

Instructions

Delete the existing data in the template and add your data. Use the right template for the format of your data. **DO NOT change the column headings or sheet names** (except if indicated below). A column can be left blank.

The sheets within the excel data template include:

Monitoring Points – enter the water quality monitoring points and the associated spatial coordinates (latitude

Type: can be groundwater, surface water or on-site storage.

Group: this is used to group monitoring points together. E.g. compliance, reference, upstream,

Basin: refers to the Queensland river basin

Surface RL (m), install date, depth (m) screened section (m): applicable to groundwater bores

Stream: applicable to surface water, the name of the waterbody. E.g. Deep Creek or Isaac River.

Raw Data – all raw data. If indicators are missing from the template. Add the new indicator. Standing Water level (m) or flow (m³/s) can be added in this sheet.

Major Ions – add major ion data here.

Rainfall – Add rainfall data if available.

Guideline – Common guideline values have been included in this sheet. Additional guidelines can be added.

Triggers and limits can also be added into this sheet.

Outliers Removed – Initially copy all data from the raw data sheet into this sheet. After the raw data has been imported in the Power BI file go to the outlier analysis page. On this page the outliers are determined by comparing the maximum value for each monitoring point with the mean + 4*standard deviation (SD). An x in the outlier column identifies that there is potentially an outlier in the raw dataset.

Data points greater than the mean +4*SD should be investigated and if found to be an outlier removed from the dataset. The identified outliers should then be removed from the outliers removed tab in the excel template.

Outlier analysis - Initially leave blank until the outliers have been calculated in Power BI. Export the outlier table calculated in the Outliers analysis page in Power BI as a .csv file. Copy this into the outlier analysis sheet.

DO NOT change column headings. Latitude and longitude must be added as decimal degrees. Only enter relevant data, columns can be left blank.

Monitoring Point	Type	Group	Basin	Stream	latitude	longitude	Surface RL (m)	Install Date	Depth (m)	Screened Section (m)
GW01	Groundwater				-16.095544	144.5179465	429.34	1/06/22	86.5	80.5 - 86.5
GW03	Groundwater				-16.10214	144.5134542	387.27	3/06/22	58	50 - 56
GW04	Groundwater				-16.100899	144.5201505	420.31	10/06/22	83	75 - 81

DO NOT change column headings. Values in the Data columns must be a number. If < is entered in a cell it will be treated as a blank in Power BI. Column can be added if indicator is not present. Column can be deleted if no data.

Monitoring Point	Date	Aluminium		Ammonia (mg/L)	Arsenic -		Benzene (µg/L)	Boron -		Cadmium -		Chromium -		Copper -		Electrical Conductivity (µS/cm)	Ethylbenzene (µg/L)	Fluoride (mg/L)	Ionic Balance (meq/L)	Iron -		Lead -		Manganese -	
		- Dissolved (mg/L)	- Total (mg/L)		Dissolved (mg/L)	Total (mg/L)		Dissolved (mg/L)	Total (mg/L)	Dissolved (mg/L)	Total (mg/L)	Dissolved (mg/L)	Total (mg/L)	Dissolved (mg/L)	Total (mg/L)					Dissolved (mg/L)	Total (mg/L)	Dissolved (mg/L)	Total (mg/L)	Dissolved (mg/L)	Total (mg/L)
GW01	26/10/2022	<0.01	0.04	0.02	0.01	0.01	<1	0.05	<0.05	<0.0001	<0.0001	<0.001	0.00	<0.001	0.00	1000.00	<2	0.60	3.13	0.70	0.74	<0.001	<0.001	0.30	0.29
GW03	26/10/2022	<0.01	0.54	<0.01	0.01	0.01	<1	0.10	0.11	<0.0001	<0.0001	<0.001	<0.001	<0.001	0.00	1960.00	<2	0.60	3.34	3.12	3.84	<0.001	<0.001	6.11	5.74
GW04	26/10/2022	<0.01	0.60	0.05	0.01	0.01	<1	0.10	0.10	<0.0001	<0.0001	<0.001	0.00	<0.001	0.00	1840.00	<2	0.60	4.12	4.25	4.64	<0.001	<0.001	6.96	6.94
GW01	27/04/2023	<0.01	0.06	0.03	0.01	0.01	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	<0.001	0.03	0.03	1160.00	<2	0.60	2.72	0.41	0.48	<0.001	<0.001	0.15	0.15
GW03	28/04/2023	<0.01	0.27	0.04	0.01	0.01	<1	0.07	0.07	<0.0001	<0.0001	<0.001	<0.001	0.00	0.01	1450.00	<2	0.70	1.15	1.04	2.09	<0.001	<0.001	4.14	4.26
GW04	27/04/2023	<0.01	0.48	0.03	0.01	0.01	<1	0.12	0.11	<0.0001	<0.0001	<0.001	0.00	0.00	0.01	1680.00	<2	0.80	3.09	5.79	5.92	<0.001	<0.001	7.93	7.87
GW01	07/11/2023	<0.01	0.04	0.11	0.01	0.01	<1	<0.05	0.11	<0.0001	<0.0001	<0.001	<0.001	<0.001	0.00	1070.00	<2	0.50	0.63	0.52	0.58	<0.001	<0.001	0.35	0.40
GW03	07/11/2023	<0.01	0.44	<0.01	0.00	0.01	<1	0.08	0.08	<0.0001	<0.0001	<0.001	<0.001	0.00	0.00	1370.00	<2	0.50	1.32	0.56	2.90	<0.001	0.00	4.63	4.77
GW04	07/11/2023	<0.01	0.40	0.07	0.01	0.01	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	0.01	<0.001	0.00	1200.00	<2	0.50	0.72	4.76	5.52	<0.001	0.00	5.83	6.35
GW01	31/01/2024	<0.01	0.02	0.06	0.00	0.01	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	0.00	<0.001	0.00	1030.00	<2	0.70	5.98	0.50	0.62	<0.001	<0.001	0.13	0.16
GW03	31/01/2024	<0.01	0.05	0.04	0.00	0.00	<1	0.08	0.08	<0.0001	<0.0001	<0.001	<0.001	<0.001	0.00	1380.00	<2	0.70	1.03	<0.05	1.02	<0.001	<0.001	4.23	4.47
GW04	31/01/2024	<0.01	0.22	0.04	0.00	0.01	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	0.00	<0.001	<0.001	1080.00	<2	0.50	3.44	1.75	2.20	<0.001	<0.001	1.25	1.44
GW01	25/03/2024	0.04	0.65	0.04	0.01	0.01	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	0.00	<0.001	0.14	1050.00	<2	0.60	2.32	0.61	1.17	<0.001	0.00	0.15	0.17
GW04	25/03/2024	<0.01	0.29	0.05	0.00	0.01	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	0.00	<0.001	0.00	1120.00	<2	0.40	0.23	2.19	2.46	<0.001	<0.001	0.92	0.99
GW01	03/05/2024	<0.01	0.07	0.09	0.00	0.00	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	<0.001	<0.001	0.00	1050.00	<2	0.50	1.98	1.36	1.45	<0.001	<0.001	0.27	0.29
GW03	03/05/2024	<0.01	0.06	<0.01	0.00	0.00	<1	0.07	0.08	<0.0001	<0.0001	<0.001	<0.001	<0.001	0.01	1410.00	<2	0.50	3.67	1.18	1.52	<0.001	<0.001	4.46	4.79
GW04	03/05/2024	<0.01	0.27	0.35	0.01	0.01	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	0.00	0.00	0.00	1290.00	<2	0.40	1.61	4.02	4.37	<0.001	<0.001	2.99	3.18
GW04	07/11/2024	<0.01	0.35	0.01	0.00	0.01	<1	<0.05	<0.05	0.00	<0.0001	<0.001	0.01	<0.001	0.01	1010.00	<2	0.40	5.90	1.64	2.78	<0.001	<0.001	0.88	1.05
GW01	07/11/2024	<0.01	0.30	0.03	0.01	0.01	<1	<0.05	<0.05	0.00	<0.0001	<0.001	0.00	<0.001	0.04	921.00	<2	0.60	5.38	0.57	1.12	<0.001	0.00	0.16	0.18
GW03	07/11/2024	<0.01	0.42	0.02	0.00	0.01	<1	0.08	0.08	<0.0001	<0.0001	<0.001	0.00	0.00	0.05	1280.00	<2	0.70	6.59	0.26	3.70	<0.001	0.00	4.19	4.48
GW03	21/05/2025	<0.01	0.24	<0.01	0.001	0.003	<1	0.08	0.08	<0.0001	<0.0001	<0.001	<0.001	<0.001	0.033	1300	<2	0.6	7.42	2.09	3.07	<0.001	<0.001	4.3	4.27
GW04	21/05/2025	<0.01	0.23	<0.01	0.005	0.006	<1	0.05	0.05	<0.0001	<0.0001	<0.001	0.002	<0.001	0.001	1170	<2	0.5	6.09	8.05	8.79	<0.001	0.001	4.54	4.59
GW01	20/05/2025	<0.01	0.06	0.02	0.004	0.005	<1	<0.05	<0.05	<0.0001	<0.0001	<0.001	0.003	0.002	0.032	998	<2	0.6	7.03	0.42	0.55	<0.001	<0.001	0.154	0.159

																Total Dissolved Solids @180° (mg/L)	Total Dissolved Solids (calc.) (mg/L)	Total Hardness		Total Kjeldahl Nitrogen (mg/L)	Total Phosphor ous (mg/L)	Total Xylenes (μg/L)	Zinc - Dissolved (mg/L)	Zinc - Total (mg/L)	C6 - C9 Fraction (sum) (μg/L)	C10 - C36 Fraction (sum) (μg/L)
Mercury - Dissolved (mg/L)	Mercury - Total (mg/L)	Nickel - Dissolved (mg/L)	Nickel - Total (mg/L)	Nitrite (mg/L)	Nitrate (mg/L)	Nitrite + Nitrate (mg/L)	pH (pH Units)	Reactive Phosphoro us (mg/L)	Selenium - Dissolved (mg/L)	Selenium - Total (mg/L)	Silver - Dissolved (mg/L)	Silver - Total (mg/L)	Suspende d Solids (mg/L)	Toluene (μg/L)	Total Anions (meq/L)	Total Cations (meq/L)										
<0.0001	<0.0001	0.01	0.01	<0.01	<0.01	<0.01	7.10	<0.01	<0.01	<0.01	<0.001	<0.001	<5	<2	10.80	11.50	572.00	650.00	364.00	0.10	0.10	0.02	<2	0.01	0.02	
<0.0001	<0.0001	0.02	0.02	<0.01	<0.01	<0.01	7.35	<0.01	<0.01	<0.01	<0.001	<0.001	38.00	<2	21.10	22.60	1320.00	1270.00	327.00	0.20	0.20	0.07	<2	<0.005	0.04	
<0.0001	<0.0001	0.01	0.01	<0.01	<0.01	<0.01	7.10	0.04	<0.01	<0.01	<0.001	<0.001	64.00	<2	20.60	22.30	1300.00	1200.00	439.00	0.30	0.30	0.10	<2	<0.005	0.02	
0.00	0.00	0.01	0.01	<0.01	<0.01	<0.01	7.12	<0.01	<0.01	<0.01	<0.001	<0.001	<5	<2	13.10	13.80	636.00	754.00	366.00	<0.1	<0.1	0.02	<2	0.02	0.45	
<0.0001	<0.0001	0.00	0.01	<0.01	<0.01	<0.01	7.46	0.01	<0.01	<0.01	<0.001	<0.001	12.00	<2	15.70	16.10	878.00	942.00	261.00	0.20	0.20	0.19	<2	0.02	0.04	
<0.0001	0.00	0.00	0.01	<0.01	<0.01	<0.01	7.20	<0.01	<0.01	<0.01	<0.001	<0.001	34.00	<2	18.90	20.10	1120.00	1090.00	424.00	0.20	0.20	0.09	<2	0.01	0.02	
<0.0001	<0.0001	0.01	0.01	<0.01	<0.01	<0.01	7.33	<0.01	<0.01	<0.01	<0.001	<0.001	<5	<2	12.60	12.80	638.00	696.00	333.00	0.70	0.70	0.05	<2	<0.005	0.01	
<0.0001	<0.0001	0.01	0.01	<0.01	<0.01	<0.01	7.61	0.07	<0.01	<0.01	<0.001	<0.001	42.00	<2	16.20	16.70	910.00	890.00	269.00	0.20	0.20	0.20	<2	<0.005	0.04	
<0.0001	<0.0001	0.01	0.01	<0.01	0.02	0.02	7.25	<0.01	<0.01	<0.01	<0.001	<0.001	34.00	<2	14.20	14.00	754.00	780.00	358.00	0.10	0.10	0.06	<2	<0.005	0.02	
<0.0001	<0.0001	0.01	0.01	<0.01	0.04	0.04	7.13	<0.01	<0.01	<0.01	<0.001	<0.001	<5	<2	12.10	10.70	618.00	670.00	319.00	<0.1	<0.1	0.02	<2	0.03	0.04	
<0.0001	<0.0001	0.00	0.00	<0.10	<0.10	<0.01	7.45	0.13	<0.01	<0.01	<0.001	<0.001	<5	<2	15.80	15.50	848.00	897.00	272.00	<0.1	<0.1	0.27	<2	<0.005	0.03	
<0.0001	<0.0001	0.01	0.01	<0.01	<0.01	<0.01	7.07	<0.01	<0.01	<0.01	<0.001	<0.001	28.00	<2	12.80	12.00	670.00	702.00	402.00	<0.1	<0.1	0.06	<2	0.03	0.05	
<0.0001	<0.0001	<0.001	0.00	<0.01	<0.01	<0.01	7.69	<0.01	<0.01	<0.01	<0.001	<0.001	66.00	<2	11.80	12.40	592.00	682.00	366.00	<0.1	<0.1	<0.01	<2	<0.005	0.02	
<0.0001	<0.0001	<0.001	0.01	<0.01	<0.01	<0.01	7.56	<0.01	<0.01	<0.01	<0.001	<0.001	64.00	<2	13.10	13.00	656.00	728.00	429.00	<0.1	<0.1	0.05	<2	<0.005	0.03	
<0.0001	<0.0001	0.00	0.01	<0.01	0.02	0.02	7.62	<0.01	<0.01	<0.01	<0.001	<0.001	9.00	<2	11.80	11.40	600.00	682.00	341.00	0.40	0.40	0.07	<2	<0.005	0.01	
<0.0001	<0.0001	0.01	0.01	<0.01	0.01	0.01	7.90	0.02	<0.01	<0.01	<0.001	<0.001	<5	<2	15.50	14.40	858.00	916.00	270.00	0.40	0.40	0.14	<2	<0.005	0.01	
<0.0001	<0.0001	0.02	0.02	<0.01	<0.01	<0.01	7.53	<0.01	<0.01	<0.01	<0.001	<0.001	32.00	<2	14.00	13.60	744.00	838.00	422.00	0.20	0.20	<0.01	<2	0.01	0.02	
<0.0001		0.01	0.03	<0.01	<0.01	<0.01	7.11	<0.01	<0.01	<0.01	<0.001	<0.001	55.00	<2	13.10	11.60	676.00	656.00	387.00	0.10	0.10	0.06	<2	0.03	0.05	
<0.0001		0.00	0.01	<0.01	<0.01	<0.01	7.26	<0.01	<0.01	<0.01	<0.001	<0.001	26.00	<2	11.40	10.30	582.00	599.00	325.00	0.10	0.10	<0.01	<2	0.01	0.04	
<0.0001		0.00	0.01	<0.01	0.01	0.01	7.53	0.17	<0.01	<0.01	<0.001	<0.001	33.00	<2	15.90	13.90	838.00	832.00	251.00	0.30	0.30	0.34	<2	0.02	0.05	
<0.0001	<0.0001	0.002	0.002	<0.01	<0.01	<0.01	8.1	<0.01	<0.01	<0.01	<0.001	<0.001	20	<2	16.4	14.2	852	845	260	0.1	0.1	0.38	<2	<0.005	0.014	
<0.0001	<0.0001	0.009	0.01	<0.01	<0.01	<0.01	7.65	<0.01	<0.01	<0.01	<0.001	<0.001	26	<2	14.5	12.8	715	760	381	0.1	0.1	0.18	<2	<0.005	0.017	
<0.0001	<0.0001	0.035	0.034	<0.01	<0.01	<0.01	7.79	<0.01	<0.01	<0.01	<0.001	<0.001	<5	<2	12.2	10.6	585	649	328	<0.1	<0.1	0.06	<2	0.006	0.008	

DO NOT change column headings. Values in the Data column must be a number and in mg/L. This data is used for Piper plots in Power BI.

Monitoring Point	Date	Calcium	Magnesium	Sodium	Potassium	Chloride	Sulphate	Bicarbonate	Carbonate Alkalinity	Total Alkalinity as CaCO ₃	Hydroxide Alkalinity as CaCO ₃
GW01	26/10/2022	88.00	35.00	97.00	2.00	29.00	15.00	486.00	<1	486.00	<1
GW03	26/10/2022	88.00	26.00	366.00	5.00	50.00	415.00	554.00	<1	554.00	<1
GW04	26/10/2022	133.00	26.00	308.00	6.00	46.00	384.00	564.00	<1	564.00	<1
GW01	27/04/2023	89.00	35.00	148.00	2.00	38.00	24.00	576.00	<1	576.00	<1
GW03	28/04/2023	70.00	21.00	248.00	3.00	44.00	112.00	608.00	<1	608.00	<1
GW04	27/04/2023	132.00	23.00	264.00	6.00	37.00	290.00	592.00	<1	592.00	<1
GW01	07/11/2023	74.00	36.00	139.00	2.00	31.00	11.00	575.00	<1	575.00	<1
GW03	07/11/2023	68.00	24.00	258.00	3.00	41.00	61.00	691.00	<1	691.00	<1
GW04	07/11/2023	99.00	27.00	154.00	4.00	27.00	69.00	599.00	<1	599.00	<1
GW01	31/01/2024	75.00	32.00	99.00	1.00	38.00	12.00	538.00	<1	538.00	<1
GW03	31/01/2024	71.00	23.00	230.00	3.00	44.00	41.00	688.00	<1	688.00	<1
GW04	31/01/2024	113.00	29.00	90.00	2.00	25.00	14.00	593.00	<1	593.00	<1
GW01	25/03/2024	94.00	32.00	116.00	2.00	22.00	9.00	553.00	<1	553.00	<1
GW04	25/03/2024	124.00	29.00	101.00	3.00	16.00	31.00	601.00	<1	601.00	<1
GW01	03/05/2024	82.00	33.00	104.00	2.00	23.00	7.00	553.00	<1	553.00	<1
GW03	03/05/2024	70.00	23.00	207.00	2.00	29.00	70.00	664.00	<1	664.00	<1
GW04	03/05/2024	123.00	28.00	117.00	2.00	23.00	62.00	605.00	<1	605.00	<1
GW04	07/11/2024	112.00	26.00	88.00	3.00	21.00	40.00	584.00	<1	584.00	<1
GW01	07/11/2024	79.00	31.00	86.00	2.00	22.00	5.00	537.00	<1	537.00	<1
GW03	07/11/2024	66.00	21.00	203.00	2.00	37.00	42.00	698.00	<1	698.00	<1
GW03	21/05/2025	68.00	22.00	205.00	2.00	39.00	21.00	746.00	<1	746.00	<1
GW04	21/05/2025	108.00	27.00	118.00	3.00	22.00	20.00	673.00	<1	673.00	<1
GW01	20/05/2025	77.00	33.00	92.00	2.00	27.00	7.00	566.00	<1	566.00	<1

DO NOT change column headings or data. Additional rows can be added. Existing EA or proposed limits and triggers can be added.

Indicator	Unit	ANZECC aquatic ecosystem trigger value	Australian drinking water guideline	ANZECC Stock watering guideline	Limit	Trigger
pH - min	pH unit	6		6.5	6	
pH - max	pH unit	8.5		8.5	8.5	
Electrical Conductivity	µS/cm	500			5970	
Sulfate	mg/L			250	1000	
Fluoride	mg/L	2.4		1.5	2	
Nitrate	mg/L	0.7		50	400	
Ammonia	mg/L	0.9		0.5		
Total Phosphorus	mg/L	0.01				
Aluminium - Dissolved	µg/L	55				
Aluminium - Total	µg/L		100		5000	
Antimony - Dissolved	µg/L	9				
Antimony - Total	µg/L		0		0	
Arsenic - Dissolved	µg/L	13				
Arsenic - Total	µg/L		10		500	
Boron - Dissolved	µg/L	370				
Boron - Total	µg/L		4000		5000	
Cadmium - Dissolved	µg/L	0.2				
Cadmium - Total	µg/L		2		10	
Copper - Dissolved	µg/L	1.4				
Copper - Total	µg/L		2000		1000	
Chromium - Dissolved	µg/L	1				
Chromium - Total	µg/L		50		1000	
Cobalt - Dissolved	µg/L	1.4				
Cobalt - Total	µg/L		0		1000	
Iron - Dissolved	µg/L	300				
Iron - Total	µg/L					
Lead - Dissolved	µg/L	3.4				
Lead - Total	µg/L		10		100	
Manganese - Dissolved	µg/L	1900				
Manganese - Total	µg/L		500		0	
Mercury - Dissolved	µg/L	0.6				
Mercury - Total	µg/L		1		2	
Molybdenum - Dissolved	µg/L	34				
Molybdenum - Total	µg/L		50		150	
Nickel - Dissolved	µg/L	11				
Nickel - Total	µg/L		20		1000	
Selenium - Dissolved	µg/L	5				
Selenium - Total	µg/L		10		20	
Silver - Dissolved	µg/L	0.05				
Silver - Total	µg/L					
Uranium - Dissolved	µg/L	0.5				
Uranium - Total	µg/L		17		200	
Vanadium - Dissolved	µg/L	6				
Vanadium - Total	µg/L		0		0	
Thallium - Dissolved	µg/L	0.03				
Thallium - Total	µg/L		0		0	
Zinc - Dissolved	µg/L	8				
Zinc - Total	µg/L		3000		20000	
Aluminium - Dissolved	mg/L	0.055				
Aluminium - Total	mg/L		0.1		5	
Antimony - Dissolved	mg/L	0.009				
Antimony - Total	mg/L					
Arsenic - Dissolved	mg/L	0.013				
Arsenic - Total	mg/L		0.01		0.5	
Boron - Dissolved	mg/L	0.37				
Boron - Total	mg/L		4		5	
Cadmium - Dissolved	mg/L	0.0002				
Cadmium - Total	mg/L		0.002		0.01	
Copper - Dissolved	mg/L	0.0014				
Copper - Total	mg/L		2		1	
Chromium - Dissolved	mg/L	0.001				
Chromium - Total	mg/L		0.05		1	
Cobalt - Dissolved	mg/L	0.0014				
Cobalt - Total	mg/L				1	
Iron - Dissolved	mg/L	0.3				
Iron - Total	mg/L					
Lead - Dissolved	mg/L	0.0034				
Lead - Total	mg/L		0.01		0.1	
Manganese - Dissolved	mg/L	1.9				
Manganese - Total	mg/L		0.5			
Mercury - Dissolved	mg/L	0.0006				
Mercury - Total	mg/L		0.001		0.002	
Molybdenum - Dissolved	mg/L	0.034				
Molybdenum - Total	mg/L		0.05		0.15	
Nickel - Dissolved	mg/L	0.011				
Nickel - Total	mg/L		0.02		1	
Selenium - Dissolved	mg/L	0.005				
Selenium - Total	mg/L		0.01		0.02	
Silver - Dissolved	mg/L	0.00005				
Silver - Total	mg/L					
Uranium - Dissolved	mg/L	0.0005				
Uranium - Total	mg/L		0.017		0.2	
Vanadium - Dissolved	mg/L	0.006				
Vanadium - Total	mg/L					
Thallium - Dissolved	mg/L	0.00003				
Thallium - Total	mg/L					
Zinc - Dissolved	mg/L	0.008				
Zinc - Total	mg/L		3		20	