

Table 1 - Meteorological Data (Monthly Average)

Meteorological Information	May 2022	Jun 2022	Jul 2022	Aug 2022	Sep Oct	Oct 2022	Nov 2022	Dec 2022	Jan 2023	Feb 2023	Mar 2023	Apr 2023
Minimum Temperature at 2m (°C)	-1.0	-0.2	-3.5	-0.8	-0.8	3.4	5.0	5.9	9.0	7.4	6.6	3.6
Average Temperature at 2m (°C)	18.1	9.7	7.9	10.2	11.4	15.2	16.5	20.4	24.1	23.5	21.2	15.2
Maximum Temperature at 2m (°C)	23.2	18.2	19.2	23.1	22.4	26.5	30.0	37.6	39.3	40.4	40.7	28.2
Minimum Temperature at 10m (°C)	2.5	-0.2	-1.2	1.7	1.6	5.3	5.8	7.1	17.6	8.3	8.8	6.1
Average Temperature at 10m (°C)	13.1	9.7	8.9	11.0	12.3	15.8	17.0	21.0	24.6	23.9	21.7	16.2
Maximum Temperature at 10m (°C)	23.3	18.2	18.4	23.3	22.3	26.7	29.8	37.9	32.0	39.6	39.9	28.0
Total Rainfall (mm)	64.8	17.2	15.0	64.6	95.6	129.4	101.8	42.4	37.0	1.2	70.8	45.2
Average Wind Speed (m/s)	9.0	10.8	10.4	11.7	10.6	12.3	12.3	11.6	10.7	12.4	11.0	9.6
Average Wind Direction (degrees)	108	232.3	176.4	215.2	167.1	150.6	185.5	157.3	128.2	185.3	162.8	175.3

Table 2 - Surface Water Monitoring Results

Site	Date Sampled	General			Nutrients			
		pH (pH Units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Nitrate/Nitrite as N (mg/L)	Total Phosphorus (mg/L)
<u>ANZECC Criteria Limits</u>		6.5 - 8.0	125 - 2,200	-	-	0.5	0.04	0.05
<u>NSW Water Quality Objectives</u>		6.5 - 8.5	125 - 2,200	-	-	0.5	-	0.05
Entry	14-Jul-16	7.2	141	277	2	3	0.9	0.3
Freezer Room Table Drain		7.2	125	193	2	3	1.1	0.4
Farm 77 Sth Table Drain		7.3	103	657	2	3	1.1	0.3
Farm 77 Nth Table Drain		7.4	140	347	2	3	0.9	0.3
Farm 78 SE Dam		7.6	137	1,360	2	4	1.6	0.6
Farm 79 SE Dam		7.8	170	1,330	4	6	1.7	0.6
Farm 78 SW Dam		7.7	155	1,330	<2	2	2	0.5
Farm 79 NW Dam		7.4	140	287	2	3	1	0.3
Farm 78 Sediment Dam	29-Sep-16	7.6	146	796	2	3	1.1	0.7
Farm 78 Swale Drain		7.8	139	2,560	2	3	1.1	1.2
Farm 79 Sediment Dam		7.4	160	230	2	7	5.3	0.9
Farm 79 Swale Drain		6.9	145	1,260	4	4	0.5	1.3
Farm 75 Roadside table	17-Mar-17	7.8	133	6,160	6	7	0.9	1.7
Farm 78 Sediment Dam		7.5	213	604	2	5	2.7	0.8
Farm 79 Sediment Dam		7.7	275	89	2	<2	0.9	0.2
Concrete batch plant table drain		7.5	230	3,350	5	5	0.1	1.2
S1	17-Jun-17	7.3	146	238	2	-	0.5	0.2
S2		7.2	301	688	5	-	0.5	0.2
S3		7.6	113	56	3	-	0.5	0.1
PPU1		7.7	272	744	2	-	0.5	0.2
PPU2		7.5	67	732	2	-	0.5	0.3

Site	Date Sampled	General			Nutrients			
		pH (pH Units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Nitrate/Nitrite as N (mg/L)	Total Phosphorus (mg/L)
PPU3		7.4	266	288	3	-	0.9	0.4
PPU4		7.5	246	13	2	-	3.5	0.3
PPU5		7.4	187	88	2	-	4.6	0.6
PPU1	28-Sep-17	7.8	360	116	<2	<2	0.6	<0.01
PPU2		7.3	361	345	15	16	1.4	2.7
PPU3		7.6	327	10	3	7	3.6	0.5
PPU4		8.2	303	9	2	8	5.9	0.2
PPU1	11-Jan-18	7.5	268	1,000	2	4	1.8	0.1
PPU2		7.2	213	510	9	9	0.2	0.6
PPU3		9.2	374	221	3	3	0.1	0.1
PPU4		9.1	258	218	5	5	0.1	0.3
PPU5		8.2	222	115	2	6	4.5	0.4
PPU1	05-Mar-18	9.7	493	29	2	2	<0.5	0.3
PPU2		8.7	388	1,280	10	14	3.8	2.1
PPU3		8.5	729	1,660	14	14	<0.5	2.2
PPU4		8.1	514	454	10	10	<0.5	1.2
PPU5		8.2	301	87	<2	2	2.5	0.7
PPU1	03-Jun-18	9.4	677	28	19	19	0.2	0.2
PPU2		7.9	479	1,100	21	21	0.3	2.8
PPU3		9	833	39	4	5	1.4	0.3
PPU4		8.5	456	13	2	3	0.9	0.8
PPU5		8.3	370	129	<2	3	3.1	0.9
PPU1	04-Sep-18	8	720	69	78	79	0.8	1.2
PPU2		7.9	389	27	79	80	1.2	1.7
PPU3		8.2	407	32	4	4	0.2	0.9
PPU4		9	573	390	25	25	0.4	2
PPU5		8.1	395	49	3	6	3	1.1
PPU1	18-Dec-18	7	708	12	4	4	<0.5	0.6
PPU2		7.2	388	117	5	5	<0.5	1.6

Site	Date Sampled	General			Nutrients			
		pH (pH Units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Nitrate/Nitrite as N (mg/L)	Total Phosphorus (mg/L)
PPU3		7.2	701	106	7	8	0.5	1.2
PPU4		7.6	411	15	2	2	<0.5	1
PPU5		8.6	482	21	2	3	0.8	0.7
PPU1	19-Mar-19	8.3	862	129	6	6	<1	0.6
PPU2		7.4	447	1,220	18	18	<1	3.7
PPU3		7.9	249	330	46	46	<1	0.5
PPU4		7.4	434	11	2	2	<1	0.7
PPU5		7.4	636	55	7	7	<1	1
PPU1	19-Jun-19	7.6	271	-	3	3	<0.5	0.4
PPU2		7.4	253	-	3	3	<0.5	0.4
PPU3		7.4	202	-	5	8	2.8	1.4
PPU4		7.7	318	-	<2	<2	<0.5	0.6
PPU5		8	400	-	4	5	0.6	0.7
SW		6.9	366	-	3	3	<0.5	0.2
PPU1	19-Sep-19	7.2	293	124	5	5	<1	0.2
PPU2		7	317	677	6	20	14	0.2
PPU3		7.5	268	301	4	6	2	0.6
PPU4		7.5	397	54	4	11	7	2.4
PPU5		7.4	410	45	4	8	4	1.8
PPU1	03-Dec-19	7.1	429	242	3	5	1.8	0.9
PPU2		7.4	409	946	9	9	<0.1	2.7
PPU3		7.4	413	309	6	7	1.1	2.1
PPU4		7.4	525	643	8	8	<0.1	2.4
PPU5		7.5	465	94	<2	<2	0.9	0.7
PPU1	20-Mar-20	6.6	368	135	3	4	0.6	0.5
PPU2		6.6	211	37	5	5	<0.1	1.2
PPU3		6.8	242	26	2	2	0.5	0.8
PPU4		7.2	215	19	3	3	<0.1	1.2
PPU5		7.3	415	59	2	2	0.3	0.8

Site	Date Sampled	General			Nutrients			
		pH (pH Units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Nitrate/Nitrite as N (mg/L)	Total Phosphorus (mg/L)
PPU1	12-Jun-20	6.9	308	4	2	2	<1	0.6
PPU2		6.7	192	121	4	6	2	1
PPU3		6.7	243	74	4	5	1	1.2
PPU4		6.8	253	21	2	2	<1	0.6
PPU5		7.2	294	56	5	6	1	0.7
PPU1	19-Nov-20	7.5	327	444	3	3	<0.1	0.2
PPU2		7.5	265	144	6	6	<0.1	0.9
PPU3		8.4	266	49	5	5	<0.1	0.5
PPU4		8.1	356	64	4	4	0.4	1.5
PPU5		7.9	338	60	4	6	1.8	1
PPU1	14-Apr-21	7.2	214	9	<2	<2	<0.1	<0.01
PPU2		7.2	173	132	6	6	<0.1	0.59
PPU3		7.2	271	102	5	6	1.3	0.55
PPU4		7.2	205	80	4	4	<0.1	0.98
PPU5		7.5	215	37	3	3	0.4	<0.01
S1		7.3	290	318	-	-	<1	0.18
PPU1	24-Sep-21	7.3	222	35	2	2	0.2	0.39
PPU2		7.3	248	114	3	6	3	0.81
PPU3		7.3	268	91	4	6	2.5	0.94
PPU4		7.4	198	44	2	2	0.3	0.21
PPU5		7.4	254	30	5	6	0.7	0.88
PPU1	04-May-22	6.8	180	15	2	4	2	<0.01
PPU2		6.9	77	30	8	8	<0.01	0.55
PPU3		6.8	166	24	3	6	3.1	0.54
PPU4		6.8	152	33	3	7	4	1.11
PPU5		6.9	170	7	3	4	1	<0.1
PPU1	09-Sep-22	7.0	205	103	3	7	4.1	0.86
PPU2		7.1	129	68	2	3	0.9	0.57
PPU3		7.1	180	36	2	6	4.2	0.75

Site	Date Sampled	General			Nutrients			
		pH (pH Units)	Electrical Conductivity (µS/cm)	Total Suspended Solids (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Nitrate/Nitrite as N (mg/L)	Total Phosphorus (mg/L)
PPU4		7.2	189	29	5	8	2.9	1.06
PPU5		7.3	190	24	4	6	2.4	0.7
PPU1	15 March 2023	6.7	220	88	2	2	0.4	0.15
PPU2		8.8	245	55	7	7	0.4	0.23
PPU3		8.4	255	20	4	6	2	0.42
PPU4		9.2	200	11	3	3	0.1	0.21
PPU5		8.5	204	10	2	3	1.4	0.32
MIN		6.6	67	4	2	2	0.1	0.01
MAX		9.7	862	6160	79	80	14	3.7
AVERAGE		7.6	306.3	366.2	6.1	7.8	1.5	0.8

Green - exceeds the upper ANZECC Criteria Limits

Orange - exceeds the lower NSW Water Quality Objectives criteria limit

Table 3 - Shallow Aquifer Piezometer Groundwater Monitoring Results (Shepparton Formation)

Piezo ID	Date	General Parameters			Major Ions								Nutrients			Misc
		pH	Electrical Conductivity	Total Dissolved Solids	Sodium	Calcium	Potassium	Magnesium	Chloride	Sulphate	Carbonate as CaCO ₃	Bicarbonate as CaCO ₃	Ammonia as N	Nitrate as N	Phosphorus	Total organic carbon
		-	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<u>ANZECC Guidelines</u>		6.5 - 8.5	-	1,200	180	-	-	-	250	250	200	200	0.5	50	-	-
Piezo 1 Deep	Apr-16	7.1	253	215	39	8.7	3	4.7	13	5	2	116	0.1	1	0.11	11
	Oct-16	7.2	190	148	33.3	4.4	2.3	3.2	13.3	5	2	167	0.1	1	0.04	0.7
	Mar-17	7.1	190	135	31.6	4.8	1.1	3.7	15.6	4.6	2	91	0.1	0.1	0.16	4.4
	Jun-17	7	181	152	24.8	5.3	0.8	2.7	11.6	2.5	2	76	0.1	0.5	0.01	0.6
	Sep-17	7.2	186	133	24.6	4.7	1.6	4	11.5	2.5	2	76	1.1	0.5	0.01	0.7
	Jan-18	7.5	196	79	26.6	4.2	1.4	4	18.3	8	2	75	0.1	0.5	0.01	0.5
	Mar-18	9.1	191	140	30.9	5.2	1.6	2.9	12	9.3	2	-	0.1	1	0.09	1
	Jun-18	7.4	191	141	27.7	2.7	0.6	2.2	20.8	3.8	-	77	0.1	0.1	0.09	0.5
	Sep-18	7.5	182	119	31	2.6	2	0.7	11.6	4.1	2	80	0.1	0.5	0.11	0.7
	Dec-18	8.2	244	137	38.8	4.7	1.2	3.9	14.9	4.8	2	76	0.1	0.5	0.09	0.9
	Mar-19	7.7	200	170	36.5	2.8	2.1	2.3	20	5.9	2	369	0.3	1	0.18	0.6
	Jun-19	8.1	175	149	39.6	5.1	1.7	2.8	11.2	3.2	-	77	22	0.5	0.19	0.7
	Sep-19	7.5	189	142	40.8	3.9	1.7	2.3	13	6	2	81	0.1	1	0.01	0.8
	Dec-19	7.7	186	149	30.1	5.5	1.7	2.6	11.2	4.5	2	-	0.1	0.1	0.01	0.5
	Mar-20	6.8	183	124	28.8	3.8	0.9	3	16.3	2.7	2	-	2.5	0.1	0.03	0.5
	Jun-20	7.4	190	191	29.4	2.8	0.9	3.2	7.8	1.9	2	83	0.2	1	0.06	0.5
	Nov-20	7.8	283	130	32	-	1.1	3	13	11.2	2	-	0.1	1	0.01	0.9
	Apr-21	7.3	193	178	39.7	3.44	2.2	2.89	9.6	2.8	<2	82	0.1	1	0.01	0.5
	Sep-21	7.5	183	141	28.1	4.48	<2.00	2.22	12	5	<2	-	0.1	0.3	<0.1	<0.5
	May-22	6.7	167	116	40	3.66	2	2.95	11.5	2.5	<2	-	<0.1	0.4	<0.01	<0.5
Sep-2022	7.6	186	170	30	4.8	1.3	3.1	41	<5	<2	-	<0.1	<1	0.24	0.6	
Mar-23	6.3	195	119	28.6	4.65	2.6	3.11	12.7	4.1	<2	-	0.3	0.3	0.16	0.5	
Avg	7.4	197.0	144.5	32.4	4.4	1.6	3.0	14.6	4.7	2.0	109.0	1.4	0.6	0.1	1.4	
Piezo 2 Deep	Apr-16	7.1	305	220	49	9.2	3.4	5.7	22	5	2	122	0.1	1	0.12	5
	Oct-16	6.9	179	141	17.2	-	1.1	3.5	69.1	-	2	71	0.1	0.5	0.08	0.5
	Mar-17	7.2	276	172	48.7	5.9	1.3	4.6	19.2	5.5	2	126	0.1	0.1	0.02	0.8
	Jun-17	7	266	190	36.8	7.9	1.6	4.3	16.4	4.1	2	110	0.1	0.5	0.05	1.4

Piezo ID	Date	General Parameters			Major Ions								Nutrients			Misc
		pH	Electrical Conductivity	Total Dissolved Solids	Sodium	Calcium	Potassium	Magnesium	Chloride	Sulphate	Carbonate as CaCO ₃	Bicarbonate as CaCO ₃	Ammonia as N	Nitrate as N	Phosphorus	Total organic carbon
		-	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Sep-17	7.1	269	200	35.4	6.9	1.7	5.6	20.5	4.8	2	104	0.3	0.5	0.01	0.8
	Jan-18	7.3	293	205	35.6	6.9	1.9	5.3	24.9	6.9	2	104	0.1	0.5	0.01	0.8
	Mar-18	8.5	281	204	45.5	7.7	2.4	4.8	19	11.2	2	-	0.1	1	0.04	0.8
	Jun-18	7.2	271	193	38.7	4.4	1	3.7	12.5	2.4	-	105	0.1	0.1	0.12	0.5
	Sep-18	7.3	283	200	48.8	3.6	2.8	1.8	21.1	6.4	2	111	0.1	0.5	0.08	0.7
	Dec-18	8	301	191	48.7	6.4	1.6	4.8	17.6	5.8	2	104	0.1	0.5	0.06	0.8
	Mar-19	7.5	275	222	49.9	4.8	2.6	3.6	18	6.1	2	110	0.1	1	0.09	0.5
	Jun-19	7.4	271	204	52	6.9	2	4.7	19.3	4.1	-	108	34	0.5	0.09	0.6
	Sep-19	7.3	281	219	61.1	6.5	2.8	4.5	19	7	2	115	0.1	1	0.01	0.8
	Dec-19	7.3	272	196	43.2	5.8	2.3	4.8	18.2	6.1	2	-	0.1	0.2	0.01	0.5
	Mar-20	6.8	264	180	37.5	5.6	1.7	4.3	16.3	3.1	2	-	0.1	0.2	0.04	0.5
	Jun-20	7.2	277	205	46.2	5.2	1.2	4.7	14.8	2.3	2	112	0.1	1	0.01	0.5
	Nov-20	7.6	294	188	46	-	1.6	4.9	22.8	14.5	2	-	0.1	1	0.01	1
	Apr-21	7.2	280	198	60.3	6.44	3.4	4.99	15.4	4	2	116	0.1	2	0.01	0.6
	Sep-21	7.2	345	215	50.4	9.4	2	5.55	22	7	<2	-	<0.1	0.4	<0.01	<0.5
	May-22	6.8	350	243	55.5	6.5	3	5	46.2	6	<2	-	<0.1	0.4	<0.01	<0.5
	Sep-2022	7.4	380	233	57	9.9	2	6.8	10	<5	<2	-	<0.1	<0.1	0.04	0.6
	Mar-23	6.3	426	233	54.5	9.57	3.2	6.84	72.9	5.7	<2	-	<0.1	0.5	<0.01	0.6
Avg	7.3	292.7	202.4	46.3	6.8	2.1	4.8	24.4	5.9	2.0	108.4	2.0	0.6	0.0	0.9	
Piezo 3 Deep	Apr-16	7.2	278	194	41	11.4	4.9	6.7	17	5	2	131	0.1	1	0.35	5.9
	Oct-16	6.8	224	154	31.2	7.3	2.8	5.6	21.1	9	2	74	0.1	1	0.03	6.5
	Mar-17	7	182	132	27.2	5.7	1.2	4.6	14	3.4	2	72	0.1	0.1	0.09	0.7
	Jun-17	7.4	192	165	21.9	7.9	1.8	4.7	13.1	2.5	2	76	0.1	0.5	0.09	0.8
	Sep-17	7.2	182	157	19.2	6.7	1.6	5.4	13.2	2.5	2	70	1.3	0.5	0.01	0.6
	Jan-18	7.2	182	117	18.2	6.6	1.8	5.2	13.4	6.1	2	66	0.1	0.5	0.01	0.7
	Mar-18	8.3	182	122	22	6.7	1.8	4	14	7.5	2	-	0.1	1	0.06	0.5
	Jun-18	7.1	180	139	21.7	5.1	1.1	4.1	15.6	2.8	-	65	0.1	0.1	0.13	0.5
	Sep-18	7.2	181	124	20.8	3.2	2.3	1.5	13.6	3.6	2	70	0.1	0.5	0.1	0.6
	Dec-18	8	177	137	25	5.9	1.4	4.6	12.6	3.8	2	65	0.1	0.5	0.07	0.6
	Mar-19	7.4	189	161	27.2	4.6	2.6	3.4	13	4.1	2	71	0.1	1	0.01	0.6
Jun-19	7.2	174	149	29.3	7.3	2.6	5.1	12.6	3	-	66	0.1	0.5	0.14	0.6	

Piezo ID	Date	General Parameters			Major Ions								Nutrients			Misc
		pH	Electrical Conductivity	Total Dissolved Solids	Sodium	Calcium	Potassium	Magnesium	Chloride	Sulphate	Carbonate as CaCO ₃	Bicarbonate as CaCO ₃	Ammonia as N	Nitrate as N	Phosphorus	Total organic carbon
		-	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Sep-19	7.2	173	137	30.2	5.8	2.3	3.9	13	5	2	70	0.1	1	0.01	0.5
	Dec-19	7.3	174	134	21.6	5.4	2.1	4.1	12.8	3.9	2	-	0.1	0.1	0.01	0.5
	Mar-20	6.8	168	114	18.6	5.1	1.3	4.0	7.6	1.9	2	-	0.1	0.2	0.01	0.5
	Jun-20	7	169	138	21.5	4.5	1.1	4.49	10.7	1.1	2	71	0.1	1	0.03	0.5
	Nov-20	7.4	534	128	23	-	1.4	4.2	11.9	10	2	-	0.1	1	0.01	0.7
	Apr-21	7.1	193	149	32.1	6.56	3.1	4.68	12.5	2.5	2	73	0.1	1	0.01	0.6
	Sep-21	7.2	178	105	21.8	6.35	<2.00	3.76	11	<5	<2	-	0.1	0.3	<0.01	<0.5
	May-22	6.8	182	154	30.5	6.51	3.1	4.55	13.6	3	<2	-	<0.1	0.6	<0.01	<0.5
	Sep-22	7.4	190	137	24	6.8	1.7	4.5	64	6	<2	-	<0.1	<1	0.1	0.6
	Mar-23	6.2	185	122	22.3	5.77	2.6	4.15	15.3	4.6	<2	-	<0.1	0.2	0.05	0.5
	Avg	7.2	203.1	139.5	25.0	6.2	2.1	4.4	15.7	4.3	2.0	74.3	0.2	0.6	0.1	1.2
Piezo 4 Deep	Apr-16	7.3	590	716	100	17.4	7.2	12.9	50	7	2	248	0.1	1	2.35	11
	Oct-16	6.7	250	188	24.6	-	2	5.9	13	-	2	192	0.1	0.5	0.07	0.9
	Mar-17	7	566	372	96	17.6	8.5	15.5	57.6	10.2	2	210	0.5	0.1	1.85	2
	Jun-17	7	618	405	87.5	21	3.4	12.1	53	8.2	2	242	0.1	0.5	1.13	1.6
	Sep-17	6.9	600	341	79.4	17.1	3.9	14.6	60.2	10.2	2	212	0.1	0.5	0.94	1
	Jan-18	7	554	355	71.8	14.9	3.1	11.7	58.9	8.7	2	183	0.1	0.5	0.17	1
	Mar-18	7.9	538	307	80.6	23.1	3.9	14.1	58	27.7	2	-	0.1	1	0.69	0.6
	Jun-18	7	469	353	67.5	9.4	2.2	7.5	55.4	8.4	-	146	2	0.3	1.11	0.5
	Sep-18	7.2	481	245	80	7.5	5.8	6.9	56.3	9.8	2	155	1.8	0.5	0.93	0.7
	Dec-18	7.7	460	317	78.7	11.3	2.6	8.4	52.8	9.9	2	141	0.1	0.5	1.71	0.7
	Mar-19	7.6	427	288	84.3	9.5	7.8	7.2	56	10.7	2	133	0.7	1	1.27	0.5
	Jun-19	7	489	303	93.3	15.4	6.3	11.8	54.3	12.7	-	165	0.6	0.5	2.39	0.8
	Sep-19	7.2	526	378	114	15.6	5.8	11.3	62	10	2	178	0.1	1	0.01	0.9
	Dec-19	7.1	526	324	80.8	14.3	5.3	101	52.9	10.8	2	-	1	0.1	3.15	1.3
	Mar-20	6.7	505	343	72.1	14.8	8	90.6	60.6	6	2	-	4.6	0.3	0.45	2.4
	Jun-20	6.9	501	337	85.4	12.6	3.4	29.3	52.2	5.7	2	173	0.4	1	0.16	0.9
	Nov-20	7	585	387	79	-	2.1	35	92.3	12.5	2	-	0.1	1	0.27	1.6
Apr-21	6.9	586	363	118	18.9	-	10.8	85.5	-	2	142	<0.1	<1	<0.01	0.6	
Sep-21	7	606	329	92.3	17.6	3.9	10.5	65	9	<2	-	0.4	0.1	0.57	<0.5	
May-22	6.7	600	364	100	15.9	9.9	10.1	105	9.5	<2	-	<0.1	0.8	<0.01	<0.5	

Piezo ID	Date	General Parameters			Major Ions								Nutrients			Misc
		pH	Electrical Conductivity	Total Dissolved Solids	Sodium	Calcium	Potassium	Magnesium	Chloride	Sulphate	Carbonate as CaCO ₃	Bicarbonate as CaCO ₃	Ammonia as N	Nitrate as N	Phosphorus	Total organic carbon
		-	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Sep-22	7.2	507	298	36	13	2.1	9	28	8	<2	-	<0.1	<1	0.5	0.5
	Mar-23	6.5	474	276	63.8	12.3	6.7	10.3	77.4	11.7	<2	-	0.2	0.2	0.04	0.5
	Avg	7.1	520.8	345.0	81.1	15.0	4.9	20.3	59.4	10.3	2.0	180.0	0.7	0.6	1.0	1.5
Piezo 4 Shallow	Nov-20	7.1	555	301	67	-	7.1	17	90.1	14.1	2	-	1.7	1	0.58	1.7
	Avg	7.1	555.0	301.0	67.0	0.0	7.1	17.0	90.1	14.1	2.0	-	1.7	1.0	0.58	1.7
Piezo 5 Deep	Apr-16	6.9	273	214	37	11.7	3.3	7.9	12	5	2	122	0.1	1	0.07	2.2
	Oct-16	6.7	178	139	17.7	-	1.2	3.7	13.7	-	2	68	0.1	0.5	0.08	0.5
	Mar-17	6.9	246	174	38.7	9.3	1.8	7.1	15.2	5.4	2	108	0.1	0.1	0.07	1.2
	Jun-17	6.9	236	184	26.3	10.5	1.2	5.9	11.9	2.5	2	105	0.1	0.5	0.03	1
	Sep-17	6.6	239	190	25.1	9.3	1.7	7.5	12.9	3	2	103	0.1	0.5	0.01	0.6
	Jan-18	7	241	191	23.5	9.2	1.8	6.9	12.5	6.3	2	100	0.1	0.5	0.01	0.7
	Mar-18	7.8	234	79	30.1	9.8	2	6	13	17.9	2	-	0.1	1	0.03	0.5
	Jun-18	6.9	234	162	28.6	7.5	1.2	5.8	15.2	3.2	-	98	0.1	0.1	0.13	0.5
	Sep-18	7	266	190	35.8	5	3.1	3.5	17.8	7.2	2	108	0.8	0.5	0.12	0.9
	Dec-18	7.6	232	168	32.8	9.2	1.5	6.7	11.2	4.1	2	100	0.1	0.5	0.05	0.6
	Mar-19	7.5	272	220	43.1	7.7	2.6	5.4	21	8.4	2	104	0.1	1	0.08	0.5
	Jun-19	6.7	236	171	35.7	9.6	2.2	6.3	13.3	4.4	-	100	0.1	0.5	0.16	1
	Sep-19	7.1	238	173	42.2	9.2	2.7	5.9	14	5	2	102	0.1	1	0.01	0.9
	Dec-19	7	232	171	28.8	8.2	2.3	6.2	12.1	4.9	2	-	0.1	0.1	0.05	0.7
	Mar-20	6.7	253	172	28.1	8.1	1.4	7.1	11.5	4.9	2	-	0.1	0.2	0.04	0.6
	Jun-20	6.8	241	203	30.3	7.8	1.3	6.8	9.6	2.4	2	107	0.1	1	0.04	0.5
	Nov-20	7	242	156	30	-	1.5	6.5	10	2.5	2	-	0.1	1	0.01	0.9
	Apr-21	6.9	236	195	40	9.26	2.9	6.49	10.8	2.6	2	107	0.1	1	0.01	0.5
	Sep-21	7	238	168	31.1	8.95	<2.00	6.01	14	<5	<2	-	0.2	0.2	0.06	<0.5
	May-22	6.7	265	198	44.4	9.66	3	6.55	20.5	4	<2	-	<0.1	0.5	<0.01	<0.5
Sep-22	7	324	267	36	13	2	9.3	50	13	<2	-	<0.1	1	0.05	<0.5	
Mar-23	6.4	337	224	36.1	12.5	34	8.62	38.9	17.5	<2	-	<0.1	1.2	0.03	<0.5	
Avg	7.0	249.7	182.2	32.8	9.3	3.6	6.5	16.4	6.2	2.0	102.3	0.1	0.6	0.1	0.8	
Piezo 6 Deep	Apr-16	7	409	276	56	18.5	4.8	11.5	35	5	2	210	0.1	1	0.15	5.2
	Oct-16	6.6	252	179	24.8	-	2	6.1	12.6	-	2	140	0.2	0.5	0.09	1.1
	Mar-17	6.8	347	271	50.6	13	2.3	9.2	36.1	6	2	119	0.1	0.2	0.08	1.1

Piezo ID	Date	General Parameters			Major Ions								Nutrients			Misc
		pH	Electrical Conductivity	Total Dissolved Solids	Sodium	Calcium	Potassium	Magnesium	Chloride	Sulphate	Carbonate as CaCO ₃	Bicarbonate as CaCO ₃	Ammonia as N	Nitrate as N	Phosphorus	Total organic carbon
		-	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Jun-17	6.8	326	206	35.8	12	1.4	7.2	32.1	3.8	2	112	0.1	0.5	0.01	0.5
	Sep-17	6.7	391	253	43.7	13.4	3.2	11.2	43.6	8.2	2	122	1	0.5	0.01	1.1
	Jan-18	6.8	360	269	37.3	12.6	2.4	9.8	41	7.2	2	109	0.1	0.5	0.01	0.6
	Mar-18	7.5	347	213	43	12.9	2.5	8.1	38	15	2	-	0.1	1	0.02	0.5
	Jun-18	6.8	332	188	36.6	10.2	1.4	7.2	28.9	3.1	-	109	0.1	0.1	0.13	0.5
	Sep-18	7	339	174	45.6	7.5	3.1	5.9	37.8	6.6	2	114	0.1	0.5	0.1	0.8
	Dec-18	6.8	338	218	45.9	13	1.9	8.9	35	6.7	2	109	0.1	0.5	0.07	0.8
	Mar-19	7	344	240	48.3	10.4	3	6.3	36	7.1	2	107	0.1	1	0.13	0.5
	Jun-19	6.8	339	237	60.7	14.7	2.9	10.9	35.5	5.8	-	100	0.9	0.5	0.12	0.7
	Sep-19	7	338	220	56.9	12.6	2.9	8.3	43	5	2	111	0.1	1	0.01	0.7
	Dec-19	6.9	329	212	41.5	11.3	2.7	7.9	38.8	6.4	2	-	0.4	0.2	0.03	0.5
	Mar-20	6.6	319	217	34.3	10.4	1.9	7.5	29	3.6	2	-	0.1	0.3	0.24	0.6
	Jun-20	6.8	318	226	41.5	10.3	1.6	8.1	30	2.6	2	121	0.2	1	0.04	0.5
	Nov-20	6.8	325	197	39	-	1.7	8	27	2.5	2	-	0.1	1	0.01	1
	Apr-21	6.7	334	200	53.2	12.9	3.8	8.29	29.8	3.5	<2	116	<0.1	2	<0.01	0.8
	Sep-21	6.9	360	236	44.7	16.2	2.3	8.55	45	<5	<2	-	<0.1	0.4	<0.01	<0.5
	May-22	6.8	360	242	-	11.1	3.5	8.55	37.1	5	<2	-	<0.1	0.6	<0.01	<0.5
	Sep-22	6.9	332	256	40	14	2.2	8.7	44	6	<2	-	0.1	3	0.08	<0.5
	Mar-23	6.4	348	306	38.2	12.1	3.2	8.02	41.2	6.3	<2	-	<0.1	0.2	0.03	<0.5
	Avg	6.8	340.3	228.9	43.7	12.5	2.6	8.4	35.3	5.8	2.0	121.4	0.2	0.8	0.1	1.0

Table 4 - Deep Aquifer Production Bore Groundwater Monitoring Results (Calivil Formation)

Bore ID	Date	General Parameters			Major Ions								Nutrients			Misc
		pH	Electrical Conductivity	Total Dissolved Solids	Sodium	Calcium	Potassium	Magnesium	Chloride	Sulphate	Carbonate as CaCO ₃	Bicarbonate as CaCO ₃	Ammonia as N	Nitrate as N	Phosphorus	Total organic carbon
		-	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
<u>ANZECC Guidelines</u>		6.5 - 8.5	-	1,200	180	-	-	-	250	250	200	200	0.5	50	-	-
Bore 1	Aug-15	6.6	685	-	84.3	29.7	1.9	22	144	19	-	-	0.1	0.5	0.04	0.5
	Apr-16	6.8	149	104	14	6.7	1.9	5.1	9	5	2	70	0.1	1	0.11	0.5
	Oct-16	7.3	145	122	16	5.9	2	5	9.7	3.4	2	67	0.1	0.1	0.01	0.5
	Jun-17	6.8	149	120	12.6	7.2	0.7	4.7	8.8	2.1	2	63	0.1	0.5	0.01	0.5
	Sep-17	PB1 not sampled due to maintenance at the time of sampling.														
	Jan-18	7	152	129	11.4	6.1	1.2	5.5	8.6	2.4	2	61	0.1	0.5	0.01	0.5
	Jun-18	6.9	154	109	22.1	4.7	1.4	5.1	14.4	1	2	64	0.1	0.1	0.05	0.7
	Dec-18	6.9	153	107	18.8	6.5	1.1	5.4	8.5	3.3	2	61	0.1	0.5	0.02	0.5
	Jun-19	7	135	125	21.3	6.8	1.2	5.5	10.7	2.5	-	55	0.1	0.5	0.12	0.5
	Dec-19	7	141	108	13.2	5.4	1.6	4.4	9.4	3.1	2	-	0.1	0.1	0.08	0.5
	Jun-20	6.9	151	135	16	5.1	0.8	5.5	16.7	1.4	2	65	0.3	1	0.01	0.7
	Nov-20	6.9	154	106	16	-	1.1	5.1	7	2.5	2	-	0.1	1	0.01	0.6
	Apr-21	7.2	151	111	20.7	5.88	2.1	4.98	7.4	2.5	2	69	0.1	1	0.01	0.5
	Sep-21	7	149	119	16	6.29	<2.00	5.74	7.1	<5	<2	-	<0.1	<0.1	<0.01	<0.5
	May-22	7	155	123	15.9	5.6	2	4.85	9.6	1.5	<2	-	<0.1	<0.1	<0.01	<0.5
Sep-22	7	153	142	18	6.9	1.3	5.3	10	<5	<2	-	<0.1	4	<0.01	<0.5	
Mar-23	6.5	152	95	15.9	5.93	2.2	4.71	9.6	3.1	<2	-	<0.1	<0.1	<0.01	<0.5	

Bore ID	Date	General Parameters			Major Ions								Nutrients			Misc
		pH	Electrical Conductivity	Total Dissolved Solids	Sodium	Calcium	Potassium	Magnesium	Chloride	Sulphate	Carbonate as CaCO ₃	Bicarbonate as CaCO ₃	Ammonia as N	Nitrate as N	Phosphorus	Total organic carbon
		-	uS/cm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	Avg	6.9	183.0	117.0	20.8	7.6	1.5	6.2	18.2	3.8	2.0	63.9	0.1	0.8	0.0	0.5
Bore 2	Apr-16	6.8	138	124	13.7	5.5	1.9	4.4	9.9	5	2	55	0.1	1	0.1	0.5
	Oct-16	7	132	117	15.7	5.4	2	4.6	9.5	2.3	2	56	0.1	0.3	0.01	0.5
	Jun-17	7	139	107	11.3	6.3	0.6	4.2	9.3	1.8	2	56	0.1	0.5	0.01	0.5
	Sep-17	6.7	139	128	11	5.9	1.1	5.4	9.2	2.5	2	55	0.3	0.5	0.01	0.5
	Jan-18	7	140	114	9.9	5.9	1.1	5	8.7	2.2	2	53	0.1	0.5	0.01	0.5
	Jun-18	6.9	139	94	19	4.8	1.3	4.8	19.4	6.6	2	57	1.2	0.3	0.07	1
	Dec-18	6.9	140	94	15.3	5.7	1	4.7	8.7	2.9	2	53	0.1	0.5	0.02	0.5
	Jun-19	6.8	138	117	22	6.8	1.2	5.4	9.3	2.5	-	55	0.1	0.5	0.08	0.5
	Dec-19	7	141	100	13.4	5.5	1.6	4.5	9.5	5	2	-	0.1	0.1	0.01	0.5
	Jun-20	6.9	139	114	14.4	5.1	0.8	5.1	32.8	1.3	2	59	0.1	1	0.04	0.7
	Nov-20	6.9	143	95	13	-	1	4.6	8	2.5	2	-	0.1	1	0.01	0.5
	Apr-21	6.6	139	83	17.7	5.63	2.1	4.94	7.5	2.5	2	59	0.1	1	0.01	0.5
	Sep-21	7	133	103	14.1	5.97	<2.00	5.35	7.03	<5	<2	-	0.1	<0.1	<0.01	<0.5
	May-22	6.7	141	117	15.8	5.55	2	4.9	9.4	2	<2	-	<0.1	<0.1	<0.01	<0.5
	Sep-22	6.9	142	115	15	6.5	1.2	4.9	16	<5	<2	-	0.2	2	0.02	<0.5
	Mar-23	6.5	139	77	14.1	5.59	2.1	4.37	9.6	2.8	<2	-	<0.1	<0.1	<0.01	<0.5
	Avg	6.9	138.9	106.2	14.7	5.7	1.4	4.8	11.5	3.0	2.0	55.8	0.2	0.7	0.0	0.6

Orange - exceeds the upper ANZECC Criteria Limits

Table 5 - Production Bore Water Levels

Bore ID	Standing Water Level (mBGL)
	August 2015
Bore 1	24.5
Bore 2	24.2

Table 6 - Piezometer Water Levels

Date	Standing Water Level (mTOC ¹)											
	Piezo 1 shallow	Piezo 1 deep	Piezo 2 shallow	Piezo 2 deep	Piezo 3 shallow	Piezo 3 deep	Piezo 4 shallow	Piezo 4 deep	Piezo 5 shallow	Piezo 5 deep	Piezo 6 shallow	Piezo 6 deep
Feb-16	n/a ²	27.1	n/a ²	25.9	n/a ²	26	n/a ²	25.7	n/a ²	25.6	n/a ²	25.6
Apr-16	n/a ²	25.9	n/a ²	25.9	n/a ²	25.9	n/a ²	25.7	n/a ²	25.7	n/a ²	25.7
Oct-16	n/a ²	24.4	n/a ²	n/a ³	n/a ²	24.9	n/a ²	n/a ³	n/a ²	n/a ³	n/a ²	n/a ³
Mar-17	n/a ²	25.8	n/a ²	25.4	n/a ²	25.5	n/a ²	25.6	n/a ²	25.3	n/a ²	25.3
Jun-17	n/a ²	24.1	n/a ²	24.8	n/a ²	24.7	n/a ²	25.5	n/a ²	25	n/a ²	25
Sep-17	n/a ²	25	n/a ²	24.6	n/a ²	24.7	n/a ²	25.4	n/a ²	24.6	n/a ²	24.6
Dec-17	n/a ²	25.9	n/a ²	25.5	n/a ²	25.5	n/a ²	25.4	n/a ²	25.4	n/a ²	25.4
Mar-18	n/a ²	27.9	n/a ²	26.1	n/a ²	26.2	n/a ²	25.7	n/a ²	25.8	n/a ²	25.8
Jun-18	n/a ²	27.4	n/a ²	25.9	n/a ²	26.1	n/a ²	25.9	n/a ²	25.8	n/a ²	25.8
Sep-18	n/a ²	26.4	n/a ²	25.8	n/a ²	25.8	n/a ²	26	n/a ²	25.8	n/a ²	25.7
Dec-18	n/a ²	27.9	n/a ²	26.3	n/a ²	26.4	n/a ²	26.1	n/a ²	26	n/a ²	26
Mar-19	n/a ²	28.4	n/a ²	26.9	n/a ²	27.2	n/a ²	26.3	n/a ²	26.3	n/a ²	26.5
Jun-19	n/a ²	26.7	n/a ²	27.4	n/a ²	26.9	n/a ²	26.4	n/a ²	26.3	n/a ²	26.5
Sep-19	n/a ²	26.2	n/a ²	26.3	n/a ²	26.3	n/a ²	26.4	n/a ²	26.4	n/a ²	26.3
Dec-19	n/a ²	28.6	n/a ²	26.9	n/a ²	27.1	n/a ²	27	n/a ²	26.6	n/a ²	26.6
Mar-20	n/a ²	28	n/a ²	27.2	n/a ²	27.5	n/a ²	27.2	n/a ²	26.9	n/a ²	26.9
Jun-20	n/a ²	26.9	n/a ²	27	n/a ²	26.9	n/a ²	27	n/a ²	26.8	n/a ²	26.9
Nov-20	n/a ²	27.3	n/a ²	26.9	n/a ²	26.9	15.4	25.5	n/a ²	26.8	n/a ²	26.9
Apr-21	n/a ²	26.9	n/a ²	26.9	n/a ²	26.9	n/a ²	25.5	n/a ²	26.9	n/a ²	27.1
Sep-21	n/a ²	25.9	n/a ²	26.3	n/a ²	26.1	n/a ²	26.8	n/a ²	26.5	n/a ²	26.6
May-22	n/a ²	25.3	n/a ²	26	n/a ²	25.8	n/a ²	26.6	n/a ²	26.1	n/a ²	26.3
Sep-2022	n/a ²	24.5	n/a ²	25.5	n/a ²	25.3	n/a ²	25.8	n/a ²	25.8	n/a ²	26
Mar-23	n/a ²	24.4	n/a ²	26	n/a ²	24.8	n/a ²	25.6	n/a ²	25.7	n/a ²	25.2
Average	n/a	26.4	n/a	26.2	n/a	26.1	15.4	26.1	n/a	26.0	n/a	26.0

1 - metres below the top of the casing (mTOC)

2 - piezometer not monitored due to not being a component of the WMP at the time (historically dry)

3 - not monitored due to lack of access (flooding)