Water Monitoring - Teralba Quarry - 2017 - EPA Point No.4 - Adit Overflow

	Sample No.	EPA No4 - 136 ABCDE		EPA No4 - 137 ABCDE		EPA No4 - 138 ABCDE		EPA No4 - 139 ABCDE		EPA No4 - 140 ABCDE		EPA No4 - 141 ABCDE		
	Dates	January 2017.		Febrary 2017.		March 2017.		April 2017.		May 2017.		June 2017.		
0		Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Guidelines
Sample	Units													
pH	ph Unit	6.94		7.13		7.31		7.36		7.09		7.49		**6.5 to 8.5 units**
Conductivity	µS/cm	2050		1930		1800		1840		1750		1730		**125 - 2200[b]**
TSS	mg/L	20		18		11		5		8		20		**<50**
Oil & Grease	mg/L	<5		<5		<5		<5		<5		<5		**5**
Aluminium	mg/L	0.25	<0.01	0.36	<0.01	0.31	<0.01	0.06	<0.01	0.02	<0.01	0.28	<0.01	**0.2**
Ammonia as N	mg/L	0.04		0.04		0.04		0.1		0.13		0.02		**0.01**
Antimony	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**NA**
Arsenic	mg/L	0.003	0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.001	0.001	0.002	0.002	0.002	**0.05**
Barium	mg/L	0.04	0.034	0.033	0.03	0.036	0.030	0.032	0.030	0.031	0.032	0.032	0.029	**1**
Beryllium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**NA**
Boron	mg/L	0.16	0.15	0.1	0.11	0.11	0.1	0.12	0.12	0.13	0.11	0.11	0.12	**1**
Cadmium	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	**0.005**
Calcium	mg/L	55			54		50		48		46		44	**1000[c]**
Chromium	mg/L	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.05**
Cobalt	mg/L	0.002	0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	**1000**
Copper	mg/L	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	**1**
Iron	mg/L	0.68	<0.05	0.58	<0.05	0.99	<0.05	0.25	<0.05	0.26	0.09	0.60	<0.05	**0.3**
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.05**
Lithium	mg/L	0.034	0.034	0.023	0.016	0.029	0.026	0.03	0.03	0.034	0.032	0.032	0.03	**0.075[d]**
Magnesium	mg/L	61	64	62	60	63	62	53	55	55	51	48	54	**NA**
Manganese	mg/L	0.471	0.404	0.217	0.18	0.349	0.282	0.292	0.259	0.275	0.257	0.149	0.126	**0.1**
Mercury	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	**0.001**
Molybdenum	mg/L	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.003	0.001	0.005	0.004	**0.15[c]**
Nickel	mg/L	0.009	0.006	0.009	0.008	0.009	0.007	0.005	0.006	0.005	0.005	0.007	0.005	**0.1**
Phosphorous as P	mg/L	0.02		0.01		0.01						<0.01		**NA**
Potassium	mg/L	8			8		7		7		8		8	**NA**
Selenium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**0.01**
Silica as SiO2	mg/L	16.5	15	14.8	11.8	15.9	14.2	14.7	13.8	14.2	13.4	13.2	12.1	**NA**
Silver	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**0.05**
Sulfur as S	mg/L	85			98		97		82		92		79	**NA**
Tin	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002	<0.001	**NA**
Titanium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**NA**
Vanadium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**NA**
Zinc	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**NA**

Indicates result Indicates results that varied between filtered and unfiltered samples

ND = Not Determined

NA = Not Applicable

[a] Based on ANZECC Guidelines for Fresh and Marine Water Quality - Recreational Water Quality (ANZECC 2000) except where indicated

[b] Based on ANZECC Guidelines slightly disturbed lowland river ecosystems in south-east Australia (ANZECC 2000)

[c] Based on ANZECC Guidelines for Fresh and Marine Water Quality -Livestock Water Quality (ANZECC 2000)

[d] Based on ANZECC Guidelines for Fresh and Marine Water Quality -Irrigation Water Quality (ANZECC 2000)

Water Monitoring - Teralba Quarry - 2017 - EPA Point No.4 - Adit Overflow

	Sample No.	EPA No 4 - 142 ABCDE		EPA No 4 - 143 ABCDE		EPA No4 - 144 ABCDE		EPA No4 - 145 ABCDE		EPA No4 - 146 ABCDE				
	Dates	July 2017.		August 2017.		September 2017.		October 2017.		November 2017.		December 2017.		
		Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Guidelines
Sample	Units													
pH	ph Unit	7.77		7.28		7.46		7.42		7.19		7.15		6.5 to 8.5 units
Conductivity	µS/cm	1950		1970		2520		2070		2050		2230		125 - 2200[b]
TSS	mg/L	6		15		8		16		<5		<5		<50
Oil & Grease	mg/L	<5		<5		<5		<5		<5		<5		5
Aluminium	mg/L	0.16	<0.01	0.22	<0.01	0.1	0.02	0.01	<0.01	0.06	<0.01	0.09	<0.01	0.2
Ammonia as N	mg/L	0.05		0.02		0.04		0.02		0.05		0.2		0.01
Antimony	mg/L	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA
Arsenic	mg/L	0.006	0.002	0.002	<0.001	0.001	0.001	0.001	<0.001	0.001	<0.001	0.001	0.001	0.05
Barium	mg/L	0.033	0.028	0.034	0.027	0.031	0.031	0.032	0.030	0.038	0.034	0.033	0.031	1
Beryllium	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA
Boron	mg/L	0.5	0.11	0.16	<0.05	0.16	0.14	0.48	0.15	0.15	0.14	0.16	0.18	1
Cadmium	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.005
Calcium	mg/L		41		46		56		48		56		60	1000[c]
Chromium	mg/L	<0.001	0.006	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.05
Cobalt	mg/L	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1000
Copper	mg/L	0.001	0.003	0.002	0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1
Iron	mg/L	0.32	<0.05	0.50	<0.05	0.14	<0.05	0.24	<0.05	0.23	<0.05	0.27	<0.05	0.3
Lead	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.05
Lithium	mg/L	0.038	0.032	0.041	0.006	0.035	0.029	0.035	0.033	0.037	0.036	0.041	0.04	0.075[d]
Magnesium	mg/L	56	50	63	60	73	71	60	56	62	60	66	58	NA
Manganese	mg/L	0.155	0.122	0.160	0.116	0.068	0.061	0.123	0.116	0.333	0.309	0.272	0.250	0.1
Mercury	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.001
Molybdenum	mg/L	0.007	0.003	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003	0.15[c]
Nickel	mg/L	0.008	0.008	0.011	0.006	0.005	0.006	0.007	0.004	0.007	0.007	0.006	0.006	0.1
Phosphorous as P	mg/L	0.02		<0.01		0.01		0.01		<0.01		<0.01		NA
Potassium	mg/L		8		8		10		9		8		8	NA
Selenium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01
Silicon as SiO2	mg/L	12.8	12	13.0	14.5	13.1	11.5	13.5	13.1	13.9	13.6	15.4	14.9	NA
Silver	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.05
Sulfur as S	mg/L		95		105		118		102		91		116	NA
Tin	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	NA
Titanium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Vanadium	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	NA
Zinc	mg/L	<0.005	<0.005	0.012	0.005	0.006	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NA

Water Monitoring - Teralba Quarry - 2017 - EPA Point No.5 - Overflow Dam B

	Sample No.							EPA No5 - 216 ABCDE				EPA No5 - 217 ABCDE		
	Dates	January 2017.		Febrary 2017.		March 2017.		April 2017.		May 2017.		June 2017.		
0		Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Guidelines
Sample	Units													
pH	ph Unit							7.07				6.97		6.5 to 8.5 units
Conductivity	µS/cm	No Discharge		No Discharge		No Discharge		1030		No Discharge		1020		125 - 2200[b]
TSS	mg/L							12				10		<50
Oil & Grease	mg/L							<5				<5		5
Aluminium	mg/L							0.42	<0.01			0.05	<0.01	0.2
Ammonia as N	mg/L							0.05				0.03		0.01
Antimony	mg/L							<0.001	<0.001			<0.001	<0.001	NA
Arsenic	mg/L							0.007	0.001			<0.001	<0.001	0.05
Barium	mg/L							0.057	0.027			0.028	0.026	1
Beryllium	mg/L							<0.001	<0.001			<0.001	<0.001	NA
Boron	mg/L							0.14	0.14			0.12	0.13	1
Cadmium	mg/L							<0.0001	<0.0001			<0.0001	<0.0001	0.005
Calcium	mg/L								31				32	1000[c]
Chromium	mg/L							<0.001	<0.001			<0.001	<0.001	0.05
Cobalt	mg/L							0.013	0.001			<0.001	<0.001	1000
Copper	mg/L							0.002	<0.001			<0.001	<0.001	1
Iron	mg/L							4.13	0.18			0.64	0.13	0.3
Lead	mg/L							<0.001	<0.001			<0.001	<0.001	0.05
Lithium	mg/L							0.016	0.013			0.013	0.013	0.075[d]
Magnesium	mg/L							33	32			32	34	NA
Manganese	mg/L							0.463	0.231			0.156	0.153	0.1
Mercury	mg/L							<0.0001	<0.0001			<0.0001	<0.0001	0.001
Molybdenum	mg/L							0.004	0.001			0.002	0.001	0.15[c]
Nickel	mg/L							0.011	0.004			0.003	0.002	0.1
Phosphorous as P	mg/L											0.01		NA
Potassium	mg/L								5				6	NA
Selenium	mg/L							<0.01	<0.01			<0.01	<0.01	0.01
Silica as SiO2	mg/L							25.3	22.5			21.8	21.8	NA
Silver	mg/L							<0.001	<0.001			<0.001	<0.001	0.05
Sulfur as S	mg/L								46				49	NA
Tin	mg/L							<0.001	<0.001			<0.001	<0.001	NA
Titanium	mg/L							<0.01	<0.01			<0.01	<0.01	NA
Vanadium	mg/L							<0.01	<0.01			<0.01	<0.01	NA
Zinc	mg/L							<0.005	<0.005			<0.005	<0.005	NA

Indicates results that varied between filtered and unfiltered samples

ND = Not Determined

NA = Not Applicable

[a] Based on ANZECC Guidelines for Fresh and Marine Water Quality - Recreational Water Quality (ANZECC 2000) except where indicated

[b] Based on ANZECC Guidelines slightly disturbed lowland river ecosystems in south-east Australia (ANZECC 2000)

[c] Based on ANZECC Guidelines for Fresh and Marine Water Quality -Livestock Water Quality (ANZECC 2000)

[d] Based on ANZECC Guidelines for Fresh and Marine Water Quality -Irrigation Water Quality (ANZECC 2000)

Water Monitoring - Teralba Quarry - 2017 - EPA Point No.5 - Overflow Dam B

	Sample No.													
	Dates	July 2017.		August 2017.		September 2017.		October 2017.		November 2017.		December 2017.		
0		Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Guidelines
Sample	Units													
pH	ph Unit	NO DISCHARGE		NO DISCHARGE		NO DISCHARGE		NO DISCHARGE		NO DISCHARGE		NO DISCHARGE		6.5 to 8.5 units
Conductivity	µS/cm													125 - 2200[b]
TSS	mg/L													<50
Oil & Grease	mg/L													5
Aluminium	mg/L													0.2
Ammonia as N	mg/L													0.01
Antimony	mg/L													NA
Arsenic	mg/L													0.05
Barium	mg/L													1
Beryllium	mg/L													NA
Boron	mg/L													1
Cadmium	mg/L													0.005
Calcium	mg/L													1000[c]
Chromium	mg/L													0.05
Cobalt	mg/L													1000
Copper	mg/L													1
Iron	mg/L													0.3
Lead	mg/L													0.05
Lithium	mg/L													0.075[d]
Magnesium	mg/L													NA
Manganese	mg/L													0.1
Mercury	mg/L													0.001
Molybdenum	mg/L													0.15[c]
Nickel	mg/L													0.1
Phosphorous as P	mg/L													NA
Potassium	mg/L													NA
Selenium	mg/L													0.01
Silica as SiO2	mg/L													NA
Silver	mg/L													0.05
Sulfur as S	mg/L													NA
Tin	mg/L													NA
Titanium	mg/L													NA
Vanadium	mg/L													NA
Zinc	mg/L													NA

Indicates results that varied between filtered and unfiltered samples

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[d] Based on ANZECC Guidelines for Fresh and Marine Water Quality -Irrigation Water Quality (ANZECC 2000)

Date	Metromix Sample No.	pH	Suspended Solids (mg/L)	Comments
Jan-17	No Water Discharge at EPA Point 6			
Feb-17	No Water Discharge at EPA Point 6			
Mar-17	No Water Discharge at EPA Point 6			
Apr-17	No Water Discharge at EPA Point 6			
May-17	No Water Discharge at EPA Point 6			
Jun-17	No Water Discharge at EPA Point 6			
Jul-17	No Water Discharge at EPA Point 6			
Aug-17	No Water Discharge at EPA Point 6			
Sep-17	No Water Discharge at EPA Point 6			
Oct-17	No Water Discharge at EPA Point 6			
Nov-17	No Water Discharge at EPA Point 6			
Dec-17	No Water Discharge at EPA Point 6			

Date	Metromix Sample No.	pH	Suspended Solids (mg/L)	Comments
Jan-17	No Water Discharge at EPA Point 7			
Feb-17	No Water Discharge at EPA Point 7			
Mar-17	No Water Discharge at EPA Point 7			
Apr-17	No Water Discharge at EPA Point 7			
May-17	No Water Discharge at EPA Point 7			
Jun-17	No Water Discharge at EPA Point 7			
Jul-17	No Water Discharge at EPA Point 7			
Aug-17	No Water Discharge at EPA Point 7			
Sep-17	No Water Discharge at EPA Point 7			
Oct-17	No Water Discharge at EPA Point 7			
Nov-17	No Water Discharge at EPA Point 7			
Dec-17	No Water Discharge at EPA Point 7			