



**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 May	Year 2008	Plant Design Flow 2.55 mgd	Telephone Number (317) 873-0564	
Factory's e-mail address (if available): scot@ctrwd.org				
Certified Operator: Name Scot S. Watkins		Class III	Certificate Number WW018132	Expiration Date 6/30/2008

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	Thu							100	1.952	7.5	199	3239.7	272	4428.1	6.92	30.7	
2	Fri			0.35				75	1.617	7.5	167	2252.1	238	3209.6	*	*	
3	Sat			0.27				85	1.764								
4	Sun							110	1.818								
5	Mon							80	1.715	7.5	274	3919	240	3432.7	7.64	30.8	
6	Tue							115	1.856	7.5	178	2755.3	242	3745.9	6.81	30.2	
7	Wed			0.55				80	2.034	7.5	237	4020.4	184	3121.3	6.51	29.8	
8	Thu			1.01				95	2.032	7.5	240	4067.3	186	3152.1	5.55	24.1	
9	Fri			0.15				70	2.181	7.6	164	2983.1	226	4110.8	5.07	17.6	
10	Sat							80	2.002								
11	Sun			1.01				15	2.481								
12	Mon							75	2.4	7.6	169	3382.7	152	3042.4	4.63	21.9	
13	Tue							70	2.424	7.6	161	3254.8	246	4973.2	5.68	21.6	
14	Wed			0.9				100	2.786	7.6	109	2532.6	204	4740	5.4	17.9	
15	Thu							75	2.433	7.5	176	3571.3	264	5356.9	7.46	21.1	
16	Fri			0.07				50	2.488	7.6	212	4399	200	4150	6.14	22.6	
17	Sat							100	2.235								
18	Sun			0.03				75	2.118								
19	Mon			0.11				75	2.222	7.5	203	3761.9	308	5707.7	8.69	26	
20	Tue			0.02				65	2.184	7.5	211	3843.3	228	4152.9	6.7	26.6	
21	Wed							105	2.18	7.5	147	2672.6	180	3272.6	7.2	25.7	
22	Thu							75	2.013	7.5	170	2854	180	3021.9	6.2	28	
23	Fri			0.25				60	2.166	7.5	213	3847.7	208	3757.4	6.07	26.8	
24	Sat							110	2.088								
25	Sun							105	2.021								
26	Mon							110	1.948	7.5	259	4207.8	330	5361.3	9.04	28.1	
27	Tue			0.05				95	2.068	7.5	198	3414.9	212	3656.4		28.2	
28	Wed							55	2.001	7.5	168	2803.6	212	3537.9		26.3	
29	Thu							55	1.963	7.5	137	2242.9	180	2946.9		30	
30	Fri			2.02				110	2.348	7.4			248	4856.4			
31	Sat			0.05				85	2.633								
Average								82.419	2.13455		190	3334.6	225	3987.9	6.571	25.7	
Maximum				2.02				115	2.786	7.6	274	4399	330	5707.7	9.04	30.8	
Minimum								15	1.617	7.4	109	2242.9	152	2946.9	4.63	17.6	
No. of Data				15	0	0	0	31	0	31	22	21	22	22	17	20	

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: May  
Year: 2008

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(SIGNATURE OF CERTIFIED OPERATOR) (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. Coll - colony/100 ml	pH	
1	14.7	52	4260	122	0.3	58	3900	149	1.3	-363			0.662	11180			2	7.5	
2	15.3	55	3880	142	0.3	48	3660	131	1.0	-358	0.68	#####	0.4	0.526	11240			11	7.4
3													0.668						
4													0.7						
5	15.2	60	4040	149	0.3	57	3320	172	1.2	-355			0.566	11220			1	7.5	
6	15.6	53	3960	134	0.3	46	2740	168	1.2	-174			0.537	10920			1	7.6	
7	16	58	4280	136	0.3	45	4500	100	1.0	-191			0.739	11600			1	7.5	
8	16	45	4240	106	0.2	47	4240	111	1.5	-159			0.71	10820			1	7.5	
9	15.3	40	3520	114	0.3	37	3940	94	3.0	-10	0.5	#####	0.2	0.82	11600			2	7.5
10													0.764						
11													0.945						
12	14.6	45	3940	114	0.2	47	4080	115	3.4	-35			0.78	12540			2	7.6	
13	14.9	40	4600	87	0.2	31	4620	67	2.2	-48			0.83	11560			1	7.5	
14	15.3	45	3660	123	0.2	41	3900	105	1.0	-67			0.906	10600			2	7.5	
15	15.2	38	3480	109	0.3	38	3160	120	3.0	6			0.78	11200			1	7.5	
16	14.9	44	3520	125	0.2	41	3460	118	2.4	-13	0.57	#####	0.2	0.95	11480			1	7.5
17													0.85						
18													0.8						
19	15.4	51	3980	128	0.2	44	2360	186	2.6	-199			0.75	12400			1	7.5	
20	15.4	44	2480	177	0.2	44	3500	126	1.2	-112			0.74	9240			1	7.4	
21	15.5	50	4040	124	0.2	46	3880	119	1.3	-93			0.71	10700			2	7.5	
22	15.6	48	3780	127	0.2	47	3600	131	2.1	-103			0.69	10220			1	7.5	
23	16	49	3780	130	0.2	46	3900	118	1.4	-123	0.44	#####	0.3	0.74	10660			1	7.5
24													0.79						
25													0.78						
26	16.4	55	3960	139	0.4	52	3860	135	2.7	-188			0.71	11240			1	7.5	
27	16.7	53	4160	127	0.2	40	4840	83	2.0	-235			0.69	9480			<1	7.4	
28	16.5	51	4100	124	0.2	47	4200	112	2.7	-180			0.67	11180			1	7.5	
29	16.2	43	3940	109	0.2	43	4260	101	1.5	-128			0.69	10940			42	7.6	
30	16.7	45	4760	95	0.4	44	4120	107	1.1	-137	0.62	#####	0.4	0.81	11220			1	7.5
31													1.009						
Avg.	15.6	48	3925	125	0.265	45	3820	121	1.852		1		0.284	1	11056			2	
Max.	16.7	60	4760	177	0.44	58	4840	186	3.35		0.68		0.41	1.009	12540			42	7.6
Min.	14.6	38	2480	87	0.21	31	2360	67	0.98		0.44		0.16	0.526	9240			1	7.4
Data	22	22	22	22	22	22	22	22	22	22	5	5	5	31	22	0	0	21	22

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: May  
 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	2.078		8.28	0.285	2.01			34.855		4.7			81.502		0.341			5.9133	
2	1.778		8.1		1.45			21.514		3.5			51.931		*				
3	1.989																		
4	2.039																		
5	1.854		7.7	0.3	3.09			47.807		4.9			75.811		0.975			15.085	
6	1.802		8.25	0.27	2.44			36.692		5.6			84.211		0.866			13.023	
7	2.004		8.39	0.33	2.29			38.297		3.9			65.221		0.148			2.4751	
8	2.331		8.05	0.34	2.18			42.406		5.9			114.77		0.38			7.3918	
9	2.426		7.84	0.33	1.38			27.938		3.5			70.857		0.01			0.2024	
10	2.182	2.09114					2.276		38.628		4.76		82.174		0.4758			7.6354	
11	2.892																		
12	2.585		8.15	0.75	3			64.715		5.4			116.49		0.01			0.2157	
13	2.613		8.04	1.17	1.83			39.904		4.5			98.125		0.01			0.2181	
14	3.325		7.89	1.12	0.91			25.25		2.5			69.368		0.01			0.2775	
15	2.671		8.02	0.93	2.44			54.386		5.4			120.36		0.004			0.0892	
16	2.749		8.22	1.66	1.87			42.899		3.8			87.174		0.092			2.1105	
17	2.537	2.76743					2.01		45.431		4.32		98.303		0.0252			0.5822	
18	2.612																		
19	2.402		8	1.1	2.39			47.907		6.4			128.29		0.01			0.2004	
20	4.04		7.68	1.04	2.17			73.159		4			134.86		0.01			0.3371	
21	2.523		7.74	1.11	2.09			44.004		4.9			103.17		0.01			0.2105	
22	2.119		7.88	0.81	1.83			32.36		6.9			122.01		0.01			0.1768	
23	2.474			0.72	1.77			36.543		4.1			84.647		0.015			0.3097	
24	2.297	2.63814					2.05		46.794		5.26		114.59		0.011			0.2469	
25	2.26																		
26	2.22		7.93	0.67	2.03			37.608		5.6			103.75		0.074			1.3709	
27	2.311		7.61		2.41			46.478		3.8			73.284		0.111			2.1407	
28	2.22		7.76		1.8			33.347		5.3			98.187		0.022			0.4076	
29	2.14		7.84		2.03			36.252		4.8			85.72		0.08			1.4287	
30	2.423		7.76							4.2			84.924						
31	2.909	2.35471					2.0675		38.421		4.74		89.172		0.0718			1.337	
Avg	2.41306		7.9586	0.7609	2.0671			41.158		4.7091			93.393		0.1594			2.6792	
Max	4.04	2.76743	8.39	1.66	3.09	2.276		73.159	46.794	6.9	5.26	134.86	114.59	0.975	0.4758	15.085	7.6354		
Min	1.778	2.09114	7.61	0.27	0.91	2.01		21.514	38.421	2.5	4.32	51.931	82.174	0.004	0.011	0.0892	0.2469		
Data	31	4	21	17	21	4	21	4	21	22	4	22	4	20	4	20	4	0	

MONTHLY REMOVAL SUMMARY					Total Monthly Flow:
	BOD5	S.S.	Ammonia	Phosphorus	(million gallons) 74.805
Percent Removal	99	98	99	88.4	
	Phosphorus limit would be 1 mg/l. (compliance achieved)				Percent Capacity (actual flow/design) 95%

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

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

(SIGNATURE OF CERTIFIED OPERATOR) (Date)

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

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	40						1.2	17.5	82	76	90			
2	40						1.3	17.2	76	75	30			
3					94									
4					75									
5	65						1.4	16.5	75	77	2			
6	17						1.2	16.6	75	77	43			
7	21						1.4	16.9	76	77	10			
8	31						1.3	17.4	75	75	20			
9														
10					30									
11					42									
12	41						1.3		75		45			
13	42						1.3	16.9	75	76	11			
14	50						1.2	17.3	75	76	44			
15	59						1.3		75					
16					38			17.9		75	28			
17					29									
18					7									
19	42						1.4	16.9	75	76	23			
20	41						1.2	17.6	74	75	38			
21	48						1.3	16.9	75	75	38			
22	34						1.2		75					
23	45						1.2		74					
24					70									
25					54									
26	21						1.3		75					
27	46						1.2	16.9	74	76	32			
28	60						1.2		74					
29	31						1.1	17	74	75	30			
30	43						1.2	16.9	75	75	28			
31					49									
Avg.	40.85				48.8		1.26	17.093	75.2	75.733	32			
Max.	65				94		1.4	17.9	82	77	90			
Min.	17				7		1.1	16.5	74	75	2			
Data	0	20	0	0	0	10	0	20	15	20	15	16	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	Permit Number	For Month Of:	Year
Clay Township Regional Waste District	IN0055760	May	2008

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

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	14.8	-341	0.34		0.7	45	3780	119		1.62			0.958	4740	1.025				
2	15.8	-340	0.35		0.6	45	3760	120	0.3	1.415			0.89	3700	0.954				
3										1.523			0.855		1.028				
4										1.655			0.956		1.076				
5	15.4	-336	0.41		0.9	45	5000	90		1.486			0.92	4400	1.011				
6	16	-335	0.38		0.5	44	4580	96		1.478			0.942	2780	1.05				
7	16.5	-332	0.36		0.5	40	4280	93		1.702			0.963	3560	1.136				
8	16.4	-330	0.51		1.4	40	5360	75		1.352			0.639	3260	1.003				
9	15.5	-331	0.51		2.7	42	4720	89	0.1	1.793			0.971	9560	1.194				
10										1.671			0.907		0.957				
11										1.762			0.818		1.07				
12	14.4	-334	0.49		3.5	41	3600	114		1.713			0.932	3740	1.002				
13	15.1	-333	0.45		2.4	40	4080	98		1.759			0.926	3300	1.01				
14	15.7	-333	0.46		1.3	36	6620	54		1.771			0.865	4540	0.905				
15	15.2	-334	0.45		2.8	39	3900	100		1.517			0.734	3620	0.764				
16	14.7	-337	0.44		3.1	35	3640	96	0.1	1.768			0.819	3960	0.985				
17										1.704			0.852		0.914				
18										1.536			0.736		0.842				
19	15.4	-337	0.47		1.3	44	4440	99		1.443			0.695	8500	0.904				
20	15.4	-337	0.46		1.3	43	4560	94		1.721			0.982	4820	0.977				
21	15.5	-336	0.55		1.4	41	5440	75		1.585			0.872	3860	0.923				
22	15.8	-336	0.46		1.3	42	3580	117		1.55			0.86	2940	0.889				
23	16.5	-338	0.44		1.0	45	3760	120	0.1	1.553			0.817	3920	0.908				
24										1.876			1.085		0.935				
25										1.857			1.081		0.932				
26	17		0.44		1.3	50	3780	132		1.674			0.968	3660	0.835				
27	17.4	-337	0.44		1.3	46	4240	108		1.726			1.036	5400	0.893				
28	16.7	-336	0.45		1.3	42	2200	191		1.666			0.998	5960	0.861				
29	16.6	-338	0.45		1.2	40	4200	95		1.695			1.01	3240	0.871				
30	17.2	-337	0.21		1.3	40	4780	84	0.3	4.682			3.873	7020	0.944				
31										1.787			0.777		1.151				
Avg.	15.864		0		1.5009	42	4286	103	0.174	2			1	4567.3	0.9661				
Max.	17.4		0.55		3.46	50	6620	191	0.26	4.682			3.873	9560	1.194				
Min.	14.4		0.21		0.5	35	2200	54	0.1	1.352			0.639	2780	0.764				
Data	22	21	22	0	22	22	22	22	5	31	0	0	0	31	22	31	0	0	0