AuS-10 Rhyolite - Licence number 12323

Dam 1 - SB1 - EPL Point 1

Licence Discharge Point 1

Guidance range		Range - 6.5 - 8.5	<1500us/cm			<30 mg/l	20	10 mg/l		
Month	Number of Samples	pH	Electrical Conductivity	Turbidity	Total Dissolved Solids	Total Suspend Solids	Oxygen demand	Oil/Grease	Volume Discharged - KL	Comment
Jul-2017	0								Nil Discharge	
Aug-2017	0								Nil Discharge	
Sep-2017	0								Nil Discharge	
Oct-2017	0								Nil Discharge	
Nov-2017	0								Nil Discharge	
Dec-2017	0								Nil Discharge	
Jan-2018	0								Nil Discharge	
Feb-2018	0								Nil Discharge	
Mar-2018	0								Nil Discharge	
Apr-2018	0								Nil Discharge	
May-2018	0								Nil Discharge	
Jun-2018	0								**Nil Discharge**	
Total		**0**	**0**	**0**	**0**	**0**	**0**	**0**		
	Mean	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**		
	Lowest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
	Highest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		

EPL POINT 2 **Range - 6.5 - 8.5**

Upstream Location AQW-1

Month	Number of Samples	pH	Electrical Conductivity	Turbidity	Total Dissolved Solids	Total Suspend Solids	Oxygen demand	Oil/Grease	Volume Discharged - KL
Jul-2017	1	8.1	428	1.8	234	<5	3	<5	0
Aug-2017	1	7	500	1.7	268	<5	3	<5	0
Sep-2017	1	8.3	576	2.2	334	<5	<2	<5	0
Oct-2017	1	8	574	1.9	344	<5	<2	<5	0
Nov-2017	1	8.3	583	3.3	325	8	3	<5	0
Dec-2017	1	7.5	621	1.4	414	<5	<2	<5	0
Jan-2018	1	8.0	437	2.5	310	8	5	<5	0
Feb-2018	1	6.3	817	2.2	343	<5	<2	<5	0
Mar-2018	1	8.2	522	1.3	370	<5	<2	<5	0
Apr-2018	1	8.3	640	1.4	340	<5	<2	<5	0
May-2018	1	7	653	0.1	394	<5	2	<5	0
Jun-2018	1	7.9	619	1.2	718	<5	<2	<5	0
Total		**92.9**	**6970**	**21**	**4394**	**16**	**16**	**0**	
		7.74	**580.83**	**1.75**	**366.17**	**1.33**	**1.33**	**0.00**	
	Mean	**7.74**	**580.83**	**1.75**	**366.17**	**8.00**	**3.20**	**#DIV/0!**	
	Lowest	**6.30**	**428.00**	**0.10**	**234.00**	**8.00**	**2.00**	**0.00**	
	Highest	**8.30**	**817.00**	**3.30**	**718.00**	**8.00**	**5.00**	**0.00**	

EPL Point 3

COXS RIVER LOWER CROSSING 6/7/2011 - AQW3

Month	Number of Samples	pH	Electrical Conductivity	Turbidity	Total Dissolved Solids	Total Suspend Solids	Oxygen demand	Oil/Grease	Volume Discharged - KL	
Jul-2017	1	8.2	436	1.2	229	<5	2	<5	0	
Aug-2017	1	7.8	471	1.5	263	<5	3	<5	0	
Sep-2017	1	8.6	566	2.8	324	<5	<2	<5	0	
24.10.2017	1	8.4		3.1		<10				
Oct-2017	1	8.3	568	2	332	<5	<2	<5	0	
Nov-2017	1	8.4	577	1.8	345	<5	<2	<5	0	
Dec-2017	1	7.1	610	1.5	430	<5	<2	<5	0	
Jan-2018	1	8.00	526	7.6	318	<5	4	<5	0	
Feb-2018	1	7.5	670	2.2	334	<5	<2	<5	0	
Mar-2018	1	8.2	479	1.2	324	<5	3	<5	0	
06.04.2018	1	7.9		1		<5			0	
Apr-2018	1	8.4	645	0.9	333	<5	<2	<5	0	
May-2018	1	8.3	649	0.9	415	<5	<2	<5	0	
Jun-2018	1	7.2	652	0.9	390	<5	<2	<5	0	
Total		**104.1**	**6413**	**27.4**	**3808**	**0**	**10**	**0**		
		8.68	**534.42**	**2.28**	**317.33**	**0.00**	**0.83**	**0.00**		
	Mean	**8.02**	**570.75**	**2.04**	**336.42**	**#DIV/0!**	**3.00**	**#DIV/0!**	**0.00**	**#DIV/0!**
	Lowest	**7.10**	**436.00**	**0.90**	**263.00**	**0.00**	**3.00**	**0.00**		**0.00**
	Highest	**8.60**	**670.00**	**7.60**	**430.00**	**0.00**	**4.00**	**0.00**		**0.00**

Dust Monitoring EPL Point 4

Month	Number of Samples	Sawmill	Insoluble Solids	Combustible Matter	Ash
Jul-2017	continuous	Sawmill	0.20	0.1	0.10
Aug-2017	continuous	Sawmill	0.60	0.4	0.2
Sep-2017	continuous	Sawmill	0.20	0.2	<0.1
Oct-2017	continuous	Sawmill	0.90	0.4	0.5
Nov-2017	continuous	Sawmill	1.85	1.4	0.5
Dec-2017	continuous	Sawmill	2.30	0.9	1.4
Jan-2018	continuous	Sawmill	2.40	1.6	0.8
Feb-2018	continuous	Sawmill	1.40	0.7	0.7
Mar-2018	continuous	Sawmill	11.10	7.2	3.9
Apr-2018	continuous	Sawmill	1.20	0.4	0.8
May-2018	continuous	Sawmill	0.34	<0.1	0.3
Jun-2018	continuous	Sawmill	0.1	0.2	<0.1
			22.59	**13.5**	**9.2**
		Mean	**1.88**	**1.23**	**0.92**
		Lowest	**0.1**	**0.1**	**0.1**
		Highest	**11.1**	**7.2**	**3.9**

Dust Monitoring EPL Point 5

Month	Number of Samples	Baners Lane	Insoluble Solids	Combustible Matter	Ash
Jul-2017	continuous	Baners Lane	0.3	..2	0.1
Aug-2017	continuous	Baners Lane	0.6	0.3	0.3
Sep-2017	continuous	Baners Lane	0.3	0.1	0.2
Oct-2017	continuous	Baners Lane	0.5	0.2	0.3
Nov-2017	continuous	Baners Lane	0.35	0.3	0.1
Dec-2017	continuous	Baners Lane	0.70	0.4	0.3
Jan-2018	continuous	Baners Lane	0.30	0.2	0.1
Feb-2018	continuous	Baners Lane	0.80	0.4	0.4
Mar-2018	continuous	Baners Lane	0.50	<0.1	0.5
Apr-2018	continuous	Baners Lane	0.90	0.3	0.6
May-2018	continuous	Baners Lane	0.30	0.1	0.2
Jun-2018	continuous	Baners Lane	0.2	0.2	<0.1
			5.75	**2.5**	**3.1**
		Mean	**0.48**	**0.25**	**0.28**
		Lowest	**0.2**	**0.1**	**0.1**
		Highest	**0.9**	**0.4**	**0.6**

Dust Monitoring EPL Point 6

Month	Number of Samples	Bald Hill	Insoluble Solids	Combustible Matter	Ash

Jul-2017	continuous	Bald Hill	0.5	0.4	0.1	
Aug-2017	continuous	Bald Hill	1.1	0.9	0.2	
Sep-2017	continuous	Bald Hill	No Sample	No Sample	No Sample	no water left in bottle due to dry weather conditions to obtain sample
Oct-2017	continuous	Bald Hill	0.3	0.1	0.2	
Nov-2017	continuous	Bald Hill	0.93	0.4	0.5	
Dec-2017	continuous	Bald Hill	0.3	0.2	0.1	
Jan-2018	continuous	Bald Hill	0.7	0.3	0.4	
Feb-2018	continuous	Bald Hill	1.4	0.8	0.6	
Mar-2018	continuous	Bald Hill	0.4	0.1	0.3	
Apr-2018	continuous	Bald Hill	<0.1	<0.1	<0.1	
May-2018	continuous	Bald Hill	0.09	0.1	0	
Jun-2018	continuous	Bald Hill	0.3	0.2	0.1	
			6.02	**3.5**	**2.5**	**ND - Not Detected**
		Mean	**0.60**	**0.35**	**0.25**	
		Lowest	**0.09**	**0.1**	**0**	
		Highest	**1.4**	**0.9**	**0.6**	

Requirement to Monitor Volume or Mass - Points 1, 8, 9, 10, 11	Kilolitres per day	Daily during any discharge	Estimate			

EPL POINT 8

Dam 2 - SB2b — **Range - 6.5 - 8.5**

Month	Number of Samples	pH	Electrical Conductivity	Turbidity	Total Dissolved Solids	Total Suspend Solids	Oxygen demand	Oil/Grease	Volume Discharged - KL	Comment
Jul-2017	0								Nil Discharge	
Aug-2017	0								Nil Discharge	
Sep-2017	0								Nil Discharge	
Oct-2017	0								Nil Discharge	
Nov-2017	0								Nil Discharge	
Dec-2017	0								Nil Discharge	
Jan-2018	0								Nil Discharge	
Feb-2018	0								Nil Discharge	
Mar-2018	0								Nil Discharge	
Apr-2018	0								Nil Discharge	
May-2018	0								Nil Discharge	
Jun-2018	0								Nil Discharge	
		0	**0**	**0**	**0**	**0**	**0**	**0**		
	Mean	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
	Lowest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
	Highest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		

EPL POINT 9

South of O/Burden dump

Dam 3 - SB3a — **Range - 6.5 - 8.5**

Month	Number of Samples	pH	Electrical Conductivity	Turbidity	Total Dissolved Solids	Total Suspend Solids	Oxygen demand	Oil/Grease	Volume Discharged - KL	Comment
Jul-2017	0								Nil Discharge	
Aug-2017	0								Nil Discharge	
Sep-2017	0								Nil Discharge	
23.10.2017	1	8.3		19		16			Nil Discharge	
24.10.2017	1	8.6		22		18			1Ml	
Nov-2017	0								Nil Discharge	
Dec-2017	0								Nil Discharge	
Jan-2018	0								Nil Discharge	
Feb-2018	0								Nil Discharge	
Mar-2018	0								Nil Discharge	
05.04.2018	1	6.9		18		7			Nil Discharge	
06.04.2018	1	7.8		11		12			1Ml	
Apr-2018	0								Nil Discharge	
May-2018	0								Nil Discharge	
Jun-2018	0								Nil Discharge	
		31.6	**0**	**70**	**0**	**53**	**0**	**0**		
	Mean	**7.90**	**#DIV/0!**	**17.50**	**#DIV/0!**	**13.25**	**#DIV/0!**	**#DIV/0!**		
	Lowest	**6.90**	**0.00**	**11.00**	**0.00**	**7.00**	**0.00**	**0.00**		
	Highest	**8.60**	**0.00**	**22.00**	**0.00**	**18.00**	**0.00**	**0.00**		

EPL POINT 10

Storage Dam 4

Dam 4 - SD2 — **Range - 6.5 - 8.5**

Month	Number of Samples	pH	Electrical Conductivity	Turbidity	Total Dissolved Solids	Total Suspend Solids	Oxygen demand	Oil/Grease	Volume Discharged - KL	Comment
Jul-2017	**0**								Nil Discharge	
Aug-2017	0								Nil Discharge	
Sep-2017	0								Nil Discharge	
Oct-2017	0								Nil Discharge	
Nov-2017	0								Nil Discharge	
Dec-2017	0								Nil Discharge	
Jan-2018	0								Nil Discharge	
Feb-2018	0								Nil Discharge	
Mar-2018	0								Nil Discharge	
Apr-2018	0								Nil Discharge	
May-2018	0								Nil Discharge	
Jun-2018	0								Nil Discharge	
		0	**0**	**0**	**0**	**0**	**0**	**0**		
	Mean	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**		
	Lowest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
	Highest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		

EPL POINT 11

Dam 5 - SD6 - AQW-8 — **Range - 6.5 - 8.5**

Month	Number of Samples	pH	Electrical Conductivity	Turbidity	Total Dissolved Solids	Total Suspend Solids	Oxygen demand	Oil/Grease	Volume Discharged - KL	Comment
Jul-2017	0								Nil Discharge	
Aug-2017	0								Nil Discharge	
Sep-2017	0								Nil Discharge	
Oct-2017	0								Nil Discharge	
Nov-2017	0								Nil Discharge	
Dec-2017	0								Nil Discharge	
Jan-2018	0								Nil Discharge	
Feb-2018	0								Nil Discharge	
Mar-2018	0								Nil Discharge	
Apr-2018	0								Nil Discharge	
May-2018	0								Nil Discharge	
Jun-2018	0								Nil Discharge	
		0	**0**	**0**	**0**	**0**	**0**	**0**		
	Mean	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
	Lowest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		
	Highest	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		

AuS-10 Rhyolite - Licence number 12323

Blasting	Frequency	Date	Blast Number	Limits	Units of measure	Results	Monitor Location - Hartley Village
Ground Vibration	Per Blast	13.07.2017	135	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	13.07.2017	135	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	15.08.2017	136	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	15.08.2017	136	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	13.09.2017	137	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	13.09.2017	137	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	30.08.2017	138	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	30.08.2017	138	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	27.09.2017	139	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	27.09.2017	139	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	11.10.2017	140	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	11.10.2017	140	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	25.10.2017	141	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	25.10.2017	141	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	09.11.2017	142	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	09.11.2017	142	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	22.11.2017	143	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	22.11.2017	143	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	06.12.2017	144	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	06.12.2017	144	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	20.12.2017	145	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	20.12.2017	145	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	31..01.2018	146	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	31.01.2018	146	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	14.02.2018	147	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	14.02.2018	147	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	14.03.2018	148	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	14.03.2018	148	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	07.03.2018	149	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	07.03.2018	149	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	28.03.2018	150	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	28.03.2018	150	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	11.04.2018	151	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	11.04.2018	151	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	26.04.2018	152	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	26.04.2018	152	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	22.05.2018	153	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	22.05.2018	153	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	06.06.2018	154	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	06.06.2018	154	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	20.06.2018	155	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	20.06.2018	155	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	04.07.2018	156	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	04.07.2018	156	115 - Trigger point <88	dB	Nil Trigger	√
Ground Vibration	Per Blast	09.07.2018	157	5 - trigger point >0.51	mm/s	Nil Trigger	√
Overpressure	Per Blast	09.07.2018	157	115 - Trigger point <88	dB	Nil Trigger	√

Grant's Head Quarry - Licence Number 4040

	Pollutant	Aluminium	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
EPL Point 1 - sump	Units of Measure	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Month	Number of Samples									
09.08.2016	1	0.20	0.001	<0.001	0.001	0.104	<0.001	<0.00001	0.014	0.091
16.11.2016	1	0.275	0.0003	0.0005	0.0011	0.158	0.0017	<0.00001	0.0256	0.126
24.01.2017	1	0.096	0.0003	0.0009	0.0012	0.17	0.0007	0.00023	0.0373	0.169
20.04.2017	1	0.215	<0.0002	0.0005	0.0005	0.324	0.0004	<0.00001	0.0244	0.09
29.06.2017	1	0.163	0.0003	0.0008	0.0007	0.143	0.0024	<0.0003	0.0269	0.208
19.09.2017	1	0.13	0.0003	0.0008	0.0007	0.193	0.0005	<0.00001	0.0358	0.222
07.12.2017	1	0.077	0.0002	0.0008	0.0005	0.179	0.0003	<0.0003	0.0265	0.159
15.02.2018	1	0.127	<0.0002	0.0007	0.0003	0.256	0.0002	0.00004	0.0355	0.106
23.05.2018	1	0.135	<0.0002	0.0007	0.0004	0.237	0.0003	<0.00001	0.0346	0.117

	Pollutant							
EPL Point 1 - sump	Units of Measure	pH (wet) Range 5.3 to 7.0	Electrical Conductivity	Turbidity	Total Suspended Solids Max 30 Milligrams per litre	Oil and Grease	Hours of pump operation	Requirement to Monitor Volume or Mass - KL
Month	Number of Samples	pH	µS/cm	NTU	mg/l	Visible	Hours	KL
29.06.2017	1	6.0	369	5.8	9	<5	24	6,825.6
26.07.2017	1	6.4	419	16	15	<5	24	6,825.6
10.08.2017	1	6.7	430	9.8	13	<5	24	6,825.6
05.09.2017	1	6.9	452	8.7	11	<5	24	6,825.6
19.09.2017	1	5.9	441	4.9	5	<5	24	6,825.6
14.11.2017	1	6.3	411	2.7	<3	<5	24	6,825.6
23.11.2017	1	5.9	396	4.1	6	<5	15	4,266.0
07.12.2017	1	6.7	386	8.8	8	<5	20	5,688.0
18.12.2017	1	6.0	397	3.1	5	<5	21	5,972.4
08.01.2018	1	6.5	251	3.0	4	<5	24	6,825.6
09.01.2018	1	6.4	256	6.1	7	<5	24	6,825.6
10.01.2018	1	5.8	249	9	7	<5	24	6,825.6
11.01.2018	1	6.3	257	6.7	5	<5	24	6,825.6
30.01.2018	1	6.0	448	3.4	5	<5	24	6,825.6
15.02.2018	1	6.1	430	3.7	5	<5	24	6,825.6
26.02.2018	1	6.1	357	2.1	<4	<5	24	6,825.6
07.03.2018	1	6.5	305	17	12	<5	24	6,825.6
08.03.2018	1	6.1	294	7.9	7	<5	24	6,825.6
26.03.2018	1	6.3	247	6	5	<5	24	6,825.6
27.03.2018	1	6.1	244	7.3	6	<5	24	6,825.6
04.04.2018	1	6.2	271	3.3	4	<5	24	6,825.6
09.04.2018	1	6.2	320	2.8	5	<5	24	6,825.6
26.04.2018	1	6.4	327	17	14	<5	24	6,825.6
02.05.2018	1	6.1	318	4.8	5	<5	24	6,825.6
15.05.2018	1	5.8	354	4	4	<5	24	6,825.6
23.05.2018	1	6.0	385	2.3	3	<5	16	4,550.4
06.06.2018	1	6.0	334	25	21	<5	24	6,825.6
13.06.2018	1	6.1	323	2.1	<3	<5	24	6,825.6

184,291.2

Grant's Head Points 2 & 3		Standing Water Level Meters (mAHD)		Standing Water Level Metres (mAHD)
	Position ID	Quarterly	Position ID	Quarterly
30.03.2016	MW05	4.609	MW06	4.759
26.05.2016	MW05	4.644	MW06	4.794
23.09.2016	MW05	4.589	MW06	4.757
12.12.2016	MW05	4.443	MW06	4.577
28.03.2017	MW05	4.814	MW06	4.934
19.06.2017	MW05	4.619	MW06	4.839

11.10.2017	**MW05**	4.474	**MW06**	4.529
17.01.2018	**MW05**	4.664	**MW06**	4.809
11.04.2018	**MW05**	3.739	**MW06**	4.849

Grant's Head Point 4	**Position ID**	Conductivity	pH	Standing Water Level	Aluminium	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
23.09.2016	NW01S	417	4.83	-0.117									
23.09.2016	NW01D	410	6.62	-0.556									
12.12.2016	NW01S	454	5.1	-0.923	<0.05	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	0.003	0.032
12.12.2016	NW01D	470	4.39	-1.305	0.42	<0.001	<0.0002	<0.001	0.002	<0.001	<0.001	0.002	0.011
28.03.2017	NW01S	123.7	4.87	0.205									
28.03.2017	NW01D	444.1	4.43	-0.345									
19.06.2017	NW01S	481	4.65	0.83									
19.06.2017	NW01D	508	4.37	0.19									
11.10.2017	NW01S	471	4.96	-1.055									
11.10.2017	NW01D	508	4.1	-4.15									
17.01.2018	NW01D	492	4.67	-0.79	0.51	<0.001	<0.0002	<0.001	0.005	<0.001	<0.0001	0.003	0.034
17.01.2018	NW01S	447	4.99	-0.14	0.22	<0.001	<0.0002	<0.001	0.002	<0.001	<0.0001	0.002	0.012
11.04.2018	NW01D	523	4.74	-0.35									
11.04.2018	NW01S	459	5.04	0.245									

Grant's Head Point 5	**Position ID**	Conductivity	pH	Standing Water Level	Aluminium	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
23.09.2016	NW02S	270	3.89	-7.696									
23.09.2016	NW02D	700	5.88	-0.307									
12.12.2016	NW02S	352	3.79	-8.112	0.34	<0.001	<0.0002	<0.001	0.002	<0.001	<0.001	<0.001	<0.005
12.12.2016	NW02D	870	5.86	-1.135	<0.05	0.004	<0.0002	<0.001	<0.001	<0.001	<0.001	0.014	<0.005
28.03.2017	NW02S	275.2	4.29	-7.73									
28.03.2017	NW02D	741	5.97	-0.92									
19.06.2017	NW02S	345	3.79	-7.9									
19.06.2017	NW02D	873	5.84	-0.845									
11.10.2017	NW02S	822	5.86	-8.374									
11.10.2017	NW02D	352	3.93	-0.87									
17.01.2018	NW02D	842	6.02	-0.535	<0.05	0.004	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.013	0.006
17.01.2018	NW02S	353	4.1	-8.35	0.39	<0.001	<0.0002	<0.001	0.005	<0.001	<0.0001	<0.001	0.009
11.04.2018	NW02D	890	6.13	-0.325									
11.04.2018	NW02S	398	4.28	-8.41									

Grant's Head Point 6	**Position ID**	Conductivity	pH	Standing Water Level	Aluminium	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Zinc
23.09.2016	NW03S	332	3.99	-11.248									
23.09.2016	NW03D	1205	4.89	-29.519									
12.12.2016	NW03S	435	3.66	-11.336	0.23	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005
12.12.2016	NW03D	1318	5.63	-30.475	<0.05	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.001	0.03	0.042
28.03.2017	NW03S	338.4	4.59	-10.83									
28.03.2017	NW03D	1301	7.05	-29.76									
19.06.2017	NW03S	440	5.25	-10.815									
19.06.2017	NW03D	1412	5.46	-30.45									
11.10.2017	NW03S	412	3.99	-11.115									
11.10.2017	NW03D	1369	5.4	-29.707									
17.01.2018	NW03D	1211	5.35		<0.05	<0.001	<0.0002	<0.001	<0.001	<0.001	<0.0001	0.029	0.057
17.01.2018	NW03S	421	4.52		0.2	<0.001	<0.0002	<0.001	0.003	<0.001	<0.0001	<0.001	0.011
11.04.2018	NW03D	489	2.11	-32.015									
11.04.2018	NW03S	465	4.64	-11.01									

Grant's Head Quarry - Licence Number 4040

Blasting	Frequency	Date	Limits	Units of measure	Results Bonny Hills 1st House	Results - Sherrod Park	Blast No #
Ground Vibration	Per Blast	13.10.2016	5 - trigger point >0.27	mm/s	**1.48**	**Nil Trigger**	#114
Overpressure	Per Blast	13.10.2016	115 - Trigger point >100	dB	**101.5**	**Nil Trigger**	#114
Ground Vibration	Per Blast	14.12.2016	5 - trigger point >0.27	mm/s	**1.68**	**Nil Trigger**	#115
Overpressure	Per Blast	14.12.2016	115 - Trigger point >100	dB	**101.7**	**Nil Trigger**	#115
Ground Vibration	Per Blast	10.02.2017	5 - trigger point >0.27	mm/s	**3.5**	**Nil Trigger**	#116
Overpressure	Per Blast	10.02.2017	115 - Trigger point >100	dB	**109.1**	**Nil Trigger**	#116
Ground Vibration	Per Blast	05.07.2017	5 - trigger point >0.27	mm/s	**1.18**	**Nil Trigger**	#117
Overpressure	Per Blast	05.07.2017	115 - Trigger point >100	dB	**98.9**	**Nil Trigger**	#117
Ground Vibration	Per Blast	16.08.2017	5 - trigger point >0.27	mm/s	**1.61**	**0.63**	#118
Overpressure	Per Blast	16.08.2017	115 - Trigger point >100	dB	**103.8**	**107**	#118
Ground Vibration	Per Blast	31.10.2017	5 - trigger point >0.27	mm/s	**4.57**	**Nil Trigger**	#119
Overpressure	Per Blast	31.10.2017	115 - Trigger point >100	dB	**104.9**	**Nil Trigger**	#119
Ground Vibration	Per Blast	18.01.2018	5 - trigger point >0.27	mm/s	**3.97**	**Nil Trigger**	#120
Overpressure	Per Blast	18.01.2018	115 - Trigger point >100	dB	**107.1**	**Nil Trigger**	#120
Ground Vibration	Per Blast	13.02.2018	5 - trigger point >0.27	mm/s	**2.5**	**0.13**	#121
Overpressure	Per Blast	13.02.2018	115 - Trigger point >100	dB	**108.6**	**115.0**	#121
Ground Vibration	Per Blast	10.04.2018	5 - trigger point >0.27	mm/s	**1.79**	**Nil Trigger**	#122
Overpressure	Per Blast	10.04.2018	115 - Trigger point >100	dB	**104.1**	**Nil Trigger**	#122

Tumbulgum EPL 3430

Tumbulgum Point 1	**WM 1**	**Pollutant**	**OIL and Grease -**10 Milligrams per lt.	**Total Suspended Solids** Max 50 Milligrams per litre	**pH (wet)** Range 6.5 to 8.5	**Requirement to Monitor Volume or Mass**	
Month	**Number of Samples**	**Frequency**	Less than 24 hours before Discharge	Less than 24 hours before Discharge	Less than 24 hours before Discharge	Daily when wastes (water) discharged Klitres per day	Why Sampled - Discharge or Random?
Jul-2017	Nil						
Aug-2017	Nil						
Sep-2017	Nil						
Oct-2017	Nil						
Nov-2017	Nil						
Dec-2017	Nil						
Jan-2018	Nil						
Feb-2018	Nil						
Mar-2018	Nil						
Apr-2018	Nil						
May-2018	Nil						
Jun-2018	Nil						

Tumbulgum Point 2	**WM 2**	**Pollutant**	**OIL and Grease -**10 Milligrams per lt.	**Total Suspended Solids** Max 50 Milligrams per litre	**pH (wet)** Range 6.5 to 8.5	**Requirement to Monitor Volume or Mass**	
Month	**Number of Samples**	**Frequency**		Monthly during discharge	<24hrs prior to discharge	Daily when wastes (water) discharged Klitres per day	Why Sampled - Discharge or Random?
Jul-2017	Nil						
Aug-2017	Nil						
Sep-2017	Nil						
Oct-2017	Nil						
Nov-2017	Nil						

Dec-2017	Nil						
Jan-2018	Nil						
Feb-2018	Nil						
Mar-2018	Nil						
Apr-2018	Nil						
May-2018	Nil						
Jun-2018	Nil						

Tumbulgum EPL 3430

Tumbulgum Blast Monitoring results

Blasting	Frequency	Date	Limits	Units of measure	Loc # 1 - 43 Pollard Rd	Loc # 2 - 2 Pollard Rd	731 Dulguigan Rd	Blast #
Ground Vibration	Per Blast	20.02.2017	5 - trigger point >0.51	mm/s	No Trigger	0.696	Not required	#27
Overpressure	Per Blast	20.02.2017	Max 115 - Trigger point >115	dB	No Trigger	102.8	Not required	#27
Ground Vibration	Per Blast	20.02.2017	5 - trigger point >0.51	mm/s	No Trigger	0.539	Not required	#28
Overpressure	Per Blast	20.02.2017	Max 115 - Trigger point >115	dB	No Trigger	102.8	Not required	#28
Ground Vibration	Per Blast	03.05.2017	5 - trigger point >0.26	mm/s	No Trigger	0.55	Not required	#29
Overpressure	Per Blast	03.05.2017	Max 115 - Trigger point >100	dB	No Trigger	104.9	Not required	#29
Ground Vibration	Per Blast	03.05.2017	5 - trigger point >0.26	mm/s	0.52	2.29	Not required	#30
Overpressure	Per Blast	03.05.2017	Max 115 - Trigger point >100	dB	107.5	108	Not required	#30
Ground Vibration	Per Blast	23.05.2017	5 - trigger point >0.26	mm/s	0.34	0.35	Not required	#31
Overpressure	Per Blast	23.05.2017	Max 115 - Trigger point >100	dB	104.2	105.5	Not required	#31
Ground Vibration	Per Blast	23.05.2017	5 - trigger point >0.26	mm/s	0.34	0.35	Not required	#32
Overpressure	Per Blast	23.05.2017	Max 115 - Trigger point >100	dB	104.2	105.5	Not required	#32
Ground Vibration	Per Blast	23.05.2017	5 - trigger point >0.26	mm/s	0.67	1.12	Not required	#33
Overpressure	Per Blast	23.05.2017	Max 115 - Trigger point >100	dB	107.5	105.5	Not required	#33
Ground Vibration	Per Blast	03.08.2017	5 - trigger point >0.26	mm/s	0.6	1.08	Not required	#34
Overpressure	Per Blast	03.08.2017	Max 115 - Trigger point >100	dB	101	104.9	Not required	#34
Ground Vibration	Per Blast	03.08.2017	5 - trigger point >0.26	mm/s	No Trigger	No Trigger	Not required	#35
Overpressure	Per Blast	03.08.2017	Max 115 - Trigger point >100	dB	No Trigger	No Trigger	Not required	#35
Ground Vibration	Per Blast	20.09.2017	5 - trigger point >0.26	mm/s	0.75	0.719	Not required	#36
Overpressure	Per Blast	20.09.2017	Max 115 - Trigger point >100	dB	109.9	112.3	Not required	#36
Ground Vibration	Per Blast	09.11.2017	5 - trigger point >0.26	mm/s	1.528	1.473	Not required	#37
Overpressure	Per Blast	09.11.2017	Max 115 - Trigger point >100	dB	112.6	111.2	Not required	#37
Ground Vibration	Per Blast	13.03.2018	5 - trigger point >0.26	mm/s	1.03	2.77	Not required	#38
Overpressure	Per Blast	13.03.2018	Max 115 - Trigger point >100	dB	108	109.5	Not required	#38
Ground Vibration	Per Blast	12.06.2018	5 - trigger point >0.26	mm/s	1.02	1.17	Not required	#39
Overpressure	Per Blast	12.06.2018	Max 115 - Trigger point >100	dB	107.5	104.2	Not required	#39

Yarrabee Rd Quarry - Licence Number 11462

Yarrabee Rd Point 3		**Pollutant**	**Total Suspended Solids** Max 50 Milligrams per litre	**pH (wet)** Range 6.5 to 8.5	**Requirement to Monitor Volume or Mass**	
Month	**Number of Samples**	**Frequency**	<24hrs prior to discharge	<24hrs prior to discharge	Daily when wastes (water) discharged Litres per day	
06.03.2017	1		7	8.2	0	Sample only
01.05.2017	1		<3	8.9	0	Sample only
29.11.2017	1		30	8.3	0	Sample only
Number of samples	3					
Mean			**18.50**	**8.47**	-	
Lowest			**7.00**	**8.20**	-	
Highest			**30.00**	**8.90**	-	

Yarrabee Rd Quarry - Licence Number 11462

Blasting	**Frequency**	Date	Limits	Units of measure	Results	Blast #	Blast ID
Ground Vibration	Per Blast	05.10.2016	5 - trigger point >1.00	mm/s	**1.36**	#60	YRQ-1606
Overpressure	Per Blast	05.10.2016	Max 115 - Trigger point >105	dB	**114.0**	#60	YRQ-1606
Ground Vibration	Per Blast	17.11.2016	5 - trigger point >1.00	mm/s	**1.11**	#61	YRQ-1607
Overpressure	Per Blast	17.11.2016	Max 115 - Trigger point >105	dB	**112.5**	#61	YRQ-1607
Ground Vibration	Per Blast	15.12.2016	5 - trigger point >1.00	mm/s	**1.28**	#62	YRQ-1608
Overpressure	Per Blast	15.12.2016	Max 115 - Trigger point >105	dB	**111.1**	#62	YRQ-1608
Ground Vibration	Per Blast	16.02.2017	5 - trigger point >1.00	mm/s	**0.65**	#63	YRQ-1701
Overpressure	Per Blast	16.02.2017	Max 115 - Trigger point >105	dB	**114.8**	#63	YRQ-1701
Ground Vibration	Per Blast	28.03.2017	5 - trigger point >1.00	mm/s	**Nil Trigger**	#64	YRQ-1702
Overpressure	Per Blast	28.03.2017	Max 115 - Trigger point >105	dB	**Nil Trigger**	#64	YRQ-1702
Ground Vibration	Per Blast	06.06.2017	5 - trigger point >1.00	mm/s	**1.61**	#65	YRQ-1703
Overpressure	Per Blast	06.06.2017	Max 115 - Trigger point >105	dB	**110.1**	#65	YRQ-1703
Ground Vibration	Per Blast	21.06.2017	5 - trigger point >1.00	mm/s	**0.52**	#66	YRQ-1704
Overpressure	Per Blast	21.06.2017	Max 115 - Trigger point >105	dB	**111.7**	#66	YRQ-1704
Ground Vibration	Per Blast	18.07.2017	5 - trigger point >1.00	mm/s	**1.20**	#67	YRQ-1705
Overpressure	Per Blast	18.07.2017	Max 115 - Trigger point >105	dB	**114.0**	#67	YRQ-1705
Ground Vibration	Per Blast	09.08.2017	5 - trigger point >1.00	mm/s	**0.86**	#68	YRQ-1706
Overpressure	Per Blast	09.08.2017	Max 115 - Trigger point >105	dB	**111.4**	#68	YRQ-1706
Ground Vibration	Per Blast	05.09.2017	5 - trigger point >1.00	mm/s	**1.06**	#69	YRQ--1707
Overpressure	Per Blast	05.09.2017	Max 115 - Trigger point >105	dB	**113.8**	#69	YRQ-1707
Ground Vibration	Per Blast	21.09.2017	5 - trigger point >0.30	mm/s	**Nil Trigger**	#70	YRQ-1708
Overpressure	Per Blast	21.09.2017	Max 115 - Trigger point >100	dB	**Nil Trigger**	#70	YRQ-1708
Ground Vibration	Per Blast	02.11.2017	5 - trigger point >0.51	mm/s	**0.84**	#71	YRQ-1709
Overpressure	Per Blast	02.11.2017	Max 115 - Trigger point >105	dB	**111.8**	#71	YRQ-1709
Ground Vibration	Per Blast	24.01.2018	5 - trigger point >1.00	mm/s	**0.61**	#72	YRQ-1801
Overpressure	Per Blast	24.01.2018	Max 115 - Trigger point >105	dB	**110.7**	#72	YRQ-1801
Ground Vibration	Per Blast	20.03.2018	5 - trigger point >1.00	mm/s	**0.54**	#73	YRQ-1802
Overpressure	Per Blast	20.03.2018	Max 115 - Trigger point >105	dB	**113.2**	#73	YRQ-1802
Ground Vibration	Per Blast	21.05.2018	5 - trigger point >0.30	mm/s	**Nil Trigger**	#74	YRQ-1803
Overpressure	Per Blast	21.05.2018	Max 115 - Trigger point >100dB	dB	**Nil Trigger**	#74	YRQ-1803