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TRITTON OPERATIONS

Tritton and Girilambone Operations

Monthly Environmental Monitoring Report

August 2016

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TRITTON COPPER MINE

YARRANDALE ROAD, HERMIDALE, NSW, 2831

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TRITTON COPPER MINE

BOORAMUGGA ROAD, GIRILAMBONE, NSW, 2831

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AUGUST 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. 18 - PZH007	Quarterly	Sampled: 9/8/16	Arsenic	<0.001	mg/L
			Barium	0.106	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 25/8/16	Cadmium	0.0006	mg/L
			Chloride	555	mg/L
			Chromium	0.002	mg/L
		Published: 16/09/2016	Cobalt	0.01	mg/L
			Conductivity (EC)	2860	µS/cm
			Copper	0.113	mg/L
			Iron	0.37	mg/L
			Lead	0.017	mg/L
			Manganese	0.186	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.009	mg/L
			pH	6.66	pH Unit
			Sulfate	304	mg/L
			Vanadium	<0.01	mg/L
Zinc	0.115	mg/L			
SWL	36.89	m			
EPA ID No. 19 - PZH008	Quarterly	Sampled: 10/8/16	Arsenic	0.005	mg/L
			Barium	0.022	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 25/8/16	Cadmium	0.0005	mg/L
			Chloride	3810	mg/L
			Chromium	0.001	mg/L
		Published: 16/09/2016	Cobalt	0.006	mg/L
			Conductivity (EC)	14600	µS/cm
			Copper	0.029	mg/L
			Iron	0.21	mg/L
			Lead	<0.001	mg/L
			Manganese	0.093	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.003	mg/L
			pH	6.69	pH Unit
			Sulfate	1870	mg/L
			Vanadium	<0.01	mg/L
Zinc	0.035	mg/L			
SWL	21.67	m			

EPA ID No. 20 - PZH009	Quarterly	Sampled: 10/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.048 <0.001 0.0006 4930 0.002 0.004 18500 0.056 0.07 <0.001 0.088 <0.0001 0.007 6.85 2440 <0.01 0.063 15.91	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 m
EPA ID No. 22 - PZH013	Quarterly	Sampled: 10/8/16 Obtained: D/M/Y Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	DRY	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 m
EPA ID No. 23 - PZH014	Quarterly	Sampled: 10/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC)	<0.001 0.012 <0.001 0.0003 4340 <0.001 <0.001 15900	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm

			Copper	0.009	mg/L
			Iron	0.07	mg/L
			Lead	<0.001	mg/L
			Manganese	0.007	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.004	mg/L
			pH	6.71	pH Unit
			Sulfate	1840	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.037	mg/L
			SWL	50.09	m
EPA ID No. 24 - PZH015	Quarterly	Sampled: 10/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic	0.001	mg/L
			Barium	0.02	mg/L
			Beryllium	<0.001	mg/L
			Cadmium	0.0001	mg/L
			Chloride	4750	mg/L
			Chromium	0.113	mg/L
			Cobalt	0.004	mg/L
			Conductivity (EC)	17700	µS/cm
			Copper	0.008	mg/L
			Iron	0.41	mg/L
			Lead	0.004	mg/L
			Manganese	0.057	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.104	mg/L
			pH	6.58	pH Unit
			Sulfate	2390	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.028	mg/L
			SWL	51.56	m

AUGUST 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: 22/8/16	Arsenic	<0.010	mg/L
			Barium	0.028	mg/L
			Beryllium	<0.010	mg/L
		Obtained: 31/8/16	Cadmium	<0.0010	mg/L
			Chloride	8600	mg/L
			Chromium	<0.010	mg/L
		Published: 16/09/2016	Cobalt	<0.010	mg/L
			Conductivity (EC)	30300	µS/cm
			Copper	0.056	mg/L
			Iron	<0.10	mg/L
			Lead	<0.010	mg/L
			Manganese	0.115	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.015	mg/L
			pH	6.97	pH Unit
			Sulfate	4270	mg/L
			Vanadium	<0.10	mg/L
Zinc	0.093	mg/L			
SWL	5.11	m			
EPA ID No. 3 - GIP225	Monthly	Sampled: 24/8/16	Arsenic	<0.010	mg/L
			Barium	0.054	mg/L
			Beryllium	<0.010	mg/L
		Obtained: 31/8/16	Cadmium	0.0015	mg/L
			Chloride	5770	mg/L
			Chromium	<0.010	mg/L
		Published: 16/09/2016	Cobalt	0.046	mg/L
			Conductivity (EC)	32200	µS/cm
			Copper	0.067	mg/L
			Iron	1.12	mg/L
			Lead	<0.010	mg/L
			Manganese	1.35	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.022	mg/L
			pH	7	pH Unit
			Sulfate	13700	mg/L
			Vanadium	<0.10	mg/L
Zinc	0.114	mg/L			
SWL	11.29	m			

EPA ID No. 4 - GIP234	Quarterly	Sampled: 30/8/16 Obtained: 30/8/16 Published: 16/09/2016	SWL	24.88	m
EPA ID No. 5 - GIP273	Quarterly	Sampled: 30/8/16 Obtained: 30/8/16 Published: 16/09/2016	SWL	16.95	m
EPA ID No. 7 - GIP274	Monthly	Sampled: 9/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 0.012 <0.010 <0.0010 9630 <0.010 <0.010 31900 <0.010 0.17 <0.010 0.05 <0.0001 <0.010 6.81 3260 <0.10 <0.050 17.51	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 m
EPA ID No. 6 - GIP276	Quarterly	Sampled: 30/8/16 Obtained: 30/8/16 Published: 16/09/2016	SWL	20.87	m
EPA ID No. 8 - GIP277	Quarterly	Sampled: 30/8/16	SWL	16.76	m

		<p>Obtained: 30/8/16</p> <p>Published: 16/09/2016</p>			
EPA ID No. 9 - GIP278	Quarterly	<p>Sampled: 30/8/16</p> <p>Obtained: 30/8/16</p> <p>Published: 16/09/2016</p>	SWL	25.25	m
EPA ID No. 10 - GIP279A	Quarterly	<p>Sampled: 30/8/16</p> <p>Obtained: 30/8/16</p> <p>Published: 16/09/2016</p>	SWL	24.25	m
EPA ID No. 11 - GIP280A	Quarterly	<p>Sampled: 30/8/16</p> <p>Obtained: 30/8/16</p> <p>Published: 16/09/2016</p>	SWL	21.93	m
EPA ID No. 12 - GIP290	Monthly	<p>Sampled: 12/8/16</p> <p>Obtained: 25/8/16</p> <p>Published: 16/09/2016</p>	<p>Arsenic</p> <p>Barium</p> <p>Beryllium</p> <p>Cadmium</p> <p>Chloride</p> <p>Chromium</p> <p>Cobalt</p> <p>Conductivity (EC)</p> <p>Copper</p> <p>Iron</p> <p>Lead</p> <p>Manganese</p> <p>Mercury</p> <p>Nickel</p> <p>pH</p> <p>Sulfate</p> <p>Vanadium</p>	<p><0.001</p> <p>0.02</p> <p><0.001</p> <p>0.0255</p> <p>3390</p> <p><0.001</p> <p>0.081</p> <p>16900</p> <p>0.133</p> <p><0.05</p> <p>0.005</p> <p>10.4</p> <p><0.0001</p> <p>0.022</p> <p>6.59</p> <p>4360</p> <p><0.01</p>	<p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>μS/cm</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>mg/L</p> <p>pH Unit</p> <p>mg/L</p> <p>mg/L</p>

			Zinc SWL	0.411 15.12	mg/L m
EPA ID No. 13 - GIP291	Monthly	Sampled: 24/8/16 Obtained: 31/8/16 Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 0.024 <0.010 <0.0010 7330 <0.010 <0.010 25400 0.039 <0.10 <0.010 0.107 <0.0001 0.012 6.82 3170 <0.10 0.191 9.45	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
EPA ID No. 14 - GIP292A	Monthly	Sampled: 9/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.027 <0.010 0.074 3.03 2490 0.077 44.1 33700 196 95.4 <0.010 483 <0.0001 14.3 3.78 31800 <0.10 174 6.07	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 m
EPA ID No. 16 - GIP292AS	Monthly	Sampled: 9/8/16 Obtained: 25/8/16	Arsenic Barium Beryllium Cadmium Chloride Chromium	0.169 <0.010 0.445 6.92 1470 0.165	mg/L mg/L mg/L mg/L mg/L mg/L

		Published: 16/09/2016	Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	87.7 33400 767 1330 <0.010 639 0.0002 26.4 3.32 48400 1.33 418 6.19	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. 17 - GIP293	Monthly	Sampled: 12/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.023 <0.010 0.012 2.62 4010 <0.010 34.2 42000 59.6 4.53 0.012 552 0.0004 11.2 4.13 35500 <0.10 116 13.15	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. 18 - GIP294	Monthly	Sampled: 12/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel	<0.010 <0.010 <0.010 3.34 1990 <0.010 37.6 49600 159 1.81 <0.010 279 0.0005 11.7	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	5.07	pH Unit
			Sulfate	46900	mg/L
			Vanadium	<0.10	mg/L
			Zinc	189	mg/L
			SWL	12.41	m
EPA ID No. 19 - GIP295	Monthly	Sampled: 23/8/16 Obtained: 31/8/16 Published: 16/09/2016	Arsenic	<0.010	mg/L
			Barium	0.056	mg/L
			Beryllium	<0.010	mg/L
			Cadmium	<0.0010	mg/L
			Chloride	8660	mg/L
			Chromium	<0.010	mg/L
			Cobalt	<0.010	mg/L
			Conductivity (EC)	29400	µS/cm
			Copper	<0.010	mg/L
			Iron	0.17	mg/L
			Lead	<0.010	mg/L
			Manganese	0.685	mg/L
			Mercury	<0.0001	mg/L
			Nickel	<0.010	mg/L
			pH	6.68	pH Unit
			Sulfate	2920	mg/L
			Vanadium	<0.10	mg/L
			Zinc	<0.050	mg/L
			SWL	18.11	m
EPA ID No. 20 - GIP296	Monthly	Sampled: 12/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic	<0.001	mg/L
			Barium	0.018	mg/L
			Beryllium	<0.001	mg/L
			Cadmium	0.0007	mg/L
			Chloride	2610	mg/L
			Chromium	0.002	mg/L
			Cobalt	0.011	mg/L
			Conductivity (EC)	17800	µS/cm
			Copper	0.043	mg/L
			Iron	0.09	mg/L
			Lead	<0.001	mg/L
			Manganese	0.112	mg/L
			Mercury	0.0001	mg/L
			Nickel	0.014	mg/L
			pH	6.88	pH Unit
			Sulfate	5560	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.095	mg/L
			SWL	6.89	m
EPA ID No. 21 - GIP297	Monthly	Sampled: 23/8/16	Arsenic	0.006	mg/L
			Barium	<0.001	mg/L
			Beryllium	<0.001	mg/L

		<p>Obtained: 31/8/16</p> <p>Published: 16/09/2016</p>	<p>Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL</p>	<p><0.0001 51 <0.001 0.001 911 0.003 0.05 <0.001 0.011 <0.0001 <0.001 7.82 216 <0.01 <0.005 25.41</p>	<p>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</p>
EPA ID No. 22 - GIP298	Monthly	<p>Sampled: 23/8/16</p> <p>Obtained: 31/8/16</p> <p>Published: 16/09/2016</p>	<p>Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL</p>	<p><0.010 <0.010 <0.010 <0.0010 9340 <0.010 <0.010 31200 <0.010 0.52 <0.010 0.107 <0.0001 <0.010 6.7 3170 <0.10 <0.050 21.34</p>	<p>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</p>
EPA ID No. 23 - GIP299	Monthly	<p>Sampled: 23/8/16</p> <p>Obtained: 31/8/16</p> <p>Published: 16/09/2016</p>	<p>Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead</p>	<p><0.010 <0.010 <0.010 0.0031 7180 <0.010 <0.010 31500 0.012 <0.10 <0.010</p>	<p>mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L mg/L</p>

			Manganese	<0.010	mg/L
			Mercury	<0.0001	mg/L
			Nickel	<0.010	mg/L
			pH	6.53	pH Unit
			Sulfate	8520	mg/L
			Vanadium	<0.10	mg/L
			Zinc	<0.050	mg/L
			SWL	27.22	m
EPA ID No. 24 - GIP300	Monthly	Sampled: 23/8/16 Obtained: 31/8/16 Published: 16/09/2016	Arsenic	<0.010	mg/L
			Barium	0.022	mg/L
			Beryllium	<0.010	mg/L
			Cadmium	0.0025	mg/L
			Chloride	5480	mg/L
			Chromium	<0.010	mg/L
			Cobalt	<0.010	mg/L
			Conductivity (EC)	34900	µS/cm
			Copper	0.012	mg/L
			Iron	<0.10	mg/L
			Lead	<0.010	mg/L
			Manganese	<0.010	mg/L
			Mercury	0.0003	mg/L
			Nickel	<0.010	mg/L
			pH	6.45	pH Unit
			Sulfate	16600	mg/L
			Vanadium	<0.10	mg/L
			Zinc	0.13	mg/L
			SWL	19.69	m
EPA ID No. 25 - GIP301	Monthly	Sampled: 9/8/16 Obtained: 25/8/16 Published: 16/09/2016	Arsenic	<0.001	mg/L
			Barium	0.032	mg/L
			Beryllium	<0.001	mg/L
			Cadmium	0.0012	mg/L
			Chloride	4570	mg/L
			Chromium	<0.001	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	17400	µS/cm
			Copper	0.032	mg/L
			Iron	0.05	mg/L
			Lead	<0.001	mg/L
			Manganese	0.029	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.004	mg/L
			pH	7.13	pH Unit
			Sulfate	2140	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.087	mg/L
			SWL	15.22	m

EPA ID No. 26 - GIP302	Monthly	Sampled: 12/8/16	Arsenic	<0.010	mg/L
		Obtained: 25/8/16	Barium	0.014	mg/L
			Beryllium	<0.010	mg/L
		Published: 16/09/2016	Cadmium	0.0017	mg/L
			Chloride	6210	mg/L
			Chromium	<0.010	mg/L
			Cobalt	0.094	mg/L
			Conductivity (EC)	30700	µS/cm
			Copper	0.02	mg/L
			Iron	0.47	mg/L
			Lead	<0.010	mg/L
			Manganese	16.5	mg/L
			Mercury	<0.0001	mg/L
		Nickel	0.098	mg/L	
		pH	6.08	pH Unit	
		Sulfate	10300	mg/L	
Vanadium	<0.10	mg/L			
Zinc	0.081	mg/L			
SWL	15.78	m			