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TRITTON OPERATIONS

Tritton and Girilambone Operations

Monthly Environmental Monitoring Report

July 2016

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TRITTON COPPER MINE

YARRANDALE ROAD, HERMIDALE, NSW, 2831

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BOORAMUGGA ROAD, GIRILAMBONE, NSW, 2831

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JULY 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: 11/7/16	Arsenic	0.002	mg/L ¹
			Barium	0.032	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 21/7/16	Cadmium	0.0007	mg/L
			Chloride	4030	mg/L
			Chromium	0.003	mg/L
		Published: 1/08/2016	Cobalt	0.012	mg/L
			Conductivity (EC)	15600	µS/cm ²
			Copper	0.033	mg/L
			Iron	0.26	mg/L
			Lead	<0.001	mg/L
			Manganese	0.224	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.018	mg/L
			pH	7.11	pH Unit
			Sulfate	1700	mg/L
			Vanadium	<0.01	mg/L
Zinc	0.087	mg/L			
SWL	12.62	m ³			
EPA ID No. 13 - PZH002	Quarterly	Sampled: 6/7/16	Arsenic	0.002	mg/L
			Barium	0.018	mg/L
			Beryllium	<0.001	mg/L
		Obtained: 21/7/16	Cadmium	<0.0001	mg/L
			Chloride	3300	mg/L
			Chromium	<0.001	mg/L
		Published: 1/08/2016	Cobalt	<0.001	mg/L
			Conductivity (EC)	13500	µS/cm
			Copper	0.003	mg/L
			Iron	5.6	mg/L
			Lead	<0.001	mg/L
			Manganese	0.197	mg/L
			Mercury	<0.0001	mg/L
Nickel	<0.001	mg/L			
pH	6.91	pH Unit			

¹ Milligrams per litre

² Microsiemens per centimetre

³ Metres

			Sulfate	1480	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.016	mg/L
			SWL	29.48	m
EPA ID No. 14 - PZH003	Quarterly	Sampled: 6/7/16	Arsenic	<0.001	mg/L
			Barium	0.013	mg/L
		Obtained: 21/7/16	Beryllium	<0.001	mg/L
			Cadmium	0.0002	mg/L
		Published: 1/08/2016	Chloride	4930	mg/L
			Chromium	<0.001	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	18200	µS/cm
			Copper	0.017	mg/L
			Iron	0.16	mg/L
			Lead	0.001	mg/L
			Manganese	0.013	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.008	mg/L
		pH	6.54	pH Unit	
		Sulfate	2170	mg/L	
Vanadium	<0.01	mg/L			
Zinc	0.055	mg/L			
SWL	67.22	m			
EPA ID No. 15 - PZH004	Quarterly	Sampled: 6/7/16	Arsenic	DRY	mg/L
			Barium		mg/L
		Obtained:	Beryllium		mg/L
			Cadmium		mg/L
		Published: 1/08/2016	Chloride		mg/L
			Chromium		mg/L
			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: 11/7/16	Arsenic	0.003	mg/L
			Barium	0.019	mg/L
		Obtained:	Beryllium	<0.001	mg/L
			Cadmium	0.0002	mg/L

		21/7/16 Published: 1/08/2016	Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	4800 <0.001 0.034 17000 0.017 0.07 0.016 0.515 <0.0001 0.048 6.73 1120 <0.01 0.061 11.33	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: 11/7/16 Obtained: 21/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.033 <0.001 0.0002 3110 <0.001 0.006 12200 0.012 0.14 0.019 0.1 <0.0001 0.007 6.66 1460 <0.01 0.019 32.27	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

JULY 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: 14/7/16	Arsenic	<0.010	mg/L
			Barium	0.02	mg/L
			Beryllium	<0.010	mg/L
		Obtained: 27/7/16	Cadmium	<0.0010	mg/L
			Chloride	8910	mg/L
			Chromium	<0.010	mg/L
		Published: 1/08/2016	Cobalt	<0.010	mg/L
			Conductivity (EC)	30900	µS/cm
			Copper	0.068	mg/L
			Iron	0.19	mg/L
			Lead	<0.010	mg/L
			Manganese	0.1	mg/L
			Mercury	<0.0001	mg/L
			Nickel	<0.010	mg/L
			pH	6.98	pH Unit
			Sulfate	3830	mg/L
			Vanadium	<0.10	mg/L
Zinc	0.077	mg/L			
SWL	5.22	m			
EPA ID No. 3 - GIP225	Monthly	Sampled: 15/7/16	Arsenic	<0.010	mg/L
			Barium	<0.010	mg/L
			Beryllium	<0.010	mg/L
		Obtained: 27/7/16	Cadmium	<0.0010	mg/L
			Chloride	5430	mg/L
			Chromium	<0.010	mg/L
		Published: 1/08/2016	Cobalt	<0.010	mg/L
			Conductivity (EC)	34400	µS/cm
			Copper	0.047	mg/L
			Iron	0.16	mg/L
			Lead	<0.010	mg/L
			Manganese	0.13	mg/L
			Mercury	<0.0001	mg/L
			Nickel	<0.010	mg/L
			pH	6.27	pH Unit
			Sulfate	16200	mg/L
			Vanadium	<0.10	mg/L
Zinc	0.155	mg/L			
SWL	11.39	m			

EPA ID No. 4 - GIP234	Quarterly	Sampled: 15/7/16 Obtained: 27/7/16 Published: 1/08/2016	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 0.0016 8100 <0.010 <0.010 26800 0.026 <0.10 <0.010 0.061 <0.0001 <0.010 6.77 2400 <0.10 0.071 24.64	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 mg/L m
EPA ID No. 5 - GIP273	Quarterly	Sampled: 19/7/16 Obtained: 27/7/16 Published: 1/08/2016	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 0.0013 10600 <0.010 <0.010 33500 0.046 1.27 0.028 0.442 <0.0001 0.013 6.53 3060 <0.10 0.634 16.76	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. 7 - GIP274	Monthly	Sampled: 15/7/16 Obtained: 27/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC)	<0.010 <0.010 <0.010 <0.0010 10200 <0.010 <0.010 32200	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	0.033 <0.10 <0.010 0.047 <0.0001 <0.010 6.71 2500 <0.10 <0.050 17.68	mg/L mg/L mg/L mg/L mg/L mg/L pH Unit mg/L mg/L mg/L mg/L m
EPA ID No. 6 - GIP276	Quarterly	Sampled: 11/7/16 Obtained: 21/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	0.005 0.018 <0.001 0.0011 8300 0.003 0.01 28600 0.06 0.45 0.08 0.163 <0.0001 0.016 6.81 2290 <0.01 0.203 20.68	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: 19/7/16 Obtained: 27/7/16 Published: 1/08/2016	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 1050 <0.001 <0.001 5370 0.018 <0.05 0.001 0.035 <0.0001 0.001 7.32 481	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	0.011	mg/L
			SWL	17.06	m
EPA ID No. 9 - GIP278	Quarterly	Sampled: 11/7/16	Arsenic	0.008	mg/L
			Barium	0.017	mg/L
		Obtained: 21/7/16	Beryllium	<0.001	mg/L
			Cadmium	0.0005	mg/L
		Published: 1/08/2016	Chloride	7950	mg/L
			Chromium	0.005	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	27700	µS/cm
			Copper	0.012	mg/L
			Iron	0.06	mg/L
			Lead	0.003	mg/L
			Manganese	0.009	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.015	mg/L
		pH	6.55	pH Unit	
		Sulfate	2190	mg/L	
Vanadium	<0.01	mg/L			
Zinc	0.021	mg/L			
SWL	25.18	m			
EPA ID No. 10 - GIP279A	Quarterly	Sampled: 11/7/16	Arsenic	0.002	mg/L
			Barium	0.026	mg/L
		Obtained: 21/7/16	Beryllium	<0.001	mg/L
			Cadmium	0.0004	mg/L
		Published: 1/08/2016	Chloride	8520	mg/L
			Chromium	0.001	mg/L
			Cobalt	0.002	mg/L
			Conductivity (EC)	29000	µS/cm
			Copper	0.033	mg/L
			Iron	<0.05	mg/L
			Lead	<0.001	mg/L
			Manganese	0.026	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.004	mg/L
		pH	6.52	pH Unit	
		Sulfate	2380	mg/L	
Vanadium	<0.01	mg/L			
Zinc	0.026	mg/L			
SWL	24.31	m			
EPA ID No. 11 - GIP280A	Quarterly	Sampled: 12/7/16	Arsenic	<0.001	mg/L
			Barium	0.036	mg/L
		Obtained: 21/7/16	Beryllium	<0.001	mg/L
			Cadmium	0.0005	mg/L
			Chloride	5050	mg/L

		Published: 1/08/2016	Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.002 18100 0.027 0.06 <0.001 0.039 <0.0001 0.005 7.32 1400 <0.01 0.221 22.09	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: 19/7/16 Obtained: 27/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.019 <0.001 0.0244 3590 <0.001 0.112 16500 0.17 <0.05 0.006 11.8 <0.0001 0.022 6.58 3830 <0.01 0.426 15.21	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: 11/7/16 Obtained: 21/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury	0.002 0.022 <0.001 0.0014 7400 0.004 0.005 26400 0.05 0.18 0.003 0.112 <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	0.007	mg/L
			pH	6.75	pH Unit
			Sulfate	2440	mg/L
			Vanadium	<0.01	mg/L
			Zinc	0.166	mg/L
			SWL	9.56	m
EPA ID No. 14 - GIP292A	Monthly	Sampled: 12/7/16	Arsenic	0.067	mg/L
			Barium	<0.010	mg/L
		Obtained: 21/7/16	Beryllium	0.073	mg/L
			Cadmium	2.79	mg/L
		Published: 1/08/2016	Chloride	2630	mg/L
			Chromium	0.092	mg/L
			Cobalt	45.5	mg/L
			Conductivity (EC)	34200	µS/cm
			Copper	288	mg/L
			Iron	87.5	mg/L
			Lead	<0.010	mg/L
			Manganese	532	mg/L
			Mercury	<0.0001	mg/L
			Nickel	15.4	mg/L
		pH	3.68	pH Unit	
		Sulfate	30400	mg/L	
Vanadium	<0.10	mg/L			
Zinc	192	mg/L			
SWL	6.15	m			
EPA ID No. 16 - GIP292AS	Monthly	Sampled: 12/7/16	Arsenic	0.411	mg/L
			Barium	<0.010	mg/L
		Obtained: 21/7/16	Beryllium	0.539	mg/L
			Cadmium	7.71	mg/L
		Published: 1/08/2016	Chloride	1500	mg/L
			Chromium	0.2	mg/L
			Cobalt	104	mg/L
			Conductivity (EC)	35900	µS/cm
			Copper	832	mg/L
			Iron	1700	mg/L
			Lead	0.011	mg/L
			Manganese	747	mg/L
			Mercury	0.0002	mg/L
			Nickel	33	mg/L
		pH	3.22	pH Unit	
		Sulfate	51300	mg/L	
Vanadium	1.5	mg/L			
Zinc	537	mg/L			
SWL	6.24	m			
EPA ID No. 17 -	Monthly	Sampled: 13/7/16	Arsenic	0.028	mg/L
			Barium	<0.010	mg/L

GIP293		Obtained: 27/7/16 Published: 1/08/2016	Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.010 2.05 4330 <0.010 24.9 42200 32.8 0.52 0.017 521 0.0004 8.79 4.29 34600 <0.10 93.6 13.65	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: 15/7/16 Obtained: 27/7/16 Published: 1/08/2016	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 3.08 2420 <0.010 35.2 49400 153 0.51 <0.010 297 0.0003 11.6 4.97 52500 <0.10 197 13.31	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: 12/7/16 Obtained: 21/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron	<0.010 0.052 <0.010 <0.0010 8710 <0.010 <0.010 31000 0.013 <0.50	mg/L mg/L mg/L mg/L mg/L mg/L µS/cm mg/L mg/L

			Lead	<0.010	mg/L
			Manganese	0.62	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.012	mg/L
			pH	6.41	pH Unit
			Sulfate	2320	mg/L
			Vanadium	<0.10	mg/L
			Zinc	<0.050	mg/L
			SWL	18.18	m
EPA ID No. 20 - GIP296	Monthly	Sampled: 14/7/16	Arsenic	<0.001	mg/L
			Barium	0.015	mg/L
		Obtained: 27/7/16	Beryllium	<0.001	mg/L
			Cadmium	<0.0001	mg/L
		Published: 1/08/2016	Chloride	4710	mg/L
			Chromium	0.002	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	23400	µS/cm
			Copper	0.01	mg/L
			Iron	<0.05	mg/L
			Lead	<0.001	mg/L
			Manganese	0.014	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.01	mg/L
		pH	6.5	pH Unit	
		Sulfate	7690	mg/L	
Vanadium	<0.01	mg/L			
Zinc	0.02	mg/L			
SWL	8.15	m			
EPA ID No. 21 - GIP297	Monthly	Sampled: 12/7/16	Arsenic	0.009	mg/L
			Barium	<0.001	mg/L
		Obtained: 21/7/16	Beryllium	<0.001	mg/L
			Cadmium	<0.0001	mg/L
		Published: 1/08/2016	Chloride	134	mg/L
			Chromium	<0.001	mg/L
			Cobalt	<0.001	mg/L
			Conductivity (EC)	983	µS/cm
			Copper	0.005	mg/L
			Iron	0.1	mg/L
			Lead	<0.001	mg/L
			Manganese	0.002	mg/L
			Mercury	<0.0001	mg/L
			Nickel	0.001	mg/L
		pH	7.94	pH Unit	
		Sulfate	183	mg/L	
Vanadium	<0.01	mg/L			
Zinc	<0.005	mg/L			

			SWL	25.49	m
EPA ID No. 22 - GIP298	Monthly	Sampled: 13/7/16 Obtained: 27/7/16 Published: 1/08/2016	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 <0.0010 9880 <0.010 <0.010 31200 0.043 0.37 <0.010 0.191 <0.0001 <0.010 6.44 2830 <0.10 0.051 21.41	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: 12/7/16 Obtained: 21/7/16 Published: 1/08/2016	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 0.0065 7500 <0.010 0.031 32500 0.097 <0.50 <0.010 0.269 <0.0001 0.016 6.61 9020 <0.10 0.184 27.31	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. 24 - GIP300	Monthly	Sampled: 15/7/16 Obtained: 27/7/16 Published:	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt	<0.010 0.017 <0.010 <0.0010 5980 <0.010 <0.010	mg/L mg/L mg/L mg/L mg/L mg/L mg/L

		1/08/2016	Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	35500 0.064 <0.10 <0.010 0.028 0.0006 <0.010 6.27 15300 <0.10 <0.050 19.75	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: 12/7/16 Obtained: 21/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH Sulfate Vanadium Zinc SWL	<0.001 0.029 <0.001 0.0014 4590 <0.001 <0.001 17700 0.038 <0.05 <0.001 0.034 <0.0001 0.005 6.97 1660 <0.01 0.103 15.31	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: 13/7/16 Obtained: 27/7/16 Published: 1/08/2016	Arsenic Barium Beryllium Cadmium Chloride Chromium Cobalt Conductivity (EC) Copper Iron Lead Manganese Mercury Nickel pH	<0.010 <0.010 <0.010 0.002 7240 <0.010 <0.010 30800 0.074 0.44 <0.010 2.08 0.0004 0.013 6.23	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	9210	mg/L
			Vanadium	<0.10	mg/L
			Zinc	0.085	mg/L
			SWL	15.86	m