



OBERON QUARRIES

Licence Information

Environment Protection Licence (EPL) Number	4442
License Holder	Oberon Quarries Pty. Limited
Licensee Address	Licensee: Oberon Quarries Pty. Limited PO Box 3575 Rouse Hill NSW 2155 Premises: "Langley Heights" Hard Rock Quarry Hargraves Quarry Road Oberon NSW 2787
Link to the full licence on the EPA website	https://apps.epa.nsw.gov.au/prpoeoapp/ViewPOEOLicence.aspx?DOCID=139261&SYSUID=1&LICID=4442



OBERON QUARRIES

Surface Water Quality Monitoring - W1 (Upstream)

Oberon Quarries' EPL Licence (No. 4442) was varied on 2 May 2018 to include the addition of EPL Monitoring Point 7 and associated monitoring requirements. Monitoring Points 5 and 6 and associated EPL monitoring requirements were removed as part of the May 2018 Variation. However, these locations will continue to be monitored in accordance with the approved Water Management Plan.

Quarry Location Reference	EPA ID Number	Sample Reference	Date of Sample	Date Results Recieved from Lab	Monitoring Frequency	Oil and Grease (mg/L)	Oil and Grease EPL Limit	pH (pH Unit)	pH EPL Limit	Total Suspended Solids (mg/L)	Total Suspended Solids EPL Limit	Conductivity (uS/cm)**	Turbidity (NTU)**	Total Kjeldahl Nitrogen (mg/L)**	Total Phosphorus (mg/L)**
W1	Point 5	SAL27459	8/01/2020	24/01/2020	Monthly	<0.5	N/A	6.8	N/A	13	N/A	290	20	0.8	<0.1
W1	Point 5	SAL27486	5/02/2020	19/02/2020	Monthly	<0.5	N/A	6.9	N/A	110	N/A	250	40	0.8	<0.1
W1	Point 5	SAL27523	5/03/2020	20/03/2020	Monthly	<0.5	N/A	8	N/A	37	N/A	180	14	2	0.22
W1	Point 5	SAL27554	3/04/2020	21/04/2020	Monthly	<0.5	N/A	7.5	N/A	4	N/A	180	2	0.8	0.2
W1	Point 5	SAL27582	1/05/2020	12/05/2020	Monthly	<0.5	N/A	6.8	N/A	7	N/A	110	16	2.1	0.15
W1	Point 5	SAL27615	3/06/2020	12/06/2020	Monthly	<0.5	N/A	7.4	N/A	2	N/A	140	2.7	0.6	0.13
W1	Point 5	SAL27647	3/07/2020	16/07/2020	Monthly	<0.5	N/A	7.1	N/A	<2	N/A	130	2.7	0.9	<0.1
W1	Point 5	SAL27677	31/07/2020	13/08/2020	Monthly	<0.5	N/A	7.1	N/A	8	N/A	100	8.6	1	<0.1
W1	Point 5	SAL27703	26/08/2020	7/09/2020	Monthly	<0.5	N/A	7.1	N/A	<2	N/A	120	25	1.1	<0.1
W1	Point 5	SAL27729	23/09/2020	2/10/2020	Monthly	<0.5	N/A	6.8	N/A	<2	N/A	120	8	1	0.12
W1	Point 5	SAL27757	21/10/2020	3/11/2020	Monthly	<0.5	N/A	7.2	N/A	<2	N/A	100	3.9	0.8	<0.1
W1	Point 5	SAL27791	18/11/2020	1/12/2020	Monthly	<0.5	N/A	7.3	N/A	<2	N/A	130	1.7	0.9	<0.1
W1	Point 5	SAL27821	17/12/2020	17/12/2020	Monthly	<0.5	N/A	6.8	N/A	38	N/A	135	25	2.3	0.31
* '<' denotes monitoring results are below detection limit. ** Not an EPL parameter						Min. value	<0.5	7		2		100	1.7	0.6	0.1
						Mean value	<0.5	7		26		154	12.1	1.1	0.2
						Max. value	<0.5	8		110		290	40.0	2.1	0.2



OBERON QUARRIES

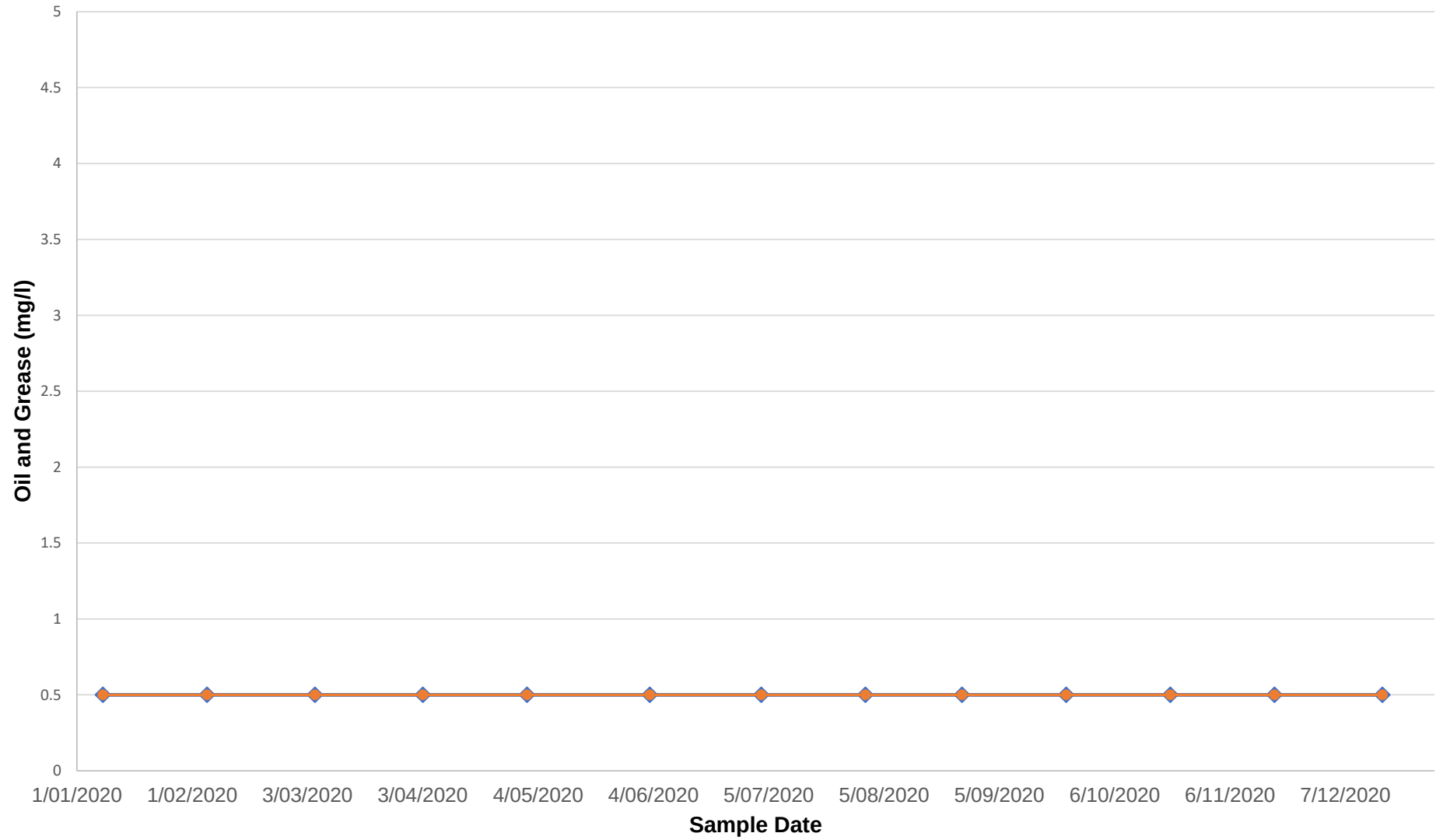
Surface Water Quality Monitoring - W2 (Downstream)

Oberon Quarries' EPL Licence (No. 4442) was varied on 2 May 2018 to include the addition of EPL Monitoring Point 7 and associated monitoring requirements. Monitoring Points 5 and 6 and associated EPL monitoring requirements were removed as part of the May 2018 Variation. However, these locations will continue to be monitored in accordance with the approved Water Management Plan.

Quarry Location Reference	EPA ID Number	Sample Reference	Date of Sample	Date Results Recieved from Lab	Monitoring Frequency	Oil and Grease (mg/L)	Oil and Grease EPL Limit	pH (pH Unit)	pH EPL Limit	Total Suspended Solids (mg/L)	Total Suspended Solids EPL Limit	Conductivity (uS/cm)**	Turbidity (NTU)**	Total Kjeldahl Nitrogen (mg/L)**	Total Phosphorus (mg/L)**
W2	Point 6	SAL27459	8/01/2020	24/01/2020	Monthly	<0.5	N/A	6.8	N/A	14	N/A	290	19	0.8	<0.1
W2	Point 6	SAL27486	5/02/2020	19/02/2020	Monthly	<0.5	N/A	6.9	N/A	21	N/A	250	40	0.7	<0.1
W2	Point 6	SAL27523	5/03/2020	20/03/2020	Monthly	<0.5	N/A	7.8	N/A	23	N/A	180	13	1.7	0.21
W2	Point 6	SAL27554	3/04/2020	21/04/2020	Monthly	<0.5	N/A	7.5	N/A	2	N/A	180	2.9	0.7	0.22
W2	Point 6	SAL27582	1/05/2020	12/05/2020	Monthly	<0.5	N/A	6.8	N/A	8	N/A	105	17	1.7	0.2
W2	Point 6	SAL27615	3/06/2020	12/06/2020	Monthly	<0.5	N/A	7.4	N/A	<2	N/A	140	2.6	0.6	0.15
W2	Point 6	SAL27647	3/07/2020	16/07/2020	Monthly	<0.5	N/A	7.1	N/A	<2	N/A	130	2.5	0.7	<0.1
W2	Point 6	SAL27677	31/07/2020	13/08/2020	Monthly	<0.5	N/A	7.1	N/A	4	N/A	100	8	1.1	<0.1
W2	Point 6	SAL27703	26/08/2020	7/09/2020	Monthly	<0.5	N/A	7.2	N/A	3	N/A	120	25	1.1	<0.1
W2	Point 6	SAL27729	23/09/2020	2/10/2020	Monthly	<0.5	N/A	6.9	N/A	<2	N/A	120	8	1	<0.1
W2	Point 6	SAL27757	21/10/2020	3/11/2020	Monthly	<0.5	N/A	7.1	N/A	<2	N/A	105	3.9	0.6	<0.1
W2	Point 6	SAL27791	18/11/2020	1/12/2020	Monthly	<0.5	N/A	7.2	N/A	<2	N/A	125	1.4	0.9	<0.1
W2	Point 6	SAL27821	17/12/2020	17/12/2020	Monthly	<0.5	N/A	6.8	N/A	31	N/A	135	25	2.3	0.26
* '<' denotes monitoring results are below detection limit. ** Not an EPL parameter						Min. value	<0.5	6.8		31.0		135	25.0	2.3	0.3
						Mean value	<0.5	6.8		2.0		100	1.4	0.6	0.1
						Max. value	<0.5	7.1		8.9		152	12.9	1.1	0.1

Oil and Grease - Surface Water

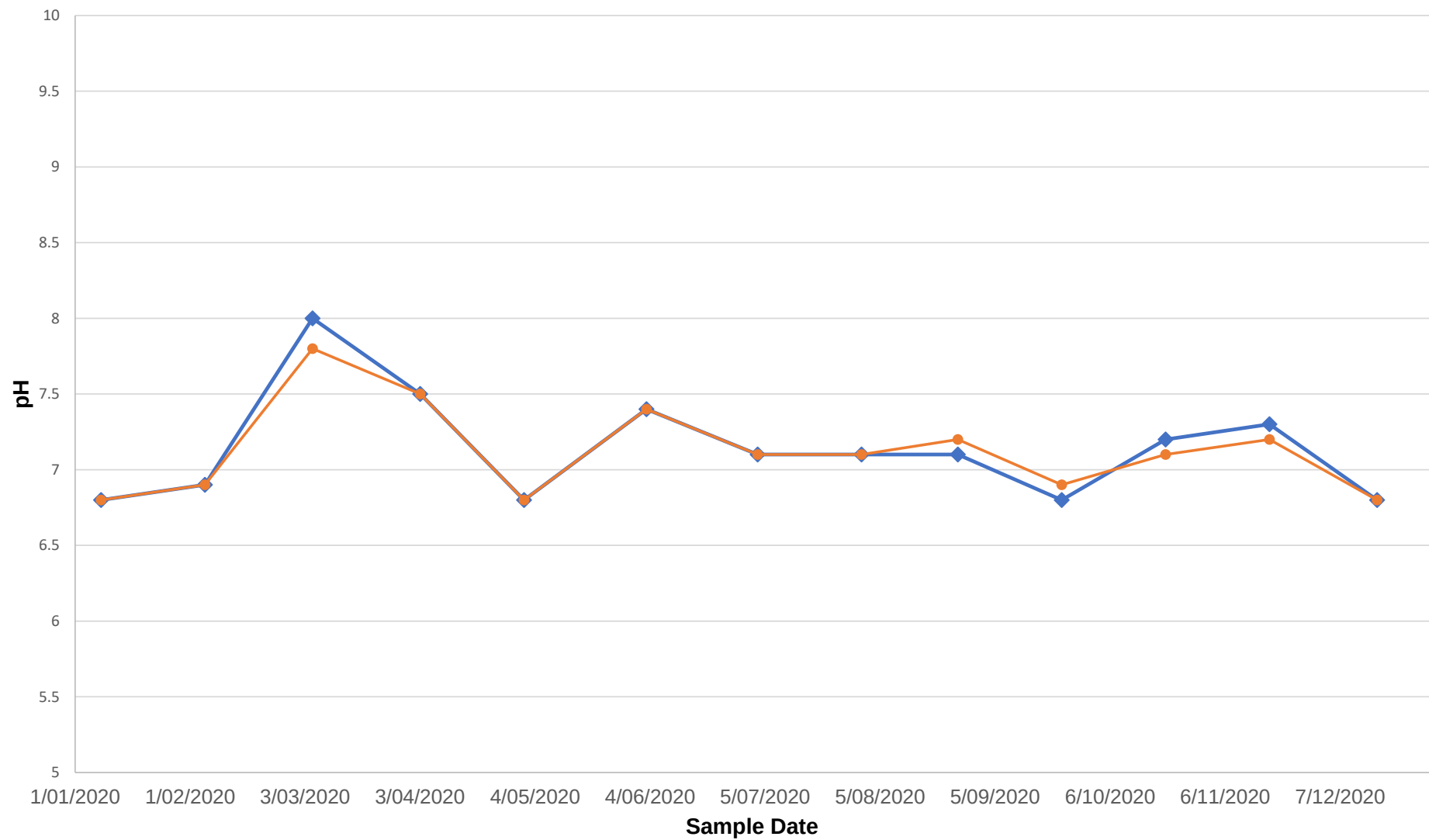
W1 W2



Note: No EPL limit specified

pH- Surface Water

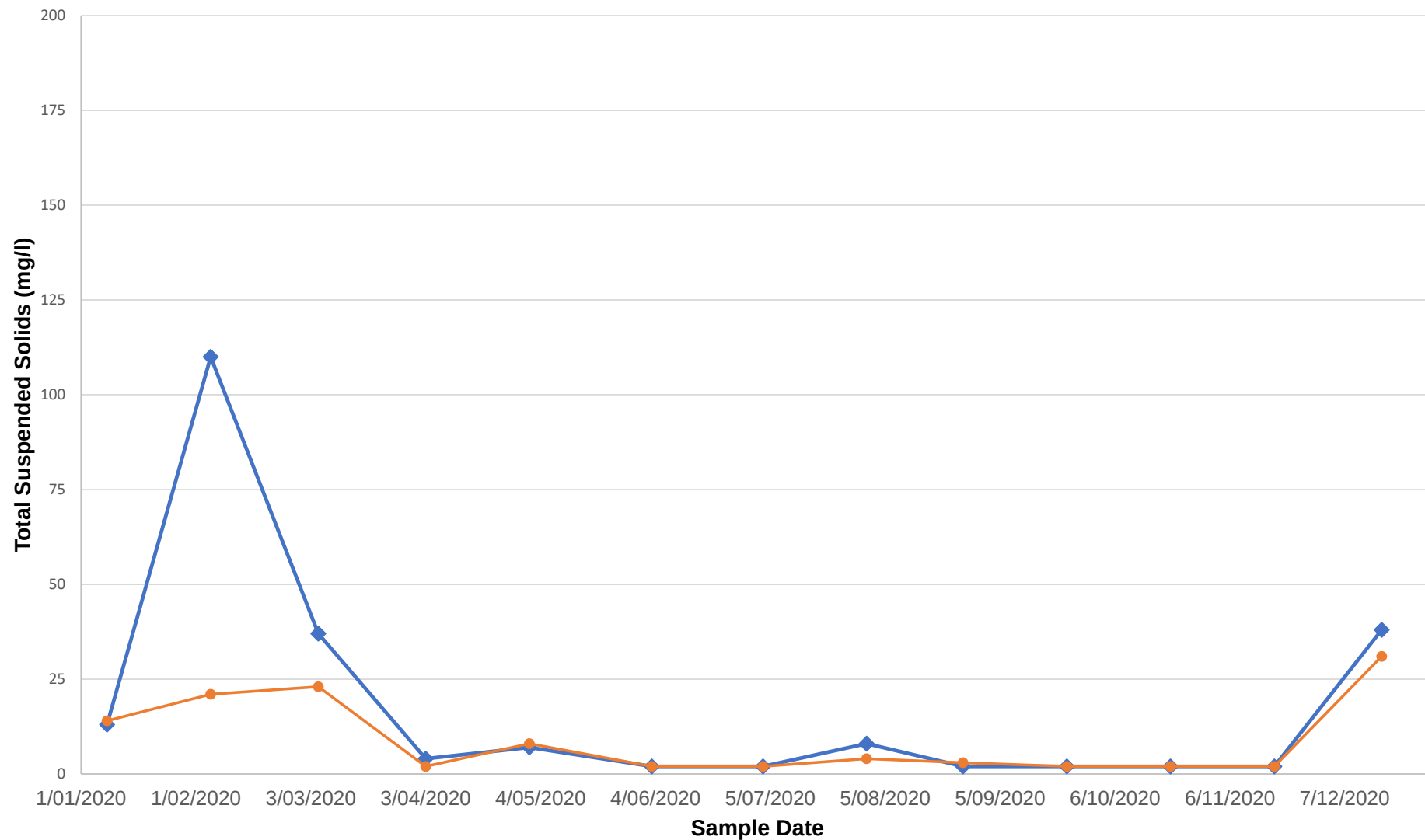
W1 W2



Note: No EPL limit specified

Total Suspended Solids - Surface Water

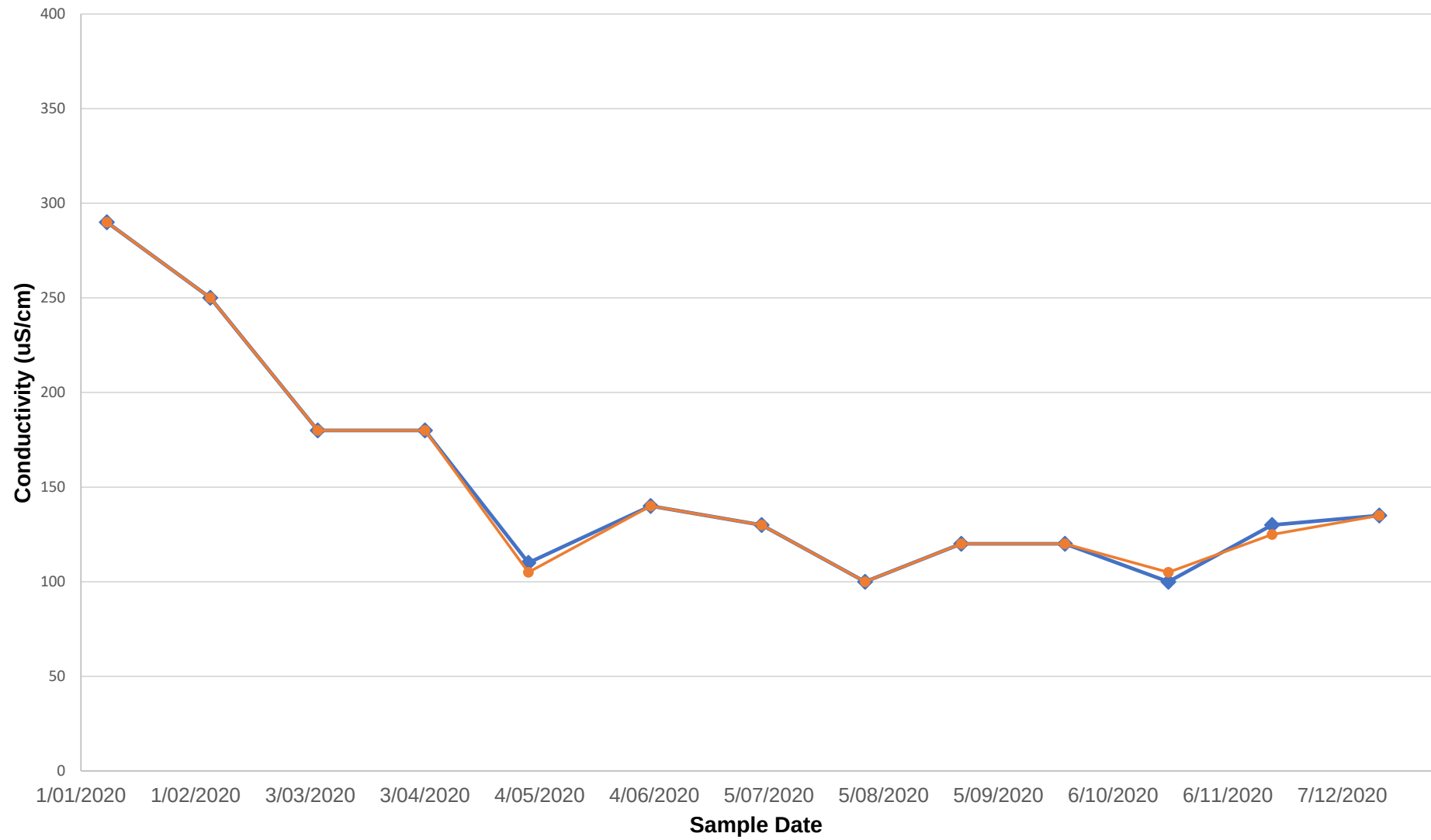
W1 W2



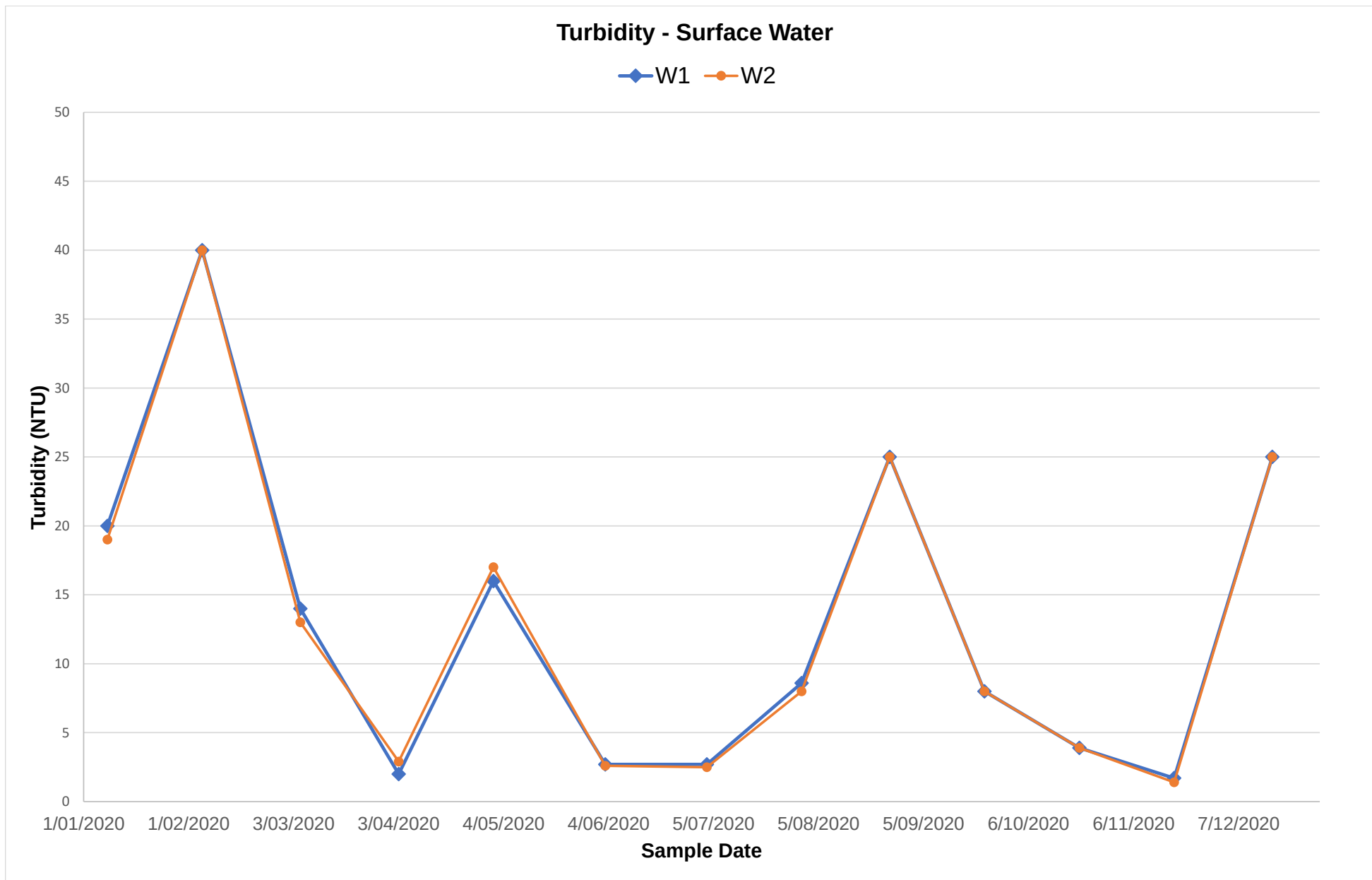
Note: No EPL limit specified

Conductivity - Surface Water

W1 W2



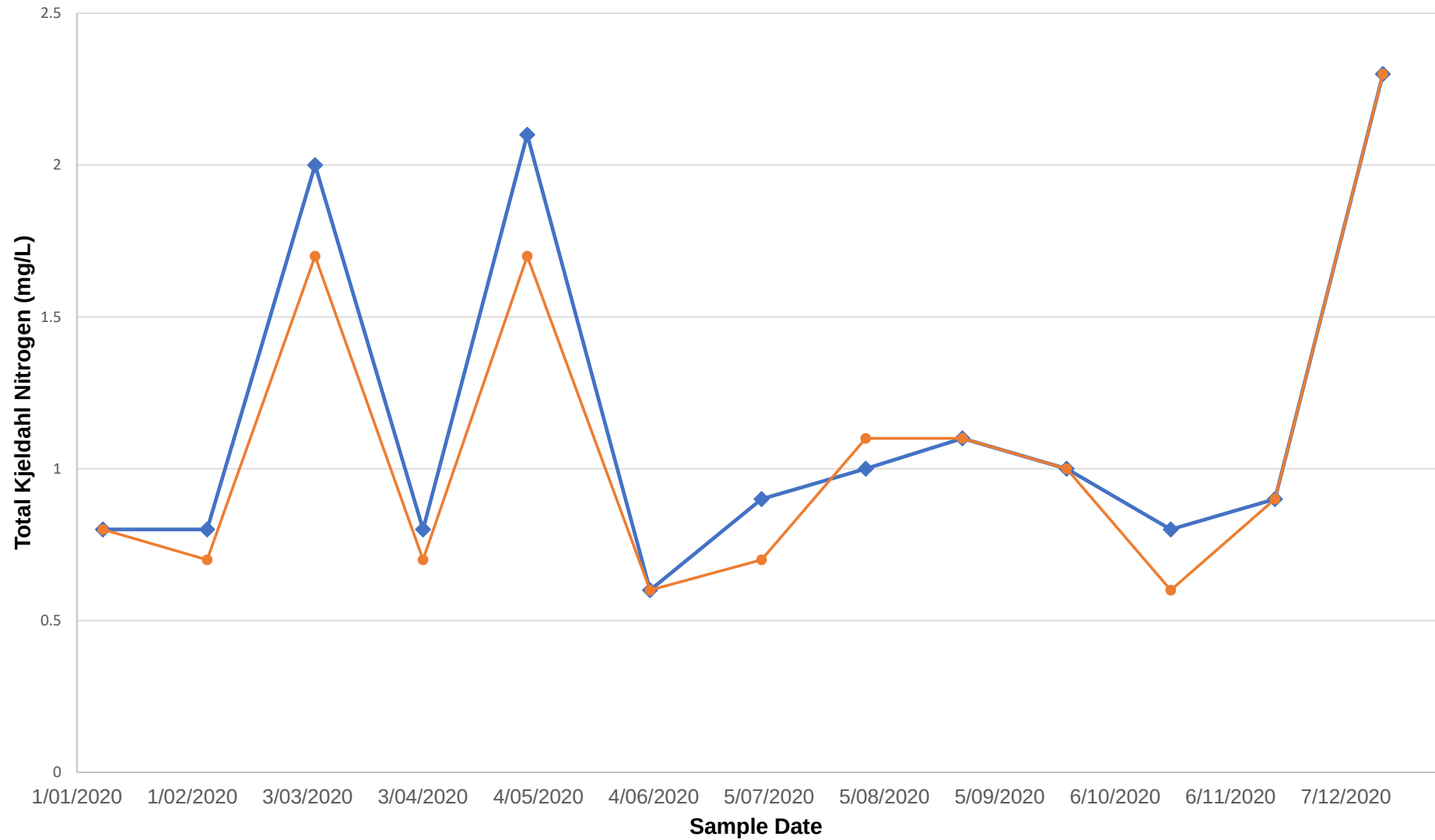
Note: No EPL limit specified



Note: No EPL limit specified

Total Kjeldahl Nitrogen - Surface Water

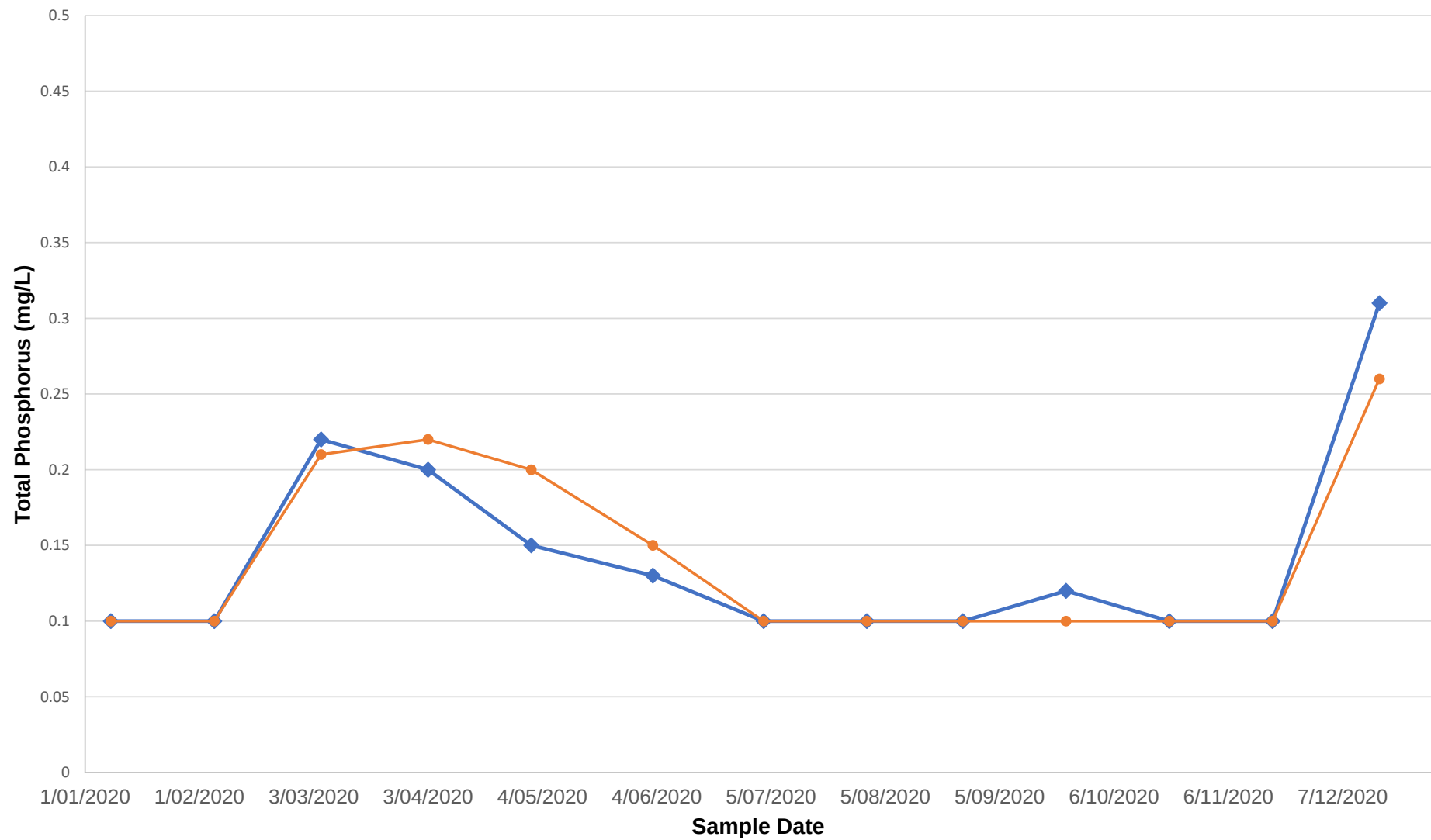
W1 W2



Note: No EPL limit specified

Total Phosphorus- Surface Water

W1 W2



Note: No EPL limit specified



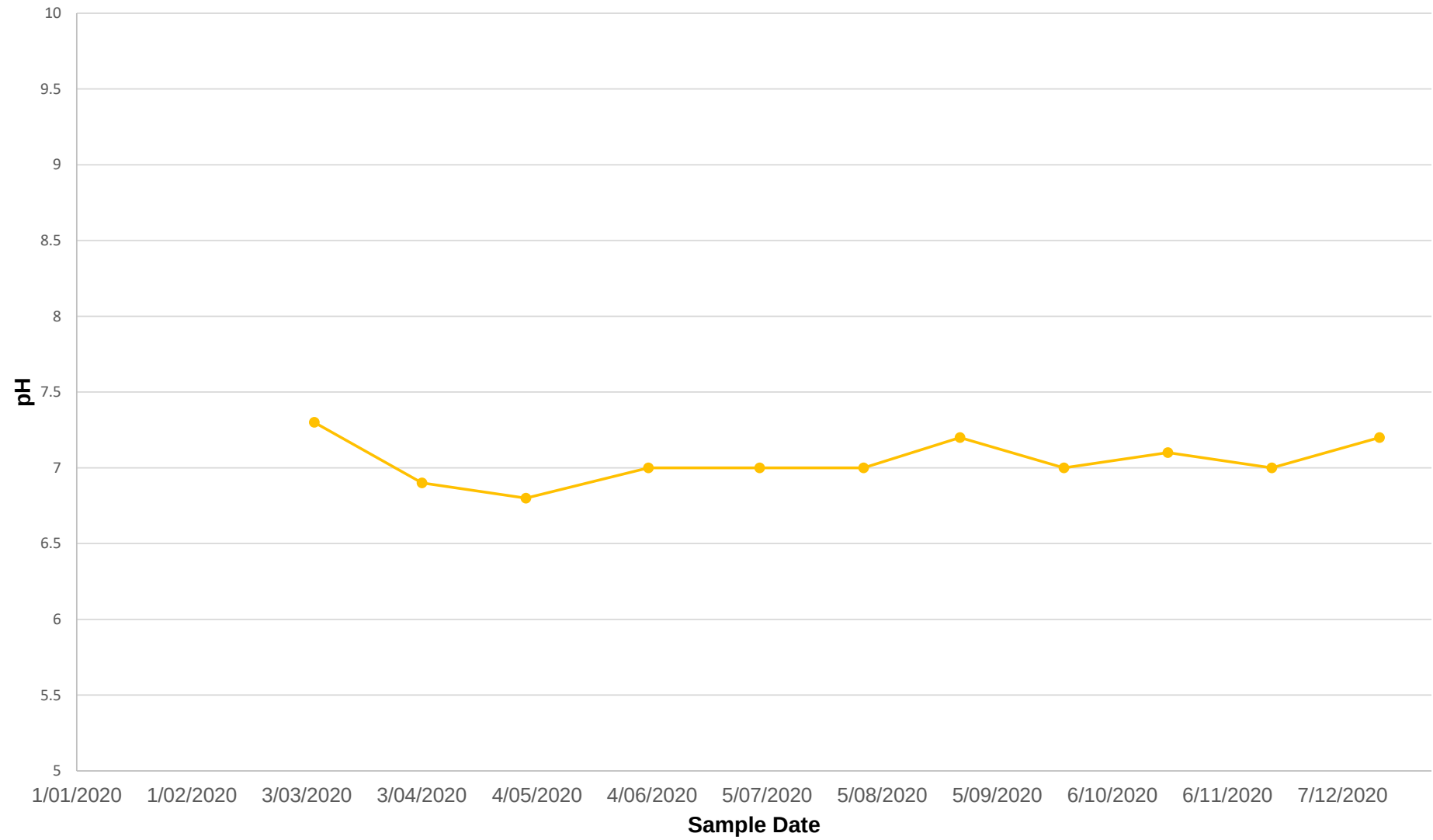
Surface Water Quality Monitoring - W1 (Upstream)

Quarry Location Reference	Sample Reference	Date of Sample	pH (pH Unit)	Conductivity (uS/cm)**
GW1	SAL27459	8/01/2020	No Sample	No Sample
GW1	SAL27486	5/02/2020	No Sample	No Sample
GW1	SAL27523	5/03/2020	7.3	320
GW1	SAL27554	3/04/2020	6.9	250
GW1	SAL27582	1/05/2020	6.8	180
GW1	SAL27615	3/06/2020	7	230
GW1	SAL27647	3/07/2020	7	270
GW1	SAL27677	31/07/2020	7	220
GW1	SAL27703	26/08/2020	7.2	180
GW1	SAL27729	23/09/2020	7	230
GW1	SAL27757	21/10/2020	7.1	280
GW1	SAL27791	18/11/2020	7	210
GW1	SAL27821	17/12/2020	7.2	250
		Min. value	6.8	180
		Mean value	7.0	238.2
		Max. value	7.3	320

Note: There are no EPL limits specified for groundwater. Monitoring results are assessed against the Water Management Plan Trigger Action Response Plan (TARP) criteria. The TARP is enacted if there are three consecutive results above criteria.

pH- Ground water

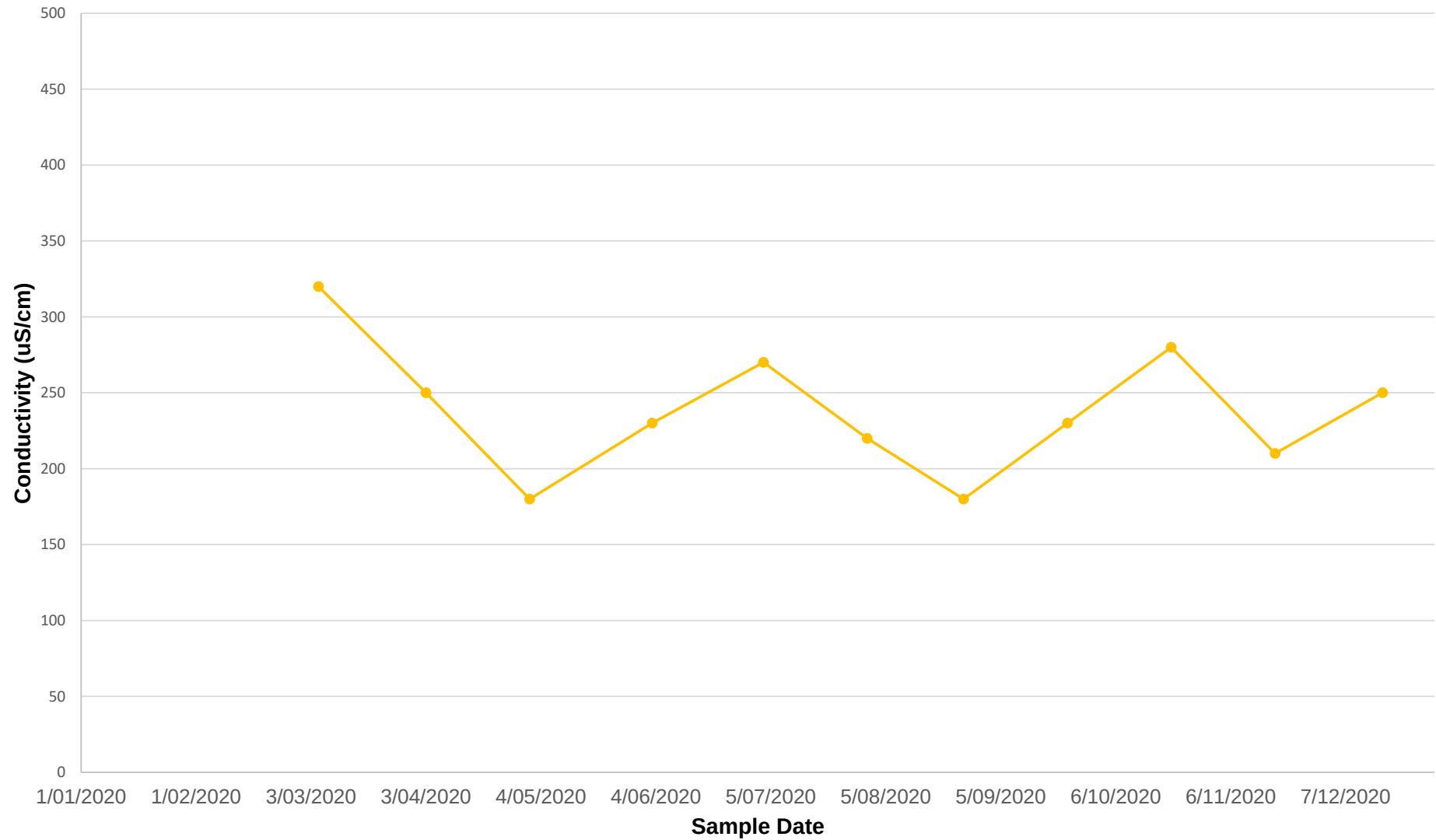
GW1



Note: No EPL limit specified

Conductivity- Ground water

—●— GW1



Note: No EPL limit specified



OBERON QUARRIES

Air Quality Monitoring

Quarry Location Reference	EPA ID Number	Sample Reference	Date of Sample	Date Results Recieved from Lab	Monitoring Frequency	Month	Deposited Matter (g/m ² /month)	Rolling Average (g/m ² /month)	Deposited Matter SSD_6333 Limit
D1	Point 1	SAL27459B	8/01/2020	17/01/2020	Monthly	Jan-20	3.69	2.77	Air quality criteria is based on an averaging period from January - December in accordance with Table 4: Air Quality Criteria in SSD_6333.
D1	Point 1	SAL27486B	5/02/2020	12/02/2020	Monthly	Feb-20	3.84	2.79	
D1	Point 1	SAL27523B	5/03/2020	20/03/2020	Monthly	Mar-20	3.79	2.79	
D1	Point 1	SAL27554B	3/04/2020	16/04/2020	Monthly	Apr-20	3.68	3.01	
D1	Point 1	SAL27582B	1/05/2020	12/05/2020	Monthly	May-20	1.74	2.83	
D1	Point 1	SAL27615B	3/06/2020	12/06/2020	Monthly	Jun-20	2.89	2.98	
D1	Point 1	SAL27647B	3/07/2020	16/07/2020	Monthly	Jul-20	1.03	2.91	
D1	Point 1	SAL27677B	31/07/2020	11/08/2020	Monthly	Jul-20(2)	1.32	2.92	
D1	Point 1	SAL27703B	26/08/2020	7/09/2020	Monthly	Aug-20	1.27	2.80	
D1	Point 1	SAL27729B	23/09/2020	2/10/2020	Monthly	Sep-20	2.26	2.76	
D1	Point 1	SAL27757B	21/10/2020	3/11/2020	Monthly	Oct-20	1.61	2.67	
D1	Point 1	SAL27791B	18/11/2020	1/12/2020	Monthly	Nov-20	3.68	2.65	
D1	Point 1	SAL27821B	17/12/2020	17/12/2020	Monthly	Dec-20	3.75	2.66	
						Min. value	1.03	2.65	
						Mean value	2.66	2.81	
						Max. value	3.84	3.01	

Quarry Location Reference	EPA ID Number	Sample Reference	Date of Sample	Date Results Recieved from Lab	Monitoring Frequency	Month	Deposited Matter (g/m ² /month)	Rolling Average (g/m ² /month)	Deposited Matter SSD_6333 Limit
D2	Point 2	SAL27459B	8/01/2020	17/01/2020	Monthly	Jan-20	3.78	2.15	Air quality criteria is based on an averaging period from January - December in accordance with Table 4: Air Quality Criteria in SSD_6333.
D2	Point 2	SAL27486B	5/02/2020	12/02/2020	Monthly	Feb-20	3.38	2.13	
D2	Point 2	SAL27523B	5/03/2020	20/03/2020	Monthly	Mar-20	3.63	2.23	
D2	Point 2	SAL27554B	3/04/2020	16/04/2020	Monthly	Apr-20	1.72	2.19	
D2	Point 2	SAL27582B	1/05/2020	12/05/2020	Monthly	May-20	2.08	2.20	
D2	Point 2	SAL27615B	3/06/2020	12/06/2020	Monthly	Jun-20	1.75	2.28	
D2	Point 2	SAL27647B	3/07/2020	16/07/2020	Monthly	Jul-20	0.32	2.24	
D2	Point 2	SAL27677B	31/07/2020	11/08/2020	Monthly	Jul-20(2)	0.92	2.27	
D2	Point 2	SAL27703B	26/08/2020	7/09/2020	Monthly	Aug-20	1.02	2.21	
D2	Point 2	SAL27729B	23/09/2020	2/10/2020	Monthly	Sep-20	1.93	2.19	
D2	Point 2	SAL27757B	21/10/2020	3/11/2020	Monthly	Oct-20	1.67	2.19	
D2	Point 2	SAL27791B	18/11/2020	1/12/2020	Monthly	Nov-20	2	2.15	
D2	Point 2	SAL27821B	17/12/2020	17/12/2020	Monthly	Dec-20	2.47	2.05	
						Min. value	0.32	2.052	
						Mean value	2.05	2.191	
						Max. value	3.78	2.275	



OBERON QUARRIES

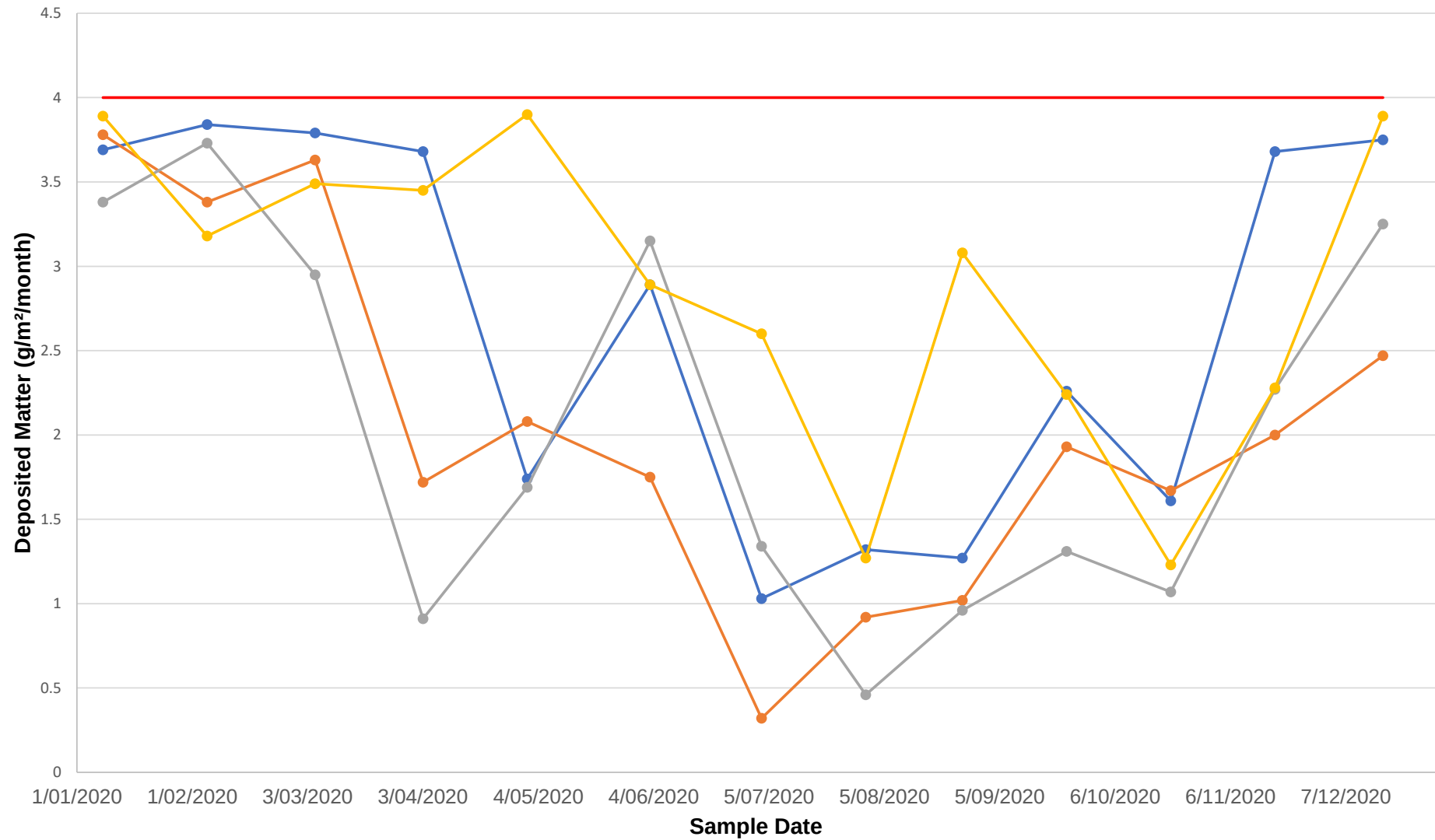
Air Quality Monitoring

Quarry Location Reference	EPA ID Number	Sample Reference	Date of Sample	Date Results Recieved from Lab	Monitoring Frequency	Month	Deposited Matter (g/m ² /month)	Rolling Average (g/m ² /month)	Deposited Matter SSD_6333 Limit
D3	Point 3	SAL27459B	8/01/2020	17/01/2020	Monthly	Jan-20	3.38	3.38	Air quality criteria is based on an averaging period from January - December in accordance with Table 4: Air Quality Criteria in SSD_6333.
D3	Point 3	SAL27486B	5/02/2020	12/02/2020	Monthly	Feb-20	3.73	3.73	
D3	Point 3	SAL27523B	5/03/2020	20/03/2020	Monthly	Mar-20	2.95	2.95	
D3	Point 3	SAL27554B	3/04/2020	16/04/2020	Monthly	Apr-20	0.91	0.91	
D3	Point 3	SAL27582B	1/05/2020	12/05/2020	Monthly	May-20	1.69	1.69	
D3	Point 3	SAL27615B	3/06/2020	12/06/2020	Monthly	Jun-20	3.15	3.15	
D3	Point 3	SAL27647B	3/07/2020	16/07/2020	Monthly	Jul-20	1.34	1.34	
D3	Point 3	SAL27677B	31/07/2020	11/08/2020	Monthly	Jul-20(2)	0.46	0.46	
D3	Point 3	SAL27703B	26/08/2020	7/09/2020	Monthly	Aug-20	0.96	0.96	
D3	Point 3	SAL27729B	23/09/2020	2/10/2020	Monthly	Sep-20	1.31	1.31	
D3	Point 3	SAL27757B	21/10/2020	3/11/2020	Monthly	Oct-20	1.07	1.07	
D3	Point 3	SAL27791B	18/11/2020	1/12/2020	Monthly	Nov-20	2.27	2.27	
D3	Point 3	SAL27821B	17/12/2020	17/12/2020	Monthly	Dec-20	3.25	3.25	
						Min. value	0.46	0.46	
						Mean value	2.04	2.04	
						Max. value	3.73	3.73	

Quarry Location Reference	EPA ID Number	Sample Reference	Date of Sample	Date Results Recieved from Lab	Monitoring Frequency	Month	Deposited Matter (g/m ² /month)	Rolling Average (g/m ² /month)	Deposited Matter SSD_6333 Limit
D4	Point 4	SAL27459B	8/01/2020	17/01/2020	Monthly	Jan-20	3.89	3.89	Air quality criteria is based on an averaging period from January - December in accordance with Table 4: Air Quality Criteria in SSD_6333.
D4	Point 4	SAL27486B	5/02/2020	12/02/2020	Monthly	Feb-20	3.18	3.18	
D4	Point 4	SAL27523B	5/03/2020	20/03/2020	Monthly	Mar-20	3.49	3.49	
D4	Point 4	SAL27554B	3/04/2020	16/04/2020	Monthly	Apr-20	3.45	3.45	
D4	Point 4	SAL27582B	1/05/2020	12/05/2020	Monthly	May-20	3.9	3.9	
D4	Point 4	SAL27615B	3/06/2020	12/06/2020	Monthly	Jun-20	2.89	2.89	
D4	Point 4	SAL27647B	3/07/2020	16/07/2020	Monthly	Jul-20	2.6	2.6	
D4	Point 4	SAL27677B	31/07/2020	11/08/2020	Monthly	Jul-20(2)	1.27	1.27	
D4	Point 4	SAL27703B	26/08/2020	7/09/2020	Monthly	Aug-20	3.08	3.08	
D4	Point 4	SAL27729B	23/09/2020	2/10/2020	Monthly	Sep-20	2.24	2.24	
D4	Point 4	SAL27757B	21/10/2020	3/11/2020	Monthly	Oct-20	1.23	1.23	
D4	Point 4	SAL27791B	18/11/2020	1/12/2020	Monthly	Nov-20	2.28	2.28	
D4	Point 4	SAL27821B	17/12/2020	17/12/2020	Monthly	Dec-20	3.89	3.89	
						Min. value	1.23	1.23	
						Mean value	2.88	2.88	
						Max. value	3.90	3.90	

Air Quality - Deposited Matter

—●— D1 —●— D2 —●— D3 —●— D4 — EPL Limit



Note: No EPL limit specified



OBERONQUARRIES

Noise Monitoring

Please note: Oberon Quarries has established noise agreements with relevant landowners. The discontinuation of routine noise monitoring was approved by the Secretary on 25 January 2017. Noise monitoring will be undertaken if a noise complaint relating to Quarry operations is unable to be resolved by Oberon Quarries or a landowner requests the DP&E to reinstate more frequent monitoring to assess compliance with relevant criteria.

Oberon Quarry Noise Management Plan can be accessed at: http://oberonquarries.com.au/wp-content/uploads/2017/03/1296_R68_NMP_FINAL.pdf

Previous noise monitoring reports can be accessed at: <http://oberonquarries.com.au/environmental-monitoring-results/>



OBERON QUARRIES

Production Blast Monitoring

Quarry Location Reference	Type	EPA Number	Date of Blast	Time of Blast	Peak Vector Sum Velocity (mm/s)	Peak Overpressure (dBL)	Monitoring Frequency
Residence	Production Blast	N/A	10/01/2020	12:11PM	0.17	109.20	No more than 2 blasts per week, unless an additional blast is required following a blast misfire.
Residence	Production Blast	N/A	10/01/2020	12:14PM	0.10	107.00	
Residence	Production Blast	N/A	24/01/2020	1:02PM	1.14	111.20	
Residence	Production Blast	N/A	10/03/2020	12:17:PM	0.82	109.50	
Residence	Production Blast	N/A	19/05/2020	3:07PM	* Below Detection	* Below Detection	
Residence	Production Blast	N/A	19/06/2020	1:50PM	0.87	115.20	
Residence	Production Blast	N/A	19/06/2020	1:52PM	0.12	105.50	
Residence	Production Blast	N/A	3/08/2020	1:31PM	0.43	116.30	
Residence	Production Blast	N/A	27/08/2020	12:21PM	0.71	106.50	
Residence	Production Blast	N/A	6/10/2020	1:03PM	0.49	108.00	
Residence	Production Blast	N/A	13/11/2020	11:59AM	0.42	106.00	
Residence	Production Blast	N/A	18/11/2020	12:05PM	0.93	104.20	

* Blast event on 19 May 2020 did not trigger blast monitoring equipment at residence. Blast monitoring results were below blast monitor detection limits for overpressure and vibration

* Blast event on 19 June received a reading of 115.20 dBL which is over the 115 dBL but below 120 dBL.

* Blast event on 3 August received a reading of 116.30 dBL which is over the 115 dBL but below 120 dBL.

Please Note: Oberon Quarries has established a blasting agreement with the nearest private receiver. This agreement removes the formal requirement to monitor each blast and notify the affected receiver(s) and government departments within seven days of an exceedance of the blast criteria. The department was notified of this agreement on 17 April 2018.



OBERON QUARRIES

Blast Compliance Criteria

Blast Compliance Criteria

L4.1

The airblast overpressure level from blasting must not exceed 115 (dB(Lin Peak)) at any noise sensitive locations for more than 5 % of the total number of blasts during over each reporting period;

L4.2:

The airblast overpressure level from blasting must not exceed 120 (dB(Lin Peak)) at any time at any noise sensitive locations;

L4.3:

Ground vibration peak particle velocity from the blasting must not exceed 5 mm/s at any noise sensitive locations for more than 5 % of the total number of blasts over each reporting period; and

L4.4:

Ground vibration peak particle velocity from the blasting must not exceed 10 mm/s at any time at any noise sensitive locations.

Blast SSD_6333 Limits

In accordance with Table 3: Blasting Criteria in SSD_6333.

The airblast overpressure level from blasting operations must not exceed:

- * 115 (dB(Lin Peak)) for more than 5 % of the total number of blasts during over each reporting period; and
- * 120 (dB(Lin Peak)) at any time.

The ground vibration peak particle velocity from blasting operations must not exceed:

- * 5 mm/s for more than 5 % of the total number of blasts carried out on the premises during over each reporting period; and
- * 10 mm/s at any time;
- * at any point within one metre of any affected residential boundary or other noise sensitive area in the vicinity of the plant.