	5.2	4.8	101	78.7	6.6	4.5	15.6	3.7	7.6	3.7	5.6	14.3	27.4	12.2
Silver (dissolved)	ug/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	ug/L	0.01	No Water Quality Objective Value	<0.01	0.02	0.22	<0.01	<0.01	<0.01	-	-	1.28	<0.01	<0.01	0.20	0.08	<0.01	<0.01	0.02	0.02	0.03	<0.01	<0.01	0.01	0.07	0.01
Zinc (dissolved)	ug/L	1	2.4	7	1	6	3	<1	2	7	<1	4	<1	5	1	<1	2	2	15	4	21	<1	19	35	4	56
Zinc (total)	ug/L	1	No Water Quality Objective Value	13	16	27	5	5	4	-	-	9	9	15	221	139	4	5	53	18	45	6	135	45	70	180

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-31 October 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				7/10/24	7/10/24	16/10/24	16/10/24	16/10/24	16/10/24	5/10/24	13/10/24	16/10/24	16/10/24
pH	pH Unit	-	6.5-8	7.62	7.58	7.14	6.73	7.31	7.28	6.57	8.08	6.55	6.58
Electrical Conductivity	µS/cm	-	20-30	63	55	16.8	16.5	16.6	16.7	20	70	18.1	16.5
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	174	193	203.5	179.7	226	223.1	194	-78	226.4	221.3
Temperature	°C	-	No Water Quality Objective Value	14.42	14.75	10.8	12.6	12.5	13	12.06	16.98	12.5	12.5
Dissolved Oxygen	% saturation	-	90-110	110	72.2	88.6	91.2	91.6	93.5	69.2	62.5	91.2	90.9
Turbidity	NTU	-	1-20	22.3	10.6	3.86	4.3	4.37	4.33	11	31	4.55	4.51
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	10	6	<5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	26	19	2	2	2	2	<1	2	2	2
Nutrients													
Ammonia as N	µg/L	10	10	<10	<10	10	40	50	30	<10	10	100	40
Nitrite + Nitrate as N (NOx)	µg/L	10	10	<10	<10	<10	30	30	40	<10	10	60	50
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	200	200	200	300	300	400	200	100	300	300
Nitrogen (Total)	µg/L	100	350	200	200	200	300	300	400	200	100	400	400
Reactive Phosphorus	µg/L	1	5	6	5	3	<1	<1	<1	1	<1	<1	<1
Phosphorus (Total)	µg/L	10	10	40	20	20	20	20	20	<10	30	50	10
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals													
Aluminium (dissolved)	µg/L	5	55	8	8	15	32	31	31	19	<5	30	29
Arsenic (dissolved)	µg/L	0.2	13	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.4	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	13	11	57	90	88	89	37	3	89	87
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	0.7	0.5	14.2	5.9	4.5	7.2	2.1	3.4	5.8	5.8
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	3	7	11	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	2	1/5^	5	5	4	-	-	-	-	-	-	4

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

** Algal blooms can present as feacal coliforms - green tinge noted in Talbingo Resevroir water at time of sampling.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 October 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL66	EPL67	EPL71	EPL84	EPL85	EPL86
Field				4/10/24	4/10/24	4/10/24	4/10/24	4/10/24	4/10/24	4/10/24	4/10/24	1/10/24	6/10/24	6/10/24	5/10/24	5/10/24	5/10/24	5/10/24	5/10/24	13/10/24	13/10/24	3/10/24	-	-	3/10/24	23/10/24	30/10/24	6/10/24	9/10/24	9/10/24	9/10/24
pH	-	-	6.5-8	7.45	6.7	6.65	6.69	6.62	6.64	6.7	6.58	7.18	7.11	7.9	6.4	6.42	6.68	6.57	7.46	5.9	6.66	8.1	Dry	Dry	7.33	7.97	7.97	7.44	8.28	9.33	9.33
Electrical Conductivity	µS/cm	-	30-350	81	60	93	82	81	78	77	88	301	63	33	29	24	22	99	17	52	60	969	Dry	Dry	875	26	52.5	64	837	482	1140
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	189	235	235	237	223	241	236	240	170	163	134	187	185	157	94	70	209	185	85	Dry	Dry	130	177	115	261	95.8	84.6	84.8
Temperature	°C	-	No Water Quality Objective Value	11.26	10.19	12.32	12.13	11.81	6.64	12.02	12.66	17.73	11.86	9.95	11.22	11.21	12.6	12.14	9.88	16.18	18.45	20.23	Dry	Dry	17.69	13.48	19.8	8.78	17.17	16.93	17.57
Dissolved Oxygen	% saturation	-	90-110	106.7	95.4	89	90.8	96.4	89.8	91.8	80.1	70.9	107.5	96	71.2	71.2	84.7	86.3	83.2	100.4	30.9	99.8	Dry	Dry	76.7	94.5	92.1	86.1	95.8	84.6	84.8
Turbidity	NTU	-	2-25	3.4	7.9	6.2	3.7	3.7	3.5	3.8	10.4	23.4	19.2	5.8	10.1	7.1	6.3	20.5	14.8	0.3	56.5	25.3	Dry	Dry	8.2	20.2	2.96	67.5	1000	77.1	58
Laboratory analytes																															
TSS	mg/L	5	No Water Quality Objective Value	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	9	<5	12	12	5	31	<5	Dry	Dry	21	6	6	16	632	8	10
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	36	26	38	36	38	36	36	36	83	9	9	7	7	2	<1	<1	17	17	212	Dry	Dry	223	2	4	18	26	21	307
Nutrients																															
Ammonia as N	µg/L	10	13	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	60	<10	<10	10	20	10	Dry	Dry	<10	3,580	20	<10	40	40	20
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	40	<10	<10	<10	<10	<10	12,900	<10	<10	120	<10	20	<10	<10	<10	<10	35,400	Dry	Dry	39,300	8,910	30	20	5,720	4,450	21,700
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	<100	<100	100	100	200	100	100	100	600	<100	100	200	200	400	300	300	500	800	3,900	Dry	Dry	3,900	5,200	200	<100	4,600	1,400	1,600
Nitrogen (Total)	µg/L	100	250	<100	<100	100	100	200	100	100	100	13,500	<100	100	300	200	400	300	300	500	800	39,300	Dry	Dry	43,200	14,100	200	<100	10,300	5,800	23,300
Reactive Phosphorus	ue/L	1	15	9	12	10	9	8	9	7	8	7	6	8	3	4	4	1	<1	<1	3	2	Dry	Dry	6	<1	<1	8	13	5	7
Phosphorus (Total)	µg/L	10	20	10	20	30	20	20	<10	20	30	40	20	20	10	20	<10	20	10	30	80	20	Dry	Dry	20	20	10	80	1,390	<100	170
Inorganics																															
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																															
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	Dry	Dry	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals																															
Aluminium (dissolved)	µg/L	5	27	8	<5	10	9	9	10	9	9	<5	6	6	22	21	28	29	31	45	61	8	Dry	Dry	<5	22	<5	11	15	22	<5
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	Dry	Dry	109	291	127	-	26,800	2,380	818
Arsenic (dissolved)	µg/L	0.2	0.8	0.3	<0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	0.7	3.0	Dry	Dry	0.4	<0.2	<0.2	0.2	8.3	4.6	2.2
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-			-		-	-	-	-	-	-	-	3.1	Dry	Dry	0.4	<0.2	<0.2	-	14.6	5.2	3.1
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	0.3	9.8	Dry	Dry	3.1	<0.2	<0.2	<0.2	53.1	66.7	4.8
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	9.8	Dry	Dry	3.3	0.4	0.2	-	129	76.6	6.6
Copper (dissolved)	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	<0.5	<0.5	<0.5	<0.5	2.2	0.6	2.0
Copper (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	<0.5	Dry	Dry	0.6	<0.5	<0.5	-	46.9	3.7	3.6
Iron (dissolved)	µg/L	2	300	13	6	12	13	12	13	14	13	6	15	13	34	27	84	46	48	336	487	<2	Dry	Dry	<2	89	3	24	28	<2	<2
Iron (total)	µg/L	2	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	70	Dry	Dry	251	388	208	-	40,500	3,020	964
Lead (dissolved)	µg/L	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	Dry	Dry	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Lead (total)	µg/L	0.1	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	0.2	Dry	Dry	1.4	<0.1	<0.1	-	51.9	3.4	1.9
Manganese (dissolved)	µg/L	0.5	1,200	1.5	1.0	1.2	2.5	1.0	1.4	1.3	1.7	34.5	2.4	1.5	2.1	1.7	1.9	4.2	4.2	13.4	10.2	<0.5	Dry	Dry	0.5	49.6	2.8	11.7	<0.5	<0.5	0.7
Manganese (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	7.8	Dry	Dry	14.9	65.3	6	-	833	61.7	45.5
Nickel (dissolved)	µg/L	0.5	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	0.9	1.0	0.6	Dry	Dry	<0.5	<0.5	<0.5	0.9	0.6	<0.5	0.8
Nickel (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	1.0	Dry	Dry	0.8	<0.5	<0.5	-	103	8.6	2.8
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Silver (total)	µg/L	0.01	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	<0.01	<0.01	<0.01	-	0.07	<0.01	<0.01
Zinc (dissolved)	µg/L	1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	2	<1	<1	<1	<1	25	1	1	<1	2	2	Dry	Dry	1	<1	<1	<1	<1	<1	<1
Zinc (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	7	Dry	Dry	3	<1	<1	-	191	13	5

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 October 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				2/10/2024							23/10/2024
Inflow#	**ML/day**	-	-	-	0.0000	0.5790	0.0506	0.1780	0.0748	0.5509	-
Outflow#	**ML/day**	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	**pH Unit**	-	6.5-8.5	7.45	-	-	-	-	-	-	5.8
Electrical Conductivity	**µS/cm**	-	700 (EPL 41) / 200 (EPL 50)	112	-	-	-	-	-	-	133.1
Oxidation Reduction Potential	**mV**	-	No Water Quality Objective Value	138	-	-	-	-	-	-	171.2
Temperature	**°C**	-	15	11.58	-	-	-	-	-	-	17.6
Dissolved Oxygen	**% saturation**	-	No Water Quality Objective Value	9.3	-	-	-	-	-	-	86.9
Turbidity	**NTU**	-	<25	26.5	-	-	-	-	-	-	1.18
Laboratory analytes											
Total suspended solids	**mg/L**	5	5/10	<5	-	-	-	-	-	-	<5
Hardness as $CaCO_3$ (filtered)	**mg/L**	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Nutrients											
Ammonia as N	**µg/L**	10	200/2000^	60	-	-	-	-	-	-	3580
Kjeldahl Nitrogen Total	**µg/L**	100	No Water Quality Objective Value	200	-	-	-	-	-	-	5200
Nitrogen (Total)	**µg/L**	100	350/-^	200	-	-	-	-	-	-	14100
Reactive Phosphorus	**µg/L**	1	No Water Quality Objective Value	2	-	-	-	-	-	-	<1
Phosphorus (Total)	**µg/L**	10	100/300^	20	-	-	-	-	-	-	20
Inorganics											
Cyanide Total	**µg/L**	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	34.00
Hydrocarbons											
Oil and Grease	**mg/L**	1	2/5^	<1.0	-	-	-	-	-	-	<1
Metals											
Aluminium (dissolved)	**µg/L**	5	55	<5	-	-	-	-	-	-	<5
Arsenic (dissolved)	**µg/L**	0.2	13	<0.2	-	-	-	-	-	-	0.4
Chromium (III+VI) (dissolved)	**µg/L**	0.2	1	<0.2	-	-	-	-	-	-	5
Copper (dissolved)	**µg/L**	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	**µg/L**	2	300	<2	-	-	-	-	-	-	<2
Lead (dissolved)	**µg/L**	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	**µg/L**	0.5	1,900	<0.5	-	-	-	-	-	-	<0.5
Nickel (dissolved)	**µg/L**	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	**µg/L**	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	**µg/L**	1	8	12	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	**CFU/100mL**	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	**mg/L**	2	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 October 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/10/2024	-	-	0.60	0.05	0.12	0.10	0.43
2/10/2024	-	-	0.58	0.05	0.15	0.08	0.68
3/10/2024	-	-	0.53	0.07	0.08	0.09	0.83
4/10/2024	0.01	-	0.46	0.04	0.16	0.08	0.58
5/10/2024	-	-	0.18	0.05	0.25	0.08	0.54
6/10/2024	-	-	0.44	0.05	0.17	0.08	0.43
7/10/2024	0.85	-	0.71	0.05	0.17	0.07	0.51
8/10/2024	-	-	0.66	0.05	0.17	0.07	0.74
9/10/2024	-	-	0.70	0.05	0.23	0.09	0.60
10/10/2024	-	-	0.74	0.04	0.08	0.10	0.39
11/10/2024	0.48	-	0.51	0.06	0.15	0.09	0.46
12/10/2024	-	-	0.87	0.05	0.17	0.08	0.77
13/10/2024	0.57	-	0.84	0.04	0.18	0.07	0.74
14/10/2024	-	-	0.69	0.04	0.17	0.08	0.71
15/10/2024	0.35	-	0.69	0.04	0.18	0.08	0.59
16/10/2024	0.49	-	0.70	0.05	0.19	0.07	0.61
17/10/2024	-	-	0.67	0.06	0.16	0.07	0.73
18/10/2024	-	-	0.42	0.07	0.15	0.08	0.41
19/10/2024	-	-	0.66	0.04	0.21	0.07	0.41
20/10/2024	-	-	0.61	0.00	0.18	0.08	0.94
21/10/2024	-	-	0.46	0.00	0.18	0.07	0.58
22/10/2024	-	-	0.57	0.00	0.14	0.08	0.38
23/10/2024	-	-	0.65	0.00	0.15	0.05	0.17
24/10/2024	-	-	0.54	0.00	0.24	0.06	0.43
25/10/2024	-	-	0.50	0.26	0.19	0.08	0.54
26/10/2024	-	-	0.56	0.06	0.21	0.07	0.62
27/10/2024	-	-	0.45	0.04	0.20	0.06	0.72
28/10/2024	-	-	0.67	0.06	0.19	0.07	0.72
29/10/2024	-	-	0.61	0.07	0.24	0.06	0.16
30/10/2024	-	-	0.46	0.02	0.20	0.07	0.36
31/10/2024	-	-	0.26	0.07	0.21	0.07	0.28

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 9.84 ML/day.

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 0.0 ML/day

\- Water not discharged on this day

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 30 Nov 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuszko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: During the reporting period, sporadic exceedances were observed in in-situ recordings at various monitoring points, including EPL24, EPL27, EPL30, EPL31, EPL36, and EPL37. The spikes detected in surface water results for Nitrogen and Phosphorus levels may be attributed to a combination of factors, including reduced water levels and rising surface temperatures. Additionally, elevated electrical conductivity (EC) and turbidity levels recorded towards the end of the reporting period appear to be influenced by rainfall that occurred shortly before sampling. In the leachate basin locations, increased nutrient levels, temperature, and conductivity and these changes are likely linked to the presence of algal blooms during the dry season. A more detailed discussion on these leachate results will follow in the relevant section. Overall, while fluctuations in surface water quality are evident, many of these changes align with expected seasonal variations and environmental influences.
Reservoir Results: It is important to highlight that both the Talbingo and Tantangara reservoirs have experienced a significant decrease in water levels. This reduction has posed challenges for sampling and has notably impacted in-situ readings and nutrient concentrations. Additionally, the rise in temperature has introduced environmental factors that further affect water quality. Despite these challenges, the overall results remain within the historical ranges. The nutrient concentrations observed reflect influences from both organic and inorganic sources, indicating a complex interplay of factors affecting water quality.
Discharge Results: Per the EPL, only water within discharge criteria can be released into Talbingo and Tantangara reservoirs from the final discharge points for November. FGJV is committed to mitigating environmental impacts, so the Environmental Team only permits discharge if all parameters are within WQO. There were no discharges during November at Tantangara Reservoir as the pH wasn't within the WQO. However, as the water met reuse criteria, the water was reused instead of discharged.
Leachate results: Elevated concentrations of in-situ and comprehensive analytes are observed and expected within the engineered containment systems such as the leachate basins. These containment controls are subject to weekly inspections through our digitised inspection system, accessible to all supervisors, managers, advisors, and personnel responsible for their management.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-30 Nov 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL1	EPL2	EPL4	EPL25	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physiochemical				4/11/24	4/11/24	17/11/24	4/11/24	5/11/24	5/11/24	5/11/24	45598	45598	45598	45604	45604	45602	45602	45602	45602	45602	45602	45602	45602	45601	45601	45601	45601	45601	45601	45601	45601
pH	pH Unit	-	6.5-8	6.68	7.55	7.16	6.31	8.02	8.2	6.06	6.24	6.17	6.07	6.18	6.67	6.88	6.83	6.75	7.27	6.44	7.05	6.69	5.67	6.46	7.31	7.18	6.74	5.98	6.94	6.27
Electrical Conductivity	µS/cm	-	30-350	460	519	1320	502	287	269	902	9.6	19.7	65	61	61	892	794	2660	698	442	827	867	85	250	150	292	182	525	1100	429
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	-31	-122	-110	-3	59	61	85	257.4	277.9	294.1	79	105	-31	-87	-68	-96	92	-170	-9	93	44	82	62	-67	81	5	86
Temperature	°C	-	No Water Quality Objective Value	16.03	18.07	17.77	16.45	16.44	18.83	17.35	13.1	13.3	15.4	11.37	11.89	19.27	17.98	18.93	17.46	16.78	18.6	6.69	17.73	18.47	17.82	17.42	17.02	18.08	18.01	17.64
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	61.4	35.9	31.5	15.4	29.2	41.9	17.6	90.2	87.7	63.5	40.2	40.2	22.5	17.2	17.1	39.3	64.9	50	50	14.6	34.8	0	47.3	17.1	24.6	0.4	80.6	0
Turbidity	NTU	-	No Water Quality Objective Value	20.1	387	1000	96.8	65.7	80.2	20.9	3.36	7.49	22.55	188	88.3	194	223	120	1000	1000	5.8	128	340	23.9	129	162	84.7	109	370	36.4
Laboratory analytes																														
TDS	mg/L	5	No Water Quality Objective Value	66	181	3,350	98	38	61	71	12	<5	16	174	34	18	31	479	975	7,410	<5	30	1,060	72	438	182	109	133	367	131
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	256	133	213	219	120	112	292	7	2	17	13	22	377	398	1,200	109	108	131	78	8	113	42	117	76	176	443	136
Nutrients																														
Ammonia as N	ug/L	10	13	20	80	540	180	<10	<10	<10	70	40	30	20	20	20	40	40	70	130	100	<10	<10	<10	<10	10	<10	<10	<10	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	30	40	21,200	<10	20	410	32,700	840	140	500	20	20	<10	<10	<10	2,000	4,470	<10	60	210	140	30	<10	<10	14,700	19,300	190
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	<100	200	6,200	300	<100	<100	2,600	200	100	200	100	100	200	100	200	500	4,600	1,600	200	4,000	500	400	<100	<100	3,800	2,400	<100
Nitrogen (Total)	ug/L	100	250	<100	200	29,400	300	<100	400	35,300	1,000	200	700	100	100	200	100	200	2,500	9,100	1,600	300	4,200	600	400	<100	<100	18,500	21,700	200
Reactive Phosphorus	µg/L	1	15	4	34	13	3	3	11	2	<1	3	16	15	9	5	5	4	12	5	7	6	4	6	4	38	4	5	3	8
Phosphorus (Total)	µg/L	10	20	70	70	2,040	100	40	40	40	<10	20	20	40	10	80	110	90	210	2,540	220	10	1,290	80	90	90	30	50	150	60
Inorganics				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide Total	µg/L	4	4	-	-	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																														
Oil and Grease	mg/L	1	5	-	-	-	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals																														
Aluminium (total)	ug/L	5	No Water Quality Objective Value	-	-	-	-	964	1,340	833	454	764	1,560	3670	557	58	582	1,510	19,100	377,000	62	406	13,700	658	5,080	3,490	1,920	1,990	5,650	1,310
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	<5	<5	<5	<5	<5	17	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	6.5	2.7	1.8	<0.2	0.2	0.3	2	0.6	188	30.0	58.2	66.4	74.6	23.2	6.5	6.4	4.0	5.3	20.4	14.4	9.0	8.0	3.0
Arsenic (dissolved)	ug/L	0.2	0.8	1.0	1.6	4.3	1.0	0.2	1.9	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	2.2	4.4	0.6	2.0	<0.2	3.9	0.2	<0.2	0.5	0.2	9.4	0.4	0.9	0.2	0.5
Chromium (III+VI) (total)	ug/L	0.2	No Water Quality Objective Value	-	-	-	-	2.9	8.1	3.5	0.9	0.8	3.1	9.5	0.9	1.4	1.0	2.9	83.9	668	0.5	0.7	35.6	2.0	9.0	8.8	5.2	6.4	15.8	3.8
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	<0.2	0.2	0.5	<0.2	<0.2	<0.2	0.8	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	27.3	0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	<0.2
Copper (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	80.6	38.8	1.9	8.3	1.6	276	103	2.3	1.6	1.1	0.9	78.6	367	17.5	18.2	34.4	1.0	11.7	4.1	3.2	19.1	14.3	1.5
Copper (dissolved)	µg/L	0.5	1	1.5	9.6	7.4	6.0	0.3	1.8	<0.5	4.5	<0.5	13.2	64.3	0.6	<0.5	<0.5	<0.5	2.7	<0.5	<0.5	5.0	<0.5	<0.5	<0.5	<0.5	<0.5	2.7	<0.5	<0.5
Iron (total)	ug/L	2	No Water Quality Objective Value	-	-	-	-	1,140	1,470	1,420	224	442	1,080	4660	414	9,780	1,420	7,290	28,100	250,000	915	419	19,700	1,680	5,710	5,100	5,390	3,360	11,800	2,150
Iron (dissolved)	µg/L	2	300	16	<2	4	<2	<2	<2	<2	<2	13	<2	<2	<2	<2	<2	98	<2	<2	11	<2	<2	<2	<2	<2	<2	<2	<2	<2
Lead (total)	µg/L	0.1	No Water Quality Objective Value	-	-	-	-	6.2	4.0	9.4	0.2	0.4	1.2	11.9	0.9	0.8	0.8	4.2	28.8	369	0.2	0.3	76.0	5.4	270	14.1	9.4	15.1	74.3	20.3
Lead (dissolved)	µg/L	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	78.8	168	174	12.6	18.2	40.3	1350	250	226	196	445	828	4,060	234	7.3	771	661	500	266	697	650	788	586
Manganese (dissolved)	µg/L	0.5	1,200	239	102	536	1,090	21.1	51.2	138	2.4	<0.5	2.9	7.3	16.1	190	175	391	1.6	37.0	190	2.9	13.4	30.1	80.6	105	546	668	1.6	431
Nickel (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	3.0	5.0	6.0	1.4	0.7	5.3	1.4	0.7	24.9	4.5	6.1	81.9	758	5.7	4.4	85.8	2.7	16.1	14.5	8.9	18.5	34.0	9.8
Nickel (dissolved)	ug/L	0.5	8	2.2	5.8	3.3	4.2	<0.5	<0.5	2.9	0.6	<0.5	<0.5	0.3	<0.5	18.2	2.6	2.0	2.6	1.8	3.8	2.8	2.6	<0.5	3.3	0.9	1.5	10.4	3.0	4.2
Silver (total)	µg/L	0.01	No Water Quality Objective Value	-	-	-	-	0.02	0.01	0.04	0.01	<0.01	<0.01	0.03	0.04	<0.01	<0.01	<0.01	0.38	1.33	<0.01	<0.01	0.12	0.01	0.13	0.04	0.03	0.05	0.12	0.02
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	15	11	16	4	3	4	22	9	7	5	23	132	1,340	4	2	183	19	86	42	131	50	83	179
Zinc (dissolved)	ug/L	1	2.4	2	1	<1	17	3	<1	7	3	1	2	3	8	<1	<1	6	<1	<1	<1	<1	11	2	20	<1	5	12	3	59

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 Nov 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				3/11/24	3/11/24	26/11/24	26/11/24	26/11/24	16/11/24	16/11/24	4/11/24	26/11/24	26/11/24
pH	pH Unit	-	6.5-8	7.44	6.74	9.51	9.69	10.11	6.59	7.25	7.6	9.8	9.83
Electrical Conductivity	µS/cm	-	20-30	78	70	25.8	22	22.1	25	26	20	23.1	22.1
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	105	135	144.4	203.2	182.2	190	155	168	197.6	194.8
Temperature	°C	-	No Water Quality Objective Value	19.15	18.97	19.5	20.3	20.4	19.01	18.56	14.9	20.3	20.3
Dissolved Oxygen	% saturation	-	90-110	93.6	88.1	88.2	94	93.7	89	74	95.5	94.5	94
Turbidity	NTU	-	1-20	1.5	1.3	7.67	4.33	4.38	8.6	3.9	3.95	4.39	4.24
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	<5	<5	16	11	9	8	6	<5	<5	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	31	28	9	2	2	2	<1	2	2	2
Nutrients													
Ammonia as N	µg/L	10	10	<10	30	60	90	40	20	<10	20	20	60
Nitrite + Nitrate as N (NOx)	µg/L	10	10	10	40	10	15	18	26	20	<10	20	14
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	200	200	500	400	200	200	200	100	300	300
Nitrogen (Total)	µg/L	100	350	200	200	500	400	200	200	200	100	300	300
Reactive Phosphorus	µg/L	1	5	4	5	4	3	3	7	2	5	3	4
Phosphorus (Total)	µg/L	10	10	20	30	40	20	10	40	20	<10	30	20
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals													
Aluminium (dissolved)	µg/L	5	55	10	8	<5	<5	<5	49	18	15	37	39
Arsenic (dissolved)	µg/L	0.2	13	0.3	0.3	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	30	23	3	3	<2	152	78	37	115	114
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	0.6	<0.5	24.5	2.4	1.3	72.2	3.6	5.2	2.3	2.3
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	5	1		-	-	-	-	-	-	7
Biochemical Oxygen Demand	mg/L	2	1/5^	4	4		-	-	-	-	-	-	<2

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 30 Nov 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL67	EPL71	EPL84	EPL85	EPL86
Field				45599	45599	45599	45599	45599	45599	45599	45599	45600	45597	45597	45598	45598	45598	45598	45598	45605	45605	45601	Dry	Dry	Dry	45612	45597	45600	45600	45600
pH	-	-	6.5-8	7.64	7.47	7.85	7.91	7.65	7.95	7.93	7.89	6.58	6.83	6.61	6.09	6.24	6.5	7.85	7.48	6.95	7.24	8.47	Dry	Dry	Dry	7.41	6.29	8.3	10.45	7.92
Electrical Conductivity	µS/cm	-	30-350	100	74	107	102	100	97	96	107	655	37	48	29	25	24	34	22	61	75	965	Dry	Dry	Dry	22	71	1530	695	1250
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	52	99	93	95	88	88	91	89	72	164	165	186	178	158	109	112	85	60	-10	Dry	Dry	Dry	155	271	57	-2	62
Temperature	°C	-	No Water Quality Objective Value	20.33	18.79	21.85	21.72	20.41	22.84	21.2	22.54	14.58	15.16	16.44	12.86	12.97	14.36	13.2	12.72	15.03	16.75	21.2	Dry	Dry	Dry	18.16	12.93	23.4	21.77	22.18
Dissolved Oxygen	% saturation	-	90-110	109.4	107.8	90.2	92.6	100.7	102.2	105.4	94.2	66.3	92.7	77	80.6	81	91.4	99.1	99.7	82.8	85.7	90.6	Dry	Dry	Dry	78.8	65.4	162.8	64.8	90.2
Turbidity	NTU	-	2-25	2.04	2.48	1.83	3.61	1.89	1.87	1.28	4.9	0	0	0	2.9	2.4	4.2	1.3	0.2	69.3	57.8	66.8	Dry	Dry	Dry	4	20.4	1000	93.9	126
Laboratory analytes																														
TSS	mg/L	5	No Water Quality Objective Value	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	7	14	21	Dry	Dry	Dry	<5	<5	426	6	24
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	46	31	46	43	46	43	43	43	184	12	9	7	9	2	<1	<1	24	24	233	Dry	Dry	Dry	<1	16	18	32	280
Nutrients																														
Ammonia as N	µg/L	10	13	<10	<10	<10	<10	<10	10	10	<10	<10	10	<10	<10	<10	40	<10	<10	<10	20	<10	Dry	Dry	Dry	10	<10	1,220	150	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	<10	10	10	<10	<10	<10	10	16,600	<10	30	<10	<10	20	<10	<10	70	40	18,500	Dry	Dry	Dry	<10	<10	6,030	4,670	18,200
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	<100	100	<100	100	100	200	100	<100	1,100	<100	100	100	100	300	200	200	300	400	2800	Dry	Dry	Dry	100	100	4,400	1,400	2,600
Nitrogen (Total)	µg/L	100	250	<100	100	<100	100	100	200	100	<100	17,700	<100	100	100	100	300	200	200	400	400	21300	Dry	Dry	Dry	100	100	10,400	6,100	20,800
Reactive Phosphorus	µg/L	1	15	9	9	6	6	6	9	7	5	5	4	2	7	7	4	2	1	6	9	3	Dry	Dry	Dry	2	6	31	15	7
Phosphorus (Total)	µg/L	10	20	20	50	80	50	50	60	60	40	20	20	30	20	20	20	10	30	30	50	60	Dry	Dry	Dry	20	90	270	60	40
Inorganics																														
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	Dry	Dry	Dry	<4	<4	<4	<4	<4
Hydrocarbons																														
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	Dry	Dry	Dry	<1.0	<1.0	18.7	<1.0	<1.0
Metals																														
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	879	Dry	Dry	Dry	152	708	18,000	917	784
Aluminium (dissolved)	µg/L	5	27	8	<5	7	10	8	9	9	8	<5	6	<5	12	14	29	19	18	17	30	10	Dry	Dry	Dry	19	11	15	212	5
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	Dry	Dry	Dry	0.2	0.5	17.3	1.5	3.7
Arsenic (dissolved)	µg/L	0.2	0.8	0.3	<0.2	0.3	0.3	0.2	0.3	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	0.4	0.6	5.2	Dry	Dry	Dry	<0.2	0.3	11.6	1.2	3.0
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.6	Dry	Dry	Dry	0.3	1.3	171	195	7.3
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	<0.2	<0.2	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.3	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	8.5	Dry	Dry	Dry	<0.2	<0.2	117	182	5.4
Copper (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	Dry	Dry	Dry	<0.5	1.1	32.4	1.2	3.1
Copper (dissolved)	µg/L	0.5	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	Dry	<0.5	<0.5	2.6	0.5	1.2
Iron (total)	µg/L	2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	944	Dry	Dry	Dry	247	654	24,300	494	818
Iron (dissolved)	µg/L	2	300	9	6	8	9	8	9	8	8	<2	12	11	26	20	95	77	76	188	278	<2	Dry	Dry	Dry	77	22	11	3	<2
Lead (total)	µg/L	0.1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	Dry	Dry	Dry	0.1	0.2	38.6	0.6	1.2
Lead (dissolved)	µg/L	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	Dry	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.0	Dry	Dry	Dry	5.4	14.4	557	11.4	38.7
Manganese (dissolved)	µg/L	0.5	1,200	1.4	2.2	1.4	3.5	1.0	1.2	1.2	1.9	131	2.4	0.8	2.5	2.0	36.6	3.7	3.9	41.8	40.4	<0.5	Dry	Dry	Dry	3.5	6.8	<0.5	<0.5	<0.5
Nickel (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	Dry	Dry	Dry	<0.5	2.5	73.9	1.6	2.8
Nickel (dissolved)	µg/L	0.5	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	0.8	<0.5	Dry	Dry	Dry	<0.5	0.7	1.5	<0.5	1.0
Silver (total)	µg/L	0.01	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	Dry	<0.01	<0.01	0.06	<0.01	<0.01
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	Dry	Dry	Dry	<1	2	135	3	4
Zinc (dissolved)	µg/L	1	2.4	2	<1	<1	<1	<1	<1	1	<1	6	<1	1	<1	1	<1	2	<1	<1	<1	<1	Dry	Dry	Dry	<1	1	<1	<1	<1

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2018), they are not pollutant limits imposed by EPL 21266.

\- Samples not required

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 30 Nov 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				17/11/2024							27/11/2024
Inflow[#]	ML/day	-	-	-	0.0000	0.4957	0.0511	0.1865	0.0791	0.5600	-
Outflow[#]	ML/day	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	pH Unit	-	6.5-8.5	8.72	-	-	-	-	-	-	8.98
Electrical Conductivity	µS/cm	-	700 (EPL 41) / 200 (EPL 50)	24	-	-	-	-	-	-	158.4
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	118	-	-	-	-	-	-	223.6
Temperature	°C	-	15	24.32	-	-	-	-	-	-	18.9
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	80.5	-	-	-	-	-	-	88.7
Turbidity	NTU	-	<25	4.7	-	-	-	-	-	-	9.48
Laboratory analytes											
Total suspended solids	mg/L	5	5/10	<5							<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	<1							2
Nutrients											
Ammonia as N	µg/L	10	200/2000^	70	-	-	-	-	-	-	60
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	100	-	-	-	-	-	-	300
Nitrogen (Total)	µg/L	100	350/-^	300	-	-	-	-	-	-	300
Reactive Phosphorus	µg/L	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	4
Phosphorus (Total)	µg/L	10	100/300^	40	-	-	-	-	-	-	20
Inorganics											
Cyanide Total	µg/L	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	mg/L	1	2/5^	<1.0	-	-	-	-	-	-	<1.0
Metals											
Aluminium (dissolved)	µg/L	5	55	<5	-	-	-	-	-	-	39
Arsenic (dissolved)	µg/L	0.2	13	<0.2	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	0.3	-	-	-	-	-	-	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	µg/L	2	300	<2	-	-	-	-	-	-	114
Lead (dissolved)	µg/L	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	<0.5	-	-	-	-	-	-	2.3
Nickel (dissolved)	µg/L	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	µg/L	1	8	<1	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	CFU/100mL	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	2	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

[#] Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 30 Nov 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/11/2024	-	-	0.23	0.05	0.12	0.09	0.51
2/11/2024	-	-	0.46	0.05	0.19	0.09	0.47
3/11/2024	-	-	0.54	0.04	0.20	0.08	0.46
4/11/2024	-	-	0.37	0.04	0.10	0.08	0.48
5/11/2024	-	-	0.45	0.03	0.31	0.08	0.58
6/11/2024	-	-	0.71	0.04	0.15	0.08	0.65
7/11/2024	-	-	0.46	0.06	0.21	0.07	0.58
8/11/2024	-	-	0.47	0.04	0.13	0.08	0.48
9/11/2024	-	-	0.42	0.05	0.17	0.08	0.56
10/11/2024	-	-	0.87	0.06	0.20	0.04	0.59
11/11/2024	-	-	0.40	0.06	0.15	0.11	0.63
12/11/2024	-	-	0.43	0.06	0.17	0.07	0.34
13/11/2024	-	-	0.64	0.03	0.17	0.06	0.49
14/11/2024	-	-	0.39	0.03	0.21	0.07	0.43
15/11/2024	-	-	0.58	0.15	0.25	0.07	0.43
16/11/2024	-	-	0.43	0.06	0.18	0.08	0.58
17/11/2024	-	-	0.46	0.06	0.21	0.10	0.42
18/11/2024	-	-	0.59	0.04	0.19	0.05	0.40
19/11/2024	-	-	0.46	0.05	0.20	0.11	0.64
20/11/2024	-	-	0.43	0.05	0.14	0.07	0.76
21/11/2024	-	-	0.50	0.05	0.25	0.07	0.24
22/11/2024	-	-	0.67	0.05	0.15	0.09	0.94
23/11/2024	-	-	0.63	0.06	0.18	0.06	0.63
24/11/2024	-	-	0.14	0.04	0.19	0.13	0.54
25/11/2024	-	-	0.72	0.04	0.17	0.09	0.53
26/11/2024	-	-	0.54	0.06	0.20	0.09	0.91
27/11/2024	-	-	0.54	0.04	0.16	0.09	0.83
28/11/2024	0.03	-	0.54	0.05	0.28	0.03	0.65
29/11/2024	-	-	0.54	0.02	0.18	0.08	0.63
30/11/2024	-	-	0.26	0.04	0.19	0.09	0.45

- Water not discharged on this day

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 1.85 L/s

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 4.51 L/s

-- Water not discharged on this day

Snowy Hydro 2.0 Main Works EPL Sampling: 01 - 31 Dec 2024

Environmental Protection Licence No:	21266
Licensee:	Snowy Hydro Limited
Licensee address:	PO Box 332, Cooma, NSW 2630
Premises:	Snowy 2.0 Pumped Hydro Power Station Talbingo and Tantangara, Kosciuszko National Park and Rock Forest, Kosciuszko NSW 2642
EPA Public Register:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=21266&id=21266&option=licence&searchrange=licence&range=POEO%20licence&prp=no&status=Issued

Monthly water sampling and analysis is performed as part of the Snowy 2.0 Approval Conditions, Environmental Protection Licence No 21266 - Variation 28 March 2024, and the approved Water Management Plan to ensure that works are not impacting on nearby receiving waters.

A map showing the location of each of the EPL named sampling points is provided after the results tables.

Surface Water Results: During the reporting period, varying frequencies of exceedances in Conductivity and Dissolved Oxygen were observed at various monitoring points. However, these locations met the historical ranges and aligned with the Basile water quality studies, indicating that the fluctuations are not unusual. Spikes in Total Nitrogen were observed detected at EPL24, EPL31, EPL, EPL31, EPL34, EPL35, EPL36 and EPL37, these may be attributed to a combination of factors, including reduced water level, reduced flow rates and rising surface temperatures. In the leachate basin locations, increased nutrient levels, temperature, and conductivity and these changes are results of capturing leachate fluid generation in line with their design and function. A more detailed discussion on these leachate results will follow in the relevant section.
Reservoir Results: Talbingo and Tantangara reservoirs were observed to experience water level fluctuations throughout the reoprting period. This reduction has posed challenges for sampling and has notably impacted in-situ readings and allowed for potentially un-representative nutrient concentrations. EPL10 and EPL11 reported otably elevated califorms during the reporting period. Caliform analytical results were observed to be heavily influenced by the notably elevated water temperature and the elevated Disolved Oxygen saturdation present during sampling. Additionally, Talbingo Reservoir was observed to contain a green discolouration throughout the sampling event. Upon considering the recorded water conditions, the elevated coliform concentrations have been attributed to the natural conditions present at the time of sampling.
Discharge Results: Per the EPL, only water within discharge criteria can be released into Talbingo and Tantangara reservoirs from the final discharge points. FGJV is committed to mitigating environmental impacts, so the Environmental Team only permits discharge if all parameters are within WQO. There were no discharges during the December period at Tantangara Reservoir as the pH wasn't within the WQO. However, as the water met reuse criteria, the water was reused instead of discharged.
Groundwater Results: Some exceedances in pH and EC were observed at Tantangara (Emplacement area) and Lobs Hole (Lick Hole Gully, Main Yard and GF01). These exceedances, which are due to natural variation and precipitation events are consistent with background conditions. Nutrient exceedances are under investigation, including comprehensive weekly sampling and thorough analysis. Additional measures such as upgrading groundwater extraction for treatment, spoil emplacement permit review, and collaborative efforts with construction teams have been undertaken. FGJV remains committed to implementing all necessary actions to minimize environmental impacts.
Leachate results: Elevated concentrations of in-situ and comprehensive analytes are observed and expected within the engineered containment systems such as the leachate basins. These containment controls are subject to weekly inspections through our digitised inspection system, accessible to all supervisors, managers, advisors, and personnel responsible for their management.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01-31 Dec 2024 Groundwater

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL56	EPL57	EPL58	EPL68	EPL69	EPL70	EPL72	EPL73	EPL80	EPL81	EPL82	EPL83	EPL87	EPL88	EPL89	EPL 90	EPL 91	EPL92	EPL93	EPL94	EPL95	EPL96	EPL97
Physiochemical				9/12/24	9/12/24	9/12/24	21/12/24	21/12/24	21/12/24	13/12/24	13/12/24	25/12/24	25/12/24	25/12/24	25/12/24	25/12/24	25/12/24	25/12/24	9/12/24	9/12/24	9/12/24	9/12/24	9/12/24	9/12/24	9/12/24	9/12/24
pH	pH Unit	-	6.5-8	7.17	7.81	6.02	5.24	5.62	6.53	5.48	6.04	6.47	6.82	6.5	6.29	6.26	7.01	6.61	6.23	6.89	6.6	7.12	6.89	6.04	7.51	6.41
Electrical Conductivity	µS/cm	-	30-350	238	247	878	18	32	108	118	324	842	847	2720	581	663	818	374	90	305	136	251	173	608	1500	478
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	72	84	118	294	279	236	211	242	8	-58	-6	69	129	-141	154	72	43	111	-57	-72	105	13	109
Temperature	°C	-	No Water Quality Objective Value	15.55	15.98	16.05	15.06	16.68	16.97	15.83	5.22	18.71	17.85	17.96	18.73	17.68	18.07	15.96	15.8	16.46	15.62	15.43	15.45	16.05	15.74	16.03
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	28.8	14.6	17.6	67.9	84	58.3	34.7	107.5	21.2	10.3	71.6	10.8	17.3	13.5	20.5	63.6	20.7	80.5	15.8	18.1	15.1	52.5	19
Turbidity	NTU	-	No Water Quality Objective Value	20.6	53.6	158	1.5	2.5	67	164	242	76.2	983	73.7	201	1000	2.4	254	239	57.7	244	133	76.9	88.9	484	18.8
Laboratory analytes																										
TSS	mg/L	5	No Water Quality Objective Value	50	15	384	<5	<5	<5	40	31	13	216	166	1,190	2,630	10	112	290	30	3,040	68	110	176	736	78
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	125	110	241	26	7	17	11	16	378	401	1,330	96	136	138	66	23	112	36	113	76	186	712	138
Nutrients																										
Ammonia as N	µg/L	10	13	<10	<10	<10	<10	<10	<10	20	10	20	40	100	20	180	130	100	<10	<10	<10	20	10	460	<10	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	<10	790	22,900	1,160	90	550	25	30	5	10	6	74	4,680	<10	10	460	70	40	4	<10	28,400	35,400	790
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	<100	100	600	<100	<100	<100	<100	<500	100	400	300	800	10.900	300	900	<100	<100	<2.000	<100	<100	4.600	4.000	100
Nitrogen (Total)	µg/L	100	250	<100	900	23,500	1,200	<100	600	<100	<500	100	400	300	900	15,600	300	900	500	<100	<2,000	<100	<100	33,000	39,400	900
Reactive Phosphorus	µg/L	1	15	5	8	1	5	3	20	15	18	6	27	7	12	4	33	10	8	3	<1	13	1	2	7	10
Phosphorus (Total)	µg/L	10	20	30	80	60	20	20	50	50	<50	20	140	40	420	4,990	50	370	80	30	1,270	130	30	200	100	30
Inorganics																										
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons																										
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals																										
Aluminium (total)	µg/L	5	No Water Quality Objective Value	1,030	670	6,360	94	782	1,540	869	431	27	2,250	628	27,600	71,400	42	3,800	1,810	412	16,600	1,440	1,910	713	19,000	864
Aluminium (dissolved)	µg/L	5	27	<5	<5	<5	<5	14	<5	7	<5	<5	<5	<5	<5	<5	<5	<5	21	<5	<5	<5	<5	<5	<5	<5
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	0.4	2.6	10.1	<0.2	<0.2	0.2	0.5	<0.2	65.8	19.4	31.4	64.8	18.8	33.7	2.2	0.9	3.1	17.0	18.5	13.3	4.0	13.8	2.0
Arsenic (dissolved)	µg/L	0.2	0.8	<0.2	2.0	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3.0	1.5	5.3	2.1	0.3	25.0	0.3	<0.2	0.3	0.4	6.0	1.0	1.1	0.8	0.4
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	3.5	1.7	22.9	0.2	0.6	3.3	2.7	0.6	0.7	3.9	1.3	96.1	206	0.9	8.4	4.0	1.2	23.6	3.6	6.0	2.7	60.4	2.4
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	<0.2	<0.2	0.4	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	0.5	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.8	<0.2
Copper (total)	µg/L	0.5	No Water Quality Objective Value	60.8	51.0	13.7	6.1	2.8	202	4.8	2.0	1.1	5.1	0.7	121	141	29.9	122	3.3	0.8	37.5	2.2	3.6	7.4	44.5	1.3
Copper (dissolved)	µg/L	0.5	1	6.5	4.5	<0.5	1.5	<0.5	33.9	1.5	<0.5	<0.5	<0.5	<0.5	2.4	<0.5	<0.5	9.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	0.7	<0.5
Iron (total)	µg/L	2	No Water Quality Objective Value	1,560	864	15,600	53	408	1,160	1,080	160	3,510	3,680	4,500	43,400	104,000	1,650	4,830	2,360	1,450	17,700	2,690	6,500	1,440	34,900	1,640
Iron (dissolved)	µg/L	2	300	<2	<2	<2	<2	30	<2	<2	<2	<2	<2	891	<2	<2	764	<2	22	<2	<2	<2	<2	3	2	<2
Lead (total)	µg/L	0.1	No Water Quality Objective Value	7.0	2.3	111	<0.1	0.3	1.0	3.1	1.0	0.4	4.3	1.2	49.6	131	0.2	3.5	6.1	3.9	751	6.3	9.1	5.1	223	14.0
Lead (dissolved)	µg/L	0.1	1	<0.1	<0.1	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (total)	µg/L	0.5	No Water Quality Objective Value	97.2	122	520	5.2	6.1	28.0	40.8	23.7	214	155	391	1,070	1,940	228	79.3	53.9	414	2,130	166	712	1,060	2,210	676
Manganese (dissolved)	µg/L	0.5	1,200	13.4	36.8	99.9	1.5	0.5	1.2	5.7	6.8	187	131	368	37.8	43.9	173	16.7	5.2	22.0	25.1	73.8	590	945	0.6	472
Nickel (total)	µg/L	0.5	No Water Quality Objective Value	4.0	2.8	25.6	0.9	1.0	2.7	3.9	0.7	21.9	9.6	3.1	137	288	3.9	14.5	8.4	2.0	49.6	5.8	9.8	17.9	87.5	9.8
Nickel (dissolved)	µg/L	0.5	8	<0.5	<0.5	3.4	0.5	<0.5	<0.5	1.7	<0.5	16.1	2.5	1.5	5.8	2.4	3.0	3.5	2.3	<0.5	1.4	<0.5	1.4	14.4	0.8	4.1
Silver (total)	µg/L	0.01	No Water Quality Objective Value	<0.01	<0.01	0.28	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	0.16	0.27	0.64	<0.01	0.04	<0.01	<0.01	0.31	<0.01	<0.01	<0.01	0.14	<0.01
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (total)	µg/L	1	No Water Quality Objective Value	18	8	59	5	4	5	10	2	4	15	9	194	432	3	16	25	12	297	17	432	40	251	189
Zinc (dissolved)	µg/L	1	2.4	2	<1	8	2	<1	<1	8	<1	<1	<1	2	2	1	<1	1	9	1	6	<1	7	33	<1	68

* Water Quality Objective values for groundwater refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 Dec 2024 - Talbingo and Tantangara Reservoir

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL10	EPL11	EPL28	EPL29	EPL32	EPL38	EPL39	EPL40	EPL46	EPL51
Field				4/12/24	4/12/24	31/12/24	29/12/24	29/12/24	28/12/24	28/12/24	21/12/24	29/12/24	29/12/24
pH	pH Unit	-	6.5-8	7.84	7.83	7.62	7.92	7.89	6.28	6.03	7.63	7.86	7.4
Electrical Conductivity	µS/cm	-	20-30	75	75	35.3	24	29	24	26	26.1	62	29
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	120	115	128.7	141	164	245	248	176.1	164	181
Temperature	°C	-	No Water Quality Objective Value	23.78	23.69	25.6	20.69	21.49	18.98	16.24	20.3	20.56	20.7
Dissolved Oxygen	% saturation	-	90-110	110.1	115.7	107.2	62.4	56.5	63.6	61.6	96.4	60.6	55.1
Turbidity	NTU	-	1-20	0	0.6	5.9	19.1	12.6	7	9.4	4.26	8.4	3.8
Laboratory analytes													
Total suspended solids	mg/L	5	No Water Quality Objective Value	10	8	<5	20	21	<5	<5	<5	8	<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	33	33	5	2	2	5	7	9	2	2
Nutrients													
Ammonia as N	µg/L	10	10	<10	<10	<10	<10	50	10	<10	<10	<10	<10
Nitrite + Nitrate as N (NOx)	µg/L	10	10	58	57	<10	4	6	<2	50	9	<2	<2
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	200	200	300	500	500	400	200	200	300	300
Nitrogen (Total)	µg/L	100	350	300	300	300	500	500	400	200	200	300	300
Reactive Phosphorus	µg/L	1	5	5	4	3	2	2	3	2	3	8	4
Phosphorus (Total)	µg/L	10	10	<10	<10	40	50	30	40	30	10	20	20
Inorganics													
Cyanide Total	µg/L	4	7	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Hydrocarbons													
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<1.0
Metals													
Aluminium (dissolved)	µg/L	5	55	15	15	32	44	45	40	19	18	42	38
Arsenic (dissolved)	µg/L	0.2	13	0.5	0.4	0.3	0.3	0.3	0.3	<0.2	<0.2	0.3	0.3
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Iron (dissolved)	µg/L	2	300	48	49	166	242	251	271	90	55	257	256
Lead (dissolved)	µg/L	0.1	3.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	1.7	1.2	8.8	11.9	5.6	35.6	3.1	3.2	9.7	14.4
Nickel (dissolved)	µg/L	0.5	11	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (dissolved)	µg/L	1	8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Biological													
Faecal Coliforms	CFU/100mL	1	10/100^	1500**	1200**	10	-	-	-	-	-	-	7
Biochemical Oxygen Demand	mg/L	2	1/5^	2	<2	2	-	-	-	-	-	-	2

* Water Quality Objective values for Talbingo and Tantangara Reservoir refer to the default trigger values for physical and chemical stressors in south-east Australia (fresh lakes and reservoirs) for the protection of 95% of aquatic species ANZECC / ARMCANZ (2000), they are not pollutant limits imposed by EPL 21266.

** Algal blooms can present as feacal coliforms

^ 90th percentile concentration limits / 100 percentile concentration limits

\- Sample not required at this location.

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 Dec 2024 - Surface Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL5	EPL6	EPL8	EPL9	EPL12	EPL14	EPL15	EPL16	EPL24	EPL26	EPL27	EPL30	EPL31	EPL33	EPL34	EPL35	EPL36	EPL37	EPL52	EPL53	EPL54	EPL55	EPL67	EPL71	EPL84	EPL85	EPL86
Field				2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	2/12/24	11/12/24	6/12/24	6/12/24	7/12/24	7/12/24	7/12/24	7/12/24	7/12/24	22/12/24	22/12/24	16/12/24	Dry	Dry	16/12/24	7/12/24	6/12/24	10/12/24	10/12/24	10/12/24
pH	-	-	6.5-8	7.86	7.84	8.02	7.84	7.82	7.78	7.76	7.72	7.24	7.33	7.22	7.39	7.37	7.61	7.71	7.19	7.25	7.45	7.09	Dry	Dry	6.87	7.44	7.46	8.71	9.14	8.11
Electrical Conductivity	µS/cm	-	30-350	75	121	119	131	105	123	128	139	56	112	117	49	30	26	36	21	49	61	1170	Dry	Dry	1230	23	96	557	675	1140
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	75	121	199	131	105	123	128	139	56	112	117	120	122	125	81	113	199	219	141	Dry	Dry	148	131	153	101	43	113
Temperature	°C	-	No Water Quality Objective Value	21.21	21.42	22.78	22.9	21.04	21.35	21.74	23.04	16.6	13.59	12.22	17.34	17.75	20.04	18.4	18.06	20.16	22.7	24.71	Dry	Dry	20.67	20.67	18.92	24.99	26.04	24.66
Dissolved Oxygen	% saturation	-	90-110	140.3	150	148.2	134.6	131.7	123.1	140.3	125.6	55.2	109.3	146	104.4	100.6	106.8	95.7	88.9	65.9	87.3	118.1	Dry	Dry	63	108.4	124.8	63	123.3	87.3
Turbidity	NTU	-	2-25	9.18	2.02	8.15	8.19	8.33	7.04	7.23	9.39	42.2	2.46	1.81	27.3	8	8.4	17	16.7	38.8	27.6	12.4	Dry	Dry	4.2	16.6	92.4	1000	1000	109
Laboratory analytes																														
TSS	mg/L	5	No Water Quality Objective Value	19	9	12	10	12	11	14	12	<5	<5	<5	20	11	<5	18	16	<5	8	8	Dry	Dry	<5	11	18	860	688	26
Hardness as CaCO3	mg/L	1	No Water Quality Objective Value	24	38	33	31	28	31	31	31	68	12	12	16	9	5	7	7	24	24	345	Dry	Dry	380	7	32	46	44	297
Nutrients																														
Ammonia as N	µg/L	10	13	<10	<10	<10	<10	<10	<10	<10	<10	40	10	<10	<10	<10	20	30	<10	<10	70	<10	Dry	Dry	<10	<10	<10	10	30	10
Nitrite + Nitrate as N (NOx)	µg/L	10	15	7	4	40	20	7	8	<10	20	8,550	<10	9	30	12	34	<10	<10	70	60	29,900	Dry	Dry	64,200	<10	3	1,740	3,940	19,000
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	200	<100	100	200	300	100	100	200	700	<100	<100	200	300	200	300	400	300	1,800	4,000	Dry	Dry	6,300	200	100	1,800	1,900	1,300
Nitrogen (Total)	µg/L	100	250	200	<100	100	200	300	100	100	200	9,200	<100	<100	200	300	200	300	400	400	1,900	33,900	Dry	Dry	70,500	200	100	5,900	5,800	20,300
Reactive Phosphorus	µg/L	1	15	5	5	5	5	4	5	4	5	8	2	3	6	6	2	<1	<1	10	8	4	Dry	Dry	3	3	3	21	15	5
Phosphorus (Total)	µg/L	10	20	20	20	10	40	50	50	10	50	20	30	20	50	50	30	40	40	20	50	<10	Dry	Dry	<10	40	90	760	750	60
Inorganics																														
Cyanide Total	µg/L	4	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	16	Dry	Dry	15	<4	<4	<4	<4	<4
Hydrocarbons																														
Oil and Grease	mg/L	1	5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	Dry	Dry	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Metals																														
Aluminium (total)	µg/L	5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	879	Dry	Dry	34	304	1,410	34,400	33,100	1,340
Aluminium (dissolved)	µg/L	5	27	70	7	58	47	67	62	67	60	8	8	9	46	40	38	41	42	25	40	10	Dry	Dry	<5	37	12	16	15	<5
Arsenic (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	Dry	Dry	0.5	0.2	1.0	18.4	26.6	3.7
Arsenic (dissolved)	µg/L	0.2	0.8	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.7	<0.2	<0.2	<0.2	<0.2	0.2	0.3	0.3	0.4	0.5	5.2	Dry	Dry	0.5	0.2	0.5	9.8	17.0	2.2
Chromium (III+VI) (total)	µg/L	0.2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.6	Dry	Dry	0.7	0.4	2.6	125	132	4.9
Chromium (III+VI) (dissolved)	µg/L	0.2	0.01	0.3	<0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.8	<0.2	<0.2	<0.2	<0.2	<0.2	0.2	0.2	<0.2	<0.2	8.5	Dry	Dry	0.7	<0.2	<0.2	16.9	26.8	1.6
Copper (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	Dry	Dry	<0.5	<0.5	2.4	63.0	54.1	4.8
Copper (dissolved)	µg/L	0.5	1	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	0.7	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	Dry	Dry	<0.5	<0.5	<0.5	1.6	1.2	2.6
Iron (total)	µg/L	2	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	944	Dry	Dry	28	507	1,800	59,400	54,000	1,980
Iron (dissolved)	µg/L	2	300	90	15	79	71	90	83	87	82	18	23	23	93	80	140	201	204	330	348	<2	Dry	Dry	<2	172	34	22	15	3
Lead (total)	µg/L	0.1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.0	Dry	Dry	<0.1	0.2	0.5	104	90.5	3.1
Lead (dissolved)	µg/L	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	Dry	Dry	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Manganese (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.0	Dry	Dry	6.8	8.6	56.8	1,450	1,300	155
Manganese (dissolved)	µg/L	0.5	1,200	2.7	3.9	3.1	4.4	2.4	2.8	2.9	3.9	37.8	2.5	1.7	5.9	3.6	25.7	4.3	4.6	53.6	14.2	<0.5	Dry	Dry	4.8	4.4	32.1	0.6	0.9	85.3
Nickel (total)	µg/L	0.5	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	Dry	Dry	1.2	1.1	6.2	154	146	5.4
Nickel (dissolved)	µg/L	0.5	8	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	0.6	<0.5	Dry	Dry	0.8	<0.5	1.3	<0.5	<0.5	1.2
Silver (total)	µg/L	0.01	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.01	Dry	Dry	<0.01	<0.01	<0.01	0.10	0.09	<0.01
Silver (dissolved)	µg/L	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	Dry	Dry	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc (total)	µg/L	1	No Water Quality Objective Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	Dry	Dry	8	2	4	264	224	8
Zinc (dissolved)	µg/L	1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	Dry	Dry	4	<1	<1	<1	<1	<1

* Water Quality Objective values for surface water refer to the default trigger values for physical and chemical stressors in south-east Australia (upland rivers) for the protection of 99% of aquatic species ANZECC / ARMCANZ (2018), they are not pollutant limits imposed by EPL 21266.

\- Samples not required

Snowy Hydro 2.0 Main Works

Monthly EPL Sampling: 01 - 31 Dec 2024 - Treated Water

Analyte	Unit	Limit of Reporting	Water Quality Objective Value*	EPL 41	EPL 43	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49	EPL 50
Flow Rate				1/12/2024							11/12/2024
Inflow[#]	ML/day	-	-	-	0.0000	0.5777	0.0557	0.2053	0.0850	0.5851	-
Outflow[#]	ML/day	-	4.32 (EPL 43 / 50)	-	-	-	-	-	-	-	-
Field											
pH	pH Unit	-	6.5-8.5	7.37	-	-	-	-	-	-	8.4
Electrical Conductivity	µS/cm	-	700 (EPL 41) / 200 (EPL 50)	18	-	-	-	-	-	-	79.3
Oxidation Reduction Potential	mV	-	No Water Quality Objective Value	183	-	-	-	-	-	-	212.2
Temperature	°C	-	15	28.1	-	-	-	-	-	-	20.1
Dissolved Oxygen	% saturation	-	No Water Quality Objective Value	64.3	-	-	-	-	-	-	91.6
Turbidity	NTU	-	<25	101	-	-	-	-	-	-	2.75
Laboratory analytes											
Total suspended solids	mg/L	5	5/10	8.00							<5
Hardness as $CaCO_3$ (filtered)	mg/L	1	No Water Quality Objective Value	<1							<1
Nutrients											
Ammonia as N	µg/L	10	200/2000^	140	-	-	-	-	-	-	640
Kjeldahl Nitrogen Total	µg/L	100	No Water Quality Objective Value	200	-	-	-	-	-	-	1300
Nitrogen (Total)	µg/L	100	350/-^	200	-	-	-	-	-	-	1300
Reactive Phosphorus	µg/L	1	No Water Quality Objective Value	<1	-	-	-	-	-	-	<1
Phosphorus (Total)	µg/L	10	100/300^	20	-	-	-	-	-	-	<10
Inorganics											
Cyanide Total	µg/L	4	No Water Quality Objective Value	<4	-	-	-	-	-	-	<4
Hydrocarbons											
Oil and Grease	mg/L	1	2/5^	<1.0	-	-	-	-	-	-	<1.0
Metals											
Aluminium (dissolved)	µg/L	5	55	<5	-	-	-	-	-	-	<5
Arsenic (dissolved)	µg/L	0.2	13	<0.2	-	-	-	-	-	-	<0.2
Chromium (III+VI) (dissolved)	µg/L	0.2	1	<0.2	-	-	-	-	-	-	<0.2
Copper (dissolved)	µg/L	0.5	14	<0.5	-	-	-	-	-	-	<0.5
Iron (dissolved)	µg/L	2	300	<2	-	-	-	-	-	-	<2
Lead (dissolved)	µg/L	0.1	3.4	<0.1	-	-	-	-	-	-	<0.1
Manganese (dissolved)	µg/L	0.5	1,900	0.8	-	-	-	-	-	-	<0.5
Nickel (dissolved)	µg/L	0.5	11	<0.5	-	-	-	-	-	-	<0.5
Silver (dissolved)	µg/L	0.01	0.05	<0.01	-	-	-	-	-	-	<0.01
Zinc (dissolved)	µg/L	1	8	4	-	-	-	-	-	-	<1
Biological											
Faecal Coliforms	CFU/100mL	1	10/100^	<1	-	-	-	-	-	-	<1
Biological Oxygen Demand	mg/L	2	5	<2	-	-	-	-	-	-	<2

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

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

\- Samples not required

^ 90 Percentile concentration limit/100 Percentile limit

[#] Inflows to STP and CWTP do not directly correspond to outflow at RO as much of the water is reused on site

Snowy Hydro 2.0 Main Works
Monthly EPL Sampling: 01 - 31 Dec 2024 - Treated Water

Date	EPL 43 *	EPL 50 ^	EPL 44	EPL 45	EPL 47	EPL 48	EPL 49
	Discharge volume (Megalitres)		Discharge volume (Megalitres)				
1/12/2024	-	-	0.56	0.04	0.24	0.04	0.44
2/12/2024	0.44	-	0.75	0.04	0.22	0.14	0.67
3/12/2024	-	-	0.75	0.04	0.18	0.10	0.64
4/12/2024	-	-	0.42	0.04	0.20	0.08	0.62
5/12/2024	-	-	0.32	0.02	0.29	0.04	0.79
6/12/2024	-	-	0.31	0.04	0.13	0.15	0.97
7/12/2024	-	-	0.46	0.04	0.18	0.08	0.56
8/12/2024	-	-	0.60	0.17	0.23	0.09	0.72
9/12/2024	-	-	0.41	0.07	0.15	0.02	0.72
10/12/2024	-	-	0.70	0.09	0.23	0.16	0.57
11/12/2024	-	-	0.69	0.06	0.22	0.02	0.50
12/12/2024	-	-	0.42	0.06	0.23	0.08	0.85
13/12/2024	-	-	0.40	0.06	0.21	0.09	0.71
14/12/2024	-	-	0.56	0.05	0.21	0.09	0.54
15/12/2024	-	-	0.84	0.08	0.32	0.20	0.73
16/12/2024	-	-	0.59	0.05	0.19	0.08	0.38
17/12/2024	-	-	0.78	0.04	0.19	0.09	0.30
18/12/2024	-	-	0.55	0.05	0.18	0.10	0.06
19/12/2024	-	-	0.50	0.05	0.16	0.08	0.29
20/12/2024	-	-	0.37	0.06	0.21	0.09	0.22
21/12/2024	-	-	0.57	0.06	0.21	0.09	0.32
22/12/2024	-	-	0.32	0.04	0.36	0.09	0.46
23/12/2024	-	-	0.54	0.08	0.08	0.00	0.53
24/12/2024	-	-	0.46	0.05	0.17	0.06	0.62
25/12/2024	-	-	0.70	0.04	0.17	0.07	0.55
26/12/2024	-	-	0.84	0.04	0.10	0.08	0.84
27/12/2024	-	-	0.75	0.04	0.18	0.07	0.53
28/12/2024	-	-	0.71	0.05	0.17	0.07	0.42
29/12/2024	-	-	0.57	0.05	0.16	0.08	0.67
30/12/2024			0.46	0.05	0.17	0.06	0.74
31/12/2024	-	-	0.46	0.04	0.24	0.08	0.62

- Water not discharged on this day

Note: The EPL discharge volume limit for EPL 43 and 50 is 4.32 megalitres per day. Compliance with this criteria was met during the reporting month.

* The maximum flow rate capacity for Lobs Hole STP/PWTP during the reporting month was 4.4 L/s

^ The maximum flow rate capacity for Tantangara STP/PWTP during the reporting month was 0.0 L/s