

TEYON CREEK PLANT: CITY OF PORTLAND CLACKAMAS COUNTY

PERMIT NO. 33409-J (FILE 70735)

POPULATION SERVED: 31000

PLANT TYPE: ACTIVATED SLUDGE

RECEIVING STREAM: WILLAMETTE RIVER

WASTEWATER TREATMENT PLANT MONITORING REPORT

WASTEWATER TREATMENT PROCESS CONTROL

NUTRIENTS

Date	FLOW		PLANT INFLUENT				PLANT EFFLUENT																ANAEROBIC				AERATION			Slg Flow to		PLANT EFFLUENT					
																							DIGESTER														
																							Vol. Sol. Red. (%) 76.3				Sus			Pre Off		CL2		Total TKN NH3 NO3+ P N NO2-N			
																							pH CO2 Alk Temp oF	SVI Sol mg/l DO mg/l	cip Site mgd												
Feb-94	INF	EFF	pH	BOD mg/l	Sol mg/l	Temp oC	pH	DO mg/l	BOD mg/l	Rem %	Dis lbs	TSS mg/l	Rem %	Dis lbs	CL2 Fed lbs	CL2 Res mg/l	Enter Coc/ 100ml	Wk Enter Avg	Fec Coli / 100ml	Wk Fec G.M.	pH	CO2 %	Alk mg/l	Temp oF	SVI	Sol mg/l	DO mg/l	cip "	Site mgd	Str	Total P mg/l	TKN mg/l	NH3 mg/l	NO3+ NO2-N mg/l			
1	7.10	7.06	7.2	195	196		7.4		9	95	530	12	94	706	50	0.5	700		49			7.2		3310	99	171	1422	0.00	0.042	0.00							
2	7.12	7.10	7.7	245	216		7.5		10	96	592	8	96	474	40	0.5	1100		50					3310	98	181	1386	0.8	0.00	0.017	0.00						
3	7.04	7.02	7.6	250	166	13	7.4	7.7	10	96	585	8	95	468	60	0.5	1000		64					99	196	1319	1.2	0.00	0.024	0.00							
4	7.07	7.06	7.3	235	191	14	7.6	7.8	10	96	589	8	96	471	50	0.5	364		52					99	191	1437	0.8	0.00	0.006	0.00							
5	6.88	6.88	6.9	250	233	14	7.5	7.6	11	96	631	11	95	631	50	0.4		709		52				99	192	1349	0.8	0.00	0.000	0.00							
6	6.98	6.97	7.2	215	183	13	7.4	7.3	11	95	639	8	96	465	60	0.5								99	217	1220	1.0	0.00	0.011	0.00							
7	6.93	6.91	7.4	220	197	12	7.6	8.0	13	94	749	11	94	634	50	0.6	800		86					99	193	1698	1.1	0.00	0.019	0.00							
8	6.74	6.72	7.3	210	184		7.4		14	93	784	5	97	280	50	0.5			180					99	203	1682	1.3	0.00	0.024	0.00							
9	6.74	6.72	7.2	200	184	13	7.5	8.0	13	94	728	3	98	168	50	0.6			52					99	215	1615	1.4	0.10	0.021	0.00							
10	6.64	6.62	7.7	205	198	14	7.7	7.2	11	95	607	9	95	497	40	0.5	920		130					99	206	1333	0.7	0.00	0.024	0.00							
11	6.40	6.38	7.5	200	253	14	7.3	7.0	10	95	532	6	98	319	50	0.5	450		22					98	229	1401	1.2	0.00	0.016	0.00							
12	6.80	6.80	7.6	210	203		7.4		12	94	681	13	94	737	50	0.6		723		75				39	98	204	1323	1.6	0.00	0.000	0.00						
13	7.86	7.85	7.7	165	212		7.4		15	91	982	8	96	524	70	0.7								39	99	194	1493	2.1	0.70	0.010	0.00						
14	8.18	8.16	7.5	210	154		7.4		14	93	953	7	95	476	60	0.8	500		5					99	189	1435	0.8	0.00	0.021	0.00							
15	7.51	7.49	7.3		213	14	7.5	8.0				15	93	937	50	0.6	1600		18					99	227	1526	1.5	0.20	0.021	0.00							
16	7.80	7.78	7.2	200	213		7.5		15	93	973	11	95	714	50	0.7	1700		150					99	200	1364	1.7	0.10	0.022	0.00							
17	9.33	9.31	7.5	150	148	13	7.4	7.5	15	90	1165	5	97	388	70	0.8	2300		22					99	194	1374	2.0	0.60	0.020	0.00							
18	10.24	10.23	7.2	150	136	13	7.4	8.2	18	88	1535	10	93	853	170	0.5	5400		48					99	206	1331	1.4	0.30	0.014	0.00							
19	9.61	9.61	7.0	140	143		7.2		14	90	1122	10	93	801	230	0.8		2300		27				99	208	1424	1.6	0.15	0.000	0.00							
20	9.24	9.23	7.5	160	141	14	7.3	7.3	13	92	1000	7	95	539	170	0.8								39	99	192	1398	1.3	0.10	0.013	0.00						
21	10.90	10.80	7.4	105	121		7.5		12	89	1081	10	92	901	230	0.7	3600		6					99	194	1391	1.6	0.30	0.100	0.00							
22	9.62	9.59	7.2	150	164	13	7.3	7.4	13	91	1040	14	91	1120	220	0.7	3100		7					7.2		3506	100	182	1521	1.1	0.10	0.028	0.00				
23	11.77	11.74	7.5	110	136	13	7.4	7.8	13	88	1273	16	88	1566	230	0.7	3900		7					99	181	1378	1.2	0.70	0.031	0.00							
24	26.76	26.74	7.0	100	165		7.1		27	73	6022	44	73	9814	330	0.6			16000					99	170	1096	1.2	2.70	0.017	0.00							
25	17.85	17.84	6.9	145	202	11	7.0	8.4	13	91	1934	14	93	2083	160	0.5			94					99	155	1210	1.5	0.10	0.009	0.00							
26	13.47	13.47	6.9	155	108		7.1		11	93	1236	6	94	674	150	0.6		3533		54				99	155	1293	1.1	0.35	0.000	0.00							
27	12.80	12.79	7.1	135	162		7.1		11	92	1173	11	93	1173	160	0.5								99	168	1410	1.0	0.35	0.010	0.00							
28	11.61	11.58	7.3	140	119	12	7.2	7.9	12	91	1159	1	99	97	160	0.6	3400		6					99	150	1528	1.4	0.10	0.036	0.00							
1																																					
2																																					
3																																					
Max	26.76	26.74	7.7	250	253	14	7.7	8.4	27	96	6022	44	99	9814	330	0.8	5400	3533	16000	75	7.2	39	3506	100	229	1698	2.1	2.70	0.100	0.00	0.00	0.00	0.00	0.00			
Min	6.40	6.38	6.9	100	108	11	7.0	7.0	9	73	530	1	73	97	40	0.4	364	709	5	27	7.2	39	3310	98	150	1096	0.7	0.00	0.000	0.00	0.00	0.00	0.00	0.00			
Avg	9.54	9.52	7.3	180	176	13	7.4	7.7	13	93	1122	10	94	1018	111	0.6	1927	1816	44	52	7.2	39	3408	99	192	1406	1.3	0.25	0.020	0.00	0.00	0.00	0.00	0.00			
Sum	266.99	266.44																																			

PLANT EFFLUENT PERMIT STANDARDS: pH 6.0-9.0; Fecal Coli 200/100 CL2 Res. 1.0 (Daily Max)

*Sus Sol 20/ 30 mg/l Sus Sol Discharged 1384/ 2077 lbs

*BOD 20/ 30 mg/l BOD Discharged 1384/ 2077 lbs

*May 1 - October 31 / November 1 - April 30

I certify that I am familiar with the information contained in this report and that to the best of my knowledge such information is true and complete.

Name and Title: Larry K. Erickson
Operations Manager

Signature: *Larry K. Erickson*

Remarks: (Improvements, Operational Changes, Weed Control Programs, Etc.)

Influent BOD5 is a Blended Sample

Sludge Hauled to Columbia Blvd WTP

All Test Data Subject to Variability of Test

Page 1									
Date Feb-94	Plant Effluent Nutrients				Flow		Weather		Precip
	Total P mg/l	NH3-N mg/l	NO3 + NO2-N mg/l	TKN mg/l	Portland mgd	Lake Oswego mgd	Temperature Max o F	Min o F	"
1					3.32	3.78	55	33	0.00
2					3.33	3.79	50	28	0.00
3					3.34	3.70	50	27	0.00
4					3.38	3.69	42	32	0.00
5					3.27	3.61	53	27	0.00
6					3.27	3.71	51	27	0.00
7					3.22	3.71	42	32	0.00
8					3.13	3.61	47	26	0.00
9					3.19	3.55	53	35	0.10
10					3.17	3.47	51	36	0.00
11					2.92	3.48	54	36	0.00
12					3.23	3.57	53	34	0.00
13					3.63	4.23	51	41	0.70
14					3.57	4.61	51	36	0.00
15					3.50	4.01	51	44	0.20
16					3.75	4.05	54	43	0.10
17					4.36	4.97	50	42	0.60
18					4.71	5.53	50	39	0.30
19					4.22	5.39	56	39	0.15
20					4.37	4.87	55	34	0.10
21					5.27	5.63	50	38	0.30
22					4.50	5.12	52	39	0.10
23					5.90	5.87	50	42	0.70
24					11.63	15.13	42	34	2.70
25					5.28	12.57	45	37	0.10
26					4.22	9.25	54	38	0.35
27					4.19	8.61	55	49	0.35
28					4.23	7.38	66	51	0.10
29									
30									
31									
Max	0.00	0.00	0.00	0.00	11.63	15.13	66	51	2.70
Min	0.00	0.00	0.00	0.00	2.92	3.47	42	26	0.00
Avg	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	4.15	5.39	51	36	0.25
Sum					116.10	150.89			6.95

Page 4		PLANT						EFFLUENT					
Date	Flow	Susp Sol.			BOD5			Cl2 Cntct	Cl2	Cl2	DO	pH	Flow to
Feb-94	mgd	mg/l	lbs	% Rem	mg/l	lbs	% Rem	Time	Feed	Res	mg/l		Cl2 Str
								hrs	lbs/day	mg/l			mgd
1	7.06	12	706	94	9	530	95	2.4	50	0.5		7.4	0.00
2	7.10	8	474	96	10	592	96	2.4	40	0.5		7.5	0.00
3	7.02	8	468	95	10	585	96	2.4	60	0.5	7.7	7.4	0.00
4	7.06	8	471	96	10	589	96	2.4	50	0.5	7.8	7.6	0.00
5	6.88	11	631	95	11	631	96	2.4	50	0.4	7.6	7.5	0.00
6	6.97	8	465	96	11	639	95	2.4	60	0.5	7.3	7.4	0.00
7	6.91	11	634	94	13	749	94	2.4	50	0.6	8.0	7.6	0.00
8	6.72	5	280	97	14	784	93	2.5	50	0.5		7.4	0.00
9	6.72	3	168	98	13	728	94	2.5	50	0.6	8.0	7.5	0.00
10	6.62	9	497	95	11	607	95	2.5	40	0.5	7.2	7.7	0.00
11	6.38	6	319	98	10	532	95	2.6	50	0.5	7.0	7.3	0.00
12	6.80	13	737	94	12	681	94	2.5	50	0.6		7.4	0.00
13	7.85	8	524	96	15	982	91	2.1	70	0.7		7.4	0.00
14	8.16	7	476	95	14	953	93	2.1	60	0.8		7.4	0.00
15	7.49	15	937	93				2.2	50	0.6	8.0	7.5	0.00
16	7.78	11	714	95	15	973	93	2.2	50	0.7		7.5	0.00
17	9.31	5	388	97	15	1165	90	1.8	70	0.8	7.5	7.4	0.00
18	10.23	10	853	93	18	1535	88	1.6	170	0.5	8.2	7.4	0.00
19	9.61	10	801	93	14	1122	90	1.8	230	0.8		7.2	0.00
20	9.23	7	539	95	13	1000	92	1.8	170	0.8	7.3	7.3	0.00
21	10.80	10	901	92	12	1081	89	1.6	230	0.7		7.5	0.00
22	9.59	14	1120	91	13	1040	91	1.8	220	0.7	7.4	7.3	0.00
23	11.74	16	1566	88	13	1273	88	1.4	230	0.7	7.8	7.4	0.00
24	26.74	44	9814	73	27	6022	73	0.6	330	0.6		7.1	0.00
25	17.84	14	2083	93	13	1934	91	0.9	160	0.5	8.4	7.0	0.00
26	13.47	6	674	94	11	1236	93	1.2	150	0.6		7.1	0.00
27	12.79	11	1173	93	11	1173	92	1.3	160	0.5		7.1	0.00
28	11.58	1	97	99	12	1159	91	1.5	160	0.6	7.9	7.2	0.00
29			0										
30			0										
31			0										
Max	26.74	44	9814	99	27	6022	96	2.6	330	0.8	8.4	7.7	0.00
Min	6.38	1	97	73	9	530	73	0.6	40	0.4	7.0	7.0	0.00
Avg	9.52	10	1018	94	13	1122	93	2.0	111	0.6	7.7	7.4	0.00
Sum	266.44		0			0			3110				0.00

[illegible]

SLUDGE PROCESSING

Date Feb-94	Thickened Primary Sludge				WAS			Gravity Belt			TWAS		
	Flow gal	Tot Sol %	Vol Sol %	Vol Content %	Flow mgd	Susp. mg/l	Sols lbs	Capture %	Filtrate mg/l	Poly lbs	Total Sols. %	lbs	Gal Hauled
1	12870				0.149	13288	16537				5.91	17517	35540
2	13360				0.046	13660	5184				5.84	5319	10920
3	13470				0.078	16593	10784				5.96	8942	17990
4	13600				0.000		0					0	0
5	13180				0.000		0					0	0
6	13470				0.033	19010	5254				5.80	5345	11050
7	13440	5.99	5.10	85.1	0.049	18872	7789				5.56	6010	12960
8	13620				0.054	20670	9231				5.89	8695	17700
9	14110				0.048	18360	7377				5.82	7354	15150
10	14800				0.068	34070	19410				6.09	8954	17630
11	15000				0.043	20233	7182				4.92	6413	15630
12	15400				0.000		0					0	0
13	14530	6.29	5.25	83.5	0.047	15530	6042				7.37	5950	9680
14	15150				0.048	30050	12030				6.62	8166	14790
15	15170				0.050	18470	7736				6.57	8356	15250
16	14850				0.045	19820	7511				6.53	8518	15640
17	14330				0.058	19000	9180				6.50	7682	14170
18	14230				0.058	20260	9800				6.75	7980	14175
19	14600				0.000		0					0	0
20	14200	4.73	3.94	83.2	0.019	19370	3089				5.97	3306	6640
21	14280				0.078	18000	11705				5.76	45036	93750
22	14510				0.092	17440	13314				6.16	11313	22020
23	12480				0.074	17000	10520				5.86	12169	24900
24	15030				0.049	17000	6967				5.93	5232	10580
25	12600				0.046	12267	4663				7.07	5472	9280
26	7170				0.000		0					0	0
27	8610	4.23	3.42	80.9	0.047	13760	5388				6.65	5524	9960
28	13220				0.169	11822	16660				7.12	21306	35880
29													
30													
31													
Max	15400	6.29	5.25	85.1	.169	34070	19410	0.00	0		7.37	45036	93750
Min	7170	4.23	3.42	80.9	.000	11822	0	0.00	0		4.92	0	0
Avg	13617	5.31	4.43	83.2	.052	18458	7620	#DIV/0!	#DIV/0!		6.20	8234	16117
Sum	381280				1.448		213353					230558	451285

MONTHLY REPORT SUMMARY

Feb-94

PRIMARY TREATMENT						ANAEROBIC DIGESTION				
Influent		Effluent		Rem	Primary	Feed Sludge				
mg/l	lbs/ day	mg/l	lbs/ day	%		Flow gal/ day	Total Solids %	Volatile Content %		
S S	176	13569	118	10721		33				
BOD5	180	13298	#DIV/0!	#DIV/0!		#DIV/0!	13617	5.31	83.2	
Detent Time hrs		Population Equivalent		Flow mgd	Precip "	Detention Time days			Loading lbs VS / ft3 /day	
3.3		78222		9.54	6.95	26		0.10		
SECONDARY TREATMENT						Secondary				
Influent		Effluent		Rem	Total Solids %	Volatile Content %		Vol Sol Reduct %		
mg/l	lbs/ day	mg/l	lbs/ day	%						
S S	176	13569	10	1018	94					
BOD5	180	13298	13	1122	93	5.64	54.0	76.3		
F/M	SVI		SRT days	MLSS mg/l		Sludge Process				
#DIV/0!	192		5.6	1406		Total Solids (TWS) %	Capture %	Filtrate Solids mg/l		
RAS Flow mgd		CL2 Res mg/l	CL2 Feed lbs/day			6.20	#DIV/0!	#DIV/0!		
0.50		0.6	111			Sludge Hauled gal/day lbs /day lbs/mo				
WAS Flow mgd	Aerator Detention Time hrs		Aerator DO mg/l			Digst	3643	1714	47978	
.052	3.9		1.3			TWS	16117	8337	233432	
						Total	19760	10050	281411	