



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' 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.

* '<' denotes monitoring results are below detection limit.

** Not an EPL parameter



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Surface Water Quality Monitoring

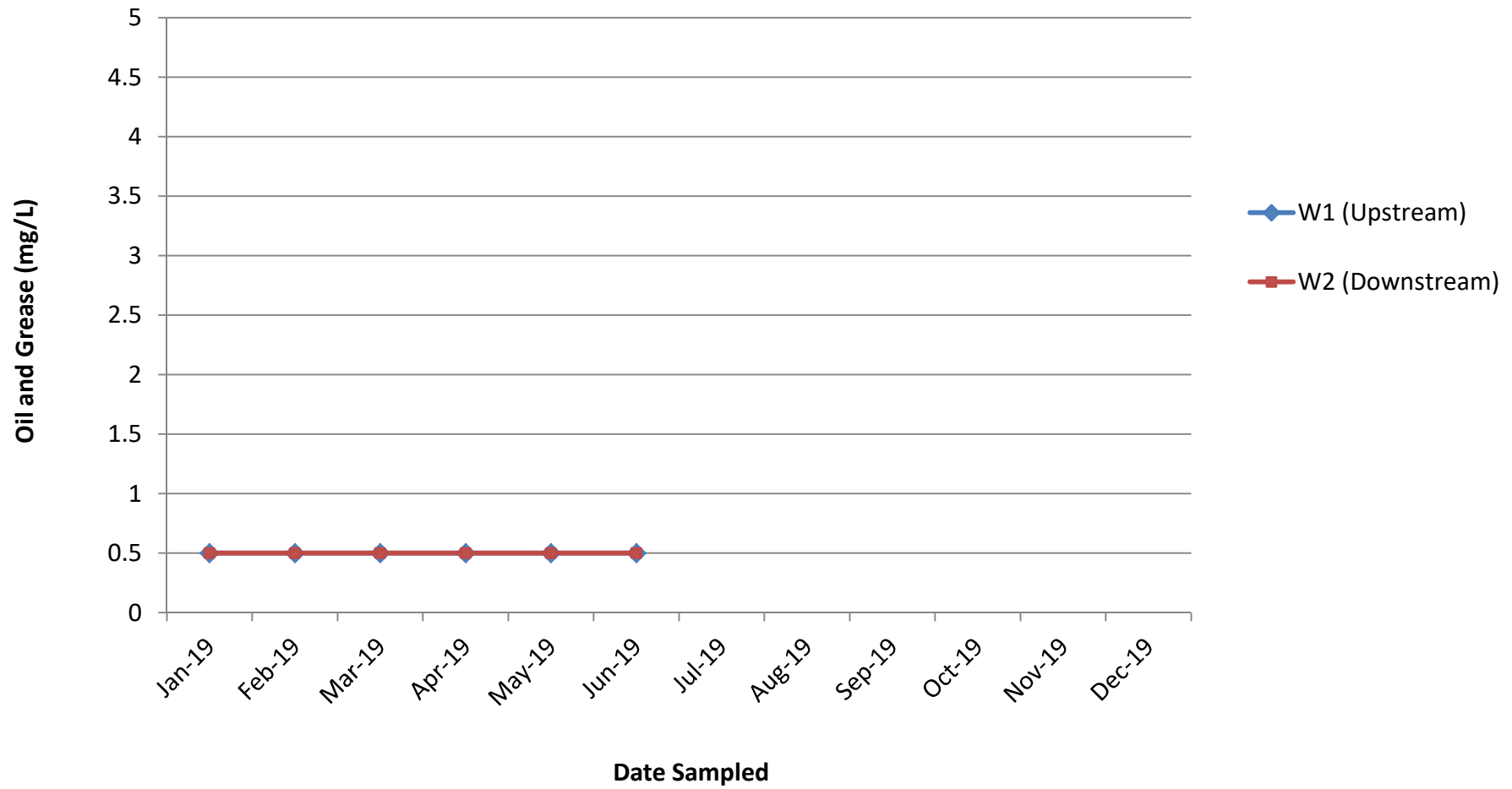
Oberon Quarries' EPL Licence (No. 4442) was varied on 2 May 2018 to include the addition of EPL Monitoring Point 7 and associated monitoring requirements. Monitoring Points 5 and 6 and associated EPL monitoring requirements were removed as part of the May 2018 Variation. However, these locations will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

Quarry Location Reference	EPA Identification 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	SAL27080B	18/01/2019	1/02/2019	Monthly	<0.5	N/A	6.8	N/A	45	N/A	250	24.0	0.8	0.15
W2	Point 6	SAL27118B	19/02/2019	1/03/2019	Monthly	<0.5	N/A	6.8	N/A	10	N/A	180	9.0	0.7	0.11
W2	Point 6	SAL27148B	19/03/2019	2/04/2019	Monthly	<0.5	N/A	7.4	N/A	2	N/A	170	3.9	0.9	<0.1
W2	Point 6	SAL27179B	17/04/2019	2/05/2019	Monthly	<0.5	N/A	7.2	N/A	<2	N/A	135	2.4	0.7	<0.1
W2	Point 6	SAL27209B	15/05/2019	29/05/2019	Monthly	<0.5	N/A	7.4	N/A	10	N/A	130	3.5	0.5	<0.1
W2	Point 6	SAL27243B	12/06/2019	26/06/2019	Monthly	<0.5	N/A	7.1	N/A	3	N/A	130	7.0	0.8	<0.1
W2	Point 6														
W2	Point 6														
W2	Point 6														
W2	Point 6														
W2	Point 6														
W2	Point 6														
Min. value						<0.5		6.8		2		130	2.4	0.5	<0.1
Mean value						<0.5		7.1		14		166	8.3	0.7	0.13
Max. value						<0.5		7.4		45		250	24.0	0.9	0.15

* '<' denotes monitoring results are below detection limit.

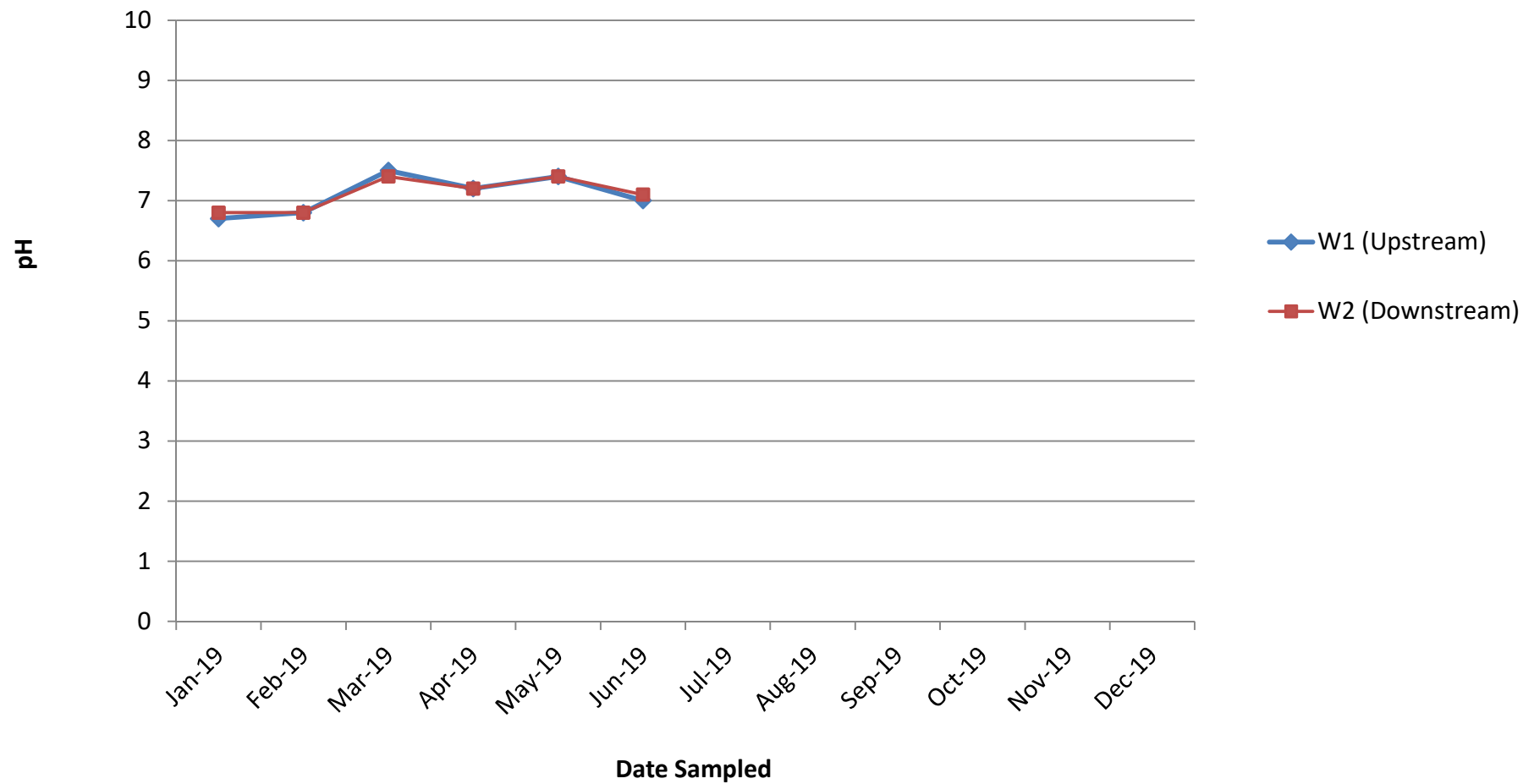
** Not an EPL parameter

Oil and Grease - Surface Water



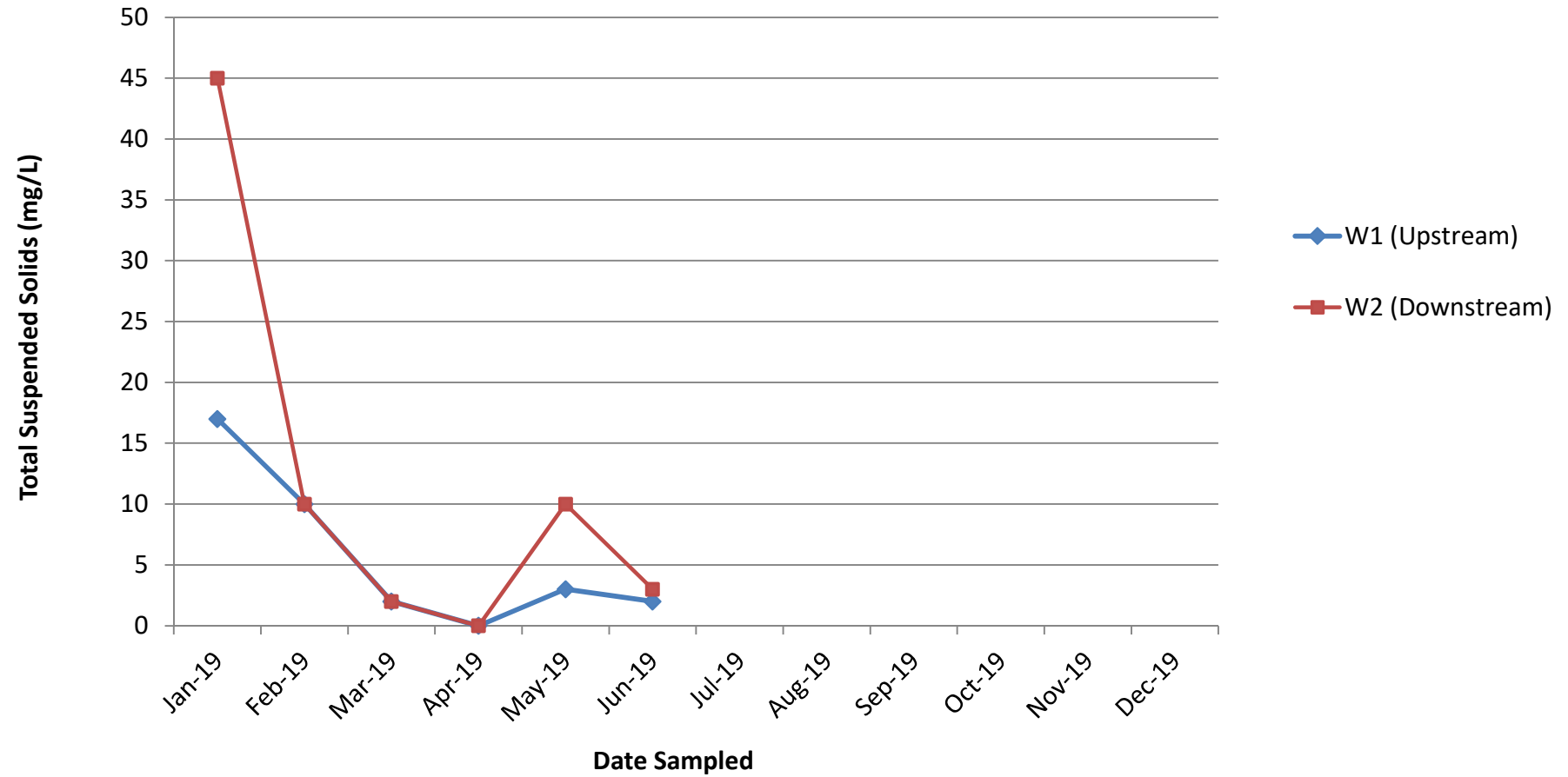
Note: No EPL Limit specified

pH - Surface Water



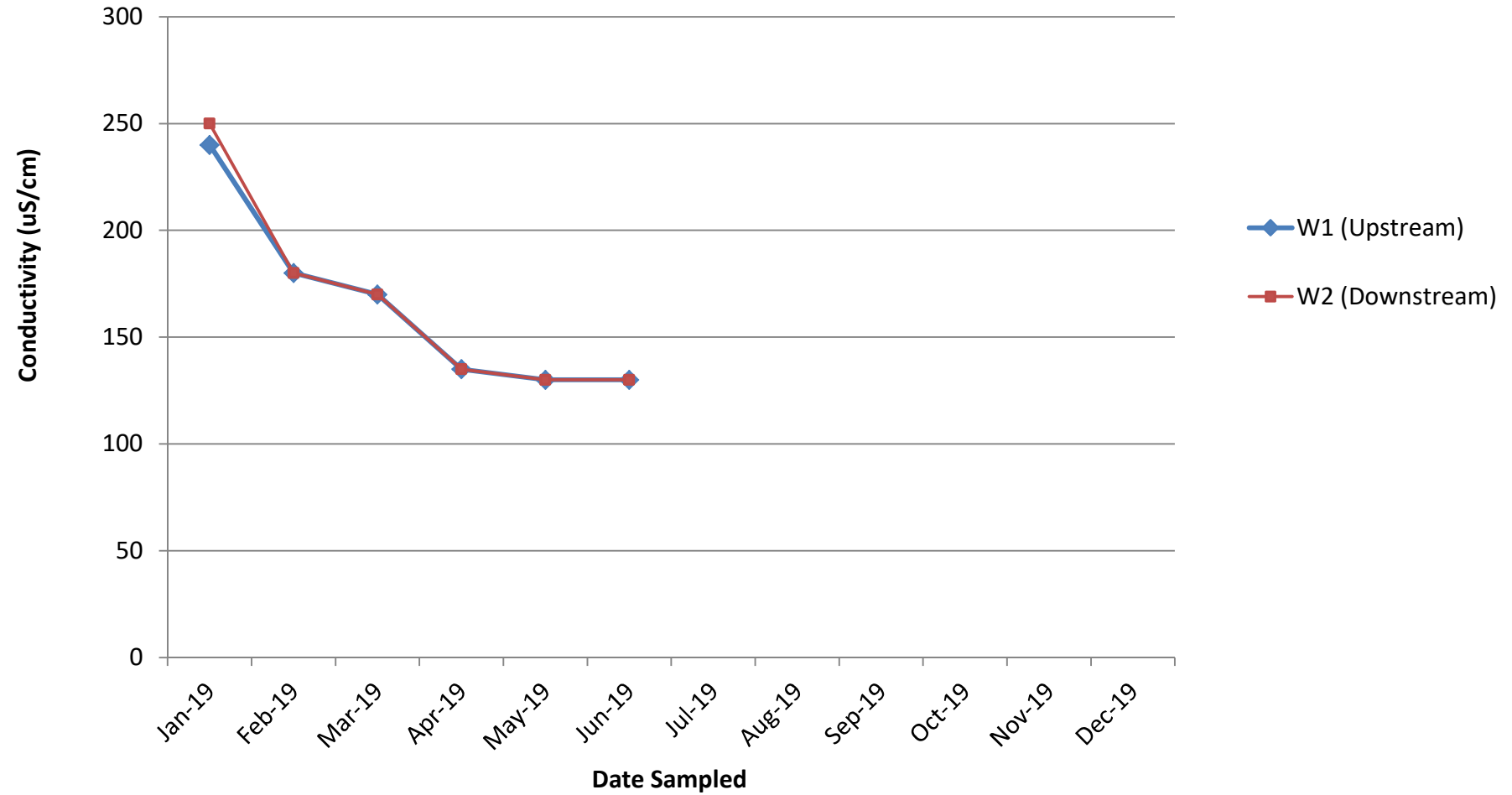
Note: No EPL Limit specified

Total Suspended Solids - Surface Water



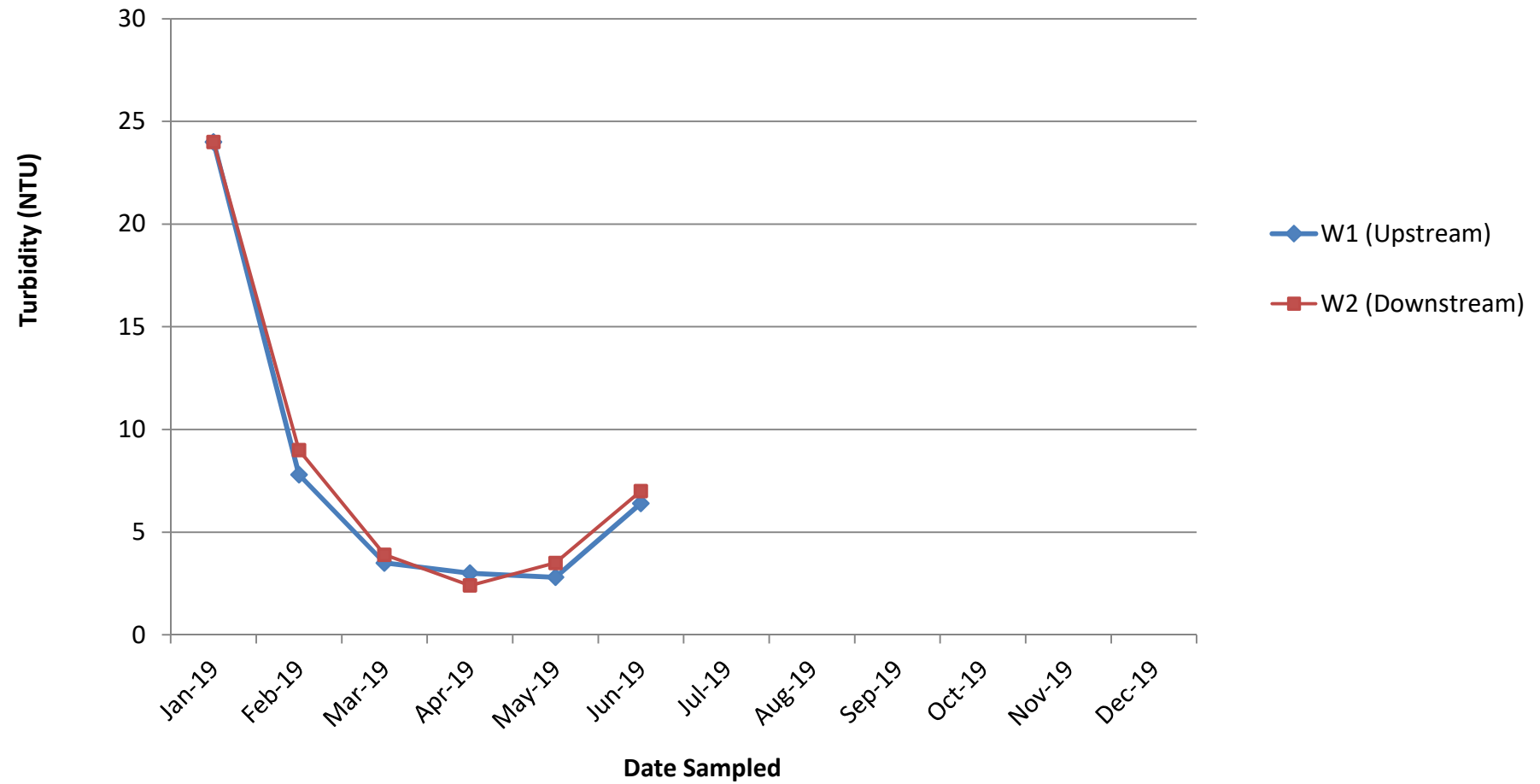
Note: No EPL Limit specified

Conductivity - Surface Water



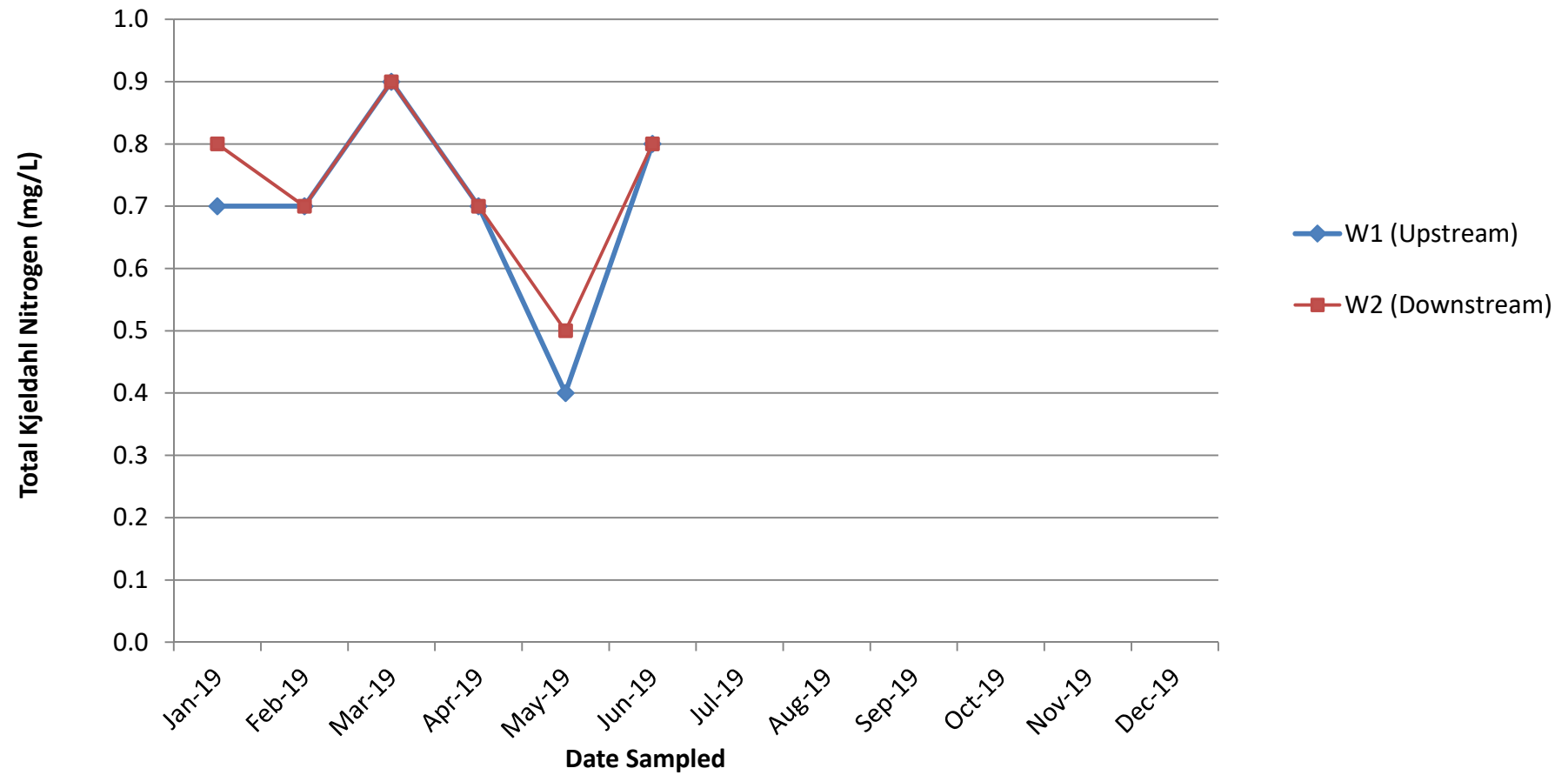
Note: No EPL Limit specified

Turbidity - Surface Water



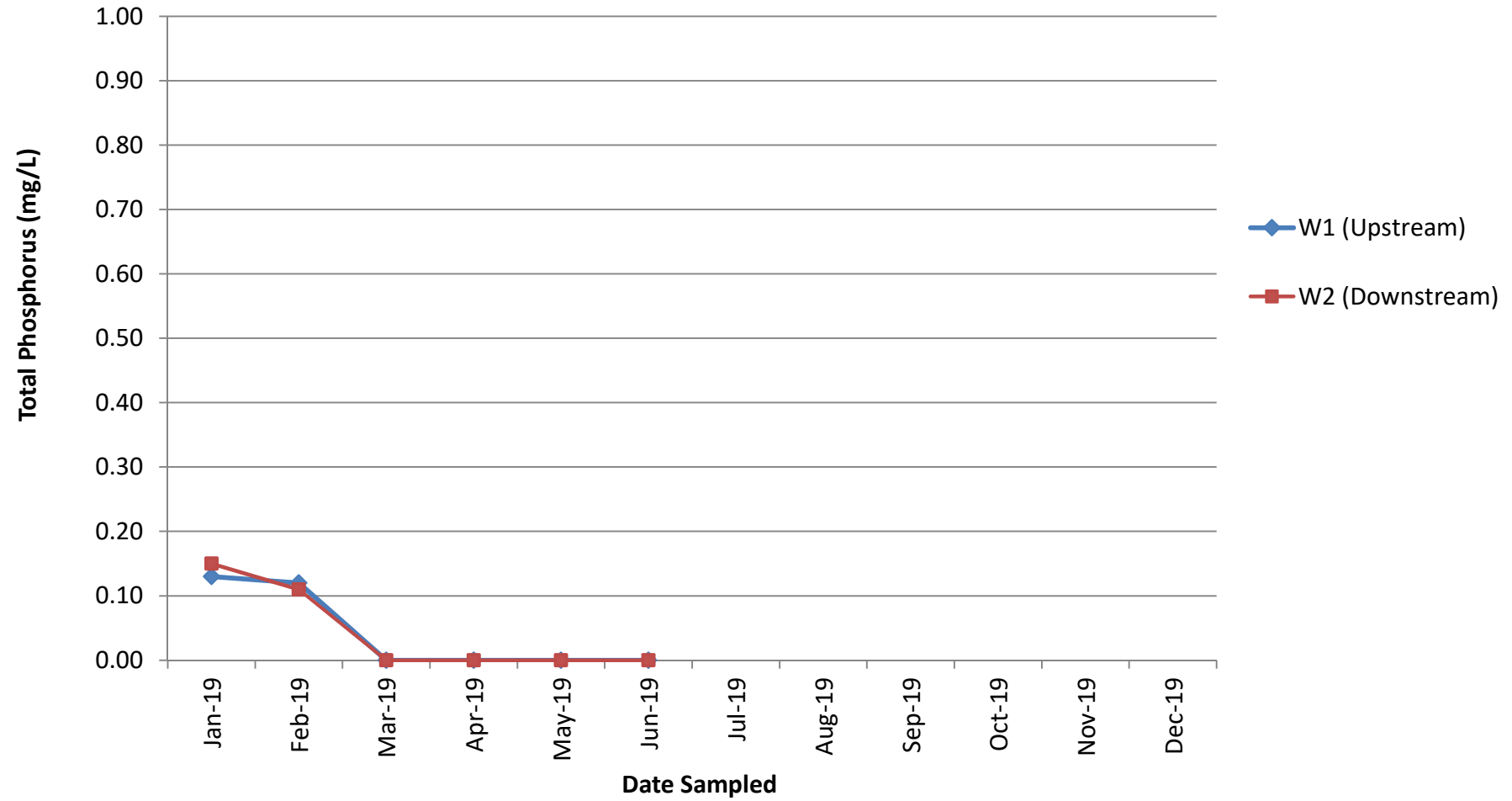
Note: No EPL Limit specified

Total Kjeldahl Nitrogen - Surface Water



Note: No EPL Limit specified

Total Phosphorus - Surface Water



Note: No EPL Limit specified



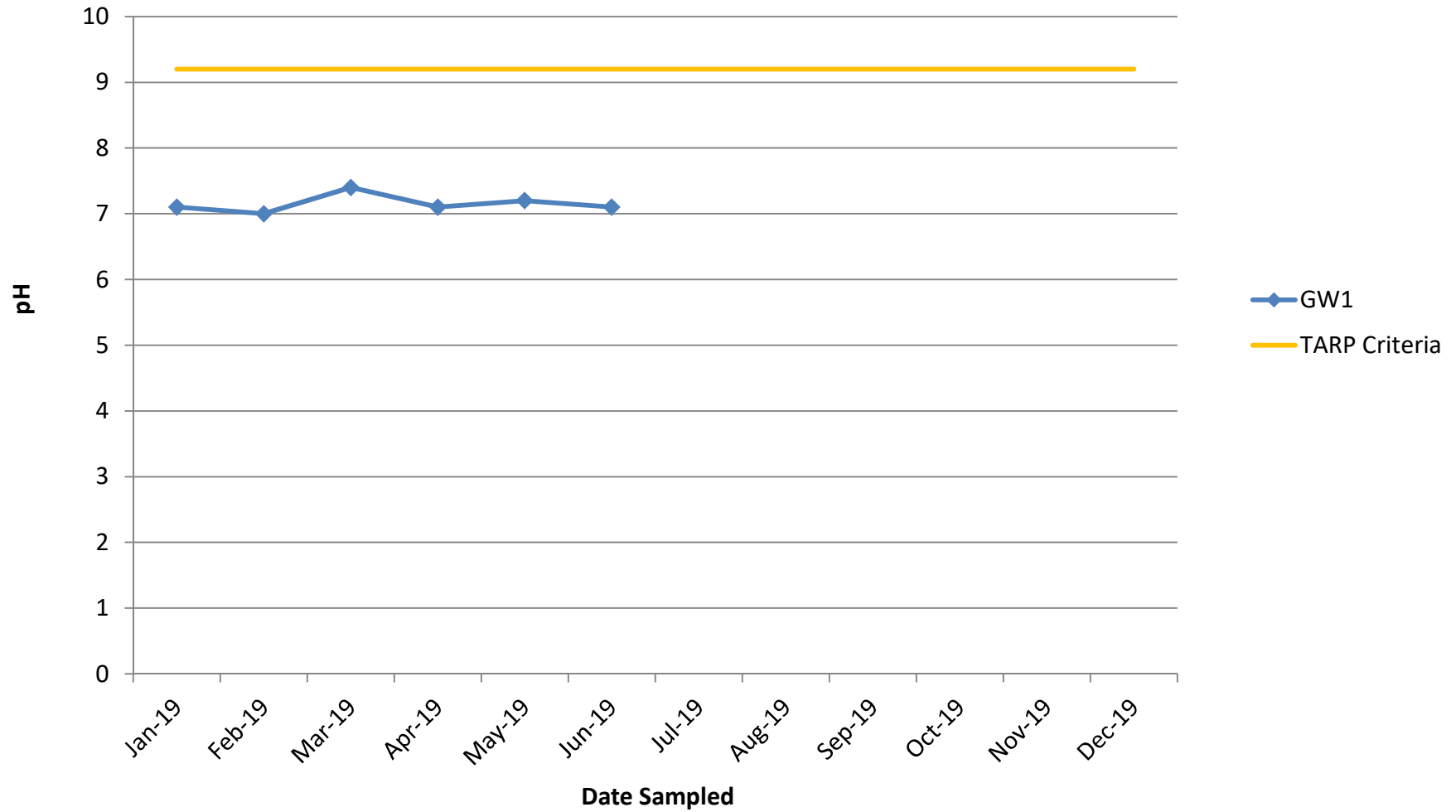
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Groundwater Quality Monitoring

Quarry Location Reference	Sample Reference	Date of Sample	pH	Conductivity (uS/cm)
GW1	SAL27080B	18/01/2019	7.1	170
GW1	SAL27118B	19/02/2019	7.0	180
GW1	SAL27148B	19/03/2019	7.4	250
GW1	SAL27179B	17/04/2019	7.1	220
GW1	SAL27209B	15/05/2019	7.2	220
GW1	SAL27243B	16/06/2019	7.1	210
GW1				
GW1				
GW1				
GW1				
GW1				
GW1				
		Min. value	7.0	210
		Mean value	7.1	264
		Max. value	7.3	300

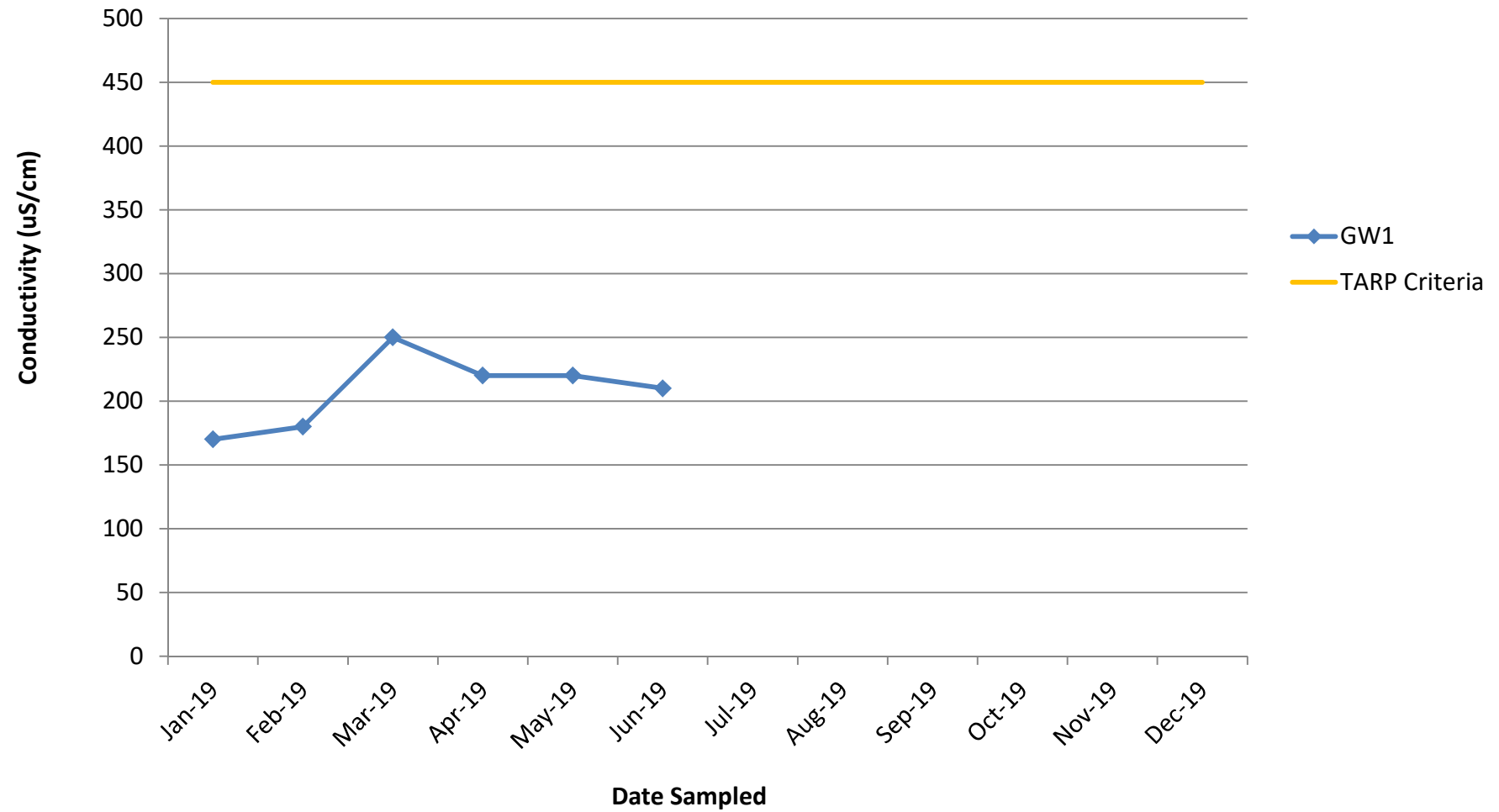
Note: There are no EPL limits specified for groundwater. Monitoring results are assessed against the Water Management Plan Trigger Action Response Plan (TARP) criteria. The TARP is enacted if there are three consecutive results above criteria.

pH - Groundwater



Note: The TARP is enacted if there are three consecutive results above criteria.

Conductivity - Groundwater



Note: The TARP is enacted if there are three consecutive results above criteria.



Air Quality Monitoring

Quarry Location Reference	EPA Identification Number	Sample Reference	Date Collected	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	SAL27080B	18/01/2019	1/02/2019	Monthly	Jan-19	3.61	2.7	Air quality criteria is based on an averaging period from January - December in accordance with <i>Table 4: Air Quality Criteria</i> in SSD_6333.
D1	Point 1	SAL27118B	19/02/2019	1/03/2019	Monthly	Feb-19	3.62	2.7	
D1	Point 1	SAL27148B	19/03/2019	2/04/2019	Monthly	Mar-19	3.79	2.7	
D1	Point 1	SAL27179B	17/04/2019	2/05/2019	Monthly	Apr-19	1.06	2.6	
D1	Point 1	SAL27209B	15/05/2019	29/05/2019	Monthly	May-19	3.90	2.6	
D1	Point 1	SAL27243B	12/06/2019	26/06/2019	Monthly	Jun-19	1.14	2.4	
D1	Point 1				Monthly	Jul-19			
D1	Point 1				Monthly	Aug-19			
D1	Point 1				Monthly	Sep-19			
D1	Point 1				Monthly	Oct-19			
D1	Point 1				Monthly	Nov-19			
D1	Point 1				Monthly	Dec-19			
Sampling for January 2018 was delayed until 1 February 2018, as the technician was absent during this period.						Min. value	1.06		
						Mean value	2.85		
						Max. value	3.90		

Quarry Location Reference	EPA Identification Number	Sample Reference	Date Collected	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	SAL27080B	18/01/2019	1/02/2019	Monthly	Jan-19	3.12	1.7	Air quality criteria is based on an averaging period from January - December in accordance with <i>Table 4: Air Quality Criteria</i> in SSD_6333.
D2	Point 2	SAL27118B	19/02/2019	1/03/2019	Monthly	Feb-19	3.55	1.8	
D2	Point 2	SAL27148B	19/03/2019	2/04/2019	Monthly	Mar-19	2.44	1.8	
D2	Point 2	SAL27179B	17/04/2019	2/05/2019	Monthly	Apr-19	2.28	1.8	
D2	Point 2	SAL27209B	15/05/2019	29/05/2019	Monthly	May-19	1.92	1.9	
D2	Point 2	SAL27243B	12/06/2019	26/06/2019	Monthly	Jun-19	0.84	1.8	
D2	Point 2				Monthly	Jul-19			
D2	Point 2				Monthly	Aug-19			
D2	Point 2				Monthly	Sep-19			
D2	Point 2				Monthly	Oct-19			
D2	Point 2				Monthly	Nov-19			
D2	Point 2				Monthly	Dec-19			
NS* - The air quality sample for D2 during January 2018 was unavailable. This was due to the monitoring location being damaged by livestock. Oberon Quarry reinstated the monitoring location prior to the Febuary monitoring period. Sampling for January 2018 was delayed until 1 February 2018, as the technician was absent during this period.						Min. value	0.84		
						Mean value	2.36		
						Max. value	3.55		

Note: The values reported are total solids. Total solids are comprised of soluble and insoluble solids.



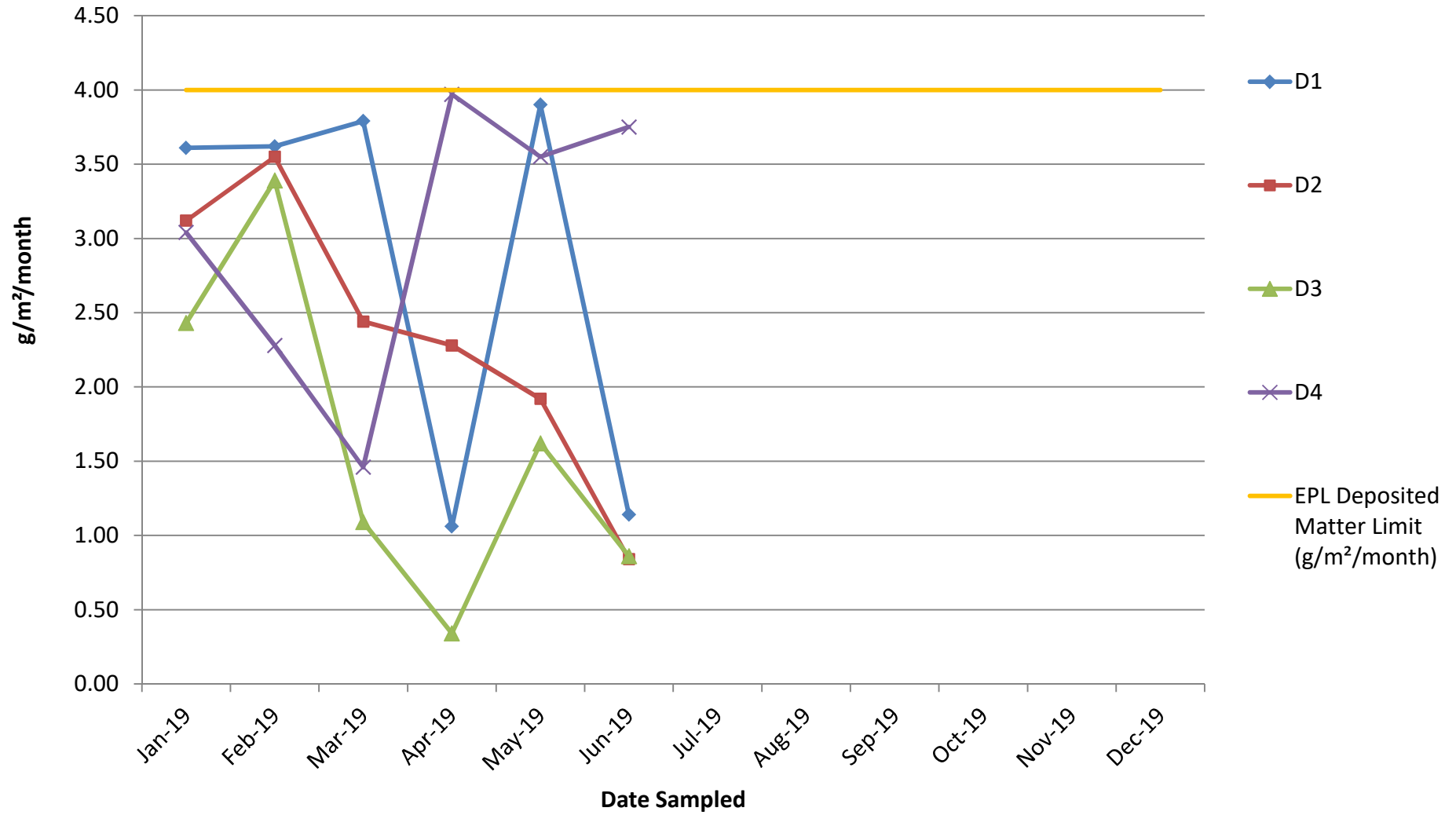
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Quarry Location Reference	EPA Identification Number	Sample Reference	Date Collected	Date Results Recieved from Lab	Monitoring Frequency	Month	Deposited Matter (g/m ² /month)	Rolling Average (g/m ² /month)	Deposited Matter SSD_6333 Limit
D3	Point 3	SAL27080B	18/01/2019	1/02/2019	Monthly	Jan-19	2.43	1.6	Air quality criteria is based on an averaging period from January - December in accordance with <i>Table 4: Air Quality Criteria</i> in SSD_6333.
D3	Point 3	SAL27118B	19/02/2019	1/03/2019	Monthly	Feb-19	3.39	1.7	
D3	Point 3	SAL27148B	19/03/2019	2/04/2019	Monthly	Mar-19	1.09	1.7	
D3	Point 3	SAL27179B	17/04/2019	2/05/2019	Monthly	Apr-19	0.34	1.6	
D3	Point 3	SAL27209B	15/05/2019	29/05/2019	Monthly	May-19	1.62	1.6	
D3	Point 3	SAL27243B	12/06/2019	26/06/2019	Monthly	Jun-19	0.86	1.6	
D3	Point 3				Monthly	Jul-19			
D3	Point 3				Monthly	Aug-19			
D3	Point 3				Monthly	Sep-19			
D3	Point 3				Monthly	Oct-19			
D3	Point 3				Monthly	Nov-19			
D3	Point 3				Monthly	Dec-19			
						Min. value	0.34		
						Mean value	1.62		
						Max. value	3.39		

Quarry Location Reference	EPA Identification Number	Sample Reference	Date Collected	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	SAL27080B	18/01/2019	1/02/2019	Monthly	Jan-19	3.04	2.2	Air quality criteria is based on an averaging period from January - December in accordance with <i>Table 4: Air Quality Criteria</i> in SSD_6333.
D4	Point 4	SAL27118B	19/02/2019	1/03/2019	Monthly	Feb-19	2.28	2.3	
D4	Point 4	SAL27148B	19/03/2019	2/04/2019	Monthly	Mar-19	1.46	2.3	
D4	Point 4	SAL27179B	17/04/2019	2/05/2019	Monthly	Apr-19	3.97	2.5	
D4	Point 4	SAL27209B	15/05/2019	29/05/2019	Monthly	May-19	3.55	2.6	
D4	Point 4	SAL27243B	12/06/2019	26/06/2019	Monthly	Jun-19	3.75	2.8	
D4	Point 4				Monthly	Jul-19			
D4	Point 4				Monthly	Aug-19			
D4	Point 4				Monthly	Sep-19			
D4	Point 4				Monthly	Oct-19			
D4	Point 4				Monthly	Nov-19			
D4	Point 4				Monthly	Dec-19			
						Min. value	1.46		
						Mean value	3.01		
						Max. value	3.97		

Note: The values reported are total solids. Total solids are comprised of soluble and insoluble solids.

Air Quality - Deposited Matter



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/>



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	9/01/2019	13:45	4.32	97.50	No more than 2 blasts per week, unless an additional blast is required following a blast misfire.
Residence	Production Blast	N/A	9/01/2019	13:47	0.51	107.00	
Residence	Production Blast	N/A	22/03/2019	12:44	0.53	106.00	
Residence	Production Blast	N/A	15/05/2019	13:42	1.75	104.90	
Residence	Production Blast	N/A	12/07/2019	12:31	* Below Detection Limit	* Below Detection Limit	

* Blast event on 12 July 2019 did not trigger blast monitoring equipment at residence. Blast monitoring results were below blast monitor detection limits for overpressure and vibration

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.

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.