

Permit Number	EPR/AB3101MW	Operator	Cuadrilla Bowland Limited
Facility	Preston New Road Exploration Site	Form Number	Groundwater 1

Substance/ Parameter	Units	Test Method	Trigger Level	05-Jul-17	12-Jul-17
	Dissolved Aluminium [#]	ug/l	TM30/PM14	TBC	20
Dissolved Antimony [#]	ug/l	TM30/PM14	TBC	2	2
Dissolved Arsenic [#]	ug/l	TM30/PM14	TBC	13.1	13.8
Dissolved Barium [#]	ug/l	TM30/PM14	TBC	64	64
Dissolved Beryllium	ug/l	TM30/PM14	TBC	0.5	0.5
Dissolved Boron	ug/l	TM30/PM14	TBC	38	47
Dissolved Cadmium [#]	ug/l	TM30/PM14	TBC	0.5	0.5
Dissolved Calcium [#]	mg/l	TM30/PM14	TBC	118.4	114.1
Total Dissolved Chromium [#]	ug/l	TM30/PM14	TBC	1.5	1.5
Dissolved Cobalt [#]	ug/l	TM30/PM14	TBC	2	2
Dissolved Copper [#]	ug/l	TM30/PM14	TBC	7	7
Total Dissolved Iron [#]	ug/l	TM30/PM14	TBC	645	682
Dissolved Lead [#]	ug/l	TM30/PM14	TBC	5	5
Dissolved Lithium	ug/l	TM30/PM14	TBC	10	15
Dissolved Magnesium [#]	mg/l	TM30/PM14	TBC	34.6	34.8
Dissolved Mercury [#]	ug/l	TM30/PM14	TBC	1	1
Dissolved Nickel [#]	ug/l	TM30/PM14	TBC	2	2
Dissolved Potassium [#]	mg/l	TM30/PM14	TBC	1.8	1.8
Dissolved Selenium [#]	ug/l	TM30/PM14	TBC	3	3
Dissolved Silver	ug/l	TM30/PM14	TBC	5	5
Dissolved Sodium [#]	mg/l	TM30/PM14	TBC	29.1	28.3
Dissolved Strontium	ug/l	TM30/PM14	TBC	573	603
Dissolved Vanadium [#]	ug/l	TM30/PM14	TBC	1.5	1.5
Dissolved Zinc [#]	ug/l	TM30/PM14	TBC	3	3
EPH (C8-C40) [#]	ug/l	TM5/PM30	TBC	10	10
GRO (>C4-C8) [#]	ug/l	TM36/PM12	TBC	10	10
GRO (>C8-C12) [#]	ug/l	TM36/PM12	TBC	10	10
GRO (>C4-C12) [#]	ug/l	TM36/PM12	TBC	10	10
MTBE [#]	ug/l	TM31/PM12	TBC	5	5
Benzene [#]	ug/l	TM31/PM12	TBC	5	5
Toluene [#]	ug/l	TM31/PM12	TBC	5	5
Ethylbenzene [#]	ug/l	TM31/PM12	TBC	5	5
m/p-Xylene [#]	ug/l	TM31/PM12	TBC	5	5
o-Xylene [#]	ug/l	TM31/PM12	TBC	5	5
Fluoride	mg/l	TM27/PM0	TBC	0.3	0.3
Bromide	mg/l	TM27/PM0	TBC	0.11	0.05
Chloride [#]	mg/l	TM38/PM0	TBC	48.7	49.6
Nitrate as NO3 [#]	mg/l	TM38/PM0	TBC	0.2	0.2
Nitrite as NO2 [#]	mg/l	TM38/PM0	TBC	0.02	0.02
Ammoniacal Nitrogen as NH4 [#]	mg/l	TM38/PM0	TBC	0.05	0.04

Dissolved Ethene [#]	ug/l	TM25/PM0	TBC	1	1
Dissolved Ethane [#]	ug/l	TM25/PM0	TBC	1	1
Dissolved Butane	ug/l	TM25/PM0	TBC	2	2
Dissolved Propane	ug/l	TM25/PM0	TBC	2	2
Dissolved Methane	mg/l	GC-IRMS	TBC	0.01	0.01
Dissolved Carbon Dioxide	mg/l	GC-IRMS	TBC	31.9	30.6
δ13C - CH4	ppm ‰. VPDB	GC-IRMS	TBC	-	-
δ13C - CO2	ppm ‰. VPDB	GC-IRMS	TBC	-23.5	-26.5
Total Alkalinity as CaCO3 [#]	mg/l	TM75/PM0	TBC	352	316
Acrylamide	ug/l	TM103/PM59	TBC	50	50
Laurylamine	ug/l	TM103/PM59	TBC	50	50
Hydroxyethyl ethylene diamine	ug/l	TM103/PM59	TBC	50	50
Myristyl dimethylamine	ug/l	TM103/PM59	TBC	50	50
Octyldimethylamine	ug/l	TM103/PM59	TBC	50	50
para phenylene diamine	ug/l	TM103/PM59	TBC	50	50
BOD (Settled) [#]	mg/l	TM58/PM0	TBC	1	1
COD (Settled) [#]	mg/l	TM57/PM0	TBC	7	7
pH [#]	pH units	TM73/PM0	TBC	7.62	7.28
Salinity	%	TM64/PM0	TBC	0.1	0.1
Total Dissolved Solids [#]	mg/l	TM20/PM0	TBC	571	694
Total Suspended Solids [#]	mg/l	TM37/PM0	TBC	10	10

20-Sep-17	27-Sep-17	Uncertainty	Alpha	Mean	S.Deviation	Sample size	Confidence.Norm
20	20	0.00	0.05	20.00	0.00	13.00	0.00
2	2	0.15	0.05	2.08	0.28	13.00	0.15
13.2	11.8	1.93	0.05	12.36	3.56	13.00	1.93
61	67	1.03	0.05	65.08	1.89	13.00	1.03
0.5	0.5	0.00	0.05	0.50	0.00	13.00	0.00
42	42	2.10	0.05	45.38	3.86	13.00	2.10
0.5	0.5	0.00	0.05	0.50	0.00	13.00	0.00
118.4	118.5	2.79	0.05	116.92	5.14	13.00	2.79
1.5	1.5	0.00	0.05	1.50	0.00	13.00	0.00
2	2	0.00	0.05	2.00	0.00	13.00	0.00
7	7	0.00	0.05	7.00	0.00	13.00	0.00
645	637	97.99	0.05	614.46	180.26	13.00	97.99
5	5	0.00	0.05	5.00	0.00	13.00	0.00
40	17	7.11	0.05	22.54	13.07	13.00	7.11
35.4	35.7	0.43	0.05	35.35	0.78	13.00	0.43
1	1	0.00	0.05	1.00	0.00	13.00	0.00
2	2	0.00	0.05	2.00	0.00	13.00	0.00
1.9	1.8	0.06	0.05	1.81	0.11	13.00	0.06
3	3	0.00	0.05	3.00	0.00	13.00	0.00
5	5	0.00	0.05	5.00	0.00	13.00	0.00
29.2	28.9	0.40	0.05	28.73	0.73	13.00	0.40
566	623	20.90	0.05	578.92	38.46	13.00	20.90
1.5	1.5	0.00	0.05	1.50	0.00	13.00	0.00
3	3	0.00	0.05	3.00	0.00	13.00	0.00
10	10	0.00	0.05	10.00	0.00	13.00	0.00
10	10	0.00	0.05	10.00	0.00	13.00	0.00
10	10	0.00	0.05	10.00	0.00	13.00	0.00
10	10	0.00	0.05	10.00	0.00	13.00	0.00
5	5	0.00	0.05	5.00	0.00	13.00	0.00
5	5	0.00	0.05	5.00	0.00	13.00	0.00
5	5	0.00	0.05	5.00	0.00	13.00	0.00
5	5	0.00	0.05	5.00	0.00	13.00	0.00
5	5	0.00	0.05	5.00	0.00	13.00	0.00
5	5	0.00	0.05	5.00	0.00	13.00	0.00
0.3	0.3	0.03	0.05	0.32	0.06	12.00	0.03
0.14	0.13	0.02	0.05	0.10	0.04	13.00	0.02
51.4	50.4	0.62	0.05	49.42	1.15	13.00	0.62
0.2	0.2	0.13	0.05	0.31	0.24	13.00	0.13
0.02	0.02	0.00	0.05	0.02	0.00	13.00	0.00
0.06	0.03	0.01	0.05	0.05	0.01	13.00	0.01

1	1	0.00	0.05	1.00	0.00	13.00	0.00
1	1	0.00	0.05	1.00	0.00	13.00	0.00
2	2	0.00	0.05	2.00	0.00	13.00	0.00
2	2	0.00	0.05	2.00	0.00	13.00	0.00
0.01	0.01	0.00	0.05	0.01	0.00	13.00	0.00
26.3	30.6	1.07	0.05	30.98	1.97	13.00	1.07
-	-	0.00	0.05	#DIV/0!	#DIV/0!	0.00	0.00
-29.5	-30	0.85	0.05	-27.06	1.56	13.00	0.85
344	392	16.86	0.05	350.62	31.02	13.00	16.86
50	50	0.00	0.05	50.00	0.00	13.00	0.00
50	50	0.00	0.05	50.00	0.00	13.00	0.00
50	50	0.00	0.05	50.00	0.00	13.00	0.00
50	50	0.00	0.05	50.00	0.00	13.00	0.00
50	50	0.00	0.05	50.00	0.00	13.00	0.00
50	50	0.00	0.05	50.00	0.00	13.00	0.00
1	1	0.00	0.05	1.00	0.00	13.00	0.00
8	7	0.96	0.05	7.85	1.77	13.00	0.96
7.53	7.53	0.08	0.05	7.55	0.15	13.00	0.08
0.1	0.1	0.00	0.05	0.10	0.00	13.00	0.00
416	586	32.48	0.05	568.77	59.75	13.00	32.48
10	10	0.00	0.05	10.00	0.00	13.00	0.00