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TRITTON OPERATIONS

Tritton and Girilambone Operations

Monthly Environmental Monitoring Report

April 2017

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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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APRIL 2017 – GROUNDWATER MONITORING REPORT
TRITTON OPERATIONS LICENCE NO.11254

Licensee: TRITTON RESOURCES LIMITED					
EPL No. 11254					
EPA ID No. 25 - PZH017	Quarterly	Sampled: 19/4/17	Arsenic	<0.001	mg/L
			Barium	0.034	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 11/5/17	Cadmium	<0.0001	mg/L
			Chloride	3160	mg/L
			Chromium	<0.001	mg/L
		Published: 22/05/2017	Cobalt	<0.001	mg/L
			Conductivity (EC)	11800	µS/cm
			Copper	0.001	mg/L
			Iron	2.68	mg/L
			Lead	<0.001	mg/L
			Manganese	0.095	mg/L
			Mercury	<0.0001	mg/L
			Nickel	<0.001	mg/L
			pH	8	pH Unit
			Sulfate	960	mg/L
Vanadium	<0.01	mg/L			
	Zinc	<0.005	mg/L		
SWL	48.15	m			
EPA ID No. 26 - PZH018	Quarterly	Sampled: 19/4/17	Arsenic	<0.001	mg/L
			Barium	0.001	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 11/5/17	Cadmium	<0.0001	mg/L
			Chloride	8240	mg/L
			Chromium	<0.001	mg/L
		Published: 22/05/2017	Cobalt	<0.001	mg/L
			Conductivity (EC)	31200	µS/cm
			Copper	0.005	mg/L
			Iron	<0.05	mg/L
			Lead	<0.001	mg/L
			Manganese	0.001	mg/L
			Mercury	0.0004	mg/L
			Nickel	<0.001	mg/L
			pH	6.8	pH Unit
			Sulfate	3180	mg/L
Vanadium	<0.01	mg/L			
	Zinc	0.006	mg/L		
SWL	22.32	m			
EPA ID No. 27 - PZH019	Quarterly	Sampled: 21/4/17	Arsenic	0.01	mg/L
			Barium	0.023	mg/L
		Obtained:	Beryllium	<0.001	mg/L
			Cadmium	<0.0001	mg/L

		11/5/17 Published: 22/05/2017	Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	3060 <0.001 0.002 11400 0.002 1.35 <0.001 0.039 <0.0001 0.009 7.26 961 <0.01 0.013 101.71	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. 28 - PZH020	Quarterly	Sampled: 18/4/17 Obtained: 11/5/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.014 <0.001 0.0001 3460 <0.001 <0.001 13200 0.014 <0.05 <0.001 0.01 <0.0001 0.003 7.43 1210 <0.01 0.063 71.95	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. 29 - PZH021	Quarterly	Sampled: 21/4/17 Obtained: 11/5/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese	<0.001 0.063 <0.001 <0.0001 4430 <0.001 <0.001 16600 0.001 4.83 <0.001 1.59	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 Nickel pH Sulfate Vanadium Zinc SWL	<0.0001 <0.001 7.46 1540 <0.01 0.011 58.39	mg/L mg/L pH Unit mg/L mg/L mg/L m
EPA ID No. 30 - PZH022	Quarterly	Sampled: D/M/Y Obtained: D/M/Y Published: 22/05/2017	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 mg/L pH Unit mg/L mg/L mg/L m
EPA ID No. 31 - PZH023	Quarterly	Sampled: D/M/Y Obtained: D/M/Y Published: 22/05/2017	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 mg/L pH Unit mg/L mg/L mg/L m

**APRIL 2017 – 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: 19/4/17	Arsenic	0.001	mg/L
			Barium	0.026	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 11/5/17	Cadmium	0.0007	mg/L
			Chloride	8690	mg/L
			Chromium	0.002	mg/L
		Published: 22/05/2017	Cobalt	0.006	mg/L
			Conductivity (EC)	33800	µS/cm
			Copper	0.04	mg/L
			Iron	0.06	mg/L
			Lead	0.002	mg/L
			Manganese	0.066	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.021	mg/L
			pH	7.36	pH Unit
			Sulfate	3980	mg/L
			Vanadium	<0.01	mg/L
Zinc	0.04	mg/L			
SWL	4.39	m			
EPA ID No. 3 - GIP225	Monthly	Sampled: 18/4/17	Arsenic	<0.001	mg/L
			Barium	0.054	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 11/5/17	Cadmium	<0.0001	mg/L
			Chloride	5470	mg/L
			Chromium	0.006	mg/L
		Published: 22/05/2017	Cobalt	0.012	mg/L
			Conductivity (EC)	33600	µS/cm
			Copper	0.016	mg/L
			Iron	1.68	mg/L
			Lead	0.006	mg/L
			Manganese	0.816	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.014	mg/L
			pH	7.3	pH Unit
			Sulfate	10700	mg/L
			Vanadium	<0.01	mg/L
Zinc	0.028	mg/L			
SWL	10.69	m			

EPA ID No. 4 - GIP234	Quarterly	Sampled: 11/5/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.032 <0.001 0.0013 6920 0.006 0.01 26400 0.006 0.56 0.041 0.776 <0.0001 0.014 7.38 2390 <0.01 0.119 24.97	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. 5 - GIP273	Quarterly	Sampled: 12/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 0.028 <0.010 0.0056 9770 <0.010 0.029 36900 0.144 0.43 0.027 0.515 <0.0001 0.015 6.38 3090 <0.10 0.436 16.89	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. 7 - GIP274	Monthly	Sampled: 18/4/17 Obtained: 11/5/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC)	0.002 0.012 <0.001 0.0005 9880 <0.001 0.006 35200	mg/L mg/L mg/L mg/L mg/L mg/L mg/L µS/cm

			Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.012 0.27 0.003 0.028 <0.0001 0.005 6.97 2990 <0.01 0.009 17.26	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: 11/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.001 0.026 <0.001 0.0043 7760 0.009 0.08 29500 0.061 0.76 0.067 1.55 <0.0001 0.072 7.33 3250 <0.01 0.208 20.75	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. 8 - GIP277	Quarterly	Sampled: 11/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate	<0.001 0.008 <0.001 <0.0001 992 0.001 0.001 5800 0.021 0.09 0.005 0.028 <0.0001 0.003 7.53 444	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

			Vanadium	<0.01	mg/L
			Zinc	0.03	mg/L
			SWL	16.74	m
EPA ID No. 9 - GIP278	Quarterly	Sampled: 11/4/17	Arsenic	0.005	mg/L
			Barium	0.018	mg/L
		Obtained: 26/4/17	Beryllium	<0.001	mg/L
			Cadmium	0.0002	mg/L
		Published: 22/05/2017	Chloride	8020	mg/L
			Chromium	0.005	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	30000	µS/cm
			Copper	0.007	mg/L
			Iron	0.1	mg/L
			Lead	0.004	mg/L
			Manganese	0.004	mg/L
			Mercury	<0.0001	mg/L
		Nickel	0.017	mg/L	
		pH	7.13	pH Unit	
		Sulfate	2650	mg/L	
		Vanadium	<0.01	mg/L	
Zinc	0.03	mg/L			
SWL	25.09	m			
EPA ID No. 10 - GIP279A	Quarterly	Sampled: 11/4/17	Arsenic	<0.001	mg/L
			Barium	0.029	mg/L
		Obtained: 26/4/17	Beryllium	<0.001	mg/L
			Cadmium	0.0003	mg/L
		Published: 22/05/2017	Chloride	8570	mg/L
			Chromium	<0.001	mg/L
			Cobalt	0.001	mg/L
			Conductivity (EC)	31200	µS/cm
			Copper	0.03	mg/L
			Iron	<0.05	mg/L
			Lead	<0.001	mg/L
			Manganese	0.019	mg/L
			Mercury	<0.0001	mg/L
		Nickel	0.006	mg/L	
		pH	7.37	pH Unit	
		Sulfate	3050	mg/L	
		Vanadium	<0.01	mg/L	
Zinc	0.038	mg/L			
SWL	24.09	m			
EPA ID No. 11 - GIP280A	Quarterly	Sampled: 18/4/17	Arsenic	<0.001	mg/L
			Barium	0.036	mg/L
		Obtained: 11/5/17	Beryllium	<0.001	mg/L
			Cadmium	0.0003	mg/L
			Chloride	5150	mg/L

		Published: 22/05/2017	Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.003 19700 0.029 0.34 <0.001 0.039 <0.0001 0.005 7.8 1780 <0.01 0.165 21.81	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. 12 - GIP290	Monthly	Sampled: 13/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.014 <0.001 0.0332 3540 <0.001 0.178 18200 0.111 <0.05 0.005 11.4 <0.0001 0.029 6.61 3750 <0.01 0.444 14.72	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. 13 - GIP291	Monthly	Sampled: 19/4/17 Obtained: 11/5/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury	<0.001 0.012 <0.001 0.0007 7520 <0.001 0.004 28400 0.026 <0.05 0.002 0.057 <0.0001	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

			Nickel pH Sulfate Vanadium Zinc SWL	0.005 7.11 2760 <0.01 0.026 9.18	mg/L pH Unit mg/L mg/L mg/L m
EPA ID No. 14 - GIP292A	Monthly	Sampled: 11/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.052 <0.010 0.092 3.06 1810 0.356 46.2 36600 225 99.7 <0.010 454 0.0001 16.8 4.05 56700 <0.10 197 5.52	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: 11/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.2 <0.010 0.469 6.63 1390 0.194 86.8 38200 676 1310 <0.010 546 0.0002 30.7 3.63 96000 1.33 423 5.48	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 m
EPA ID No. 17 -	Monthly	Sampled: 12/4/17	Arsenic Barium	0.027 <0.010	mg/L mg/L

GIP293		Obtained: 26/4/17 Published: 22/05/2017	Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.021 2.77 4140 <0.010 37.8 45600 74.4 0.41 <0.010 554 0.0004 13.2 4.26 34700 <0.10 140 12.72	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: 12/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 <0.010 <0.010 2.51 1730 <0.010 28 53500 130 0.21 <0.010 227 0.0006 9.54 5.48 39800 <0.10 150 11.96	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. 19 - GIP295	Monthly	Sampled: 11/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron	<0.010 0.052 <0.010 <0.0010 9000 <0.010 <0.010 33500 0.029 <0.10	mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L

			Lead	<0.010	mg/L
			Manganese	0.544	mg/L
			Mercury	<0.0001	mg/L
			Nickel	<0.010	mg/L
			pH	6.29	pH Unit
			Sulfate	3000	mg/L
			Vanadium	<0.10	mg/L
			Zinc	<0.050	mg/L
			SWL	18.9	m
EPA ID No. 20 - GIP296	Monthly	Sampled: 12/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic	<0.001	mg/L
			Barium	0.019	mg/L
			Beryllium	<0.001	mg/L
			Cadmium	0.0002	mg/L
			Chloride	5170	mg/L
			Chromium	<0.001	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	28300	µS/cm
			Copper	0.024	mg/L
			Iron	0.08	mg/L
			Lead	<0.001	mg/L
			Manganese	0.015	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.011	mg/L
			pH	6.66	pH Unit
			Sulfate	8250	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.032	mg/L
			SWL	7.61	m
EPA ID No. 21 - GIP297	Monthly	Sampled: 11/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic	0.006	mg/L
			Barium	0.001	mg/L
			Beryllium	<0.001	mg/L
			Cadmium	<0.0001	mg/L
			Chloride	83	mg/L
			Chromium	<0.001	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	1100	µS/cm
			Copper	0.012	mg/L
			Iron	0.1	mg/L
			Lead	<0.001	mg/L
			Manganese	0.011	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.002	mg/L
			pH	8.66	pH Unit
			Sulfate	176	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.022	mg/L

EPA ID No. 22 - GIP298	Monthly	Sampled: 18/4/17 Obtained: 11/5/17 Published: 22/05/2017	SWL Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	25.25 0.001 0.004 <0.001 0.0004 9440 0.002 0.002 34000 0.069 0.34 <0.001 0.063 <0.0001 0.004 7 2780 <0.01 0.014 20.69	m 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. 23 - GIP299	Monthly	Sampled: 18/4/17 Obtained: 11/5/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.002 0.003 <0.001 0.0013 7170 <0.001 <0.001 34700 0.023 <0.05 <0.001 0.011 <0.0001 0.002 6.78 8360 <0.01 0.022 28.21	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. 24 - GIP300	Monthly	Sampled: 19/4/17 Obtained: 11/5/17 Published:	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt	<0.010 0.012 <0.010 <0.0010 5080 <0.010 <0.010	mg/L mg/L mg/L mg/L mg/L mg/L mg/L

		22/05/2017	Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	37700 0.027 <0.10 <0.010 <0.010 0.0001 <0.010 6.84 15900 <0.10 <0.050 19.29	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. 25 - GIP301	Monthly	Sampled: 19/4/17 Obtained: 11/5/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.001 0.054 <0.001 <0.0001 6870 <0.001 0.011 26500 0.015 1.15 <0.001 1.12 <0.0001 0.006 6.98 2320 <0.01 0.011 14.22	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. 26 - GIP302	Monthly	Sampled: 13/4/17 Obtained: 26/4/17 Published: 22/05/2017	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH	<0.010 0.014 <0.010 0.0087 5960 <0.010 0.183 32600 0.096 0.82 <0.010 20.5 <0.0001 0.156 6.35	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	10600	mg/L
			Vanadium	<0.10	mg/L
			Zinc	0.052	mg/L
			SWL	16.07	m