

**Water Monitoring - Teralba Quarry - 2016 - EPA Point No.4 - Adit Overflow**

Sample No.	123A January 2016.		124A February 2016.		125A March 2016.		127A April 2016.		128ABCDE May 2016.		129ABCDE June 2016.		Guidelines
	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	
0													
Sample	Units												
pH	6.92		6.84		8.16		8.09		8.04		8.13		6.5 to 8.5 units
Conductivity	1710		1790		1880		1760		1900		1880		125 - 2200 <sup>b</sup>
TSS	12		35		<5		<5		<5		7		<50
Oil & Grease	<5		<5		<5		<5		<5		<5		5
Aluminium	0.42	<0.01	1.28	<0.01	0.06	<0.01	0.05	0.04	0.01	<0.01	4.88	<0.01	0.2
Ammonia as N	<0.01		0.04		0.07		0.07		0.06		0.04		0.01
Antimony	<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
Arsenic	0.002	<0.001	0.004	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	NA
Barium	0.031	0.026	0.034	0.034	0.041	0.041	0.048	0.045	0.051	0.046	0.157	0.038	1
Beryllium	<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	0.18	0.2	0.22	0.15	0.17	0.17	0.22	0.17	0.16	0.14	0.19	0.17	1
Cadmium	<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	44		42		48		53		52		47		1000 <sup>c</sup>
Chromium	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006	<0.001	0.05
Cobalt	<0.001	<0.001	0.004	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1000
Copper	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.047	<0.001	1
Iron	0.49	<0.05	2.84	0.06	0.11	<0.05	0.11	<0.05	0.13	<0.05	0.11	<0.05	0.3
Lead	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.024	<0.001	0.05
Lithium	0.036	0.036	0.04	0.037	0.039	0.037	0.032	0.031	0.031	0.03	0.042	0.036	0.075 <sup>d</sup>
Magnesium	50	43	44	50	46	46	52	52	49	46	47	46	NA
Manganese	0.228	0.2	0.408	0.361	0.035	0.023	0.046	0.030	0.052	0.043	0.034	0.027	0.1
Mercury	<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	0.003	0.004	0.003	0.001	0.003	0.003	0.003	0.003	0.002	0.002	0.003	0.003	0.15 <sup>e</sup>
Nickel	0.004	0.003	0.01	0.007	0.004	0.003	0.002	0.003	0.003	0.002	0.032	0.002	0.1
Phosphorous as P	<0.01	<0.01	0.04	0.04	0.02	0.02	0.02	0.02	0.02	0.02	<0.01	<0.01	NA
Potassium	8		9		7		9		6		6		NA
Selenium	<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	16.4	16.4	19.2	14.4	16	16.5	18.5	18.2	18.6	18.6	70.8	14.9	NA
Silver	<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		78		72		77		70		65		68	NA
Tin	<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	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	NA
Vanadium	<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	0.006	<0.005	0.014	<0.005	0.007	0.007	0.006	0.008	0.007	0.008	0.261	<0.005	NA

Indicates result. Indicates results that varied between filtered and unfiltered samples

ND = Not Determined

NA = Not Applicable

<sup>a</sup> Based on ANZECC Guidelines for Fresh and Marine Water Quality - Recreational Water Quality (ANZECC 2000) except where indicated

<sup>b</sup> Based on ANZECC Guidelines slightly disturbed lowland river ecosystems in south-east Australia (ANZECC 2000)

<sup>c</sup> Based on ANZECC Guidelines for Fresh and Marine Water Quality -Livestock Water Quality (ANZECC 2000)

<sup>d</sup> Based on ANZECC Guidelines for Fresh and Marine Water Quality -Irrigation Water Quality (ANZECC 2000)

**Water Monitoring - Teralba Quarry - 2016 - EPA Point No.4 - Adit Overflow**

Sample No.	130ABCDE July 2016.		131ABCDE August 2016.		132 September 2016.		133 October 2016.		134ABCDE November 2016.		135ABCDE December 2016.		Guidelines
	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	
Sample pH	8.08		8.2		7.94		7.16		7.07		7.52		6.5 to 8.5 units
Conductivity	1700		2060		1890		1900		2080		2230		125 - 2200 <sup>b</sup>
TSS	6		<5		5		30		21		<5		<5
Oil & Grease	<5		<5		<5		<5		<5		<5		5
Aluminum	0.04		0.06		<0.01		<0.01		0.27		0.39		<0.01
Ammonia as N	0.12		0.02		0.02		0.02		0.02		0.05		0.01
Antimony	<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001
Arsenic	<0.001		0.002		0.002		0.002		0.002		0.002		<0.001
Barium	0.041		0.044		0.039		0.044		0.033		0.042		0.032
Beryllium	<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001
Boron	0.15		0.18		0.18		0.18		0.16		0.19		0.16
Cadmium	<0.0001		<0.0001		0.0002		<0.0001		<0.0001		<0.0001		<0.0001
Calcium	44		48		48		60		52		50		50
Chromium	0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001
Cobalt	<0.001		<0.001		<0.001		0.001		0.001		0.001		<0.001
Copper	<0.001		<0.001		<0.001		<0.001		<0.001		0.001		<0.001
Iron	0.23		0.14		<0.05		0.65		0.65		0.84		<0.05
Lead	<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001
Lithium	0.029		0.041		0.038		0.037		0.037		0.036		0.033
Magnesium	46		55		54		66		66		66		63
Manganese	0.068		0.092		0.075		0.289		0.289		0.204		0.179
Mercury	<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001		<0.0001
Molybdenum	0.002		0.003		0.002		0.003		0.003		0.003		0.002
Nickel	0.002		0.004		0.003		0.008		0.008		0.011		0.01
Phosphorous as P	<0.01		<0.01		<0.01		<0.01		<0.01		0.02		0.02
Potassium	6		8		8		9		9		9		9
Selenium	<0.01		<0.01		<0.01		<0.01		<0.01		<0.01		<0.01
Silicon as SiO2	13.9		13.7		13.4		15.4		15.4		15.6		12.7
Silver	<0.001		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001
Sulfur as S	66		80		80		88		88		114		114
Tin	0.002		<0.001		<0.001		<0.001		<0.001		<0.001		<0.001
Titanium	<0.01		<0.01		<0.01		<0.01		<0.01		<0.01		<0.01
Vanadium	<0.01		<0.01		<0.01		<0.01		<0.01		<0.01		<0.01
Zinc	0.006		<0.005		<0.005		<0.005		<0.005		0.009		<0.005



**- Water Monitoring - Teralba Quarry - 2016 - EPA Point No.5 - Overflow Dam B**

Sample No.	Sample Dates	215 January 2016.		February 2016.		March 2016.		April 2016.		May 2016.		June 2016.		Guidelines
		Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	
0	Units													
	pH	7.48												6.5 to 8.5 units
	Conductivity	940												125 - 2200 <sup>b</sup>
	TSS	<5												<50
	Oil & Grease	<5												5
	Aluminium	0.05	<0.01											0.2
	Ammonia as N	0.03												0.01
	Antimony	<0.001	<0.001											NA
	Arsenic	<0.001	<0.001											0.05
	Barium	0.037	0.035											1
	Beryllium	<0.001	<0.001											NA
	Boron	0.11	0.08											1
	Cadmium	<0.0001	<0.0001											0.005
	Calcium	33												1000 <sup>c</sup>
	Chromium	<0.001	<0.001											0.05
	Cobalt	<0.001	<0.001											1000
	Copper	0.001	0.001											1
	Iron	0.15	<0.05											0.3
	Lead	<0.001	<0.001											0.05
	Lithium	0.014	0.013											0.075 <sup>d</sup>
	Magnesium	35	35											NA
	Manganese	0.086	0.078											NA
	Mercury	<0.0001	<0.0001											0.1
	Molybdenum	0.002	0.001											0.001
	Nickel	0.004	0.004											0.15 <sup>e</sup>
	Phosphorous as P	<0.01	<0.01											0.1
	Potassium	5												NA
	Selenium	<0.01	<0.01											0.01
	Silica as SiO2	14.2	15.8											NA
	Silver	<0.001	<0.001											0.05
	Sulfur as S	44												NA
	Tin	<0.001	<0.001											NA
	Titanium	<0.01	<0.01											NA
	Vanadium	<0.01	<0.01											NA
	Zinc	<0.005	0.006											NA

Indicates results that varied between filtered and unfiltered samples

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<sup>b</sup> Based on ANZECC Guidelines slightly disturbed lowland river ecosystems in south-east Australia (ANZECC 2000)

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<sup>d</sup> Based on ANZECC Guidelines for Fresh and Marine Water Quality - Irrigation Water Quality (ANZECC 2000)

**Water Monitoring - Teralba Quarry - 2016 - EPA Point No.5 - Overflow Dam B**

Sample No.	Sample	Units	July 2016.		August 2016.		September 2016.		October 2016.		November 2016.		December 2016.		Guidelines
			Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	Total (Unfiltered)	Dissolved (Filtered)	
0	Conductivity	µS/cm	No Discharge												6.5 to 8.5 units
	pH		No Discharge												125 - 2200 <sup>b</sup>
	TSS	mg/L	No Discharge												<50
	Oil & Grease	mg/L	No Discharge												5
	Aluminium	mg/L	No Discharge												0.2
	Ammonia as N	mg/L	No Discharge												0.01
	Antimony	mg/L	No Discharge												NA
	Arsenic	mg/L	No Discharge												0.05
	Barium	mg/L	No Discharge												1
	Beryllium	mg/L	No Discharge												NA
	Boron	mg/L	No Discharge												1
	Cadmium	mg/L	No Discharge												0.005
	Calcium	mg/L	No Discharge												1000 <sup>c</sup>
	Chromium	mg/L	No Discharge												0.05
	Cobalt	mg/L	No Discharge												1000
	Copper	mg/L	No Discharge												1
	Iron	mg/L	No Discharge												0.3
	Lead	mg/L	No Discharge												0.05
	Lithium	mg/L	No Discharge												0.075 <sup>d</sup>
	Magnesium	mg/L	No Discharge												NA
	Manganese	mg/L	No Discharge												NA
	Mercury	mg/L	No Discharge												0.1
	Molybdenum	mg/L	No Discharge												0.001
	Nickel	mg/L	No Discharge												0.15 <sup>c</sup>
	Phosphorous as P	mg/L	No Discharge												0.1
	Potassium	mg/L	No Discharge												0.1
	Selenium	mg/L	No Discharge												NA
	Silica as SiO2	mg/L	No Discharge												NA
	Silver	mg/L	No Discharge												0.01
	Sulfur as S	mg/L	No Discharge												NA
	Tin	mg/L	No Discharge												0.05
	Titanium	mg/L	No Discharge												NA
	Vanadium	mg/L	No Discharge												NA
	Zinc	mg/L	No Discharge												NA

Indicates results that varied between filtered and unfiltered samples

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<sup>d</sup> 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-16	<b>No Water Discharge at EPA Point 6</b>			
Feb-16	<b>No Water Discharge at EPA Point 6</b>			
Mar-16	<b>No Water Discharge at EPA Point 6</b>			
Apr-16	<b>No Water Discharge at EPA Point 6</b>			
May-16	<b>No Water Discharge at EPA Point 6</b>			
Jun-16	<b>No Water Discharge at EPA Point 6</b>			
Jul-16	<b>No Water Discharge at EPA Point 6</b>			
Aug-16	<b>No Water Discharge at EPA Point 6</b>			
Sep-16	<b>No Water Discharge at EPA Point 6</b>			
Oct-16	<b>No Water Discharge at EPA Point 6</b>			
Nov-16	<b>No Water Discharge at EPA Point 6</b>			
Dec-16	<b>No Water Discharge at EPA Point 6</b>			

Date	Metromix Sample No.	pH	Suspended Solids (mg/L)	Comments
Jan-16	<b>No Water Discharge at EPA Point 7</b>			
Feb-16	<b>No Water Discharge at EPA Point 7</b>			
Mar-16	<b>No Water Discharge at EPA Point 7</b>			
Apr-16	<b>No Water Discharge at EPA Point 7</b>			
May-16	<b>No Water Discharge at EPA Point 7</b>			
Jun-16	<b>No Water Discharge at EPA Point 7</b>			
Jul-16	<b>No Water Discharge at EPA Point 7</b>			
Aug-16	<b>No Water Discharge at EPA Point 7</b>			
Sep-16	<b>No Water Discharge at EPA Point 7</b>			
Oct-16	<b>No Water Discharge at EPA Point 7</b>			
Nov-16	<b>No Water Discharge at EPA Point 7</b>			
Dec-16	<b>No Water Discharge at EPA Point 7</b>			