

Oak Glen Pipeline
Release Incident

APPENDIX



2018 Physicochemistry Results

Figure L-1 BTEX Results in Stream Sediments in 2018

Sample ID		2A01-01	2A01-02	2A01-03	2A02-01	2B01L-01	2B01R-01	2B02-01	2B02-02	2B02-20*	2B02-03	2C01-01	2C02-01	2C02-20*	2C03-01	2C03-20*	2C04-01	2C04-01	2C04-10*	REF5-01
Date Collected		5/22/2018	5/22/2018	5/22/2018	5/22/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/23/2018	5/22/2018	9/27/2018	9/27/2018	5/23/2018
Analyte	Benchmark (mg/Kg)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	0.006	0.00005	0.00010	0.00009	0.00010	0.00008	0.00005	0.00015	0.00009	0.00008	0.00010	0.00005	0.00015	0.00009	0.00010	0.00008	0.00005	0.00005	0.00005	0.00009
Toluene	4	0.00009	0.00010	0.00008	0.00005	0.00015	0.00009	0.00010	0.00008	0.00015	0.00005	0.00052	0.00010	0.00008	0.00005	0.00015	0.00009	0.00015	0.00015	0.00008
Ethylbenzene	6	0.00010	0.00008	0.00005	0.00015	0.00009	0.00010	0.00008	0.00005	0.00009	0.00015	0.00010	0.00008	0.00005	0.00015	0.00009	0.00010	0.00009	0.00009	0.00005
Total Xylenes	28	0.00023	0.00016	0.00030	0.00021	0.00018	0.00026	0.00015	0.00025	0.00016	0.00018	0.00025	0.00016	0.00026	0.00018	0.00015	0.00023	0.00018	0.00018	0.00025

Notes: 2B02-20 duplicate of 2B02-02, 2C02-20 duplicate of 2C02-01, 2C03-20 duplicate of 2C03-01, 2C04-10 duplicate of 2C04-01
greyed text are ND and reported as the MDL

Figure L-2 BTEX Results in Vernal Pool Sediments in 2018

Sample ID		3P01	3P02	3P03	3P04	3P05	3P06	3P07	3P08	3P09	3P10	3P11	3P12	3P13	3P-14	3P15	3P-16
Date Collected		5/22/2018	5/21/2018	5/21/2018	5/21/2018	5/22/2018	5/21/2018	5/21/2018	5/21/2018	5/21/2018	5/22/2018	5/21/2018	5/21/2018	5/21/2018	5/22/2018	5/21/2018	5/21/2018
Analyte	Benchmark (mg/Kg)	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Benzene	0.006	0.00015	0.00009	0.00014	0.00028	0.00005	0.00015	0.00009	0.00023	0.00009	0.00005	0.00015	0.00009	0.00010	0.00008	0.00005	0.00015
Toluene	4	0.00010	0.00008	0.00099	0.00170	0.00009	0.00010	0.00008	0.00100	0.00210	0.00009	0.00021	0.00008	0.00005	0.00015	0.00009	0.00010
Ethylbenzene	6	0.00008	0.00005	0.00015	0.00009	0.00010	0.00008	0.00007	0.00019	0.00012	0.00013	0.00010	0.00009	0.00024	0.00015	0.00016	0.00013
Total Xylenes	28	0.00015	0.00025	0.00018	0.00021	0.00038	0.00024	0.00035	0.00026	0.00016	0.00026	0.00017	0.00030	0.00020	0.00017	0.00024	0.00015

greyed text are ND and reported as the MDL

Figure L-3 PAH Results and ΣTU for Stream Sediments in 2018

Abbreviated Sample ID	2A01-01	2A01-02	2A01-03	2A02-01	2B01L-01	2B01R-01	2B02-01	2B02-02	2B02-20*	2B02-03	2C01-01	2C02-01	2C02-20*	2C03-01	2C03-20*	2C04-01	2C04-01	2C04-10*	REF5-01
Collection Date	05/22/2018	05/22/2018	05/22/2018	05/22/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/23/2018	05/22/2018	09/27/2018	09/27/2018	05/23/2018
TOC (kg OC/kg sed)	0.0235	0.0194	0.0087	0.0131	0.0229	0.0260	0.0229	0.0212	0.0204	0.0176	0.0166	0.0111	0.0113	0.0124	0.0144	0.0137	0.0166	0.0201	0.0149
C30-hopane	95	65	45	110	190	73	78	63	65	60	21	15	15	34	35	85	68	60	1.6
Analyte	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s	Sed. Conc., C _s
	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)
Naphthalene	8.4	3.5	3.1	3.2	4.4	3.9	2.3	2.3	8.3	2.8	2.3	1.9	1.9	2.1	4	1300	2.7	2.1	1.9
1-methylnaphthalene	5.8	0.97	1.8	6.2	3.8	0.99	1.9	0.91	2.6	1	0.93	0.94	0.92	0.9	3.2	260	2.3	1.8	0.93
2-methylnaphthalene	6.9	3.2	3.5	3.2	7.9	2.4	3.2	2.4	3.7	3	1.8	1.7	1.2	1.9	3.4	750	3.9	2.6	1.3
C2-Naphthalenes	16	9.9	16	38	19	2.1	4.7	4.4	1.9	5.2	1.9	1.9	1.9	1.9	5	440	16	8.8	1.9
C3-Naphthalenes	26	12	21	60	20	2.1	4.7	5.3	1.9	5.7	1.9	1.9	1.9	4.6	6.8	220	33	16	1.9
C4-Naphthalenes	40	15	20	75	35	2.1	1.9	1.9	1.9	2.1	1.9	1.9	1.9	15	15	89	80	44	1.9
Acenaphthylene	1.3	1.1	0.92	0.99	1.2	1.1	1.8	0.97	1.1	1.1	0.98	0.99	0.97	0.96	0.99	6.7	0.94	1.1	0.99
Acenaphthene	6.1	1.6	0.66	1.1	0.82	1.9	0.7	0.7	6.9	0.77	0.71	0.72	0.7	0.69	8.9	1300	0.68	0.76	0.97
Fluorene	4.6	1.7	1.6	2.6	1.4	1.5	1.2	1.2	4.4	1.3	1.2	1.2	1.2	1.2	4.2	740	1.2	1.3	1.3
C1-Fluorenes	7.2	1.3	1.2	10	1.4	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.2	200	8.8	6.5	1.2
C2-Fluorenes	1.4	1.3	1.2	18	1.4	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.2	150	1.2	1.3	1.2
C3-Fluorenes	33	1.3	1.2	39	1.4	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.2	150	33	1.3	1.2
Anthracene	8.9	1.7	0.99	1.1	1.3	2.3	1.1	1.1	6.2	1.2	1.1	1.1	1.1	1.1	10	1800	1.1	1.2	3.4
Phenanthrene	36	11	6.1	13	14	14	15	6.4	32	7.6	4.9	4.9	2.7	6.8	45	5600	11	8.2	32
C1-Phenanthrene/Anthracenes	37	0.97	9.9	33	22	0.99	11	0.91	11	1	0.93	0.94	0.92	0.9	22	1600	46	30	0.93
C2-Phenanthrene/Anthracenes	49	16	12	64	46	0.99	12	0.91	9.9	1	0.93	0.94	0.92	16	18	770	74	49	0.93
C3-Phenanthrene/Anthracenes	67	30	20	73	68	25	21	16	15	1	0.93	6.7	0.92	28	30	290	91	59	0.93
C4-Phenanthrene/Anthracenes	76	0.97	0.87	73	69	0.99	0.91	0.91	0.92	1	0.93	0.94	0.92	25	0.94	120	82	58	0.93
Fluoranthene	63	16	7.1	13	16	26	43	17	59	22	14	13	6.8	12	96	8100	5.9	9.6	78
Pyrene	55	14	7.1	13	16	22	38	15	48	19	12	10	5.6	11	86	7100	9.1	10	55
C1-Fluoranthenes/Pyrenes	36	13	6.5	17	19	12	22	12	21	13	7.2	6.1	0.76	8.8	45	3000	19	14	13
Benz(a)anthracene	39	8.2	3.8	6.6	7.3	12	20	7.9	29	11	7.2	6	3.2	5.7	77	5600	3.6	5.2	22
Chrysene	48	13	7.4	8	8.3	17	30	12	37	11	11	8.2	5.8	11	87	4800	17	14	28
C1-Chrysenes	25	11	7.2	17	22	11	16	8.7	13	9.1	0.54	4.5	0.53	8.1	34	1700	22	15	7
C2-Chrysenes	36	19	11	35	44	19	22	17	15	15	0.54	0.54	0.53	16	27	600	48	34	0.54
C3-Chrysenes	38	0.56	0.5	40	54	0.58	0.53	0.53	0.53	0.58	0.54	0.54	0.53	0.52	0.54	200	36	0.58	0.54
C4-Chrysenes	0.63	0.56	0.5	60	0.62	0.58	0.53	0.53	0.53	0.58	0.54	0.54	0.53	0.52	0.54	120	0.51	0.58	0.54
Benzo(b)fluoranthene	47	11	5.5	8.5	12	14	36	13	32	16	14	9.3	5.2	9.8	120	4300	6.4	8.1	28
Benzo(k)fluoranthene	21	4.9	2	2.9	5.7	6.5	14	5.8	15	6	6	4.7	3.1	3.4	51	1600	2.7	4	13
Benzo(e)pyrene	27	8.7	5	9.1	13	9.8	23	10	18	11	8.9	6.7	4.3	7.3	69	1600	8.7	8.6	15
Benzo(a)pyrene	39	8	3.8	6.4	8.9	11	26	9.9	26	11	8.6	7.2	3.4	7.5	110	3900	3.7	5.1	19
Perylene	22	10	5.6	5.3	7.9	6.1	9.3	6.9	13	8	5	16	14	20	47	860	150	170	9.6
Indeno(1,2,3-c,d)pyrene	24	6.8	3.4	5.2	7	7.2	24	7.7	14	8.2	8.2	5.5	3.4	5.8	69	1600	2.4	5.7	18
Dibenzo(a,h)anthracene	5.6	1.3	0.97	1.6	1.9	1.4	3.9	1.6	3.2	1.8	1.5	1.1	1.1	1.1	16	440	0.99	1.5	2.4
Benzo(g,h,i)perylene	23	6.7	5	6.8	9	9.2	22	8.9	14	9.6	8.7	6.6	3.8	8	70	1100	8.9	9.8	15
Total PAH	979.8	266.2	204.4	769.8	570.6	251.6	437.3	204.4	469.6	212.5	141.4	138.8	86.3	247.2	1186.1	62405.7	833.7	608.7	380.4
Sum Toxic Units for Chronic Exposure (ND = MDL)																			
Total ΣTU	0.05	0.02	0.03	0.08	0.03	0.01	0.02	0.01	0.03	0.02	0.01	0.02	0.01	0.02	0.10	6.14	0.06	0.04	0.03

Values in grey are ND's and reported as the MDL

*2B02-20 duplicate of 2B02-02, 2C02-20 duplicate of 2C02-01, 2C03-20 duplicate of 2C03-01, 2C04-10 duplicate of 2C04-01

Figure L-4 PAH Results and ΣTU for Vernal Pool Sediments in 2018

Abbreviated Sample ID	3P01	3P02	3P03	3P04	3P05	3P06	3P07	3P08	3P09	3P10	3P11	3P12	3P13	3P14	3P15	3P16
Collection Date	05/22/2018	05/21/2018	05/21/2018	05/21/2018	05/22/2018	05/21/2018	05/21/2018	05/21/2018	05/21/2018	05/22/2018	05/21/2018	05/21/2018	05/21/2018	05/22/2018	05/21/2018	05/21/2018
TOC (kg OC/kg sed)	0.0283	0.0231	0.0288	0.0251	0.0288	0.0327	0.0252	0.0300	0.0246	0.0200	0.0338	0.0336	0.0238	0.0234	0.0291	0.0169
C30-hopane	41	30	40	47	53	480	55	40	39	33	270	47	32	12	24	19
Analyte	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)	Sed. Conc., C _s (ug/kg)
Naphthalene	2.7	2.3	2.7	2.6	3.3	3	3.4	3	3.2	2.2	2.6	2.1	1.9	2.2	1.9	1.6
1-methylnaphthalene	1.1	0.95	1.2	1.2	1.1	1.2	1.1	1.2	1.2	0.97	4.2	1.1	0.92	1.2	2.5	1.5
2-methylnaphthalene	4.1	3.1	4.6	3.8	4.3	5.5	4.5	4.2	3.9	2.5	3.8	2.6	2.7	2.3	2.5	2.1
C2-Naphthalenes	10	6.4	13	9.8	10	22	13	14	11	5.8	19	8.9	6.4	1.6	6.5	3.7
C3-Naphthalenes	14	8.5	20	14	12	31	18	20	15	6.7	35	11	9.8	3	8.6	5.4
C4-Naphthalenes	23	19	31	25	21	46	33	29	28	12	59	27	17	1.6	19	7.3
Acenaphthylene	1.5	1	1.3	1.2	1.2	2.7	1.5	1.3	1.3	1.1	2	1.1	0.98	1.2	0.91	1.4
Acenaphthene	1	0.73	0.89	0.86	0.82	0.86	1.3	0.88	0.88	0.74	0.78	0.79	0.94	0.59	0.66	0.61
Fluorene	1.7	1.3	2.1	1.6	1.4	1.5	1.7	2.1	1.7	1.3	1.4	1.4	1.2	0.99	1.1	1.1
C1-Fluorenes	1.3	1.3	1.5	1.5	1.4	1.5	1.4	1.5	1.5	1.3	1.4	1.4	1.2	0.99	1.1	1.1
C2-Fluorenes	1.3	1.3	1.5	1.5	1.4	1.5	1.4	1.5	1.5	1.3	1.4	1.4	1.2	0.99	1.1	1.1
C3-Fluorenes	1.3	1.3	1.5	1.5	1.4	1.5	1.4	1.5	1.5	1.3	1.4	1.4	1.2	0.99	1.1	1.1
Anthracene	1.9	1.2	2.1	1.5	1.4	4.9	2	2.5	1.8	1.1	1.2	1.4	1.5	1.3	1.7	1.7
Phenanthrene	10	11	13	12	12	17	15	15	13	8.1	14	9.7	11	11	10	8.8
C1-Phenanthrene/Anthracenes	1.1	0.95	1.2	1.2	1.1	1.2	1.1	1.2	1.2	0.97	29	1.1	0.92	7.3	13	8
C2-Phenanthrene/Anthracenes	22	14	23	19	24	66	24	24	25	12	65	19	17	6.7	26	9.2
C3-Phenanthrene/Anthracenes	34	25	29	31	38	84	39	26	38	24	84	32	26	9.6	28	11
C4-Phenanthrene/Anthracenes	38	0.95	1.2	1.2	43	100	1.1	1.2	46	0.97	83	37	33	0.78	34	0.79
Fluoranthene	26	28	35	31	29	44	42	35	31	24	28	25	28	45	35	31
Pyrene	24	23	29	28	24	40	35	31	27	21	28	22	24	39	29	27
C1-Fluoranthenes/Pyrenes	16	13	19	17	18	39	22	19	21	13	29	15	14	17	17	15
Benz(a)anthracene	12	11	15	14	13	22	18	15	14	9.9	15	11	13	21	18	16
Chrysene	20	19	22	23	24	26	31	25	23	19	18	19	19	30	25	22
C1-Chrysenes	12	9.9	13	13	13	38	16	17	15	11	27	11	9.6	12	13	11
C2-Chrysenes	20	14	21	18	20	66	25	19	23	15	52	17	16	0.45	19	0.46
C3-Chrysenes	0.59	0.55	0.67	0.65	0.62	90	0.63	0.66	0.67	0.56	59	0.6	0.53	0.45	0.5	0.46
C4-Chrysenes	0.59	0.55	0.67	0.65	0.62	130	0.63	0.66	0.67	0.56	85	0.6	0.53	0.45	0.5	0.46
Benzo(b)fluoranthene	22	20	26	26	29	45	36	27	26	19	26	18	20	40	27	31
Benzo(k)fluoranthene	8.2	8.7	12	12	14	17	14	11	12	8.6	11	10	7.9	16	11	13
Benzo(e)pyrene	14	13	16	17	18	39	22	17	16	11	23	13	13	23	16	19
Benzo(a)pyrene	14	13	19	17	19	30	23	18	17	12	18	12	13	27	19	22
Perylene	82	53	73	52	68	55	53	70	80	38	56	58	72	18	75	14
Indeno(1,2,3-c,d)pyrene	12	11	14	16	17	29	20	17	14	12	16	13	13	25	13	22
Dibenzo(a,h)anthracene	2.4	2.5	2.8	3.1	3.5	6.5	3.8	3.7	2.9	2.1	4.2	2.5	2.1	3.6	2.9	3.7
Benzo(g,h,i)perylene	15	14	18	17	18	34	23	18	15	12	19	12	12	23	15	21
Total PAH	470.8	354.5	486.9	435.9	507.6	1141.9	549.0	494.1	533.9	313.1	922.4	420.1	412.5	395.3	495.6	336.6
Sum Toxic Units for Chronic Exposure (ND = MDL)																
Total ΣTU	0.02	0.02	0.02	0.02	0.02	0.04	0.03	0.02	0.03	0.02	0.03	0.02	0.02	0.02	0.02	0.02

Values in grey are ND's and reported as the MDL

Figure L-5 PAH Results and Σ TU for Water in May 2018

Sample ID	2A01-01	2B02-03	2C02-01	2C04-01	REF5-01	3P01	3P01-20*	3P02
Date Collected	5/20/2018	5/20/2018	5/20/2018	5/20/2018	5/20/2018	5/20/2018	5/20/2018	5/20/2018
Analyte	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	0.003	0.003	0.003	0.00307	0.00304	0.003	0.0033	0.003
C1-Naphthalenes	0.003	0.003	0.003	0.00307	0.00304	0.003	0.0033	0.003
C2-Naphthalenes	0.003	0.003	0.003	0.00307	0.00304	0.003	0.0033	0.003
C3-Naphthalenes	0.003	0.003	0.003	0.00307	0.00304	0.003	0.0033	0.003
C4-Naphthalenes	0.003	0.003	0.003	0.00307	0.00304	0.003	0.0033	0.003
Acenaphthylene	0.0034	0.0034	0.0034	0.00347	0.00344	0.0034	0.00374	0.0034
Acenaphthene	0.0044	0.0044	0.0044	0.00449	0.00445	0.0044	0.00484	0.0044
Fluorene	0.0038	0.0038	0.0038	0.00388	0.00384	0.0038	0.00418	0.0038
C1-Fluorenes	0.0038	0.0038	0.0038	0.00388	0.00384	0.0038	0.00418	0.0038
C2-Fluorenes	0.0038	0.0038	0.0038	0.00388	0.00384	0.0038	0.00418	0.0038
C3-Fluorenes	0.0038	0.0038	0.0038	0.00388	0.00384	0.0038	0.00418	0.0038
Anthracene	0.0036	0.0036	0.0036	0.00368	0.00364	0.0036	0.00396	0.0036
Phenanthrene	0.005	0.005	0.005	0.00511	0.00506	0.005	0.0055	0.005
C1-Phenanthrenes/Anthracenes	0.005	0.005	0.005	0.00511	0.00506	0.005	0.0055	0.005
C2-Phenanthrenes/Anthracenes	0.005	0.005	0.005	0.00511	0.00506	0.005	0.0055	0.005
C3-Phenanthrenes/Anthracenes	0.005	0.005	0.005	0.00511	0.00506	0.005	0.0055	0.005
C4-Phenanthrenes/Anthracenes	0.005	0.005	0.005	0.00511	0.00506	0.005	0.0055	0.005
Fluoranthene	0.0044	0.0044	0.0044	0.00449	0.00445	0.0044	0.00484	0.0044
Pyrene	0.0035	0.0035	0.0035	0.00358	0.00354	0.0035	0.00385	0.0035
C1-Fluoranthenes/Pyrenes	0.0044	0.0044	0.0044	0.00449	0.00445	0.0044	0.00484	0.0044
Benz(a)anthracene	0.00425	0.0032	0.00365	0.00327	0.00263	0.0026	0.0039	0.00335
Chrysene	0.0034	0.0034	0.0034	0.00347	0.00344	0.0034	0.00374	0.0034
C1-Chrysenes	0.0034	0.0034	0.0034	0.00347	0.00344	0.0034	0.00374	0.0034
C2-Chrysenes	0.0034	0.0034	0.0034	0.00347	0.00344	0.0034	0.00374	0.0034
C3-Chrysenes	0.0034	0.0034	0.0034	0.00347	0.00344	0.0034	0.00374	0.0034
C4-Chrysenes	0.0034	0.0034	0.0034	0.00347	0.00344	0.0034	0.00374	0.0034
Benzo(b)fluoranthene	0.0023	0.0023	0.0023	0.00235	0.00233	0.0023	0.00253	0.0023
Benzo(k)fluoranthene	0.0025	0.0025	0.0025	0.00256	0.00253	0.0025	0.00275	0.0025
Benzo(e)pyrene	0.004	0.004	0.004	0.00409	0.00405	0.004	0.0044	0.004
Benzo(a)pyrene	0.0043	0.0043	0.0043	0.00439	0.00435	0.0043	0.00473	0.0043
Perylene	0.005	0.005	0.005	0.00511	0.00506	0.005	0.0055	0.005
INDeno(1,2,3-cd)pyrene	0.0026	0.0026	0.0026	0.00266	0.00263	0.0026	0.00286	0.00485
Dibenz(a,h)anthracene	0.0025	0.0025	0.0025	0.00256	0.00253	0.0025	0.00275	0.0051
Benzo(g,h,i)perylene	0.0029	0.0029	0.0029	0.00296	0.00293	0.0029	0.00319	0.0059
Total PAH	0.126	0.125	0.126	0.128	0.126	0.125	0.138	0.133
Sum Toxic Units for Chronic Exposure (ND = MDL)								
PAH Σ TU (detected values)	0.002	0.001	0.002	0.001	0.000	0.000	0.002	0.059
PAH Σ TU (non-detects)	0.161	0.161	0.161	0.164	0.164	0.162	0.177	0.132
Total ΣTU	0.163	0.162	0.162	0.166	0.164	0.162	0.179	0.190

Values in grey are ND's and reported as the MDL

*Duplicate of 3P01

Figure L-6 PAH Results and Σ TU for Water in September 2018

Sample ID	2A01-01	2B02-03	2C02-01	2C04-01	2C04-10*	REF5-01	3P01	3P02
Date Collected	9/27/2018	9/27/2018	9/27/2018	9/27/2018	9/27/2018	9/27/2018	9/27/2018	9/27/2018
Analyte	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Naphthalene	0.0058	0.0049	0.0037	0.0043	0.0030	0.0036	0.0030	0.0030
C1-Naphthalenes	0.0034	0.0039	0.0034	0.0030	0.0030	0.0031	0.0030	0.0030
C2-Naphthalenes	0.0034	0.0039	0.0034	0.0030	0.0030	0.0031	0.0030	0.0030
C3-Naphthalenes	0.0034	0.0039	0.0034	0.0030	0.0030	0.0031	0.0030	0.0030
C4-Naphthalenes	0.0034	0.0039	0.0034	0.0030	0.0030	0.0031	0.0030	0.0030
Acenaphthylene	0.0039	0.0044	0.0038	0.0034	0.0034	0.0035	0.0034	0.0034
Acenaphthene	0.0050	0.0057	0.0049	0.0044	0.0044	0.0045	0.0044	0.0044
Fluorene	0.0043	0.0049	0.0043	0.0038	0.0038	0.0039	0.0038	0.0038
C1-Fluorenes	0.0043	0.0049	0.0043	0.0038	0.0038	0.0039	0.0038	0.0038
C2-Fluorenes	0.0043	0.0049	0.0043	0.0038	0.0038	0.0039	0.0038	0.0038
C3-Fluorenes	0.0043	0.0049	0.0043	0.0038	0.0038	0.0039	0.0038	0.0038
Anthracene	0.0041	0.0047	0.0040	0.0036	0.0036	0.0037	0.0036	0.0036
Phenanthrene	0.0057	0.0065	0.0056	0.0050	0.0050	0.0051	0.0050	0.0050
C1-Phenanthrenes/Anthracenes	0.0057	0.0065	0.0056	0.0050	0.0050	0.0051	0.0050	0.0050
C2-Phenanthrenes/Anthracenes	0.0057	0.0065	0.0056	0.0050	0.0050	0.0051	0.0050	0.0050
C3-Phenanthrenes/Anthracenes	0.0057	0.0065	0.0056	0.0050	0.0050	0.0051	0.0050	0.0050
C4-Phenanthrenes/Anthracenes	0.0057	0.0065	0.0056	0.0050	0.0050	0.0051	0.0050	0.0050
Fluoranthene	0.0071	0.0064	0.0049	0.0044	0.0044	0.0045	0.0044	0.0044
Pyrene	0.0069	0.0056	0.0039	0.0035	0.0035	0.0036	0.0035	0.0035
C1-Fluoranthenes/Pyrenes	0.0050	0.0057	0.0049	0.0044	0.0044	0.0045	0.0044	0.0044
Benz(a)anthracene	0.0062	0.0061	0.0034	0.0028	0.0026	0.0031	0.0026	0.0026
Chrysene	0.0056	0.0046	0.0038	0.0034	0.0034	0.0035	0.0034	0.0034
C1-Chrysenes	0.0039	0.0044	0.0038	0.0034	0.0034	0.0035	0.0034	0.0034
C2-Chrysenes	0.0039	0.0044	0.0038	0.0034	0.0034	0.0035	0.0034	0.0034
C3-Chrysenes	0.0039	0.0044	0.0038	0.0034	0.0034	0.0035	0.0034	0.0034
C4-Chrysenes	0.0039	0.0044	0.0038	0.0034	0.0034	0.0035	0.0034	0.0034
Benzo(b)fluoranthene	0.0034	0.0030	0.0026	0.0023	0.0023	0.0024	0.0023	0.0023
Benzo(k)fluoranthene	0.0029	0.0033	0.0028	0.0025	0.0025	0.0026	0.0025	0.0025
Benzo(e)pyrene	0.0045	0.0052	0.0045	0.0040	0.0040	0.0041	0.0040	0.0040
Benzo(a)pyrene	0.0049	0.0056	0.0048	0.0043	0.0043	0.0044	0.0043	0.0043
Perylene	0.0057	0.0065	0.0056	0.0050	0.0050	0.0051	0.0050	0.0050
INDeno(1,2,3-cd)pyrene	0.0030	0.0034	0.0029	0.0026	0.0026	0.0027	0.0026	0.0026
Dibenz(a,h)anthracene	0.0029	0.0033	0.0028	0.0025	0.0025	0.0026	0.0025	0.0025
Benzo(g,h,i)perylene	0.0033	0.0038	0.0033	0.0029	0.0029	0.0030	0.0029	0.0029
Total PAH	0.155	0.168	0.141	0.126	0.125	0.129	0.125	0.125
Sum Toxic Units for Chronic Exposure (ND = MDL)								
PAH Σ TU (detected values)	0.012	0.007	0.002	0.001	0.000	0.001	0.000	0.000
PAH Σ TU (non-detects)	0.177	0.206	0.180	0.161	0.162	0.166	0.162	0.162
Total ΣTU	0.190	0.212	0.182	0.162	0.162	0.167	0.162	0.162

Values in grey are ND's and reported as the MDL

*Duplicate of 2C04-01

Figure L-7 Water Quality Parameters

Surface Water Sampling Location	Date	Time	Water Temp (°C)	Dissolved Oxygen (mg/L)	Specific Conductance (µS/cm)	pH	Oxidation Reduction Potential (mV)	Turbidity (NTU)
May Event								
2A01-01	5/20/2018	1309	18.0	9.12	841	8.16	243.1	51.2
2B02-03	5/20/2018	1245	16.9	8.67	730	7.97	244.7	20.7
2C02-01	5/20/2018	1231	19.3	9.74	746	8.13	224.4	11.1
2C04-01	5/20/2018	1108	20.0	11.04	722	8.21	260.2	10.3
REF5-01	5/20/2018	1330	17.3	7.76	816	8.04	250.3	22.6
3P01	5/20/2018	1146	22.1	5.45	608	8.01	234.3	7.3
3P02	5/20/2018	1125	22.1	8.38	608	8.04	234.6	18.9
September Event								
2A01-01	9/27/2018	1518	16.0	8.33	726	7.87	212.4	92.6
2B02-03	9/27/2018	1500	16.6	8.10	634	7.74	189.1	61.4
2C02-01	9/27/2018	1447	16.8	8.65	648	7.80	178.0	37.1
2C04-01	9/27/2018	1410	16.9	9.20	622	7.90	183.2	30.5
REF5-01	9/27/2018	1540	16.1	7.63	672	7.87	183.7	35.4
3P01	9/27/2018	1333	18.6	3.83	257	6.89	170.5	66.3
3P02	9/27/2018	1345	18.6	4.34	227	7.03	173.5	66.3