



Atkins North America, Inc.
482 South Keller Road
Orlando, Florida 32810-6101

Telephone: +1.407.647.7275

www.atkinsglobal.com/northamerica

May 12, 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 – April 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 J. 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 April-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-Apr-16	20,273	6,869	27,142	17,521	44,663	0.00	0
02-Apr-16	0	0	0	0	0	1.98	9,033,182
03-Apr-16	0	0	0	0	0	0.00	0
04-Apr-16	50,485	7,113	57,598	57,388	114,986	0.02	91,244
05-Apr-16	15,957	5	15,962	21,054	37,016	0.00	0
06-Apr-16	16,342	2	16,344	20,689	37,033	0.01	45,622
07-Apr-16	19,581	6,687	26,268	21,409	47,677	0.12	547,466
08-Apr-16	19,174	12	19,186	21,000	40,186	0.00	0
09-Apr-16	0	0	0	0	0	0.00	0
10-Apr-16	0	0	0	0	0	0.00	0
11-Apr-16	47,188	7,537	54,725	52,591	107,316	0.00	0
12-Apr-16	16,842	2	16,844	18,800	35,644	0.00	0
13-Apr-16	17,805	6,786	24,591	18,618	43,209	0.00	0
14-Apr-16	18,725	1	18,726	18,677	37,403	0.00	0
15-Apr-16	20,300	6,928	27,228	18,334	45,562	0.00	0
16-Apr-16	0	0	0	0	0	0.00	0
17-Apr-16	0	0	0	0	0	0.00	0
18-Apr-16	43,793	7,036	50,829	46,091	96,920	0.00	0
19-Apr-16	14,934	4	14,938	15,133	30,071	0.00	0
20-Apr-16	18,624	9	18,633	15,210	33,843	0.00	0
21-Apr-16	15,708	6,833	22,541	15,046	37,587	0.00	0
22-Apr-16	19,669	120	19,789	18,657	38,446	0.00	0
23-Apr-16	0	0	0	0	0	0.00	0
24-Apr-16	0	0	0	0	0	0.00	0
25-Apr-16	53,669	7,140	60,809	49,327	110,136	0.43	1,961,752
26-Apr-16	18,788	6,806	25,594	16,268	41,862	0.00	0
27-Apr-16	17,544	147	17,691	16,339	34,030	0.00	0
28-Apr-16	18,188	144	18,332	16,588	34,920	0.00	0
29-Apr-16	15,283	7,240	22,523	14,335	36,858	0.00	0
30-Apr-16	0	0	0	0	0	0.00	0
01-May-16	0	0	0	0	0	0.00	0
TOTAL	498,872	77,421	576,293	509,075	1,085,368	2.56	11,679,265
Leachate Pumped as Percentage of Rainfall			8.1%	11.1%			

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							
JUNE							
JULY							
AUGUST							
SEPTEMBER							
OCTOBER							
NOVEMBER							
DECEMBER							
TOTAL	2,904,671	677,325	3,581,996	11.48	52,374,296	9.1%	3.3%

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 APRIL 2016

DATE	LEACHATE			STORMWATER		COMMENTS	NAME
	METER # 1	METER # 2	METER # 3	S. G. # 1	S. G. # 2		
4/1/16	180019	27691	185771	3356	3137	OK	RB
4/4/16	230504	135011	243159	3379	3235	OK	RB
4/5/16	246461	135009	264213	3373	3236	OK	RB
4/8/15	262803	135004	284902	3370	3236	OK	TR
4/7/16	262364	117101	306311	3366	3236	OK	RB
4/8/16	301558	141196	327311	3365	3234	OK	RB
4/11/16	346746	49247	379902	3358	3216	OK	RB
4/12/16	365568	49249	398702	3357	3206	OK	RB
4/13/16	383393	156036	417320	3357	3194	OK	RB
4/14/16	402118	156035	435997	3357	3162	OK	RB
4/15/16	422418	162964	454331	3357	3169	OK	RB
4/18/16	466211	70000	500422	3354	3134	OK	RB
4/19/16	481145	70004	515555	3354	3122	OK	RB
4/20/16	499769	70013	530765	3351	3108	OK	RB
4/21/16	515477	76846	545811	3349	3099	OK	RB
4/22/16	535146	769166	564466	3346	3086	OK	RB
4/25/16	580815	84106	613795	3347	3048	OK	RB
4/26/16	607603	90912	637063	3347	3040	OK	RB
4/27/16	625147	91059	646402	3346	3028	OK	RB
4/28/16	643335	91203	662990	3345	3022	OK	RB
4/29/16	656618	96443	677325	3345	3016	OK	RB

Landfill

LANDFILL SHEET			LAKE LEVEL DATA IN FEET NGVD	
2016 Apr	RAIN FALL	LEACHATE MGD	SOUTH (86 ACRE)	EAST (63 ACRE)
1	0.00	0.484	47.20	38.00
2	1.98	0.215	47.20	37.80
3	0.00	0.202	47.40	37.80
4	0.02	0.210	47.50	37.70
5	0.00	0.207	47.30	37.70
6	0.01	0.200	47.40	37.60
7	0.12	0.198	47.40	37.50
8	0.00	0.190	47.40	37.30
9	0.00	0.189	47.30	37.30
10	0.00	0.180	47.30	37.30
11	0.00	0.175	47.10	37.40
12	0.00	0.170	47.40	37.00
13	0.00	0.157	47.30	36.90
14	0.00	0.158	47.30	36.70
15	0.00	0.152	47.30	36.60
16	0.00	0.144	46.90	36.50
17	0.00	0.137	46.80	36.50
18	0.00	0.138	46.80	36.30
19	0.00	0.132	46.80	35.80
20	0.00	0.134	45.60	36.00
21	0.00	0.134	45.60	35.70
22	0.00	0.131	45.30	35.10
23	0.00	0.130	45.30	34.80
24	0.00	0.126	46.00	34.80
25	0.43	0.122	45.80	35.00
26	0.00	0.120	45.70	35.00
27	0.00	0.118	45.60	35.00
28	0.00	0.114	44.20	34.60
29	0.00	0.112	44.20	34.40
30	0.00	0.110	44.70	34.30
31				
TOTAL	2.56	4.989		
AVG		0.166		
MIN				
MAX	1.98	0.484		

Fax # 9-708-5668

FIGURE L-7

Manatee County Lena Road Landfill

Monthly Groundwater Gradient Report

Month and Year: APRIL 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	25.06	inward	GW-3	39.40	32.04
P-4	40.78	23.75	inward	GW-4	40.53	31.29
P-5	40.73	23.76	inward	GW-5	39.90	31.07
P-6	40.74	23.69	inward	GW-6	38.95	30.43
P-7	40.60	23.65	inward	GW-7	39.49	28.78
P-8	40.21	23.57	inward	GW-8	39.75	27.72
P-9	39.97	23.62	inward	GW-9	39.65	27.48
P-10	39.86	22.63	inward	GW-10	38.34	27.92
P-11	40.52	23.90	inward	GW-11	38.26	30.00
P-12	43.28	21.00	inward	GW-12	42.09	31.74
P-13	44.78	30.54	inward	GW-13	44.79	33.48
P-14	45.09	30.05	inward	GW-14	39.63	33.32
P-15	45.57	30.96	inward	GW-15	42.33	34.64
P-16	44.67	30.98	inward	GW-16	44.41	34.35
P-17	44.28	29.99	inward	GW-17	42.19	33.41
P-18	43.16	24.42	inward	GW-18	41.76	31.40
P-19	42.91	23.41	inward	GW-19	41.20	30.50
P-20	42.54	26.35	inward	GW-20	41.00	29.83
P-21	42.23	25.37	inward	GW-21	40.94	26.97
P-22	42.06	24.09	inward	GW-22	41.53	27.02
P-23	42.08	22.61	inward	GW-23	40.91	29.47
P-24	42.03	20.31	inward	GW-24	41.37	29.22
P-25	42.16	19.18	inward	GW-25	41.11	30.30
P-26	42.50	19.15	inward	GW-26	41.44	32.21
P-27R	42.73	19.59	inward	GW-27R	40.90	32.22

Comments:

NA = Not Applicable - wells and piezometers (GW-1/P-1 and GW-2/P-2) abandoned in March 2016

Stage III wells (GW-18 through GW-27R) and piezometers (P-18 through P-27R) installed in April 2016

Date Data Collected: APRIL 26, 2016

Form Revised December 6, 2004