

ENVIRONMENT PROTECTION LICENCE 20350 MONITORING DATA

Licence Holder: Santos NSW (Eastern) Pty Ltd
Premises: Narrabri Gas Field
X-Line Road, Narrabri NSW 2390

Licence No: 20350

EPL LINK: <http://www.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=33816&SYSUID=1&LICID=20350>

EPL Period: May 1st 2021 to April 30th 2022

Reporting Period: Quarter 3 - Nov 2021 - Jan 2022

Published Date: Feb-22

Monitoring Location: Refer to Table 1

Scheduled Activity: Coal seam gas exploration, assessment and production

General Notes: Monitoring Point 80, 81 & 82 - no sample required in accordance with EPL20350 Condition M2.11
Monitoring Point 77 - no sample required in accordance with EPL20350 Condition M2.7
Monitoring Point 69, 70 & 76 - no sample required in accordance with EPL20350 Condition M2.8 & M2.9
Monitoring Point 83, 84, 85 & 86 - no sample required in accordance with EPL20350 Condition M2.11
Monitoring point 18 - The bore is sealed shut and unable to open. Historically dry.
Monitoring points visited and reported dry : 18, 26, 38, 39, 40, 43 & 66
Monitoring points visited with insufficient recharge to collect a lab sample: 28 & 62
Monitoring points 47, 48 and 49: no water level results available. Repairs and maintenance being investigated.

EPA Identification No.	Location	Monitoring Type	LATITUDE	LONGITUDE
EPA ID 10	BWD26PRLP02	MONITORING BORE	-30.62235754	149.6014509
EPA ID 11	DWH14PRUPS01	MONITORING WELL	-30.54892377	149.7593231
EPA ID 12	DWH14PRLP02	MONITORING WELL	-30.54916522	149.7591818
EPA ID 13	DWH14PRPUR03	MONITORING BORE	-30.5490445	149.7592524
EPA ID 14	DWH3PRUPS01	MONITORING BORE	-30.65363088	149.7365671
EPA ID 15	DWH3PRLP02	MONITORING BORE	-30.65353767	149.7367105
EPA ID 18	BWD27PRORA01	MONITORING BORE	-30.66338611	149.6658255
EPA ID 20	BHN14PRORA01	MONITORING WELL	-30.47186	149.574455
EPA ID 21	BHN14PRUPS02	VIBRATING WIRE PIEZO	-30.471734	149.574398
EPA ID 26	BWDMW12S	MONITORING WELL	-30.631887	149.64828
EPA ID 27	BWDMW12D	MONITORING WELL	-30.631878	149.648293
EPA ID 28	BWDMW12J	MONITORING WELL	-30.631891	149.648302
EPA ID 37	LWDMW1D	MONITORING BORE	-30.491237	149.619021
EPA ID 38	LWDMW1S	MONITORING BORE	-30.491241	149.619031
EPA ID 39	LWDMW1I	MONITORING BORE	-30.491247	149.619049
EPA ID 40	LWDMW2S	MONITORING BORE	-30.505449	149.616432
EPA ID 41	LWDMW2D	MONITORING BORE	-30.505448	149.616422
EPA ID 42	LWDMW3D	MONITORING BORE	-30.506452	149.624514
EPA ID 43	LWDMW3S	MONITORING BORE	-30.506442	149.624517
EPA ID 44	DWH8AQGGDY01	MONITORING BORE	-30.550156	149.768324
EPA ID 45	DWH8AQGARK02	MONITORING BORE	-30.550156	149.768324
EPA ID 46	DWH8AQGPOR03	MONITORING BORE	-30.550156	149.768324
EPA ID 47	BWD28QGLP01	MONITORING BORE	-30.6680169	149.6400693
EPA ID 48	BWD28QGLP01	MONITORING BORE	-30.6680169	149.6400693
EPA ID 49	BWD28QGLP01	MONITORING BORE	-30.6680169	149.6400693
EPA ID 56	WPKMW9D	MONITORING BORE	-30.363006	149.66006
EPA ID 57	WPKMW9S	MONITORING BORE	-30.362985	149.660074
EPA ID 59	WPKMW13I	MONITORING BORE	-30.361215	149.658864
EPA ID 60	WPKMW13S	MONITORING BORE	-30.361219	149.658887
EPA ID 61	WPKMW14D	MONITORING BORE	-30.362521	149.656942
EPA ID 62	WPKMW14S	MONITORING BORE	-30.362528	149.656945
EPA ID 63	WPKMW15D	MONITORING BORE	-30.36086	149.656908
EPA ID 64	WPKMW15S	MONITORING BORE	-30.360883	149.656908
EPA ID 65	WPKMW16D	MONITORING BORE	-30.363133	149.653698
EPA ID 66	WPKMW16S	MONITORING BORE	-30.36315	149.653694
EPA ID 69	BWDPD2	POND	-30.6337	149.6493
EPA ID 7	BWD27PRUPS02	MONITORING BORE	-30.66325391	149.6658598
EPA ID 70	BWDPD3	POND	-30.6324	149.6489
EPA ID 71	LWDPD1CELL4	POND	-30.494372	149.619995
EPA ID 72	LWDPD1CELL3	POND	-30.496082	149.619909
EPA ID 73	LWDPD1CELL2	POND	-30.497881	149.619617
EPA ID 74	LWDPD1CELL1	POND	-30.499596	149.619269
EPA ID 75	TFDPD1	POND	-30.3618	149.6595
EPA ID 75	TFDPD1(1)	DAM	-30.36196525	149.6595504
EPA ID 75	TFDPD1(2)	DAM	-30.36245825	149.6595151
EPA ID 76	TFDPD2	POND	-30.3613	149.6583
EPA ID 77	LWWTPEM1	PERMEATE DAM	-30.503394	149.622056
EPA ID 78	WPKMW18S	MONITORING BORE	-30.36193	149.662952
EPA ID 79	WPKMW18I	MONITORING BORE	-30.361893	149.662963
EPA ID 8	BWD27PRLP03	MONITORING BORE	-30.66312744	149.6658851
EPA ID 80	LWDMW4	MONITORING BORE	-30.49852	149.62643
EPA ID 81	LWDMW5	MONITORING BORE	-30.49607	149.63064
EPA ID 82	LWDMW6	MONITORING BORE	-30.49726	149.63251
EPA ID 83	LWDSMP1	SOIL	-30.49943	149.625015
EPA ID 84	LWDSMP2	SOIL	-30.497557	149.627274
EPA ID 85	LWDSMP3	SOIL	-30.497629	149.631531
EPA ID 86	LWDSMP4	SOIL	-30.500917	149.630417
EPA ID 9	BWD26PRUPS01	MONITORING BORE	-30.62224078	149.6015298

Note.
Monitoring points removed in accordance with (EPL) 23050 amended 11th April 2021
(16, 17, 22, 23, 24, 25, 29, 30, 31, 32, 33, 34, 35, 36, 50, 51, 52, 53, 55, 58, 67 and 68)

TABLE 2: GROUNDWATER QUALITY MONITORING

		EPA Identification No	10	11	12	13	14	15
		Location	BWD26PRLPS02	DWH14PRUPS01	DWH14PRLPS02	DWH14PRPUR03	DWH3PRUPS01	DWH3PRLPS02
		Date	23/12/2021	30/12/2021	30/12/2021	30/12/2021	23/12/2021	23/12/2021
		Sample Method	In situ	In situ	In situ	In situ	In situ	In situ
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Dissolved Oxygen	mg/L	-	1.52	1.9	0.53	1.61	4.36	1.12
Electrical Conductivity	µS/cm	-	138	226	181	651	123	134
pH	pH Unit	-	6.42	5.96	5.57	7.56	5.44	5.86
Redox Potential	mV	-	-44	-38	8	-270	59	35
Standing Water Level	mTOC	-	29.02	53.4	54.17	53.55	66.54	67.62

		EPA Identification No	20	21	7	8	9	18
		Location	BHN14PRORA01	BHN14PRUPS02	BWD27PRUPS02	BWD27PRLPS03	BWD26PRUPS01	BWD27PRORA01
		Date	31/12/2021	31/12/2021	30/12/2021	30/12/2021	23/12/2021	30/12/2021
		Sample Method	In situ	In situ	In situ	In situ	In situ	No sample - dry
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	
Dissolved Oxygen	mg/L	-	0.2	0.07	3.3	1.99	4.1	-
Electrical Conductivity	µS/cm	-	507	467	139	219	79	-
pH	pH Unit	-	7.26	7.68	6.17	6.32	6.11	-
Redox Potential	mV	-	-51	-77	60	-27	-9	-
Standing Water Level	mTOC	-	26.4	15.2	38.91	38.41	29.58	-

		EPA Identification No Location Date	10 BWD26PRLPS02 23/12/2021	7 BWD27PRUPS02 30/12/2021	8 BWD27PRLPS03 30/12/2021	11 DWH14PRUPS01 30/12/2021	12 DWH14PRLPS02 30/12/2021	13 DWH14PRPUR03 30/12/2021
		Sample Method	Grab Sample	Grab Sample	Grab Sample	In situ	In situ	Grab Sample
Parameter	Units	LOR	RESULT	RESULTS	RESULTS	RESULT	RESULT	RESULT
Aluminium	mg/L	0.01	<0.01	<0.01	<0.01	-	-	<0.01
Ammonia as N	mg/L	0.01	<0.01	<0.01	<0.01	-	-	1.22
Arsenic	mg/L	0.001	<0.001	<0.001	<0.001	-	-	<0.001
Barium	mg/L	0.001	0.696	0.155	0.098	-	-	0.647
Beryllium	mg/L	0.001	<0.001	<0.001	<0.001	-	-	<0.001
Bicarbonate Alkalinity as CaCO3	mg/L	1	35	22	50	-	-	291
Boron	mg/L	0.05	<0.05	<0.05	<0.05	-	-	0.05
Bromide	mg/L	0.01	0.057	0.11	0.125	-	-	0.021
Cadmium	mg/L	0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001
Calcium	mg/L	1	1	<1	1	-	-	29
Carbonate Alkalinity as CaCO3	mg/L	1	<1	<1	<1	-	-	<1
Chloride	mg/L	1	19	28	38	-	-	34
Chromium	mg/L	0.001	<0.001	0.01	<0.001	-	-	<0.001
Cobalt	mg/L	0.001	0.014	0.007	<0.001	-	-	<0.001
Copper	mg/L	0.001	<0.001	0.018	<0.001	-	-	<0.001
Dissolved Oxygen	mg/L	-	1.52	3.3	1.99	1.9	0.53	1.61
Electrical Conductivity	µS/cm	-	138	139	219	226	181	651
Fluoride	mg/L	0.1	0.7	<0.1	<0.1	-	-	0.3
Iron	mg/L	0.05	<0.05	<0.05	2.39	-	-	0.56
Lead	mg/L	0.001	<0.001	<0.001	<0.001	-	-	<0.001
Magnesium	mg/L	1	2	1	2	-	-	1
Manganese	mg/L	0.001	0.046	0.062	0.039	-	-	0.174
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	-	-	<0.0001
Methane	mg/L	0.01	<0.01	<0.01	0.369	-	-	1.89
Molybdenum	mg/L	0.001	<0.001	<0.001	0.006	-	-	0.001
Nickel	mg/L	0.001	0.012	0.27	0.064	-	-	0.001
Nitrate as N	mg/L	0.01	0.12	0.19	<0.01	-	-	<0.01
Nitrite as N	mg/L	0.01	<0.01	<0.01	<0.01	-	-	<0.01
pH	pH Unit	-	6.42	6.17	6.32	5.96	5.57	7.56
Potassium	mg/L	1	15	6	4	-	-	22
Reactive Phosphorus	mg/L	0.01	<0.01	<0.01	<0.01	-	-	0.04
Redox Potential	mV	-	-44	60	-27	-38	8	-270
Selenium	mg/L	0.01	<0.01	<0.01	<0.01	-	-	<0.01
Sodium	mg/L	1	16	17	32	-	-	105
Standing Water Level	mbTOC	-	29.02	38.91	38.41	53.4	54.17	53.55
Strontium	mg/L	0.001	0.05	0.023	0.026	-	-	0.933
Sulfate as SO4 2-	mg/L	1	8	<1	<1	-	-	5
Total Dissolved Solids @180°C	mg/L	10	125	65	99	-	-	518
Uranium	mg/L	0.001	<0.001	<0.001	<0.001	-	-	<0.001
Vanadium	mg/L	0.01	<0.01	<0.01	<0.01	-	-	<0.01
Zinc	mg/L	0.005	<0.005	0.006	0.008	-	-	<0.005

		EPA Identification No Location Date	14 DWH3PRUPS01 23/12/2021	15 DWH3PRLPS02 23/12/2021
		Sample Method	In situ	Grab Sample
Parameter	Units	LOR	RESULT	RESULT
Aluminium	mg/L	0.01	-	<0.01
Ammonia as N	mg/L	0.01	-	0.04
Arsenic	mg/L	0.001	-	<0.001
Barium	mg/L	0.001	-	0.051
Beryllium	mg/L	0.001	-	<0.001
Bicarbonate Alkalinity as CaCO3	mg/L	1	-	34
Boron	mg/L	0.05	-	<0.05
Bromide	mg/L	0.01	-	0.058
Cadmium	mg/L	0.0001	-	<0.0001
Calcium	mg/L	1	-	<1
Carbonate Alkalinity as CaCO3	mg/L	1	-	<1
Chloride	mg/L	1	-	22
Chromium	mg/L	0.001	-	<0.001
Cobalt	mg/L	0.001	-	0.002
Copper	mg/L	0.001	-	0.009
Dissolved Oxygen	mg/L	-	4.36	1.12
Electrical Conductivity	µS/cm	-	123	134
Fluoride	mg/L	0.1	-	<0.1
Iron	mg/L	0.05	-	<0.05
Lead	mg/L	0.001	-	<0.001
Magnesium	mg/L	1	-	1
Manganese	mg/L	0.001	-	0.028
Mercury	mg/L	0.0001	-	<0.0001
Methane	mg/L	0.01	-	<0.01
Molybdenum	mg/L	0.001	-	<0.001
Nickel	mg/L	0.001	-	0.079
Nitrate as N	mg/L	0.01	-	0.08
Nitrite as N	mg/L	0.01	-	<0.01
pH	pH Unit	-	5.44	5.86
Potassium	mg/L	1	-	3
Reactive Phosphorus	mg/L	0.01	-	<0.01
Redox Potential	mV	-	59	35
Selenium	mg/L	0.01	-	<0.01
Sodium	mg/L	1	-	22
Standing Water Level	mbTOC	-	66.54	67.62
Strontium	mg/L	0.001	-	0.013
Sulfate as SO4 2-	mg/L	1	-	2
Total Dissolved Solids @180°C	mg/L	10	-	84
Uranium	mg/L	0.001	-	<0.001
Vanadium	mg/L	0.01	-	<0.01
Zinc	mg/L	0.005	-	0.006

		EPA Identification No Location Date	20 BHN14PRORA01 31/12/2021	21 BHN14PRUPS02 31/12/2021	26 BWDMMW12S 11/12/2021	27 BWDMMW12D 11/12/2021	28 BWDMMW12I 11/12/2021	37 LWDMW1D 11/12/2021
		Sample Method	In situ	Grab Sample	No sample - dry	In situ	No sample - Insufficient liquid	In situ
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Aluminium	mg/L	0.01	-	<0.01	-	-	-	-
Ammonia as N	mg/L	0.01	-	0.08	-	-	-	-
Arsenic	mg/L	0.001	-	<0.001	-	-	-	-
Barium	mg/L	0.001	-	0.211	-	-	-	-
Beryllium	mg/L	0.001	-	<0.001	-	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/L	1	-	52	-	-	-	-
Boron	mg/L	0.05	-	<0.05	-	-	-	-
Bromide	mg/L	0.01	-	0.14	-	-	-	-
Cadmium	mg/L	0.0001	-	<0.0001	-	-	-	-
Calcium	mg/L	1	-	1	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1	-	<1	-	-	-	-
Chloride	mg/L	1	-	35	-	-	-	-
Chromium	mg/L	0.001	-	0.003	-	-	-	-
Cobalt	mg/L	0.001	-	0.007	-	-	-	-
Copper	mg/L	0.001	-	0.007	-	-	-	-
Dissolved Oxygen	mg/L	-	0.2	0.07	-	3.21	-	1.67
Electrical Conductivity	µS/cm	-	507	467	-	4731	-	2274
Fluoride	mg/L	0.1	-	<0.1	-	-	-	-
Iron	mg/L	0.05	-	<0.05	-	-	-	-
Lead	mg/L	0.001	-	<0.001	-	-	-	-
Magnesium	mg/L	1	-	4	-	-	-	-
Manganese	mg/L	0.001	-	0.099	-	-	-	-
Mercury	mg/L	0.0001	-	<0.0001	-	-	-	-
Methane	mg/L	0.01	-	<0.01	-	-	-	-
Molybdenum	mg/L	0.001	-	<0.001	-	-	-	-
Nickel	mg/L	0.001	-	0.485	-	-	-	-
Nitrate as N	mg/L	0.01	-	0.18	-	-	-	-
Nitrite as N	mg/L	0.01	-	<0.01	-	-	-	-
pH	pH Unit	-	7.26	7.68	-	6.96	-	6.3
Potassium	mg/L	1	-	8	-	-	-	-
Reactive Phosphorus	mg/L	0.01	-	<0.01	-	-	-	-
Redox Potential	mV	-	-51	-77	-	56.3	-	66.1
Selenium	mg/L	0.01	-	<0.01	-	-	-	-
Sodium	mg/L	1	-	27	-	-	-	-
Standing Water Level	mbTOC	-	26.4	15.2	-	30.89	-	29.91
Strontium	mg/L	0.001	-	0.04	-	-	-	-
Sulfate as SO4 2-	mg/L	1	-	<1	-	-	-	-
Total Dissolved Solids @180°C	mg/L	10	-	114	-	-	-	-
Uranium	mg/L	0.001	-	<0.001	-	-	-	-
Vanadium	mg/L	0.01	-	<0.01	-	-	-	-
Zinc	mg/L	0.005	-	0.012	-	-	-	-

		EPA Identification No Location Date	38 LWDMW1S 11/12/2021	39 LWDMW1I 11/12/2021	40 LWDMW2S 11/12/2021	41 LWDMW2D 11/12/2021	42 LWDMW3D 11/12/2021	43 LWDMW3S 11/12/2021
		Sample Method	No sample - dry	No sample - dry	No sample - dry	In situ	In situ	No sample - dry
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Aluminium	mg/L	0.01	-	-	-	-	-	-
Ammonia as N	mg/L	0.01	-	-	-	-	-	-
Arsenic	mg/L	0.001	-	-	-	-	-	-
Barium	mg/L	0.001	-	-	-	-	-	-
Beryllium	mg/L	0.001	-	-	-	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/L	1	-	-	-	-	-	-
Boron	mg/L	0.05	-	-	-	-	-	-
Bromide	mg/L	0.01	-	-	-	-	-	-
Cadmium	mg/L	0.0001	-	-	-	-	-	-
Calcium	mg/L	1	-	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1	-	-	-	-	-	-
Chloride	mg/L	1	-	-	-	-	-	-
Chromium	mg/L	0.001	-	-	-	-	-	-
Cobalt	mg/L	0.001	-	-	-	-	-	-
Copper	mg/L	0.001	-	-	-	-	-	-
Dissolved Oxygen	mg/L	-	-	-	-	0.54	1.98	-
Electrical Conductivity	µS/cm	-	-	-	-	2065	1011	-
Fluoride	mg/L	0.1	-	-	-	-	-	-
Iron	mg/L	0.05	-	-	-	-	-	-
Lead	mg/L	0.001	-	-	-	-	-	-
Magnesium	mg/L	1	-	-	-	-	-	-
Manganese	mg/L	0.001	-	-	-	-	-	-
Mercury	mg/L	0.0001	-	-	-	-	-	-
Methane	mg/L	0.01	-	-	-	-	-	-
Molybdenum	mg/L	0.001	-	-	-	-	-	-
Nickel	mg/L	0.001	-	-	-	-	-	-
Nitrate as N	mg/L	0.01	-	-	-	-	-	-
Nitrite as N	mg/L	0.01	-	-	-	-	-	-
pH	pH Unit	-	-	-	-	6.79	6.38	-
Potassium	mg/L	1	-	-	-	-	-	-
Reactive Phosphorus	mg/L	0.01	-	-	-	28.4	-	-
Redox Potential	mV	-	-	-	-	-	-253	-
Selenium	mg/L	0.01	-	-	-	-	-	-
Sodium	mg/L	1	-	-	-	25.93	-	-
Standing Water Level	mbTOC	-	-	-	-	-	21.04	-
Strontium	mg/L	0.001	-	-	-	-	-	-
Sulfate as SO4 2-	mg/L	1	-	-	-	-	-	-
Total Dissolved Solids @180°C	mg/L	10	-	-	-	-	-	-
Uranium	mg/L	0.001	-	-	-	-	-	-
Vanadium	mg/L	0.01	-	-	-	-	-	-
Zinc	mg/L	0.005	-	-	-	-	-	-

		EPA Identification No Location Date	56 WPKMW9D 11/12/2021	57 WPKMW9S 11/12/2021	59 WPKMW13I 11/12/2021	60 WPKMW13S 11/12/2021	61 WPKMW14D 11/12/2021	62 WPKMW14S 11/12/2021
		Sample Method	In situ	In situ	Grab Sample	In situ	In situ	No sample - Insufficient liquid
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Aluminium	mg/L	0.01	-	-	<0.01	-	-	-
Ammonia as N	mg/L	0.01	-	-	0.08	-	-	-
Arsenic	mg/L	0.001	-	-	0.001	-	-	-
Barium	mg/L	0.001	-	-	0.038	-	-	-
Beryllium	mg/L	0.001	-	-	<0.001	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/L	1	-	-	556	-	-	-
Boron	mg/L	0.05	-	-	0.2	-	-	-
Bromide	mg/L	0.01	-	-	0.175	-	-	-
Cadmium	mg/L	0.0001	-	-	<0.0001	-	-	-
Calcium	mg/L	1	-	-	3	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1	-	-	24	-	-	-
Chloride	mg/L	1	-	-	79	-	-	-
Chromium	mg/L	0.001	-	-	<0.001	-	-	-
Cobalt	mg/L	0.001	-	-	<0.001	-	-	-
Copper	mg/L	0.001	-	-	0.001	-	-	-
Dissolved Oxygen	mg/L	-	0.62	0.42	0.65	0.95	0.8	-
Electrical Conductivity	µS/cm	-	1266	3899	1409	3326	1227	-
Fluoride	mg/L	0.1	-	-	0.9	-	-	-
Iron	mg/L	0.05	-	-	<0.05	-	-	-
Lead	mg/L	0.001	-	-	<0.001	-	-	-
Magnesium	mg/L	1	-	-	<1	-	-	-
Manganese	mg/L	0.001	-	-	0.006	-	-	-
Mercury	mg/L	0.0001	-	-	<0.0001	-	-	-
Methane	mg/L	0.01	-	-	<0.01	-	-	-
Molybdenum	mg/L	0.001	-	-	<0.001	-	-	-
Nickel	mg/L	0.001	-	-	0.002	-	-	-
Nitrate as N	mg/L	0.01	-	-	0.03	-	-	-
Nitrite as N	mg/L	0.01	-	-	0.01	-	-	-
pH	pH Unit	-	8.31	7.78	8.15	7.4	8.01	-
Potassium	mg/L	1	-	-	4	-	-	-
Reactive Phosphorus	mg/L	0.01	-	-	0.26	61.2	-	-
Redox Potential	mV	-	7.3	-8.3	28.4	-	27.3	-
Selenium	mg/L	0.01	-	-	<0.01	-	-	-
Sodium	mg/L	1	-	-	284	16.88	-	-
Standing Water Level	mbTOC	-	15.38	15.65	16.74	-	20.86	-
Strontium	mg/L	0.001	-	-	0.018	-	-	-
Sulfate as SO4 2-	mg/L	1	-	-	<1	-	-	-
Total Dissolved Solids @180°C	mg/L	10	-	-	816	-	-	-
Uranium	mg/L	0.001	-	-	<0.001	-	-	-
Vanadium	mg/L	0.01	-	-	<0.01	-	-	-
Zinc	mg/L	0.005	-	-	<0.005	-	-	-

		EPA Identification No Location Date	63 WPKMW15D 11/12/2021	64 WPKMW15S 11/12/2021	65 WPKMW16D 11/12/2021	66 WPKMW16S 6/06/2021
		Sample Method	In situ	In situ	In situ	No sample - dry
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT
Aluminium	mg/L	0.01	-	-	-	-
Ammonia as N	mg/L	0.01	-	-	-	-
Arsenic	mg/L	0.001	-	-	-	-
Barium	mg/L	0.001	-	-	-	-
Beryllium	mg/L	0.001	-	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/L	1	-	-	-	-
Boron	mg/L	0.05	-	-	-	-
Bromide	mg/L	0.01	-	-	-	-
Cadmium	mg/L	0.0001	-	-	-	-
Calcium	mg/L	1	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1	-	-	-	-
Chloride	mg/L	1	-	-	-	-
Chromium	mg/L	0.001	-	-	-	-
Cobalt	mg/L	0.001	-	-	-	-
Copper	mg/L	0.001	-	-	-	-
Dissolved Oxygen	mg/L	-	0.41	2.82	1.78	-
Electrical Conductivity	µS/cm	-	1307	8776	1265	-
Fluoride	mg/L	0.1	-	-	-	-
Iron	mg/L	0.05	-	-	-	-
Lead	mg/L	0.001	-	-	-	-
Magnesium	mg/L	1	-	-	-	-
Manganese	mg/L	0.001	-	-	-	-
Mercury	mg/L	0.0001	-	-	-	-
Methane	mg/L	0.01	-	-	-	-
Molybdenum	mg/L	0.001	-	-	-	-
Nickel	mg/L	0.001	-	-	-	-
Nitrate as N	mg/L	0.01	-	-	-	-
Nitrite as N	mg/L	0.01	-	-	-	-
pH	pH Unit	-	7.94	7.83	7.83	-
Potassium	mg/L	1	-	-	-	-
Reactive Phosphorus	mg/L	0.01	-	-	-	-
Redox Potential	mV	-	-115.7	100.5	-138.9	-
Selenium	mg/L	0.01	-	-	-	-
Sodium	mg/L	1	-	-	-	-
Standing Water Level	mbTOC	-	22.18	22.4	26.47	-
Strontium	mg/L	0.001	-	-	-	-
Sulfate as SO4 2-	mg/L	1	-	-	-	-
Total Dissolved Solids @180°C	mg/L	10	-	-	-	-
Uranium	mg/L	0.001	-	-	-	-
Vanadium	mg/L	0.01	-	-	-	-
Zinc	mg/L	0.005	-	-	-	-

TABLE 3: TREATED WATER QUALITY MONITORING

		EPA Identification No	77	77	77
		Location	LWWTPDM1	LWWTPDM1	LWWTPDM1
		Date	Nov-21	Dec-21	Jan-22
		Sample Method	No sample - plant not operating	No sample - plant not operating	No sample - plant not operating
Parameter	Units	LOR	RESULT	RESULT	RESULT
Ammonia as N	mg/L	0.01	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/L	1	-	-	-
Boron	mg/L	0.05	-	-	-
Calcium	mg/L	1	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1	-	-	-
Chloride	mg/L	1	-	-	-
Electrical Conductivity	µS/cm	-	-	-	-
Fluoride	mg/L	0.1	-	-	-
Magnesium	mg/L	1	-	-	-
Nitrate as N	mg/L	0.01	-	-	-
Nitrite as N	mg/L	0.01	-	-	-
pH	pH Unit	-	-	-	-
Potassium	mg/L	1	-	-	-
Reactive Silica	mg/L	1	-	-	-
Sodium Adsorption Ratio	-	0.01	-	-	-
Sodium	mg/L	1	-	-	-
Sulfate as SO4 2-	mg/L	1	-	-	-
Total Alkalinity (as CaCO3)	mg/L	1	-	-	-
Total Dissolved Solids @180°C	mg/L	10	-	-	-
Total Hardness (as CaCO3)	mg/L	1	-	-	-
Total Nitrogen (as N)	mg/L	0.5	-	-	-
Total Phosphorus (as P)	mg/L	0.01	-	-	-
Total Residual Chlorine	mg/L	-	-	-	-
Turbidity	NTU	0.1	-	-	-

TABLE 4: PRODUCED WATER STORAGE QUALITY MONITORING

		EPA Identification No	71	72	73	74	75
		Location	LWDPD1CELL4	LWDPD1CELL3	LWDPD1CELL2	LWDPD1CELL1	TFDPD1
		Date	12/12/2021	12/12/2021	12/12/2021	12/12/2021	11/12/2021
		Sample Method	In situ	In situ	In situ	In situ	In situ
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT
Aluminium	mg/L	0.1	-	-	-	-	-
Ammonia as N	mg/L	0.1	-	-	-	-	-
Arsenic	mg/L	0.01	-	-	-	-	-
Barium	mg/L	0.01	-	-	-	-	-
Beryllium	mg/L	0.01	-	-	-	-	-
Bicarbonate Alkalinity as CaCO3	mg/L	1	-	-	-	-	-
Boron	mg/L	0.1	-	-	-	-	-
Bromide	mg/L	0.01	-	-	-	-	-
Cadmium	mg/L	0.001	-	-	-	-	-
Calcium	mg/L	1	-	-	-	-	-
Carbonate Alkalinity as CaCO3	mg/L	1	-	-	-	-	-
Chloride	mg/L	1	-	-	-	-	-
Chromium	mg/L	0.01	-	-	-	-	-
Cobalt	mg/L	0.01	-	-	-	-	-
Copper	mg/L	0.01	-	-	-	-	-
Dissolved Oxygen	mg/L	-	3.71	6.26	8.49	7.26	6.04
Electrical Conductivity	µS/cm	-	82595	28114	34260	74619	13572
Iron	mg/L	0.1	-	-	-	-	-
Lead	mg/L	0.01	-	-	-	-	-
Magnesium	mg/L	1	-	-	-	-	-
Manganese	mg/L	0.01	-	-	-	-	-
Mercury	mg/L	0.0005	-	-	-	-	-
Molybdenum	mg/L	0.01	-	-	-	-	-
Nickel	mg/L	0.01	-	-	-	-	-
Nitrate as N	mg/L	0.1	-	-	-	-	-
Nitrite as N	mg/L	0.01	-	-	-	-	-
pH	pH Unit	-	10.02	9.6	9.72	9.94	10.1
Potassium	mg/L	1	-	-	-	-	-
Redox	mV	-	0.2	13	8.6	0.8	15.3
Selenium	mg/L	0.1	-	-	-	-	-
Sodium Adsorption Ratio	-	0.1	-	-	-	-	-
Sodium	mg/L	1	-	-	-	-	-
Strontium	mg/L	0.01	-	-	-	-	-
Sulfate as SO4 2-	mg/L	1	-	-	-	-	-
Total Dissolved Solids @180°C	mg/L	10	-	-	-	-	-
Total Organic Carbon	mg/L	1	-	-	-	-	-
Total Phosphorus as P	mg/L	0.1	-	-	-	-	-
Uranium	mg/L	0.01	-	-	-	-	-
Vanadium	mg/L	0.1	-	-	-	-	-
Zinc	mg/L	0.05	-	-	-	-	-

TABLE 6: GROUNDWATER LEVEL MONITORING

EPA Identification No	44	45	46	47	48	49
Location	Dewhurst 8A-1 (DWH8AQGDGY01)	Dewhurst 8A-2 (DWH8AQGARK02)	Dewhurst 8A-3 (DWH8AQGPOR03)	Bibbiewindi 28A (BWD28QGUPS01)	Bibbiewindi 28B (BWD28QGLPS01)	Billbiewindi 28C (BWD28QGPUR01)
Start Date	1/11/2021	1/11/2021	1/11/2021	1/11/2021	1/11/2021	1/11/2021
End Date	2/02/2022	2/02/2022	2/02/2022	2/02/2022	2/02/2022	2/02/2022
Sample Obtained	Standing Water Level	Standing Water Level	Standing Water Level	Standing Water Level	Standing Water Level	Standing Water Level
Number of Samples Required	Continuous	Continuous	Continuous	Continuous	Continuous	Continuous
Lowest sample value	-36.526	16.048	-57.459	-	-	-
Mean of sample	-36.486	16.119	-55.102	-	-	-
Highest sample value	-36.424	16.201	-52.842	-	-	-

Note: Monitoring points 47,48 and 49: Sensor is faulty and data not available since 21 April 2021. Currently undergoing troubleshooting. Data should be available next quarter.