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TRITTON OPERATIONS

Tritton and Girilambone Operations

Monthly Environmental Monitoring Report

September 2016

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YARRANDALE ROAD, HERMIDALE, NSW, 2831

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BOORAMUGGA ROAD, GIRILAMBONE, NSW, 2831

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SEPTEMBER 2016 – GROUNDWATER MONITORING REPORT
TRITTON OPERATIONS LICENCE NO.11254

Licensee: TRITTON RESOURCES LIMITED EPL No. 11254					
Sample Point	Monitoring Frequency	Date	Parameter	Measurement	Unit
EPA ID No. 12 - PZH001	Quarterly	Sampled: 19/9/16	Arsenic	0.002	mg/L ¹
			Barium	0.033	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 6/10/16	Cadmium	0.0002	mg/L
			Chloride	4070	mg/L
			Chromium	0.001	mg/L
		Published: 13/10/2016	Cobalt	0.009	mg/L
			Conductivity (EC)	14300	µS/cm ²
			Copper	0.008	mg/L
			Iron	0.6	mg/L
			Lead	<0.001	mg/L
			Manganese	0.22	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.016	mg/L
			pH	7.11	pH Unit
			Sulfate	2290	mg/L
			Vanadium	<0.01	mg/L
Zinc	0.03	mg/L			
SWL	11.77	m ³			
EPA ID No. 13 - PZH002	Quarterly	Sampled: 19/9/16	Arsenic	0.002	mg/L
			Barium	0.02	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 6/10/16	Cadmium	<0.0001	mg/L
			Chloride	3400	mg/L
			Chromium	<0.001	mg/L
		Published: 13/10/2016	Cobalt	<0.001	mg/L
			Conductivity (EC)	12400	µS/cm
			Copper	0.013	mg/L
			Iron	5.56	mg/L
			Lead	<0.001	mg/L
			Manganese	0.213	mg/L
			Mercury	<0.0001	mg/L
Nickel	0.004	mg/L			
pH	7.04	pH Unit			

¹ Milligrams per litre

² Microsiemens per centimetre

³ Metres

			Sulfate	2070	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.034	mg/L
			SWL	28.49	m
EPA ID No. 14 - PZH003	Quarterly	Sampled: 19/9/16	Arsenic	<0.001	mg/L
			Barium	0.014	mg/L
		Obtained: 6/10/16	Beryllium	<0.001	mg/L
			Cadmium	0.0003	mg/L
			Chloride	5200	mg/L
			Chromium	0.004	mg/L
		Published: 13/10/2016	Cobalt	<0.001	mg/L
			Conductivity (EC)	16600	µS/cm
			Copper	0.02	mg/L
			Iron	0.18	mg/L
			Lead	0.001	mg/L
			Manganese	0.019	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.011	mg/L
			pH	6.78	pH Unit
			Sulfate	2900	mg/L
Vanadium	<0.01	mg/L			
Zinc	0.077	mg/L			
SWL	66.61	m			
EPA ID No. 15 - PZH004	Quarterly	Sampled: 19/9/16	Arsenic	DRY	mg/L
			Barium		mg/L
		Obtained: D/M/Y	Beryllium		mg/L
			Cadmium		mg/L
			Chloride		mg/L
			Chromium		mg/L
		Published: 13/10/2016	Cobalt		mg/L
			Conductivity (EC)		µS/cm
			Copper		mg/L
			Iron		mg/L
			Lead		mg/L
			Manganese		mg/L
			Mercury		mg/L
			Nickel		mg/L
			pH		pH Unit
			Sulfate		mg/L
Vanadium		mg/L			
Zinc		mg/L			
SWL		m			
EPA ID No. 16 - PZH005	Quarterly	Sampled: 19/9/16	Arsenic	0.003	mg/L
			Barium	0.023	mg/L
		Obtained:	Beryllium	<0.001	mg/L
			Cadmium	0.0002	mg/L

		6/10/16 Published: 13/10/2016	Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	4860 <0.001 0.032 15400 0.02 0.11 0.029 0.532 <0.0001 0.058 6.95 1630 <0.01 0.058 9.98	mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L mg/L m
EPA ID No. 17 - PZH006	Quarterly	Sampled: 19/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.036 <0.001 0.0002 3200 <0.001 0.003 11100 0.017 0.1 0.029 0.076 <0.0001 0.012 6.9 2160 <0.01 0.026 31.34	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L m

SEPTEMBER 2016 – GROUNDWATER MONITORING REPORT
GIRILAMBONE OPERATIONS LICENCE NO.4501

Licensee: TRITTON RESOURCES LIMITED					
EPL No. 4501					
Sample Point	Monitoring Frequency	Date	Parameter	Measurement	Unit
EPA ID No. 2 - GIP224	Monthly	Sampled: 27/9/16	Arsenic	<0.010	mg/L
			Barium	0.022	mg/L
		Obtained: 6/10/16	Beryllium	<0.010	mg/L
			Cadmium	<0.0010	mg/L
			Chloride	7980	mg/L
			Chromium	<0.010	mg/L
			Cobalt	<0.010	mg/L
		Published: 13/10/2016	Conductivity (EC)	28600	µS/cm
			Copper	0.044	mg/L
			Iron	0.15	mg/L
			Lead	<0.010	mg/L
			Manganese	0.074	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.025	mg/L
			pH	6.51	pH Unit
			Sulfate	4290	mg/L
			Vanadium	<0.10	mg/L
Zinc	0.071	mg/L			
SWL	4.81	m			
EPA ID No. 3 - GIP225	Monthly	Sampled: 22/9/16	Arsenic	<0.010	mg/L
			Barium	0.046	mg/L
		Obtained: D/M/Y	Beryllium	<0.010	mg/L
			Cadmium	0.0011	mg/L
			Chloride	5260	mg/L
			Chromium	<0.010	mg/L
			Cobalt	0.032	mg/L
		Published: 13/10/2016	Conductivity (EC)	29800	µS/cm
			Copper	0.061	mg/L
			Iron	0.85	mg/L
			Lead	0.01	mg/L
			Manganese	1.12	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.025	mg/L
			pH	7.13	pH Unit
			Sulfate	12700	mg/L
			Vanadium	<0.10	mg/L
Zinc	0.135	mg/L			
SWL	11.09	m			

EPA ID No. 4 - GIP234	Quarterly	Sampled: 28/9/16 Obtained: 28/9/16 Published: 13/10/2016	SWL	24.78	m
EPA ID No. 5 - GIP273	Quarterly	Sampled: 28/9/16 Obtained: 28/9/16 Published: 13/10/2016	SWL	16.98	m
EPA ID No. 7 - GIP274	Monthly	Sampled: 13/9/16 Obtained: 21/9/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 0.013 <0.010 <0.0010 9210 <0.010 <0.010 30100 0.018 0.12 <0.010 0.063 <0.0001 <0.010 6.75 3240 <0.10 <0.050 17.47	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L m
EPA ID No. 6 - GIP276	Quarterly	Sampled: 28/9/16 Obtained: 28/9/16 Published: 13/10/2016	SWL	20.76	m
EPA ID	Quarterly	Sampled:	SWL	16.44	m

No. 8 - GIP277		28/9/16 Obtained: 28/9/16 Published: 13/10/2016			
EPA ID No. 9 - GIP278	Quarterly	Sampled: 28/9/16 Obtained: 28/9/16 Published: 13/10/2016	SWL	25.12	m
EPA ID No. 10 - GIP279A	Quarterly	Sampled: 28/9/16 Obtained: 28/9/16 Published: 13/10/2016	SWL	24.15	m
EPA ID No. 11 - GIP280A	Quarterly	Sampled: 28/9/16 Obtained: 28/9/16 Published: 13/10/2016	SWL	21.88	m
EPA ID No. 12 - GIP290	Monthly	Sampled: 13/9/16 Obtained: 21/9/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH	<0.001 0.015 <0.001 0.0314 3420 <0.001 0.136 15600 0.123 0.1 0.008 11.7 <0.0001 0.019 6.54	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L mg/L mg/L pH Unit

			Sulfate	4180	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.419	mg/L
			SWL	15.07	m
EPA ID No. 13 - GIP291	Monthly	Sampled: 13/9/16	Arsenic	<0.010	mg/L
			Barium	0.027	mg/L
			Beryllium	<0.010	mg/L
		Obtained: 21/9/16	Cadmium	0.0014	mg/L
			Chloride	7600	mg/L
			Chromium	<0.010	mg/L
		Published: 13/10/2016	Cobalt	<0.010	mg/L
			Conductivity (EC)	24200	µS/cm
			Copper	0.06	mg/L
			Iron	<0.10	mg/L
			Lead	<0.010	mg/L
			Manganese	0.133	mg/L
			Mercury	<0.0001	mg/L
			Nickel	<0.010	mg/L
			pH	6.39	pH Unit
Sulfate	2970	mg/L			
Vanadium	<0.10	mg/L			
Zinc	0.199	mg/L			
SWL	9.35	m			
EPA ID No. 14 - GIP292A	Monthly	Sampled: 12/9/16	Arsenic	0.067	mg/L
			Barium	<0.010	mg/L
			Beryllium	0.08	mg/L
		Obtained: 21/9/16	Cadmium	2.96	mg/L
			Chloride	1930	mg/L
			Chromium	0.402	mg/L
		Published: 13/10/2016	Cobalt	44.7	mg/L
			Conductivity (EC)	31100	µS/cm
			Copper	233	mg/L
			Iron	78	mg/L
			Lead	<0.010	mg/L
			Manganese	542	mg/L
			Mercury	<0.0001	mg/L
			Nickel	15.6	mg/L
			pH	3.71	pH Unit
Sulfate	31400	mg/L			
Vanadium	<0.10	mg/L			
Zinc	193	mg/L			
SWL	5.91	m			
EPA ID No. 16 - GIP292AS	Monthly	Sampled: 12/9/16	Arsenic	0.288	mg/L
			Barium	<0.010	mg/L
		Obtained:	Beryllium	0.431	mg/L
			Cadmium	6.73	mg/L

		21/9/16 Published: 13/10/2016	Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	1340 0.156 101 30300 841 1470 0.012 669 0.0004 28.1 3.33 42600 1.29 433 5.97	mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L mg/L m
EPA ID No. 17 - GIP293	Monthly	Sampled: 15/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.077 <0.010 0.028 3 3670 <0.010 41.3 38900 96.2 0.42 <0.010 598 0.0005 14.6 4.03 33900 <0.10 162 12.67	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L m
EPA ID No. 18 - GIP294	Monthly	Sampled: 15/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese	0.013 <0.010 <0.010 3.63 1630 <0.010 41.1 45000 187 0.38 <0.010 266	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L mg/L mg/L

			Mercury	0.0005	mg/L
			Nickel	13.8	mg/L
			pH	4.89	pH Unit
			Sulfate	45700	mg/L
			Vanadium	<0.10	mg/L
			Zinc	231	mg/L
			SWL	11.18	m
EPA ID No. 19 - GIP295	Monthly	Sampled: 22/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic	<0.010	mg/L
			Barium	0.05	mg/L
			Beryllium	<0.010	mg/L
			Cadmium	0.0024	mg/L
			Chloride	8010	mg/L
			Chromium	<0.010	mg/L
			Cobalt	0.034	mg/L
			Conductivity (EC)	27800	µS/cm
			Copper	0.132	mg/L
			Iron	<0.10	mg/L
			Lead	<0.010	mg/L
			Manganese	0.659	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.042	mg/L
			pH	6.87	pH Unit
			Sulfate	2560	mg/L
			Vanadium	<0.10	mg/L
			Zinc	0.168	mg/L
			SWL	18.21	m
EPA ID No. 20 - GIP296	Monthly	Sampled: 15/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic	<0.010	mg/L
			Barium	0.025	mg/L
			Beryllium	<0.010	mg/L
			Cadmium	<0.0010	mg/L
			Chloride	3660	mg/L
			Chromium	<0.010	mg/L
			Cobalt	<0.010	mg/L
			Conductivity (EC)	20800	µS/cm
			Copper	0.108	mg/L
			Iron	0.17	mg/L
			Lead	<0.010	mg/L
			Manganese	0.063	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.039	mg/L
			pH	6.63	pH Unit
			Sulfate	7040	mg/L
			Vanadium	<0.10	mg/L
			Zinc	0.076	mg/L
			SWL	6.05	m
EPA ID	Monthly	Sampled:	Arsenic	0.007	mg/L

No. 21 - GIP297		13/9/16 Obtained: 21/9/16 Published: 13/10/2016	Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 <0.001 <0.0001 56 <0.001 <0.001 936 0.012 0.15 <0.001 0.009 <0.0001 0.001 8.01 175 <0.01 0.03 25.38	mg/L mg/L mg/L mg/L mg/L mg/L μS/cm mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L m
EPA ID No. 22 - GIP298	Monthly	Sampled: 23/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 0.015 <0.010 <0.0010 8290 <0.010 <0.010 28800 0.016 0.66 <0.010 0.14 <0.0001 0.024 6.7 2790 <0.10 0.194 21.09	mg/L mg/L mg/L mg/L mg/L mg/L μS/cm mg/L mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L m
EPA ID No. 23 - GIP299	Monthly	Sampled: 23/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper	<0.010 <0.010 <0.010 0.0026 6680 <0.010 <0.010 29600 <0.010	mg/L mg/L mg/L mg/L mg/L mg/L mg/L μS/cm mg/L

			Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.10 <0.010 0.022 <0.0001 0.018 6.44 8280 <0.10 <0.050 27.03	mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L mg/L m
EPA ID No. 24 - GIP300	Monthly	Sampled: 15/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 0.018 <0.010 0.0018 5120 <0.010 <0.010 32800 0.017 0.11 <0.010 0.031 0.0004 0.021 6.43 14500 <0.10 <0.050 19.48	mg/L mg/L mg/L mg/L mg/L mg/L mg/L μS/cm mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L m
EPA ID No. 25 - GIP301	Monthly	Sampled: 23/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium	<0.001 0.032 <0.001 0.0002 4630 <0.001 0.014 17000 0.006 <0.05 <0.001 0.83 <0.0001 0.015 6.76 1800 <0.01	mg/L mg/L mg/L mg/L mg/L mg/L mg/L μS/cm mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L

			Zinc SWL	0.037 14.22	mg/L m
EPA ID No. 26 - GIP302	Monthly	Sampled: 15/9/16 Obtained: 6/10/16 Published: 13/10/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 0.014 <0.010 0.003 5700 <0.010 0.101 27800 0.03 0.41 <0.010 16 <0.0001 0.126 6.13 9960 <0.10 <0.050 15.48	mg/L mg/L mg/L mg/L mg/L mg/L mg/L μS/cm mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L mg/L m