

8th July 2022

██████████
Scottish Environment Protection Agency, Edinburgh Office
Silvan House,
231 Corstorphine Road,
Edinburgh,
EH12 7AT

Dear ██████████,

Pollution Prevention and Control Act 1999
Permit PPC/A/1013494
Condition 4.2.5

Please find attached the revised annual water emissions report as required under Condition 4.2.5 of PPC/A/1013494, previously submitted on 31st January 2022. This report now also includes sample results for mercury.

Management and control of the effluent system throughout 2021 has resulted in no exceedances of a Composite Lower Limit (CL) or Composite Upper Limit (CU) consents for Chemical Oxygen Demand (COD) during this period. There have also been no exceedances of pH limits during this period.

FEP had twenty-one exceedances of the Composite Lower Limit (CL) consent of 60kg/d for Total Hydrocarbon. The method of sampling, and abnormal plant shut-down and start-up operations due to planned plant maintenance were identified as being key contributing factors. FEP typically has a continuous sampler in place at W01, referred to as the 'composite sampler' which takes a volume of effluent proportional to flow over a 24 hour period to give a representative daily sample. As advised to SEPA previously, the existing composite sampler at W01 failed and a new sampler was designed and subsequently installed on 21st September 2021. Per communication to SEPA on 1st November 2021, the sampler was found to be faulty and taken offline for technical troubleshooting on 30th September 2021. Mechanical repair of the sampler is planned for 1Q22.

The sample basis has therefore been predominantly 'spot' or 'grab' as opposed to continuous. Samples of the effluent are taken once per shift as a minimum and a robust procedure is in place detailing actions to be taken in response to an abnormal result. This includes an increasing the frequency of sampling to 3 hourly for a minimum of 24 hours, undertaking visual inspections and where necessary, deploying additional treatment (e.g. activated carbon filtration) to ensure effluent is within consent limits.

For reporting purposes the highest daily grab sample has been reported unless further investigation warranted flow weighting consideration. The following list details the date of the referenced Composite Lower Limit exceedances for THC. Instances marked with a * were reported to SEPA at the time for their comment.

- 16th, 17th, 18th, 23rd & 24th April (THC)
- 30th July (THC)
- 2nd, 3rd, 4th & 5th August (THC)
- 18th September (THC)
- 28th*, 29th, 30th & 31st October (THC)
- 6th, 7th, 19th, 22nd & 25th November (THC)
- 4th December (THC)

A discrepancy was noted in the 30th July instance which is suspected to be related to the way grab samples were taken and processed in order to confirm compliance. Typically, grab samples are taken and results received the following day from the onsite laboratory. However over weekends, or where results were required to respond to a potential water quality issue, shift technicians are trained to run samples in the laboratory to ensure fast turnaround time. On Friday 30th July shift took additional grab samples in response to evidence of a light sheen, recorded the result in their logs and adjusted effluent flows accordingly to ensure they stayed within consent limits. Comparison of the shift logs against results from the laboratory record system do not match for this day. It cannot be confirmed whether this is the result of a typographic error or other issue, so the shift records have been used in this instance as it is clear from the logs that the shift were monitoring the situation closely at the time.

Results for pH, flow and temperature were all within consent limits. During the following six instances relating to pH, the remote valve to stop flow to discharge was immediately activated. In the one minute the remote isolation valve was in the process of closing the pH fell below the consent limit, indicating there may have been a very small release of effluent during that transition. These are not considered as incidents.

- 12th & 24th January pH<5 for <1min
- 13th February pH<5 for <1min
- 9th & 10th March pH<5 for <1min

From 14th to 18th May 2021, the effluent line W01 was taken out of service for planned maintenance. This was reported to SEPA on 1st April 2021. No grab samples from emission point W01 were taken during this period. No effluent was released to emission point W01 during this time.

Please do not hesitate to get in contact if you require any further information.

Yours sincerely,

[REDACTED]
[REDACTED]

CC: [REDACTED]
[REDACTED]

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow	Daily Volume discharged	Daily average Temperature	Daily average pH	100 kg/day maximum consent 60 Kg/day 95%ile consent		2,250 kg/day maximum consent 1,250 Kg/day 95%ile consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
	(T/hr)	(M3)	(°C)	(pH units)	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/01/2021	276	6631	21	7	3.3	22.1	56	372.7	
02/01/2021	304	7299	21	6.76	5.3	38.9	64	464.4	
03/01/2021	293	7039	19	6.95	4.7	32.7	67	472.0	
04/01/2021	290	6949	24	7.18	5.2	35.8	66	457.6	
05/01/2021	265	6357	21	7.07	3.4	21.6	54	344.5	
06/01/2021	177	4256	21	7.36	3.5	14.7	110	468.2	2
07/01/2021	315	7558	21	7.00	3.7	28.0	66	497.8	
08/01/2021	225	5398	19	6.87	4.2	22.7	67	362.7	
09/01/2021	167	4001	20	6.75	3.1	12.4	82	326.3	
10/01/2021	232	5568	20	6.89	1.3	7.2	72	400.9	
11/01/2021	169	4046	21	7.23	2.4	9.7	60	244.3	
12/01/2021	109	2609	16	6.43	3.6	9.3	72	187.2	
13/01/2021	0	0	18	7.52	2.4	0.0	113	0.0	1
14/01/2021	188	4522	16	6.80	2.3	10.4	52	233.6	
15/01/2021	0	0	21	6.14	3.8	0.0	75	0.0	
16/01/2021	251	6013	18	6.74	2.5	15.0	58	351.1	
17/01/2021	264	6337	19	6.74	3.7	23.1	53	334.9	
18/01/2021	274	6572	17	6.69	3.5	22.7	51	332.2	
19/01/2021	269	6456	17	6.67	1.6	10.3	57	365.7	
20/01/2021	239	5727	22	7.02	2.1	11.7	61	350.8	1
21/01/2021	282	6770	18	6.87	2.2	14.6	62	422.4	
22/01/2021	296	7105	19	6.96	2.1	14.6	68	483.1	
23/01/2021	279	6705	18	7.10	2.5	16.8	58	386.6	
24/01/2021	221	5316	17	6.65	0.8	4.3	57	301.9	
25/01/2021	283	6791	18	6.80	1.6	10.6	65	441.8	
26/01/2021	310	7447	19	6.82	2.6	19.4	50	369.3	
27/01/2021	322	7730	23	6.78	3.4	26.1	65	501.5	1
28/01/2021	317	7599	21	6.50	4.7	35.3	63	478.4	
29/01/2021	288	6924	21	6.73	6.0	41.3	81	563.1	
30/01/2021	319	7662	20	7.20	4.3	32.9	44	338.7	
31/01/2021	317	7607	19	6.37	2.6	19.8	50	376.9	

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow	Daily Volume discharged	Daily average Temperature	Daily average pH	100 kg/day maximum consent		2,250 kg/day maximum consent		No consent
					60 Kg/day 95%ile consent		1,250 Kg/day 95%ile consent		
					Composite Result	Daily Loading	Composite Result	Daily Loading	
(T/hr)	(M3)	°C	(pH units)	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)	
01/02/2021	297	7122	23	7	3.5	24.9	65	461.2	
02/02/2021	317	7615	21	6.92	3.3	25.1	48	363.2	
03/02/2021	274	6574	22	7.40	5.0	32.5	64	420.8	2
04/02/2021	313	7523	18	7.05	4.2	31.8	71	533.4	
05/02/2021	313	7517	17	6.75	2.6	19.5	53	397.3	
06/02/2021	310	7443	17	6.53	3.1	23.1	79	589.1	
07/02/2021	305	7326	18	6.97	2.5	18.3	67	489.0	
08/02/2021	305	7330	19	6.71	2.1	15.4	64	467.6	
09/02/2021	259	6208	20	6.75	2.8	17.4	57	350.7	
10/02/2021	0	0	18	6.93	2.5	0.0	65	0.0	
11/02/2021	0	0	19	7.16	2.6	0.0	66	0.0	1
12/02/2021	185	4430	19	7.01	1.9	8.4	62	275.3	
13/02/2021	0	0	20	6.46	1.8	0.0	109	0.0	
14/02/2021	0	0	18	6.58	1.8	0.0	65	0.0	
15/02/2021	234	5606	19	6.53	2.9	16.0	104	580.2	
16/02/2021	181	4350	21	6.97	2.9	12.6	91	397.0	
17/02/2021	219	5250	23	6.86	3.8	20.0	71	372.2	1
18/02/2021	224	5375	23	6.38	3.2	16.9	94	506.9	
19/02/2021	305	7314	22	6.58	6.7	48.6	69	502.9	
20/02/2021	231	5553	23	6.96	2.9	16.1	87	482.8	
21/02/2021	247	5917	24	6.51	4.0	23.7	87	514.2	
22/02/2021	295	7075	25	6.81	2.7	19.1	45	317.7	
23/02/2021	188	4515	24	7.07	2.9	13.1	73	327.7	
24/02/2021	267	6406	25	6.75	3.3	20.8	72	461.3	1
25/02/2021	264	6325	23	7.14	3.8	24.0	73	459.2	
26/02/2021	229	5496	23	6.79	4.7	25.6	77	421.3	
27/02/2021	182	4377	22	6.74	7.7	33.7	7	32.0	
28/02/2021	187	4500	23	6.90	2.0	9.1	55	248.2	

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
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					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
	(T/hr)	(M3)	°C	(pH units)	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/03/2021	265	6367	23	7	2.2	13.7	55	353.0	
02/03/2021	235	5629	22	6.70	4.0	22.5	74	414.9	
03/03/2021	188	4514	22	6.77	2.0	9.0	71	320.2	1
04/03/2021	166	3991	23	6.91	3.0	11.8	104	415.1	
05/03/2021	180	4330	23	6.76	2.4	10.2	94	408.5	
06/03/2021	0	0	20	6.84	1.7	0.0	115	0.0	
07/03/2021	0	0	19	7.14	2.2	0.0	102	0.0	
08/03/2021	236	5673	19	6.91	3.6	20.4	75	428.0	
09/03/2021	225	5389	21	6.45	3.2	17.2	73	391.3	
10/03/2021	176	4216	20	6.28	4.6	19.4	77	325.5	2
11/03/2021	254	6100	19	6.46	2.2	13.4	62	378.2	
12/03/2021	254	6091	19	6.61	3.9	23.8	60	368.2	
13/03/2021	169	4049	19	7.11	5.0	20.0	25	100.4	
14/03/2021	206	4954	19	7.15	3.9	19.1	194	962.0	
15/03/2021	244	5866	20	6.81	4.3	25.2	52	307.1	
16/03/2021	263	6319	21	6.64	3.7	23.1	78	493.5	
17/03/2021	255	6118	20	7.04	2.7	16.5	74	453.4	5
18/03/2021	244	5862	22	7.28	3.6	20.8	96	561.3	
19/03/2021	206	4951	21	7.20	1.9	9.4	58	286.9	
20/03/2021	239	5743	22	6.71	3.1	17.8	83	476.6	
21/03/2021	205	4921	21	6.91	3.3	16.2	83	407.5	
22/03/2021	288	6904	21	7.11	2.4	16.3	67	465.1	
23/03/2021	290	6952	21	6.94	4.7	32.7	64	446.7	
24/03/2021	225	5409	21	6.57	2.0	10.8	64	343.5	7
25/03/2021	223	5362	21	7.05	2.3	12.3	78	416.6	
26/03/2021	285	6848	21	6.75	4.3	29.4	93	633.8	
27/03/2021	224	5372	20	6.34	3.0	15.8	64	344.9	
28/03/2021	171	4103	20	6.61	2.0	8.0	77	314.7	
29/03/2021	223	5345	21	7.03	5.0	26.7	91	486.9	
30/03/2021	280	6732	21	6.60	3.4	22.6	66	447.3	
31/03/2021	271	6511	20	6.79	2.8	18.2	80	523.8	15

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	Daily average Flow	Daily Volume discharged	Daily average Temperature	Daily average pH	100 kg/day maximum consent 60 Kg/day 95%ile consent		2,250 kg/day maximum consent 1,250 Kg/day 95%ile consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
	(T/hr)	(M3)	°C	(pH units)	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/04/2021	166	3978	21	6.61	1.7	6.6	75	297.3	
02/04/2021	102	2445	21	6.65	2.3	5.6	80	196	
03/04/2021	266	6384	23	6.82	1.6	10.4	60	381	
04/04/2021	262	6289	24	7.02	2.0	12.3	93	585	
05/04/2021	278	6670	21	6.90	2.2	14.3	61	406	
06/04/2021	237	5677	21	6.78	2.0	11.1	88	500	
07/04/2021	0	0	20	6.94	8.0	0.0	143	0	4
08/04/2021	0	0	17	6.81	1.4	0.0	89	0	
09/04/2021	0	0	16	6.45	1.2	0.0	111	0	
10/04/2021	0	0	15	6.56	1.9	0.0	252	0	
11/04/2021	162	3889	16	6.59	2.3	8.8	94	366	
12/04/2021	250	5997	18	6.50	4.8	28.8	102	614	
13/04/2021	213	5120	20	6.70	4.6	23.6	102	522	
14/04/2021	127	3055	20	7.23	12.2	37.4	117	356	1
15/04/2021	206	4947	20	6.77	8.7	42.8	93	462	
16/04/2021	277	6639	23	6.38	9.8	64.8	102	674	
17/04/2021	211	5068	24	6.56	14.0	74.4	111	564	
18/04/2021	255	6116	25	6.89	10.3	72.8	105	643	
19/04/2021	306	7336	27	6.57	6.3	45.9	86	630	
20/04/2021	305	7313	28	6.36	4.4	32.2	68	501	
21/04/2021	155	3716	29	7.46	27.5	57.5	140	519	
22/04/2021	85	2049	28	7.35	25.4	52.1	222	454	
23/04/2021	215	5163	27	6.58	12.7	79.1	115	594	
24/04/2021	290	6970	27	6.84	6.6	68.0	61	426	2
25/04/2021	303	7274	29	6.69	6.1	44.7	61	445	
26/04/2021	212	5100	26	6.64	7.0	35.8	156	796	
27/04/2021	213	5104	23	6.68	7.7	39.5	58	298	
28/04/2021	207	4969	21	6.63	4.4	21.7	48	238	
29/04/2021	198	4759	21	7.03	4.7	22.4	47	224	
30/04/2021	177	4248	22	6.93	6.6	27.9	56	236	

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	Daily average Flow	Daily Volume discharged	Daily average Temperature	Daily average pH	100 kg/day maximum consent 60 Kg/day 95%ile consent		2,250 kg/day maximum consent 1,250 Kg/day 95%ile consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
	(T/hr)	(M3)	°C	(pH units)	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/05/2021	200	4793	22	6.85	5.9	28.1	42	199.7	12
02/05/2021	199	4781	22	6.88	2.9	13.6	27	130.0	
03/05/2021	118	2835	21	6.97	12.4	35.1	52	147.1	
04/05/2021	286	6875	19	6.71	3.4	23.2	40	274.1	
05/05/2021	244	5864	17	6.75	2.7	15.6	31	181.2	
06/05/2021	187	4485	15	6.76	3.0	13.5	33	149.1	
07/05/2021	121	2910	14	7.26	3.3	9.5	35	102.9	
08/05/2021	137	3294	14	7.03	3.4	11.1	36	118.9	6
09/05/2021	91	2193	14	7.33	2.1	4.5	27	60.1	
10/05/2021	99	2372	15	7.39	2.8	6.5	35	82.9	
11/05/2021	75	1798	15	7.38	2.2	3.9	31	56.1	
12/05/2021	111	2667	14	7.46	1.6	4.3	24	64.8	2
13/05/2021	121	2910	14	7.54	1.9	5.4	28	81.8	
14/05/2021	0	0	13	7.04	1.7	0.0	29	0.0	
15/05/2021	0	0	13	6.39					
16/05/2021	0	0	13	5.53					
17/05/2021	0	0	12	5.50					
18/05/2021	0	0	13	5.61					
19/05/2021	49	1172	14	7.14	7.7	9.0	48	55.9	8
20/05/2021	111	2673	15	7.76	3.5	9.3	40	107.7	
21/05/2021	117	2815	14	7.62	3.7	10.4	38	107.7	
22/05/2021	111	2653	13	7.60	1.7	4.4	28	74.2	
23/05/2021	49	1183	14	7.79	1.6	1.9	29	34.7	
24/05/2021	101	2426	13	7.67	1.8	4.4	31	74.7	
25/05/2021	117	2796	13	7.80	1.2	3.4	26	71.6	
26/05/2021	118	2822	13	7.91	1.0	2.7	24	68.9	2
27/05/2021	108	2592	14	7.90	0.9	2.4	22	56.7	
28/05/2021	102	2455	15	7.89	2.2	5.3	29	71.8	
29/05/2021	67	1609	16	7.86	2.9	4.7	28	45.1	
30/05/2021	0	0	17	7.87	0.9	0.0	23	0.0	
31/05/2021	0	0	18	7.75	3.3	0.0	33	0.0	

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					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
	(T/hr)	(M3)	°C	(pH units)	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/06/2021	77	1839	18	7.82	3.4	6.2	33.2	61.1	
02/06/2021	0	0	18	7.60	4.1	0.0	35.9	0.0	1
03/06/2021	73	1748	18	7.68	4.7	8.1	38.1	66.6	
04/06/2021	81	1941	18	7.44	6.0	11.6	40.6	78.8	
05/06/2021	107	2570	17	7.31	5.0	13.0	41.1	105.7	
06/06/2021	144	3451	18	7.36	4.6	15.9	21.1	72.7	
07/06/2021	140	3361	18	6.95	4.0	13.4	32.7	109.9	
08/06/2021	127	3046	18	7.00	5.1	15.4	30.1	91.7	
09/06/2021	122	2937	17	6.86	1.4	4.1	28.0	82.2	0
10/06/2021	118	2833	17	6.94	4.0	11.3	28.5	80.7	
11/06/2021	0	0	17	6.97	2.9	0.0	27.5	0.0	
12/06/2021	58	1395	17	6.98	2.6	3.6	30.4	42.4	
13/06/2021	92	2198	17	6.91	4.3	9.3	34.0	74.7	
14/06/2021	124	2966	18	7.20	6.4	18.8	22.8	67.5	
15/06/2021	75	1805	17	7.09	2.5	4.6	26.8	48.4	
16/06/2021	86	2053	17	7.19	2.2	4.4	26.2	53.8	2
17/06/2021	102	2458	17	7.35	2.6	6.4	49.2	120.9	
18/06/2021	90	2160	17	6.86	2.6	5.5	47.1	101.6	
19/06/2021	156	3751	16	7.34	1.3	4.7	28.5	106.9	
20/06/2021	121	2911	17	7.13	1.7	4.9	48.4	140.9	
21/06/2021	161	3867	18	7.08	1.3	5.0	38.3	148.1	
22/06/2021	144	3445	18	6.81	1.3	4.5	31.5	108.5	
23/06/2021	133	3181	19	6.87	2.5	7.8	31.6	100.4	1
24/06/2021	122	2935	20	7.17	1.8	5.1	36.2	106.3	
25/06/2021	154	3697	19	7.12	1.6	5.9	35.5	131.1	
26/06/2021	172	4138	20	7.06	3.1	12.8	43.5	180.0	
27/06/2021	130	3115	23	6.65	8.3	25.7	48.1	149.9	
28/06/2021	246	5913	26	6.63	1.9	11.2	28.9	170.6	
29/06/2021	281	6746	28	6.45	3.4	22.9	45.0	303.3	
30/06/2021	278	6676	28	6.78	1.3	8.9	36.6	244.3	0

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow	Daily Volume discharged	Daily average Temperature	Daily average pH	100 kg/day maximum consent 60 Kg/day 95%ile consent		2,250 kg/day maximum consent 1,250 Kg/day 95%ile consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
					(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/07/2021	270	6477	28	6.96	1.5	9.4	35.6	230.3	
02/07/2021	264	6329	31	7.14	1.5	9.2	36.0	227.8	
03/07/2021	189	4545	29	6.59	3.5	15.9	46.4	210.9	
04/07/2021	232	5563	28	6.39	3.4	18.6	39.5	219.5	
05/07/2021	232	5567	27	6.40	2.9	16.1	37.5	208.5	
06/07/2021	255	6114	28	6.36	1.7	10.4	32.4	198.1	
07/07/2021	253	6078	27	6.38	4.0	24.3	39.5	240.1	3.0
08/07/2021	248	5950	29	6.97	7.6	45.0	53.5	318.3	
09/07/2021	248	5955	28	6.95	5.0	29.8	34.2	203.7	
10/07/2021	242	5808	29	6.71	10.4	56.9	81.8	474.9	
11/07/2021	162	3878	28	6.87	4.3	16.5	53.2	206.1	
12/07/2021	122	2933	25	6.56	4.0	11.6	57.9	169.7	
13/07/2021	128	3069	26	6.85	8.1	24.9	68.5	210.1	
14/07/2021	115	2760	26	7.01	7.4	20.5	71.7	197.8	
15/07/2021	238	5710	25	6.93	2.7	15.6	46.1	263.0	
16/07/2021	232	5563	27	7.04	4.3	23.9	37.8	210.3	
17/07/2021	230	5515	28	6.94	3.7	20.1	20.9	115.0	
18/07/2021	159	3822	27	6.63	2.4	9.2	22.4	85.6	
19/07/2021	243	5827	28	6.94	1.6	9.3	39.2	228.4	
20/07/2021	214	5144	28	6.77	3.5	17.7	62.2	319.7	
21/07/2021	96	2315	30	5.52	1.9	4.3	62.5	144.7	
22/07/2021	277	6655	31	6.57	2.2	14.3	51.5	342.4	
23/07/2021	264	6328	32	7.01	2.7	16.8	42.6	269.6	
24/07/2021	180	4331	29	7.18	2.6	11.0	30.7	132.8	
25/07/2021	225	5408	32	7.17	2.2	11.6	58.0	313.6	
26/07/2021	220	5289	30	7.03	3.3	17.5	64.1	338.8	
27/07/2021	242	5817	29	7.02	3.7	21.5	64.9	377.7	
28/07/2021	270	6471	31	7.07	5.9	38.3	66.7	431.8	12.0
29/07/2021	232	5578	29	6.99	6.3	34.9	63.4	353.4	
30/07/2021	221	5295	28	6.96	14.6	61.7	95.4	504.9	
31/07/2021	173	4154	30	6.99	9.7	40.3	115.8	481.2	

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow	Daily Volume discharged	Daily average Temperature	Daily average pH	100 kg/day maximum consent 60 Kg/day 95%ile consent		2,250 kg/day maximum consent 1,250 Kg/day 95%ile consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
	(T/hr)	(M3)	°C	(pH units)	(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/08/2021	106	2542	26	6.91	17.3	44.0	120	303.7	
02/08/2021	197	4720	27	7.06	13.1	70.0	168	791.0	
03/08/2021	207	4961	29	7.08	19.4	82.7	158	783.8	
04/08/2021	234	5605	29	6.98	13.7	92.5	153	855.4	0
05/08/2021	246	5895	30	7.06	9.5	81.6	125	735.4	
06/08/2021	175	4198	30	6.99	11.5	48.3	139	584.6	
07/08/2021	263	6318	30	6.99	4.0	25.1	90	569.4	
08/08/2021	265	6356	30	6.92	8.7	55.0	69	441.4	
09/08/2021	278	6666	31	6.93	5.0	33.0	63	417.9	
10/08/2021	284	6821	31	6.90	5.3	36.2	63	429.4	
11/08/2021	298	7151	30	6.73	4.0	28.2	62	446.6	
12/08/2021	304	7305	29	7.18	2.5	18.3	53	388.6	
13/08/2021	260	6251	30	6.99	2.0	12.2	56	346.9	
14/08/2021	73	1742	26	6.66	2.0	3.5	45	77.7	
15/08/2021	278	6682	27	7.16	1.8	12.0	43	287.3	
16/08/2021	158	3803	27	7.13	1.6	6.1	65	245.8	
17/08/2021	221	5315	27	6.83	2.2	11.4	50	265.8	
18/08/2021	249	5982	29	6.72	1.5	8.7	56	333.5	
19/08/2021	144	3461	28	6.99	1.9	6.6	61	210.9	
20/08/2021	0	0	24	6.98	1.8	0.0	71	0.0	
21/08/2021	218	5235	25	6.78	2.1	11.0	34	179.6	
22/08/2021	137	3280	26	6.82	1.3	4.3	40	129.6	
23/08/2021	266	6378	30	6.73	2.5	15.9	77	493.6	
24/08/2021	295	7075	32	6.54	1.9	13.1	66	465.5	
25/08/2021	120	2875	30	7.60	1.4	4.0	66	189.2	
26/08/2021	19	458	28	8.34	2.2	1.0	115	52.6	1.0
27/08/2021	262	6284	26	6.93	0.8	4.7	60	376.4	
28/08/2021	132	3174	25	6.98	3.2	10.0	79	250.1	
29/08/2021	101	2417	24	7.12	1.0	2.4	92	221.4	
30/08/2021	94	2262	24	7.28	1.5	3.3	116	261.2	
31/08/2021	177	4259	25	5.52	1.5	6.4	79	336.5	

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow (T/hr)	Daily Volume discharged (M3)	Daily average °C	Daily average pH (pH units)	100 kg/day maximum consent		2,250 kg/day maximum consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
					(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/09/2021	212	5090	27	7.15	2.1	10.7	93	475.7	0.0
02/09/2021	296	7092	30	7.22	2.1	14.5	65	460.6	
03/09/2021	282	6757	30	7.03	2.4	16.2	54	363.9	
04/09/2021	277	6656	30	7.20	2.9	19.0	45	297.5	
05/09/2021	283	6790	31	7.06	2.1	14.3	51	343.9	
06/09/2021	238	5705	30	6.90	4.6	26.0	49	277.3	
07/09/2021	253	6061	31	6.64	6.3	37.9	88	535.2	
08/09/2021	251	6034	31	6.97	2.7	16.3	77	464.0	
09/09/2021	226	5436	29	6.55	2.3	12.5	55	297.9	
10/09/2021	303	7262	30	7.02	2.5	18.2	31	221.5	
11/09/2021	273	6562	29	7.02	1.5	9.8	40	263.8	
12/09/2021	225	5401	29	6.64	2.2	11.9	68	366.7	
13/09/2021	178	4263	27	7.00	2.4	10.0	64	270.7	
14/09/2021	209	5014	28	7.17	3.5	17.3	77	384.9	
15/09/2021	186	4476	29	6.68	1.8	8.1	58	260.0	6.0
16/09/2021	215	5149	28	6.89	1.8	9.1	32	166.8	
17/09/2021	349	8383	29	7.14	3.8	31.9	39	324.4	
18/09/2021	263	6303	29	6.84	14.0	91.7	26	162.9	
19/09/2021	287	6884	28	6.85	3.9	26.5	33	223.7	
20/09/2021	257	6180	27	6.48	2.3	14.2	28	175.8	
21/09/2021	202	4838	26	6.62	3.0	14.5	34.9	168.8	
22/09/2021	223	5342	26	6.72	2.4	12.8	37.1	198.2	
23/09/2021	224	5371	25	6.55					8
24/09/2021	246	5903	25	6.73					
25/09/2021	218	5224	25	6.71	2.4	12.5	31.2	163.0	
26/09/2021	275	6589	26	6.59	0.8	5.3	27.0	177.9	
27/09/2021	285	6828	26	6.53	4.0	27.3	29.3	200.1	
28/09/2021	275	6597	24	6.68	3.3	21.8	27.9	184.0	4
29/09/2021	226	5436	24	6.66	1.4	7.6	25.8	140.2	
30/09/2021	306	7340	23	6.62					

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow (T/hr)	Daily Volume discharged (M3)	Daily average °C	Daily average pH (pH units)	100 kg/day maximum consent		2,250 kg/day maximum consent		No consent
					Composite Result (mg/l)	Daily Loading (kg/day)	Composite Result (mg/l)	Daily Loading (kg/day)	Composite Result (ug/l)
01/10/2021	260	6252	23	6.49					
02/10/2021	330	7927	23	6.80					
03/10/2021	324	7773	24	6.71	1.8	14.0	27	206.8	
04/10/2021	252	6037	24	6.65	2.5	14.8	38	227.9	
05/10/2021	299	7173	25	6.63	2.2	15.8	31	219.5	
06/10/2021	279	6698	23	6.61	1.8	12.1	29	196.9	1.0
07/10/2021	276	6618	26	6.62	1.1	7.1	27	180.9	
08/10/2021	271	6497	27	6.59	3.3	21.4	58	378.4	
09/10/2021	262	6297	26	6.93	2.0	12.6	58	362.1	
10/10/2021	289	6932	25	6.66	4.9	33.6	57	395.1	
11/10/2021	287	6889	24	6.82	2.6	17.9	72	494.6	
12/10/2021	286	6863	24	6.97	2.0	13.7	59	404.2	
13/10/2021	304	7300	25	6.81	2.7	19.3	83	605.6	0
14/10/2021	285	6832	25	6.78	1.6	10.9	53	359.1	
15/10/2021	308	7400	25	6.94	1.4	10.0	44	323.4	
16/10/2021	284	6813	26	6.82	2.3	15.3	44	299.8	
17/10/2021	284	6823	24	6.55	2.2	15.0	49	334.3	
18/10/2021	313	7508	23	6.71	1.2	9.0	49	367.9	
19/10/2021	325	7794	27	6.84	2.7	20.7	47	366.3	
20/10/2021	285	6831	25	6.92	2.4	16.4	42	283.5	1.0
21/10/2021	260	6250	23	6.66	1.7	10.8	50	311.0	
22/10/2021	296	7110	23	6.91	2.3	16.4	52	371.8	
23/10/2021	273	6553	24	6.63	1.9	12.5	39	254.3	
24/10/2021	264	6327	24	6.69	2.3	14.2	50	316.6	
25/10/2021	236	5655	24	6.78	2.9	16.1	51	288.9	
26/10/2021	246	5893	24	7.02	5.4	31.5	89	525.4	
27/10/2021	263	6320	24	7.06	7.2	45.7	77	485.1	4
28/10/2021	211	5074	24	7.05	19.8	100.4	69	347.6	
29/10/2021	286	6858	25	7.15	10.2	69.7	69	476.3	
30/10/2021	312	7485	24	7.09	11.4	85.1	84	630.7	
31/10/2021	324	7772	24	6.82	9.0	69.9	70	546.7	

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow (T/hr)	Daily Volume discharged (M3)	Daily average °C	Daily average pH (pH units)	100 kg/day maximum consent		2,250 kg/day maximum consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
					(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/11/2021	206	4945	23	5.97	8.0	39.6	83	410.8	
02/11/2021	168	4036	21	6.98	2.5	10.1	44	178.0	
03/11/2021	312	7481	21	7.39	2.0	15.0	58	433.6	5.0
04/11/2021	267	6399	21	7.21	6.8	43.3	76	486.2	
05/11/2021	258	6185	21	7.10	7.1	44.0	81	498.3	
06/11/2021	318	7629	22	7.04	10.9	85.7	76	576.8	
07/11/2021	300	7207	20	7.10	5.5	83.9	57	408.4	
08/11/2021	218	5241	22	7.19	8.0	41.9	70	368.5	
09/11/2021	204	4906	23	7.29	7.4	36.1	77	378.0	
10/11/2021	209	5006	22	6.96	6.6	33.2	78	389.6	2.0
11/11/2021	224	5373	21	6.85	7.4	39.6	53	285.1	
12/11/2021	231	5542	24	6.74	7.2	40.1	89	491.3	
13/11/2021	233	5596	22	6.73	6.8	38.2	76	426.2	
14/11/2021	210	5030	23	7.26	9.2	46.2	106	533.8	
15/11/2021	199	4780	22	7.21	9.1	43.4	105	501.6	
16/11/2021	221	5307	22	7.32	8.2	43.6	109	578.4	
17/11/2021	279	6695	21	7.15	8.2	54.9	94	626.7	3.0
18/11/2021	234	5622	21	7.12	9.7	54.2	87	490.1	
19/11/2021	270	6491	22	7.26	10.6	74.9	93	606.3	
20/11/2021	165	3963	21	6.94	9.6	38.0	105	416.9	
21/11/2021	245	5872	22	6.62	9.6	56.4	90	526.1	
22/11/2021	187	4488	20	6.81	10.8	65.0	112	504.7	
23/11/2021	217	5205	21	6.97	10.5	54.6	94	488.5	
24/11/2021	201	4833	21	7.20	10.9	52.6	105	509.2	1.0
25/11/2021	212	5096	21	7.14	10.3	62.8	95	483.1	
26/11/2021	232	5576	19	7.00	10.1	56.2	96	535.6	
27/11/2021	253	6083	18	7.07	8.2	49.8	97	589.8	
28/11/2021	253	6062	18	6.92	8.5	51.3	103	625.7	
29/11/2021	189	4545	18	6.78	8.9	40.5	112	511.1	
30/11/2021	227	5448	19	6.74	9.8	53.5	100	545.4	

Date of sample	EFFLUENT TO FIRTH				GA705 Total Hydrocarbon		GA705 Chemical Oxygen Demand		GA705 Copper
	Daily average Flow (T/hr)	Daily Volume discharged (M3)	Daily average °C	Daily average pH (pH units)	100 kg/day maximum consent		2,250 kg/day maximum consent		No consent
					Composite Result	Daily Loading	Composite Result	Daily Loading	Composite Result
					(mg/l)	(kg/day)	(mg/l)	(kg/day)	(ug/l)
01/12/2021	204	4905	19	7.15	8.8	43.3	92.7	454.8	1.0
02/12/2021	199	4769	20	6.44	7.3	34.6	88.4	421.7	
03/12/2021	275	6605	19	6.96	6.9	45.6	80.6	532.2	
04/12/2021	232	5561	18	6.56	9.4	62.5	94.4	524.8	
05/12/2021	304	7306	18	6.35	4.9	35.4	66.5	485.6	
06/12/2021	295	7069	19	6.98	7.0	49.7	63.4	448.4	
07/12/2021	260	6251	18	6.95	5.7	35.3	60.9	380.6	
08/12/2021	297	7117	19	6.93	5.8	41.0	69.5	494.3	0.0
09/12/2021	295	7079	20	7.48	6.5	46.3	66.1	467.5	
10/12/2021	265	6353	20	7.51	6.8	43.4	71.1	451.8	
11/12/2021	201	4826	20	7.26	5.7	27.4	67.0	323.6	
12/12/2021	218	5230	20	7.05	5.4	28.1	68.0	355.5	
13/12/2021	203	4868	22	6.90	6.7	32.4	78.7	383.3	
14/12/2021	201	4814	21	6.71	6.8	32.6	74.5	358.7	
15/12/2021	188	4520	21	7.13	4.8	21.9	71.6	323.6	
16/12/2021	185	4449	21	7.17	4.1	18.2	64.0	284.9	
17/12/2021	255	6124	21	6.81	3.0	18.3	53.7	329.0	
18/12/2021	256	6143	22	6.91	4.0	24.3	48.8	299.5	
19/12/2021	239	5733	20	6.97	1.5	8.4	35.0	200.6	
20/12/2021	224	5379	22	6.77	1.2	6.3	46.9	252.0	
21/12/2021	163	3922	20	7.10	1.7	6.7	56.7	222.5	
22/12/2021	204	4896	19	7.00	1.6	7.8	47.1	230.7	1.0
23/12/2021	258	6180	23	7.01	3.6	22.2	47.8	295.4	
24/12/2021	266	6382	21	6.92	1.4	8.9	23.0	147.0	
25/12/2021	316	7587	20	6.72	1.5	11.4	29.6	224.8	
26/12/2021	273	6551	18	6.72	1.3	8.7	31.9	209.2	
27/12/2021	284	6817	20	6.83	1.3	9.1	28.5	194.1	
28/12/2021	277	6646	22	6.76	1.3	8.6	36.8	244.6	
29/12/2021	278	6683	21	6.73	1.9	12.7	38.7	258.3	
30/12/2021	290	6953	19	6.56	1.5	10.4	42.6	296.4	
31/12/2021	283	6804	19	6.62	1.6	10.9	44.0	299.4	

		January	February	March	April	May	June	July	August	September	October	November	December
	Sample Date	29/01/2021	25/02/2021	15/03/2021	09/04/2021	06/05/2021	10/06/2021	05/07/2021	24/08/2021	09/09/2021	19/10/2021	16/11/2021	22/12/2021
Benzene	ug/l	14.4	63.1	8.5	6.9	<0.5	0.6	<0.5	1.3	58	1.1	3.1	4.2
Toluene	ug/l	8	52	19	<5	<5	<5	<5	<5	11	<5	<5	<5
Ethylbenzene	ug/l	2	3	6	1	<1	<1	<1	<1	2	<1	<1	<1
p/m-Xylene	ug/l	<2	6	5	<2	<2	<2	<2	<2	<2	<2	<2	<2
o-Xylene	ug/l	<1	3	3	<2	<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene	ug/l	13.9	8.1	36.7	0.9	<0.1	<0.1	<0.1	1.9	0.7	<0.1	0.5	<0.1
Acenaphthylene	ug/l	10.278	6.758	5.208	6.324	2.665	1.245	1.427	2.727	5.765	3.996	>>50.466	6.502
Acenaphthene	ug/l	0.669	1.006	0.729	0.386	0.026	<0.013	<0.013	0.546	1.264	0.029	2.259	0.02
Fluorene	ug/l	1.077	1.177	0.504	0.712	0.102	<0.014	0.029	0.57	1.809	0.069	1.107	0.084
Phenanthrene	ug/l	2.039	0.623	0.317	0.845	0.185	<0.011	0.039	0.333	3.578	0.025	<0.011	0.027
Anthracene	ug/l	0.748	0.262	0.189	0.42	0.205	0.144	0.103	0.205	0.943	0.068	1.933	0.083
Fluoranthene	ug/l	0.913	0.254	0.537	1.133	0.146	0.014	0.047	1.546	2.896	0.246	7.373	0.356
Pyrene	ug/l	1.629	0.364	1.016	2.072	0.905	0.402	0.897	4.206	6.43	0.418	>>15.897	0.928
Benzo(a)anthracene	ug/l	0.201	0.042	0.044	0.256	0.069	0.019	0.018	0.27	0.559	0.086	1.389	0.074
Chrysene	ug/l	0.329	0.088	0.071	0.345	0.109	0.027	0.052	0.372	0.575	0.264	1.215	0.115
Benzo(bk)fluoranthene	ug/l	0.282	0.083	0.052	0.302	0.061	0.025	0.036	0.115	0.196	0.228	0.725	0.16
Benzo(a)pyrene	ug/l	0.317	0.097	0.045	0.239	0.034	<0.016	0.017	0.062	0.177	0.134	0.656	0.133
Indeno(123cd)pyrene	ug/l	0.042	0.017	<0.011	0.057	<0.011	<0.011	<0.011	<0.011	0.018	0.03	0.187	0.026
Dibenzo(ah)anthracene	ug/l	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Benzo(ghi)perylene	ug/l	0.067	0.03	<0.011	0.083	0.017	<0.011	<0.011	0.014	0.032	0.05	0.29	0.046
PAH 16 Total	ug/l	32.491	18.901	45.412	14.074	4.524	1.876	2.665	12.866	24.942	5.643	83.977	8.554
Benzo(b)fluoranthene	ug/l	0.2	0.06	0.04	0.22	0.04	0.02	0.03	0.08	0.14	0.16	0.52	0.12
Benzo(k)fluoranthene	ug/l	0.08	0.02	0.01	0.08	0.02	<0.01	0.01	0.03	0.05	0.06	0.2	0.04
Cadmium	ug/l	<0.03	0.03	<0.03	<0.03	0.04	0.03	<0.03	<0.5	<0.03	<0.03	<0.03	<0.03
Copper	ug/l	<1	1	<1	<1	4	3	3	<7	1	<1	14	3
Mercury	ug/l	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<0.5	1.6	<0.5

*Below LOD

++ = outside of calibration range and should be considered indicative only (not accredited)