

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:	https://apps.epa.nsw.gov.au/prpoeoapp/Detail.aspx?instid=20350&id=20350&option=licence&searchrange=licence&range=POEO%20lice Version 17FEB2025
EPL Period:	1 May 2025 to 30 April 2026
Reporting Period:	Quarter 2 1 August - 31 October 2025
Published Date:	Nov-25
Monitoring Location:	Refer to Table 1
Scheduled Activity:	Coal seam gas exploration, assessment and production
General Notes:	Monitoring points visited and reported dry : 26, 28, 38, 39, 40, 43, 62, 66 and 78. Grab samples for monitoring points with "Special Frequency 2" are taken annually in June unless results trigger above baseline values. Monitoring Point 69, 70 & 76 - no sample required in accordance with EPL20350 Condition M2.8 and M2.9. Monitoring Point 77 - no sample required in accordance with EPL20350 Condition M2.7 (Plant not operating). Monitoring Point 80, 81 & 82 - no sample required in accordance with EPL20350 Condition M2.11. Monitoring Point 83, 84, 85 & 86 - no sample required in accordance with EPL20350 Condition M2.11.

Table 1: EPL20350 Water Monitoring Locations

EPA Identification No	Monitoring Type	Location	Latitude	Longitude
26	Groundwater Quality Monitoring	BWDMW12S	-30.63189	149.64828
27	Groundwater Quality Monitoring	BWDMW12D	-30.63188	149.64829
28	Groundwater Quality Monitoring	BWDMW12I	-30.63189	149.64830
37	Groundwater Quality Monitoring	LWDMW1D	-30.49124	149.61902
38	Groundwater Quality Monitoring	LWDMW1S	-30.49124	149.61903
39	Groundwater Quality Monitoring	LWDMW1I	-30.49125	149.61905
40	Groundwater Quality Monitoring	LWDMW2S	-30.50545	149.61643
41	Groundwater Quality Monitoring	LWDMW2D	-30.50545	149.61642
42	Groundwater Quality Monitoring	LWDMW3D	-30.50645	149.62451
43	Groundwater Quality Monitoring	LWDMW3S	-30.50644	149.62452
56	Groundwater Quality Monitoring	WPKMW9D	-30.36301	149.66006
57	Groundwater Quality Monitoring	WPKMW9S	-30.36299	149.66007
59	Groundwater Quality Monitoring	WPKMW13I	-30.36122	149.65886
60	Groundwater Quality Monitoring	WPKMW13S	-30.36122	149.65889
61	Groundwater Quality Monitoring	WPKMW14D	-30.36252	149.65694
62	Groundwater Quality Monitoring	WPKMW14S	-30.36253	149.65695
63	Groundwater Quality Monitoring	WPKMW15D	-30.36086	149.65691
64	Groundwater Quality Monitoring	WPKMW15S	-30.36088	149.65691
65	Groundwater Quality Monitoring	WPKMW16D	-30.36313	149.65370
66	Groundwater Quality Monitoring	WPKMW16S	-30.36315	149.65369
69	Produced Water Storage Pond	BWDPD2	-30.63370	149.64930
70	Produced Water Storage Pond	BWDPD3	-30.63240	149.64890
71	Produced Water Storage Pond	LWDPD1CELL4	-30.49437	149.62000
72	Produced Water Storage Pond	LWDPD1CELL3	-30.49608	149.61991
73	Produced Water Storage Pond	LWDPD1CELL2	-30.49788	149.61962
74	Produced Water Storage Pond	LWDPD1CELL1	-30.4995960	149.6192690
75	Produced Water Storage Pond	TFDPD1	-30.3618000	149.6595000
76	Produced Water Storage Pond	TFDPD2	-30.3613000	149.6583000
77	Treated Water Quality Monitoring	LWWTPDM1	-30.5033940	149.6220560
78	Groundwater Quality Monitoring	WPKMW18S	-30.3619300	149.6629520
79	Groundwater Quality Monitoring	WPKMW18I	-30.3618930	149.6629630
80	Groundwater Quality Monitoring	LWDMW4	-30.4985200	149.6264300
81	Groundwater Quality Monitoring	LWDMW5	-30.4960700	149.6306400
82	Groundwater Quality Monitoring	LWDMW6	-30.4972600	149.6325100
83	Soil Quality Monitoring	LWDSMP1	-30.4994300	149.6250150
84	Soil Quality Monitoring	LWDSMP2	-30.4975570	149.6272740
85	Soil Quality Monitoring	LWDSMP3	-30.4976290	149.6315310
86	Soil Quality Monitoring	LWDSMP4	-30.5009170	149.6304170

Note:

Monitoring points in accordance with Environmental Protection Licence (EPL) 23050 ammended 17 February 2025.

TABLE 2: GROUNDWATER QUALITY MONITORING (In situ - Quarterly)

		EPA Identification No	26	27	28	37	38	39
		Location	BWDMW12S	BWDMW12D	BWDMW12I	LWDMW1D	LWDMW1S	LWDMW1I
		Date	15/09/2025	15/09/2025	15/09/2025	15/09/2025	15/09/2025	15/09/2025
		Sample Method	No sample - dry	in situ	No sample - dry	in situ	No sample - dry	No sample - dry
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Dissolved Oxygen	mg/L	-	-	4.2	-	2.9	-	-
Electrical Conductivity	µS/cm	-	-	4789	-	2246	-	-
pH	pH Unit	-	-	6.9	-	6.28	-	-
Redox Potential	mV	-	-	-8	-	194	-	-
Standing Water Level	mTOC	-	-	30.97	-	30.14	-	-

		EPA Identification No	40	41	42	43	56	57
		Location	LWDMW2S	LWDMW2D	LWDMW3D	LWDMW3S	WPKMW9D	WPKMW9S
		Date	15/09/2025	15/09/2025	15/09/2025	15/09/2025	17/09/2025	17/09/2025
		Sample Method	No sample - dry	in situ	in situ	No sample - dry	in situ	in situ
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Dissolved Oxygen	mg/L	-	-	4.8	2.59	-	1.8	1.1
Electrical Conductivity	µS/cm	-	-	2017	914	-	1187	3224
pH	pH Unit	-	-	6.83	6.23	-	8.08	7.74
Redox Potential	mV	-	-	86	77	-	-38	-89
Standing Water Level	mTOC	-	-	26.04	21.2	-	15.4	15.69

		EPA Identification No	59	60	61	62	63	64
		Location	WPKMW13I	WPKMW13S	WPKMW14D	WPKMW14S	WPKMW15D	WPKMW15S
		Date	17/09/2025	17/09/2025	17/09/2025	17/09/2025	17/09/2025	17/09/2025
		Sample Method	in situ	in situ	in situ	No sample - dry	in situ	in situ
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT	RESULT
Dissolved Oxygen	mg/L	-	2.37	1.8	1.22	-	1.9	5.1
Electrical Conductivity	µS/cm	-	891	2939	1175	-	1237	8443
pH	pH Unit	-	8.28	7.41	8.17	-	7.86	7.73
Redox Potential	mV	-	93	-3	76	-	79	143
Standing Water Level	mTOC	-	16.77	16.91	20.87	-	22.17	22.39

		EPA Identification No	65	66	78	79
		Location	WPKMW16D	WPKMW16S	WPKMW18S	WPKMW18I
		Date	17/09/2025	17/09/2025	17/09/2025	17/09/2025
		Sample Method	in situ	No sample - dry	No sample - dry	in situ
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT
Dissolved Oxygen	mg/L	-	2.86	-	-	1.73
Electrical Conductivity	µS/cm	-	1212	-	-	1181
pH	pH Unit	-	7.8	-	-	7.97
Redox Potential	mV	-	190	-	-	110
Standing Water Level	mTOC	-	26.63	-	-	16.01

TABLE 2: GROUNDWATER QUALITY MONITORING (Grab Sample - Special Frequency 2)

There were no grab samples taken in the reporting period.

TABLE 3: TREATED WATER QUALITY MONITORING

Point 77 no samples taken, the plant is not operating.

TABLE 4: PRODUCED WATER STORAGE QUALITY MONITORING

		EPA Identification No	71	72	73	74	75
		Location	LWDPD1CELL4	LWDPD1CELL3	LWDPD1CELL2	LWDPD1CELL1	TFDPD1
		Date	24/09/2025	24/09/2025	24/09/2025	24/09/2025	24/09/2025
		Sample Method	Grab Sample	Grab Sample	Grab Sample	Grab Sample	Grab Sample
Parameter	Units	LOR	RESULT	RESULT	RESULT	RESULT	RESULT
Aluminium	mg/L	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Ammonia as N	mg/L	0.01	0.07	0.20	< 0.01	< 0.1	0.17
Arsenic	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Barium	mg/L	0.010	0.267	5.64	1.49	1.01	3.77
Beryllium	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Bicarbonate Alkalinity as CaCO ₃	mg/L	1	8700	10000	9500	11200	5010
Boron	mg/L	0.10	0.63	1.96	2.14	2.16	< 0.1
Bromide	mg/L	0.010	4.66	11.8	9.72	18.6	3.00
Cadmium	mg/L	0.0010	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Calcium	mg/L	1	2	6	3	4	3
Carbonate Alkalinity as CaCO ₃	mg/L	1	14800	17600	19600	19800	3050
Chloride	mg/L	1	1110	4060	3890	4510	1060
Chromium	mg/L	0.010	< 0.01	< 0.01	< 0.01	0.022	< 0.01
Cobalt	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Copper	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dissolved Oxygen*	mg/L		8.5	10.1	13.1	8.9	9.0
Electrical Conductivity*	µS/cm		29918	38597	41150	43925	15148
Iron	mg/L	0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Lead	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Magnesium	mg/L	1	5	5	7	7	2
Manganese	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Mercury	mg/L	0.0001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.0001
Molybdenum	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nickel	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Nitrate as N	mg/L	0.01	0.02	0.05	0.06	< 0.1	< 0.01
Nitrite as N	mg/L	0.01	< 0.01	< 0.01	< 0.01	< 0.1	0.08
pH*	pH Unit		9.57	9.45	9.55	9.44	9.28
Potassium	mg/L	1	54	218	196	259	51
Redox potential*	mV		58	65	63	42	65
Selenium	mg/L	0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Sodium	mg/L	1	11200	14300	15800	16200	4690
Sodium Adsorption Ratio	-	0.10	963	1040	1140	1130	514
Strontium	mg/L	0.010	0.278	1.14	0.653	0.655	0.565
Sulfate as SO ₄ 2-	mg/L	10	193	367	< 10	< 10	< 10
Total Dissolved Solids @180°C	mg/L	10	25100	33400	37200	38100	11900
Total Organic Carbon	mg/L	1	41	30	51	34	25
Total Phosphorus as P	mg/L	0.01	0.23	0.49	0.48	0.24	0.09
Uranium	mg/L	0.010	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Vanadium	mg/L	0.10	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Zinc	mg/L	0.050	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05