2017-May 03 to 2018-May 02 BHCTP LIME USAGE AFW

	Silo A						Silo B						Total	
Month	Initial Level	Final Level	Diff. (ft)	Diff. (tons)	Tons Added	Net Tons	Initial Level	Final Level	Diff. (ft)	Diff. (tons)	Tons Added	Net Tons	Net Tons	Tons/Day
May 3-May 31	16.00	16.00	0.0	0.0	0.00	0.0	14.00	7.30	6.7	36.1	183.79	219.9	219.9	7.58
June 1-June 30	16.00	15.20	0.8	4.3	0.00	4.3	7.30	10.80	-3.5	-18.9	39.00	20.1	24.4	4.89
			0.0	0.0	0.00	0.0			0.0	0.0	0.00	0.0	0.0	0.00
			0.0	0.0	0.00	0.0			0.0	0.0	0.00	0.0	0.0	0.00
			0.0	0.0	0.00	0.0			0.0	0.0	0.00	0.0	0.0	0.00
			0.0	0.0					0.0	0.0	0.00	0.0	0.0	0.00
				Silo A	**0.00**					**Silo B**	**222.79**		244.4	
						Tdl Tons Purchased		**222.79**					**Average**	**6.24**

NOTES:

May 3, 2017 A= 16.0 B = 14.0 AFW Beginning Levels
08-01-16 Placed slaker/silo A into service, slaker/silo B in six month standby mode.
01-25-17 Placed slaker/silo B into service, slaker/silo A in six month standby mode.
04-20-17 Placed 4.9 ton into silo A and 31.1 ton into silo B, fill in preparation for contract changeover.
05-23-17 Received the initial Pete Lien & Sons lime delivery of 39.20 tons - Silo E
05-30-17 Received Pete Lien & Sons lime delivery of 37.50 tons - Silo B
06-01-17 Received Pete Lien & Sons lime delivery of 39.0 tons - Silo B
06-04-17 Removed Lime System B (Slaker B) from service and placed Lime System A into service. Lime System B in fail mode (lime feed auger has failed).

Lime Daily Use - 7 Days

	Silo A						**Silo B**						Total	
5/29- 6/4	16.00	15.20	0.8	4.3	0.00	4.3	5.80	10.80	-5.0	-27.0	76.50	49.6	53.9	7.69
													Average	**7.69**

Lime Silo B Depth Readings

Date	**Prior**	**After**	**Tons Received**	
5/22/2017	7.7	11.4	39.2	10.59
5/30/2017	3.5	7.5	37.5	9.38
6/1/2017	6.5	13.3	39.0	5.74
6/5/2017 Pending				

Bunker Hill Central Treatment Plant

Daily log June 2017

				AERATION BASIN					CLARIFIER						DISCHARGE 006								RECYCLE SG		LIME SLURRY			SLUDGE PUMP		POND PUMP		SLUDGE GUN TEST		LINED POND
		INFLUENT KT			a.m.		p.m.		a.m.		p.m.				a.m.		p.m.		DO	1/wk							Injection Valve							ESTIMATED
DATE	Operators	GPM	pH	SET	pH1	grab	pH1	grab	pH2	grab	pH2	grab	TURB	TEMP	pH3	grab	pH3	grab	PPM	TEMP	TURB	FLOW	SG	GPM	SG	%solid	Closed/Open	pump #	min	ON	OFF	10' Out	20' Out	Elevation (mg)
6/1	GF,SB,GC	1923	2.78	8.5	8.6	8.6	8.5	8.5	8.3	8.1	8.3	8.7	0.88	59	7.7	7.4	7.7	7.3			0.67	2.65	1.042	400	1.073	11.3	154/35	3	120			35"	22"	2270.5 (1.87mg)
6/2	GF,GC			8.5	8.5	8.4	8.5	8.4	8.3	8.1	8.3	8.0	0.80	58	7.7	7.6	7.7	7.5			0.75	2.65	1.043	400	1.074	11.4	154/35	3	120					2270.5
6/3	GC			8.5	8.4	8.5	8.5	8.5	8.2	8.1	8.1	8.1	0.79	54	7.8	7.7	7.6	7.4			0.71	2.55	1.044	400	1.074	11.4	150/35	3	150					2270.5
6/4	SB			8.5	8.5	8.6	8.3	8.3	8.3	8.1	8.3	8.2	0.92	60	7.6	7.3	7.5	7.3			0.80	1.56	1.035	400	1.073	11.3	178/35	3	30			24"	10"	2270.5
6/5	GF,SB	1840	2.78	8.4	8.5	8.6			8.2	8.2			0.89	55	7.5	7.3					0.82	2.00	1.430	400	1.061	9.5	132/35	3	120					2270.5
6/6	GF,SB,GC			8.5																				400				3						
6/7	GF,SB,GC			8.6																				400				3						
6/8	GF,SB,GC			8.6																				400				3						
6/9	GF,GC			8.6																				400				3						
6/10	GC			8.6																				400				3						
6/11	GC/GF			8.6																				400				3						
6/12	GF,SB			8.6																				400				3						
6/13	GF,SB,GC			8.6																				400				3						
6/14	GF,SB,GC			8.6																				400				3						
6/15	GF,SB,GC			8.6																				400				3						
6/16	GF,GC			**8.5**																				400				3						
6/17	GC			**8.5**																				400				3						
6/18	SB			**8.5**																				400				3						
6/19	GF,GC			**8.5**																				400				3						
6/20	GC			**8.5**																				400				3						
6/21	SB			**8.5**																				400				3						
6/22	GF,SB			**8.5**																				400				3						
6/23	GF,SB,GC			**8.5**																				400				3						
6/24	GF,SB,GC			**8.5**																				400				3						
6/25	GF,SB,GC			**8.5**																				400				3						
6/26	GF,GC			**8.5**																				400				3						
6/27	GC			**8.5**																				400				3						
6/28	SB			**8.5**																				400				3						
6/29	GF,SB			**8.5**																				400				3						
6/30	GF,SB,GC			**8.5**																				400				3						
																			1/wk	1/wk														
Averages:				8.53	8.51	8.52	8.43	8.42	8.28	8.12	8.24	8.24	**0.86**	57.20	7.65	7.48	7.62	7.39	PPM	*c	0.75	2.28	1.12						108					
Notes:																													540					
	06-01-17 CTP sludge is being wasted by weight and not depth as the sludge is compacting once again in the Clarifier. Optimum sludge weight is between 4.8 % solids (1.030sg) and 7.9% solids (1.050sg).																											324,000	Gallons				
	06-03-17 10:00 KT flow decreased from approximately 1835 gpm to 1050 gpm.																																	
	06/04/17 15:30 Switch over to Slaker A from Slaker B due to slaker B lime feed failure.																																	
	06-04-17 At approx. 19:15 the mine pool pump was turned back on. Flow increased from 1050 gpm to 1840 gpm. KT low flow of 1050 gpm from 6-3-17 10:00 to 6-4-17 15:30																																	

NPDES DISCHARGE POINT 006
CENTRAL TREATMENT PLANT
MONTH: May-17

DAY	LEAD (Pb)		ZINC (Zn)		CADMIUM (Cd)		MANGANESE (Mn)		pH	FLOW	TSS		LOADING
	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day		mgd	mg/L	lbs/day	kg/day
1	0.005	0.115	0.156	3.51	0.005	0.11	4.94	111	7.06	2.70	0.8	18.0	8.17
2		0.113		3.46		0.11		110		2.66		17.8	8.05
3	0.008	0.166	0.143	3.16	0.004	0.09	3.98	88	6.93	2.65	1.0	22.1	10.03
4		0.163		3.10		0.09		86		2.60		21.7	9.84
5	0.002	0.039	0.166	3.62	0.006	0.12	5.12	112	7.16	2.61	1.4	30.5	13.83
6		0.029		2.72		0.09		84		1.96		22.9	10.38
7		0.029		2.65		0.09		82		1.91		22.3	10.12
8	0.002	0.016	0.180	1.65	0.005	0.04	2.55	23	6.88	1.10	2.0	18.3	8.30
9		0.039		3.92		0.10		56		2.61		43.6	19.76
10	0.002	0.042	0.288	6.75	0.008	0.18	1.96	46	6.52	2.81	1.2	28.1	12.75
11		0.041		6.59		0.18		45		2.74		27.4	12.44
12	0.002	0.042	0.218	5.11	0.006	0.15	3.65	86	6.96	2.81	0.8	18.8	8.51
13		0.043		5.15		0.15		86		2.83		18.9	8.57
14		0.042		5.06		0.14		85		2.78		18.6	8.42
15	0.002	0.042	0.134	3.15	0.005	0.13	3.30	78	7.11	2.82	1.4	32.90	14.92
16		0.044		3.24		0.13		80		2.90		33.85	15.35
17	0.002	0.036	0.197	4.73	0.008	0.19	5.56	134	6.94	2.88	1.2	28.84	13.08
18		0.035		4.60		0.18		130		2.80		28.04	12.72
19	0.002	0.035	0.285	6.56	0.011	0.26	9.39	216	7.02	2.76	1.0	23.0	10.45
20		0.035		6.59		0.26		217		2.77		23.1	10.48
21		0.035		6.56		0.26		216		2.76		23.0	10.43
22	0.002	0.033	0.297	6.55	0.011	0.25	10.80	238	7.24	2.64	1.2	26.45	12.00
23		0.033		6.59		0.25		240		2.66		26.62	12.07
24	0.002	0.033	0.302	6.70	0.012	0.27	11.60	257	7.28	2.66	1.8	39.96	18.12
25		0.034		6.83		0.28		262		2.71		40.71	18.46
26	0.002	0.034	0.293	6.73	0.010	0.23	10.30	237	7.24	2.75	1.6	36.76	16.67
27		0.036		6.98		0.24		245		2.86		38.13	17.29
28		0.033		6.44		0.22		226		2.63		35.17	15.95
29	0.003	0.057	0.250	5.45	0.009	0.20	8.15	178	7.33	2.61	1.2	26.15	11.86
30		0.057		5.44		0.20		177		2.61		26.10	11.84
31	0.002	0.033	0.267	5.82	0.010	0.21	9.15	199	7.27	2.61	1.6	34.85	15.80
Total	0.033	1.563	3.176	155.395	0.110	5.406	90.450	4428.614	98.940	81.184	18.200	852.599	386.666
Sample Events	14	31	14	31	14	31	14	31	14	31	14	31	31
Daily Average	0.002	0.050	0.227	5.01	0.008	0.174	6.5	143	7.07	2.62	1.30	27.5	12.47
Lab Detection Limit	**0.003**		**0.004**		**0.001**		**0.004**		**0.01**		**0.800**		

MIN	0.002	0.016	0.134	1.648	0.004	0.044	1.960	23.344	6.520	1.097	0.800	17.758	8.054
MAX	0.008	0.166	0.302	6.983	0.012	0.276	11.600	262.333	7.330	2.897	2.000	43.561	19.756

Notes:
(X mg/L) * (1 kg/10^6 mg) * (2.205 lbs/kg) * (3.785 L/gal) * (10^6 gal/Mgal) * (Y Mgal/day) = (X) * (Y) * (8.345) in lbs/day
(X lbs/day) * (1 kg/2.205 lbs) = (X) / (2.205) in kg/day

KELLOGG TUNNEL DISCHARGE
CENTRAL TREATMENT PLANT
MONTH: May-17
Data from SVL

DAY	LEAD (Pb)		ZINC (Zn)		CADMIUM (Cd)		MANGANESE (Mn)		pH s.u.	006 FLOW		TSS	
	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	mg/L	lbs/day	*CTP Lab*	mgd	mg/L	lbs/day	kg/day
1	0.765	17.24	161	3,628	0.364	8.20	88	1,987	2.90	2.70	88	1983	899
2		16.98		3,574		8.08		1,958		2.66		1953	886
3		16.92		3,560		8.05		1,950		2.65		1946	883
4	0.759	16.47	168	3,645	0.384	8.33	89	1,927	2.91	2.60	76	1649	748
5		16.53		3,659		8.36		1,934		2.61		1655	751
6		12.41		2,748		6.28		1,452		1.96		1243	564
7		12.10		2,677		6.12		1,415		1.91		1211	549
8	0.750	6.87	374	3,424	0.933	8.54	65	592	2.66	1.10	9	82	37
9		16.34		8,146		20.32		1,409		2.61		196	89
10		17.57		8,761		21.85		1,516		2.81		211	96
11	0.729	16.67	226	5,168	0.631	14.43	106	2,424	2.61	2.74	32	732	332
12		17.09		5,300		14.80		2,486		2.81		750	340
13		17.22		5,337		14.90		2,503		2.83		756	343
14		16.91		5,243		14.64		2,459		2.78		742	337
15	0.912	21.43	219	5,147	0.631	14.83	104	2,444	2.75	2.82	100	2350	1066
16		22.05		5,294		15.25		2,514		2.90		2418	1096
17		21.92		5,263		15.17		2,499		2.88		2403	1090
18	0.710	16.59	105	2,453	0.566	13.23	52	1,210	2.74	2.80	36	841	381
19		16.35		2,418		13.04		1,193		2.76		829	376
20		16.41		2,427		13.08		1,197		2.77		832	377
21		16.34		2,416		13.02		1,192		2.76		828	376
22									2.72	2.64			
23										2.66			
24										2.66			
25									2.77	2.71			
26										2.75			
27										2.86			
28										2.63			
29									2.79	2.61			
30										2.61			
31										2.61			
Total	4.63	348.40	1253.00	90288.42	3.51	260.53	503.50	38263.37	24.85	81.18	341.00	25612.02	11615.43
Sample Events	6	21	6	21	6	21	6	21	9	31	6	21	21
Daily Average	0.771	16.6	208.8	4,299	0.585	12.41	83.9	1,822	2.76	2.62	57	1220	553

Notes:
(X mg/L) * (1 kg/10^6 mg) * (2.205 lbs/kg) * (3.785 L/gal) * (10^6 gal/Mgal) * (Y Mgal/day) = (X) * (Y) * (8.345) lbs/day
(X lbs/day) * (1 kg/2.205 lbs) = (X) / (2.205) kg/day