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September 7, 2016

Mr. John Morris, P.G.
Florida Department of Environmental Protection
Southwest District Office - Solid Waste Section
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

**Re: Manatee County Lena Road Landfill
Monthly Report –August 2016**

Dear Mr. Morris:

This letter includes the following monthly reports: Monthly Water Balance Report (Exhibit A), Monthly Leachate Tracking Summary - 2016 (Exhibit B), Monthly Leachate Meter Readings, Monthly Rainfall, Monthly Groundwater Gradient Report. Between March 16, 2016 and May 4, 2016, monitoring wells GW-18 through GW-27R and piezometers P-18 through P-27R were installed around the perimeter of Stage II.

If you should have any questions concerning this report, please call me at 813/281-8377.

Sincerely,

A handwritten signature in blue ink that reads "Bradley D. Bayne".

Bradley Bayne, P.G.
Senior Geologist
Florida PG #1733

Attachments

cc: C. Mike Gore, Manatee County Utilities Department Director
Bryan White, Manatee County Landfill Superintendent
Anthony Detweiler, Manatee County Landfill Operations Supervisor
File – 100047674-01.01

EXHIBIT A

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY LENA ROAD LANDFILL MONTHLY WATER BALANCE REPORT August-16

A	B	C	D	E	F	G	H
DATE	LEACHATE STAGE I Lift Station 1 (gallons)	LEACHATE STAGE I Lift Station 2 (gallons)	LEACHATE STAGE I TOTAL (gallons)	LEACHATE STAGE III TOTAL (gallons)	TOTAL LEACHATE PUMPED (gallons)	RAINFALL (inches)	RAINFALL (gallons)
01-Aug-16	66,674	13,655	80,329	95,140	175,469	0.00	0
02-Aug-16	23,102	110	23,212	37,680	60,892	0.23	1,049,309
03-Aug-16	24,431	6,461	30,892	34,450	65,342	0.38	1,733,641
04-Aug-16	25,580	113	25,693	37,563	63,256	0.15	684,332
05-Aug-16	23,679	99	23,778	32,506	56,284	0.00	0
06-Aug-16	0	0	0	0	0	0.00	0
07-Aug-16	0	0	0	0	0	0.31	1,414,286
08-Aug-16	74,842	14,450	89,292	92,007	181,299	3.40	15,511,524
09-Aug-16	25,008	93	25,101	32,932	58,033	0.62	2,828,572
10-Aug-16	23,671	6,670	30,341	44,235	74,576	1.45	6,615,209
11-Aug-16	25,270	111	25,381	49,837	75,218	0.40	1,824,885
12-Aug-16	28,458	6,423	34,881	57,867	92,748	0.39	1,779,263
13-Aug-16	0	0	0	0	0	0.05	228,111
14-Aug-16	0	0	0	0	0	0.20	912,443
15-Aug-16	84,591	7,250	91,841	164,698	256,539	0.30	1,368,664
16-Aug-16	26,599	7,196	33,795	49,506	83,301	0.00	0
17-Aug-16	26,672	102	26,774	47,856	74,630	0.63	2,874,194
18-Aug-16	28,275	6,732	35,007	49,519	84,526	0.00	0
19-Aug-16	29,254	111	29,365	47,748	77,113	0.12	547,466
20-Aug-16	0	0	0	0	0	0.46	2,098,618
21-Aug-16	0	0	0	0	0	0.00	0
22-Aug-16	88,170	14,343	102,513	142,423	244,936	0.00	0
23-Aug-16	24,043	104	24,147	42,642	66,789	0.05	228,111
24-Aug-16	26,192	108	26,300	40,025	66,325	0.00	0
25-Aug-16	26,254	101	26,355	40,078	66,433	0.00	0
26-Aug-16	29,553	9,739	39,292	40,263	79,555	0.98	4,470,969
27-Aug-16	0	0	0	0	0	1.35	6,158,988
28-Aug-16	0	0	0	0	0	0.00	0
29-Aug-16	81,199	14,266	95,465	126,244	221,709	0.46	2,098,618
30-Aug-16	27,356	105	27,461	45,528	72,989	0.21	958,065
31-Aug-16	28,008	6,867	34,875	48,844	83,719	6.08	27,738,255
TOTAL	866,881	115,209	982,090	1,399,591	2,381,681	18.22	83,123,522
Leachate Pumped as Percentage of Rainfall			1.9%	4.3%			

Column Notes:

A - Date of reading.
B - Leachate pumped (gallons) from Stage I by lift station 1.
C - Leachate pumped (gallons) from Stage I by lift station 2.
D - Total Stage I leachate pumpage (B+C).
E - Leachate pumped (gallons) from Stage III.
F - Total leachate pumped to WWTP storage tank (D+E).
G - Rainfall (inches) recorded on this date.
H - Rainfall (gallons) calculated based on open area (G x Area x 27,156 gal/acre-in).

	Stage I (acres)	Stage III (acres)	TOTAL (acres)
Initial Cover	--	66.0	66.0
Intermediate Cover	102.0	--	102.0
Closed	30.0	--	30.0
TOTAL	132.0	66.0	198.0
Open Area	102.0	66.0	168.0

Comments

"0" = no data recorded

EXHIBIT B

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY LENA ROAD LANDFILL MONTHLY LEACHATE TRACKING SUMMARY -- 2016

	B	C	D	E	F	G	H
MONTH	STAGE I LEACHATE (gallons)	STAGE III LEACHATE (gallons)	TOTAL LEACHATE (gallons)	RAINFALL (inches)	RAINFALL (gallons)	STAGE I LEACHATE/ RAINFALL (%)	STAGE III LEACHATE /RAINFALL (%)
JANUARY	785,550	0	785,550	5.67	25,867,748	5.0%	0.0%
FEBRUARY	961,680	0	961,680	1.67	7,618,986	20.8%	0.0%
MARCH	581,148	168,250	749,398	1.58	7,208,297	13.3%	5.9%
APRIL	576,293	509,075	1,085,368	2.56	11,679,265	8.1%	11.1%
MAY	718,675	798,107	1,516,782	8.81	40,193,097	2.9%	5.1%
JUNE	747,181	1,003,510	1,750,691	12.15	55,430,888	2.2%	4.6%
JULY	669,228	769,741	1,438,969	8.66	39,508,765	2.8%	5.0%
AUGUST	982,090	1,399,591	2,381,681	18.22	83,123,522	1.9%	4.3%
SEPTEMBER							
OCTOBER							
NOVEMBER							
DECEMBER							
TOTAL	6,021,845	4,648,274	10,670,119	59.32	270,630,568	3.7%	4.4%

Notes:

1. (B) Total leachate pumped from Stage I.
2. (C) Total leachate pumped from Stage III.
3. (D) Total leachate (Column B+C) pumped to the WWTP storage tank.
4. (E) Total rainfall in inches.
5. (F) Total rainfall in gallons (Stage I and III Open Area of 168-acres x Rainfall)
6. (G) Stage I leachate pumped as a percentage of rainfall.
7. (H) Stage III leachate pumped as a percentage of rainfall.

Landfill Stage Land Areas

	Stage I (acres)	Stage III (acres)	TOTAL (acres)
Initial Cover	--	66.0	66.0
Intermediate Cov.	102.0	--	102.0
Closed	30.0	--	30.0
TOTAL	132.0	66.0	198.0
Open Area	102.0	66.0	168.0

LECHATE AUGUST 2016

DATE	LECHATE			STORMWATER		COMMENTS	NAME
	METER #1	METER #2	METER #3	S. G. #1	S. G. #2		
8/1/16	2621472	351008	3343623	34.30	32.45	OK	R.B.
8/2/16	2649574	351118	3361503	34.14	32.39	OK	R.B.
8/3/16	2669005	357579	3415953	34.06	32.37	OK	R.B.
8/4/16	2694585	357642	3453516	33.99	32.37	OK	R.B.
8/5/16	2718264	357791	3481622	33.93	32.35	OK	R.B.
8/8/16	2793106	372241	3578029	33.90	32.36	OK	R.B.
8/9/16	2816114	372334	36109161	34.66	32.54	OK	R.B.
8/10/16	2847785	379004	3655196	34.50	32.46	OK	R.B.
8/11/16	2867055	379115	3705033	34.75	32.50	OK	R.B.
8/12/16	2895513	385538	3762900	34.43	32.50	OK	R.B.
8/15/16	2918104	392788	3927596	34.16	32.38	OK	R.B.
8/16/16	2906768	3999984	3977104	34.17	32.36	OK	R.B.
8/17/16	3033375	400066	4024960	34.09	32.34	OK	R.B.
8/18/16	3061650	406616	4074479	34.16	32.38	OK	R.B.
8/19/16	3090904	406429	4122227	34.09	32.36	OK	R.B.
8/22/16	3179074	421272	4264620	34.02	32.34	OK	R.B.
8/23/16	3203117	421376	4307292	34.00	32.31	OK	R.B.
8/24/16	3224309	421484	4347317	33.99	32.30	OK	R.B.
8/25/16	3255563	421585	4367395	33.97	32.29	OK	R.B.
8/26/16	3285116	431324	4427688	33.95	32.27	OK	R.B.
8/29/16	3366315	445590	4553902	34.13	32.36	OK	R.B.
8/30/16	3393671	445695	4594430	34.13	32.36	OK	R.B.
8/31/16	3421679	452562	4642274	34.18	32.43	OK	R.B.

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2016 Aug	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.081	42.50	32.20
2	0.23	0.080	42.50	32.20
3	0.38	0.083	42.60	32.20
4	0.15	0.079	42.70	32.20
5	0.00	0.079	42.70	32.20
6	0.00	0.073	42.60	32.20
7	0.31	0.073	42.40	32.20
8	3.40	0.074	42.90	32.40
9	0.62	0.087	42.90	32.50
10	1.45	0.091	43.50	32.70
11	0.40	0.101	43.60	32.70
12	0.39	0.098	43.60	32.70
13	0.05	0.098	43.50	32.70
14	0.20	0.095	43.70	32.80
15	0.30	0.095	43.80	32.90
16	0.00	0.098	44.00	32.80
17	0.63	0.096	44.10	33.00
18	0.00	0.094	44.20	32.90
19	0.12	0.094	43.70	33.00
20	0.46	0.092	44.60	33.00
21	0.00	0.088	44.60	33.00
22	0.00	0.086	45.00	33.00
23	0.05	0.082	45.10	33.00
24	0.00	0.083	45.30	33.10
25	0.00	0.083	45.30	33.40
26	0.98	0.079	45.10	33.90
27	1.35	0.080	45.10	34.20
28	0.00	0.080	45.10	34.60
29	0.46	0.085	45.00	34.20
30	0.21	0.083	45.70	35.30
31	6.08	0.085	45.90	35.50
TOTAL	18.22	2.675		
AVG		0.086		
MIN				
MAX	6.08	0.101		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: AUGUST 2016

Piezometers Inside Slurry Wall			Gradient Flow	Groundwater Monitoring Wells Outside Slurry Wall		
Piezometer	Riser Elevation	Leachate Elevation		Monitoring Well	Riser Elevation	Groundwater Elevation
P-1	42.68	NA	NA	GW-1	38.68	NA
P-2	42.32	NA	NA	GW-2	40.92	NA
P-3	40.36	27.28	inward	GW-3	39.40	35.18
P-4	40.78	23.83	inward	GW-4	40.53	34.35
P-5	40.73	24.02	inward	GW-5	39.90	33.57
P-6	40.74	23.73	inward	GW-6	38.95	32.98
P-7	40.60	23.69	inward	GW-7	39.49	31.77
P-8	40.21	23.66	inward	GW-8	39.75	30.78
P-9	39.97	23.77	inward	GW-9	39.65	31.42
P-10	39.86	22.61	inward	GW-10	38.34	31.29
P-11	40.52	24.01	inward	GW-11	38.26	31.89
P-12	43.28	30.11	inward	GW-12	42.09	32.68
P-13	44.78	30.80	inward	GW-13	44.79	34.30
P-14	45.09	30.13	inward	GW-14	39.63	35.10
P-15	45.57	31.01	inward	GW-15	42.33	35.39
P-16	44.67	31.06	inward	GW-16	44.41	34.61
P-17	44.28	30.16	inward	GW-17	42.19	35.13
P-18	43.16	24.42	inward	GW-18	41.76	35.05
P-19	42.91	23.27	inward	GW-19	41.20	34.28
P-20	42.54	26.32	inward	GW-20	41.00	33.91
P-21	42.23	25.29	inward	GW-21	40.94	30.43
P-22	42.06	25.11	inward	GW-22	41.53	30.17
P-23	42.08	22.57	inward	GW-23	40.91	34.08
P-24	42.03	20.31	inward	GW-24	41.37	33.51
P-25	42.16	18.81	inward	GW-25	41.11	34.47
P-26	42.50	19.11	inward	GW-26	41.44	34.63
P-27R	42.73	19.60	inward	GW-27R	40.90	35.14

Comments:

NA = Not Applicable - wells and piezometers abandoned in March 2016

Wells (GW-18 through GW-27R) and piezometers (P-18 through P-27R) installed in April 2016

Date Data Collected: AUGUST 18, 2016

Form Revised December 6, 2004