



**Monthly Report of Operation
Vertical Loop Reactor
Wastewater Treatment Plant**

State Form 10829 (R/1-2005)

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Name of Facility Clay Township Regional Waste District			Permit Number IN0055760	
Month November	Year 2008	Plant Design Flow 2.55 mgd	Telephone Number (317) 873-0564	
Facility's e-mail address (if available): scot@ctrwd.org				
Certified Operator: Name Scot S. Watkins		Class III	Certificate Number WW018132	Expiration Date 6/30/2010

Day Of Month	Day of Week	Man-Hours at Plant (Plants less than 1 MGD only)	Air Temperature	Precipitation - Inches	Bypass At Plant Site ("x" If Occurred)	Collection System Overflow ("x" If Occurred)	CHEMICALS USED			RAW SEWAGE									
							Chlorine - Lbs	Liquid Alum - Gallons	Lbs or Gal	Influent Flow Rate (MGD)	pH	CBOD5 - mg/l	CBOD5 - lbs	Susp. Solids - mg/l	Susp. Solids - lbs	Phosphorus - mg/l	Ammonia - mg/l		
1	Sat								170	1.874									
2	Sun								120	1.626									
3	Mon		74						100	1.707	7.5	229	3260.1	252	3587.6	8.34	32.9		
4	Tue		74						130	1.703	7.4	251	3565	240	3408.7	7.51	34.2		
5	Wed		74						170	1.731	7.4	218	3147.2	276	3984.5	8.79	35.5		
6	Thu		74	0.04					70	1.74	7.5	214	3105.5	208	3018.4	7.92	33.8		
7	Fri		60						100	1.78	7.5	223	3310.5	254	3770.7	7.81	33.4		
8	Sat								110	1.795									
9	Sun								100	1.612									
10	Mon		45						130	1.884	7.5	284	4462.4	244	3833.9	7.26	33.7		
11	Tue		45	0.02					100	1.499	7.5	257	3212.9	240	3000.4	6.88	34.5		
12	Wed		52	0.64					100	1.774	7.5	189	2796.3	196	2899.9	6.79	35.6		
13	Thu		54	0.03					90	1.765	7.5	248	3650.6	236	3473.9	6.55	33		
14	Fri		54	0.24					80	1.753	7.6	201	2938.6	262	3830.4	7.31	34.2		
15	Sat			0.31					70	1.902									
16	Sun								90	1.758									
17	Mon		36	0.01					80	1.772	7.5	216	3192.2	202	2985.3	7.3	33		
18	Tue		36						90	1.75	7.5	211	3079.5	238	3473.6	8.39	34		
19	Wed		40						80	1.757	7.5	206	3018.6	182	2666.9	6.96	33.5		
20	Thu		36						40	1.762	7.5	308	4526.1	246	3615	7.52	32.6		
21	Fri		33						60	1.763	7.5	222	3264.2	190	2793.6	7.32	32.4		
22	Sat								80	1.312									
23	Sun								90	2.141									
24	Mon		40	0.23					70	1.816	7.5	151	2287	208	3150.3	7.22	32.4		
25	Tue		36						50	1.856	7.5	204	3157.7	252	3900.7	6.48	31.9		
26	Wed		45						60	1.815	7.5	189	2860.9	212	3209.1	6.78	31		
27	Thu		50						90	1.69	7.5	284	4002.9	214	3016.2	6.93	28.9		
28	Fri		40						80	1.723	7.3	273	3923	244	3506.2	7.12	35		
29	Sat								60	1.855									
30	Sun			0.23					55	1.677									
Average									90.5	1.75307		229	3338	230	3356.3	7.359	33.28		
Maximum				0.64					170	2.141	7.6	308	4526.1	276	3984.5	8.79	35.6		
Minimum									40	1.312	7.3	151	2287	182	2666.9	6.48	28.9		
No. of Data				9	0	0		0	30	0	30	20	20	20	20	20	20	20	0

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(SIGNATURE OF CERTIFIED OPERATOR) (DATE)

(SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT) (DATE)

**Monthly Report of Operation
Vertical Loop Reactor
Wastewater Treatment Plant**

Name of Facility: Clay Township Regional Waste D
 Permit Number: IN0055760
 For Month Of: November
 Year: 2008

(SIGNATURE OF CERTIFIED OPERATOR) (DATE)

(SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT) (DATE)

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Day Of Month	Temperature in Reactors	REACTOR # 1			REACTOR # 2				REACTOR DATA			RETURN SLUDGE		FINAL EFFLUENT				
		Settleable Solids % in 30 minutes	Susp. Solids - mg/l	Sludge Vol. Index - ml/gm	Dissolved Oxygen - mg/l	Settleable Solids % in 30 minutes	Susp. Solids - mg/l	Sludge Vol. Index - ml/gm	Dissolved Oxygen - mg/l	#1 Reactor ORP mV	#1 Reactor OUR mg/l/min	#2 Reactor OUR mg/l/min	Volume - MG	Susp. Solids - mg/l	Residual Chlorine - Contact Tank	Residual Chlorine - Final	E. Coil - colony/100 ml	pH
1												0.7121						
2												0.6253						
3	19.3	55	3960	139	0.4	48	3960	121	1.5	-177		0.5921	9860			1	7.5	
4	19.3	46	4100	112	0.4	43	3920	110	1.3	-148		0.5919	9560			1	7.5	
5	19.2	47	3900	121	0.4	47	3660	128	1.4	-132		0.5995	10240				7.5	
6	19.2	45	3800	118	0.4	45	3520	128	1.3	-139	0.81	0.6067	10020				7.4	
7	19.4	58	3660	158	0.4	51	3640	140	1.0	-134		0.6271	9480				7.5	
8												0.68						
9												0.6103						
10	17.1	48	3720	129	0.4	48	4140	116	1.4	-121		0.6715	10840				7.6	
11	17.6	64	3600	178	0.4	59	3720	159	1.4	-87		0.5108	9620				7.5	
12	17.7	44	4460	99	0.4	40	3680	109	1.2	-85		0.6072	10420				7.5	
13	18.1	35	4140	85	0.4	42	3700	114	1.4	-156	0.62	0.6189	9980				7.5	
14	18.3	52	3600	144	0.1	52	3740	139	1.3	-102		0.5991	9120				7.5	
15												0.7163						
16												0.6824						
17	17.2	46	3740	123	0.1	47	3960	119	1.8	-120		0.6167	10700				7.6	
18	16.8	44	3720	118	0.1	43	3400	126	1.9	-77		0.6095	10520				7.5	
19	16.8	40	4040	99	0.1	41	3500	117	2.1	-62		0.6054	9960				7.5	
20	16.8	40	3740	107	0.1	38	3200	119	1.5	-73		0.6087	10500				7.6	
21	16.3	50	3400	147	0.1	46	3360	137	2.7	-46		0.6103	10780				7.6	
22												0.6851						
23											0.71	0.6241						
24	16.8	44	3780	116	0.1	43	3480	124	1.3	-166		0.6406	10480				7.6	
25	16.5	43	3220	134	0.1	41	3580	115	1.2	-136		0.6403	10380				7.5	
26	16.5	39	3720	105	0.1	41	3280	125	1.0	-126		0.655	10400				7.5	
27	16.6	45	3460	130	0.1	32	3760	85	1.5	-148		0.6168	11520				7.6	
28	16.4	42	3380	124	0.1	40	3360	119	1.8	-226		0.5979	11200				7.6	
29												0.7051						
30											0.64	0.6401						
Avg.	17.6	46	3757	124	0.237	44	3628	122	1.491		1	0.338	1	10279			1	
Max.	19.4	64	4460	178	0.38	59	4140	159	2.66		0.81	0.43	0.7163	11520			1	
Min.	16.3	35	3220	85	0.12	32	3200	85	1		0.62	0.28	0.5108	9120			1	
Data	20	20	20	20	20	20	20	20	20		4	2	4	30	20	0	0	2

Comments for the Month (major repairs, breakdowns, process upsets and their causes, inplant treatment process bypass, etc.):

**Monthly Report of Operation
Vertical Loop Reactor
Wastewater Treatment Plant**

(SIGNATURE OF CERTIFIED OPERATOR)

(DATE)

Name of Facility: Clay Township Regional Waste District
 Permit Number: IN0055760
 For Month Of: November
 Year: 2008

(SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR
AUTHORIZED AGENT)

(DATE)

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Day Of Month	FINAL EFFLUENT																
	Flow		Dissolved Oxygen - mg/l	Phosphorus - mg/l	BOD				Total Suspended Solids				Ammonia				
	Effluent Flow Rate (MGD)	Effluent Flow Weekly Average			CBOD5 - mg/l	CBOD5 - mg/l Weekly Average	CBOD5 - lbs	CBOD5 - lbs/day Weekly Average	Susp. Solids - mg/l	Susp. Solids - mg/l Weekly Average	Susp. Solids - lbs	Susp. Solids - lbs/day Weekly Average	Ammonia - mg/l	Ammonia - mg/l Weekly Average	Ammonia - lbs	Ammonia - lbs/day Weekly Average	
1	1.912																
2	1.789																
3	1.897		7.63	0.33	3.95		62.53		6.6		104.48		0.88		13.931		
4	1.801		8.15	0.22	1.44		21.642		2		30.059		1.02		15.33		
5	1.852		8.09	0.26	2.25		34.774		5		77.275		0.91		14.064		
6	1.967		8.11	0.27	2.53		41.529		3.8		62.376		1.2		19.698		
7	1.896		8.22	0.24	1.51		23.891		3		47.466		0.8		12.658		
8	1.906	1.87257					2.336	36.873		4.08		64.331		0.962		15.136	
9	1.853																
10	2.601		8.17	0.17	2.29		49.705		3.1		67.287		0.1		2.1705		
11	1.709		7.92	0.19	1.42		20.251		3.7		52.768		0.1		1.4262		
12	2.021		8.38	0.17	2.03		34.236		3.9		65.774		0.1		1.6865		
13	2.637		8.09	0.21	1.8		39.61		2.4		52.814		0.1		2.2006		
14	2.036		8.44	0.23	1.52		25.825		3.9		66.263		0.1		1.699		
15	2.171	2.14686					1.812	33.926		3.4		60.981		0.1		1.8366	
16	2.104																
17	2.011		8.42	0.17	1.71		28.697		2.4		40.276		0.1		1.6782		
18	2.043		8.07	0.2	1.33		22.675		2.5		42.622		0.1		1.7049		
19	1.99		8.23	0.21	1.39		23.083		3.1		51.48		0.1		1.6607		
20	1.997		8.37	0.17	2.04		33.997		2.3		38.329		0.1		1.6665		
21	2.032		8.12	0.17	1.61		27.301		1.8		30.523		0.1		1.6957		
22	1.581	1.96543					1.616	27.15		2.42		40.646		0.1		1.6812	
23	1.91																
24	2.07		8.34	0.2	1.16		20.038		3.5		60.46		0.1		1.7274		
25	3.052		8.23	0.21	2.2		56.032		3.5		89.141		0.1		2.5469		
26	2.402		8.17	0.15	1.67		33.475		2.1		42.094		0.1		2.0045		
27	2.622		8.23	0.16	1.48		32.383		2.5		54.701		0.1		2.1881		
28	2.708		8.01	0.21	2.51		56.722		3		67.795		0.1		2.2598		
29	2.166	2.41857					1.804	39.73		2.92		62.838		0.1		2.1453	
30	2.085																
Avg	2.09403		8.1695	0.207	1.892		34.42		3.205		57.199		0.3155		5.1998		
Max	3.052	2.41857	8.44	0.33	3.95	2.336	62.53	39.73	6.6	4.08	104.48	64.331	1.2	0.962	19.698	15.136	
Min	1.581	1.87257	7.63	0.15	1.16	1.616	20.038	27.15	1.8	2.42	30.059	40.646	0.1	0.1	1.4262	1.6812	
Data	30	4	20	20	20	4	20	4	20	4	20	4	20	4	20	4	

MONTHLY REMOVAL SUMMARY				
	BOD5	S.S.	Ammonia	Phosphorus
Percent Removal	99	99	99	97.2
Total Monthly Flow: (million gallons) 62.821				
Percent Capacity (actual flow/design) 82%				

Phosphorus limit would be 1 mg/l. (compliance achieved)

**Monthly Report of Operation
Vertical Loop Reactor
Wastewater Treatment Plant**

(SIGNATURE OF CERTIFIED OPERATOR)

(Date)

Name of Facility: Clay Township Regi
 Permit Number: IN0055760
 For Month Of: November
 Year: 2008

(SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR
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(Date)

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Day Of Month	SLUDGE TO DIGESTER		DIGESTER OPERATION											
	Waste Act. Sludge Gal. x 1000		Anaerobic Only			Supernatant Withdrawn hrs. or Gal. x 1000	Supernatant BOD5 mg/l or NH3-N mg/l	Total Solids in Incoming Sludge - %	Total Solids in Digested Sludge - %	Volatile Solids in Incoming Sludge - %	Volatile Solids in Digested Sludge - %	Digested Sludge Withdrawn hrs. or Gal. x 1000		
		pH	Gas Production Cubic Ft. x 1000	Temperature - F										
1						65								
2						27								
3	40							1.1	17.4	73	73	44		
4	42							1.1	15.8	73	72	47		
5	41							1.2	16.9	73	72	47		
6	41							1.1	16.9	73	68	43		
7	42							1.1		73				
8						100								
9						24								
10	40							1.2	16.5	74	73	40		
11	40							1.1		73				
12	41							1.2	17.4	74	72	43		
13	39							1.1	15.7	74	72	42		
14	50							1.1		74				
15						86								
16						25								
17	42							1.2	16.7	74	72	45		
18	40							1.2	14	74	73	37		
19	41							1.2	14.3	75	73	40		
20	42							1.2	16.4	74	71	33		
21	39							1.2	16.7	75	73	9		
22						33								
23						24								
24	40							1.2	17.4	75	74	47		
25	40							1.2	16.6	75	74	45		
26	40							1.2	17.2	75	74	20		
27	40							1.3		75				
28	40							1.2	17.7	75	73	20		
29						81			16.6		73	35		
30						27			17.7		73			
Avg.	41					49.2		1.17	16.55	74.05	72.5	37.471		
Max.	50					100		1.3	17.7	75	74	47		
Min.	39					24		1.1	14	73	68	9		
Data	0	20	0	0	0	10	0	20	18	20	18	17	0	0

Send completed forms by the 28th of the month to:
 INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER QUALITY, DATA MANAGEMENT SECTION
 P.O. BOX 6015
 INDIANAPOLIS, INDIANA 46206-6015

**Monthly Report of Operation
Vertical Loop Reactor
Wastewater Treatment Plant**

Name of Facility: Clay Township Regional Waste District
 Permit Number: IN0055760
 For Month Of: November
 Year: 2008

(SIGNATURE OF CERTIFIED OPERATOR)

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Day Of Month	Temperature in Reactors	ORBAL #1			ORBAL #3				TOTAL RETURN SLUDGE			RETURN SLUDGE		Flow Volume			
		ORP mV	Dissolved Oxygen - mg/l	OUR mg/l/min	Dissolved Oxygen - mg/l	Settleable Solids % in 30 minutes	Susp. Solids - mg/l	Sludge Vol. Index - ml/gm	OUR mg/l/min	Volume - MG			Volume - MG	Susp. Solids - mg/l	Orbal Influent Flow - MGD		
1									1.373			0.661		0.589			
2									1.126			0.501		0.501			
3	18.7	-329	0.98		1.0	46	3340	138	1.071			0.479	4880	0.542			
4	18.5	-332	0.98		1.1	45	3300	136	1.093			0.501	4980	0.507			
5	18.5	-335	0.98		1.1	43	3380	127	1.104			0.505	8000	0.545			
6	18	-336	0.98		1.1	44	3320	133	1.122		0.6	0.515	5420	0.523			
7	18.7	-332	0.98		1.1	57	3400	168	1.186			0.559	5080	0.525			
8									1.248			0.568		0.543			
9									1.122			0.512		0.481			
10	15.8	-334	0.98		6.2	47	3520	134	1.246			0.574	6040	0.558			
11	16	-329	0.98		4.1	56	3440	163	0.982			0.471	8380	0.429			
12	16.1	-335	0.98		3.5	42	3400	124	1.134			0.526	3840	0.51			
13	16.9	-337	0.98		3.7	39	3240	120	1.135		0.1	0.516	5360	0.501			
14	17.3	-334	0.14		2.2	43	3260	132	1.138			0.539	9120	0.503			
15									1.378			0.662		0.579			
16									1.312			0.63		0.533			
17	15.7	-339	0.14		4.3	44	3460	127	1.15			0.534	8280	0.523			
18	14.8	-338	0.14		4.1	42	3320	127	1.206			0.596	6260	0.531			
19	15.1	-333	0.14		4.3	40	3420	117	1.207			0.601	1600	0.531			
20	15.2	-328	0.14		4.4	40	3300	121	1.213			0.604	2100	0.524			
21	14.2	-335	0.14		4.8	46	3180	145	1.228			0.617	4820	0.522			
22									1.284			0.599		0.561			
23									1.125		0.2	0.501		0.492			
24	15.3	-337	0.14		2.7	35	3900	90	1.339			0.598	9720	0.57			
25	15	-337	0.14		3.3	43	3420	126	1.351			0.71	2040	0.582			
26	15.1	-332	0.14		3.7	39	3060	127	1.368			0.713	7340	0.604			
27	15.4	-334	0.14		3.6	30	4460	67	1.354			0.737	1960	0.587			
28	15	-325	0.14		4.2	38	3240	117	1.211			0.613	4020	0.54			
29									1.168			0.463		0.559			
30									1.348		0.04	0.708		0.549			
31																	
Avg.	16.265		1		3.2145	43	3418	127	0.235	1		20	5462	0.5348			
Max.	18.7		0.98		6.17	57	4460	168	0.6	1.378		598	9720	0.604			
Min.	14.2		0.14		0.99	30	3060	67	0.04	0.982		0.463	1600	0.429			
Data	20	20	20	0	20	20	20	20	4	30	0	0	0	30	20	30	0

