

Annex F6

Effluent Quality Monitoring Results

Table F6.1 Effluent Monitoring Results

		1 May 22	2 May 22	3 May 22	4 May 22	5 May 22	6 May 22	7 May 22	8 May 22	9 May 22	10 May 22	11 May 22
On-site Measurements												
Temperature	°C	27.1	21.5	27.8	29.4	30.2	27.7	27.7	31.0	30.2	29.3	27.2
pH Value	pH Unit	8.4	8.4	8.4	8.3	8.2	8.3	8.3	8.3	8.3	8.3	8.2
Volume Discharged	m³	970	948	665	196	130	235	976	1,219	456	390	767
Laboratory Analysis												
Suspended Solids (SS)	mg/L	26.6	52.0	49.8	14.5	11.1	10.9	11.5	26.8	17.0	10.5	14.8
Alkalinity	mg/L	2490	2390	2230	2250	2240	2260	2210	2320	2310	2320	2330
Ammoniacal-nitrogen	mg/L	0.27	0.26	0.33	0.29	0.34	0.28	0.30	0.27	0.23	0.30	0.44
Chloride	mg/L	2440	2380	2150	2070	2020	2140	2200	2140	2420	2300	1980
Nitrite-nitrogen	mg/L	0.19	0.15	0.23	0.21	0.28	0.26	0.28	0.16	0.17	0.28	0.21
Phosphate	mg/L	8.91	8.73	8.28	8.11	7.95	8.30	8.43	8.38	7.73	7.87	7.84
Sulphate	mg/L	143	151	143	143	144	124	142	131	127	131	150
Total Nitrogen	mg/L	80.1	89.1	94.9	95.1	87.2	97.6	88.0	71.2	81.1	80.4	76.0
Nitrate-nitrogen	mg/L	30.0	36.4	43.4	45.8	40.3	40.4	37.8	19.3	28.6	27.0	27.2
Total Inorganic Nitrogen	mg/L	30.46	36.81	43.96	46.30	40.92	40.94	38.38	19.73	29.00	27.58	27.85
Biochemical Oxygen Demand (BOD)	mg/L	9	11	7	11	4	5	8	8	9	10	5
Chemical Oxygen Demand (COD)	mg/L	1130	1100	978	971	863	935	989	836	980	941	1030
Oil & Grease	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Organic Carbon (TOC)	mg/L	381	384	353	340	385	379	464	404	4340	407	405
Boron	µg/L	5790	5660	5940	5240	5090	5240	5170	5460	5660	5820	5540
Calcium	mg/L	23.3	22.0	24.3	27.9	30.0	28.3	28.1	28.3	27.5	27.1	25.3
Iron	mg/L	1.92	1.86	1.72	1.72	1.66	1.78	1.75	1.94	1.88	1.87	1.77
Magnesium	mg/L	35.0	31.1	30.9	30.1	31.6	34.5	34.5	35.6	38.2	37.3	32.1
Potassium	mg/L	951	874	851	824	860	842	826	838	902	880	882
Cadmium	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	µg/L	133	133	124	123	118	123	121	138	137	137	130
Copper	µg/L	<10	40	40	<10	<10	<10	<10	<10	<10	<10	<10
Nickel	µg/L	127	124	114	111	107	111	108	124	129	126	122
Zinc	µg/L	79	100	129	88	84	83	81	75	72	72	68

		12 May 22	13 May 22	14 May 22	15 May 22	16 May 22	17 May 22	18 May 22	19 May 22	20 May 22	21 May 22	22 May 22	23 May 22
On-site Measurements													
Temperature	°C	30.4	33.0	29.0	22.8	28.1	33.5	33.5	34.9	32.4	32.1	28.4	34.4
pH Value	pH Unit	8.3	8.1	8.0	8.0	8.1	7.9	7.8	8.0	7.8	8.0	7.9	7.9
Volume Discharged	m³	1,479	1,496	1,495	1,495	1,496	1,492	1,496	1,496	1,495	1,490	1,495	1,496
Laboratory Analysis													
Suspended Solids (SS)	mg/L	22.8	17.3	14.7	47.8	4.2	18.0	20.7	24.1	23.2	22.7	30.2	53.4
Alkalinity	mg/L	1950	1610	1270	1060	937	856	766	767	784	783	816	962
Ammoniacal-nitrogen	mg/L	0.54	0.36	0.39	0.35	0.36	0.61	0.58	0.64	0.47	0.57	0.01	0.40
Chloride	mg/L	1760	1510	1190	1190	1100	863	857	925	924	889	1270	1160
Nitrite-nitrogen	mg/L	0.13	0.13	0.26	0.07	0.09	0.06	0.08	0.05	0.04	<0.10	<0.10	<0.10
Phosphate	mg/L	6.56	4.69	2.90	1.61	0.79	0.47	0.20	0.57	0.92	0.99	1.02	1.95
Sulphate	mg/L	181	230	320	429	455	492	604	634	632	650	627	548
Total Nitrogen	mg/L	70.8	88.0	95.5	136.0	100.0	110.0	108.0	105.0	100.0	96.1	107.0	127.0
Nitrate-nitrogen	mg/L	25.2	39.8	48.4	53.9	61.0	64.4	64.9	62.6	59.7	57.4	68.4	81.8
Total Inorganic Nitrogen	mg/L	25.87	40.29	49.05	54.32	61.45	65.07	65.56	63.29	60.21	58.07	68.51	82.30
Biochemical Oxygen Demand (BOD)	mg/L	7	13	14	12	9	4	8	8	8	8	9	11
Chemical Oxygen Demand (COD)	mg/L	802	762	629	576	516	436	424	410	427	444	495	615
Oil & Grease	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Organic Carbon (TOC)	mg/L	335	297	272	229	211	182	163	177	151	171	192	220
Boron	µg/L	4540	4140	3550	3180	2880	2570	2580	2600	2840	2680	2740	3190
Calcium	mg/L	44.1	61.6	96.8	133.0	158.0	183.0	182.0	188.0	200.0	176.0	156.0	135.0
Iron	mg/L	1.53	1.20	1.49	0.81	0.61	0.63	0.50	0.49	0.52	0.47	0.58	0.87
Magnesium	mg/L	26.3	26.6	26.0	30.0	32.9	36.8	35.8	37.3	39.4	35.8	35.7	35.1
Potassium	mg/L	679	603	505	465	423	417	365	384	395	359	402	471
Cadmium	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	µg/L	114	96	78	68	59	57	51	53	50	48	56	65
Copper	µg/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	11
Nickel	µg/L	104	88	70	58	50	45	38	37	36	34	47	56
Zinc	µg/L	79	81	71	66	62	63	56	56	56	55	72	93

		24 May 22	25 May 22	26 May 22	27 May 22	28 May 22	29 May 22	30 May 22	31 May 22
On-site Measurements									
Temperature	°C	29.1	28.6	31.5	30.5	32.6	31.5	33.6	32.5
pH Value	pH Unit	8.0	8.1	8.3	8.2	8.2	8.3	8.3	8.4
Volume Discharged	m³	1,434	1,275	1,186	798	569	1,046	1,035	1,160
Laboratory Analysis									
Suspended Solids (SS)	mg/L	37.5	35.2	44	44	79.8	67.2	40.2	34.6
Alkalinity	mg/L	1130	1270	1360	1430	1490	1490	1660	1750
Ammoniacal-nitrogen	mg/L	0.43	0.38	0.37	0.3	0.75	0.24	0.22	0.59
Chloride	mg/L	1200	1300	1400	1500	1570	1750	1880	1730
Nitrite-nitrogen	mg/L	0.10	0.13	0.07	0.13	0.31	0.12	0.12	0.11
Phosphate	mg/L	2.53	2.56	2.83	3.13	4.93	5.05	5.23	5.75
Sulphate	mg/L	527	508	400	377	338	342	290	275
Total Nitrogen	mg/L	117.0	102.0	90.9	98.9	104.0	96.8	98.1	101.0
Nitrate-nitrogen	mg/L	67.5	46.2	41.5	43.6	52.7	45.6	48.7	51.5
Total Inorganic Nitrogen	mg/L	68.03	46.71	41.94	44.03	53.76	45.96	49.04	52.20
Biochemical Oxygen Demand (BOD)	mg/L	9	10	9	9	17	13	10	10
Chemical Oxygen Demand (COD)	mg/L	632	748	682	825	856	790	883	922
Oil & Grease	mg/L	<5	<5	<5	<5	<5	<5	<5	<5
Total Organic Carbon (TOC)	mg/L	247	278	271	298	298	315	329	336
Boron	µg/L	3320	3770	3670	3810	4160	3800	4460	4600
Calcium	mg/L	118.0	121.0	109	98.6	87.2	81.2	65.4	57.8
Iron	mg/L	0.96	1.20	1.28	1.43	1.41	1.34	1.32	1.28
Magnesium	mg/L	32.3	35.5	34.5	34.4	33.5	29.2	27.8	27
Potassium	mg/L	499	576	591	647	674	644	693	712
Cadmium	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chromium	µg/L	68	76	79	80	86	88	89	94
Copper	µg/L	<10	<10	11	14	23	17	13	11
Nickel	µg/L	61	70	73	77	81	88	96	101
Zinc	µg/L	98	102	105	129	168	116	104	99