From:	Chris Previs
To:	IDEM LAReports
Subject:	May 2024 report for INLA000272
Date:	Thursday, June 27, 2024 8:29:56 AM
Attachments:	May2024 sludge.pdf

No activity

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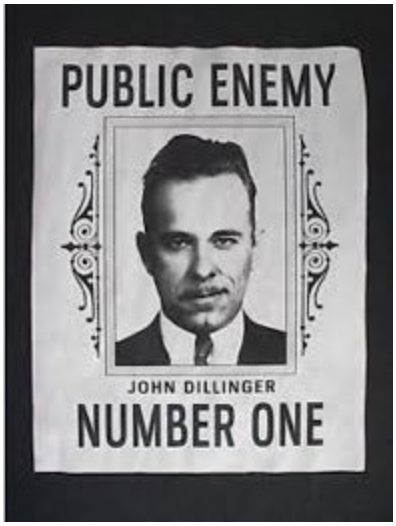

Crown Point mishandled #1

but we do a good job on #2

May 2024

WORKSHEET

Volatile Reduction

(In-Out) ÷ In – (In x Out) = Volatile Reduction

Let "In" be the average of column A and column B .71

Let "Out" be column C .58

1. .71 - .58 = .13

2. .71 – (.71 x .58) = .30

.41
.71 x .58

3. Ans. #1 ÷ Ans. #2 = 43.33%

Volatile Reduction = 43.33%

Total Sludge Produced:

(MG sludge x T.S. mg/l x 8.34) ÷ 2000 = Tons sludge produced
(note: % solids x 10,000 = mg/l)

W.A.S.
Let "MG sludge" be the TOTAL D = .715
Let "T.S." be the AVERAGE OF E = .62
(.715 x 6200 x 8.34) ÷ 2000
Tons W.A.S. sludge produced = 18.49%

Primary
Let "MG sludge" be the TOTAL F = .280
Let T.S." be the AVERAGE OF G X 10,000 = 37250
(.280 x 37250 x 8.34) ÷ 2000
Tons Primary sludge produced = 43.49

Add "W.A.S." sludge and "Primary" sludge = 61.98% Total Sludge Produced

MONTH/YEAR: MAY 2024

		GRAVITY BELT THICKENER										SLUDGE PRESS							Land Application	
		Waste Act. Sldg Flow			W.A.S.		Thickened Sludge			Primary Sludge			Digested Sludge Flow			Sludge to Storage				
Date		Start	Stop	Total gal. X 1000	T.S.	V.S.	T.S. (43)	V.S. (45)	By:	Total X 1000 (36)	T.S. (43)	V.S. (45)	Start	Stop	Total X 1000 (47)	T.S. (44)	V.S. (46)	Filtrate NH3 Mg/L	By:	T.S.	V.S.
1		99445	99485	40	.7%	65%	5.3%	66%	GA				102643	102684	41	22%	54%		GA		
2													102684	102714	30	20%	56%		GA		
3	F	99485	99525	40	.6%	66%	5.4%	68%	GA												
4																					
5																					
6	M	99525	99565	40	.6%	64%	4.8%	66%	GA		4.3%	84%	102714	102756	42	20%	57%		GA		
7													102756	102798	42	19%	60%		GA		
8		99565	99610	45	.6%	65%	4.8%	66%	GA				102798	102839	41	17%	58%		GA		
9																					
10	F	99610	99655	45	.8%	58%	4.7%	62%	GA				102839	102871	32	18%	55%		GA		
11																					
12																					
13	M	99655	99695	40	.7%	64%	5.0%	66%	GA				102871	102915	44	20%	57%		GA		
14		99695	99720	25	.9%	66%	5.6%	76%	KE				102915	102959	44	21%	58%		KE		
15		99720	99760	40	.6%	70%	6.1%	69%	KE				102959	103003	44	19%	57%		KE		
16											2.7%	86%	103003	103047	44	19%	54%		GA		
17	F	99760	99800	40	.6%	66%	4.8%	67%	GA				103047	103091	44	18%	55%		GA		
18																					
19																					
20	M	99800	99835	35	.4%	67%	4.8%	68%	GA				103091	103129	38	22%	59%		GA		
21		99835	99885	50	.6%	65%	4.4%	67%	GA				103129	103166	37	18%	64%		GA		
22													103166	103203	37	19%	56%		GA		
23		99885	99945	60	.5%	67%	5.2%	68%	GA		3.0%	76%	103203	103240	37	19%	56%		GA		
24	F	99945	100000	55	.6%	68%	5.1%	68%	GA				103240	103277	37	17%	63%		GA		
25																					
26																					
27	M																				
28													103277	103321	44	23%	57%		GA		
29		100000	100046	40	.7%	68%	4.9%	70%	GA				103321	103365	44	21%	64%		GA		
30		100046	100100	60	.5%	69%	5.0%	70%	GA		4.9%	72%	103365	103409	44	17%	59%		GA		
31	F	100100	100160	60	.5%	70%	5.1%	68%	GA				103409	103453	44	16%	60%		GA		
				715	9%			1085			3.7	1403					1153				
				D	E			A		F	G	B					C				

Volatile Reduction: Total Sludge Produced:

MCRT for Digesters Month May Year 2024

	North Digester					West Digester								
	gal	temp	days	Req days		Gal X1000	Inf TS	pounds	Eff TS	TS X8.345	Eff gal	days	temp	Req days
1	8108		42.7			40	.7	2336.6	5.3	.442285	5283.0	98.2	95	15.0
2	9185		37.7										96	15.0
3	9463		36.6			40	.6	2002.8	5.4	.45063	4444.4	116.7	96	15.0
4	92227		37.5										96	15.0
5	8692		39.8										95	15.0
6	8697		39.8			40	.6	2002.8	4.8	.40056	5000.0	103.7	95	15.0
7	6248		55.4										98	15.0
8	6295		55.0			45	.6	2253.2	4.8	.40056	5625.1	92.2	98	15.0
9	6129		56.5										98	15.0
10	8927		38.8			75	.8	3004.2	4.7	.392215	7659.6	67.7	98	15.0
11	6764		51.2										98	15.0
12	7148		48.4										100	15.0
13	11820		29.3			40	.7	2336.6	5.0	.41725	5600.0	92.6	101	15.0
14	12117		28.6			25	.9	1877.6	5.6	.46732	4017.8	129.1	101	15.0
15	9918		34.9			40	.6	2002.8	6.1	.509045	3934.4	131.8	101	15.0
16	8677		39.9										100	15.0
17	8676		39.9			40	.6	2002.8	4.8	.40056	5000.0	103.7	100	15.0
18	8797		39.4										99	15.0
19	9080		38.1										100	15.0
20	9426		36.7			35	.4	1168.3	4.8	.40056	2916.7	177.8	101	15.0
21	9279		37.3			50	.6	2503.5	4.4	.36718	6818.2	76.1	102	15.0
22	9247		37.4										102	15.0
23	9435		36.7			60	.5	2503.5	5.2	.43394	5769.2	89.9	102	15.0
24	9783		35.4			55	.60	2753.9	5.2	.43394	6346.3	81.7	102	15.0
25	9822		35.2										102	15.0
26	9600		36.1										100	15.0
27	9138		37.9										101	15.0
28	9508		36.4										102	15.0
29	9651		35.9			48	.7	2336.6	4.9	.408905	5714.3	90.8	103	15.0
30	12319		28.1			60	.5	2503.5	5.0	.41725	6000.0	86.4	101	15.0
31	10015		34.6			60	.5	2503.5	5.1	.425595	5882.4	88.2	100	15.0

Capacities: North 346,191.54 West 518,618.3

Formulas: North 346,191.54/gallons = days

West gal x inf solids x 8.345 = pounds

Pounds/eff solids x 8.345 = eff gallons

t	d	t	d	t	d	t	d	t	d	t	d	t	d
68	60	72	53.3	76	46.7	80	40.0	84	33.4	88	26.7	92	20.0
69	58.4	73	51.7	77	45	81	38.3	85	31.7	89	25.0	93	18.4
70	56.7	74	50.0	78	43.4	82	36.7	86	30.0	90	23.3	94	16.7
71	55.0	75	48.4	79	41.7	83	35.0	87	28.4	91	21.7	95	15

MCRT = temp C -40 C/-.3333 15 days for 35 C -55 C (95-131 F) 60 days at 20 C (68 F)

Crown Point WWTP Operational Record

Month: MAY **Year: 2024**

	Temp		Precipation						#9	#26	#22		#40		#7		#36	
			Daily	Start time	How long	Max rate	On grnd	Mlt snow					Digester temp		FeChl.		Primary sludge To N. digester	
Date	Min	Max							Inf	Eff	Ras	peak	N	W	Gallons	Day Tank used	Inches	Gallons
1	55	85							5.4	4.6	2.0	6.6	96	95	5318	165	6.6	8108
2	51	87	.30	832	162	.05			4.9	4.6	2.0	6.7	97	96	5153	295	7.6	9185
3	50	72	.06	120	42	.04			5.4	4.9	2.0	6.6	97	96	4822	334	7.9	9463
4	49	91	.23	1941	25	.17			4.6	4.5	2.0	8.8	97	96	4488	301	7.7	9227
5	49	70							4.6	4.6	2.0	6.7	96	95	4056	311	7.2	8692
6	47	89							4.2	4.0	2.0	6.5	96	95	3692	310	7.2	8697
7	57	86	.30	914	67	.13			4.7	4.7	2.0	8.7	98	98	3258	312	5.2	6248
8	54	94							4.5	4.3	2.0	6.5	97	98	2885	311	5.3	6295
9	51	68	1.11	451	398	.22			6.6	5.9	2.0	9.0	98	98	2485	285	5.1	6129
10	49	75							7.2	6.8	2.0	8.9	97	98	2147	371	7.4	8927
11	51	74	.02	59	23	.01			5.1	5.0	2.0	6.6	98	98	1810	5	5.6	6764
12	49	93							4.3	4.2	2.0	6.6	98	100	1393	155	6.0	7148
13	62	85	.27	1708	257	.03			4.4	4.3	2.0	8.7	98	101	1348	160	9.9	11820
14	53	67	.24	12	224	.05			5.2	5.2	2.0	6.6	98	101	1198	169	10.1	12117
15	53	72							4.5	4.4	2.0	6.6	97	101	6312	179	8.3	9918
16	52	80	.03	1543	45	.01			3.8	3.8	2.0	6.4	98	100	6155	181	7.2	8677
17	60	94	.01	838	15	.01			3.9	3.3	2.0	6.4	97	100	5976	184	7.2	8676
18	62	95							3.8	3.7	2.0	6.4	98	99	5782	184	7.3	8797
19	63	82							3.7	3.6	2.0	6.4	97	100	5577	185	7.6	9080
20	62	95	.45	1547	71	.30			4.2	4.0	2.0	8.6	98	101	5367	185	7.9	9426
21	63	96							4.4	4.2	2.0	6.8	98	102	5164	185	7.7	9279
22	59	85							3.6	3.5	2.0	6.8	97	102	4846	186	7.7	9247
23	57	95							3.5	3.2	2.0	6.8	96	102	4663	187	7.9	9435
24	62	86							3.3	2.8	2.0	4.3	98	102	4418	187	8.2	9783
25	57	86							3.0	2.8	2.0	4.3	98	102	4340	185	8.2	9822
26	56	85	.47	1036	158	.19			3.7	3.7	2.0	8.8	98	100	4184	185	8.0	9600
27	57	80							3.3	3.3	2.0	6.8	97	101	4010	186	7.6	9138
28	54	80	.34	1721	139	.10			3.4	3.3	2.0	6.9	98	102	3852	187	7.9	9508
29	53	73	.10	57	122	.02			3.9	3.8	2.0	6.8	98	103	3685	185	8.0	9651
30	49	78							3.6	3.5	2.0	6.8	97	101	3519	184	10.3	12319
31	51	88							4.5	4.3	2.0	6.9	98	100	3309	186	8.3	10015