

Kooragang Island analytical reports

Soil monitoring, effluent and groundwater water reports

EPL Number: 20165

BOC LIMITED | 9 EGRET STREET, KOORAGANG NSW 2304

Soil Monitoring Data January 2020

EPL Point 8

Published: 17 February 2020 Licensee: BOC Limited Kooragang EPL no.: 20165								
EPA Point ID	Date of Sampling	Date Results Received	Pollutant	Measurement Period & Monitoring Frequency Required by EPL	Units of Measure	January 2020		
						Min Value	Mean Value	Max Value
8 - Surface	29/01/2020	14/02/2020	pH	Yearly	pH Unit	7.2	7.5	7.7
			Bray Phosphorus *	Yearly	mg/kg	4.8	6.4	7.9
			Collwell Phosphorus **	Yearly	mg/kg	14	14	14
			Fluoride	Yearly	mg/kg	<1	<1	<1
			Chloride	Yearly	mg/kg	10	25	40
			Conductivity	Yearly	µS/cm	76	88	99
			Exchangeable Calcium	Yearly	meq/100g	3.2	4.7	6.2
			Exchangeable Magnesium	Yearly	meq/100g	<0.2	0.3	0.4
			Exchangeable Potassium	Yearly	meq/100g	<0.2	0.1	0.2
			Exchangeable Sodium	Yearly	meq/100g	<0.1	<0.1	<0.2
			Cation Exchange Capacity	Yearly	meq/100g	3.2	5.0	6.8
			Moisture	Yearly	%	4.6	6.3	8.0
8 – Sub-surface	29/01/2020	14/02/2020	pH	Yearly	pH Unit	8.2	8.2	8.2
			Bray Phosphorus *	Yearly	mg/kg	3.7	3.9	4
			Collwell Phosphorus **	Yearly	mg/kg	<5	4	6
			Fluoride	Yearly	mg/kg	<1	<1	<1
			Chloride	Yearly	mg/kg	<10	23	40
			Conductivity	Yearly	µS/cm	56	69	82
			Exchangeable Calcium	Yearly	meq/100g	1.6	1.6	1.6
			Exchangeable Magnesium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Exchangeable Potassium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Exchangeable Sodium	Yearly	meq/100g	0.2	0.2	0.2
			Cation Exchange Capacity	Yearly	meq/100g	1.6	1.6	1.6
			Moisture	Yearly	%	2.1	2.6	3.1

Soil Monitoring Data January 2019

Published: 7 February 2019 Licensee: BOC Limited Kooragang EPL no.: 20165								
EPA Point ID	Date of Sampling	Date Results Received	Pollutant	Measurement Period & Monitoring Frequency Required by EPL	Units of Measure	January 2019		
						Min Value	Mean Value	Max Value
8 - Surface	10/01/2019	06/02/2019	pH	Yearly	pH Unit	7.8	7.9	7.9
			Bray Phosphorus *	Yearly	mg/kg	0.5	1.2	1.9
			Collwell Phosphorus **	Yearly	mg/kg	14	17	19
			Fluoride	Yearly	mg/kg	<40	<40	<40
			Chloride	Yearly	mg/kg	20	20	20
			Conductivity	Yearly	µS/cm	101	103	105
			Exchangeable Calcium	Yearly	meq/100g	2	2.2	2.3
			Exchangeable Magnesium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Exchangeable Potassium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Exchangeable Sodium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Cation Exchange Capacity	Yearly	meq/100g	2	2.3	2.5
			Moisture	Yearly	%	1.4	1.5	1.5
8 – Sub-surface	10/01/2019	06/02/2019	pH	Yearly	pH Unit	8.4	8.5	8.5
			Bray Phosphorus *	Yearly	mg/kg	1.1	1.2	1.3
			Collwell Phosphorus **	Yearly	mg/kg	9	9.5	10
			Fluoride	Yearly	mg/kg	<40	<40	<40
			Chloride	Yearly	mg/kg	<10	13	20
			Conductivity	Yearly	µS/cm	58	59	60
			Exchangeable Calcium	Yearly	meq/100g	1.1	1.3	1.4
			Exchangeable Magnesium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Exchangeable Potassium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Exchangeable Sodium	Yearly	meq/100g	<0.2	<0.2	<0.2
			Cation Exchange Capacity	Yearly	meq/100g	1.1	1.3	1.4
			Moisture	Yearly	%	0.5	0.6	0.7

Effluent and Groundwater Monitoring Data October 2020

Published: 14 December 2020 Licensee: BOC LIMITED EPL no.: 20165									
Qualifications related to limits Samples taken as per approved methods.									
EPA Point ID	Sampling Date(s)	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value	2020 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	8/10/2020	19/10/2020	pH	Quarterly	pH	8.39	8.39	8.62	8.96
			Electrical conductivity	Quarterly	µS/cm	2010	1890	2038	2210
			Sodium Absorption Ratio	Quarterly	-	12.2	4.6	10.1	13.3
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	64	64	143	269
			Chloride	Quarterly	mg/L	434	425	453.25	486
			Sodium	Quarterly	mg/L	314	245	304	351
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	3	2	2.25	3
			Fluoride	Quarterly	mg/L	1.5	1.3	1.88	2.5
			Nitrogen (total)	Quarterly	mg/L	5.2	3.4	4.6	5.2
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.4	1	1.3	1.4
			Sulfate	Quarterly	mg/L	207	182	222	299
			Total dissolved solids	Quarterly	mg/L	1080	1020	1183	1490
			Phosphorus	Quarterly	mg/L	0.12	0.06	0.12	0.24
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
	06/10/2020	26/11/2020	Chromium	Quarterly	mg/L	0.002	0.001	0.003	0.007
			Copper	Quarterly	mg/L	0.026	0.002	0.015	0.026
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.009	0.005	0.007	0.009
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Biocides (active component isothiazoline)	Quarterly	mg/L	<0.05	<0.05	<0.05	<0.05
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
EPL point 2 BH1	8/10/2020	19/10/2020	pH	Quarterly	pH	7.6	7.6	7.7	8
			Conductivity	Quarterly	µS/cm	648	600	658	724
			Sodium Absorption Ratio	Quarterly	-	0.38	0.38	0.42	0.46
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	266	243	290	358

			Chloride	Quarterly	mg/L	25	22	26	33
			Sodium	Quarterly	mg/L	16	16	17	17
			Nitrogen (total)	Quarterly	mg/L	5	1.7	6	14.9
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.9	1.7	5.9	14.8
			Nitrate	Quarterly	mg/L	0.06	0.01	0.1	0.12
			Sulfate	Quarterly	mg/L	36	36	52	82
			Phosphorus	Quarterly	mg/L	6.96	1.6	4.87	8.62
			Reactive Phosphorus	Quarterly	mg/L	0.04	0.02	0.04	0.06
			Total dissolved solids	Quarterly	mg/L	396	396	409	421
			Fluoride	Quarterly	mg/L	0.5	0.5	0.5	0.6
			Standing Water Level	Quarterly	m	1	1	2	2
			Arsenic	Quarterly	mg/L	0.001	0.001	0.003	0.007
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0002
			Chromium	Quarterly	mg/L	0.001	0.001	0.0017	0.003
			Copper	Quarterly	mg/L	0.001	0.001	0.004	0.007
			Nickel	Quarterly	mg/L	0.001	0.001	0.0017	0.003
			Lead	Quarterly	mg/L	0.002	0.001	0.0047	0.011
			Zinc	Quarterly	mg/L	0.038	0.006	0.05	0.106
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 3 BH2	8/10/2020	19/10/2020	pH	Quarterly	pH	7.47	7.38	7.53	7.65
			Conductivity	Quarterly	µS/cm	531	446	577	679
			Sodium Absorption Ratio	Quarterly	-	0.29	0.29	0.4	0.75
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	242	192	241	268
			Chloride	Quarterly	mg/L	15	15	22	34
			Sodium	Quarterly	mg/L	11	11	16	28
			Nitrogen (total)	Quarterly	mg/L	4.5	2.6	10.8	24.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.4	2.5	10.7	24.5
			Nitrate	Quarterly	mg/L	0.13	0.03	0.1	0.13
			Sulfate	Quarterly	mg/L	27	24	37	61
			Phosphorus	Quarterly	mg/L	2.19	0.9	3.3	5.39
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.01	0.01
			Total dissolved solids	Quarterly	mg/L	314	264	324	369
			Fluoride	Quarterly	mg/L	0.8	0.5	0.7	0.8
			Standing Water Level	Quarterly	m	1	1	1.75	3
			Arsenic	Quarterly	mg/L	0.004	0.001	0.002	0.004
			Cadmium	Quarterly	mg/L	0.0002	0.0001	0.0001	0.0002
			Chromium	Quarterly	mg/L	0.002	0.001	0.0013	0.002
			Copper	Quarterly	mg/L	0.003	0.001	0.0025	0.005
			Nickel	Quarterly	mg/L	0.005	0.001	0.002	0.005
			Lead	Quarterly	mg/L	0.014	0.001	0.0043	0.014
			Zinc	Quarterly	mg/L	0.122	0.005	0.0475	0.122
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
	8/10/2020	19/10/2020	pH	Quarterly	pH	7.68	7.68	7.82	8.04

EPL point 4 BH3			Conductivity	Quarterly	µS/cm	504	440	497.25	564
			Sodium Absorption Ratio	Quarterly	-	0.37	0.37	0.53	0.66
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	203	182	212	234
			Chloride	Quarterly	mg/L	19	14	17	19
			Sodium	Quarterly	mg/L	13	13	17	22
			Nitrogen (total)	Quarterly	mg/L	2	1.1	2	2.6
			Total Kjeldahl Nitrogen	Quarterly	mg/L	0.7	0.7	1.6	2.5
			Nitrate	Quarterly	mg/L	1.3	0.06	0.42	1.3
			Sulfate	Quarterly	mg/L	31	24	30	38
			Phosphorus	Quarterly	mg/L	0.67	0.67	3	6.76
			Reactive Phosphorus	Quarterly	mg/L	0.11	0.06	0.14	0.27
			Total dissolved solids	Quarterly	mg/L	302	221	280	310
			Fluoride	Quarterly	mg/L	0.6	0.5	0.58	0.6
			Standing Water Level	Quarterly	m	1	0.5	1.88	4
			Arsenic	Quarterly	mg/L	0.003	0.002	0.003	0.004
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.002	0.001	0.002	0.004
			Nickel	Quarterly	mg/L	0.002	0.001	0.001	0.002
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.0031	0.005	0.017	0.0031
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 5 BH4	8/10/2020	19/10/2020	pH	Quarterly	pH	7.51	7.27	7.45	7.53
			Conductivity	Quarterly	µS/cm	1290	1290	1425	1550
			Sodium Absorption Ratio	Quarterly	-	2.38	2.38	3.21	3.63
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	272	263	312	446
			Chloride	Quarterly	mg/L	180	180	243	295
			Sodium	Quarterly	mg/L	106	106	143	162
			Nitrogen (total)	Quarterly	mg/L	2	2	18.2	64.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.9	1.9	18.1	64.2
			Nitrate	Quarterly	mg/L	0.1	0.01	0.043	0.1
			Sulfate	Quarterly	mg/L	133	133	165	192
			Phosphorus	Quarterly	mg/L	5.04	1.08	95.11	362
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.02	0.05
			Total dissolved solids	Quarterly	mg/L	680	680	825	891
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.9
			Standing Water Level	Quarterly	m	1	1	1.875	3
			Arsenic	Quarterly	mg/L	0.002	0.001	0.003	0.009
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.002

			Copper	Quarterly	mg/L	0.001	0.001	0.003	0.007
			Nickel	Quarterly	mg/L	0.001	0.001	0.00175	0.004
			Lead	Quarterly	mg/L	0.001	0.001	0.003	0.01
			Zinc	Quarterly	mg/L	0.021	0.005	0.107	0.308
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 6 BH5	8/10/2020	19/10/2020	pH	Quarterly	pH	7.88	7.78	7.82	7.88
			Conductivity	Quarterly	µS/cm	654	654	780	990
			Sodium Absorption Ratio	Quarterly	-	1.14	0.86	1.08	1.27
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	216	216	268	307
			Chloride	Quarterly	mg/L	57	52	71	116
			Sodium	Quarterly	mg/L	46	34	43.25	56
			Nitrogen (total)	Quarterly	mg/L	1.5	0.9	1.68	2.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.3	0.7	1.5	2.8
			Nitrate	Quarterly	mg/L	0.16	0.04	0.17	0.32
			Sulfate	Quarterly	mg/L	27	27	42	62
			Phosphorus	Quarterly	mg/L	0.96	0.37	1.028	1.56
			Reactive Phosphorus	Quarterly	mg/L	0.11	0.05	421.25	0.15
			Total dissolved solids	Quarterly	mg/L	364	364	0.7	496
			Fluoride	Quarterly	mg/L	0.8	0.6	2.18	0.8
			Standing Water Level	Quarterly	m	1	1	0.0028	3
			Arsenic	Quarterly	mg/L	0.003	0.002	0.0001	0.004
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.00125	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.0015	0.002
			Copper	Quarterly	mg/L	0.001	0.001	0.0015	0.003
			Nickel	Quarterly	mg/L	0.003	0.001	0.0015	0.003
			Lead	Quarterly	mg/L	0.002	0.001	0.00125	0.002
			Zinc	Quarterly	mg/L	0.062	0.005	0.0275	0.062
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 7 BH6	8/10/2020	19/10/2020	pH	Quarterly	pH	8.1	7.53	7.95	8.12
			Conductivity	Quarterly	µS/cm	688	685	741.75	843
			Sodium Absorption Ratio	Quarterly	-	0.55	0.55	0.82	0.99
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	297	287	303.75	321
			Chloride	Quarterly	mg/L	33	33	55.75	79
			Sodium	Quarterly	mg/L	21	21	32.25	41
			Nitrogen (total)	Quarterly	mg/L	1.9	1.4	2.23	3.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.8	0.9	2	3.2
			Nitrate	Quarterly	mg/L	0.11	0.11	0.21	0.44
			Sulfate	Quarterly	mg/L	24	1	17.25	24
			Phosphorus	Quarterly	mg/L	2.13	0.95	2.21	4.32
			Reactive Phosphorus	Quarterly	mg/L	0.55	0.35	0.45	0.55
			Total dissolved solids	Quarterly	mg/L	388	367	421.25	478

			Fluoride	Quarterly	mg/L	0.9	0.9	0.93	1
			Standing Water Level	Quarterly	m	1	0.	0.93	3
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.001	0.001	0.0015	0.003
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.005	0.005	0.0098	0.02
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001

Effluent and Groundwater Monitoring Data July 2020

Published: 1 October 2020 Licensee: BOC LIMITED EPL no.: 20165									
Qualifications related to limits Samples taken as per approved methods.									
EPA Point ID	Sampling Date(s)	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value	2020 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	21/07/2020	28/07/2020	pH	Quarterly	pH	8.49	8.49	8.7	8.96
			Electrical conductivity	Quarterly	µS/cm	2210	1890	2046.7	2210
			Sodium Absorption Ratio	Quarterly	-	4.6	4.6	9.4	13.3
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	269	106	169	269
			Chloride	Quarterly	mg/L	468	425	459.7	486
			Sodium	Quarterly	mg/L	245	245	301	351
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	2	2	2	2
			Fluoride	Quarterly	mg/L	2.2	1.3	2	2.5
			Nitrogen (total)	Quarterly	mg/L	4.7	3.4	4.4	5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.4	1	1.2	1.4
			Sulfate	Quarterly	mg/L	299	182	226.3	299
			Total dissolved solids	Quarterly	mg/L	1,490	1,020	1,216.7	1,490
	6/7/2020	17/8/2020	Phosphorus	Quarterly	mg/L	0.24	0.06	0.12	0.24
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.0036	0.007
			Copper	Quarterly	mg/L	0.016	0.002	0.011	0.016
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.005	0.005	0.006	0.008
			Mercury	Quarterly	mg/L	0.0001	0.001	0.0001	0.0001
			Biocides (active component isothiazoline)	Quarterly	mg/L	<0.05	<0.05	<0.050	<0.050
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
EPL point 2 BH1	21/07/2020	28/07/2020	pH	Quarterly	pH	7.62	7.62	7.8	8
			Conductivity	Quarterly	µS/cm	659	600	661	724
			Sodium Absorption Ratio	Quarterly	-	0.43	0.39	0.43	0.46

			Total Alkalinity as calcium carbonate	Quarterly	mg/L	292	243	298	358
			Chloride	Quarterly	mg/L	33	22	26	33
			Sodium	Quarterly	mg/L	17	17	17	17
			Nitrogen (total)	Quarterly	mg/L	2.2	1.7	6.3	14.9
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2.2	1.7	6.2	14.8
			Nitrate	Quarterly	mg/L	0.02	0.01	0.1	0.12
			Sulfate	Quarterly	mg/L	46	42	57	82
			Phosphorus	Quarterly	mg/L	2.28	1.6	4.17	8.62
			Reactive Phosphorus	Quarterly	mg/L	0.02	0.02	0.04	0.06
			Total dissolved solids	Quarterly	mg/L	396	396	413	421
			Fluoride	Quarterly	mg/L	0.5	0.5	0.5	0.6
			Standing Water Level	Quarterly	m	1	1	2	2
			Arsenic	Quarterly	mg/L	0.001	0.001	0.004	0.007
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0002	0.0002
			Chromium	Quarterly	mg/L	0.001	0.001	0.004	0.007
			Copper	Quarterly	mg/L	0.001	0.001	0.004	0.007
			Nickel	Quarterly	mg/L	0.001	0.001	0.002	0.003
			Lead	Quarterly	mg/L	0.001	0.001	0.006	0.011
			Zinc	Quarterly	mg/L	0.005	0.006	0.0560	0.106
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 3 BH2	21/07/2020	28/07/2020	pH	Quarterly	pH	7.65	7.38	7.55	7.65
			Conductivity	Quarterly	µS/cm	446	446	592	679
			Sodium Absorption Ratio	Quarterly	-	0.37	0.36	0.5	0.75
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	192	192	241	268
			Chloride	Quarterly	mg/L	22	18	25	34
			Sodium	Quarterly	mg/L	11	11	18	28
			Nitrogen (total)	Quarterly	mg/L	2.6	2.6	12.8	24.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2.5	2.5	12.8	24.5
			Nitrate	Quarterly	mg/L	0.1	0.3	0.08	0.12
			Sulfate	Quarterly	mg/L	24	24	40	61
			Phosphorus	Quarterly	mg/L	0.9	0.9	3.66	5.39
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.01	0.01
			Total dissolved solids	Quarterly	mg/L	264	264	327	369
			Fluoride	Quarterly	mg/L	0.8	0.5	0.7	0.8
			Standing Water Level	Quarterly	m	1	1	2	3
			Arsenic	Quarterly	mg/L	0.001	0.001	0.0013	0.002
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.001	0.001	0.0023	0.005
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001

			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.005	0.005	0.023	0.043
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 4 BH3	21/07/2020	28/07/2020	pH	Quarterly	pH	7.78	7.77	7.86	8.04
			Conductivity	Quarterly	µS/cm	481	440	495	564
			Sodium Absorption Ratio	Quarterly	-	0.46	0.46	0.58	0.66
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	230	182	215	234
			Chloride	Quarterly	mg/L	17	14	16	18
			Sodium	Quarterly	mg/L	14	14	19	22
			Nitrogen (total)	Quarterly	mg/L	2.3	1.1	2.0	2.6
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2.1	1	1.9	2.5
			Nitrate	Quarterly	mg/L	0.19	0.06	0.12	0.19
			Sulfate	Quarterly	mg/L	28	24	30	38
			Phosphorus	Quarterly	mg/L	2.36	1.35	3	6.76
			Reactive Phosphorus	Quarterly	mg/L	0.06	0.06	0.15	0.27
			Total dissolved solids	Quarterly	mg/L	287	221	273	310
			Fluoride	Quarterly	mg/L	0.6	0.5	0.57	0.6
			Standing Water Level	Quarterly	m	0.5	0.5	2.17	4
			Arsenic	Quarterly	mg/L	0.002	0.002	0.003	0.004
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.001	0.001	0.002	0.004
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.005	0.005	0.012	0.027
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 5 BH4	21/07/2020	28/07/2020	pH	Quarterly	pH	7.5	7.27	7.43	7.53
			Conductivity	Quarterly	µS/cm	1,410	1,410	1,470	1,550
			Sodium Absorption Ratio	Quarterly	-	3.5	3.34	3.49	3.63
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	268	263	326	446
			Chloride	Quarterly	mg/L	272	224	264	295
			Sodium	Quarterly	mg/L	146	146	156	162
			Nitrogen (total)	Quarterly	mg/L	4	2.4	23.6	64.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	3.9	2.4	23.5	64.2
			Nitrate	Quarterly	mg/L	0.01	0.01	0.023	0.05
			Sulfate	Quarterly	mg/L	166	166	176	192
			Phosphorus	Quarterly	mg/L	12.3	1.08	125	362
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.23	0.05
			Total dissolved solids	Quarterly	mg/L	891	862	873	891
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.9

			Standing Water Level	Quarterly	m	1.5	1.5	2.2	3
			Arsenic	Quarterly	mg/L	0.001	0.001	0.004	0.009
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.002
			Copper	Quarterly	mg/L	0.001	0.001	0.003	0.007
			Nickel	Quarterly	mg/L	0.001	0.001	0.002	0.004
			Lead	Quarterly	mg/L	0.001	0.001	0.004	0.01
			Zinc	Quarterly	mg/L	0.005	0.005	0.135	0.308
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 6 BH5	21/07/2020	28/07/2020	pH	Quarterly	pH	7.78	7.78	7.8	7.8
			Conductivity	Quarterly	µS/cm	709	709	822	990
			Sodium Absorption Ratio	Quarterly	-	1.04	0.86	1.06	1.27
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	250	250	285	307
			Chloride	Quarterly	mg/L	57	52	75	116
			Sodium	Quarterly	mg/L	37	34	42.3	56
			Nitrogen (total)	Quarterly	mg/L	1.5	0.9	1.7	2.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.2	0.7	1.6	2.8
			Nitrate	Quarterly	mg/L	0.32	0.04	0.17	0.32
			Sulfate	Quarterly	mg/L	62	35	47	62
			Phosphorus	Quarterly	mg/L	1.22	0.37	1.05	1.56
			Reactive Phosphorus	Quarterly	mg/L	0.05	0.05	0.11	0.15
			Total dissolved solids	Quarterly	mg/L	420	405	440	496
			Fluoride	Quarterly	mg/L	0.6	0.6	0.67	0.8
			Standing Water Level	Quarterly	m	1.7	1.7	2.6	3
			Arsenic	Quarterly	mg/L	0.002	0.002	0.003	0.004
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.002
			Copper	Quarterly	mg/L	0.001	0.001	0.002	0.003
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.005	0.005	0.016	0.037
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 7 BH6	21/07/2020	28/07/2020	pH	Quarterly	pH	8.06	7.53	7.9	8.12
			Conductivity	Quarterly	µS/cm	751	685	760	843
			Sodium Absorption Ratio	Quarterly	-	0.89	0.84	0.91	0.99
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	287	287	306	321
			Chloride	Quarterly	mg/L	72	39	63	79
			Sodium	Quarterly	mg/L	33	33	36	41
			Nitrogen (total)	Quarterly	mg/L	2.3	1.4	2.3	3.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2.1	0.9	2.1	3.2

			Nitrate	Quarterly	mg/L	0.18	0.11	0.24	0.44
			Sulfate	Quarterly	mg/L	21	1	15	23
			Phosphorus	Quarterly	mg/L	4.32	0.95	2.24	4.32
			Reactive Phosphorus	Quarterly	mg/L	0.41	0.35	0.42	0.5
			Total dissolved solids	Quarterly	mg/L	452	367	432	478
			Fluoride	Quarterly	mg/L	1	0.9	0.9	1
			Standing Water Level	Quarterly	m	0.7	0.7	2.23	3
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.001	0.001	0.0017	0.003
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.01	0.001
			Zinc	Quarterly	mg/L	0.005	0.005	0.01	0.02
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001

Effluent and Groundwater Monitoring Data April 2020

Published: 18 June 2020 Licensee: BOC LIMITED EPL no.: 20165									
Qualifications related to limits Samples taken as per approved methods.									
EPA Point ID	Sampling Date(s)	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value	2020 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	29/04/2020	06/05/2020	pH	Quarterly	pH	8.96	8.65	8.81	8.96
			Electrical conductivity	Quarterly	µS/cm	2,040	1890	1965	2040
			Sodium Absorption Ratio	Quarterly	-	13.3	10.2	11.8	13.3
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	132	106	119	132
			Chloride	Quarterly	mg/L	486	425	455.5	486
			Sodium	Quarterly	mg/L	351	307	329	351
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	<2	<2	<2	<2
			Fluoride	Quarterly	mg/L	2.5	1.3	1.9	2.5
			Nitrogen (total)	Quarterly	mg/L	5	3.4	4.2	5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.3	1.0	1.2	1.3
			Sulfate	Quarterly	mg/L	198	182	190	198
			Total dissolved solids	Quarterly	mg/L	1,140	1020	1080	1140
			Phosphorus	Quarterly	mg/L	0.06	0.06	0.06	0.06
			Arsenic	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
	06/04/2020	15/06/2020	Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.007	0.003	0.003	0.007
	06/04/2020	15/06/2020	Copper	Quarterly	mg/L	0.015	0.002	0.009	0.015
			Nickel	Quarterly	mg/L	0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.008	0.005	0.007	0.008
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Biocides (active component isothiazoline)	Quarterly	mg/L	<0.05	<0.05	<0.050	<0.050
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
EPL point 2 BH1	29/04/2020	06/05/2020	pH	Quarterly	pH	7.71	7.71	7.8	8.0
			Conductivity	Quarterly	µS/cm	724	600	662	724
			Sodium Absorption Ratio	Quarterly	-	0.39	0.39	0.43	0.46

			Total Alkalinity as calcium carbonate	Quarterly	mg/L	358	243	301	358
			Chloride	Quarterly	mg/L	24	22	23	24
			Sodium	Quarterly	mg/L	17	17	17	17
			Nitrogen (total)	Quarterly	mg/L	1.7	1.7	8.3	14.9
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.7	1.7	8.3	14.8
			Nitrate	Quarterly	mg/L	0.01	0.01	0.1	0.12
			Sulfate	Quarterly	mg/L	82	42	62	82
			Phosphorus	Quarterly	mg/L	1.6	1.6	5.11	8.62
			Reactive Phosphorus	Quarterly	mg/L	0.03	0.03	0.05	0.06
			Total dissolved solids	Quarterly	mg/L	421	421	421	421
			Fluoride	Quarterly	mg/L	0.5	0.5	0.6	0.6
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.007	0.001	0.0040	0.007
			Cadmium	Quarterly	mg/L	0.0002	0.0001	0.0002	0.0002
			Chromium	Quarterly	mg/L	0.003	0.001	0.0020	0.003
			Copper	Quarterly	mg/L	0.007	0.001	0.0040	0.007
			Nickel	Quarterly	mg/L	0.003	0.001	0.0020	0.003
			Lead	Quarterly	mg/L	0.011	0.001	0.0060	0.011
			Zinc	Quarterly	mg/L	0.106	0.006	0.0560	0.106
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 3 BH2	29/04/2020	06/05/2020	pH	Quarterly	pH	7.62	7.38	7.50	7.62
			Conductivity	Quarterly	µS/cm	652	652	666	679
			Sodium Absorption Ratio	Quarterly	-	0.75	0.36	0.6	0.75
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	263	263	266	268
			Chloride	Quarterly	mg/L	34	18	26	34
			Sodium	Quarterly	mg/L	28	15	22	28
			Nitrogen (total)	Quarterly	mg/L	24.5	11.4	18.0	24.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	24.5	11.3	17.9	24.5
			Nitrate	Quarterly	mg/L	0.03	0.03	0.08	0.12
			Sulfate	Quarterly	mg/L	34	34	48	61
			Phosphorus	Quarterly	mg/L	4.7	4.7	5.05	5.39
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.010	0.01
			Total dissolved solids	Quarterly	mg/L	369	347	358	369
			Fluoride	Quarterly	mg/L	0.5	0.5	0.7	0.8
			Standing Water Level	Quarterly	m	2	2	2.5	3
			Arsenic	Quarterly	mg/L	0.002	0.001	0.0015	0.002
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.0010	0.001
			Copper	Quarterly	mg/L	0.005	0.001	0.0030	0.005
			Nickel	Quarterly	mg/L	0.001	0.001	0.0010	0.001

			Lead	Quarterly	mg/L	0.001	0.001	0.0010	0.001
			Zinc	Quarterly	mg/L	0.043	0.020	0.0315	0.043
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 4 BH3	29/04/2020	06/05/2020	pH	Quarterly	pH	7.77	7.77	7.905	8.04
			Conductivity	Quarterly	µS/cm	564	440	502	564
			Sodium Absorption Ratio	Quarterly	-	0.62	0.62	0.64	0.66
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	234	182	208	234
			Chloride	Quarterly	mg/L	18	14	16	18
			Sodium	Quarterly	mg/L	22	20	21	22
			Nitrogen (total)	Quarterly	mg/L	1.1	1.1	1.9	2.6
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1	1	1.8	2.5
			Nitrate	Quarterly	mg/L	0.06	0.06	0.09	0.11
			Sulfate	Quarterly	mg/L	38	24	31	38
			Phosphorus	Quarterly	mg/L	1.35	1.35	4	6.76
			Reactive Phosphorus	Quarterly	mg/L	0.13	0.13	0.20	0.27
			Total dissolved solids	Quarterly	mg/L	310	221	266	310
			Fluoride	Quarterly	mg/L	0.5	0.5	0.55	0.6
			Standing Water Level	Quarterly	m	2	2	3	4
			Arsenic	Quarterly	mg/L	0.004	0.003	0.004	0.004
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.000	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.004	0.001	0.003	0.004
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.027	0.005	0.016	0.027
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 5 BH4	29/04/2020	06/05/2020	pH	Quarterly	pH	7.53	7.27	7.40	7.53
			Conductivity	Quarterly	µS/cm	1,550	1450	1500	1550
			Sodium Absorption Ratio	Quarterly	-	3.34	3.34	3.49	3.63
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	446	263	355	446
			Chloride	Quarterly	mg/L	295	224	260	295
			Sodium	Quarterly	mg/L	162	159	161	162
			Nitrogen (total)	Quarterly	mg/L	2.4	2.4	33.4	64.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2.4	2.4	33.3	64.2
			Nitrate	Quarterly	mg/L	0.01	0.01	0.030	0.05
			Sulfate	Quarterly	mg/L	192	170	181	192
			Phosphorus	Quarterly	mg/L	1.08	1.08	181.54	362.00
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.030	0.05
			Total dissolved solids	Quarterly	mg/L	862	862	864	866
			Fluoride	Quarterly	mg/L	0.8	0.8	0.9	0.9

			Standing Water Level	Quarterly	m	3	2	2.5	3
			Arsenic	Quarterly	mg/L	0.009	0.001	0.005	0.009
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.002	0.001	0.002	0.002
			Copper	Quarterly	mg/L	0.007	0.001	0.004	0.007
			Nickel	Quarterly	mg/L	0.004	0.001	0.003	0.004
			Lead	Quarterly	mg/L	0.01	0.001	0.006	0.01
			Zinc	Quarterly	mg/L	0.093	0.093	0.201	0.308
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 6 BH5	29/04/2020	06/05/2020	pH	Quarterly	pH	7.8	7.8	7.81	7.82
			Conductivity	Quarterly	µS/cm	766	766	878	990
			Sodium Absorption Ratio	Quarterly	-	0.86	0.86	1.07	1.27
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	297	297	302	307
			Chloride	Quarterly	mg/L	52	52	84	116
			Sodium	Quarterly	mg/L	34	34	45	56
			Nitrogen (total)	Quarterly	mg/L	0.9	0.9	1.9	2.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	0.7	0.7	1.8	2.8
			Nitrate	Quarterly	mg/L	0.16	0.04	0.10	0.16
			Sulfate	Quarterly	mg/L	44	35	40	44
			Phosphorus	Quarterly	mg/L	0.37	0.37	0.97	1.56
			Reactive Phosphorus	Quarterly	mg/L	0.12	0.12	0.14	0.15
			Total dissolved solids	Quarterly	mg/L	405	405	451	496
			Fluoride	Quarterly	mg/L	0.6	0.6	0.70	0.8
			Standing Water Level	Quarterly	m	3	3	3	3
			Arsenic	Quarterly	mg/L	0.004	0.002	0.003	0.004
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.002	0.001	0.002	0.002
			Copper	Quarterly	mg/L	0.003	0.001	0.002	0.003
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.037	0.006	0.022	0.037
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
EPL point 7 BH6	29/04/2020	06/05/2020	pH	Quarterly	pH	7.53	7.53	7.825	8.12
			Conductivity	Quarterly	µS/cm	685	685	764	843
			Sodium Absorption Ratio	Quarterly	-	0.84	0.84	0.92	0.99
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	310	310	316	321
			Chloride	Quarterly	mg/L	39	39	59	79
			Sodium	Quarterly	mg/L	34	34	38	41
			Nitrogen (total)	Quarterly	mg/L	1.4	1.4	2.4	3.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	0.9	0.9	2.1	3.2

			Nitrate	Quarterly	mg/L	0.44	0.11	0.28	0.44
			Sulfate	Quarterly	mg/L	23	1	12.00	23
			Phosphorus	Quarterly	mg/L	0.95	0.95	1.20	1.45
			Reactive Phosphorus	Quarterly	mg/L	0.5	0.35	0.43	0.5
			Total dissolved solids	Quarterly	mg/L	367	367	423	478
			Fluoride	Quarterly	mg/L	0.9	0.9	0.9	0.9
			Standing Water Level	Quarterly	m	3	3	3	3
			Arsenic	Quarterly	mg/L	0.001	0.001	0.0010	0.001
			Cadmium	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.003	0.001	0.002	0.003
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.02	0.009	0.0145	0.02
			Mercury	Quarterly	mg/L	0.0001	0.0001	0.0001	0.0001

Effluent and Groundwater Monitoring Data January 2020

Published: 18 March, 2020 Licensee: BOC LIMITED EPL no.: 20165									
Qualifications related to limits Samples taken as per approved methods.									
EPA Point ID	Sampling Date(s)	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value 29/01/2020	2020 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	29/01/2020	17/03/2020	pH	Quarterly	pH	8.65	8.65	8.65	8.65
			Electrical conductivity	Quarterly	µS/cm	1,890	1,890	1,890	1,890
			Sodium Absorption Ratio	Quarterly	-	10.2	10.2	10.2	10.2
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	106	106	106	106
			Chloride	Quarterly	mg/L	425	425	425	425
			Sodium	Quarterly	mg/L	307	307	307	307
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	<2	<2	<2	<2
			Fluoride	Quarterly	mg/L	1.3	1.3	1.3	1.3
			Nitrogen (total)	Quarterly	mg/L	3.4	3.4	3.4	3.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.0	1.0	1.0	1.0
			Sulfate	Quarterly	mg/L	182	182	182	182
			Total dissolved solids	Quarterly	mg/L	1,020	1,020	1,020	1,020
			Phosphorus	Quarterly	mg/L	0.06	0.06	0.06	0.06
			Arsenic	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.003	0.003	0.003	0.003
			Copper	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	<0.005	<0.005	<0.005	<0.005
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Biocides (active component isothiazoline)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
EPL point 2 BH1	29/01/2020	17/03/2020	pH	Quarterly	pH	7.97	7.97	7.97	7.97
			Conductivity	Quarterly	µS/cm	600	600	600	600
			Sodium Absorption Ratio	Quarterly	-	0.46	0.46	0.46	0.46

			Total Alkalinity as calcium carbonate	Quarterly	mg/L	243	243	243	243
			Chloride	Quarterly	mg/L	22	22	22	22
			Sodium	Quarterly	mg/L	17	17	17	17
			Nitrogen (total)	Quarterly	mg/L	14.9	14.9	14.9	14.9
			Total Kjeldahl Nitrogen	Quarterly	mg/L	14.8	14.8	14.8	14.8
			Nitrate	Quarterly	mg/L	0.12	0.12	0.12	0.12
			Sulfate	Quarterly	mg/L	42	42	42	42
			Phosphorus	Quarterly	mg/L	8.62	8.62	8.62	8.62
			Reactive Phosphorus	Quarterly	mg/L	0.06	0.06	0.06	0.06
			Total dissolved solids	Quarterly	mg/L	421	421	421	421
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2.0	2.0	2.0	2.0
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.006	0.006	0.006	0.006
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 4 BH3	29/01/2020	17/03/2020	pH	Quarterly	pH	7.38	7.38	7.38	7.38
			Conductivity	Quarterly	µS/cm	679	679	679	679
			Sodium Absorption Ratio	Quarterly	-	0.36	0.36	0.36	0.36
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	268	268	268	268
			Chloride	Quarterly	mg/L	18	18	18	18
			Sodium	Quarterly	mg/L	15	15	15	15
			Nitrogen (total)	Quarterly	mg/L	11.4	11.4	11.4	11.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	11.3	11.3	11.3	11.3
			Nitrate	Quarterly	mg/L	0.12	0.12	0.12	0.12
			Sulfate	Quarterly	mg/L	61	61	61	61
			Phosphorus	Quarterly	mg/L	5.39	5.39	5.39	5.39
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	347	347	347	347
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.8
			Standing Water Level	Quarterly	m	3	3	3	3
			Arsenic	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.020	0.020	0.020	0.020
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 5 BH4	29/01/2020	17/03/2020	pH	Quarterly	pH	8.04	8.04	8.04	8.04
			Conductivity	Quarterly	µS/cm	440	440	440	440
			Sodium Absorption Ratio	Quarterly	-	0.66	0.66	0.66	0.66
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	182	182	182	182
			Chloride	Quarterly	mg/L	14	14	14	14
			Sodium	Quarterly	mg/L	20	20	20	20
			Nitrogen (total)	Quarterly	mg/L	2.6	2.6	2.6	2.6
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2.5	2.5	2.5	2.5
			Nitrate	Quarterly	mg/L	0.11	0.11	0.11	0.11
			Sulfate	Quarterly	mg/L	24	24	24	24
			Phosphorus	Quarterly	mg/L	6.76	6.76	6.76	6.76
			Reactive Phosphorus	Quarterly	mg/L	0.27	0.27	0.27	0.27
			Total dissolved solids	Quarterly	mg/L	221	221	221	221
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	4	4	4	4
			Arsenic	Quarterly	mg/L	0.003	0.003	0.003	0.003
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	<0.005	<0.005	<0.005	<0.005
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	29/01/2020	17/03/2020	pH	Quarterly	pH	7.82	7.82	7.82	7.82
			Conductivity	Quarterly	µS/cm	990	990	990	990
			Sodium Absorption Ratio	Quarterly	-	1.27	1.27	1.27	1.27
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	307	307	307	307
			Chloride	Quarterly	mg/L	116	116	116	116
			Sodium	Quarterly	mg/L	56	56	56	56
			Nitrogen (total)	Quarterly	mg/L	2.8	2.8	2.8	2.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2.8	2.8	2.8	2.8
			Nitrate	Quarterly	mg/L	0.04	0.04	0.04	0.04
			Sulfate	Quarterly	mg/L	35	35	35	35

			Phosphorus	Quarterly	mg/L	1.56	1.56	1.56	1.56
			Reactive Phosphorus	Quarterly	mg/L	0.15	0.15	0.15	0.15
			Total dissolved solids	Quarterly	mg/L	496	496	496	496
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.8
			Standing Water Level	Quarterly	m	3	3	3	3
			Arsenic	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.006	0.006	0.006	0.006
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	29/01/2020	17/03/2020	pH	Quarterly	pH	8.12	8.12	8.12	8.12
			Conductivity	Quarterly	µS/cm	843	843	843	843
			Sodium Absorption Ratio	Quarterly	-	0.99	0.99	0.99	0.99
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	321	321	321	321
			Chloride	Quarterly	mg/L	79	79	79	79
			Sodium	Quarterly	mg/L	41	41	41	41
			Nitrogen (total)	Quarterly	mg/L	3.3	3.3	3.3	3.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	3.2	3.2	3.2	3.2
			Nitrate	Quarterly	mg/L	0.11	0.11	0.11	0.11
			Sulfate	Quarterly	mg/L	<1	<1	<1	<1
			Phosphorus	Quarterly	mg/L	1.45	1.45	1.45	1.45
			Reactive Phosphorus	Quarterly	mg/L	0.35	0.35	0.35	0.35
			Total dissolved solids	Quarterly	mg/L	478	478	478	478
			Fluoride	Quarterly	mg/L	0.9	0.9	0.9	0.9
			Standing Water Level	Quarterly	m	3	3	3	3
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.009	0.009	0.009	0.009
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

Effluent and Groundwater Monitoring Data October 2019

Published: 20 November 2019 Licensee: BOC LIMITED EPL no.: 20165									
Qualifications related to limits Samples taken as per approved methods.									
EPA Point ID	Sampling Date(s)	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value 22/10/2019	2019 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	22/10/2019	18/11/2019	pH	Quarterly	pH	8.44	8.21	8.52	9.14
			Electrical conductivity	Quarterly	µS/cm	2030	1660	1998	2490
			Sodium Absorption Ratio	Quarterly	-	5.75	4.16	10.3	21.4
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	142	57	121	218
			Chloride	Quarterly	mg/L	433	404	436.75	482
			Sodium	Quarterly	mg/L	246	232	286	401
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	<2	<2	<2	<2
			Fluoride	Quarterly	mg/L	0.3	0.3	1.1	2.8
			Nitrogen (total)	Quarterly	mg/L	3.4	3.2	4.375	5.9
			Total Kjeldahl Nitrogen	Quarterly	mg/L	0.8	0.8	1	1.8
			Sulfate	Quarterly	mg/L	201	112	207	318
			Total dissolved solids	Quarterly	mg/L	1,280	904	1139	1340
			Phosphorus	Quarterly	mg/L	0.08	0.06	0.13	0.21
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Zinc	Quarterly	mg/L	0.007	0.006	0.040	0.136
			Arsenic	Quarterly	mg/L	<0.001	<0.001	0.001	0.002
			Chromium	Quarterly	mg/L	0.001	<0.001	0.006	0.018
			Copper	Quarterly	mg/L	0.02	0.01	0.023	0.033
			Lead	Quarterly	mg/L	<0.001	<0.001	0.002	0.006
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Nickel	Quarterly	mg/L	<0.001	<0.001	0.001	0.002
			Biocides (active component isothiazoline)	Quarterly	mg/L	<0.05	<0.05	<0.06	<0.1
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
EPL point 2 BH1	22/10/2019	18/11/2019	pH	Quarterly	pH	7.6	7.6	7.7	7.9
			Conductivity	Quarterly	µS/cm	564	486	565	682
			Sodium Absorption Ratio	Quarterly	-	0.51	0.48	0.59	0.82

			Total Alkalinity as calcium carbonate	Quarterly	mg/L	180	180	208	226
			Chloride	Quarterly	mg/L	27	17	21	27
			Sodium	Quarterly	mg/L	20	19	22	26
			Nitrogen (total)	Quarterly	mg/L	1.9	1.9	14.0	39.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.8	1.8	13.9	39.3
			Nitrate	Quarterly	mg/L	0.06	<0.01	0.05	0.07
			Sulfate	Quarterly	mg/L	46	14	55	93
			Phosphorus	Quarterly	mg/L	3.63	2.38	7.38	17.5
			Reactive Phosphorus	Quarterly	mg/L	0.03	0.02	0.02	0.03
			Total dissolved solids	Quarterly	mg/L	367	367	772	1,550
			Fluoride	Quarterly	mg/L	0.5	0.5	0.55	0.6
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.002	<0.001	0.001	0.002
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	0.002	<0.001	0.0009	0.002
			Nickel	Quarterly	mg/L	0.002	<0.001	0.0009	0.002
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.006	<0.005	0.003	0.006
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 3 BH2	22/10/2019	18/11/2019	pH	Quarterly	pH	7.36	7.33	7.44	7.62
			Conductivity	Quarterly	µS/cm	628	511	681	879
			Sodium Absorption Ratio	Quarterly	-	0.33	0.28	8.0	31
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	234	220	245	274
			Chloride	Quarterly	mg/L	18	15	18	20
			Sodium	Quarterly	mg/L	13	13	14	15
			Nitrogen (total)	Quarterly	mg/L	1.1	1.1	6.6	14.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.1	1.1	6.4	14.8
			Nitrate	Quarterly	mg/L	0.01	0.01	0.17	0.60
			Sulfate	Quarterly	mg/L	41	24	80	137
			Phosphorus	Quarterly	mg/L	1.15	1.04	3.7	9.58
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	0.006	0.01
			Total dissolved solids	Quarterly	mg/L	395	395	505	649
			Fluoride	Quarterly	mg/L	0.9	0.8	0.9	1
			Standing Water Level	Quarterly	m	3	2	2	3
			Arsenic	Quarterly	mg/L	0.002	<0.001	0.004	0.011
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	0.0001	0.0002

			Chromium	Quarterly	mg/L	<0.001	<0.001	0.004	0.014
			Copper	Quarterly	mg/L	<0.001	<0.001	0.009	0.033
			Nickel	Quarterly	mg/L	0.002	<0.001	0.007	0.024
			Lead	Quarterly	mg/L	<0.001	<0.001	0.036	0.14
			Zinc	Quarterly	mg/L	<0.01	0.008	0.26	1.02
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 4 BH3	22/10/2019	18/11/2019	pH	Quarterly	pH	7.87	7.56	7.81	7.91
			Conductivity	Quarterly	µS/cm	422	422	512	555
			Sodium Absorption Ratio	Quarterly	-	0.87	0.73	0.88	1.00
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	133	133	168	189
			Chloride	Quarterly	mg/L	18	18	30	41
			Sodium	Quarterly	mg/L	25	25	29	36
			Nitrogen (total)	Quarterly	mg/L	0.8	0.8	4.6	11.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	0.7	0.7	4.5	11.4
			Nitrate	Quarterly	mg/L	0.07	<0.01	0.09	0.27
			Sulfate	Quarterly	mg/L	36	36	41	48
			Phosphorus	Quarterly	mg/L	2.8	2.8	10	21.5
			Reactive Phosphorus	Quarterly	mg/L	0.18	0.18	0.20	0.22
			Total dissolved solids	Quarterly	mg/L	256	256	349	471
			Fluoride	Quarterly	mg/L	0.5	0.5	0.58	0.6
			Standing Water Level	Quarterly	m	4	2	2.5	4
			Arsenic	Quarterly	mg/L	0.003	0.002	0.003	0.004
			Cadmium	Quarterly	mg/L	0.0004	<0.0001	0.0001	0.0004
			Chromium	Quarterly	mg/L	0.001	<0.001	0.0006	0.001
			Copper	Quarterly	mg/L	0.006	<0.001	0.003	0.006
			Nickel	Quarterly	mg/L	0.006	<0.001	0.002	0.006
			Lead	Quarterly	mg/L	<0.001	<0.001	0.002	0.006
			Zinc	Quarterly	mg/L	0.042	<0.005	0.13	0.49
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 5 BH4	22/10/2019	18/11/2019	pH	Quarterly	pH	7.30	7.19	7.35	7.64
			Conductivity	Quarterly	µS/cm	1,380	1,380	1,628	1,890
			Sodium Absorption Ratio	Quarterly	-	3.43	2.74	3.15	3.43
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	201	197	205	217
			Chloride	Quarterly	mg/L	207	207	276	308
			Sodium	Quarterly	mg/L	150	135	154	171
			Nitrogen (total)	Quarterly	mg/L	6.9	3.5	18.9	55
			Total Kjeldahl Nitrogen	Quarterly	mg/L	6.9	3.5	18.9	55
			Nitrate	Quarterly	mg/L	0.03	0.03	0.03	0.04
			Sulfate	Quarterly	mg/L	152	152	208	248

			Phosphorus	Quarterly	mg/L	3.28	3.28	21.4	53.9
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	0.006	0.01
			Total dissolved solids	Quarterly	mg/L	840	840	1,068	1,170
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.9
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.002	<0.001	0.003	0.005
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	0.0009	0.002
			Nickel	Quarterly	mg/L	<0.001	<0.001	0.0009	0.002
			Lead	Quarterly	mg/L	<0.001	<0.001	0.0006	0.001
			Zinc	Quarterly	mg/L	0.006	<0.005	0.015	0.048
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	22/10/2019	18/11/2019	pH	Quarterly	pH	7.81	7.64	7.77	7.93
			Conductivity	Quarterly	µS/cm	734	676	994	1,890
			Sodium Absorption Ratio	Quarterly	-	0.91	0.61	0.84	1.02
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	203	203	234	260
			Chloride	Quarterly	mg/L	67	39	52	67
			Sodium	Quarterly	mg/L	37	26	34	42
			Nitrogen (total)	Quarterly	mg/L	1.9	1.9	3.9	6.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.6	1.6	3.2	4.3
			Nitrate	Quarterly	mg/L	0.31	0.06	0.75	1.92
			Sulfate	Quarterly	mg/L	32	16	31	38
			Phosphorus	Quarterly	mg/L	3.76	2.27	3.08	3.96
			Reactive Phosphorus	Quarterly	mg/L	0.30	0.04	0.16	0.30
			Total dissolved solids	Quarterly	mg/L	434	408	433	469
			Fluoride	Quarterly	mg/L	0.8	0.6	0.7	0.8
			Standing Water Level	Quarterly	m	3	2	2.3	3
			Arsenic	Quarterly	mg/L	0.002	0.001	0.003	0.007
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	0.0002	0.0006
			Chromium	Quarterly	mg/L	<0.001	<0.001	0.004	0.016
			Copper	Quarterly	mg/L	<0.001	<0.001	0.003	0.011
			Nickel	Quarterly	mg/L	<0.001	<0.001	0.003	0.006
			Lead	Quarterly	mg/L	<0.001	<0.001	0.009	0.036
			Zinc	Quarterly	mg/L	<0.005	<0.005	0.101	0.390
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	22/10/2019	18/11/2019	pH	Quarterly	pH	8.03	7.96	8.06	8.13
			Conductivity	Quarterly	µS/cm	712	601	655	712
			Sodium Absorption Ratio	Quarterly	-	0.82	0.74	0.82	0.90

			Total Alkalinity as calcium carbonate	Quarterly	mg/L	222	222	235	253
			Chloride	Quarterly	mg/L	59	35	49	62
			Sodium	Quarterly	mg/L	32	28	32	35
			Nitrogen (total)	Quarterly	mg/L	1.6	1.6	3.9	7.1
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.2	1.2	3.0	7.1
			Nitrate	Quarterly	mg/L	0.39	<0.01	0.32	0.86
			Sulfate	Quarterly	mg/L	11	3	9	17
			Phosphorus	Quarterly	mg/L	1.58	1.58	2.48	3.04
			Reactive Phosphorus	Quarterly	mg/L	0.45	0.38	0.41	0.45
			Total dissolved solids	Quarterly	mg/L	419	360	422	488
			Fluoride	Quarterly	mg/L	0.9	0.9	1.0	1.0
			Standing Water Level	Quarterly	m	3	2	2.3	3
			Arsenic	Quarterly	mg/L	<0.001	<0.001	0.0009	0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	0.0006	0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	0.0009	0.002
			Nickel	Quarterly	mg/L	<0.001	<0.001	0.0006	0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	0.0009	0.002
			Zinc	Quarterly	mg/L	<0.005	<0.005	0.023	0.084
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

Effluent and Groundwater Monitoring Data July 2019

Published: 10 September 2019 Licensee: BOC LIMITED EPL no.: 20165									
Qualifications related to limits Samples taken as per approved methods.									
EPA Point ID	Sampling Date(s)	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value 10/07/2019	2019 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	10/07/2019	31/07/2019	pH	Quarterly	pH	8.3	8.21	8.54	9.14
			Electrical conductivity	Quarterly	µS/cm	2,490	1,660	1,987	2,490
			Sodium Absorption Ratio	Quarterly	-	4.16	4.16	11.9	21.4
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	218	57	114	218
			Chloride	Quarterly	mg/L	428	404	438	482
			Sodium	Quarterly	mg/L	232	232	299	401
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	2	2	2	2
			Fluoride	Quarterly	mg/L	1.1	0.5	1.3	2.8
			Nitrogen (total)	Quarterly	mg/L	5	3.2	4.7	5.9
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.7	0.9	1	1.8
			Sulfate	Quarterly	mg/L	318	112	208	318
			Total dissolved solids	Quarterly	mg/L	1,340	904	1,091	1,340
			Phosphorus	Quarterly	mg/L	0.21	0.06	0.14	0.21
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Zinc	Quarterly	mg/L	0.009	0.006	0.050	0.136
			Arsenic	Quarterly	mg/L	0.001	<0.001	0.001	0.002
			Chromium	Quarterly	mg/L	<0.001	<0.001	0.007	0.018
			Copper	Quarterly	mg/L	0.033	0.01	0.024	0.033
			Lead	Quarterly	mg/L	<0.001	<0.001	0.002	0.006
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Nickel	Quarterly	mg/L	0.002	<0.001	0.0015	0.002
		09/09/2019	Biocides (active component isothiazoline)	Quarterly	mg/L	<0.05	< 0.05	< 0.05	< 0.1
		09/09/2019	Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
EPL point 2 BH1	10/07/2019	31/07/2019	pH	Quarterly	pH	7.76	7.76	7.8	7.85
			Conductivity	Quarterly	µS/cm	682	486	565	682
			Sodium Absorption Ratio	Quarterly	-	0.48	0.48	0.61	0.82

			Total Alkalinity as calcium carbonate	Quarterly	mg/L	202	202	217	226
			Chloride	Quarterly	mg/L	20	17	19	20
			Sodium	Quarterly	mg/L	19	19	22	26
			Nitrogen (total)	Quarterly	mg/L	4.6	4.6	18.0	39.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.5	4.5	18.0	39.3
			Nitrate	Quarterly	mg/L	0.07	<0.01	0.05	0.07
			Sulfate	Quarterly	mg/L	93	14	57	93
			Phosphorus	Quarterly	mg/L	2.38	2.38	8.63	17.5
			Reactive Phosphorus	Quarterly	mg/L	0.02	0.02	0.02	0.02
			Total dissolved solids	Quarterly	mg/L	452	452	907	1550
			Fluoride	Quarterly	mg/L	0.5	0.5	0.57	0.6
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	<0.001	<0.001	0.001	0.002
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	<0.005	<0.005	<0.005	<0.005
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 3 BH2	10/07/2019	31/07/2019	pH	Quarterly	pH	7.62	7.33	7.47	7.62
			Conductivity	Quarterly	µS/cm	879	511	698	879
			Sodium Absorption Ratio	Quarterly	-	0.28	0.28	11	31
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	274	220	249	274
			Chloride	Quarterly	mg/L	20	15	18	20
			Sodium	Quarterly	mg/L	13	13	14	15
			Nitrogen (total)	Quarterly	mg/L	3.7	3.7	8.4	14.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	3.1	3.1	8.2	14.8
			Nitrate	Quarterly	mg/L	0.6	0.02	0	0.6
			Sulfate	Quarterly	mg/L	119	24	93	137
			Phosphorus	Quarterly	mg/L	1.04	1.04	4.61	9.58
			Reactive Phosphorus	Quarterly	mg/L	<0.01	0.01	0.007	0.01
			Total dissolved solids	Quarterly	mg/L	528	448	542	649
			Fluoride	Quarterly	mg/L	0.8	0.8	0.9	1
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	<0.001	<0.001	0.004	0.011
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	0.0001	0.0002

			Chromium	Quarterly	mg/L	<0.001	<0.001	0.005	0.014
			Copper	Quarterly	mg/L	<0.001	<0.001	0.011	0.033
			Nickel	Quarterly	mg/L	<0.001	<0.001	0.008	0.024
			Lead	Quarterly	mg/L	0.002	<0.001	0.048	0.140
			Zinc	Quarterly	mg/L	0.016	<0.008	0.348	1.02
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 4 BH3	10/07/2019	31/07/2019	pH	Quarterly	pH	7.9	7.56	7.79	7.91
			Conductivity	Quarterly	µS/cm	534	534	542	555
			Sodium Absorption Ratio	Quarterly	-	0.73	0.73	0.89	1.00
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	171	171	180	189
			Chloride	Quarterly	mg/L	22	22	34	41
			Sodium	Quarterly	mg/L	25	25	31	36
			Nitrogen (total)	Quarterly	mg/L	4.3	2	5.9	11.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4	2	5.8	11.4
			Nitrate	Quarterly	mg/L	0.27	<0.01	0.10	0.27
			Sulfate	Quarterly	mg/L	42	38	43	48
			Phosphorus	Quarterly	mg/L	8.89	7.07	12	21.5
			Reactive Phosphorus	Quarterly	mg/L	0.19	0.19	0.2	0.22
			Total dissolved solids	Quarterly	mg/L	281	281	380	471
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.002	0.002	0.003	0.004
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	0.001	0.003
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	0.002	0.006
			Zinc	Quarterly	mg/L	<0.005	<0.005	0.165	0.491
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 5 BH4	10/07/2019	31/07/2019	pH	Quarterly	pH	7.64	7.19	7.37	7.64
			Conductivity	Quarterly	µS/cm	1,890	1,620	1,710	1,890
			Sodium Absorption Ratio	Quarterly	-	3.22	2.74	3.06	3.22
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	217	197	206	217
			Chloride	Quarterly	mg/L	293	293	298	308
			Sodium	Quarterly	mg/L	158	135	155	171
			Nitrogen (total)	Quarterly	mg/L	3.5	3.5	22.8	55
			Total Kjeldahl Nitrogen	Quarterly	mg/L	3.5	3.5	22.8	55
			Nitrate	Quarterly	mg/L	0.03	0.03	0.033	0.04
			Sulfate	Quarterly	mg/L	220	212	227	248

			Phosphorus	Quarterly	mg/L	7.37	7.37	27.5	53.9
			Reactive Phosphorus	Quarterly	mg/L	<0.01	0.01	0.007	0.01
			Total dissolved solids	Quarterly	mg/L	1,100	1,100	1,143	1,170
			Fluoride	Quarterly	mg/L	0.8	0.8	0.9	0.9
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	<0.001	<0.001	0.003	0.005
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	0.001	0.002
			Nickel	Quarterly	mg/L	0.002	<0.001	0.001	0.002
			Lead	Quarterly	mg/L	<0.001	<0.001	0.0007	0.001
			Zinc	Quarterly	mg/L	<0.005	<0.005	0.018	0.048
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	10/07/2019	31/07/2019	pH	Quarterly	pH	7.93	7.64	7.75	7.93
			Conductivity	Quarterly	µS/cm	1890	676	1,081	1,890
			Sodium Absorption Ratio	Quarterly	-	0.8	0.61	0.81	1.02
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	242	232	245	260
			Chloride	Quarterly	mg/L	39	39	46	53
			Sodium	Quarterly	mg/L	31	26	33	42
			Nitrogen (total)	Quarterly	mg/L	4	3.5	4.6	6.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	3.3	3.3	3.7	4.3
			Nitrate	Quarterly	mg/L	0.7	0.06	0.89	1.92
			Sulfate	Quarterly	mg/L	38	16	31	38
			Phosphorus	Quarterly	mg/L	3.96	2.27	2.85	3.96
			Reactive Phosphorus	Quarterly	mg/L	0.17	0.04	0.11	0.17
			Total dissolved solids	Quarterly	mg/L	408	408	432	469
			Fluoride	Quarterly	mg/L	0.7	0.6	0.67	0.7
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.001	0.001	0.003	0.007
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	0.0002	0.0006
			Chromium	Quarterly	mg/L	<0.001	<0.001	0.006	0.016
			Copper	Quarterly	mg/L	<0.001	<0.001	0.004	0.011
			Nickel	Quarterly	mg/L	0.003	<0.001	0.003	0.006
			Lead	Quarterly	mg/L	<0.001	<0.001	0.012	0.036
			Zinc	Quarterly	mg/L	0.007	<0.005	0.133	0.390
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	10/07/2019	31/07/2019	pH	Quarterly	pH	8.13	7.96	8.07	8.13
			Conductivity	Quarterly	µS/cm	688	601	636	688
			Sodium Absorption Ratio	Quarterly	-	0.74	0.74	0.82	0.9

			Total Alkalinity as calcium carbonate	Quarterly	mg/L	241	224	239	253
			Chloride	Quarterly	mg/L	35	35	45	62
			Sodium	Quarterly	mg/L	28	28	31	35
			Nitrogen (total)	Quarterly	mg/L	5	1.9	4.7	7.1
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.7	1.7	3.6	7.1
			Nitrate	Quarterly	mg/L	0.86	0.01	0.30	0.86
			Sulfate	Quarterly	mg/L	17	3	8	17
			Phosphorus	Quarterly	mg/L	2.36	2.36	2.78	3.04
			Reactive Phosphorus	Quarterly	mg/L	0.42	0.38	0.40	0.42
			Total dissolved solids	Quarterly	mg/L	360	360	423	488
			Fluoride	Quarterly	mg/L	0.9	0.9	1.0	1
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	0.0008	0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	0.001	0.002
			Nickel	Quarterly	mg/L	0.001	<0.001	0.0007	0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	0.001	0.002
			Zinc	Quarterly	mg/L	<0.005	<0.005	0.030	0.084
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

Effluent and Groundwater Monitoring Data April-May 2019

Published: 24 May 2019 Licensee: BOC LIMITED EPL no.: 20165										
Qualifications related to limits Samples taken as per approved methods.										
EPA Point ID	Sampling Date(s)	Date Results Received	Pollutant	Measureme nt Period and Monitoring Frequency Required by Licence	Units	Value 18/04/2019	Value 13/05/2019*	2019 Values to date		
								Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	18/04/2019 and 13/05/2019	22/05/2019	pH	Quarterly	pH	9.14	8.21	8.21	8.61	9.14
			Electrical conductivity	Quarterly	µS/cm	1810	-	1660	1735	1810
			Sodium Absorption Ratio	Quarterly	-	21.4	-	10	15.7	21.4
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	68	-	57	63	68
			Chloride	Quarterly	mg/L	482	-	404	443	482
			Sodium	Quarterly	mg/L	401	-	263	332	401
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	<2	-	<2	<2	<2
			Fluoride	Quarterly	mg/L	2.8	0.5	0.5	1.4	2.8
			Nitrogen (total)	Quarterly	mg/L	5.9	-	3.2	4.6	5.9
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.8	-	0.9	1.4	1.8
			Sulfate	Quarterly	mg/L	195	-	112	154	195
			Total dissolved solids	Quarterly	mg/L	904	-	904	967	1030
			Phosphorus	Quarterly	mg/L	0.06	-	0.06	0.11	0.15
			Cadmium	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
			Zinc	Quarterly	mg/L	0.006	-	0.006	0.071	0.136
			Arsenic	Quarterly	mg/L	<0.001	-	<0.001	0.0015	0.002
			Chromium	Quarterly	mg/L	0.018	-	0.003	0.011	0.018
			Copper	Quarterly	mg/L	0.01	-	0.010	0.020	0.029
			Lead	Quarterly	mg/L	<0.001	-	<0.001	0.003	0.006
			Mercury	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
			Nickel	Quarterly	mg/L	<0.001	-	<0.001	0.001	0.002
			Biocides (active component isothiazolin e)	Quarterly	mg/L	< 0.05	-	< 0.05	< 0.075	< 0.1
			Dosing chemicals (active component benzotriazol e)	Quarterly	mg/L	< 0.1	-	< 0.1	< 0.1	< 0.1

EPL point 2 BH1	18/04/2019	22/05/2019	pH	Quarterly	pH	7.85	-	7.78	7.82	7.85
			Conductivity	Quarterly	µS/cm	526	-	486	506	526
			Sodium Absorption Ratio	Quarterly	-	0.54	-	0.54	0.68	0.82
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	223	-	223	225	226
			Chloride	Quarterly	mg/L	17	-	17	18	19
			Sodium	Quarterly	mg/L	21	-	21	23.5	26
			Nitrogen (total)	Quarterly	mg/L	10.1	-	10.1	24.8	39.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	10.1	-	10.1	24.7	39.3
			Nitrate	Quarterly	mg/L	<0.01	-	<0.01	0.02	0.06
			Sulfate	Quarterly	mg/L	65	-	14	39.5	65
			Phosphorus	Quarterly	mg/L	6	-	6	11.8	17.5
			Reactive Phosphorus	Quarterly	mg/L	0.02	-	0.02	0.02	0.02
			Total dissolved solids	Quarterly	mg/L	720	-	720	1135	1550
			Fluoride	Quarterly	mg/L	0.6	-	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2	-	2	2	2
			Arsenic	Quarterly	mg/L	0.002	-	<0.001	0.001	0.002
			Cadmium	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	<0.005	-	<0.005	<0.005	<0.005
			Mercury	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
EPL point 3 BH2	18/04/2019	22/05/2019	pH	Quarterly	pH	7.33	-	7.33	7.40	7.46
			Conductivity	Quarterly	µS/cm	704	-	511	608	704
			Sodium Absorption Ratio	Quarterly	-	31	-	0.34	15.67	31
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	252	-	220	236	252
			Chloride	Quarterly	mg/L	18	-	15	17	18
			Sodium	Quarterly	mg/L	15	-	14	14.5	15
			Nitrogen (total)	Quarterly	mg/L	6.8	-	6.8	10.8	14.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	6.7	-	6.7	10.8	14.8
			Nitrate	Quarterly	mg/L	0.05	-	0.02	0.04	0.05
			Sulfate	Quarterly	mg/L	137	-	24	81	137
			Phosphorus	Quarterly	mg/L	3.22	-	3.22	6.40	9.58

			Reactive Phosphorus	Quarterly	mg/L	<0.01	-	<0.01	0.008	0.01
			Total dissolved solids	Quarterly	mg/L	649	-	448	549	649
			Fluoride	Quarterly	mg/L	1	-	1	1	1
			Standing Water Level	Quarterly	m	2	-	2	2	2
			Arsenic	Quarterly	mg/L	<0.001	-	<0.001	0.006	0.011
			Cadmium	Quarterly	mg/L	<0.0001	-	<0.0001	0.0001	0.0002
			Chromium	Quarterly	mg/L	<0.001	-	<0.001	0.007	0.014
			Copper	Quarterly	mg/L	<0.001	-	<0.001	0.017	0.033
			Nickel	Quarterly	mg/L	<0.001	-	<0.001	0.012	0.024
			Lead	Quarterly	mg/L	<0.001	-	<0.001	0.070	0.140
			Zinc	Quarterly	mg/L	0.008	-	<0.008	0.514	1.02
			Mercury	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
EPL point 4 BH3	18/04/2019	22/05/2019	pH	Quarterly	pH	7.91	-	7.56	7.74	7.91
			Conductivity	Quarterly	µS/cm	537	-	537	546	555
			Sodium Absorption Ratio	Quarterly	-	1.0	-	0.93	0.97	1.0
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	189	-	180	185	189
			Chloride	Quarterly	mg/L	38	-	38	40	41
			Sodium	Quarterly	mg/L	36	-	31	34	36
			Nitrogen (total)	Quarterly	mg/L	2	-	2	6.7	11.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	2	-	2	6.7	11.4
			Nitrate	Quarterly	mg/L	0.02	-	<0.01	0.01	0.02
			Sulfate	Quarterly	mg/L	48	-	38	43	48
			Phosphorus	Quarterly	mg/L	7.07	-	7.07	14.3	21.5
			Reactive Phosphorus	Quarterly	mg/L	0.22	-	0.19	0.21	0.22
			Total dissolved solids	Quarterly	mg/L	389	-	389	430	471
			Fluoride	Quarterly	mg/L	0.6	-	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2	-	2	2	2
			Arsenic	Quarterly	mg/L	0.004	-	0.004	0.004	0.004
			Cadmium	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	-	<0.001	0.002	0.003
			Nickel	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	-	<0.001	0.003	0.006
			Zinc	Quarterly	mg/L	<0.005	-	<0.005	0.247	0.491
			Mercury	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
EPL point 5	18/04/2019	22/05/2019	pH	Quarterly	pH	7.19	-	7.19	7.23	7.27
			Conductivity	Quarterly	µS/cm	1620	-	1620	1620	1620

BH4			Sodium Absorption Ratio	Quarterly	-	3.21	-	2.74	2.98	3.21
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	205	-	197	201	205
			Chloride	Quarterly	mg/L	308	-	294	301	308
			Sodium	Quarterly	mg/L	171	-	135	153	171
			Nitrogen (total)	Quarterly	mg/L	10	-	10	33	55
			Total Kjeldahl Nitrogen	Quarterly	mg/L	10	-	10	33	55
			Nitrate	Quarterly	mg/L	0.04	-	0.03	0.04	0.04
			Sulfate	Quarterly	mg/L	248	-	212	230	248
			Phosphorus	Quarterly	mg/L	21.2	-	21.2	37.6	53.9
			Reactive Phosphorus	Quarterly	mg/L	<0.01	-	<0.01	0.01	0.01
			Total dissolved solids	Quarterly	mg/L	1160	-	1160	1165	1170
			Fluoride	Quarterly	mg/L	0.8	-	0.8	0.9	0.9
			Standing Water Level	Quarterly	m	2	-	2	2	2
			Arsenic	Quarterly	mg/L	0.003	-	0.003	0.004	0.005
			Cadmium	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	-	<0.001	0.001	0.002
			Nickel	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	-	<0.001	0.001	0.001
			Zinc	Quarterly	mg/L	<0.005	-	<0.005	0.025	0.048
			Mercury	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	18/04/2019	22/05/2019	pH	Quarterly	pH	7.68	-	7.64	7.66	7.68
			Conductivity	Quarterly	µS/cm	676	-	676	676	676
			Sodium Absorption Ratio	Quarterly	-	1.02	-	0.61	0.82	1.02
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	232	-	232	246	260
			Chloride	Quarterly	mg/L	53	-	47	50	53
			Sodium	Quarterly	mg/L	42	-	26	34	42
			Nitrogen (total)	Quarterly	mg/L	6.3	-	3.5	4.9	6.3
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.3	-	3.4	3.9	4.3
			Nitrate	Quarterly	mg/L	1.92	-	0.06	0.99	1.92
			Sulfate	Quarterly	mg/L	38	-	16	27	38
			Phosphorus	Quarterly	mg/L	2.27	-	2.27	2.29	2.31
			Reactive Phosphorus	Quarterly	mg/L	0.11	-	0.04	0.08	0.11

			Total dissolved solids	Quarterly	mg/L	420	-	420	445	469
			Fluoride	Quarterly	mg/L	0.7	-	0.6	0.7	0.7
			Standing Water Level	Quarterly	m	2	-	2	2	2
			Arsenic	Quarterly	mg/L	0.001	-	0.001	0.004	0.007
			Cadmium	Quarterly	mg/L	<0.0001	-	<0.0001	0.0003	0.0006
			Chromium	Quarterly	mg/L	<0.001	-	<0.001	0.008	0.016
			Copper	Quarterly	mg/L	<0.001	-	<0.001	0.006	0.011
			Nickel	Quarterly	mg/L	<0.001	-	<0.001	0.003	0.006
			Lead	Quarterly	mg/L	<0.001	-	<0.001	0.018	0.036
			Zinc	Quarterly	mg/L	<0.005	-	<0.005	0.196	0.390
			Mercury	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	18/04/2019	22/05/2019	pH	Quarterly	pH	8.12	-	7.96	8.04	8.12
			Conductivity	Quarterly	µS/cm	620	-	601	611	620
			Sodium Absorption Ratio	Quarterly	-	0.9	-	0.81	0.86	0.9
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	224	-	224	239	253
			Chloride	Quarterly	mg/L	62	-	39	51	62
			Sodium	Quarterly	mg/L	35	-	31	33	35
			Nitrogen (total)	Quarterly	mg/L	7.1	-	1.9	4.5	7.1
			Total Kjeldahl Nitrogen	Quarterly	mg/L	7.1	-	1.9	4.5	7.1
			Nitrate	Quarterly	mg/L	<0.01	-	<0.01	0.02	0.03
			Sulfate	Quarterly	mg/L	3	-	3	4	5
			Phosphorus	Quarterly	mg/L	3.04	-	2.94	2.99	3.04
			Reactive Phosphorus	Quarterly	mg/L	0.39	-	0.38	0.39	0.39
			Total dissolved solids	Quarterly	mg/L	488	-	420	454	488
			Fluoride	Quarterly	mg/L	1	-	1	1	1
			Standing Water Level	Quarterly	m	2	-	2	2	2
			Arsenic	Quarterly	mg/L	0.001	-	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	-	<0.001	0.001	0.001
			Copper	Quarterly	mg/L	<0.001	-	<0.001	0.001	0.002
			Nickel	Quarterly	mg/L	<0.001	-	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	-	<0.001	0.001	0.002
			Zinc	Quarterly	mg/L	<0.005	-	<0.005	0.043	0.084
			Mercury	Quarterly	mg/L	<0.0001	-	<0.0001	<0.0001	<0.0001

* EPL 1: Samples were repeated for pH and Fluoride in May 2019 following optimisation of the processes onsite.

Effluent and Groundwater Monitoring Data January 2019

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EPL no.: 20165

Qualifications related to limits

Samples taken as per approved methods.

EPA Point ID	Sampling Date	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value 10/01/2019	2019 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	10/01/2019	25/01/2019	pH	Quarterly	pH	8.49	8.49	8.49	8.49
			Electrical conductivity	Quarterly	µS/cm	1660	1660	1660	1660
			Sodium Absorption Ratio	Quarterly	-	10	10	10	10
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	57	57	57	57
			Chloride	Quarterly	mg/L	404	404	404	404
			Sodium	Quarterly	mg/L	263	263	263	263
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	< 2	< 2	< 2	< 2
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.8
			Nitrogen (total)	Quarterly	mg/L	3.2	3.2	3.2	3.2
			Total Kjeldahl Nitrogen	Quarterly	mg/L	0.9	0.9	0.9	0.9
			Sulfate	Quarterly	mg/L	112	112	112	112
			Total dissolved solids	Quarterly	mg/L	1030	1030	1030	1030
			Phosphorus	Quarterly	mg/L	0.15	0.15	0.15	0.15
			Cadmium	Quarterly	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
			Zinc	Quarterly	m	0.136	0.136	0.136	0.136
			Arsenic	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Chromium	Quarterly	mg/L	0.003	0.003	0.003	0.003

			Copper	Quarterly	mg/L	0.029	0.029	0.029	0.029
			Lead	Quarterly	mg/L	0.006	0.006	0.006	0.006
			Mercury	Quarterly	mg/L	< 0.0001	< 0.0001	< 0.0001	< 0.0001
			Nickel	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Biocides (active component isothiazoline)	Quarterly	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	< 0.1	< 0.1	< 0.1	< 0.1
EPL point 2 BH1	10/01/2019	25/01/2019	pH	Quarterly	pH	7.78	7.78	7.78	7.78
			Conductivity	Quarterly	µS/cm	486	486	486	486
			Sodium Absorption Ratio	Quarterly	-	0.82	0.82	0.82	0.82
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	226	226	226	226
			Chloride	Quarterly	mg/L	19	19	19	19
			Sodium	Quarterly	mg/L	26	26	26	26
			Nitrogen (total)	Quarterly	mg/L	39.4	39.4	39.4	39.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	39.3	39.3	39.3	39.3
			Nitrate	Quarterly	mg/L	0.06	0.06	0.06	0.06
			Sulfate	Quarterly	mg/L	14	14	14	14
			Phosphorus	Quarterly	mg/L	17.5	17.5	17.5	17.5
			Reactive Phosphorus	Quarterly	mg/L	0.02	0.02	0.02	0.02
			Total dissolved solids	Quarterly	mg/L	1550	1550	1550	1550
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	<0.005	<0.005	<0.005	<0.005
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 3 BH2	10/01/2019	25/01/2019	pH	Quarterly	pH	7.46	7.46	7.46	7.46
			Conductivity	Quarterly	µS/cm	511	511	511	511
			Sodium Absorption Ratio	Quarterly	-	0.34	0.34	0.34	0.34
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	220	220	220	220
			Chloride	Quarterly	mg/L	15	15	15	15
			Sodium	Quarterly	mg/L	14	14	14	14
			Nitrogen (total)	Quarterly	mg/L	14.8	14.8	14.8	14.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	14.8	14.8	14.8	14.8
			Nitrate	Quarterly	mg/L	0.02	0.02	0.02	0.02
			Sulfate	Quarterly	mg/L	24	24	24	24
			Phosphorus	Quarterly	mg/L	9.58	9.58	9.58	9.58
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.01	0.01
			Total dissolved solids	Quarterly	mg/L	448	448	448	448
			Fluoride	Quarterly	mg/L	1	1	1	1
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.11	0.11	0.11	0.11
			Cadmium	Quarterly	mg/L	0.0002	0.0002	0.0002	0.0002
			Chromium	Quarterly	mg/L	0.014	0.014	0.014	0.014
			Copper	Quarterly	mg/L	0.033	0.033	0.033	0.033
			Nickel	Quarterly	mg/L	0.024	0.024	0.024	0.024
			Lead	Quarterly	mg/L	0.14	0.14	0.14	0.14

			Zinc	Quarterly	mg/L	1.02	1.02	1.02	1.02
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 4 BH3	10/01/2019	25/01/2019	pH	Quarterly	pH	7.56	7.56	7.56	7.56
			Conductivity	Quarterly	µS/cm	555	555	555	555
			Sodium Absorption Ratio	Quarterly	-	0.93	0.93	0.93	0.93
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	180	180	180	180
			Chloride	Quarterly	mg/L	41	41	41	41
			Sodium	Quarterly	mg/L	31	31	31	31
			Nitrogen (total)	Quarterly	mg/L	11.4	11.4	11.4	11.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	11.4	11.4	11.4	11.4
			Nitrate	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Sulfate	Quarterly	mg/L	38	38	38	38
			Phosphorus	Quarterly	mg/L	21.5	21.5	21.5	21.5
			Reactive Phosphorus	Quarterly	mg/L	0.19	0.19	0.19	0.19
			Total dissolved solids	Quarterly	mg/L	471	471	471	471
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.004	0.004	0.004	0.004
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	0.003	0.003	0.003	0.003
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	0.006	0.006	0.006	0.006
			Zinc	Quarterly	mg/L	0.491	0.491	0.491	0.491
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 5	10/01/2019	25/01/2019	pH	Quarterly	pH	7.27	7.27	7.27	7.27
			Conductivity	Quarterly	µS/cm	1620	1620	1620	1620

BH4			Sodium Absorption Ratio	Quarterly	-	2.74	2.74	2.74	2.74
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	197	197	197	197
			Chloride	Quarterly	mg/L	294	294	294	294
			Sodium	Quarterly	mg/L	135	135	135	135
			Nitrogen (total)	Quarterly	mg/L	55	55	55	55
			Total Kjeldahl Nitrogen	Quarterly	mg/L	55	55	55	55
			Nitrate	Quarterly	mg/L	0.03	0.03	0.03	0.03
			Sulfate	Quarterly	mg/L	212	212	212	212
			Phosphorus	Quarterly	mg/L	53.9	53.9	53.9	53.9
			Reactive Phosphorus	Quarterly	mg/L	0.01	0.01	0.01	0.01
			Total dissolved solids	Quarterly	mg/L	1170	1170	1170	1170
			Fluoride	Quarterly	mg/L	0.9	0.9	0.9	0.9
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.005	0.005	0.005	0.005
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.048	0.048	0.048	0.048
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	10/01/2019	25/01/2019	pH	Quarterly	pH	7.64	7.64	7.64	7.64
			Conductivity	Quarterly	µS/cm	676	676	676	676
			Sodium Absorption Ratio	Quarterly	-	0.61	0.61	0.61	0.61
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	260	260	260	260

			Chloride	Quarterly	mg/L	47	47	47	47
			Sodium	Quarterly	mg/L	26	26	26	26
			Nitrogen (total)	Quarterly	mg/L	3.5	3.5	3.5	3.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	3.4	3.4	3.4	3.4
			Nitrate	Quarterly	mg/L	0.06	0.06	0.06	0.06
			Sulfate	Quarterly	mg/L	16	16	16	16
			Phosphorus	Quarterly	mg/L	2.31	2.31	2.31	2.31
			Reactive Phosphorus	Quarterly	mg/L	0.04	0.04	0.04	0.04
			Total dissolved solids	Quarterly	mg/L	469	469	469	469
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.007	0.007	0.007	0.007
			Cadmium	Quarterly	mg/L	0.0006	0.0006	0.0006	0.0006
			Chromium	Quarterly	mg/L	0.016	0.016	0.016	0.016
			Copper	Quarterly	mg/L	0.011	0.011	0.011	0.011
			Nickel	Quarterly	mg/L	0.006	0.006	0.006	0.006
			Lead	Quarterly	mg/L	0.036	0.036	0.036	0.036
			Zinc	Quarterly	mg/L	0.39	0.39	0.39	0.39
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	10/01/2019	25/01/2019	pH	Quarterly	pH	7.96	7.96	7.96	7.96
			Conductivity	Quarterly	µS/cm	601	601	601	601
			Sodium Absorption Ratio	Quarterly	-	0.81	0.81	0.81	0.81
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	253	253	253	253
			Chloride	Quarterly	mg/L	39	39	39	39
			Sodium	Quarterly	mg/L	31	31	31	31
			Nitrogen (total)	Quarterly	mg/L	1.9	1.9	1.9	1.9

			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.9	1.9	1.9	1.9
			Nitrate	Quarterly	mg/L	0.03	0.03	0.03	0.03
			Sulfate	Quarterly	mg/L	5	5	5	5
			Phosphorus	Quarterly	mg/L	2.94	2.94	2.94	2.94
			Reactive Phosphorus	Quarterly	mg/L	0.38	0.38	0.38	0.38
			Total dissolved solids	Quarterly	mg/L	420	420	420	420
			Fluoride	Quarterly	mg/L	1	1	1	1
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Copper	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Nickel	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Lead	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Zinc	Quarterly	mg/L	0.084	0.084	0.084	0.084
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

Effluent and Groundwater Monitoring Data October 2018

Published: 20 February 2019

Licensee: BOC LIMITED

EPL no.: 20165

Qualifications related to limits

Samples taken as per approved methods.

EPA Point ID	Sampling Date	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value 29/10/2018	2018 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	22/10/2018	10/12/2018	pH	Quarterly	pH	8.36	8.15	8.36	8.56
			Electrical conductivity	Quarterly	µS/cm	1,910	1,610	1,733	1,910
			Sodium Absorption Ratio	Quarterly	-	4.51	4.06	4.98	6.38
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	129	66	99	129
			Chloride	Quarterly	mg/L	342	342	352	371
			Sodium	Quarterly	mg/L	215	177	198	215
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	<2	<2	<2	<2
			Fluoride	Quarterly	mg/L	4.1	1.4	3.7	5.5
			Nitrogen (total)	Quarterly	mg/L	3.2	3.20	3.37	3.50
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.2	1.2	1.5	1.7
			Sulfate	Quarterly	mg/L	286	205	248	286
			Total dissolved solids	Quarterly	mg/L	988	848	921	988
			Phosphorus	Quarterly	mg/L	0.15	0.12	0.27	0.55
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Zinc	Quarterly	mg/L	0.01	0.009	0.015	0.026
			Arsenic	Quarterly	mg/L	<0.001	<0.001	0.001	0.001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001

			Copper	Quarterly	mg/L	0.062	0.03	0.09	0.16
			Lead	Quarterly	mg/L	<0.001	<0.001	0.001	0.001
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Nickel	Quarterly	mg/L	0.001	<0.001	0.001	0.002
			Biocides (active component isothiazoline)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	<0.1	<0.1	<0.1	<0.1
EPL point 2 BH1	22/10/2018	10/12/2018	pH	Quarterly	pH	7.86	7.84	7.85	7.86
			Conductivity	Quarterly	µS/cm	615	579	597	615
			Sodium Absorption Ratio	Quarterly	-	2	0.8	1.4	2.0
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	227	176	202	227
			Chloride	Quarterly	mg/L	25	25	34	42
			Sodium	Quarterly	mg/L	35	30	33	35
			Nitrogen (total)	Quarterly	mg/L	48.7	32.2	40.5	48.7
			Total Kjeldahl Nitrogen	Quarterly	mg/L	48.7	32.2	40.5	48.7
			Nitrate	Quarterly	mg/L	<0.01	0.01	0.02	0.03
			Sulfate	Quarterly	mg/L	29	29	35	40
			Phosphorus	Quarterly	mg/L	12.2	12	20	27
			Reactive Phosphorus	Quarterly	mg/L	0.02	0.01	0.02	0.02
			Total dissolved solids	Quarterly	mg/L	366	366	476	586
			Fluoride	Quarterly	mg/L	0.5	0.5	0.6	0.6
			Standing Water Level	Quarterly	m	2	1	2	2
			Arsenic	Quarterly	mg/L	0.004	0.004	0.009	0.013
			Cadmium	Quarterly	mg/L	0.0003	0.0003	0.0005	0.0006

			Chromium	Quarterly	mg/L	0.006	0.006	0.016	0.026
			Copper	Quarterly	mg/L	0.018	0.018	0.027	0.036
			Nickel	Quarterly	mg/L	0.008	0.008	0.018	0.027
			Lead	Quarterly	mg/L	0.04	0.040	0.089	0.137
			Zinc	Quarterly	mg/L	0.276	0.276	0.548	0.820
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 3 BH2	22/10/2018	10/12/2018	pH	Quarterly	pH	7.61	7.60	7.61	7.61
			Conductivity	Quarterly	µS/cm	520	436	478	520
			Sodium Absorption Ratio	Quarterly	-	0.6	0.3	0.5	0.6
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	221	178	200	221
			Chloride	Quarterly	mg/L	13	12	13	13
			Sodium	Quarterly	mg/L	18	10	14	18
			Nitrogen (total)	Quarterly	mg/L	16.4	16.4	17.1	17.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	16.4	16.4	17.1	17.7
			Nitrate	Quarterly	mg/L	0.01	0.01	0.08	0.14
			Sulfate	Quarterly	mg/L	16	16	17	18
			Phosphorus	Quarterly	mg/L	9.51	10	11	13
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	322	322	427	532
			Fluoride	Quarterly	mg/L	0.7	0.7	0.7	0.7
			Standing Water Level	Quarterly	m	2	1	2	2
			Arsenic	Quarterly	mg/L	0.002	0.002	0.004	0.006
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	0.0001	0.0002
			Chromium	Quarterly	mg/L	0.001	0.001	0.005	0.008
			Copper	Quarterly	mg/L	0.004	0.004	0.010	0.016
			Nickel	Quarterly	mg/L	0.002	0.002	0.007	0.011
			Lead	Quarterly	mg/L	0.006	0.006	0.029	0.051

			Zinc	Quarterly	mg/L	0.084	0.084	0.264	0.443
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 4 BH3	22/10/2018	10/12/2018	pH	Quarterly	pH	7.95	7.85	7.90	7.95
			Conductivity	Quarterly	µS/cm	600	519	560	600
			Sodium Absorption Ratio	Quarterly	-	0.96	0.6	0.8	1.0
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	186	167	177	186
			Chloride	Quarterly	mg/L	30	22	26	30
			Sodium	Quarterly	mg/L	30	19	25	30
			Nitrogen (total)	Quarterly	mg/L	10.5	10.5	13.3	16.0
			Total Kjeldahl Nitrogen	Quarterly	mg/L	9.6	9.6	10.9	12.2
			Nitrate	Quarterly	mg/L	0.9	0.90	2.34	3.77
			Sulfate	Quarterly	mg/L	32	32	32	32
			Phosphorus	Quarterly	mg/L	13.7	13.7	19.3	24.9
			Reactive Phosphorus	Quarterly	mg/L	0.18	0.08	0.13	0.18
			Total dissolved solids	Quarterly	mg/L	418	398	408	418
			Fluoride	Quarterly	mg/L	0.5	0.5	0.6	0.7
			Standing Water Level	Quarterly	m	2	1.2	1.6	2.0
			Arsenic	Quarterly	mg/L	0.004	0.003	0.004	0.004
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.002	0.002	0.003	0.004
			Copper	Quarterly	mg/L	0.003	0.003	0.004	0.005
			Nickel	Quarterly	mg/L	0.001	0.001	0.003	0.004
			Lead	Quarterly	mg/L	0.005	0.005	0.010	0.014
			Zinc	Quarterly	mg/L	0.06	0.060	0.097	0.134
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 5	22/10/2018	10/12/2018	pH	Quarterly	pH	7.48	7.39	7.44	7.48
			Conductivity	Quarterly	µS/cm	1780	1260	1520	1780

BH4			Sodium Absorption Ratio	Quarterly	-	2.35	0.8	1.6	2.4
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	203	172	188	203
			Chloride	Quarterly	mg/L	335	208	272	335
			Sodium	Quarterly	mg/L	120	38	79	120
			Nitrogen (total)	Quarterly	mg/L	23.4	23.4	23.5	23.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	23.4	23.4	23.4	23.4
			Nitrate	Quarterly	mg/L	0.04	0.04	0.06	0.08
			Sulfate	Quarterly	mg/L	202	145	174	202
			Phosphorus	Quarterly	mg/L	11.9	7.61	9.76	11.90
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	1240	656	948	1240
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	2	1	2	2
			Arsenic	Quarterly	mg/L	0.028	0.002	0.015	0.028
			Cadmium	Quarterly	mg/L	0.0006	<0.0001	0.0004	0.0006
			Chromium	Quarterly	mg/L	0.011	<0.001	0.006	0.011
			Copper	Quarterly	mg/L	0.027	<0.001	0.014	0.027
			Nickel	Quarterly	mg/L	0.014	0.001	0.008	0.014
			Lead	Quarterly	mg/L	0.127	<0.001	0.064	0.127
			Zinc	Quarterly	mg/L	0.65	0.023	0.337	0.650
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	22/10/2018	10/12/2018	pH	Quarterly	pH	7.76	7.76	7.86	7.96
			Conductivity	Quarterly	µS/cm	820	820	835	850
			Sodium Absorption Ratio	Quarterly	-	1.04	1.0	1.1	1.2
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	292	258	275	292

			Chloride	Quarterly	mg/L	54	54	71	87
			Sodium	Quarterly	mg/L	38	38	39	40
			Nitrogen (total)	Quarterly	mg/L	12.2	4.6	8.4	12.2
			Total Kjeldahl Nitrogen	Quarterly	mg/L	10.5	4.4	7.5	10.5
			Nitrate	Quarterly	mg/L	1.62	0.15	0.89	1.62
			Sulfate	Quarterly	mg/L	12	12	14	16
			Phosphorus	Quarterly	mg/L	6.06	3.6	4.8	6.1
			Reactive Phosphorus	Quarterly	mg/L	0.12	0.12	0.41	0.70
			Total dissolved solids	Quarterly	mg/L	620	483	552	620
			Fluoride	Quarterly	mg/L	0.4	0.4	0.6	0.8
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.006	0.005	0.006	0.006
			Cadmium	Quarterly	mg/L	0.0002	<0.0001	0.0002	0.0002
			Chromium	Quarterly	mg/L	0.019	0.011	0.015	0.019
			Copper	Quarterly	mg/L	0.017	0.007	0.012	0.017
			Nickel	Quarterly	mg/L	0.012	0.008	0.010	0.012
			Lead	Quarterly	mg/L	0.042	0.018	0.030	0.042
			Zinc	Quarterly	mg/L	0.4	0.224	0.312	0.400
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	22/10/2018	10/12/2018	pH	Quarterly	pH	8.06	8.04	8.05	8.06
			Conductivity	Quarterly	µS/cm	693	623	658	693
			Sodium Absorption Ratio	Quarterly	-	0.87	0.6	0.8	0.9
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	288	237	263	288
			Chloride	Quarterly	mg/L	25	25	27	29
			Sodium	Quarterly	mg/L	32	23	28	32
			Nitrogen (total)	Quarterly	mg/L	5.3	4.5	4.9	5.3

			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.4	4.2	4.3	4.4
			Nitrate	Quarterly	mg/L	0.86	0.32	0.59	0.86
			Sulfate	Quarterly	mg/L	13	13	17	21
			Phosphorus	Quarterly	mg/L	4.74	3.66	4.20	4.74
			Reactive Phosphorus	Quarterly	mg/L	0.32	0.32	0.35	0.38
			Total dissolved solids	Quarterly	mg/L	444	314	379	444
			Fluoride	Quarterly	mg/L	0.7	0.7	0.8	0.9
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.003	0.002	0.003	0.003
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.005	<0.001	0.003	0.005
			Copper	Quarterly	mg/L	0.005	<0.001	0.003	0.005
			Nickel	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Lead	Quarterly	mg/L	0.006	0.001	0.004	0.006
			Zinc	Quarterly	mg/L	0.23	0.077	0.154	0.230
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

Groundwater Monitoring Data August 2018

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Qualifications related to limits

Samples taken as per approved methods.

EPA Point ID	Sampling Date	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value 14/08/2018	2018 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	14/08/2018	08/10/2018	pH	Quarterly	pH	8.56	8.15	8.36	8.56
			Electrical conductivity	Quarterly	µS/cm	1,610	1,610	1,645	1,680
			Sodium Absorption Ratio	Quarterly	-	6.38	4.06	5.22	6.38
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	66	66	84	101
			Chloride	Quarterly	mg/L	371	343	357	371
			Sodium	Quarterly	mg/L	201	177	189	201
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	<2	<2	<2	<2
			Fluoride	Quarterly	mg/L	1.4	1.4	3.5	5.5
			Nitrogen (total)	Quarterly	mg/L	3.5	3.40	3.45	3.50
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.6	1.6	1.7	1.7
			Sulfate	Quarterly	mg/L	205	205	229	252
			Total dissolved solids	Quarterly	mg/L	926	848	887	926
			Phosphorus	Quarterly	mg/L	0.12	0.12	0.34	0.55
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Zinc	Quarterly	m	0.009	0.009	0.018	0.026
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001

			Copper	Quarterly	mg/L	0.033	0.03	0.10	0.16
			Lead	Quarterly	mg/L	0.001	<0.001	0.001	0.001
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Nickel	Quarterly	mg/L	<0.001	<0.001	0.001	0.002
			Biocides (active component isothiazoline)	Quarterly	mg/L	<0.10	<0.10	<0.10	<0.10
			Dosing chemicals (active component benzotriazole)	Quarterly	mg/L	<0.10	<0.10	<0.10	<0.10
EPL point 2 BH1	14/08/2018	08/10/2018	pH	Quarterly	pH	7.84	7.84	7.84	7.84
			Conductivity	Quarterly	µS/cm	579	579	579	579
			Sodium Absorption Ratio	Quarterly	-	0.8	0.8	0.8	0.8
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	176	176	176	176
			Chloride	Quarterly	mg/L	42	42	42	42
			Sodium	Quarterly	mg/L	30	30	30	30
			Nitrogen (total)	Quarterly	mg/L	32.2	32.2	32.2	32.2
			Total Kjeldahl Nitrogen	Quarterly	mg/L	32.2	32.2	32.2	32.2
			Nitrate	Quarterly	mg/L	0.03	0.03	0.03	0.03
			Sulfate	Quarterly	mg/L	40	40	40	40
			Phosphorus	Quarterly	mg/L	27	27	27	27
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	586	586	586	586
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	1	1	1	1
			Arsenic	Quarterly	mg/L	0.013	0.013	0.013	0.013
			Cadmium	Quarterly	mg/L	0.0006	0.0006	0.0006	0.0006

			Chromium	Quarterly	mg/L	0.026	0.026	0.026	0.026
			Copper	Quarterly	mg/L	0.036	0.036	0.036	0.036
			Nickel	Quarterly	mg/L	0.027	0.027	0.027	0.027
			Lead	Quarterly	mg/L	0.137	0.137	0.137	0.137
			Zinc	Quarterly	mg/L	0.820	0.820	0.820	0.820
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 3 BH2	14/08/2018	08/10/2018	pH	Quarterly	pH	7.60	7.60	7.60	7.60
			Conductivity	Quarterly	µS/cm	436	436	436	436
			Sodium Absorption Ratio	Quarterly	-	0.3	0.3	0.3	0.3
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	178	178	178	178
			Chloride	Quarterly	mg/L	12	12	12	12
			Sodium	Quarterly	mg/L	10	10	10	10
			Nitrogen (total)	Quarterly	mg/L	17.8	17.8	17.8	17.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	17.7	17.7	17.7	17.7
			Nitrate	Quarterly	mg/L	0.14	0.14	0.14	0.14
			Sulfate	Quarterly	mg/L	18	18	18	18
			Phosphorus	Quarterly	mg/L	13	13	13	13
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	532	532	532	532
			Fluoride	Quarterly	mg/L	0.7	0.7	0.7	0.7
			Standing Water Level	Quarterly	m	1	1	1	1
			Arsenic	Quarterly	mg/L	0.006	0.006	0.006	0.006
			Cadmium	Quarterly	mg/L	0.0002	0.0002	0.0002	0.0002
			Chromium	Quarterly	mg/L	0.008	0.008	0.008	0.008
			Copper	Quarterly	mg/L	0.016	0.016	0.016	0.016
			Nickel	Quarterly	mg/L	0.011	0.011	0.011	0.011
			Lead	Quarterly	mg/L	0.051	0.051	0.051	0.051

			Zinc	Quarterly	mg/L	0.443	0.443	0.443	0.443
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 4 BH3	14/08/2018	08/10/2018	pH	Quarterly	pH	7.85	7.85	7.85	7.85
			Conductivity	Quarterly	µS/cm	519	519	519	519
			Sodium Absorption Ratio	Quarterly	-	0.57	0.6	0.6	0.6
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	167	167	167	167
			Chloride	Quarterly	mg/L	22	22	22	22
			Sodium	Quarterly	mg/L	19	19	19	19
			Nitrogen (total)	Quarterly	mg/L	16	16.0	16.0	16.0
			Total Kjeldahl Nitrogen	Quarterly	mg/L	12.2	12.2	12.2	12.2
			Nitrate	Quarterly	mg/L	3.77	3.77	3.77	3.77
			Sulfate	Quarterly	mg/L	32	32	32	32
			Phosphorus	Quarterly	mg/L	24.9	24.9	24.9	24.9
			Reactive Phosphorus	Quarterly	mg/L	0.08	0.08	0.08	0.08
			Total dissolved solids	Quarterly	mg/L	398	398	398	398
			Fluoride	Quarterly	mg/L	0.7	0.7	0.7	0.7
			Standing Water Level	Quarterly	m	1.2	1.2	1.2	1.2
			Arsenic	Quarterly	mg/L	0.003	0.003	0.003	0.003
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.004	0.004	0.004	0.004
			Copper	Quarterly	mg/L	0.005	0.005	0.005	0.005
			Nickel	Quarterly	mg/L	0.004	0.004	0.004	0.004
			Lead	Quarterly	mg/L	0.014	0.014	0.014	0.014
			Zinc	Quarterly	mg/L	0.134	0.134	0.134	0.134
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 5	14/08/2018	08/10/2018	pH	Quarterly	pH	7.39	7.39	7.39	7.39
			Conductivity	Quarterly	µS/cm	1260	1260	1260	1260

BH4			Sodium Absorption Ratio	Quarterly	-	0.77	0.8	0.8	0.8
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	172	172	172	172
			Chloride	Quarterly	mg/L	208	208	208	208
			Sodium	Quarterly	mg/L	38	38	38	38
			Nitrogen (total)	Quarterly	mg/L	23.5	23.5	23.5	23.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	23.4	23.4	23.4	23.4
			Nitrate	Quarterly	mg/L	0.08	0.08	0.08	0.08
			Sulfate	Quarterly	mg/L	145	145	145	145
			Phosphorus	Quarterly	mg/L	7.61	7.61	7.61	7.61
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	656	656	656	656
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	1	1	1	1
			Arsenic	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.023	0.023	0.023	0.023
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	14/08/2018	08/10/2018	pH	Quarterly	pH	7.96	7.96	7.96	7.96
			Conductivity	Quarterly	µS/cm	850	850	850	850
			Sodium Absorption Ratio	Quarterly	-	1.24	1.2	1.2	1.2
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	258	258	258	258

			Chloride	Quarterly	mg/L	87	87	87	87
			Sodium	Quarterly	mg/L	40	40	40	40
			Nitrogen (total)	Quarterly	mg/L	4.6	4.6	4.6	4.6
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.4	4.4	4.4	4.4
			Nitrate	Quarterly	mg/L	0.15	0.15	0.15	0.15
			Sulfate	Quarterly	mg/L	16	16	16	16
			Phosphorus	Quarterly	mg/L	3.6	3.6	3.6	3.6
			Reactive Phosphorus	Quarterly	mg/L	0.7	0.70	0.70	0.70
			Total dissolved solids	Quarterly	mg/L	483	483	483	483
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.8
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.005	0.005	0.005	0.005
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.011	0.011	0.011	0.011
			Copper	Quarterly	mg/L	0.007	0.007	0.007	0.007
			Nickel	Quarterly	mg/L	0.008	0.008	0.008	0.008
			Lead	Quarterly	mg/L	0.018	0.018	0.018	0.018
			Zinc	Quarterly	mg/L	0.224	0.224	0.224	0.224
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	14/08/2018	08/10/2018	pH	Quarterly	pH	8.04	8.04	8.04	8.04
			Conductivity	Quarterly	µS/cm	623	623	623	623
			Sodium Absorption Ratio	Quarterly	-	0.6	0.6	0.6	0.6
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	237	237	237	237
			Chloride	Quarterly	mg/L	29	29	29	29
			Sodium	Quarterly	mg/L	23	23	23	23
			Nitrogen (total)	Quarterly	mg/L	4.5	4.5	4.5	4.5

			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.2	4.2	4.2	4.2
			Nitrate	Quarterly	mg/L	0.32	0.32	0.32	0.32
			Sulfate	Quarterly	mg/L	21	21	21	21
			Phosphorus	Quarterly	mg/L	3.66	3.66	3.66	3.66
			Reactive Phosphorus	Quarterly	mg/L	0.38	0.38	0.38	0.38
			Total dissolved solids	Quarterly	mg/L	314	314	314	314
			Fluoride	Quarterly	mg/L	0.9	0.9	0.9	0.9
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.077	0.077	0.077	0.077
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

Groundwater Monitoring Data July 2018

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EPL no.: 20165

Qualifications related to limits

Samples taken as per approved methods.

EPA Point ID	Sampling Date	Date Results Received	Pollutant	Measurement Period and Monitoring Frequency Required by Licence	Units	Value 19/07/2018	2018 Values to date		
							Min Value	Mean Value	Max Value
EPL point 1 Cooling Tower Effluent	19/07/2018	25/07/2018	pH	Quarterly	pH	8.15	8.15	8.15	8.15
			Electrical conductivity	Quarterly	µS/cm	1,680	1,680	1,680	1,680
			Sodium Absorption Ratio	Quarterly	-	4.06	4.06	4.06	4.06
			Alkalinity as calcium carbonate (hardness)	Quarterly	mg/L	101	101	101	101
			Chloride	Quarterly	mg/L	343	343	343	343
			Sodium	Quarterly	mg/L	177	177	177	177
			Biochemical Oxygen Demand (BOD)	Quarterly	mg/L	<2	<2	<2	<2
			Fluoride	Quarterly	mg/L	5.5	5.5	5.5	5.5
			Nitrogen (total)	Quarterly	mg/L	3.4	3.4	3.4	3.4
			Total Kjeldahl Nitrogen	Quarterly	mg/L	1.7	1.7	1.7	1.7
			Sulfate	Quarterly	mg/L	252	252	252	252
			Total dissolved solids	Quarterly	mg/L	848	848	848	848
			Phosphorus	Quarterly	mg/L	0.55	0.55	0.55	0.55
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Zinc	Quarterly	m	0.026	0.026	0.026	0.026
			Arsenic	Quarterly	mg/L	0.001	0.001	0.001	0.001

			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	0.160	0.160	0.160	0.160
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Nickel	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Biocide	To be provided					
EPL point 2 BH1	19/07/2018	25/07/2018	pH	Quarterly	pH	7.84	7.84	7.84	7.84
			Conductivity	Quarterly	µS/cm	579	579	579	579
			Sodium Absorption Ratio	Quarterly	-	0.8	0.8	0.8	0.8
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	176	176	176	176
			Chloride	Quarterly	mg/L	42	42	42	42
			Sodium	Quarterly	mg/L	30	30	30	30
			Nitrogen (total)	Quarterly	mg/L	32.2	32.2	32.2	32.2
			Total Kjeldahl Nitrogen	Quarterly	mg/L	32.2	32.2	32.2	32.2
			Nitrate	Quarterly	mg/L	0.03	0.03	0.03	0.03
			Sulfate	Quarterly	mg/L	40	40	40	40
			Phosphorus	Quarterly	mg/L	27	27	27	27
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	586	586	586	586
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	1	1	1	1
			Arsenic	Quarterly	mg/L	0.013	0.013	0.013	0.013
			Cadmium	Quarterly	mg/L	0.0006	0.0006	0.0006	0.0006
			Chromium	Quarterly	mg/L	0.026	0.026	0.026	0.026
			Copper	Quarterly	mg/L	0.036	0.036	0.036	0.036
			Nickel	Quarterly	mg/L	0.027	0.027	0.027	0.027

			Lead	Quarterly	mg/L	0.137	0.137	0.137	0.137
			Zinc	Quarterly	mg/L	0.820	0.820	0.820	0.820
EPL point 3 BH2	19/07/2018	25/07/2018	Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			pH	Quarterly	pH	7.60	7.60	7.60	7.60
			Conductivity	Quarterly	µS/cm	436	436	436	436
			Sodium Absorption Ratio	Quarterly	-	0.3	0.3	0.3	0.3
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	178	178	178	178
			Chloride	Quarterly	mg/L	12	12	12	12
			Sodium	Quarterly	mg/L	10	10	10	10
			Nitrogen (total)	Quarterly	mg/L	17.8	17.8	17.8	17.8
			Total Kjeldahl Nitrogen	Quarterly	mg/L	17.7	17.7	17.7	17.7
			Nitrate	Quarterly	mg/L	0.14	0.14	0.14	0.14
			Sulfate	Quarterly	mg/L	18	18	18	18
			Phosphorus	Quarterly	mg/L	13	13	13	13
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	532	532	532	532
			Fluoride	Quarterly	mg/L	0.7	0.7	0.7	0.7
			Standing Water Level	Quarterly	m	1	1	1	1
			Arsenic	Quarterly	mg/L	0.006	0.006	0.006	0.006
			Cadmium	Quarterly	mg/L	0.0002	0.0002	0.0002	0.0002
			Chromium	Quarterly	mg/L	0.008	0.008	0.008	0.008
			Copper	Quarterly	mg/L	0.016	0.016	0.016	0.016
			Nickel	Quarterly	mg/L	0.011	0.011	0.011	0.011
			Lead	Quarterly	mg/L	0.051	0.051	0.051	0.051
			Zinc	Quarterly	mg/L	0.443	0.443	0.443	0.443
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001

EPL point 4 BH3	19/07/2018	25/07/2018	pH	Quarterly	pH	7.85	7.85	7.85	7.85
			Conductivity	Quarterly	µS/cm	519	519	519	519
			Sodium Absorption Ratio	Quarterly	-	0.57	0.6	0.6	0.6
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	167	167	167	167
			Chloride	Quarterly	mg/L	22	22	22	22
			Sodium	Quarterly	mg/L	19	19	19	19
			Nitrogen (total)	Quarterly	mg/L	16	16.0	16.0	16.0
			Total Kjeldahl Nitrogen	Quarterly	mg/L	12.2	12.2	12.2	12.2
			Nitrate	Quarterly	mg/L	3.77	3.77	3.77	3.77
			Sulfate	Quarterly	mg/L	32	32	32	32
			Phosphorus	Quarterly	mg/L	24.9	24.9	24.9	24.9
			Reactive Phosphorus	Quarterly	mg/L	0.08	0.08	0.08	0.08
			Total dissolved solids	Quarterly	mg/L	398	398	398	398
			Fluoride	Quarterly	mg/L	0.7	0.7	0.7	0.7
			Standing Water Level	Quarterly	m	1.2	1.2	1.2	1.2
			Arsenic	Quarterly	mg/L	0.003	0.003	0.003	0.003
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.004	0.004	0.004	0.004
			Copper	Quarterly	mg/L	0.005	0.005	0.005	0.005
			Nickel	Quarterly	mg/L	0.004	0.004	0.004	0.004
EPL point 5	19/07/2018	25/07/2018	pH	Quarterly	pH	7.39	7.39	7.39	7.39
			Conductivity	Quarterly	µS/cm	1260	1260	1260	1260

BH4			Sodium Absorption Ratio	Quarterly	-	0.77	0.8	0.8	0.8
			Total Alkalinity as calcium carbonate	Quarterly	mg/L	172	172	172	172
			Chloride	Quarterly	mg/L	208	208	208	208
			Sodium	Quarterly	mg/L	38	38	38	38
			Nitrogen (total)	Quarterly	mg/L	23.5	23.5	23.5	23.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	23.4	23.4	23.4	23.4
			Nitrate	Quarterly	mg/L	0.08	0.08	0.08	0.08
			Sulfate	Quarterly	mg/L	145	145	145	145
			Phosphorus	Quarterly	mg/L	7.61	7.61	7.61	7.61
			Reactive Phosphorus	Quarterly	mg/L	<0.01	<0.01	<0.01	<0.01
			Total dissolved solids	Quarterly	mg/L	656	656	656	656
			Fluoride	Quarterly	mg/L	0.6	0.6	0.6	0.6
			Standing Water Level	Quarterly	m	1	1	1	1
			Arsenic	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Lead	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Zinc	Quarterly	mg/L	0.023	0.023	0.023	0.023
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 6 BH5	19/07/2018	25/07/2018	pH	Quarterly	pH	7.96	7.96	7.96	7.96
			Conductivity	Quarterly	µS/cm	850	850	850	850
			Sodium Absorption Ratio	Quarterly	-	1.24	1.2	1.2	1.2
			Total Alkalinity as	Quarterly	mg/L	258	258	258	258

			calcium carbonate						
			Chloride	Quarterly	mg/L	87	87	87	87
			Sodium	Quarterly	mg/L	40	40	40	40
			Nitrogen (total)	Quarterly	mg/L	4.6	4.6	4.6	4.6
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.4	4.4	4.4	4.4
			Nitrate	Quarterly	mg/L	0.15	0.15	0.15	0.15
			Sulfate	Quarterly	mg/L	16	16	16	16
			Phosphorus	Quarterly	mg/L	3.6	3.6	3.6	3.6
			Reactive Phosphorus	Quarterly	mg/L	0.7	0.70	0.70	0.70
			Total dissolved solids	Quarterly	mg/L	483	483	483	483
			Fluoride	Quarterly	mg/L	0.8	0.8	0.8	0.8
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.005	0.005	0.005	0.005
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	0.011	0.011	0.011	0.011
			Copper	Quarterly	mg/L	0.007	0.007	0.007	0.007
			Nickel	Quarterly	mg/L	0.008	0.008	0.008	0.008
			Lead	Quarterly	mg/L	0.018	0.018	0.018	0.018
			Zinc	Quarterly	mg/L	0.224	0.224	0.224	0.224
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
EPL point 7 BH6	19/07/2018	25/07/2018	pH	Quarterly	pH	8.04	8.04	8.04	8.04
		Conductivity	Quarterly	µS/cm	623	623	623	623	
		Sodium Absorption Ratio	Quarterly	-	0.6	0.6	0.6	0.6	
		Total Alkalinity as calcium carbonate	Quarterly	mg/L	237	237	237	237	
		Chloride	Quarterly	mg/L	29	29	29	29	
		Sodium	Quarterly	mg/L	23	23	23	23	

			Nitrogen (total)	Quarterly	mg/L	4.5	4.5	4.5	4.5
			Total Kjeldahl Nitrogen	Quarterly	mg/L	4.2	4.2	4.2	4.2
			Nitrate	Quarterly	mg/L	0.32	0.32	0.32	0.32
			Sulfate	Quarterly	mg/L	21	21	21	21
			Phosphorus	Quarterly	mg/L	3.66	3.66	3.66	3.66
			Reactive Phosphorus	Quarterly	mg/L	0.38	0.38	0.38	0.38
			Total dissolved solids	Quarterly	mg/L	314	314	314	314
			Fluoride	Quarterly	mg/L	0.9	0.9	0.9	0.9
			Standing Water Level	Quarterly	m	2	2	2	2
			Arsenic	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Cadmium	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
			Chromium	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Copper	Quarterly	mg/L	<0.001	<0.001	<0.001	<0.001
			Nickel	Quarterly	mg/L	0.002	0.002	0.002	0.002
			Lead	Quarterly	mg/L	0.001	0.001	0.001	0.001
			Zinc	Quarterly	mg/L	0.077	0.077	0.077	0.077
			Mercury	Quarterly	mg/L	<0.0001	<0.0001	<0.0001	<0.0001