

Table 1 - Meteorological Data

Meteorological Information	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018
Maximum Temperature at 2m (°C)	39.5	43.6	41.3	36.7	37.4	29.2	19.9	21.8	21.0	27.8	32.0	38.3	42.6
Minimum Temperature at 2m (°C)	7.0	10.7	9.4	5.2	3.7	-0.1	-5.2	-5.5	-6.0	-2.0	2.9	4.6	11.5
Average Temperature at 2m (°C)	24.1	27.0	24.9	22.2	19.7	12.2	9.0	8.6	9.9	13.0	18.2	20.5	26.0
Maximum Temperature at 10m (°C)	38.8	42.9	40.6	35.7	36.7	28.9	19.6	21.7	20.9	27.6	31.2	37.7	41.8
Minimum Temperature at 10m (°C)	10.7	11.1	12.1	8.8	6.9	2.5	-2.8	-2.8	12.3	1.9	6.6	6.9	11.8
Average Temperature at 10m (°C)	24.4	27.4	25.2	22.6	20.5	13.1	9.8	9.5	10.6	13.7	18.6	20.8	26.2
Total Rainfall (mm)	101.2	20.4	4.4	4.6	2.0	23.8	29	6.4	11.2	2.6	22.0	52.4	30.8
Average Wind Direction (degrees)	187.6	163.8	158.2	160.2	175.4	194.6	185.6	186.1	206.6	177.9	148.6	226.6	181.7
Average Wind Speed (m/s)	3.5	3.7	3.7	3.6	2.9	2.9	2.7	3.1	3.7	3.3	3.8	3.9	4.0

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	-	-	500	40	50
<u>OEH Water Quality Objectives</u>		6.5 - 8.5	125 - 2,200	-	-	500	-	50
Entry	14 July 2016	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 ²	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	0.5
Farm 79 NW Dam		7.4	140	287	2	3	1.0	0.3
Farm 78 Sediment Dam	29 September 2016	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 March 2017	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 June 2017	7.3	146	238	2	-	<0.5	0.2
S2		7.2	301	688	5	-	<0.5	0.2
S3		7.6	113 ²	56	3	-	<0.5	0.1
PPU1		7.7	272	744	2	-	<0.5	0.2
PPU2		7.5	67 ²	732	2	-	<0.5	0.3
PPU3		7.4	266	288	3	-	<0.5	0.4
PPU4		7.5	246	13	2	-	<0.5	0.3
PPU5		7.4	187	88	2	-	<0.5	0.6

PPU1	28 September 2017	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 ¹	303	9	2	8	5.9	0.2
PPU1	11 January 2018	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 ¹	374	221	3	3	0.1	0.1
PPU4		9.1 ¹	258	218	5	5	0.1	0.3
PPU5		8.2 ¹	222	115	2	6	4.5	0.4
PPU1	5 March 2018	9.7 ¹	493	29	2	2	<0.5	0.3
PPU2		8.7 ¹	388	1,280	10	14	3.8	2.1
PPU3		8.5 ¹	729	1,660	14	14	<0.5	2.2
PPU4		8.1 ¹	514	454	10	10	<0.5	1.2
PPU5		8.2 ¹	301	87	<2	2	2.5	0.7
PPU1	3 June 2018	9.4 ¹	677	28	19	19	0.1	<0.01
PPU2		7.9	479	1,100	21	21	0.1	2.8
PPU3		9.0 ¹	833	39	4	5	0.6	0.3
PPU4		8.5 ¹	456	13	2	3	0.8	0.7
PPU5		8.3 ¹	370	129	<2	3	3.0	0.9
PPU1	4 September 2018	8.0	720	69	78	79	0.8	1.2
PPU2		7.9	389	27	79	80	1.2	1.7
PPU3		8.2 ¹	407	32	4	4	0.2	0.9
PPU4		9.0 ¹	573	390	25	25	0.4	2.0
PPU5		8.1 ¹	395	49	3	6	2.9	1.1
PPU1	18 December 2018	7.0	708	12	4	4	<0.5	0.6
PPU2		7.2	388	117	5	5	<0.5	1.6
PPU3		7.2	701	106	7	8	0.5	1.2
PPU4		7.6	411	15	2	2	<0.5	1.0
PPU5		8.6 ¹	482	21	2	3	0.8	0.7
MIN		6.9	67 ²	9	<2	2	0.1	<0.01
MAX		9.7 ¹	833	6,160	79	80	5.9	2.8
AVERAGE		7.9	325	601	8	10	1.2	0.8

1 - exceeds the upper ANZECC Criteria Limits

2 - exceeds the lower OEH 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
ANZECC Guidelines		6.5 - 8.5	-	1,200	180	-	-	-	250	250	200	200	0.5	50	-	-
Piezo 1 Deep	Apr 2016	7.1	253	215	39	8.7	3.0	4.7	13	<5	<2	116	<0.1	<1	0.11	11.0
	Oct 2016	7.2	190	148	33	4.4	2.3	3.2	13	<5	<2	167	<0.1	<1	0.04	0.7
	Mar 2017	7.1	190	135	32	4.8	1.1	3.7	16	5	<2	91	<0.1	<0.1	0.16	-
	Jun 2017	7.0	181	152	25	5.3	0.8	2.7	12	3	<2	76	<0.1	<0.5	0.01	0.6
	Sep 2017	7.2	186	133	25	4.7	1.6	4.0	12	<3	<2	76	1.1	<0.5	<0.01	0.7
	Jan 2018	7.5	196	79	27	4.2	1.4	4.0	18	8	<2	75	<0.1	<0.5	<0.01	0.5
	Mar 2018	9.1	191	140	31	5.2	1.6	2.9	12	9	<2	-	<0.1	<1	0.09	1.0
	Jun 2018	7.4	191	141	28	2.7	0.6	2.2	21	4	-	77	<0.1	<0.1	0.09	<0.5
	Sep 2018	7.5	182	119	31	2.6	2.0	0.7	12	4	<2	80	<0.1	<0.5	0.11	0.7
	Dec 2018	8.2	244	137	39	4.7	1.2	4.0	15	5	<2	76	<0.1	<0.5	0.09	0.9
	Avg	7.5	200	140	31	4.7	1.6	3.2	14	5	<2	93	0.02	0.6	0.07	1.8
Piezo 2 Deep	Apr 2016	7.1	305	220	49	9.2	3.4	5.7	22	<5	<2	122	<0.1	<1	0.12	5.0
	Oct 2016	6.9	179	141	17	-	1.1	3.5	69	-	<2	71	<0.1	<1	0.08	<0.5
	Mar 2017	7.2	276	172	49	5.6	1.3	4.6	19	6	<2	126	<0.1	<0.1	0.02	-
	Jun 2017	7.0	266	190	37	8.0	1.6	4.3	16	4	<2	110	<0.1	<0.5	0.05	1.4
	Sep 2017	7.1	269	200	35	7.0	1.7	5.6	21	5	<2	104	0.3	<0.5	<0.01	0.8
	Jan 2018	7.3	196	79	27	6.9	1.4	4.0	18	7	<2	75	<0.1	<0.5	<0.01	0.5
	Mar 2018	8.5	281	204	46	7.7	2.4	4.8	19	11	<2	-	<0.1	<1	0.04	0.8
	Jun 2018	7.2	271	193	39	4.4	1.0	3.7	13	2	-	105	<0.1	<2	0.12	<0.5
	Sep 2018	7.3	283	200	49	3.6	2.8	1.8	21	6	<2	111	<0.1	<0.5	0.08	0.7
	Dec 2018	8.0	301	191	49	6.4	1.6	4.8	18	6	<2	104	<0.1	<0.5	0.06	0.8
	Avg	7.4	263	179	40	6.5	1.8	4.3	24	6	<2	103	0.1	0.8	0.06	1.2
Piezo 3 Deep	Apr 2016	7.2	278	194	41	11.4	4.9	6.7	17	<5	<2	131	<0.1	<1	0.35	5.9
	Oct 2016	6.8	224	154	31	7.3	2.8	5.6	21	9	<2	74	<0.1	<1	0.03	6.5
	Mar 2017	7.0	182	132	27	5.7	1.2	4.6	14	3	<2	72	<0.1	0.1	0.09	-
	Jun 2017	7.4	192	165	22	7.9	1.8	4.7	13	3	<2	76	<0.1	<0.5	0.09	0.8
	Sep 2017	7.2	182	157	19	7.0	1.6	5.4	13	<3	<2	70	1.3	<0.5	<0.01	0.6

	Jan 2018	7.2	182	117	18	6.6	1.8	5.2	13	6	<2	66	<0.1	<0.5	<0.01	0.7
	Mar 2018	8.3	182	122	22	6.7	1.8	4.0	14	8	<2	-	<0.1	<1	0.06	1.8
	Jun 2018	7.1	180	139	22	5.1	1.1	4.1	16	3	-	65	0.1	<0.1	0.12	<0.5
	Sep 2018	7.2	181	124	21	3.2	2.3	1.5	14	4	<2	70	<0.1	<0.5	0.10	0.6
	Dec 2018	8.0	177	137	25	5.9	1.4	4.6	13	4	<2	65	<0.1	<0.5	0.07	0.6
	Avg	7.3	196	144	25	6.7	2.1	4.6	15	5	<2	77	0.2	0.6	0.09	2.0
Piezo 4 Deep	Apr 2016	7.3	590	716	100	17.4	7.2	12.9	50	7	<2	248	<0.1	<1	2.35	11.0
	Oct 2016	6.7	250	188	25	-	2.0	5.9	13	-	<2	192	<0.1	<1	0.07	0.9
	Mar 2017	7.0	566	372	96	17.6	8.5	15.5	58	10	<2	210	0.5	<0.1	1.85	-
	Jun 2017	7.0	618	405	88	21.0	3.4	12.1	53	8	<2	242	<0.1	<0.5	1.13	1.6
	Sep 2017	6.9	600	341	79	17.1	3.9	14.6	60	10	<2	212	<0.1	<0.5	0.94	1.0
	Jan 2018	7.0	554	355	72	14.9	3.1	11.7	59	9	<2	183	<0.1	<0.5	0.17	1.0
	Mar 2018	7.9	538	307	81	23.1	3.9	14.1	58	28	<2	-	<0.1	<1	0.69	0.6
	Jun 2018	7.0	469	353	67	9.4	2.2	7.5	55	8	-	146	2	0.3	1.11	<0.5
	Sep 2018	7.2	481	245	80	7.5	5.8	6.9	56	10	<2	155	1.8	<0.5	0.93	0.7
	Dec 2018	7.7	460	317	79	11.3	2.6	8.4	53	10	<2	141	0.1	<0.5	1.71	0.7
Avg	7.2	513	360	77	15.5	4.3	11.0	52	11	<2	192	0.5	0.6	1.06	2.0	
Piezo 5 Deep	Apr 2016	6.9	273	214	37	11.7	3.3	7.9	12	<5	<2	122	<0.1	<1	0.07	2.2
	Oct 2016	6.7	178	139	18	-	1.2	3.7	14	-	<2	68	<0.1	<1	0.08	<0.5
	Mar 2017	6.9	246	174	39	9.3	1.8	7.1	15	5	<2	108	<0.1	<0.1	0.07	-
	Jun 2017	6.9	236	184	26	10.5	1.2	5.6	12	3	<2	105	<0.1	<0.5	0.03	1.0
	Sep 2017	6.6	239	190	25	9.3	1.7	7.5	13	3	<2	103	<0.1	<0.5	<0.01	0.6
	Jan 2018	7.0	241	191	24	9.2	1.8	7.0	13	6	<2	100	<0.1	<0.5	<0.01	0.7
	Mar 2018	7.8	234	79	30	9.8	2.0	6.0	13	18	<2	-	<0.1	<1	0.03	<0.5
	Jun 2018	6.9	234	162	29	7.5	2.2	5.8	15	8	-	98	0.1	0.1	0.13	<0.5
	Sep 2018	7.0	266	190	36	5.0	3.1	3.5	18	7	<2	108	0.8	<0.5	0.12	0.9
	Dec 2018	7.6	232	168	33	9.2	1.5	6.7	11	4	<2	100	<0.1	<0.5	0.05	0.6
Avg	7.0	238	169	30	9.0	2.0	6.1	14	7	<2	101	0.2	0.6	0.06	0.8	
Piezo 6 Deep	Apr 2016	7.0	409	276	56	18.5	4.8	11.5	35	<5	<2	210	<0.1	<1	0.15	5.2
	Oct 2016	6.6	252	179	25	-	2.0	6.1	13	-	<2	140	0.2	<1	0.09	1.1
	Mar 2017	6.8	347	-	51	13.0	2.3	9.2	36	6	<2	119	<0.1	<1	0.11	11
	Jun 2017	6.8	326	206	36	12.0	1.4	7.2	32	4	<2	112	<0.1	<0.5	<0.01	<0.5
	Sep 2017	6.7	391	253	44	13.4	3.2	11.2	44	8	<2	122	1.0	<0.5	<0.01	1.1

	Jan 2018	6.8	360	269	37	12.6	2.4	9.8	41	7	<2	109	<0.1	<0.5	<0.01	0.6
	Mar 2018	7.5	347	213	43	12.9	2.5	8.1	38	15	<2	-	<0.1	<1	0.02	<0.5
	Jun 2018	6.8	332	188	37	10.2	1.4	7.2	29	3	-	109	0.1	0.1	0.13	<0.5
	Sep 2018	7.0	339	174	46	7.5	3.1	6.0	38	7	<2	114	<0.1	<0.5	0.10	0.8
	Dec 2018	6.8	338	218	46	13.0	1.9	8.9	35	7	<2	109	<0.1	<0.5	0.07	0.8
	Avg	6.9	344	220	42	12.6	2.5	8.5	34	7	<2	127	0.2	0.7	0.07	2.2

1 - exceeds the upper ANZECC Criteria Limits

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
ANZECC Guidelines		6.5 - 8.5	-	1,200	180	-	-	-	250	250	200	200	0.5	50	-	-
Bore 1	Aug 2015	6.6	685	-	84.3	29.7	1.9	22.0	144.0	19	-	-	<0.1	<0.5	0.04	<0.5
	Apr 2016	6.8	149	104	14.0	6.7	1.9	5.1	9.0	<5	<2	70	<0.1	<1	0.11	<0.5
	Oct 2016	7.3	145	122	16.0	5.9	2.0	5.0	9.7	3	<2	67	<0.1	<0.1	<0.01	<0.5
	Jun 2017	6.8	149	120	12.6	7.2	0.7	4.7	8.8	2	<2	63	<0.1	<0.5	<0.01	<0.5
	Sep 2017	PB1 not sampled due to maintenance at the time of sampling.														
	Jan 2018	7.0	152	129	11.4	6.1	1.2	5.5	8.6	2	<2	61	<0.1	<0.5	<0.01	<0.5
	Jun 2018	6.9	154	109	22.1	4.7	1.4	5.1	0.4	1	<2	64	<0.1	<0.1	0.05	0.7
	Dec 2018	6.9	153	107	18.8	6.5	1.1	5.4	8.5	3	<2	61	<0.1	<0.5	0.02	<0.5
	Avg	6.9	227	115	25.6	9.5	1.5	7.5	27.0	5	<2	64	<0.1	0.5	0.04	0.5
Bore 2	Apr 2016	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 2016	7.0	132	117	15.7	5.4	2.0	4.6	9.5	2	<2	56	<0.1	0.3	<0.01	<0.5
	Jun 2017	7.0	139	107	11.3	6.3	0.6	4.2	9.3	2	<2	56	<0.1	<0.5	<0.01	<0.5
	Sep 2017	6.7	139	128	11.0	5.9	1.1	5.4	9.2	<3	<2	55	0.3	<0.5	<0.01	<0.5
	Jan 2018	7.0	140	114	9.9	5.9	1.1	5.0	8.7	2	<2	53	<0.1	<0.5	<0.01	<0.5
	Jun 2018	6.9	139	94	19.0	4.8	1.3	4.8	0.5	7	<2	57	1.2 ¹	0.3	0.07	1.0
	Dec 2018	6.9	140	94	15.3	5.7	1.0	4.7	8.7	3	<2	53	<0.1	<0.5	0.02	<0.6
	Avg	6.9	138	111	13.7	5.6	1.3	4.7	8.0	3	<2	55	0.3	0.5	0.03	0.6

1 - exceeds the 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 2016	n/a ²	27.1	n/a ²	25.9	n/a ²	26.0	n/a ²	25.7	n/a ²	25.6	n/a ²	25.6
Apr 2016	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 2016	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 2017	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 2017	n/a ²	24.1	n/a ²	24.8	n/a ²	24.7	n/a ²	25.5	n/a ²	25.0	n/a ²	25.0
Sep 2017	n/a ²	25.0	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 2017	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 2018	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 2018	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 2018	n/a ²	26.4	n/a ²	25.8	n/a ²	25.8	n/a ²	26.0	n/a ²	25.8	n/a ²	25.7
Dec 2018	n/a ²	27.9	n/a ²	26.3	n/a ²	26.4	n/a ²	26.1	n/a ²	26.0	n/a ²	26.0
Average	n/a	26.2	n/a	25.6	n/a	25.6	n/a	25.7	n/a	25.5	n/a	25.5

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)