

Smith, George

From: Bayne, Bradley J <Bradley.Bayne@atkinsglobal.com>
Sent: Wednesday, December 14, 2016 11:31 AM
To: SWD_Waste (Shared Mailbox)
Cc: Morris, John R.; Tafuni, Steven; Anthony Detweiler; Lynette Falkowski; Mopps, Charles L; Cronyn, Edward
Subject: 0810055-012-AV / Manatee County -Lena Road Landfill Monthly Report_November 2016
Attachments: 0810055-012-AV_Manatee County-Lena Road Landfill Monthly Report_DEP-November 2016.pdf

Mr. Morris,

Attached is the Manatee County Lena Road Landfill Monthly Report (for November 2016) which includes the following:

- Monthly Water Balance Report (Exhibit A)
- Monthly Leachate Tracking Summary – 2016 (Exhibit B)
- Monthly Leachate Readings
- Monthly Rainfall
- Monthly Groundwater Gradient Report

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

Thanks,

Brad Bayne, P.G.

Senior Scientist II, GeoSciences Group

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December 14, 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 –November 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. Due to the unusually low amount of rainfall in November, the percentage of leachate in comparison to the rainfall amount is unusually high (as compared to months with typical rainfall).

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 J. Bayne". The signature is fluid and cursive.

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 November-16

A	B	C	D	E	F	G	H	I
DATE	LEACHATE STAGE I Lift Station 1 (gallons)	LEACHATE STAGE I Lift Station 2 (gallons)	LEACHATE STAGE I TOTAL (gallons)	LEACHATE STAGE II TOTAL (gallons)	LEACHATE STAGE III TOTAL (gallons)	TOTAL LEACHATE PUMPED (gallons)	RAINFALL (inches)	RAINFALL (gallons)
01-Nov-16	17,337	7,629	24,966	156,760	20,033	201,759	0.00	0
02-Nov-16	19,414	83	19,497	174,752	20,281	214,530	0.00	0
03-Nov-16	21,636	92	21,728	196,158	24,741	242,627	0.00	0
04-Nov-16	23,072	7,572	30,644	194,154	29,581	254,379	0.00	0
05-Nov-16	0	0	0	0	0	0	0.00	0
06-Nov-16	0	0	0	0	0	0	0.00	0
07-Nov-16	63,323	7,706	71,029	542,208	65,534	678,771	0.00	0
08-Nov-16	21,299	7,405	28,704	181,966	24,629	235,299	0.00	0
09-Nov-16	22,073	87	22,160	168,806	24,926	215,892	0.00	0
10-Nov-16	21,917	90	22,007	176,748	20,111	218,866	0.00	0
11-Nov-16	22,075	7,503	29,578	181,784	24,803	236,165	0.00	0
12-Nov-16	0	0	0	0	0	0	0.00	0
13-Nov-16	0	0	0	0	0	0	0.00	0
14-Nov-16	63,629	7,760	71,389	504,534	68,475	644,398	0.00	0
15-Nov-16	23,058	97	23,155	179,234	21,024	223,413	0.00	0
16-Nov-16	22,177	7,661	29,838	161,592	23,059	214,489	0.00	0
17-Nov-16	18,746	84	18,830	160,864	19,866	199,560	0.00	0
18-Nov-16	18,408	7,618	26,026	168,368	19,544	213,938	0.00	0
19-Nov-16	0	0	0	0	0	0	0.00	0
20-Nov-16	0	0	0	0	0	0	0.00	0
21-Nov-16	56,515	7,668	64,183	490,072	58,301	612,556	0.00	0
22-Nov-16	17,746	83	17,829	147,448	19,225	184,502	0.00	0
23-Nov-16	18,209	7,262	25,471	156,960	19,663	202,094	0.00	0
24-Nov-16	0	0	0	0	0	0	0.00	0
25-Nov-16	36,983	178	37,161	312,792	38,852	388,805	0.00	0
26-Nov-16	0	0	0	0	0	0	0.00	0
27-Nov-16	0	0	0	0	0	0	0.00	0
28-Nov-16	61,611	14,878	76,489	456,104	57,977	590,570	0.05	388,331
29-Nov-16	21,890	91	21,981	145,880	19,191	187,052	0.00	0
30-Nov-16	20,754	7,213	27,967	152,484	19,330	199,781	0.00	0
01-Dec-16	0	0	0	0	0	0	0.00	0
TOTAL	611,872	98,760	710,632	5,009,668	639,146	6,359,446	0.05	388,331
Leachate Pumped as Percentage of Rainfall			513.1%	3126.7%	713.2%			

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 II.
 F - Leachate pumped (gallons) from Stage III.
 G - Total leachate pumped to WWTP storage tank (D+E+F).
 H - Rainfall (inches) recorded on this date.
 I - Rainfall (gallons) calculated based on open area (H x Area x 27,156 gal/acre-in).

Comments

	Stage I (acres)	Stage II (acres)	Stage III (acres)	TOTAL (acres)
Initial Cover	102.0	113.0	66.0	281.0
Interm. Cover	0.0	5.0	--	5.0
Closed	30.0	0.0	--	30.0
TOTAL	132.0	118.0	66.0	316.0
Open Area	102.0	118.0	66.0	286.0

"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	I	J
MONTH	STAGE I LEACHATE (gallons)	STAGE II LEACHATE* (gallons)	STAGE III LEACHATE (gallons)	TOTAL LEACHATE (gallons)	RAINFALL (inches)	RAINFALL** (gallons)	STAGE I LEACHATE/ RAINFALL (%)	STAGE II LEACHATE/ RAINFALL (%)	STAGE III LEACHATE /RAINFALL (%)
JANUARY	785,550	0	0	785,550	5.67	25,867,748	8.5%	0.0%	0.0%
FEBRUARY	961,680	0	0	961,680	1.67	7,618,986	35.4%	0.0%	0.0%
MARCH	581,148	0	168,250	749,398	1.58	7,208,297	22.6%	0.0%	10.1%
APRIL	576,293	0	509,075	1,085,368	2.56	11,679,265	13.8%	0.0%	18.9%
MAY	718,675	0	798,107	1,516,782	8.81	40,193,097	5.0%	0.0%	8.6%
JUNE	747,181	0	1,003,510	1,750,691	12.15	55,430,888	3.8%	0.0%	7.8%
JULY	669,228	0	769,741	1,438,969	8.66	39,508,765	4.7%	0.0%	8.4%
AUGUST	982,090	0	1,399,591	2,381,681	18.22	83,123,522	3.3%	0.0%	7.3%
SEPTEMBER	969,849	8,969,404	1,393,236	11,332,489	8.76	68,035,631	4.0%	32.0%	8.9%
OCTOBER	925,438	7,640,748	1,199,474	9,765,660	5.39	41,862,106	6.2%	44.2%	12.4%
NOVEMBER	710,632	5,009,668	639,146	6,359,446	0.05	388,331	513.1%	3126.7%	713.2%
DECEMBER									
TOTAL	8,627,764	21,619,820	7,880,130	38,127,714	73.52	380,916,636	6.4%	13.8%	9.0%

Notes:

1. (B) Total leachate pumped from Stage I.
2. (C) Total leachate pumped from Stage II.
3. (D) Total leachate pumped from Stage III.
4. (E) Total leachate (Column B+C+D) pumped to the WWTP storage tank.
5. (F) Total rainfall in inches.
6. (G) Total rainfall in gallons (Stage I, II, and III Open Area of 286-acres x Rainfall) ** = includes Stage II rainfall after August
7. (H) Stage I leachate pumped as a percentage of rainfall.
8. (I) Stage II leachate pumped as a percentage of rainfall.
9. (J) Stage III leachate pumped as a percentage of rainfall.

Landfill Stage Land Areas

	Stage I (acres)	Stage II (acres)	Stage III (acres)	TOTAL (acres)
Initial Cover	102.0	113.0	66.0	281.0
Intermed. Cover	0.0	5.0	--	5.0
Closed	30.0	0.0	--	30.0
TOTAL	132.0	118.0	66.0	316.0
Open Area	102.0	118.0	66.0	286.0

LEACHATE METER READINGS

DATE	LEACHATE				STORMWATER		COMMENTS	NAME (Initials)
	METERS				S.G.			
	#1	#2	#3	#4	#1	#2		
11/1/16	5117164	677330	7261117	8752979	33.74	29.98	-	MB
11/2/16	5136578	677413	7281398	8770454	33.74	29.98	11/16 Day	DW
11/3/16	5158214	677505	7306134	8790070	33.70	29.80		DW
11/4/16	5181286	6850774	7335720	8819486	33.65	29.75	nice ☺	DW
11/5/16								
11/6/16								
11/7/16	5244609	700188	7401254	8863706	33.74	31.70	OK	RB
11/8/16	5265908	700188	7425863	8881963	33.73	31.48	OK	RB
11/9/16	5287961	700275	7450809	8898763	33.72	31.38	OK	RB
11/10/16	5309888	700365	7470020	8916454	33.72	31.32	OK	RB
11/11/16	5331972.5	707867.5	7495722.5	89346368	33.70	31.32	OK ☺	DW
11/12/16								
11/13/16								
11/14/16	5395602	715628	7564196	8965090	33.70	31.25	OK	RB
11/15/16	5418660	715725	7585222	8980393	33.71	31.20	OK	RB
11/16/16	5440837	723386	7608281	9009128	33.70	31.17	OK	RB
11/17/16	5459583	723470	7628147	9035259	33.69	30.90	OK	RB
11/18/16	5477991	731088	7647611	9052910	33.69	30.88	OK	RB
11/19/16								
11/20/16								
11/21/16	5534506	738756	7705912	9101103	33.66	30.67	OK	RB
11/22/16	5552252	738839	7725217	9115848	33.65	30.65	OK	RB
11/23/16	5570460	746101	7744280	9131544	33.64	30.98	OK	RB
11/24/16					8			
11/25/16	5607444	746279	7783732	9162823	33.65	30.35	OK	MG
11/26/16								
11/27/16								
11/28/16	5669055	761157	7841709	9208438	33.63	30.06	OK	RB
11/29/16	5690945	761248	7860900	9223216	33.66	30.06	OK	RB
11/30/16	5711699	768461	7880320	9238270	33.65	29.99	OK	RB

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2016 Nov	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.055	48.30	38.70
2	0.00	0.054	49.00	38.70
3	0.00	0.057	48.80	38.50
4	0.00	0.055	48.70	38.40
5	0.00	0.053	48.60	38.30
6	0.00	0.055	48.40	38.30
7	0.00	0.052	48.20	38.30
8	0.00	0.054	48.20	38.30
9	0.00	0.052	48.00	37.80
10	0.00	0.051	48.00	37.80
11	0.00	0.051	47.80	37.70
12	0.00	0.050	47.80	37.70
13	0.00	0.052	47.50	36.80
14	0.00	0.050	47.50	36.80
15	0.00	0.050	47.30	36.50
16	0.00	0.048	47.30	36.50
17	0.00	0.047	47.10	36.40
18	0.00	0.048	47.10	36.40
19	0.00	0.047	46.90	36.30
20	0.00	0.048	46.90	36.30
21	0.00	0.046	46.80	36.20
22	0.00	0.046	46.80	36.20
23	0.00	0.046	46.60	36.10
24	0.00	0.043	46.60	36.10
25	0.00	0.047	46.60	36.10
26	0.00	0.045	46.60	36.10
27	0.00	0.045	46.30	35.90
28	0.05	0.046	46.30	35.90
29	0.00	0.043	46.30	35.90
30	0.00	0.045	45.80	35.50
31				
TOTAL	0.05	1.481		
AVG		0.049		
MIN				
MAX	0.05	0.057		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: NOVEMBER 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	25.32	inward	GW-3	39.40	32.04
P-4	40.78	23.76	inward	GW-4	40.53	31.04
P-5	40.73	23.79	inward	GW-5	39.90	30.69
P-6	40.74	23.73	inward	GW-6	38.95	30.04
P-7	40.60	23.67	inward	GW-7	39.49	28.26
P-8	40.21	23.62	inward	GW-8	39.75	27.16
P-9	39.97	23.63	inward	GW-9	39.65	26.92
P-10	39.86	22.69	inward	GW-10	38.34	27.35
P-11	40.52	23.95	inward	GW-11	38.26	30.18
P-12	43.28	29.89	inward	GW-12	42.09	31.96
P-13	44.78	30.58	inward	GW-13	44.79	33.61
P-14	45.09	30.26	inward	GW-14	39.63	33.84
P-15	45.57	30.93	inward	GW-15	42.33	34.80
P-16	44.67	31.03	inward	GW-16	44.41	34.65
P-17	44.28	30.13	inward	GW-17	42.19	33.56
P-18	43.16	24.51	inward	GW-18	41.76	31.25
P-19	42.91	23.21	inward	GW-19	41.20	30.34
P-20	42.54	26.14	inward	GW-20	41.00	29.33
P-21	42.23	25.15	inward	GW-21	40.94	27.39
P-22	42.06	24.01	inward	GW-22	41.53	26.84
P-23	42.08	22.58	inward	GW-23	40.91	28.95
P-24	42.03	20.09	inward	GW-24	41.37	28.97
P-25	42.16	18.80	inward	GW-25	41.11	29.98
P-26	42.50	19.11	inward	GW-26	41.44	31.82
P-27R	42.73	19.61	inward	GW-27R	40.90	31.82

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: NOVEMBER 22, 2016

Form Revised December 6, 2004