



## Eraring Power Station - EPA Licence 1429

Rocky Point Rd, Dora Creek NSW 2264

### Environmental Monitoring Data

June 2018



## Unit 1 Boiler Continuous Emission Monitoring Summary

EPA Identification no. 11 - Air emissions monitoring, Boiler 1 stack discharge to air

Unit out of service 1 -5 June 2018

	NOX			Particulates			SOX		
	ppm (7% O <sub>2</sub> )			mg/m <sup>3</sup>			ppm (7% O <sub>2</sub> )		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 June	-	-	-	-	-	-	-	-	-
2 June	-	-	-	-	-	-	-	-	-
3 June	-	-	-	-	-	-	-	-	-
4 June	-	-	-	-	-	-	-	-	-
5 June	-	-	-	-	-	-	-	-	-
6 June	124	145	106	21.8	28.6	18.6	132	160	106
7 June	131	144	113	18.1	27.5	12.4	161	182	146
8 June	133	165	116	15.4	24.5	10.6	191	210	180
9 June	137	155	114	17.2	28.3	12.9	178	194	168
10 June	139	163	120	20.2	29.6	10.7	161	172	151
11 June	129	149	108	19.8	29.3	13.1	162	176	140
12 June	121	135	111	21.5	33.6	13.0	170	176	158
13 June	123	147	110	14.0	24.9	8.7	172	190	145
14 June	124	132	113	14.8	15.6	14.1	156	172	133
15 June	130	137	124	15.4	16.8	13.1	179	207	155
16 June	124	132	105	15.7	16.8	14.7	167	202	132
17 June	127	133	107	16.4	21.6	11.2	185	218	149
18 June	146	173	103	12.8	17.8	9.4	172	194	154
19 June	149	160	118	15.7	23.0	9.6	185	217	130
20 June	149	167	112	17.8	28.9	11.9	178	214	157
21 June	143	159	122	14.0	18.7	9.8	199	216	155
22 June	146	166	131	14.8	23.0	11.7	194	202	188
23 June	154	167	136	15.1	25.1	12.0	216	236	182
24 June	149	170	128	13.5	20.4	9.9	199	218	151
25 June	150	169	137	13.7	21.1	11.0	186	203	129
26 June	136	164	125	15.6	21.0	7.8	185	203	161
27 June	128	141	115	18.1	27.5	13.8	188	203	160
28 June	129	138	118	15.8	25.9	12.1	162	177	137
29 June	136	158	121	14.5	21.2	12.8	169	183	131
30 June	120	141	109	18.2	24.0	13.3	159	167	154

## Unit 2 Boiler Continuous Emission Monitoring Summary

EPA Identification no. 12 - Air emissions monitoring, Boiler 2 stack discharge to air

	NOX			Particulates			SOX		
	ppm (7% O <sub>2</sub> )			mg/m <sup>3</sup>			ppm (7% O <sub>2</sub> )		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 June	139	153	113	19.2	20.9	16.3	205	215	189
2 June	162	187	130	20.1	23.3	18.5	221	245	182
3 June	145	159	120	18.9	23.4	17.1	199	219	182
4 June	132	145	115	16.6	20.2	13.5	213	231	197
5 June	116	133	103	16.5	20.4	14.8	209	227	178
6 June	136	152	108	15.4	19.0	14.2	210	231	179
7 June	149	175	125	15.1	18.9	13.1	220	240	197
8 June	148	180	105	15.2	18.8	13.5	218	231	206
9 June	158	179	137	15.0	21.1	13.0	201	217	188
10 June	157	170	129	15.3	20.8	13.1	174	197	160
11 June	147	167	121	15.9	18.5	13.2	171	196	149
12 June	125	144	113	17.0	20.5	13.8	193	200	179
13 June	134	153	118	15.6	18.9	12.1	194	209	176
14 June	145	168	131	16.2	18.9	14.3	196	239	161
15 June	151	166	130	15.6	20.6	12.9	213	247	178
16 June	147	160	117	15.7	19.1	13.4	205	252	165
17 June	151	172	115	16.3	20.2	14.0	229	255	208
18 June	151	170	122	14.6	17.1	13.5	202	222	175
19 June	140	156	118	14.8	18.3	13.0	206	235	186
20 June	142	153	118	14.5	19.7	12.3	200	234	183
21 June	136	153	117	15.1	17.5	12.9	211	232	178
22 June	113	130	101	17.0	19.1	15.1	206	221	188
23 June	111	119	105	17.0	19.3	14.1	227	251	180
24 June	116	122	104	16.9	18.8	15.2	215	239	186
25 June	116	129	104	17.1	18.3	14.7	188	208	152
26 June	111	117	105	17.3	19.3	15.2	182	204	160
27 June	109	125	97	17.4	19.4	16.2	195	211	181
28 June	102	108	95	16.2	17.2	14.2	193	208	173
29 June	104	114	89	16.6	18.3	14.6	181	215	156
30 June	113	125	103	17.3	20.4	15.2	173	206	160

## Unit 3 Boiler Continuous Emission Monitoring Summary

EPA Identification no. 13 - Air emissions monitoring, Boiler 3 stack discharge to air

	NOX			Particulates			SOX		
	ppm (7% O <sub>2</sub> )			mg/m <sup>3</sup>			ppm (7% O <sub>2</sub> )		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 June	167	188	113	10.0	11.2	8.1	232	254	199
2 June	129	175	104	10.3	14.8	8.2	240	263	214
3 June	181	200	125	11.0	16.8	9.5	219	259	200
4 June	168	191	118	10.9	13.6	9.5	237	244	229
5 June	159	189	125	11.4	12.9	9.1	248	260	220
6 June	177	203	137	11.9	14.3	9.8	244	263	225
7 June	160	200	112	12.0	15.5	9.1	242	255	226
8 June	174	209	112	12.4	14.7	9.5	253	269	242
9 June	155	200	115	12.4	16.0	11.0	238	251	231
10 June	158	175	126	12.5	21.7	7.9	227	244	213
11 June	136	153	115	8.2	10.0	7.5	231	267	210
12 June	130	142	118	9.0	18.5	7.2	237	268	228
13 June	140	168	119	9.3	12.7	7.4	238	262	226
14 June	159	185	129	11.9	18.7	8.9	237	267	219
15 June	167	229	121	13.8	17.2	11.1	251	281	232
16 June	184	210	118	14.5	17.8	12.3	252	278	229
17 June	187	225	140	13.1	17.5	9.0	260	297	243
18 June	191	226	118	14.2	17.7	11.3	250	268	239
19 June	186	209	123	17.8	21.0	12.0	252	261	242
20 June	185	220	116	16.2	20.5	13.5	245	264	230
21 June	176	192	123	16.3	20.1	8.1	253	264	235
22 June	186	216	110	10.6	15.7	8.8	247	263	238
23 June	179	212	127	11.4	46.7	8.8	260	272	246
24 June	169	196	125	8.4	9.8	7.2	252	259	239
25 June	181	230	138	9.1	12.4	7.6	238	259	221
26 June	183	211	134	9.6	11.4	8.3	247	262	234
27 June	161	192	115	10.4	13.2	8.7	248	260	241
28 June	173	197	123	10.2	13.7	8.0	234	250	229
29 June	169	196	127	9.8	12.2	8.6	214	257	188
30 June	169	206	120	9.4	12.9	8.0	196	218	159

## Unit 4 Boiler Continuous Emission Monitoring Summary

*EPA Identification no. 14 - Air emissions monitoring, Boiler 4 stack discharge to air.*

	NOX			Particulates			SOX		
	ppm (7% O <sub>2</sub> )			mg/m <sup>3</sup>			ppm (7% O <sub>2</sub> )		
	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly	Daily Ave	Max Hourly	Min Hourly
1 June	184	217	151	18.9	19.7	18.2	210	261	155
2 June	172	208	140	20.1	23.0	18.2	207	231	167
3 June	204	254	158	20.9	24.1	19.6	213	244	174
4 June	216	250	179	21.5	23.8	19.7	247	258	214
5 June	191	211	155	21.0	26.4	16.0	223	238	209
6 June	203	222	147	18.0	19.8	17.1	219	248	181
7 June	225	257	186	17.4	20.8	15.1	253	285	215
8 June	223	250	165	17.3	19.8	15.7	256	279	233
9 June	212	234	178	21.5	25.4	17.2	217	239	200
10 June	179	234	152	25.3	32.7	22.5	174	220	136
11 June	196	231	173	19.6	31.2	15.0	198	224	186
12 June	191	215	173	17.7	22.9	15.7	227	232	221
13 June	187	210	165	16.6	19.3	15.2	235	241	223
14 June	189	217	151	16.5	18.3	15.3	232	283	214
15 June	195	232	163	16.6	18.4	15.3	267	298	234
16 June	188	213	140	16.5	18.8	15.2	240	281	204
17 June	192	232	157	17.0	19.4	14.7	273	307	243
18 June	187	214	148	17.0	18.8	16.2	230	255	174
19 June	154	170	136	18.0	20.2	15.9	181	206	165
20 June	188	209	165	19.9	22.1	18.0	213	249	181
21 June	199	220	168	23.7	31.0	17.4	246	272	203
22 June	188	221	153	18.0	21.5	16.3	245	261	223
23 June	193	216	158	17.8	24.5	15.0	256	271	220
24 June	196	218	165	16.2	19.6	14.9	241	261	217
25 June	202	237	160	16.1	20.1	13.8	214	247	191
26 June	199	221	182	16.0	18.4	14.7	224	240	207
27 June	189	221	153	17.6	25.5	15.8	233	243	218
28 June	175	204	134	16.6	19.8	14.5	217	237	168
29 June	175	220	149	16.1	19.6	14.5	217	242	182
30 June	203	233	155	16.8	20.9	14.2	217	236	201



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## Unit 1 Boiler Emission Test Results

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*EPA Identification no. 11 - Air emissions monitoring, Boiler 1 stack discharge to air*

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.019	mg/m <sup>3</sup>	0.2	15/08/2017
Carbon Dioxide (Wet)	12.6	%	-	15/08/2017
Carbon Monoxide	14	ppm	-	15/08/2017
Chlorine	0.083	mg/m3	200	15/08/2017
Copper	0.0014	mg/m3	-	15/08/2017
Dry Gas Density	1.35	kg/m3	-	15/08/2017
Fluoride As HF - Total	8.7	mg/m3	50	15/08/2017
Hazardous Substances (Metals) - Total	0.030	mg/m3	1	15/08/2017
Hydrogen Chloride	2.6	mg/m3	100	15/08/2017
Mercury	<0.000096	mg/m3	0.2	15/08/2017
Moisture	5.3	%	-	15/08/2017
Particulates - Total	1.9	mg/m3	50	15/08/2017
Stack Gas Molecular Weight	30.3	kg/k-mole	-	15/08/2017
Temperature	107	degC	-	15/08/2017
Velocity	15	m/sec	-	15/08/2017
Volatile Organic Compounds (VOC) - Total	<0.08	ppm	-	15/08/2017
Volumetric Flow Rate (Dry At STP)	343	m3/sec	-	15/08/2017

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## Unit 2 Boiler Emission Test Results

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*EPA Identification no. 12 - Air emissions monitoring, Boiler 2 stack discharge to air*

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	<0.0002	mg/m <sup>3</sup>	0.2	27-28/02/2018
Carbon Dioxide (Wet)	12.9	%	-	27-28/02/2018
Carbon Monoxide	14	ppm	-	27-28/02/2018
Chlorine	0.033	mg/m <sup>3</sup>	200	27-28/02/2018
Copper	0.0009	mg/m <sup>3</sup>	-	27-28/02/2018
Dry Gas Density	1.4	kg/m <sup>3</sup>	-	27-28/02/2018
Fluoride As HF - Total	10.4	mg/m <sup>3</sup>	50	27-28/02/2018
Hazardous Substances (Metals) - Total	≤0.0097	mg/m <sup>3</sup>	1	27-28/02/2018
Hydrogen Chloride	9.6	mg/m <sup>3</sup>	100	27-28/02/2018
Mercury	0.00051	mg/m <sup>3</sup>	0.2	27-28/02/2018
Moisture	7.2	%	-	27-28/02/2018
Particulates - Total	3.4	mg/m <sup>3</sup>	50	27-28/02/2018
Stack Gas Molecular Weight	30.5	Kg/k-mole	-	27-28/02/2018
Temperature	122	degC	-	27-28/02/2018
Velocity	14	m/sec	-	27-28/02/2018
Volatile Organic Compounds (VOC) - Total	<0.06	ppm	-	27-28/02/2018
Volumetric Flow Rate (Dry At STP)	336	m <sup>3</sup> /sec	-	27-28/02/2018

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### Unit 3 Boiler Emission Test Results

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*EPA Identification no. 13 - Air emissions monitoring, Boiler 3 stack discharge to air*

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	<0.0002	mg/m <sup>3</sup>	0.2	29-30/05/2018
Carbon Dioxide (Wet)	13.2	%	-	29-30/05/2018
Carbon Monoxide	5.4	ppm	-	29-30/05/2018
Chlorine	<0.014	mg/m <sup>3</sup>	200	29-30/05/2018
Copper	<0.00046	mg/m <sup>3</sup>	-	29-30/05/2018
Dry Gas Density	1.36	kg/m <sup>3</sup>	-	29-30/05/2018
Fluoride As HF - Total	9.5	mg/m <sup>3</sup>	50	29-30/05/2018
Hazardous Substances (Metals) - Total	<0.011	mg/m <sup>3</sup>	1	29-30/05/2018
Hydrogen Chloride	11.5	mg/m <sup>3</sup>	100	29-30/05/2018
Mercury	<0.00033	mg/m <sup>3</sup>	0.2	29-30/05/2018
Moisture	7.2	%	-	29-30/05/2018
Particulates - Total	5.3	mg/m <sup>3</sup>	50	29-30/05/2018
Stack Gas Molecular Weight	30.5	kg/k-mole	-	29-30/05/2018
Temperature	117	degC	-	29-30/05/2018
Velocity	15.0	m/sec	-	29-30/05/2018
Volatile Organic Compounds (VOC) - Total	<0.006	ppm	-	29-30/05/2018
Volumetric Flow Rate (Dry At STP)	361	m <sup>3</sup> /sec	-	29-30/05/2018



## Unit 4 Boiler Emission Test Results

*EPA Identification no. 14 - Air emissions monitoring, Boiler 4 stack discharge to air*

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.0028	mg/m <sup>3</sup>	0.2	24-25/10/2017
Carbon Dioxide (Wet)	12.3	%	-	24-25/10/2017
Carbon Monoxide	10	ppm	-	24-25/10/2017
Chlorine	0.051	mg/m <sup>3</sup>	200	24-25/10/2017
Copper	0.00055	mg/m <sup>3</sup>	-	24-25/10/2017
Dry Gas Density	1.36	kg/m <sup>3</sup>	-	24-25/10/2017
Fluoride As HF - Total	5.8	mg/m <sup>3</sup>	50	24-25/10/2017
Hazardous Substances (Metals) - Total	0.0075	mg/m <sup>3</sup>	1	24-25/10/2017
Hydrogen Chloride	1.8	mg/m <sup>3</sup>	100	24-25/10/2017
Mercury	0.000091	mg/m <sup>3</sup>	0.2	24-25/10/2017
Moisture	5.1	%	-	24-25/10/2017
Particulates - Total	1.2	mg/m <sup>3</sup>	50	24-25/10/2017
Stack Gas Molecular Weight	30.4	kg/k-mole	-	24-25/10/2017
Temperature	121	degC	-	24-25/10/2017
Velocity	15.5	m/sec	-	24-25/10/2017
Volatile Organic Compounds (VOC) - Total	<0.07	ppm	-	24-25/10/2017
Volumetric Flow Rate (Dry At STP)	376	m <sup>3</sup> /sec	-	25-25/10/2017

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## Eraring Depositional Dust Gauges

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*EPA Identification no. 18, 25, 26 & 27 - Depositional dust monitoring within 1km  
of the coal handling operations*

	Deposited Matter		
	g/m <sup>2</sup> /month		
	Ash	Combustible	Insolubles
<b>E2</b>	2.0	0.9	2.9
<b>E4</b>	0.4	0.2	0.6
<b>E6</b>	0.4	0.6	1.0
<b>U6</b>	0.3	0.4	0.7

## Water Quality - Lake Monitoring LM10

*EPA Identification no. 4 - The waters of Lake Macquarie located midway between cooling water inlet and Hungary Point*

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
Depth/Air	17.27					
010cm	16.40	8.36	37.7	75.2	5.22	2.75
050cm	16.37	8.36	37.3	74.0	5.52	
100cm	16.33	8.41	37.4	75.9	5.74	
150cm	16.36	8.42	37.4	70.5	5.24	
200cm	16.31	8.42	37.8	76.2	5.74	
250cm	16.33	8.42	38.0	66.1	4.87	
Bottom	16.35	8.42	38.0	62.1	4.60	

## Water Quality - Lake Monitoring LM12

*EPA Identification no. 6 - The waters of Lake Macquarie located at the Eraring/Vales Point mixing zone off Fishery Point*

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
<b>Depth/Air</b>	16.1					
<b>010cm</b>	15.82	8.29	38.0	76.4	5.77	3.75
<b>050cm</b>	15.97	8.35	38.0	77.9	5.88	
<b>100cm</b>	16.06	8.39	38.2	72.5	5.47	
<b>150cm</b>	16.07	8.40	38.1	76.4	5.77	
<b>200cm</b>	16.13	8.42	38.2	78.2	5.88	
<b>250cm</b>	16.14	8.42	38.2	76.7	5.80	
<b>300cm</b>	16.16	8.43	38.2	76.8	5.78	
<b>350cm</b>	16.22	8.43	38.2	76.1	5.74	
<b>400cm</b>	16.23	8.44	38.2	75.0	5.62	
<b>450cm</b>	16.26	8.44	38.2	75.9	5.70	
<b>500cm</b>	16.29	8.44	38.2	74.8	5.61	
<b>550cm</b>	16.33	8.44	38.2	75.3	5.66	
<b>600cm</b>	16.35	8.44	38.2	75.0	5.60	
<b>650cm</b>	16.36	8.44	38.2	73.8	5.53	
<b>700cm</b>	16.37	8.44	38.2	72.8	5.46	
<b>Bottom</b>	16.38	8.44	38.3	68.0	5.07	

## Water Quality - Lake Monitoring LM4

*EPA Identification no. 7 - The northern waters of Lake Macquarie east off Lake Macquarie Yacht Club*

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
<b>Depth/Air</b>	13.59					
<b>010cm</b>	15.63	8.07	36.9	84.4	6.47	3.25
<b>050cm</b>	15.71	8.09	36.9	85.1	6.52	
<b>100cm</b>	15.76	8.15	36.9	85.7	6.56	
<b>150cm</b>	15.79	8.17	36.8	85.8	6.56	
<b>200cm</b>	15.81	8.19	36.8	86.8	6.66	
<b>250cm</b>	15.83	8.21	36.7	87.3	6.68	
<b>300cm</b>	15.82	8.24	36.8	87.1	6.66	
<b>350cm</b>	15.83	8.25	36.8	87.3	6.66	
<b>400cm</b>	15.82	8.27	36.8	86.5	6.62	
<b>450cm</b>	15.83	8.28	36.6	87.1	6.66	
<b>500cm</b>	15.84	8.28	36.8	86.9	6.65	
<b>550cm</b>	15.83	8.29	36.8	86.2	6.58	
<b>600cm</b>	15.82	8.29	36.8	84.1	6.42	
<b>650cm</b>	15.82	8.31	36.8	83.7	6.39	
<b>700cm</b>	15.83	8.31	36.9	79.7	6.09	
<b>750cm</b>	15.82	8.31	36.9	78.5	5.99	
<b>800cm</b>	15.77	8.31	36.9	77.1	5.90	
<b>850cm</b>	15.79	8.26	36.9	75.6	5.77	
<b>900cm</b>	15.74	8.30	36.9	74.6	5.72	
<b>Bottom</b>	15.71	8.30	36.9	72.4	5.54	

## Water Quality - Lake Monitoring LM7

*EPA Identification no. 5 - The waters of Lake Macquarie located off old Wangi power station inlet point in Myuna Bay*

	Temp	pH	Salinity	Dissolved Oxygen		Secchi
	degC		ppt	%	mg/L	m
<b>Depth/Air</b>	14.12					
<b>010cm</b>	18.30	8.29	38.1	83.5	6.05	2.75
<b>050cm</b>	18.52	8.32	38.0	85.5	6.18	
<b>100cm</b>	18.57	8.32	38.0	86.6	6.24	
<b>150cm</b>	18.59	8.32	38.0	87.1	6.29	
<b>200cm</b>	18.61	8.33	38.0	87.8	6.32	
<b>250cm</b>	18.59	8.34	38.0	86.5	6.22	
<b>300cm</b>	18.60	8.35	38.0	86.4	6.22	
<b>350cm</b>	18.59	8.36	38.0	86.4	6.23	
<b>400cm</b>	18.60	8.36	38.0	86.0	6.20	
<b>450cm</b>	18.36	8.36	37.9	85.1	6.16	
<b>500cm</b>	18.28	8.36	37.9	84.6	6.14	
<b>550cm</b>	18.25	8.36	37.9	84.0	6.09	
<b>Bottom</b>	18.22	8.36	38.0	82.2	5.96	



## Eraring Ash Dam Effluent Quality Monitoring

*EPA Identification no. 10 - Discharge point below siphon pond weir at Ash Dam*

<u>Name</u>		<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Cadmium	0.06	ug/L	-	07/06/2018
Copper	17.4	ug/L	-	07/06/2018
Iron	4	ug/L	-	07/06/2018
Lead	<0.1	ug/L	-	07/06/2018
Manganese	158	ug/L	-	07/06/2018
Nitrite and Nitrate as N	2370	ug/L	-	07/06/2018
Phosphorus Reactive as P - Total	355	ug/L	-	07/06/2018
Phosphorus as P - Total	391	ug/L	-	07/06/2018
Selenium	12.9	ug/L	-	07/06/2018
Suspended Solids (SS)	5000	ug/L	-	07/06/2018
Zinc	48	ug/L	-	07/06/2018
pH	7.90		-	07/06/2018

## Eraring Cooling Water Inlet Canal

*EPA Identification no. 8 - Inlet canal of the cooling water intake from Lake Macquarie*

<u>Name</u>		<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Copper	1.2	ug/L	-	07/06/2018
Iron	<5	ug/L	-	07/06/2018
Selenium	1	ug/L	-	07/06/2018
Temperature – Average	15.5	deg C	-	June 2018
Temperature – Minimum	12.2	deg C	-	June 2018
Temperature - Maximum	16.9	deg C	-	June 2018

## Eraring Cooling Water Outlet Canal

*EPA Identification no. 1 - Cooling water outlet canal to Myuna Bay*

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Copper	3.0	ug/L	5	07/06/2018
Iron	15	ug/L	300	07/06/2018
Selenium	<1	ug/L	2	07/06/2018
Temperature – Average	22.7	deg C	37.5	June 2018
Temperature – Minimum	19.2	deg C	37.5	June 2018
Temperature - Maximum	26.5	deg C	37.5	June 2018
Maximum Daily Discharge from Ash Dam	22.02	ML	150	June 2018
Monthly Discharge from Ash Dam	264.8	ML	-	June 2018

## Emergency Discharge – Toe Drain Pond

*EPA Identification no. 17 - Emergency discharge to toe drain collection pond*

<u>Name</u>	<u>Reading</u>	<u>Units</u>	<u>Licence Limit</u>	<u>Date</u>
Nitrite and Nitrate as N	226	ug/L	-	07/06/2018
Phosphorus as P – Total	68	ug/L	-	07/06/2018
pH	6.78		-	07/06/2018

## Groundwater Monitoring

### Groundwater Well – MW01

EPA Identification no. 21 – Groundwater Monitoring Well 01

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Name	Reading	Units	Date
Arsenic	0.3	ug/L	8/06/2018
Cadmium	<0.05	ug/L	8/06/2018
Calcium	2000	ug/L	8/06/2018
Chromium	<0.2	ug/L	8/06/2018
Copper	1.6	ug/L	8/06/2018
Electrical Conductivity	0.379	mS/cm	8/06/2018
Iron	270	ug/L	8/06/2018
Lead	0.2	ug/L	8/06/2018
Magnesium	4000	ug/L	8/06/2018
Manganese	102	ug/L	8/06/2018
Nickel	4.3	ug/L	8/06/2018
pH	5.67	pH	8/06/2018
Potassium	4000	ug/L	8/06/2018
Selenium	<0.2	ug/L	8/06/2018
Standing Water Level	10.17	ug/L	8/06/2018
Zinc	35	ug/L	8/06/2018

### Groundwater Well – MW02

EPA Identification no. 22 – Groundwater Monitoring Well 02

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Name	Reading	Units	Date
Arsenic	7.2	ug/L	8/06/2018
Cadmium	<0.05	ug/L	8/06/2018
Calcium	327000	ug/L	8/06/2018
Chromium	0.8	ug/L	8/06/2018
Copper	<0.5	ug/L	8/06/2018
Electrical Conductivity	15.800	mS/cm	8/06/2018
Iron	5140	ug/L	8/06/2018
Lead	<0.1	ug/L	8/06/2018
Magnesium	216000	ug/L	8/06/2018
Manganese	1090	ug/L	8/06/2018
Nickel	1.9	ug/L	8/06/2018
pH	6.46	pH	8/06/2018
Potassium	109000	ug/L	8/06/2018
Selenium	0.2	ug/L	8/06/2018
Standing Water Level	4.24	ug/L	8/06/2018
Zinc	13	ug/L	8/06/2018

## Groundwater Well – MW06

*EPA Identification no. 23 – Groundwater Monitoring Well 06*

Name	Reading	Units	Date
Arsenic	6.4	ug/L	8/06/2018
Cadmium	<0.05	ug/L	8/06/2018
Calcium	451000	ug/L	8/06/2018
Chromium	0.7	ug/L	8/06/2018
Copper	<0.5	ug/L	8/06/2018
Electrical Conductivity	21.300	mS/cm	8/06/2018
Iron	11900	ug/L	8/06/2018
Lead	<0.1	ug/L	8/06/2018
Magnesium	270000	ug/L	8/06/2018
Manganese	390	ug/L	8/06/2018
Nickel	0.8	ug/L	8/06/2018
pH	6.58	pH	8/06/2018
Potassium	124000	ug/L	8/06/2018
Selenium	0.4	ug/L	8/06/2018
Standing Water Level	1.645	ug/L	8/06/2018
Zinc	2	ug/L	8/06/2018

*EPA Identification no. 24 – Groundwater Monitoring Well D26*

Groundwater well was dry during sampling in June 2018

Name	Reading	Units	Date
Arsenic		ug/L	8/06/2018
Cadmium		ug/L	8/06/2018
Calcium		ug/L	8/06/2018
Chromium		ug/L	8/06/2018
Copper		ug/L	8/06/2018
Electrical Conductivity		mS/cm	8/06/2018
Iron		ug/L	8/06/2018
Lead		ug/L	8/06/2018
Magnesium		ug/L	8/06/2018
Manganese		ug/L	8/06/2018
Nickel		ug/L	8/06/2018
pH		pH	8/06/2018
Potassium		ug/L	8/06/2018
Selenium		ug/L	8/06/2018
Standing Water Level		ug/L	8/06/2018
Zinc		ug/L	8/06/2018