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WHEN REMOVING ANY CORRESPONDENCE  
FROM THIS FILE YOU ARE REQUESTED TO  
FILE IT IN CHRONOLOGICAL ORDER. PLEASE  
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39884  
D.E.P.  
NOV 22 1999  
Southwest District Tampa

# MANATEE COUNTY GOVERNMENT Public Works Department

November 18, 1999

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Re: Manatee County Lena Road Landfill  
Monthly Report Submittal

Dear Ms. Amram:

Enclosed please find the October, 1999 water balance report, leachate tracking summary, gradient report, and methane gas readings. Manatee County Public Works notes the outward gradient existing at PZ-18 and SG-3 at the time of the October 13 reading. We would also like to take this opportunity to mention that as of the November 10 weekly reading (see attached) that PZ-18/SG-3 is now indicating an inward gradient.

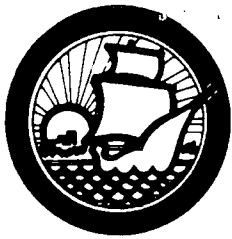
If you have any questions regarding the enclosed reports, please contact me at 941/795-3473.

Sincerely,

Gus DiFonzo,  
Solid Waste Manager

GAD/gbp

cc: Len Bramble, P.E., Public Works Director  
Daniel T. Gray, Utilities Operations Manager  
Robert Butera, P.E., FDEP  
Kim Ford, P.E., FDEP  
C. Michael Gore, Landfill Superintendent



39884  
*Leachate*

# MANATEE COUNTY GOVERNMENT

## Public Works Department

October 14, 1999

D.E.P.

OCT 18 1999

Southwest District Tampa

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Re: Manatee County Lena Road Landfill  
Monthly Report Submittal

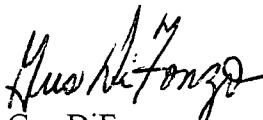
Dear Ms. Amram:

Enclosed please find the September, 1999 water balance report, leachate tracking summary, gradient report, and methane gas readings. Manatee County Public Works notes the outward gradient existing at PZ-16 and PZ-16A. We also note that outward gradient that existed in the August, 1999 reading at PZ-17 and SG-2 is now inward.

As noted in our correspondence of September 29, 1999, a copy of which was forwarded to your office, telephone contact has been made with Kim Ford regarding various actions to be taken regarding the Stage III gradient issues. A letter addressing the actions to be taken to remedy those issues will be forthcoming soon.

If you have any questions regarding the enclosed reports, please contact me at 941/795-3473.

Sincerely,

  
Gus DiFonzo,  
Solid Waste Manager

GAD/gbp

cc: Len Bramble, P.E., Public Works Director  
Daniel T. Gray, Utilities Operations Manager  
Robert Butera, P.E., FDEP  
Kim Ford, P.E., FDEP  
C. Michael Gore, Landfill Superintendent



# MANATEE COUNTY GOVERNMENT

## TELEFAX COVER MEMO

PLEASE DELIVER THE FOLLOWING PAGE(S)

TO: K.M. Ford  
FROM: BEN Alex  
DATE: 3-4-98  
SUBJECT: DOC. H2O BALANCE

Please call upon receipt ☐ Please handle confidentially ☐

COMMENTS:

Total number of pages including cover memo 3

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL 941/748-5543 AS SOON AS POSSIBLE.

Public Works Department



MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY LEACHATE TRACKING SUMMARY, 1997

MONTH	A TOTAL LEACHATE	B RAINFALL INCHES	C RAINFALL INTO POND	D AVAILABLE STORAGE	E LEACHATE TREATED	F LEACHATE EVAPORATED	G LEACHATE RECIRCULATED
JANUARY *	5,369,331	1.90	232,184	(717,310)	1,187,660	290,841	3,405,704
FEBRUARY	4,117,902	1.41	172,305	0	1,002,600	371,861	2,915,746
MARCH	6,980,170	3.05	372,717	1,126,296	2,762,600	541,172	5,175,411
APRIL *	7,446,097	6.62	808,978	(1,639,895)	2,567,000	657,508	3,390,672
MAY	11,095,022	2.60	317,726	821,264	4,596,300	775,922	6,861,790
JUNE	9,157,678	6.48	791,870	204,905	2,580,500	687,631	6,886,322
JULY *	15,114,200	12.07	1,474,980	(2,263,003)	4,011,100	658,547	9,356,530
AUGUST	17,139,570	7.61	929,958	516,067	7,313,600	631,541	10,640,454
SEPTEMBER*	14,265,607	13.70	1,674,169	(1,447,581)	5,399,700	561,947	8,530,548
OCTOBER	14,771,565	4.78	584,126	207,291	7,359,700	483,004	7,720,278
NOVEMBER*	13,805,121	6.92	845,639	(3,126,647)	3,468,400	340,700	7,715,013
DECEMBER	6,056,019	10.92	1,334,447	3,023,022	11,642,000	270,067	(1,498,579)
<b>TOTAL</b>	<b>125,318,282</b>	<b>78.06</b>	<b>9,539,099</b>	<b>(3,295,591)</b>	<b>53,891,160</b>	<b>6,270,741</b>	<b>71,399,889</b>

Notes:

1. (A) Total leachate generated is the sum of flow from Stage I and III.
2. (B) Total rainfall in inches.
3. (C) Total rainfall is rain entering leachate pond. The pond's surface area is assumed to be 4.5 acres.
4. (D) Available storage is the volume increase or decrease in the leachate pond.
5. (E) Leachate treated is the total amount of leachate pumped to the WWTP for treatment.
6. (F) Leachate evaporated is the amount of leachate evaporated from the leachate pond. Pan evaporation numbers used are given by SWFWMD.
7. (G) The volume recirculated  $G = A + C - (D) - E - F$
8. The \* denotes a decrease in available storage (increased pond elevation), therefore D is subtracted in the above equation
9. If column G is greater than zero, leachate is flowing from the leachate pond to Stage I.  
If it is less than zero, leachate is flowing from Stage I to the leachate pond.

# **MANATEE COUNTY, LENA ROAD LANDFILL** **MONTHLY WATER BALANCE REPORT FOR DECEMBER 1997**

A	B	C	D	E	F	G	H	I	J	K	L
DATE	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE	RAINFALL INCHES	RAINFALL GALLONS	LEACHATE POND LEVEL	AVAILABLE STORAGE	LEACHATE PUMP TO WWTP	EVAPORATION FROM POND	LEACHATE BALANCE	STORMWATER POND
30-Nov-97						33.8	(4,984,860)				
01-Dec-97	56,545	609,504	666,049	0.00	0	33.4	(4,585,834)	1,239,700			34.0
02-Dec-97	677,266	218,497	895,762	0.00	0	33.3	(4,481,180)	286,700			33.8
03-Dec-97	19,000	228,000	248,000	0.00	0	33.0	(4,147,468)	479,000			33.8
04-Dec-97	8,600	253,003	261,503	1.61	196,745	33.0	(4,147,468)	528,200			34.2
05-Dec-97	10,000	358,400	368,400	0.00	0	33.0	(4,147,468)	531,800			34.5
06-Dec-97	0	0	0	0.00	0	32.7	(3,834,123)	0			34.6
07-Dec-97	0	0	0	0.00	0	32.7	(3,834,123)	0			34.6
08-Dec-97	23,300	187,600	210,900	0.00	0	32.9	(4,042,977)	1,809,800			34.3
09-Dec-97	161,525	160,000	321,525	0.00	0	33.0	(4,147,468)	705,600			34.3
10-Dec-97	68,875	206,595	277,470	0.03	3,666	32.5	(3,625,433)	534,000			34.2
11-Dec-97	53,200	188,680	242,880	0.00	0	32.4	(3,521,150)	594,000			34.1
12-Dec-97	53,700	219,120	272,820	0.70	85,541	32.0	(3,104,428)	688,900			34.0
13-Dec-97	0	0	0	3.85	482,698	31.9	(3,000,350)	0			35.7
14-Dec-97	0	0	0	0.30	36,681	32.1	(3,208,547)	0			35.1
15-Dec-97	0	0	0	0.10	12,220	32.0	(3,104,428)	0			34.0
16-Dec-97	127,700	1,261,800	1,389,500	0.00	0	32.0	(3,104,428)	2,458,400			34.0
17-Dec-97	8,800	321,700	330,500	0.00	0	32.5	(3,625,433)	498,200			34.0
18-Dec-97	9,400	321,300	330,700	0.00	0	31.5	(2,584,452)	732,700			34.0
19-Dec-97	7,020	233,200	240,220	0.00	0	32.2	(3,312,706)	554,000			34.0
20-Dec-97	0	0	0	0.00	0	31.0	(2,065,504)	0			33.9
21-Dec-97	0	0	0	0.00	0	30.8	(1,858,213)	0			33.9
22-Dec-97	0	0	0	0.00	0	N/D	N/D	0			N/D
23-Dec-97	0	0	0	0.00	0	30.2	(1,237,327)	0			33.9
24-Dec-97	0	0	0	0.00	0	30.1	(1,133,991)	0			33.9
25-Dec-97	0	0	0	0.25	30,551	30.1	(1,133,991)	0			34.0
26-Dec-97	0	0	0	0.82	100,206	29.8	(824,227)	0			35.5
27-Dec-97	0	0	0	3.00	368,806	29.0	(927,440)	0			35.5
28-Dec-97	0	0	0	0.00	0	30.1	(1,133,991)	0			35.1
29-Dec-97	0	0	0	0.06	7,332	30.5	(1,547,585)	0			34.5
30-Dec-97	0	0	0	0.10	12,220	30.6	(1,547,585)	0			34.50
31-Dec-97	0	0	0	0.00	0	30.9	(1,981,838)	0			34.40
<b>TOTAL</b>	<b>1,214,820</b>	<b>4,771,193</b>	<b>5,986,019</b>	<b>10.52</b>	<b>1,334,447</b>		<b>3,023,022</b>	<b>11,642,000</b>	<b>270,007</b>	<b>(1,488,579)</b>	

Net Difference in Storage

3,023,022

Total Leachate Balance

(1,488,579)

**Notes:**

Column D: Total leachate is the sum of column B and C. All leachate from Stage I and Stage III is pumped into the leachate pond.

Column F: Rainfall in gallons is volume of rainfall entering the leachate pond. The ponds surface area is assumed at 4.5 acres.

Column H: Available storage is 0 at elevation 29.0 (negative number denotes storage above 2,049,046 gallons).

Column I: Leachate to WWTP is total volume pumped to plant for treatment.

Column J: Evaporation is volume of leachate evaporated from leachate pond. Pan evaporation average data given by SWFWMD.

Column K: Leachate balance is column D + F (+/-) H - I - J. This column represents the volume of leachate recirculated.

If the final leachate pond elevation for the previous month is greater than the final elevation for the current month, the net effect on the pond is an increase in the available storage. An increase in available storage means column H is added.  
 A decrease in available storage means column H is subtracted.

If column K is less than zero, leachate is flowing from Stage I to the leachate pond.

If column K is greater than zero, leachate is flowing from the leachate pond to Stage I.



RECEIVED

JAN 15 1998

Department of Environmental Protection  
SOUTHWEST DISTRICT

# MANATEE COUNTY GOVERNMENT

## Public Works Department

BY \_\_\_\_\_

January 9, 1998

AA Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County, Lena Road Landfill  
Water Balance Report

Dear Ms. Amram:

Enclosed are the November and December 1997 water balance reports. Also included are the daily gradient measurements from the west side of Stage III. Please note that after a major storm event the gradient in the area reverses from inward to outward. For example, note that for the month of November an outward gradient is first measured on the 14<sup>th</sup>, one day after a 5 inch storm event. The outward gradient is maintained for approximately one week then reverses itself back to inward. A similar situation occurred on the 13<sup>th</sup> of December.

As part of our permit renewal, the leachate collection and removal system (LCRS) was videoed and cleaned. During the video portion of the west side of Stage III a segment of the LCRS was observed crushed. The damaged pipe adversely impacts the LCRS's ability to remove leachate/storm water from the west side of Stage III. As approved by FDEP, staff has modified the west Stage III storm water ditch in an effort to maintain an inward gradient. This approach is successful during non storm events.

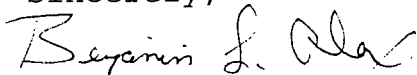
Allison Amram, P.G.

January 9, 1998

Page 2

However, after a large storm event the system is overloaded and cannot remove the leachate/storm water at the designed rate. Once repairs to the LCRS are complete, the system should remove leachate/storm water as designed. Daily gradient measurements will continue until FDEP and staff are satisfied that the problem has been resolved. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,



Benjamin L. Alex

cc: Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *JD*  
Bob Butera, P.E., FDEP  
Kim Ford, P.E., FDEP

# **MANATEE COUNTY, LENA ROAD LANDFILL** **MONTHLY WATER BALANCE REPORT FOR NOVEMBER 1997**

A	B	C	D	E	F	G	H	I	J	K	L
DATE	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE	RAINFALL INCHES	RAINFALL GALLONS	LEACHATE POND LEVEL	AVAILABLE STORAGE	LEACHATE PUMP TO WWTP	EVAPORATION FROM POND	LEACHATE BALANCE	STORMWATER POND
31-Oct-97						X 30.8	(1,858,213)				
01-Nov-97	0	0	0	0.00	0	31.0	(2,065,504)	0			34.6
02-Nov-97	0	0	0	0.00	0	31.0	(2,065,504)	0			34.3
03-Nov-97	137,800	1,108,225	1,246,025	0.00	0	31.9	(3,000,350)	6,100			34.3
04-Nov-97	25,800	203,995	229,795	0.00	0	31.9	(3,000,350)	3,200			34.3
05-Nov-97	27,400	244,580	271,980	0.00	0	32.5	(3,625,433)	4,000			33.8
06-Nov-97	61,320	0	1,953	0.00	0	32.6	(3,729,757)	5,300			33.7
07-Nov-97	86,980	0	86,980	0.00	0	32.6	(3,729,757)	3,500			33.7
08-Nov-97	0	0	0	0.00	0	31.0	(2,065,504)	0			33.4
09-Nov-97	0	0	0	0.00	0	31.0	(2,065,504)	0			33.4
10-Nov-97	88,500	474,504	563,004	0.00	0	31.0	(2,065,504)	32,900			34.0
11-Nov-97	17,900	179,876	197,776	0.00	0	31.0	(2,065,504)	174,300			34.0
12-Nov-97	11,200	166,424	177,624	0.00	0	31.2	(2,272,960)	219,300			33.5
13-Nov-97	688,650	42,976	731,626	5.10	623,231	31.2	(2,272,960)	62,200			33.5
14-Nov-97	267,165	374,730	641,895	0.22	26,884	31.2	(2,272,960)	142,500			33.5
15-Nov-97	29,050	0	29,050	0.00	0	34.5	(5,719,739)	0			36.0
16-Nov-97	0	0	0	0.00	0	34.5	(5,719,739)	0			36.0
17-Nov-97	0	0	0	0.00	0	35.0	(6,245,887)	0			35.9
18-Nov-97	713,885	470,620	1,184,505	0.80	97,762	35.0	(6,245,887)	76,100			35.9
19-Nov-97	730,547	356,975	1,087,522	0.00	0	35.2	(6,456,634)	319,500			35.5
20-Nov-97	670,398	366,670	1,037,068	0.00	0	35.0	(6,245,887)	229,300			34.8
21-Nov-97	712,500	386,895	1,099,395	0.00	0	34.5	(5,719,739)	45,700			35.0
22-Nov-97	0	0	0	0.05	6,110	34.5	(5,719,739)	0			35.0
23-Nov-97	0	0	0	0.06	7,332	34.5	(5,719,739)	0			34.8
24-Nov-97	1,984,228	770,605	2,754,833	0.00	0	34.7	(5,930,075)	760,100			35.6
25-Nov-97	605,370	226,998	832,368	0.00	0	34.7	(5,930,075)	228,100			35.5
26-Nov-97	689,302	247,998	937,300	0.00	0	34.7	(5,930,075)	200,800			34.5
27-Nov-97	0	0	0	0.00	0	34.7	(5,930,075)	0			34.5
28-Nov-97	162,055	473,000	635,055	0.00	0	34.0	(5,194,619)	955,500			34.3
29-Nov-97	0	0	0	0.02	2,444	33.8	(4,984,860)	0			34.1
30-Nov-97	0	0	0	0.67	81,875	33.8	(4,984,860)	0			34.0
<b>TOTAL</b>	<b>7,710,050</b>	<b>6,095,071</b>	<b>13,805,121</b>	<b>6.92</b>	<b>845,639</b>		<b>3,126,647</b>	<b>3,468,400</b>	<b>340,700</b>	<b>7,715,014</b>	

Net Difference in Storage

3,126,647

Total Leachate Balance

7,715,014

**Notes:**

Column D: Total leachate is the sum of column B and C. All leachate from Stage I and Stage III is pumped into the leachate pond.

Column F: Rainfall in gallons is volume of rainfall entering the leachate pond. The ponds surface area is assumed at 4.5 acres.

Column H: Available storage is 0 at elevation 29.0 (negative number denotes storage above 2,049,046 gallons).

Column I: Leachate to WWTP is total volume pumped to plant for treatment.

Column J: Evaporation is volume of leachate evaporated from leachate pond. Pan evaporation average data given by SWFWMD.

Column K: Leachate balance is column D + F (+-) H - I - J. This column represents the volume of leachate recirculated back into Stage I from the leachate pond.

If the final leachate pond elevation for the previous month is greater than the final elevation for the current month, the net effect on the pond is an increase in the available storage. An increase in available storage means the volume is added to the leachate balance.

A decrease in available storage is subtracted from the leachate balance, priors months elevation is lower than current months elevation.

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

15-Dec-97    16-Dec-97    17-Dec-97    18-Dec-97    19-Dec-97

PZ-14	N/D	N/D	N/D	N/D	31.45
GC-4	N/D	N/D	N/D	N/D	28.56
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>
PZ-15	N/D	N/D	N/D	N/D	32.38
PZ-15A	N/D	N/D	N/D	N/D	29.72
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>
PZ-16	N/D	N/D	N/D	N/D	32.58
GC-5	N/D	N/D	N/D	N/D	30.09
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>

Gradient determination based on the greater elevation.

PZ-14, 15 and 16 are inside the Stage III west slurry wall.

GC-4, 5 and PZ-15A are outside the slurry wall.

ND means no data was collected due to flood conditions. Assume outward gradient for December 15 through December 18 1997.

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

08-Dec-97    09-Dec-97    10-Dec-97    11-Dec-97    12-Dec-97

PZ-14	27.51	27.23	27.13	27.04	26.96
GC-4	28.57	28.49	28.46	28.43	28.36
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-15	28.13	27.69	27.81	27.75	27.78
PZ-15A	29.22	29.19	29.15	29.12	29.16
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-16	29.28	29.28	29.33	29.38	29.35
GC-5	29.75	29.78	29.65	29.58	29.51
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.  
ND Means no data was collected .

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

01-Dec-97    02-Dec-97    03-Dec-97    04-Dec-97    05-Dec-97

PZ-14	27.22	27.02	26.96	27.42	28.32
GC-4	28.68	28.31	28.30	29.68	29.28
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-15	28.15	27.77	27.76	28.31	29.03
PZ-15A	29.12	29.26	29.26	29.53	29.72
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-16	29.58	29.38	29.38	29.58	30.35
GC-5	29.58	29.45	29.57	30.05	30.21
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.  
ND Means no data was collected .



**Lena Road Landfill  
Gradient Check  
West Side Stage III**

24-Nov-97    25-Nov-97    26-Nov-97    27-Nov-97    28-Nov-97

PZ-14	27.72	27.58	27.56	ND	27.22
GC-4	28.28	28.16	28.12	ND	27.88
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>	<b>INWARD</b>
PZ-15	27.95	28.34	28.32	ND	27.75
PZ-15A	29.72	29.57	29.57	ND	29.22
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>	<b>INWARD</b>
PZ-16	29.68	29.72	29.71	ND	29.58
GC-5	29.69	29.60	29.57	ND	29.43
<b>GRADIENT</b>	<b>INWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.  
ND Means no data was collected .

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

17-Nov-97    18-Nov-97    19-Nov-97    20-Nov-97    21-Nov-97

PZ-14	ND	30.62	30.42	29.77	29.66
GC-4	ND	28.57	28.48	28.39	28.34
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>
PZ-15	ND	32.20	31.71	30.17	30.08
PZ-15A	ND	30.01	29.83	29.62	29.62
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>
PZ-16	ND	32.31	32.05	30.98	30.96
GC-5	ND	30.26	30.15	29.99	29.98
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.  
ND Means no data was collected .

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

10-Nov-97    11-Nov-97    12-Nov-97    13-Nov-97    14-Nov-97

PZ-14	27.12	26.97	26.90	26.83	
GC-4	28.08	27.99	27.96	28.48	
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>
PZ-15	27.63	27.57	27.61	27.69	
PZ-15A	29.11	29.18	29.12	29.05	
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>
PZ-16	29.33	29.28	29.27	29.38	
GC-5	29.56	29.48	29.45	29.47	
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>

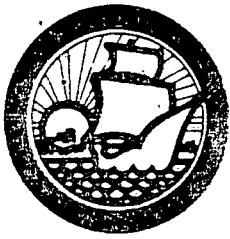
Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

03-Nov-97    04-Nov-97    05-Nov-97    06-Nov-97    07-Nov-97

PZ-14	28.27	28.01	27.71	27.72	27.60
GC-4	29.01	28.76	28.55	28.46	28.32
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-15	28.05	27.90	27.78	27.79	27.89
PZ-15A	29.42	29.26	29.09	29.12	29.22
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-16	29.77	29.41	29.28	29.39	29.48
GC-5	30.32	30.18	30.05	29.96	29.90
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.



# MANATEE COUNTY GOVERNMENT

Public Works Department

RECEIVED  
NOV 06 1997

November 4, 1997

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Department of Environmental Protection  
SOUTHWEST DISTRICT

BY \_\_\_\_\_

Re: Manatee County, Lena Road Landfill  
Water Balance Report

Dear Ms. Amram:

Enclosed is the September and October 1997 water balance report. Working with your Department, staff is trying to correct the outward gradient observed on the west side of Stage III. Please refer to my correspondence to Kim Ford dated September 12, 1997 and his reply dated September 26, 1997. Measurements from wells along the west side of Stage III beginning on October 8, 1997 are included for your review.

A high ground water elevation of 28.61 NGVD was recorded from PZ 15A on October 31, 1997. The gradient at PZ-15/PZ-15A was the highest inward gradient (1.21 feet) measured to date. Data collection from the wells will continue until staff and the Department are confident that an inward gradient is maintained. I apologize for the untimely submittal for the September data. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex

cc: Kim Ford, P.E., FDEP  
Bob Butera, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *LD*

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY LEACHATE TRACKING SUMMARY, 1997

MONTH	A TOTAL LEACHATE	B RAINFALL INCHES	C RAINFALL INTO POND	D AVAILABLE STORAGE	E LEACHATE TREATED	F LEACHATE EVAPORATED	G LEACHATE RECIRCULATED
JANUARY *	5,369,331	1.90	232,184	(717,310)	1,187,660	290,841	3,405,704
FEBRUARY	4,117,902	1.41	172,305	0	1,002,600	371,861	2,915,746
MARCH	6,980,170	3.05	372,717	1,126,296	2,762,600	541,172	5,175,411
APRIL *	7,446,097	6.62	808,978	(1,639,895)	2,567,000	657,508	3,390,672
MAY	11,095,022	2.60	317,726	821,264	4,596,300	775,922	6,861,790
JUNE	9,157,678	6.48	791,870	204,905	2,580,500	687,631	6,886,322
JULY *	15,114,200	12.07	1,474,980	(2,263,003)	4,011,100	658,547	9,656,530
AUGUST	17,139,570	7.61	929,958	516,067	7,313,600	631,541	10,640,454
SEPTEMBER*	14,265,607	13.70	1,674,169	(1,447,581)	5,399,700	561,947	8,530,548
OCTOBER	14,771,565	4.78	584,126	207,291	7,359,700	483,004	7,720,278
NOVEMBER							
DECEMBER							
<b>TOTAL</b>	<b>105,457,142</b>	<b>60.22</b>	<b>7,359,013</b>	<b>(3,191,966)</b>	<b>38,780,760</b>	<b>5,659,974</b>	<b>65,183,455</b>

Notes:

1. (A) Total leachate generated is the sum of flow from Stage I and III.
2. (B) Total rainfall in inches.
3. (C) Total rainfall is rain entering leachate pond. The pond's surface area is assumed to be 4.5 acres.
4. (D) Available storage is the volume increase or decrease in the leachate pond.
5. (E) Leachate treated is the total amount of leachate pumped to the WWTP for treatment.
6. (F) Leachate evaporated is the amount of leachate evaporated from the leachate pond. Pan evaporation numbers used are given by SWFWMD.
7. (G) The volume recirculated  $G = A + C - (D) - E - F$
8. The \* denotes a decrease in available storage (increased pond elevation), therefore D is subtracted in the above equation

# **MANATEE COUNTY, LENA ROAD LANDFILL** **MONTHLY WATER BALANCE REPORT FOR OCTOBER 1997**

A	B	C	D	E	F	G	H	I	J	K	L
DATE	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE	RAINFALL INCHES	RAINFALL GALLONS	LEACHATE POND LEVEL	AVAILABLE STORAGE	LEACHATE PUMP TO WWTP	EVAPORATION FROM POND	LEACHATE BALANCE	STORMWATER POND
30-Sep-97						31.0	(2,065,504)				
01-Oct-97	441,725	583,990	1,025,715	0.00	0	31.0	(2,065,504)	326,100			34.6
02-Oct-97	350,205	345,800	696,005	0.00	0	31.0	(2,065,504)	107,100			34.3
03-Oct-97	443,000	394,605	837,605	0.00	0	31.0	(2,065,504)	508,100			33.7
04-Oct-97	0	0	0	0.00	0	31.0	(2,065,504)	449,700			33.1
05-Oct-97	0	0	0	0.00	0	31.2	(2,272,960)	0			33.5
06-Oct-97	1,147,100	1,157,600	2,304,700	0.00	0	31.3	(2,376,749)	901,800			33.4
07-Oct-97	0	0	0	0.00	0	31.3	(2,376,749)	0			33.4
08-Oct-97	863,000	536,593	1,399,593	0.00	0	31.3	(2,376,749)	770,800			32.2
09-Oct-97	358,296	182,397	540,693	0.00	0	31.1	(2,169,211)	394,000			33.2
10-Oct-97	406,027	191,980	598,007	0.00	0	32.0	(3,104,428)	379,700			33.0
11-Oct-97	0	0	0	0.00	0	31.0	(2,065,504)	0			33.0
12-Oct-97	0	0	0	0.00	0	30.7	(1,754,629)	0			33.0
13-Oct-97	1,185,973	523,025	1,708,998	0.00	0	30.6	(1,651,087)	1,036,300			33.0
14-Oct-97	366,599	154,000	520,599	0.00	0	30.5	(1,547,585)	331,300			32.9
15-Oct-97	353,200	136,500	489,700	0.00	0	30.4	(1,444,125)	239,900			32.8
16-Oct-97	435,800	171,595	607,395	0.00	0	30.3	(1,340,706)	469,000			32.9
17-Oct-97	440,302	167,900	608,202	0.00	0	29.9	(927,440)	365,300			32.8
18-Oct-97	0	0	0	0.80	97,762	30.8	(1,858,213)	0			32.8
19-Oct-97	0	0	0	0.00	0	30.8	(1,858,213)	0			32.8
20-Oct-97	1,266,573	567,680	1,834,253	0.00	0	30.6	(1,651,087)	1,051,600			32.9
21-Oct-97	0	0	0	0.00	0	30.6	(1,651,087)	0			32.9
22-Oct-97	36,710	110,300	147,010	0.00	0	30.6	(1,651,087)	6,400			32.8
23-Oct-97	40,590	130,520	171,110	0.00	0	30.0	(1,030,695)	1,400			32.8
24-Oct-97	36,100	121,500	157,600	0.00	0	29.4	(411,784)	1,100			32.8
25-Oct-97	0	0	0	0.00	0	29.2	(205,810)	0			32.8
26-Oct-97	0	0	0	0.00	0	29.4	(411,784)	0			32.8
27-Oct-97	0	0	0	1.28	156,419	30.5	(1,547,585)	0			32.8
28-Oct-97	137,100	487,980	625,080	0.00	0	30.5	(1,547,585)	10,000			32.8
29-Oct-97	28,000	136,120	164,120	0.00	0	30.7	(1,754,629)	0			32.9
30-Oct-97	31,100	144,880	175,980	0.00	0	30.7	(1,754,629)	9,000			32.9
31-Oct-97	28,400	130,800	159,200	2.70	329,946	30.8	(1,858,213)	1,100			32.9
<b>TOTAL</b>	<b>8,395,800</b>	<b>6,375,765</b>	<b>14,771,565</b>	<b>4.78</b>	<b>584,126</b>		<b>207,291</b>	<b>7,359,700</b>	<b>483,004</b>	<b>7,720,278</b>	
<b>Net Difference in Storage</b>							<b>207,291</b>				
<b>Total Leachate Balance</b>										<b>7,720,278</b>	

**Notes:**

Column D: Total leachate is the sum of column B and C. All leachate from Stage I and Stage III is pumped into the leachate pond.

Column F: Rainfall in gallons is volume of rainfall entering the leachate pond. The ponds surface area is assumed at 4.5 acres.

Column H: Available storage is 0 at elevation 29.0 (negative number denotes storage above 2,049,046 gallons).

Column I: Leachate to WWTP is total volume pumped to plant for treatment.

Column J: Evaporation is volume of leachate evaporated from leachate pond. Pan evaporation average data given by SWFWMD.

Column K: Leachate balance is column D + F (+/-) H - I - J. This column represents the volume of leachate recirculated back into Stage I from the leachate pond.

If the final leachate pond elevation for the previous month is greater than the final elevation for the current month, the net effect on the pond is an increase in the available storage. An increase in available storage means the volume is added to the leachate balance.

A decrease in available storage is subtracted from the leachate balance, priors months elevation is lower than current months elevation.

# **MANATEE COUNTY, LENA ROAD LANDFILL** **MONTHLY WATER BALANCE REPORT FOR SEPTEMBER 1997**

A	B	C	D	E	F	G	H	I	J	K	L
DATE	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE	RAINFALL INCHES	RAINFALL GALLONS	LEACHATE POND LEVEL	AVAILABLE STORAGE	LEACHATE PUMP TO WWTP	EVAPORATION FROM POND	LEACHATE BALANCE	STORMWATER POND
31-Aug-97						29.6	(617,923)				
01-Sep-97	168,700	370,200	538,900	1.02	124,646	29.6	(617,923)	8,400			31.9
02-Sep-97	454,332	132,220	586,552	0.00	0	29.6	(617,923)	157,000			32.0
03-Sep-97	471,503	130,000	601,503	0.00	0	29.6	(617,923)	320,400			32.1
04-Sep-97	427,896	117,000	544,896	0.03	3,666	29.4	(411,784)	449,700			32.0
05-Sep-97	0	0	0	0.00	0	29.3	(308,776)	0			32.0
06-Sep-97	0	0	0	0.00	0	29.2	(205,810)	0			31.6
07-Sep-97	0	0	0	0.00	0	29.0	0	0			31.0
08-Sep-97	1,874,600	478,000	2,352,600	0.00	0	29.0	0	1,009,000			31.0
09-Sep-97	440,900	106,000	546,900	0.00	0	28.6	411,126	529,000			30.8
10-Sep-97	0	0	0	0.00	0	28.2	821,593	0			30.8
11-Sep-97	0	0	0	0.00	0	28.3	719,038	0			30.8
12-Sep-97	0	0	0	0.00	0	28.0	1,026,580	0			29.8
13-Sep-97	0	0	0	0.00	0	28.4	616,442	0			30.8
14-Sep-97	0	0	0	0.00	0	28.2	821,593	0			30.8
15-Sep-97	0	0	0	0.10	12,220	27.7	1,333,752	0			30.8
16-Sep-97	0	0	0	0.00	0	28.1	924,107	0			30.8
17-Sep-97	0	0	0	0.50	61,101	27.7	1,333,752	0			20.8
18-Sep-97	3,609,095	896,000	4,505,095	0.00	0	27.6	1,436,060	1,734,100			30.0
19-Sep-97	404,899	95,580	500,479	0.00	0	27.6	1,436,060	240,400			30.0
20-Sep-97	0	0	0	0.00	0	27.6	1,436,060	0			20.0
21-Sep-97	0	0	0	0.00	0	27.6	1,436,060	0			30.0
22-Sep-97	1,063,900	244,400	1,308,300	0.00	0	27.6	1,436,060	486,500			30.0
23-Sep-97	230,175	82,700	312,875	1.00	122,202	27.6	1,436,060	160,800			30.3
24-Sep-97	0	0	0	0.00	0	27.6	1,436,060	0			30.8
25-Sep-97	0	0	0	7.00	855,415	28.0	1,026,580	0			30.3
26-Sep-97	0	0	0	0.00	0	27.8	1,231,403	0			30.3
27-Sep-97	0	0	0	4.05	494,919	31.0	(2,065,504)	0			35.6
28-Sep-97	0	0	0	0.00	0	31.0	(2,065,504)	0			35.6
29-Sep-97	490,500	1,516,331	2,006,831	0.00	0	31.0	(2,065,504)	170,300			35.6
30-Sep-97	10,675	450,001	460,676	0.00	0	31.0	(2,065,504)	134,100			35.6
<b>TOTAL</b>	<b>9,647,175</b>	<b>4,618,432</b>	<b>14,265,607</b>	<b>13.70</b>	<b>1,674,169</b>		<b>1,447,581</b>	<b>5,399,700</b>	<b>561,947</b>	<b>8,530,549</b>	
<b>Net Difference in Storage</b>							<b>1,447,581</b>				
<b>Total Leachate Balance</b>										<b>8,530,549</b>	

**Notes:**

Column D: Total leachate is the sum of column B and C. All leachate from Stage I and Stage III is pumped into the leachate pond.  
Column F: Rainfall in gallons is volume of rainfall entering the leachate pond. The ponds surface area is assumed at 4.5 acres.  
Column H: Available storage is 0 at elevation 29.0 (negative number denotes storage above 2,049,046 gallons).  
Column I: Leachate to WWTP is total volume pumped to plant for treatment.  
Column J: Evaporation is volume of leachate evaporated from leachate pond. Pan evaporation average data given by SWFWMD.  
Column K: Leachate balance is column D + F (+/-) H - I - J. This column represents the volume of leachate recirculated back into Stage I from the leachate pond.

If the final leachate pond elevation for the previous month is greater than the final elevation for the current month, the net effect on the pond is an increase in the available storage. An increase in available storage means the volume is added to the leachate balance.  
A decrease in available storage is subtracted from the leachate balance, priors months elevation is lower than current months elevation.



Manatee County, Lena Road Landfill  
Groundwater Gradient  
October 1997

Piezometer	Riser Elevation	Groundwater Elevation	Monitoring Well	Riser Elevation	Groundwater Elevation
STAGE I					
PZ-1	42.53	29.13	MW-5	39.96	30.98
PZ-2	42.53	30.22	MW-2	37.87	32.92
PZ-3	44.93	29.92	MW-1	38.71	33.09
PZ-4	47.73	29.80	CW-4	37.54	34.62
PZ-5	43.96	30.26	CW-5A	41.23	37.84
PZ-6	45.04	32.49			
PZ-7	47.97	29.94	MW-6	39.29	33.24
STAGE II					
PZ-8	37.63	33.65	LRII-5	36.74	30.79
PZ-9	36.56	33.71	LRII-3	33.46	27.48
PZ-10	37.05	33.76	LRII-2	36.53	30.98
PZ-11	37.94	33.65	LRII1-1	37.97	32.56
STAGE III					
PZ-12	38.39	29.74	GC-2	38.19	32.15
PZ-13	35.09	27.59	GC-3	35.02	29.74
PZ-14	33.47	26.66	GC-4	33.91	27.38
PZ-15	33.20	27.41	PZ-15A	39.77	27.08
PZ-16	34.63	29.16	GC-5	36.50	28.71
PZ-17	40.82	29.67	GC-6	39.06	30.25

Notes:

This table is used to compare groundwater elevation data collected from the piezometers against groundwater data collected from the monitoring wells. The piezometers are located inside the slurry wall. The monitoring wells are located outside the slurry wall. The groundwater elevation of the piezometers must be one foot lower than the groundwater elevation of the monitoring wells for Stages I and III only.

The table is arranged so any piezometer can be compared to its corresponding monitoring well. For example, PZ-1 is located on the opposite side of the slurry wall from MW-5. Thus data from PZ-1 are compared to data from MW-5.

Depth to groundwater data were collected on October 22, 1997.

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

27-Oct-97      28-Oct-97      29-Oct-97      30-Oct-97      31-Oct-97

PZ-14	26.72	26.70	26.75	26.72	26.66
GC-4	28.25	28.29	28.07	27.96	27.88
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-15	27.25	27.27	27.37	27.42	27.42
PZ-15A	27.35	27.38	27.32	28.32	28.61
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-16	28.94	28.98	29.00	29.08	29.14
GC-5	29.15	29.17	29.07	28.89	28.84
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

20-Oct-97      21-Oct-97      22-Oct-97      23-Oct-97      24-Oct-97

PZ-14	26.74	26.66	26.66	26.62	26.61
GC-4	27.56	27.51	27.38	27.29	27.21
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-15	27.66	27.53	27.41	27.35	27.36
PZ-15A	27.14	27.15	27.08	27.06	27.00
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>
PZ-16	29.19	29.22	29.16	29.12	29.12
GC-5	28.91	28.88	28.71	28.62	28.55
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

13-Oct-97      14-Oct-97      15-Oct-97      16-Oct-97      17-Oct-97

PZ-14	27.22	27.12	27.02	26.93	26.88
GC-4	27.44	27.36	27.33	27.27	27.24
<b>GRADIENT</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>	<b>INWARD</b>
PZ-15	27.72	27.62	27.62	27.65	27.68
PZ-15A	27.14	26.82	26.75	26.77	26.88
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>
PZ-16	29.58	29.44	29.41	29.39	29.28
GC-5	29.35	29.20	29.08	29.01	28.96
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.

**Lena Road Landfill  
Gradient Check  
West Side Stage III**

08-Oct-97      09-Oct-97      10-Oct-97

PZ-14	27.93	27.67	27.58		
GC-4	27.86	27.66	27.66		
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>INWARD</b>		
PZ-15	28.30	28.06	28.00		
PZ-15A	27.07	27.02	27.02		
<b>GRADIENT</b>	<b>OUTWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>		
PZ-16	29.78	29.76	29.64		
GC-5	29.81	29.66	29.60		
<b>GRADIENT</b>	<b>INWARD</b>	<b>OUTWARD</b>	<b>OUTWARD</b>		

Gradient determination based on the greater elevation.  
PZ-14, 15 and 16 are inside the Stage III west slurry wall.  
GC-4, 5 and PZ-15A are outside the slurry wall.

# MANATEE COUNTY, LENA RAOD LANDFILL

## MONTHLY WETLAND AND GAS MONITORING FOR OCTOBER 1997

**WETLAND STAFF GAUGE READINGS**

	Week 1	Week 2	Week 3	Week 4
	09-Oct-97	15-Oct-97	22-Oct-97	29-Oct-97
Wetland 1	35.4	35.3	35.3	35.5
Wetland 2	35.5	35.4	34.3	34.5
Wetland 3	34.8	34.7	34.7	34.8
Wetland 4	41.0	40.4	40.3	40.3
Wetland 5	38.1	37.9	37.8	37.9
Wetland 6	34.5	34.6	34.6	34.6
Wetland 7	33.3	33.1	33.0	33.1
Wetland 8	31.6	31.5	31.4	31.5
Wetland 12	32.2	32.1	32.0	32.0

**METAHNE GAS READINGS**

Gas Monitoring Well	Reading % LEL
Well 1	0.0%
Well 2	0.0%
Well 3	0.0%
Well 4	0.0%
Well 5	0.0%
Well 6	0.0%
Well 7	0.0%
Well 8	0.0%
Well 9	0.0%
Well 10	0.0%
Well 11	0.0%
Well 12	0.0%
Well 13	0.0%
Well 14	0.0%
Well 15	0.0%
Well 16	0.0%
Well 17	0.0%
Well 18	0.0%

Data collected on 15-Oct-97

Gas Monitring Point	Reading % LEL
Point 1	0.0%
Point 2	0.0%
Point 3	0.0%
Point 4	0.0%
Point 5	0.0%
Point 6	0.0%
Point 7	0.0%
Point 8	0.0%

Data collected on 15-Oct-97



# MANATEE COUNTY GOVERNMENT

Public Works Department

RECEIVED  
SEP 16 1997

September 10, 1997

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Department of Environmental Protection  
SOUTHWEST DISTRICT

BY \_\_\_\_\_

Re: Manatee County, Lena Road Landfill  
August Water Balance Report

Dear Ms. Amram:

Enclosed is the August 1997 water balance report. Per Mr. Ford's request, staff has redone the June and July report and included in this submittal. The August report includes the ground water gradient and gas monitoring data. The June and July reports do not include these data.

Also included in this submittal is the updated leachate tracking summary. This spreadsheet has been revised back to January to reflect the new reporting format. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*  
Benjamin L. Alex

cc: Kim Ford, P.E., FDEP  
Bob Butera, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *MD*

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
MONTHLY LEACHATE TRACKING SUMMARY, 1997

MONTH	A TOTAL LEACHATE	B RAINFALL INCHES	C RAINFALL INTO POND	D AVAILABLE STORAGE	E LEACHATE TREATED	F LEACHATE EVAPORATED	G LEACHATE RECIRCULATED
JANUARY *	5,369,331	1.90	232,184	- 717,310	1,187,660	290,841	3,405,704
FEBRUARY	4,117,902	1.41	172,305	0	1,002,600	371,861	2,915,746
MARCH	6,980,170	3.05	372,717	1,126,296	2,762,600	541,172	5,175,411
APRIL *	7,446,097	6.62	808,978	- 1,639,895	2,567,000	657,508	3,390,672
MAY	11,095,022	2.60	317,726	821,264	4,596,300	775,922	6,861,790
JUNE	9,157,678	6.48	791,870	204,905	2,580,500	687,631	6,886,322
JULY *	15,114,200	12.07	1,474,980	- 2,263,003	4,011,100	658,547	9,656,530
AUGUST	17,139,570	7.61	929,958	516,067	7,313,600	631,541	10,640,454
SEPTEMBER							
OCTOBER							
NOVEMBER							
DECEMBER							
<b>TOTAL</b>	<b>76,419,970</b>	<b>41.74</b>	<b>5,100,718</b>		<b>26,021,360</b>	<b>4,615,023</b>	<b>48,932,629</b>

Notes:

1. (A) Total leachate generated is the sum of flow from Stage I and III.
2. (B) Total rainfall is rain entering leachate pond. The pond's surface area is assumed to be 4.5 acres.
3. (C) Available storage is the volume increase or decrease in the leachate pond.
4. (D) Leachate treated is the total amount of leachate pumped to the WWTP for treatment.
5. (E) Leachate evaporated is the amount of leachate evaporated from the leachate pond. Pan evaporation numbers used are given by SWFWMD.
6. (F) The volume recirculated  $F=A+B(+/-)C-D-E$
7. The \* denotes a decrease in available storage (increased pond elevation), therefore C is subtracted in the above equation used to estimate the volume recirculated (F).



# **MANATEE COUNTY, LENA ROAD LANDFILL** **MONTHLY WATER BALANCE REPORT FOR AUGUST 1997**

A	B	C	D	E	F	G	H	I	J	K	L	M
DATE	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE	RAINFALL INCHES	RAINFALL GALLONS	LEACHATE POND LEVEL	AVAILABLE STORAGE	LEACHATE PUMP TO WWTP	EVAPORATION FROM POND	LEACHATE BALANCE	STORMWATER POND LEVEL	DISCHARGE pH
31-Jul-97						30.1	(1,133,991)					
01-Aug-97	394,298	133,120	527,418	0.00	0	30.1	(1,133,991)	138,300			32.4	6.36
02-Aug-97	0	0	0	0.70	85,541	30.2	(1,237,327)	0			32.3	N/R
03-Aug-97	0	0	0	0.05	6,110	30.3	(1,340,706)	0			32.4	N/R
04-Aug-97	1,251,203	393,600	1,644,803	0.12	14,664	30.2	(1,237,327)	584,900			32.8	6.45
05-Aug-97	452,204	128,800	581,004	0.90	109,982	30.2	(1,237,327)	280,500			32.9	6.39
06-Aug-97	0	0	0	0.00	0	30.3	(1,340,706)	0			32.8	N/R
07-Aug-97	0	0	0	0.02	2,444	29.9	(927,440)	0			32.8	N/R
08-Aug-97	1,528,800	573,199	2,101,999	0.18	21,996	29.8	(824,227)	952,900			32.4	6.33
09-Aug-97	0	0	0	1.25	152,753	29.7	(721,054)	0			31.8	N/R
10-Aug-97	0	0	0	0.00	0	29.8	(824,227)	0			31.9	N/R
11-Aug-97	1,469,899	590,681	2,060,580	0.18	21,996	29.3	(308,776)	951,800			31.8	6.58
12-Aug-97	0	0	0	0.00	0	29.4	(411,784)	0			32.2	N/R
13-Aug-97	1,031,700	346,320	1,378,020	0.00	0	29.3	(308,776)	583,300			32.5	6.28
14-Aug-97	0	0	0	0.00	0	29.2	(205,810)	0			32.8	N/R
15-Aug-97	967,701	289,000	1,256,701	1.20	146,643	29.3	(308,776)	605,500			32.7	6.44
16-Aug-97	0	0	0	0.00	0	29.3	(308,776)	0			32.7	N/R
17-Aug-97	0	0	0	2.10	256,624	28.9	102,843	0			31.7	N/R
18-Aug-97	0	0	0	0.00	0	28.9	102,843	0			32.5	N/R
19-Aug-97	2,078,700	1,083,003	3,161,703	0.00	0	29.0	0	1,193,300			33.1	5.50
20-Aug-97	387,698	238,998	626,696	0.00	0	29.0	0	787,500			32.2	6.47
21-Aug-97	559,427	261,999	821,426	0.00	0	29.0	0	294,100			32.2	6.42
22-Aug-97	0	0	0	0.20	24,440	28.9	102,843	0			31.9	N/R
23-Aug-97	0	0	0	0.01	1,222	28.9	102,843	0			31.7	N/R
24-Aug-97	0	0	0	0.00	0	28.9	102,843	0			31.7	N/R
25-Aug-97	0	0	0	0.70	85,541	29.0	0	0			31.7	N/R
26-Aug-97	1,571,440	797,680	2,369,120	0.00	0	29.1	(102,884)	946,300			31.8	6.41
27-Aug-97	77,000	181,820	258,820	0.00	0	29.1	(102,884)	10,000			31.8	6.50
28-Aug-97	52,100	115,500	167,600	0.00	0	29.1	(102,884)	5,200			31.8	6.48
29-Aug-97	57,100	126,580	183,680	0.00	0	29.1	(102,884)	0			31.8	6.36
30-Aug-97	0	0	0	0.00	0	29.6	(617,923)	0			31.9	N/R
31-Aug-97	0	0	0	0.00	0	29.6	(617,923)	0			31.9	N/R
<b>TOTAL</b>	<b>11,879,270</b>	<b>5,260,300</b>	<b>17,139,570</b>	<b>7.61</b>	<b>929,958</b>		<b>516,067</b>	<b>7,313,600</b>	<b>631,541</b>	<b>10,640,455</b>		
<b>Net Difference in Storage</b>							<b>516,067</b>					
<b>Total Leachate Balance</b>								<b>10,640,455</b>				

**Notes:**

Column D: Total leachate is the sum of column B and C. All leachate from Stage I and Stage III is pumped into the leachate pond.

Column F: Rainfall is volume of rainfall entering the leachate pond. The ponds surface area is assumed at 4.5 acres.

Column H: Available storage is 0 at elevation 29.0 (negative number denotes storage above 2,049,048 gallons).

Column I: Leachate to WWTP is total volume pumped to plant for treatment.

Column J: Evaporation is volume of leachate evaporated from leachate pond. Pan evaporation average data given by SWFWMD.

Column K: Leachate balance is column D + F (+/-) H - I - J. This column is the amount of leachate recirculated back into Stage I.

If the final leachate pond elevation for the previous month is greater than the final elevation for the current month, the net effect on the pond is an increase in the available storage. An increase in available storage means the volume is added to the leachate balance.

A decrease in available storage is subtracted from the leachate balance, prior months elevation is lower than current months elevation.

# **MANATEE COUNTY, LENA ROAD LANDFILL** **MONTHLY WATER BALANCE REPORT FOR JULY, 1997**

A	B	C	D	E	F	G	H	I	J	K	L	M
DATE	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE	RAINFALL INCHES	RAINFALL GALLONS	LEACHATE POND LEVEL	AVAILABLE STORAGE	LEACHATE PUMP TO WWTP	EVAPORATION FROM POND	LEACHATE BALANCE	STORMWATER POND LEVEL	DISCHARGE pH
30-Jun-97						27.9	1,129,012					
01-Jul-97	411,600	51,300	462,900	0.00	0	27.7	1,333,752	153,700			30.9	6.70
02-Jul-97	412,600	50,800	463,400	0.00	0	27.8	1,231,403	159,000			30.0	6.90
03-Jul-97	452,200	55,100	507,300	0.00	0	27.7	1,333,752	152,900			29.8	6.85
04-Jul-97	0	0	0	0.70	85,541	27.7	1,333,752	0			30.0	N/R
05-Jul-97	0	0	0	0.45	54,991	27.7	1,333,752	0			30.0	N/R
06-Jul-97	0	0	0	0.01	1,222	27.9	1,129,012	0			31.7	6.50
07-Jul-97	509,520	195,020	704,540	0.00	0	28.0	1,026,580	152,600			30.3	6.75
08-Jul-97	37,875	56,380	94,255	0.22	26,884	28.1	924,107	7,300			30.3	6.60
09-Jul-97	44,406	50,100	94,506	0.10	12,220	28.1	924,107	8,300			30.3	6.90
10-Jul-97	375,299	44,300	419,599	0.12	14,664	28.1	924,107	165,100			30.3	6.41
11-Jul-97	447,002	54,700	501,702	2.50	305,505	27.8	1,231,403	134,200			30.3	6.92
12-Jul-97	0	0	0	0.60	73,321	28.4	616,442	0			31.3	N/R
13-Jul-97	0	0	0	0.00	0	28.4	616,442	0			31.3	N/R
14-Jul-97	1,294,123	428,620	1,722,743	0.28	31,773	28.4	616,442	455,400			31.3	6.65
15-Jul-97	382,075	93,400	475,475	0.00	0	28.4	616,442	144,000			31.3	6.43
16-Jul-97	421,800	100,700	522,500	0.00	0	28.4	616,442	141,300			31.4	6.48
17-Jul-97	375,900	100,800	476,700	0.00	0	28.4	616,442	143,500			31.5	6.57
18-Jul-97	0	0	0	0.00	0	28.0	1,026,580	0			31.5	N/R
19-Jul-97	0	0	0	5.15	629,341	27.9	1,129,012	0			31.5	N/R
20-Jul-97	0	0	0	0.00	0	29.4	(411,784)	0			34.1	N/R
21-Jul-97	1,301,070	858,510	2,159,580	0.35	42,771	29.6	(617,923)	317,400			33.4	6.53
22-Jul-97	478,530	470,998	949,528	0.20	24,440	29.9	(927,440)	165,800			33.4	6.55
23-Jul-97	346,000	293,995	639,995	0.00	0	30.1	(1,133,991)	175,800			32.8	6.50
24-Jul-97	406,200	251,679	657,879	0.10	12,220	30.1	(1,133,991)	167,100			32.5	6.59
25-Jul-97	478,003	207,321	685,324	0.00	0	30.1	(1,133,991)	266,300			32.1	6.50
26-Jul-97	0	0	0	0.10	12,220	30.0	(1,030,695)	0			31.8	N/R
27-Jul-97	0	0	0	0.03	3666.1	30.0	(1,030,695)	0			31.8	N/R
28-Jul-97	1,298,795	475,979	1,774,774	1.00	122,202	27.9	1,129,012	636,900			31.8	6.53
29-Jul-97	0	0	0	0.00	0	30.0	(1,030,695)	0			32.0	6.47
30-Jul-97	888,802	358,020	1,246,822	0.18	21,996	30.0	(1,030,695)	317,400			32.1	6.50
31-Jul-97	408,400	146,280	554,680	0.00	0	30.1	(1,133,991)	147,100			32.2	6.43
<b>TOTAL</b>	<b>10,770,200</b>	<b>4,344,000</b>	<b>15,114,200</b>	<b>12.07</b>	<b>1,474,980</b>		<b>2,263,003</b>	<b>4,011,100</b>	<b>658,547</b>	<b>9,656,530</b>		

Net Difference in Storage 2,263,003

Total Leachate Balance 9,656,530

**Notes:**

Column D: Total leachate is the sum of column B and C. All leachate from Stage I and Stage III is pumped into the leachate pond.

Column F: Rainfall is volume of rainfall entering the leachate pond. The ponds surface area is assumed at 4.5 acres.

Column H: Available storage is 0 at elevation 29.0 (negative number denotes storage above 2,049,046 gallons).

Column I: Leachate to WWTP is total volume pumped to plant for treatment.

Column J: Evaporation is volume of leachate evaporated from leachate pond. Pan evaporation average data given by SWFWMD.

Column K: Leachate balance is column D + F (+/-) H - I - J. This column is the amount of leachate recirculated back into Stage I.

If the final leachate pond elevation for the previous month is greater than the final elevation for the current month, the net effect on the pond is an increase in the available storage. An increase in available storage means the volume is added to the leachate balance.

A decrease in available storage is subtracted from the leachate balance, priors months elevation is lower than current months elevation.



# **MANATEE COUNTY, LENA ROAD LANDFILL** **MONTHLY WATER BALANCE REPORT FOR JUNE, 1997**

A	B	C	D	E	F	G	H	I	J	K	L	M
DATE	LEACHATE STAGE I	LEACHATE STAGE III	TOTAL LEACHATE	RAINFALL INCHES	RAINFALL GALLONS	LEACHATE POND LEVEL	AVAILABLE STORAGE	LEACHATE PUMP TO WWTP	EVAPORATION FROM POND	LEACHATE BALANCE	STORMWATER POND LEVEL	DISCHARGE pH
30-May-97						28.1	924,107					
01-Jun-97	N/R	N/R	N/R	0.05	6,110	28.2	821,593	N/R			31.7	N/R
02-Jun-97	438,768	412,780	851,548	0.00	0	28.2	821,593	173,300			31.7	6.6
03-Jun-97	N/R	N/R	N/R	0.00	0	28.4	616,442	N/R			31.6	N/R
04-Jun-97	N/R	N/R	N/R	0.00	0	28.4	616,442	N/R			31.6	N/R
05-Jun-97	122,700	201,000	323,700	0.00	0	28.4	616,442	8,500			31.7	6.7
06-Jun-97	36,100	53,200	89,300	0.00	0	28.4	616,442	2,800			31.7	6.5
07-Jun-97	N/R	N/R	N/R	0.00	0	28.7	308,406	N/R			31.6	N/R
08-Jun-97	N/R	N/R	N/R	0.25	30,551	28.7	308,406	N/R			31.5	N/R
09-Jun-97	447,500	175,320	622,820	0.50	61,101	28.7	308,406	95,400			31.5	6.4
10-Jun-97	N/R	N/R	N/R	0.00	0	28.6	411,126	N/R			31.6	N/R
11-Jun-97	859,530	99,280	958,810	0.00	0	28.6	411,126	236,300			31.6	6.5
12-Jun-97	482,200	3,600	485,800	0.00	0	28.6	411,126	126,700			31.7	6.5
13-Jun-97	322,000	2,400	324,400	0.00	0	28.6	411,126	124,200			31.6	6.8
14-Jun-97	N/R	N/R	N/R	0.00	0	28.6	411,126	N/R			31.6	N/R
15-Jun-97	N/R	N/R	N/R	0.13	15,886	28.5	513,804	N/R			31.6	N/R
16-Jun-97	1,237,797	159,300	1,397,097	0.00	0	28.5	513,804	248,800			31.6	6.8
17-Jun-97	369,799	47,100	416,899	0.00	0	28.5	513,804	60,100			31.6	6.9
18-Jun-97	398,526	50,000	448,526	0.00	0	28.5	513,804	55,700			31.6	6.9
19-Jun-97	417,778	45,400	463,178	0.00	0	28.3	719,038	209,700			31.6	6.9
20-Jun-97	94,070	54,920	148,990	0.00	0	28.5	513,804	44,200			31.6	6.9
21-Jun-97	N/R	N/R	N/R	0.00	0	28.2	821,593	N/R			31.5	N/R
22-Jun-97	N/R	N/R	N/R	0.20	24,440	28.1	924,107	N/R			31.5	N/R
23-Jun-97	59,000	132,980	191,980	3.00	366,606	28.1	924,107	388,300			31.5	6.8
24-Jun-97	361,630	42,400	404,030	0.70	85,541	28.0	1,026,580	142,300			31.5	6.5
25-Jun-97	N/R	N/R	N/R	0.40	48,881	28.2	821,593	N/R			31.8	N/R
26-Jun-97	N/R	N/R	N/R	0.40	48,881	28.1	924,107	N/R			31.8	N/R
27-Jun-97	N/R	N/R	N/R	0.00	0	28.2	821,593	N/R			31.3	N/R
28-Jun-97	N/R	N/R	N/R	0.85	103,872	27.9	1,129,012	N/R			31.1	N/R
29-Jun-97	N/R	N/R	N/R	0.00	0	28.0	1,026,580	N/R			31.5	N/R
30-Jun-97	1,720,700	309,900	2,030,600	0.00	0	27.9	1,129,012	664,200			31.4	6.9
<b>TOTAL</b>	<b>7,368,098</b>	<b>1,789,580</b>	<b>9,157,678</b>	<b>6.48</b>	<b>791,870</b>		<b>204,905</b>	<b>2,580,500</b>	<b>687,631</b>	<b>6,886,321</b>		

Net Difference in Storage 204,905

Total Leachate Balance 6,886,321

**Notes:**

Column D: Total leachate is the sum of column B and C. All leachate from Stage I and Stage III is pumped into the leachate pond.

Column F: Rainfall is volume of rainfall entering the leachate pond. The ponds surface area is assumed at 4.5 acres.

Column H: Available storage is 0 at elevation 29.0 (negative number denotes storage above 2,049,046 gallons).

Column I: Leachate to WWTP is total volume pumped to plant for treatment.

Column J: Evaporation is volume of leachate evaporated from leachate pond. Pan evaporation average data given by SWFWMD.

Column K: Leachate balance is column D + F (+/-) H - I - J. This column is the amount of leachate recirculated back into Stage I.

If the final leachate pond elevation for the previous month is greater than the final elevation for the current month, the net effect on the pond is an increase in the available storage. An increase in available storage means the volume is added to the leachate balance.

A decrease in available storage is subtracted from the leachate balance, priors months elevation is lower than current months elevation.

**MANATEE COUNTY  
GOVERNMENT**  
**Public Works Department**

**TELEFAX COVER MEMO****PLEASE DELIVER THE FOLLOWING PAGE(S)**

**TO:** Kim Ford  
**FROM:** BEN ALEX **941/748-5543**  
**DATE:** 6-25-97 **Ext. 5444**  
**SUBJECT:** LEACHATE QUANTIFICATION

Please call upon receipt \_\_\_\_\_ Please handle confidentially \_\_\_\_\_

**COMMENTS:**

Total number of pages including cover memo: 6

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL AS SOON AS POSSIBLE.

# DRAFT

June 21, 1997

Kim Ford, P.E.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County, Lena Road Sanitary Landfill  
Leachate Quantity Estimates

Dear Mr. Ford:

Since January 1996 we have tracked our leachate quantity estimates and reported our findings to your Department. You have expressed some concern regarding the volume of leachate generated and how it is reported. This letter attempts to clarify our leachate tracking report and answer the questions you have raised regarding leachate generation and accumulation. Included is a copy of the April leachate tracking report and a topographical map showing the location of the leachate pond. The following are general facts about our leachate collection system and tracking report:

1. The leachate pond has a surface area of approximately 4.5 acres.
2. The leachate pond receives leachate from Stages I and III only.
3. Leachate treatment is provided by the adjacent wastewater treatment plant.
4. All leachate pumped into and out of the pond is metered for total volume and instantaneous flow. No flow meter is more than 18 months old. Staff and the vendor have checked the reliability of each meter and believe the meters are accurate within 5% of their recorded flow.

# DRAFT

# DRAFT

Kim Ford, P.E.  
June 21, 1997  
Page 2

5. To estimate the pond's storage capacity, the following assumptions are made:

*FREEDBOARD VARIES*

*BASED ON ELEVATION*

*IN S.W. POND. I CHOOSE*

*SLY. 35 BASED ON HISTORICAL*

*DATA OF MAXIMUM FLOW.*

*RECORDED IN S.W. &*

*LEACHATE POND, WHICH*

*OCCURS AT ELEV.*

*36. & 35, FT.*

*RESPECTIVELY*

1. The top of bank elevation is 35 ft.
2. The toe of slope elevation is 25 ft.
3. The side slopes of the pond are 3:1
4. The width (east west) is 350 ft. at elevation 35
5. The length (north south) is 550 ft. at elevation 35

The estimated maximum storage capacity occurs at elevation 35 ft. At this elevation the pond's capacity is approximately 13.1 million gallons. This estimate is made on the assumption that the elevation of the storm water pond is at elevation 36 ft. (mandatory 1 foot gradient). At elevation 30 ft. the estimated storage capacity is approximately 6.2 million gallons.

6. There are three (3) leachate pipe inputs into the pond, 2 from Stage I and one (1) from Stage III. The only output from the pond is leachate pumped to the treatment plant. None of the volume tracking calculations include the additional input/output quantity of evapotranspiration.

Referring to the April tracking report the estimated volume of leachate accumulated is 16.3 gallons. This number is arrived at assuming that the rainfall, leachate generated and leachate treated estimates are accurate. Based on (4) above, I believe the meters are accurate. To better describe the quantity of leachate accumulated, the column's name will be changed to untreated leachate.

As stated above, the estimated maximum capacity of the pond at elevation 35 ft. is 13.1 million gallons. To reiterate your question to me, if 16.3 million gallons of leachate has accumulated (not treated) since January 1, 1997, what is happening to it? As discussed during your site visit, the pond is surrounded on its south and west side by the slurry wall. Assuming we maintain a 1 foot gradient between the two ponds and the wall hydraulically disconnects the two ponds, no leachate should migrate into the stormwater pond. The path of the slurry wall does not run along the leachate pond's north and east side nor is there any gradient requirement along these two sides. Given the location of the

# DRAFT

# DRAFT

Kim Ford, P.E.  
June 21, 1997  
Page 3

slurry wall, the one foot gradient requirement and the reliability of the meters, I believe that some of leachate entering the pond is migrating back into Stage I from the unimpeded areas surrounding the leachate pond. In other words, some of the collected leachate is being recirculated from the pond into Stage I then back into the collection system again. As of the April report, I estimate this amount to be approximately 10.1 million gallons. This volume is based on the volume of leachate accumulated less the storage capacity at elevation 30 ft. I used elevation 30 ft. because it has been the average elevation of the pond for the last two months. I am open to methods of better estimating this quantity and any other suggestions you may have regarding this issue. If you require further information, or need assistance regarding this matter, please contact me at (941) 748-5543.

Sincerely,

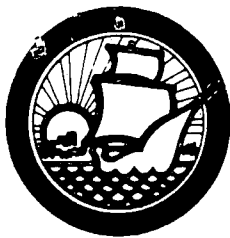
Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager  
Bob Butera, P.E., FDEP  
Allison Amram, P.G., FDEP

10.1 mill. gal. is BASED ON ACCUMULATED LEACHATE FROM 1-97 thru 4-97  
LESS STORAGE CAPACITY @ ELEV. 30 FT.

NO ACCOUNT FOR EVAPORATION WAS MADE. I ASSUMED NET OUT FLOW = NET IN FLOW  
i.e. EVAPORATION < RUNOFF INTO POND. FACT NO. 6 IN LETTER STATES  
EVAPOTRANSPIRATION = 0.

# DRAFT



RECEIVED  
JUN 27 1997  
D E P

# MANATEE COUNTY GOVERNMENT

Public Works Department

June 21, 1997

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the (May 1997, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *HA*



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF MAY, 1997

DATE	INPUT TO STAGE I	LEACHATE STAGE II	FOND G.P.D. STAGE III	LEACHATE FOND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER FOND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	29.8	N/R	0.00	31.4	6.8	
2*	N/R		N/R	29.8	N/R	0.00	31.4	6.5	
3*	N/R		N/R	29.8	N/R	0.00	31.4	N/R	
4*	N/R		N/R	29.7	N/R	0.00	31.4	N/R	
5	85,300		526,700	29.6	658,500	0.00	31.4	6.6	
6	320,800		89,020	29.5	175,400	0.00	31.4	6.9	
7	524,900		112,980	29.4	315,800	0.00	31.4	6.7	
	N/R		N/R	29.6	N/R	0.00	31.4	N/R	
	N/R		N/R	29.6	N/R	0.00	31.4	N/R	
10*	N/R		N/R	29.0	N/R	0.00	31.4	N/R	
11*	N/R		N/R	28.9	N/R	0.00	31.3	N/R	
12	2,172,100		401,500	29.0	1,009,500	2.00	31.7	6.5	
13	498,700		149,520	29.0	255,900	0.00	31.7	6.8	
14	368,000		82,580	29.0	176,900	0.00	31.7	6.9	
15	N/R		N/R	28.8	N/R	0.00	31.7	N/R	
16	788,900		164,000	26.8	339,000	0.00	31.7	6.5	
17*	N/R		N/R	28.7	N/R	0.00	31.7	N/R	
18*	N/R		N/R	28.7	N/R	0.00	31.7	N/R	
19	1,334,700		413,300	28.7	546,900	0.00	31.7	6.5	
20	515,200		89,900	28.5	238,300	0.00	31.7	6.5	
21	286,000		56,220	28.3	111,500	0.00	31.7	6.6	
22*	N/R		N/R	28.1	N/R	0.00	31.7	N/R	
23*	N/R		N/R	28.1	N/R	0.30	31.7	N/R	
24*	N/R		N/R	28.4	N/R	0.05	31.8	N/R	
25*	N/R		N/R	28.4	N/R	0.00	31.7	N/R	
26*	N/R		N/R	28.3	N/R	0.00	31.7	N/R	
27	1,624,002		490,700	28.2	768,600	0.00	31.7	6.6	
28*	N/R		N/R	28.0	N/R	0.25	31.7	N/R	
29*	N/R		N/R	28.0	N/R	0.00	31.7	N/R	
30	N/R		N/R	28.1	N/R	0.00	31.6	N/R	
TOTAL	8,518,602		2,576,420		4,596,300	2.60			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 5-7-97	Date Read: 5-14-97	Date Read: 5-21-97	Date Read:	Date Read:
# 1 35.0	# 1 35.5	# 1 35.3	# 1	
# 2 34.3	# 2 34.4	# 2 34.2	# 2	
# 3 34.7	# 3 34.8	# 3 34.7	# 3	
# 4 38.5	# 4 39.2	# 4 39.0	# 4	
# 5 36.7	# 5 36.7	# 5 36.4	# 5	
# 6 34.1	# 6 34.2	# 6 34.0	# 6	
# 7 32.5	# 7 32.5	# 7 32.5	# 7	
# 8 31.5	# 8 31.5	# 8 31.3	# 8	
# 12 31.5	# 12 31.6	# 12 31.5	# 12	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	0.0%
15	0.0%
16	0.0%
17	0.0%
18	99.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: 5-27-97

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1997**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED	LEACHATE UNTREATED
JANUARY	1.90	3,796,131	1,573,200	5,369,331	1,265,200	4,104,131
FEBRUARY	1.41	3,016,902	1,101,000	4,117,902	1,002,600	7,219,433
MARCH	3.05	5,824,970	1,155,200	6,980,170	2,762,600	11,437,003
APRIL	6.62	5,482,797	1,963,300	7,446,097	2,567,000	16,316,100
MAY	2.60	8,518,602	2,576,420	11,095,022	4,596,300	22,814,822
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						
<b>TOTAL</b>	<b>15.58</b>	<b>26,639,402</b>	<b>8,369,120</b>	<b>35,008,522</b>	<b>12,193,700</b>	<b>22,814,822</b>

**Notes:**

Total leachate generated is the sum of flow from Stage I and III.

Total leachate treated is quantity pumped to on site WWTP.

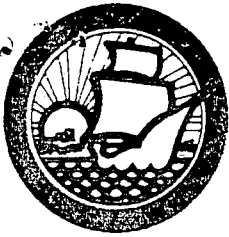
Leachate accumulation is total generated less total treated plus previous months accumulation.

Leachate accumulated is an estimate of the amount of leachate stored in the leachate pond after treatment and that quantity which flows back into Stage I through unlined portions of the pond.

These calculations do not consider evapotranspiration.

Rainfall data given in inches.

All other data given in gallons.



RECEIVED

JUN 10 1997

Department of Environmental Protection  
SOUTHWEST DISTRICT

BY \_\_\_\_\_

June 5, 1997

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the April 1997, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. Piezometers PZ-7, PZ-15 and PZ-15A were cleaned out. Additionally gas monitoring well 15 has been installed. Once I have received records (boring logs and well details) of the installation I will forward a copy of them to your office. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF APRIL 1997

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	27.4	N/R	0.00	30.0		
2*	N/R		N/R	27.4	N/R	0.00	30.0		
3*	N/R		N/R	27.4	N/R	0.00	30.0		
4	341,267		263,200	27.4	43,100	N/R	30.0		
5*	N/R		N/R	27.5	N/R	0.00	30.0		
6*	N/R		N/R	27.5	N/R	0.00	30.0		
7	114,520		102,200	27.6	3,500	0.00	30.0		
8	35,780		33,400	27.6	2,100	0.00	30.0		
9*	N/R		N/R	27.8	N/R	0.00	30.0		
10*	N/R		N/R	27.8	N/R	0.00	30.0		
11	103,410		97,600	27.9	7,900	0.40	30.0		
12*	N/R		N/R	28.0	N/R	0.00	30.0		
13*	N/R		N/R	28.0	N/R	0.00	30.0		
14	356,595		17,300	28.0	98,400	0.70	30.0		
15	27,995		35,200	28.1	1,100	0.22	30.0		
16	459,100		43,400	28.0	113,800	0.00	29.9		
17	493,920		48,200	27.9	170,300	0.00	29.9		
18	314,310		31,800	27.9	98,400	0.00	29.9		
19*	N/R		N/R	27.8	N/R	0.00	29.9		
20*	N/R		N/R	27.7	N/R	0.00	29.9		
21	1,332,400		121,400	27.6	412,400	0.00	29.9		
22	187,570		48,815	27.7	42,800	0.00	29.8		
23*	N/R		N/R	27.7	N/R	2.00	29.8		
24*	N/R		N/R	28.0	N/R	0.00	30.3		
25*	N/R		N/R	28.0	N/R	0.00	30.4		
26*	N/R		N/R	28.1	N/R	3.30	30.4		
27*	N/R		N/R	29.0	N/R	0.00	32.2		
28	973,130		299,885	29.3	189,300	N/R	31.5		
29*	N/R		N/R	28.7	N/R	0.00	32.0		
30	742,800		820,900	28.9	1,383,900	0.00	31.6		
31									
TOTAL	5,482,797		1,963,300		2,567,000	6.62			
TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30									
TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0									

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	17.0%
15	8.0%
16	0.0%
17	0.0%
18	+

1. N/R: Not reported due to weekends, holidays, staff sickness.

## WETLANDS STAFF GAUGE LEVELS

Date Read: 4/16/97	Date Read: 4/30/97	Date Read:	Date Read:	Date Read:
# 1 35.1	# 1 35.7	# 1	# 1	
# 2 33.5	# 2 34.7	# 2	# 2	
# 3 34.7	# 3 35.1	# 3	# 3	
# 4 38.5	# 4 39.3	# 4	# 4	
# 5 35.5	# 5 36.8	# 5	# 5	
# 6 33.9	# 6 34.3	# 6	# 6	
# 7 32.5	# 7 32.5	# 7	# 7	
# 8 31.2	# 8 31.5	# 8	# 8	
# 12 30.8	# 12 31.6	# 12	# 12	

## GAS MONITORING POINTS AND WELLS READ: 4/30/97

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%

MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1997

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED	LEACHATE ACCUMULATED
JANUARY	1.90	3,796,131	1,573,200	5,369,331	1,265,200	4,104,131
FEBRUARY	1.41	3,016,902	1,101,000	4,117,902	1,002,600	7,219,433
MARCH	3.05	5,824,970	1,155,200	6,980,170	2,762,600	11,437,003
APRIL	6.62	5,482,797	1,963,300	7,446,097	2,567,000	16,316,100
MAY						
JUNE						
JULY						
AUGUST						
SEPTEMBER						
OCTOBER						
NOVEMBER						
DECEMBER						
<b>TOTAL</b>	<b>12.98</b>	<b>18,120,800</b>	<b>5,792,700</b>	<b>23,913,500</b>	<b>7,597,400</b>	<b>16,316,100</b>

Notes:

Total leachate generated is the sum of flow from Stage I and III.

Total leachate treated is quantity pumped to on site WWTP.

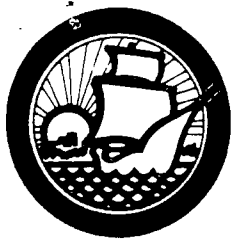
Leachate accumulation is total generated less total treated plus previous months accumulation.

Leachate accumulated is an estimate of the amount of leachate stored in the leachate pond after treatment and that quantity which flows back into Stage I through unlined portions of the pond.

These calculations do not consider evapotranspiration.

Rainfall data given in inches.

All other data given in gallons.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

D.E.P.  
APR 14 1997  
SOUTH WEST DISTRICT  
TAMPA

April 9, 1997

AA Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the March 1997, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. As discussed in last months report, piezometers PZ-7, PZ-15 and PZ-15A are to be cleaned out. This work is scheduled to occur this week, but as of yet has not. Once the work is complete the total depth and depth to ground water measurements will be submitted with the April report.

As with the cleaning of the piezometers, the installation of gas monitoring well 15 has not occurred. Upon installation of this well, a monitoring well detail will be provided with the April report. This work is scheduled to occur the week of April 14, 1997. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF MARCH 1997

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	28.4	N/R	0.00	30.3	N/R	
2*	N/R		N/R	28.4	N/R	0.00	30.3	N/R	
3*	N/R		N/R	28.5	N/R	0.00	30.3	N/R	
4	1,112,967		257,320	28.5	418,000	0.00	30.3	7.1	
5	28,200		37,280	28.5	3,100	0.00	30.3	6.9	
6	33,500		43,500	28.5	800	0.00	30.3	6.9	
7*	N/R		N/R	28.5	N/R	0.00	30.2	N/R	
8*	N/R		N/R	28.5	N/R	0.00	30.2	N/R	
9*	N/R		N/R	28.6	N/R	0.10	30.2	N/R	
10	120,600		146,000	28.7	45,400	0.00	30.3	6.8	
11	43,000		39,000	28.7	58,000	0.00	30.3	6.7	
12	44,100		42,800	28.8	5,300	0.00	30.3	6.8	
13	31,100		30,400	28.9	2,100	0.00	30.3	6.9	
14	37,700		28,800	29.0	1,600	0.70	30.3	6.6	
15*	N/R		N/R	29.0	N/R	0.00	30.3	N/R	
16*	N/R		N/R	29.0	N/R	0.00	30.3	N/R	
17*	N/R		N/R	N/R	N/R	0.00	N/R	N/R	
18*	N/R		N/R	N/R	N/R	0.00	N/R	N/R	
19	387,400		192,900	28.9	174,600	0.00	30.2	6.8	
20*	N/R		N/R	N/R	N/R	0.57	N/R	N/R	
21*	N/R		N/R	28.9	N/R	0.78	30.3	N/R	
22*	N/R		N/R	28.7	N/R	0.00	30.3	N/R	
23*	N/R		N/R	28.5	N/R	0.00	30.4	N/R	
24	2,029,200		185,500	28.4	1,021,000	0.00	30.3	6.7	
25	482,300		35,700	28.0	307,000	0.60	30.4	6.9	
26	563,605		42,000	27.7	200,000	0.10	30.3	6.4	
27	492,398		38,600	27.5	256,000	0.00	30.3	6.4	
28	418,900		35,400	27.2	269,700	0.00	29.8	6.6	
29*	N/R		N/R	27.2	N/R	0.00	29.8	0.0	
30*	N/R		N/R	27.3	N/R	0.00	29.8	0.0	
31*	N/R		N/R	27.3	N/R	0.20	30.0	0.0	
TOTAL	5,824,970		1,155,200		2,762,600	3.05			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 3-1-97	Date Read: 3-5-97	Date Read: 3-12-97	Date Read: 3-19-97	Date Read: 3-26-97
# 1 35.1	# 1 35.1	# 1 35.0	# 1 35.1	# 1 35.0
# 2 33.6	# 2 33.5	# 2 33.5	# 2 33.5	# 2 33.5
# 3 34.7	# 3 34.7	# 3 34.5	# 3 34.5	# 3 34.6
# 4 38.5	# 4 38.5	# 4 38.5	# 4 38.5	# 4 38.5
# 5 35.5	# 5 35.5	# 5 35.5	# 5 35.5	# 5 35.5
# 6 33.9	# 6 33.8	# 6 33.8	# 6 33.9	# 6 33.8
# 7 32.5	# 7 32.5	# 7 32.3	# 7 32.4	# 7 32.3
# 8 31.2	# 8 31.2	# 8 31.2	# 8 31.2	# 8 31.2
# 12 30.8	# 12 30.7	# 12 30.5	# 12 30.5	# 12 30.9

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	0.0%
15	N/R
16	0.0%
17	0.0%
18	0.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: 3-13-97

Gas Monitoring Points, % L.E.L.	
# 1	0.0%
# 2	0.0%
# 3	0.0%
# 4	0.0%
# 5	0.0%
# 6	0.0%
# 7	0.0%
# 8	0.0%

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1997**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE TREATED	LEACHATE ACCUMULATED
JANUARY	1.90	3,796,131	1,573,200	1,265,200	4,104,131
FEBRUARY	1.41	3,016,902	1,101,000	1,002,600	7,219,433
MARCH	3.05	5,824,970	1,155,200	2,762,600	11,437,003
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>6.36</b>	<b>12,638,003</b>	<b>3,829,400</b>	<b>5,030,400</b>	<b>11,437,003</b>

**Notes:**

Total input into leachate pond is the sum of flow from Stage I and III.

Total output from leachate pond is leachate treated, flow to WWTP.

Leachate accumulation is total input less total output plus previous months accumulation.

Leachate accumulated is an estimate of the amount of leachate stored in the leachate pond.

These calculations do not consider evapotranspiration or stormwater sheet flow into the pond.

Rainfall data given in inches.

All other data given in gallons.



Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
March 1997

D.E.P.

APR 14 1997

SOUTHWEST DISTRICT  
TAMPA

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	29.11	MW-5	39.96	31.03
PZ-2	42.53	29.74	MW-2	37.87	31.75
PZ-3	44.93	28.50	MW-1	38.71	31.20
PZ-4A	47.73	29.38	CW-4	37.54	34.49
PZ-5	43.96	29.07	CW-5A	41.23	35.18
PZ-6	45.04	34.05			
PZ-7	47.97	29.42	MW-6	39.29	32.60
-----					
STAGE II					
PZ-8	37.63	28.78	LRII-5	36.74	28.64
PZ-9	36.56	28.81	LRII-3	33.46	24.87
PZ-10	37.05	28.70	LRII-2	36.53	28.18
PZ-11	37.94	28.25	LRII-1	37.97	30.46
-----					
STAGE III					
PZ-12	38.39	28.14	GC-2	38.19	29.96
PZ-13	35.09	26.09	GC-3	35.02	27.61
PZ-14	33.47	25.32	GC-4	33.91	26.40
PZ-15	33.20	27.11	GC-1A	31.74	26.23
			PZ-15A	39.77	26.39
PZ-16	34.63	27.58	GC-5	36.50	28.29
PZ-17	40.82	28.30	GC-6	39.06	30.62
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected from the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on March 27, 1997.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

April 1, 1997

D.E.P.

APR 04 1997

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

SOUTHWEST DISTRICT  
TAMPA

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the February 1997 monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject.

As discussed in last months report, we are going to clean out our piezometers and monitoring wells. To that end we have contracted with our vendor to clean out three piezometers PZ-7, PZ-15 and PZ-15A. This work is being done in an attempt to improve gradient measurements at these locations and to remove a substantial amount of silt which has accumulated in the piezometers. If this work results in favorable, more reliable data, then we will contract with our vendor to have the remaining piezometers and wells cleaned out.

Additionally, we are going to install one (1) gas monitoring well (GMW) in replacement of GMW-15 which was destroyed as previously discussed. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF FEBRUARY 1997

D.E.P.  
 APR 04 1997  
 SOUTH FLORIDA  
 TAMPA

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	28.2	N/R	0.00	30.3	N/R	
2*	N/R		N/R	28.0	N/R	0.00	30.3	N/R	
3	952,669		124,700	28.0	385,000	0.00	30.3	6.7	
4	41,000		54,800	28.5	5,200	N/R	30.3	6.9	
5	27,300		35,800	28.1	1,100	0.00	30.3	7.3	
6	27,400		36,500	28.2	3,300	0.00	30.3	6.6	
7	31,300		42,000	28.3	4,400	0.00	30.3	6.8	
8*	N/R		N/R	28.3	N/R	0.00	30.3	N/R	
9*	N/R		N/R	28.3	N/R	0.00	30.3	N/R	
10	96,000		125,800	28.3	7,400	0.20	30.3	6.8	
11	39,800		39,800	28.4	1,100	0.00	30.3	6.8	
12	30,100		40,900	28.4	3,100	0.00	30.3	7.1	
13	29,800		36,800	28.4	1,300	0.00	30.3	6.7	
14	39,800		43,700	28.4	8,700	0.00	30.3	7.3	
15*	N/R		N/R	28.5	N/R	0.40	30.3	N/R	
16*	N/R		N/R	28.5	N/R	0.70	30.3	N/R	
17	85,700		111,000	28.8	6,900	0.00	30.4	7.0	
18*	N/R		N/R	28.8	N/R	0.00	30.4	N/R	
19	59,100		89,200	28.8	5,700	0.00	30.4	6.9	
20	42,500		56,200	28.8	2,800	0.00	30.4	6.9	
21	36,200		45,700	28.9	4,600	0.00	30.4	6.8	
22*	N/R		N/R	29.0	N/R	0.00	30.3	N/R	
23*	N/R		N/R	29.0	N/R	0.00	30.3	N/R	
24	537,500		130,000	28.8	179,400	0.00	30.3	6.6	
25	567,731		52,600	28.7	213,900	0.11	30.3	7.0	
26	373,002		35,500	28.4	168,700	0.00	30.3	7.0	
27*	N/R		N/R	28.4	N/R	0.00	30.3	N/R	
28*	N/R		N/R	28.4	N/R	0.00	30.3	N/R	
29									
30									
31									
TOTAL	3,016,902		1,101,000		1,002,600	1.41			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 2-5-97	Date Read: 2-12-97	Date Read: 2-21-97	Date Read: 2-26-97	Date Read:
# 1 35.1	# 1 35.1	# 1 35.0	# 1 35.1	
# 2 34.0	# 2 33.9	# 2 33.8	# 2 33.6	
# 3 34.7	# 3 34.5	# 3 34.7	# 3 34.7	
# 4 38.5	# 4 38.5	# 4 38.5	# 4 38.5	
# 5 35.5	# 5 35.5	# 5 35.5	# 5 35.5	
# 6 33.9	# 6 33.9	# 6 33.9	# 6 33.9	
# 7 32.4	# 7 32.4	# 7 32.5	# 7 32.5	
# 8 31.2	# 8 31.3	# 8 31.2	# 8 31.2	
# 12 30.7	# 12 30.5	# 12 30.9	# 12 30.8	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	0.0%
15	N/R
16	0.0%
17	0.0%
18	24.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: 2-17-97

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1997**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE METERED	LEACHATE TREATED
JANUARY	1.90	3,796,131	1,573,200	5,369,331	1,265,200
FEBRUARY	1.41	3,016,902	1,101,000	4,117,902	1,002,600
MARCH					
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>3.31</b>	<b>6,813,033</b>	<b>2,674,200</b>	<b>9,487,233</b>	<b>2,267,800</b>

**Notes:**

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stages I and III.

**D.E.P.**

**APR 04 1997**

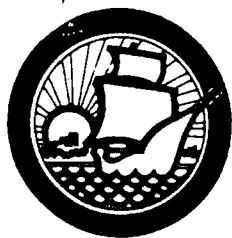
**SOUTHWEST DISTRICT  
TAMPA**

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
February 1997

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	29.10	MW-5	39.96	30.70
PZ-2	42.53	30.04	MW-2	37.87	31.34
PZ-3	44.93	28.80	MW-1	38.71	31.16
PZ-4A	47.73	29.58	CW-4	37.54	34.50
PZ-5	43.96	30.03	CW-5A	41.23	35.34
PZ-6	45.04	34.39			
PZ-7	47.97	29.76	MW-6	39.29	32.38
-----					
STAGE II					
PZ-8	37.63	30.66	LRII-5	36.74	28.74
PZ-9	36.56	28.71	LRII-3	33.46	24.91
PZ-10	37.05	28.67	LRII-2	36.53	28.20
PZ-11	37.94	28.79	LRII-1	37.97	30.72
-----					
STAGE III					
PZ-12	38.39	28.65	GC-2	38.19	30.24
PZ-13	35.09	25.84	GC-3	35.02	27.87
PZ-14	33.47	25.84	GC-4	33.91	25.26
PZ-15	33.20	26.41	GC-1A	31.74	26.07
			PZ-15A	39.77	26.24
PZ-16	34.63	27.63	GC-5	36.50	27.98
PZ-17	40.82	28.43	GC-6	39.06	30.53
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on February 26, 1997.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A.



*gradient file*  
**MANATEE COUNTY  
GOVERNMENT  
Public Works Department**

February 24, 1997

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

**D.E.P.**  
**FEB 27 1997**  
SOUTHWEST DISTRICT  
TAMPA

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the January 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. Calibration for the gas probe was completed and the instrument received in time for January's measurement. An oversight on our part, depth to groundwater measurements for January were not taken, thus no water gradient report is included.

Comparing well boring logs against actual field measurements, there appears a need to have all of the monitoring wells and piezometers cleaned free of all silt that has accumulated in the wells. We will contract with our vendor to have the wells and piezometers cleaned. Upon completion, a report summarizing the work including the total depth for each well will be provided to your office. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *MD*



*Lena Rd gradient file*

# MANATEE COUNTY GOVERNMENT

Public Works Department  
D.E.P.

February 24, 1997

FEB 26 1997

SOUTHWEST DISTRICT  
TAMPA

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the ~~December~~ *December* 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. As described in last months report, landfill gas measurements were not taken for the month of December. The gas probe which was sent back to the manufacture for calibration has not been received. The vendor has stated that we will receive the probe in time for January's measurement. I apologize for the delay. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *MD*

*missing  
Jan '97*

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF A DECEMBER, 1996

D.E.P.  
FEB 26 1997  
SOUTH WEST  
TAMPA

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.F.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	27.6	N/R	1.20	30.0	N/R	
2	108,475		155,300	27.8	9,500	0.05	30.1	7.1	
3	96,460		58,118	27.9	28,400	0.00	30.1	7.1	
4	473,446		55,782	27.8	125,600	0.00	30.1	7.0	
5*	N/R		N/R	27.7	N/R	0.00	30.1	N/R	
6	911,710		110,000	27.7	287,800	0.00	30.1	7.1	
7*	N/R		N/R	27.7	N/R	0.90	30.1	N/R	
8*	N/R		N/R	27.7	N/R	0.00	30.1	N/R	
9	1,337,249		173,100	27.5	432,300	0.00	30.2	6.9	
10	478,401		63,100	27.4	169,900	0.00	30.2	7.2	
11	74,669		64,800	27.4	22,900	0.00	30.2	7.1	
12	39,300		54,800	27.5	1,600	0.00	30.2	7.3	
13	48,700		64,500	27.6	7,900	0.00	30.3	7.1	
14*	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
15*	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
16	88,900		153,900	27.8	12,900	0.00	30.2	6.9	
17*	N/R		N/R	27.9	N/R	0.00	30.2	N/R	
18	78,600		125,600	28.0	10,200	0.00	30.2	7.4	
19	126,230		51,000	28.0	23,400	0.00	30.2	7.3	
20	342,000		36,225	27.8	150,600	0.00	30.2	7.2	
21*	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
22*	N/R		N/R	27.6	N/R	0.00	30.2	N/R	
23	1,430,602		156,375	27.6	413,600	0.00	30.2	7.1	
24	525,100		57,800	27.5	174,200	0.00	30.2	7.4	
25*	N/R		N/R	27.4	N/R	0.00	30.2	N/R	
26	846,968		100,800	27.4	259,300	0.00	30.2	7.7	
27	25,500		36,300	27.4	7,000	0.00	30.2	7.5	
28*	N/R		N/R	27.5	N/R	0.00	30.2	N/R	
29*	N/R		N/R	27.6	N/R	0.00	30.2	N/R	
30*	N/R		N/R	27.6	N/R	0.00	30.2	N/R	
31*	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
TOTAL	7,032,310		1,517,500		2,137,100	2.15			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 12-4-96	Date Read: 12-11-96	Date Read: 12-18-96	Date Read: 12-27-96	Date Read:
# 1 35.2	# 1 35.2	# 1 35.2	# 1 35.1	
# 2 34.0	# 2 34.3	# 2 34.2	# 2 34.2	
# 3 34.7	# 3 34.7	# 3 34.7	# 3 34.7	
# 4 38.5	# 4 38.5	# 4 38.5	# 4 38.5	
# 5 35.8	# 5 35.9	# 5 35.9	# 5 35.5	
# 6 33.9	# 6 33.9	# 6 33.9	# 6 33.9	
# 7 32.5	# 7 32.5	# 7 32.5	# 7 32.5	
# 8 31.2	# 8 31.3	# 8 31.2	# 8 31.2	
# 12 30.9	# 12 31.0	# 12 30.9	# 12 30.8	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	N/R
2	N/R
3	N/R
4	N/R
5	N/R
6	N/R
7	N/R
8	N/R
9	N/R
10	N/R
11	N/R
12	N/R
13	N/R
14	N/R
15	N/R
16	N/R
17	N/R
18	N/R

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: N/R

Gas Monitoring Points, % L.E.L.	
#1	N/R
#2	N/R
#3	N/R
#4	N/R
#5	N/R
#6	N/R
#7	N/R
#8	N/R



**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE METERED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY	7.76	10,132,975	2,316,030	12,449,005	2,514,800
JUNE	7.43	10,074,320	4,445,290	14,519,610	3,429,800
JULY	4.81	12,914,050	4,831,997	17,746,047	9,337,000
AUGUST	5.78	9,281,670	2,188,003	11,469,673	1,752,900
SEPTEMBER	3.56	8,003,480	3,943,899	11,947,379	2,114,700
OCTOBER	4.31	8,822,580	4,247,846	13,070,426	2,970,200
NOVEMBER	0.50	4,408,782	1,747,301	6,156,083	1,545,500
DECEMBER	2.15	7,032,310	1,517,500	8,549,810	2,137,100
<b>TOTAL</b>	<b>45.32</b>	<b>86,770,468</b>	<b>33,422,866</b>	<b>120,193,334</b>	<b>43,345,160</b>

**Notes:**

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.

**D.E.P.**

**FEB 26 1997**

SOUTH FLORIDA  
TAMPA

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
December 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	28.48	MW-5	39.96	30.29
PZ-2	42.53	29.48	MW-2	37.87	30.89
PZ-3	44.93	27.48	MW-1	38.71	30.90
PZ-4A	47.73	29.22	CW-4	37.54	34.33
PZ-5	43.96	29.41	CW-5A	41.23	36.01
PZ-6	45.04	29.53			
PZ-7	47.97	34.18	MW-6	39.29	32.50
-----					
STAGE II					
PZ-8	37.63	27.68	LRII-5	36.74	27.79
PZ-9	36.56	27.80	LRII-3	33.46	25.01
PZ-10	37.05	27.82	LRII-2	36.53	28.69
PZ-11	37.94	27.79	LRII-1	37.97	30.66
-----					
STAGE III					
PZ-12	38.39	29.64	GC-2	38.19	29.47
PZ-13	35.09	27.64	GC-3	35.02	27.85
PZ-14	33.47	25.72	GC-4	33.91	26.16
PZ-15	33.20	26.98	GC-1A	31.74	25.91
			PZ-15A	39.77	25.88
PZ-16	34.63	25.81	GC-5	36.50	27.55
PZ-17	40.82	27.93	GC-6	39.06	30.39
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on December 23, 1996.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A.



# MANATEE COUNTY GOVERNMENT

Public Works Department

**RECEIVED**  
DEC 13 1996

December 11, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Department of Environmental Protection  
SOUTHWEST DISTRICT

BY District

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the November 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. Landfill gas measurements were not taken for the month of November due to faulty equipment. The gas probe has been sent back to the manufacture for calibration and staff expects the equipment to be repaired in time for December's measurements. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *MD*

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF A NOVEMBER, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	155,680		97,001	27.5	OFF	0.00	30.1	6.9	
2 *	N/R		N/R	27.6	N/R	0.05	30.2	N/R	
3 *	N/R		N/R	27.7	N/R	0.00	30.1	N/R	
4 *	N/R		N/R	27.8	N/R	0.00	30.1	N/R	
5	356,855		259,800	27.8	21,200	0.00	30.1	6.8	
6	132,835		0	27.9	5,700	0.00	30.1	6.8	
7 *	N/R		N/R	27.9	N/R	0.00	30.1	N/R	
8	810,480		29,530	27.7	375,200	0.00	30.2	6.8	
9 *	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
10*	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
11	544,320		267,770	27.5	228,700	0.00	30.2	6.9	
12*	N/R		N/R	27.5	N/R	0.00	30.1	N/R	
13	142,350		162,220	27.6	3,400	0.00	30.1	6.8	
14	83,450		70,780	27.7	3,900	0.00	30.1	6.9	
15	77,550		70,700	27.7	2,800	0.00	30.1	7.4	
16*	N/R		N/R	27.7	N/R	0.00	30.1	N/R	
17*	N/R		N/R	27.7	N/R	0.00	30.1	N/R	
18	193,540		171,200	27.7	43,400	0.00	30.1	7.2	
19	730,460		80,000	27.6	500,200	0.00	30.1	7.1	
20	545,552		54,200	27.4	321,900	0.00	30.1	7.0	
21	97,390		45,900	27.4	700	0.00	30.1	6.8	
22	117,650		64,100	27.4	3,700	0.00	30.1	6.9	
23*	N/R		N/R	27.5	N/R	0.00	30.1	N/R	
24*	N/R		N/R	27.4	N/R	0.00	30.0	N/R	
25	275,250		177,300	27.4	12,100	0.00	30.0	6.9	
26	82,050		40,500	27.4	5,200	0.45	30.0	6.7	
27*	N/R		N/R	27.4	N/R	0.00	30.0	N/R	
28*	N/R		N/R	27.5	N/R	0.00	30.0	N/R	
29	219,050		156,300	27.5	17,400	0.00	30.0	7.1	
30*	N/R		N/R	27.4	N/R	0.00	30.0	N/R	
31									
TOTAL	4,408,782		1,747,301		1,545,500	0.50			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 11-6-96	Date Read: 11-13-96	Date Read: 11-20-96	Date Read:	Date Read:
# 1 35.1	# 1 35.1	# 1 35.2	# 1 N/R	
# 2 34.1	# 2 34.0	# 2 33.6	# 2 N/R	
# 3 34.7	# 3 34.7	# 3 34.7	# 3 N/R	
# 4 38.5	# 4 38.5	# 4 38.5	# 4 N/R	
# 5 36.3	# 5 36.1	# 5 35.9	# 5 N/R	
# 6 34.0	# 6 34.0	# 6 33.9	# 6 N/R	
# 7 32.5	# 7 32.6	# 7 32.5	# 7 N/R	
# 8 31.2	# 8 31.2	# 8 31.2	# 8 N/R	
# 12 31.2	# 12 31.2	# 12 30.8	# 12 N/R	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	N/R
2	N/R
3	N/R
4	N/R
5	N/R
6	N/R
7	N/R
8	N/R
9	N/R
10	N/R
11	N/R
12	N/R
13	N/R
14	N/R
15	N/R
16	N/R
17	N/R
18	N/R

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS READ: 9-20-96

Gas Monitoring Points, % L.E.L.	
#1	N/R
#2	N/R
#3	N/R
#4	N/R
#5	N/R
#6	N/R
#7	N/R
#8	N/R

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
November 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	28.61	MW-5	39.96	30.91
PZ-2	42.53	29.38	MW-2	37.87	31.45
PZ-3	44.93	27.44	MW-1	38.71	31.16
PZ-4A	47.73	29.08	CW-4	37.54	34.22
PZ-5	43.96	29.61	CW-5A	41.23	35.21
PZ-6	45.04	30.49			
PZ-7	47.97	29.38	MW-6	39.29	31.07
-----					
STAGE II					
PZ-8	37.63	28.16	LRII-5	36.74	29.19
PZ-9	36.56	28.21	LRII-3	33.46	24.94
PZ-10	37.05	28.10	LRII-2	36.53	27.58
PZ-11	37.94	28.22	LRII-1	37.97	30.45
-----					
STAGE III					
PZ-12	38.39	28.86	GC-2	38.19	30.34
PZ-13	35.09	26.86	GC-3	35.02	28.26
PZ-14	33.47	25.85	GC-4	33.91	26.04
PZ-15	33.20	26.85	GC-1A	31.74	25.86
			PZ-15A	39.77	25.86
PZ-16	34.63	27.85	GC-5	36.50	27.26
PZ-17	40.82	28.53	GC-6	39.06	30.51
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on November 18, 1996.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A



MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE METERED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY	7.76	10,132,975	2,316,030	12,449,005	2,514,800
JUNE	7.43	10,074,320	4,445,290	14,519,610	3,429,800
JULY	4.81	12,914,050	4,831,997	17,746,047	9,337,000
AUGUST	5.78	9,281,670	2,188,003	11,469,673	1,752,900
SEPTEMBER	3.56	8,003,480	3,943,899	11,947,379	2,114,700
OCTOBER	4.31	8,822,580	4,247,846	13,070,426	2,970,200
NOVEMBER	0.50	4,408,782	1,747,301	6,156,083	1,545,500
DECEMBER					
<b>TOTAL</b>	<b>43.17</b>	<b>79,738,158</b>	<b>31,905,366</b>	<b>111,643,524</b>	<b>41,208,060</b>

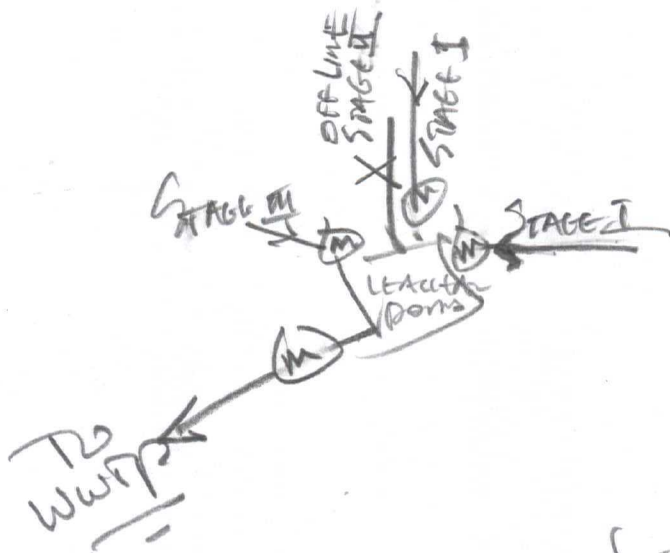
Notes:

Rainfall data given in inches.

All other data given in gallons.

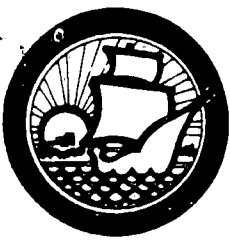
Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.



St. Talles  
10/30/97  
11:40 1/9/97  
He said was  
metered in Talles  
this year  
to convert flow  
measured all flow  
in and out  
and the column for  
leachate treated properly  
represent flow  
removed from  
landfill  
He will respond in  
written with  
DEC report

K.R.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

D.E.P.

November 25, 1996

DEC 04 1996

SOUTHWEST DISTRICT  
TAMPA

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the October 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *MD*



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF A OCTOBER, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	28.0	OFF	0.00	30.2	N/R	
2	221,700		192,500	28.2	OFF	0.60	30.3	6.8	
3	82,050		113,500	28.4	OFF	0.10	30.3	6.6	
4	57,350		89,480	28.4	75,000	0.25	30.4	6.7	
5*	N/R		N/R	28.3	200,000	0.15	30.4	N/R	
6*	N/R		N/R	28.0	200,000	0.50	30.3	N/R	
7	1,183,682		266,819	27.9	200,000	0.60	30.4	6.8	
8	427,248		185,107	28.0	200,000	1.20	30.2	6.8	
9	742,155		243,894	27.8	200,000	0.01	30.0	6.6	
10*	N/R		N/R	27.5	N/R	0.00	30.0	N/R	
11	720,015		266,097	27.5	OFF	0.00	30.0	6.7	
12*	N/R		N/R	27.5	N/R	0.00	30.0	N/R	
13*	N/R		N/R	27.5	N/R	0.00	30.0	N/R	
14.*	398,010		348,400	27.5	OFF	0.00	30.0	6.9	
15	516,440		1,114,830	27.6	OFF	0.00	30.0	6.8	
16	89,000		89,300	27.6	OFF	0.60	30.0	6.9	
17	458,880		96,920	27.6	156,000	0.30	30.1	6.8	
18*	N/R		N/R	27.6	N/R	0.00	30.1	N/R	
19*	N/R		N/R	27.4	N/R	0.00	30.1	N/R	
20*	N/R		N/R	27.5	N/R	0.00	30.1	N/R	
21*	N/R		N/R	27.5	N/R	0.00	30.1	N/R	
22*	N/R		N/R	27.6	N/R	0.00	30.1	N/R	
23	1,796,920		575,900	27.7	580,200	0.00	30.1	7.2	
24	135,000		108,580	27.9	80,000	0.00	30.1	6.9	
25	99,600		87,300	27.8	34,000	0.00	30.1	6.9	
26*	N/R		N/R	27.8	N/R	0.00	30.2	N/R	
27 *	N/R		N/R	27.9	N/R	0.00	30.2	N/R	
28	1,037,231		222,700	27.7	460,600	0.00	30.2	6.6	
29	574,049		90,820	27.6	278,600	0.00	30.2	6.6	
30	155,130		72,199	27.5	223,800	0.00	30.2	6.9	
31	128,120		83,500	27.4	82,000	0.00	30.1	6.7	
TOTAL	8,822,580		4,247,846		2,970,200	4.31			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 10-1-96	Date Read: 10-10-96	Date Read: 10-16-96	Date Read: 10-23-96	Date Read:
# 1 35.0	# 1 35.2	# 1 35.1	# 1 35.1	
# 2 34.1	# 2 34.5	# 2 34.3	# 2 34.3	
# 3 38.7	# 3 35.9	# 3 34.7	# 3 34.8	
# 4 38.5	# 4 38.5	# 4 38.5	# 4 38.5	
# 5 36.6	# 5 36.8	# 5 36.6	# 5 36.6	
# 6 34.1	# 6 34.2	# 6 34.1	# 6 34.1	
# 7 32.8	# 7 32.9	# 7 32.8	# 7 32.9	
# 8 31.4	# 8 31.5	# 8 31.5	# 8 31.4	
# 12 31.5	# 12 31.6	# 12 31.5	# 12 31.5	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	2.0%
12	0.0%
13	0.0%
14	0.0%
15	Damaged
16	0.0%
17	0.0%
18	0.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS READ: 9-20-96

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%



**Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
October 1996**

<b>Piezometer</b>	<b>Riser Elev.</b>	<b>Ground Water Elevation</b>	<b>Monitoring Well</b>	<b>Riser Elev.</b>	<b>Ground Water Elev.</b>
<b>-----</b>					
<b>STAGE I</b>					
PZ-1	42.53	28.49	MW-5	39.96	30.83
PZ-2	42.53	29.98	MW-2	37.87	32.45
PZ-3	44.93	27.98	MW-1	38.71	32.46
PZ-4A	47.73	30.78	CW-4	37.54	34.66
PZ-5	43.96	30.31	CW-5A	41.23	36.84
PZ-6	45.04	30.84			
PZ-7	47.97	29.97	MW-6	39.29	33.34
<b>-----</b>					
<b>STAGE II</b>					
PZ-8	37.63	28.48	LR11-5	36.74	30.59
PZ-9	36.56	28.56	LR11-3	33.46	26.75
PZ-10	37.05	28.50	LR11-2	36.53	30.71
PZ-11	37.94	28.53	LR11-1	37.97	32.54
<b>-----</b>					
<b>STAGE III</b>					
PZ-12	38.39	29.51	GC-2	38.19	32.18
PZ-13	35.09	27.24	GC-3	35.02	28.66
PZ-14	33.47	26.26	GC-4	33.91	27.29
PZ-15	33.20	27.20	GC-1A	31.74	26.05
			PZ-15A	39.77	26.42
PZ-16	34.63	28.18	GC-5	36.50	28.68
PZ-17	40.82	28.67	GC-6	39.06	30.31
<b>-----</b>					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LR11-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on October 16, 1996.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A.

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE METERED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY	7.76	10,132,975	2,316,030	12,449,005	2,514,800
JUNE	7.43	10,074,320	4,445,290	14,519,610	3,429,800
JULY	4.81	12,914,050	4,831,997	17,746,047	9,337,000
AUGUST	5.78	9,281,670	2,188,003	11,469,673	1,752,900
SEPTEMBER	3.56	8,003,480	3,943,899	11,947,379	2,114,700
OCTOBER	4.31	8,822,580	4,247,846	13,070,426	2,970,200
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>42.67</b>	<b>75,329,376</b>	<b>30,158,065</b>	<b>105,487,441</b>	<b>39,662,560</b>

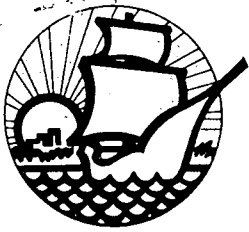
**Notes:**

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.



*Lena Rd gas fill*

# MANATEE COUNTY GOVERNMENT

## Public Works Department

D.E.P.

October 18, 1996

OCT 23 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

SOUTH  
TAMPA

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the September 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. Be advised that gas monitoring well 15 is damaged. This well is located next to our fuel island. The well was accidentally run over by the refueling truck. I believe the well is still functional. However, the protective casing above grade is damaged and needs to be replaced. Staff will work with PSI for repairs to the well. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *HA*

MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF A SEPTEMBER, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	27.7	N/R	0.00	31.9	N/R	
2	1,192,265		620,099	27.6	391,400	0.00	31.9	6.9	
3	557,750		160,200	27.6	203,600	0.00	31.9	6.8	
4*	N/R		N/R	27.5	N/R	0.00	31.9	N/R	
5	833,115		299,600	27.5	277,900	0.00	31.9	7.1	
6	84,900		161,000	27.5	OFF	0.00	31.9	7.3	
	N/R		N/R	27.5	N/R	0.00	31.9	N/R	
	N/R		N/R	27.5	N/R	0.65	31.8	N/R	
	221,850		250,580	27.6	OFF	0.20	31.9	6.8	
10*	N/R		N/R	27.6	N/R	1.40	31.9	N/R	
11	1,122,033		282,120	27.6	427,000	0.45	32.6	6.8	
12	714,600		285,680	27.6	273,300	0.00	32.1	7.2	
13	416,217		135,817	27.6	155,500	0.00	31.5	6.7	
14*	N/R		N/R	27.6	N/R	0.00	30.8	N/R	
15*	N/R		N/R	27.6	N/R	0.00	30.0	N/R	
16*	N/R		N/R	27.6	N/R	0.00	30.0	N/R	
17	1,114,550		285,583	27.6	355,000	0.00	30.0	6.7	
18*	N/R		N/R	27.6	N/R	0.00	30.1	N/R	
19	193,800		25,725	27.6	OFF	0.00	30.1	7.0	
20	80,475		225,194	27.6	OFF	0.00	30.1	6.9	
21*	N/R		N/R	27.7	N/R	0.11	30.2	N/R	
22*	N/R		N/R	27.9	N/R	0.75	30.1	N/R	
23	230,425		440,981	27.9	OFF	0.00	30.2	6.6	
24	296,091		157,820	28.0	0	0.00	30.2	6.6	
25*	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
26	792,089		200,500	27.7	31,000	0.00	30.2	6.7	
27*	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
	N/R		N/R	27.7	N/R	0.00	30.2	N/R	
	N/R		N/R	27.7	N/R	0.00	31.9	N/R	
	153,320		413,000	27.8	OFF	0.00	30.3	6.8	
TOTAL	8,003,480		3,943,899		2,114,700	3.56			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

WETLANDS STAFF GAUGE LEVELS

Date Read: 9-3-96	Date Read: 9-11-96	Date Read: 9-19-96	Date Read: 9-26-96	Date Read:
# 1 35.1	# 1 35.3	# 1 34.9	# 1 35.0	
# 2 34.0	# 2 34.5	# 2 34.3	# 2 34.2	
# 3 34.7	# 3 34.9	# 3 34.7	# 3 34.7	
# 4 38.5	# 4 38.7	# 4 38.5	# 4 38.5	
# 5 36.8	# 5 37.0	# 5 36.7	# 5 36.7	
# 6 34.1	# 6 34.3	# 6 34.2	# 6 34.2	
# 7 32.8	# 7 32.9	# 7 32.9	# 7 32.9	
# 8 31.3	# 8 31.4	# 8 31.4	# 8 31.4	
# 12 31.5	# 12 31.6	# 12 31.6	# 12 31.5	

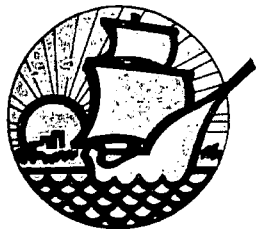
GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	2.0%
12	0.0%
13	0.0%
14	0.0%
15	Damaged
16	0.0%
17	0.0%
18	0.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

GAS MONITORING POINTS  
AND WELLS

READ: 9-20-96

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%



**MANATEE COUNTY  
GOVERNMENT**  
Public Works Department

**RECEIVED**  
SEP 18 1996

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

September 13, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the August 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager *HA*

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
August 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	29.58	MW-5	39.96	30.93
PZ-2	42.53	29.49	MW-2	37.87	32.52
PZ-3	44.93	28.28	MW-1	38.71	32.52
PZ-4A	47.73	29.58	CW-4	37.54	34.50
PZ-5	43.96	29.71	CW-5A	41.23	36.78
PZ-6	45.04	31.49			
PZ-7	47.97	29.97	MW-6	39.29	33.61
-----					
STAGE II					
PZ-8	37.63	26.70	LRII-5	36.74	31.34
PZ-9	36.56	26.21	LRII-3	33.46	27.81
PZ-10	37.05	24.90	LRII-2	36.53	31.58
PZ-11	37.94	25.99	LRII-1	37.97	33.97
-----					
STAGE III					
PZ-12	38.39	31.02	GC-2	38.19	33.02
PZ-13	35.09	29.60	GC-3	35.02	31.32
PZ-14	33.47	29.75	GC-4	33.91	30.66
PZ-15	33.20	29.36	GC-1A	31.74	26.25
			PZ-15A	39.77	26.78
PZ-16	34.63	30.15	GC-5	36.50	29.45
PZ-17	40.82	30.53	GC-6	39.06	29.80
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on August 21, 1996.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A.

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE METERED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY	7.76	10,132,975	2,316,030	12,449,005	2,514,800
JUNE	7.43	10,074,320	4,445,290	14,519,610	3,429,800
JULY	4.81	12,914,050	4,831,997	17,746,047	9,337,000
AUGUST	5.78	9,281,670	2,188,003	11,469,673	1,752,900
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>34.80</b>	<b>58,503,316</b>	<b>21,966,320</b>	<b>80,469,636</b>	<b>34,577,660</b>

Notes:

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF A AUGUST, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTF IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	30,520		127,382	27.7	0	0.00	30.7	7.1	
2	511,207		86,820	27.7	11,600	0.10	30.7	7.0	
3*	N/R		N/R	27.7	N/R	0.13	30.7	N/R	
4*	N/R		N/R	27.8	N/R	0.00	30.8	N/R	
5	966,500		292,180	27.8	83,000	0.25	30.8	7.3	
6	414,501		99,520	27.9	33,100	0.40	30.8	6.8	
7	364,400		87,580	27.8	29,700	0.00	30.8	6.9	
8	375,298		88,400	27.8	26,100	0.00	30.8	7.1	
9	389,000		91,300	27.8	21,800	1.05	30.9	6.8	
10*	N/R		N/R	27.8	N/R	0.00	31.0	N/R	
11*	N/R		N/R	27.9	N/R	0.00	30.0	N/R	
12	1,587,255		341,500	28.7	209,600	0.53	31.0	7.2	
13	548,150		115,900	28.1	191,000	0.00	31.1	6.9	
14	652,850		131,630	27.8	238,300	0.00	31.1	7.1	
15	424,400		82,190	28.0	152,100	0.00	31.1	7.2	
16	522,100		99,998	27.5	190,600	0.00	31.2	7.4	
17*	N/R		N/R	27.5	N/R	2.70	31.1	N/R	
18*	N/R		N/R	27.5	N/R	0.00	31.8	N/R	
19	606,419		137,482	27.5	209,500	0.35	31.6	7.1	
20	437,282		N/R	27.1	170,700	0.00	31.9	7.2	
21	680,318		N/R	27.5	185,800	0.00	31.9	6.8	
22*	N/R		N/R	27.5	N/R	0.00	31.9	N/R	
23*	N/R		N/R	27.5	N/R	0.15	31.8	N/R	
24*	N/R		N/R	27.5	N/R	0.12	31.9	N/R	
25*	N/R		N/R	27.5	N/R	0.00	31.9	N/R	
26	386,550		OFF	27.5	OFF	0.00	31.9	6.7	
27	168,650		OFF	27.5	OFF	0.00	31.9	6.9	
28*	N/R		N/R	27.5	N/R	0.00	31.9	N/R	
29	158,550		121,425	27.5	OFF	0.00	31.9	6.9	
30	57,720		284,696	27.5	OFF	0.00	31.9	6.3	
31*	N/R		N/R	27.7	OFF	0.00	31.9	N/R	
TOTAL	9,281,670		2,188,003		1,752,900	5.78			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 8-7-96	Date Read: 8-14-96	Date Read: 8-27-96	Date Read: 7-31-96	Date Read:
# 1 35.2	# 1 35.2	# 1 34.3	# 1 35.2	
# 2 34.1	# 2 34.3	# 2 34.5	# 2 34.2	
# 3 34.6	# 3 34.7	# 3 34.6	# 3 34.7	
# 4 38.9	# 4 38.9	# 4 38.6	# 4 38.0	
# 5 37.2	# 5 37.2	# 5 37.0	# 5 37.2	
# 6 34.3	# 6 34.5	# 6 34.3	# 6 34.3	
# 7 32.9	# 7 33.1	# 7 32.9	# 7 33.9	
# 8 31.3	# 8 31.5	# 8 31.4	# 8 31.4	
# 12 31.7	# 12 31.8	# 12 31.6	# 12 31.6	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	8.0%
14	17.0%
15	0.0%
16	0.0%
17	0.0%
18	0.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: 8-21-96

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%





**RECEIVED**  
AUG 22 1996

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

**MANATEE COUNTY  
GOVERNMENT  
Public Works Department**

August 19, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the July 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF JULY, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	30.1	N/R	0.00	32.4	N/R	
2	1,141,312		379,879	29.7	219,300	0.00	32.5	N/R	
3*	N/R		N/R	29.7	N/R	0.00	32.5	N/R	
4*	N/R		N/R	29.5	N/R	0.01	32.5	N/R	
5*	N/R		N/R	29.4	N/R	0.30	32.5	N/R	
6*	N/R		N/R	29.4	N/R	1.60	32.1	N/R	
7*	N/R		N/R	29.2	N/R	0.00	31.9	N/R	
8	2,317,225		971,620	29.4	6,275,000	0.00	32.0	7.1	
9	565,279		196,280	28.9	218,700	0.00	32.0	7.0	
10	372,420		123,520	28.9	147,000	0.50	32.0	7.1	
11	542,370		174,600	28.9	210,200	0.00	32.0	7.0	
12	540,210		165,000	28.7	207,800	0.00	32.0	6.9	
13*	N/R		N/R	28.7	N/R	0.00	32.0	N/R	
14*	N/R		N/R	28.8	N/R	0.00	32.0	N/R	
15	1,606,220		459,500	28.8	633,000	1.20	32.0	7.0	
16	669,050		281,600	28.5	269,000	0.00	32.4	6.9	
17	509,349		173,680	27.9	212,800	0.00	32.4	6.9	
18	387,150		125,220	27.7	157,800	0.00	32.5	6.7	
19	514,050		160,500	27.5	210,500	0.00	32.5	6.7	
20*	N/R		N/R	27.1	N/R	0.00	32.5	N/R	
21*	N/R		N/R	27.1	N/R	0.00	32.4	N/R	
22	1,260,990		456,099	27.4	465,400	0.00	32.5	6.7	
23	594,300		185,781	27.4	29,900	0.00	32.3	6.9	
24	305,350		91,218	27.4	15,800	0.10	32.4	6.8	
25	434,050		127,082	27.4	22,600	0.00	32.4	6.9	
26	437,450		123,520	27.3	20,400	0.00	32.3	7.1	
27*	N/R		N/R	27.3	N/R	0.00	31.9	N/R	
28*	N/R		N/R	27.3	N/R	0.00	31.8	N/R	
29*	N/R		N/R	27.3	N/R	0.00	30.7	N/R	
30	695,075		463,180	27.3	21,800	1.10	30.5	7.3	
31	22,200		173,718	27.5	0	0.00	30.7	7.0	
TOTAL	12,914,050		4,831,997		9,337,000	4.81			

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	12.0%
15	0.0%
16	0.0%
17	0.0%
18	9.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: 7-15-96

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%

## WETLANDS STAFF GAUGE LEVELS

Date Read: 7-10-96	Date Read: 7-17-96	Date Read: 7-24-96	Date Read: 7-31-96	Date Read:
# 1 35.7	# 1 35.5	# 1 35.1	# 1 35.2	
# 2 34.7	# 2 34.5	# 2 34.2	# 2 34.2	
# 3 35.0	# 3 34.9	# 3 34.7	# 3 34.7	
# 4 38.3	# 4 38.5	# 4 38.3	# 4 38.0	
# 5 37.8	# 5 37.8	# 5 37.4	# 5 37.2	
# 6 34.7	# 6 34.6	# 6 34.5	# 6 34.3	
# 7 33.2	# 7 33.2	# 7 33.0	# 7 33.9	
# 8 31.6	# 8 31.5	# 8 31.5	# 8 31.4	
# 12 32.0	# 12 31.7	# 12 31.8	# 12 31.6	

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY	7.76	10,132,975	2,316,030	12,449,005	2,514,800
JUNE	7.43	10,074,320	4,445,290	14,519,610	3,429,800
JULY	4.81	12,914,050	4,831,997	17,746,047	9,337,000
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>29.02</b>	<b>49,221,646</b>	<b>19,778,317</b>	<b>68,999,963</b>	<b>32,824,760</b>

Notes:

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
July 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	28.34	MW-5	39.96	31.71
PZ-2	42.53	29.50	MW-2	37.87	32.82
PZ-3	44.93	28.01	MW-1	38.71	33.03
PZ-4A	47.73	29.68	CW-4	37.54	34.89
PZ-5	43.96	29.70	CW-5A	41.23	37.60
PZ-6	45.04	31.49			
PZ-7	47.97	29.84	MW-6	39.29	33.47
-----					
STAGE II					
PZ-8	37.63	28.75	LRII-5	36.74	32.02
PZ-9	36.56	29.60	LRII-3	33.46	28.21
PZ-10	37.05	29.70	LRII-2	36.53	31.71
PZ-11	37.94	29.62	LRII-1	37.97	34.47
-----					
STAGE III					
PZ-12	38.39	29.14	GC-2	38.19	33.30
PZ-13	35.09	27.34	GC-3	35.02	31.37
PZ-14	33.47	26.52	GC-4	33.91	28.26
PZ-15	33.20	27.28	GC-1A	31.74	26.26
			PZ-15A	39.77	26.52
PZ-16	34.63	28.10	GC-5	36.50	29.84
PZ-17	40.82	28.79	GC-6	39.06	31.24
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on July 17, 1996.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A.





# MANATEE COUNTY GOVERNMENT

## Public Works Department

**RECEIVED**  
AUG 21 1996

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

August 16, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the June 1996, monthly ground water gradient, water balance and leachate tracking summary for the above referenced subject. Per Danielle Nichols' correspondence of August 13, 1996, the Department no longer requires Waste Quantity Reports be submitted but requests the information be kept on site for inspection. Please accept my apologies for the untimely manner of the report submittal. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

**Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
June 1996**

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
<b>STAGE I</b>					
PZ-1	42.53	28.54	MW-5	39.96	31.46
PZ-2	42.53	29.78	MW-2	37.87	32.54
PZ-3	44.93	28.58	MW-1	38.71	32.26
PZ-4A	47.73	31.48	CW-4	37.54	34.68
PZ-5	43.96	29.52	CW-5A	41.23	36.64
PZ-6	45.04	30.52			
PZ-7	47.97	29.13	MW-6	39.29	32.71
-----					
<b>STAGE II</b>					
PZ-8	37.63	28.52	LRII-5	36.74	31.59
PZ-9	36.56	28.52	LRII-3	33.46	27.73
PZ-10	37.05	28.38	LRII-2	36.53	31.18
PZ-11	37.94	28.89	LRII-1	37.97	34.76
-----					
<b>STAGE III</b>					
PZ-12	38.39	28.60	GC-2	38.19	33.07
PZ-13	35.09	26.74	GC-3	35.02	31.03
PZ-14	33.47	26.28	GC-4	33.91	28.32
PZ-15	33.20	26.35	GC-1A	31.74	26.79
			PZ-15A	39.77	26.50
PZ-16	34.63	27.41	GC-5	36.50	28.75
PZ-17	40.82	28.09	GC-6	39.06	31.71
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on May 20, 1996.
6. Refer to the correspondence dated June 11, 1996 for information regarding installation on PZ-4A and PZ-15A.

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY	7.76	10,132,975	2,316,030	12,449,005	2,514,800
JUNE	7.43	10,074,320	4,445,290	14,519,610	3,429,800
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>24.21</b>	<b>36,307,596</b>	<b>14,946,320</b>	<b>51,253,916</b>	<b>23,487,760</b>

Notes:

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF JUNE, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.F.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1*	N/R		N/R	28.6	N/R	0.00	31.2	N/R	
2*	N/R		N/R	28.6	N/R	0.00	31.2	N/R	
3	881,450		539,470	28.6	210,000	0.00	31.2	6.7	
4	265,020		108,600	28.6	70,800	0.00	31.2	6.9	
5	300,930		116,420	28.6	83,500	0.00	31.2	6.9	
6	341,550		104,780	28.4	85,500	0.00	31.2	6.4	
7	311,000		80,720	28.4	56,200	0.00	31.2	6.4	
8*	N/R		N/R	28.4	N/R	0.00	31.2	N/R	
9*	N/R		N/R	28.4	N/R	0.20	31.2	N/R	
10	1,097,257		223,880	28.4	42,500	1.10	31.2	7.0	
11	475,633		109,120	28.5	1,800	0.16	31.4	6.9	
12	433,520		80,080	28.8	5,500	1.85	31.4	7.0	
13	401,250		279,920	29.3	28,400	0.10	32.5	6.8	
14	458,040		110,480	29.3	18,000	0.00	32.4	7.1	
15	N/R		N/R	29.3	N/R	0.00	32.4	N/R	
16	N/R		N/R	29.5	N/R	1.90	32.5	N/R	
17	1,131,536		631,322	30.0	34,400	0.02	33.3	7.2	
18*	N/R		N/R	30.1	N/R	0.00	32.5	N/R	
19 *	N/R		N/R	N/R	N/R	N/R	N/R	N/R	
20	1,203,502		570,600	30.3	994,800	0.00	31.5	7.1	
21	492,344		322,002	30.5	330,000	0.25	33.0	7.1	
22*	N/R		N/R	30.5	N/R	0.00	32.7	N/R	
23*	N/R		N/R	30.5	N/R	0.00	32.3	N/R	
24	1,399,210		816,596	30.4	634,900	0.00	31.6	6.8	
25	385,946		160,000	30.3	172,500	0.00	31.6	6.5	
26	496,132		191,300	30.3	191,000	0.10	31.6	6.5	
27*	N/R		N/R	30.1	221,000	1.60	31.7	N/R	
28*	N/R		N/R	31.2	249,000	0.00	32.4	N/R	
29	N/R		N/R	N/R	N/R	0.15	N/R	N/R	
30	N/R		N/R	N/R	N/R	0.00	N/R	N/R	
31									
TOTAL	10,074,320		4,445,290		3,429,800	7.43			
TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30									
TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0									

## WETLANDS STAFF GAUGE LEVELS

Date Read: 6-05-96	Date Read: 6-12-96	Date Read: 6-20-96	Date Read: 6-24-96	Date Read:
# 1 35.1	# 1 35.7	# 1 36.3	# 1 35.8	
# 2 34.5	# 2 35.6	# 2 35.0	# 2 35.0	
# 3 34.8	# 3 34.8	# 3 34.8	# 3 35.3	
# 4 38.9	# 4 38.6	# 4 39.5	# 4 39.6	
# 5 37.4	# 5 37.3	# 5 37.8	# 5 37.8	
# 6 34.2	# 6 34.1	# 6 34.7	# 6 34.6	
# 7 32.8	# 7 32.6	# 7 33.1	# 7 33.1	
# 8 31.3	# 8 31.3	# 8 31.8	# 8 31.7	
# 12 31.2	# 12 31.1	# 12 31.8	# 12 31.9	

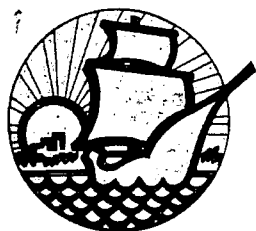
GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	7.0%
14	29.0%
15	0.0%
16	0.0%
17	0.0%
18	23.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS READ: 6-14-96

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	3.0%
#6	0.0%
#7	0.0%
#8	0.0%





**MANATEE COUNTY  
GOVERNMENT**  
Public Works Department

**RECEIVED**  
JUL 12 1996

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

July 3, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the May 1996, monthly ground water gradient, water balance, leachate tracking summary and the material summary report for the above referenced subject. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager *Gray*  
Gus DiFonzo, Solid Waste Manager *DiFonzo*

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
May 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	28.79	MW-5	39.96	30.61
PZ-2	42.53	29.99	MW-2	37.87	31.97
PZ-3	44.93	27.68	MW-1	38.71	32.82
PZ-4A	47.73	29.58	CW-4	37.54	34.02
PZ-5	43.96	29.61	CW-5A	41.23	36.28
PZ-6	45.04	32.49			
PZ-7	47.97	29.72	MW-6	39.29	32.39
-----					
STAGE II					
PZ-8	37.63	27.13	LRII-5	36.74	29.99
PZ-9	36.56	26.91	LRII-3	33.46	26.32
PZ-10	37.05	25.80	LRII-2	36.53	32.95
PZ-11	37.94	26.44	LRII-1	37.97	32.57
-----					
STAGE III					
PZ-12	38.39	29.11	GC-2	38.19	30.34
PZ-13	35.09	26.85	GC-3	35.02	28.17
PZ-14	33.47	25.84	GC-4	33.91	25.90
PZ-15	33.20	26.20	GC-1A	31.74	25.94
			PZ-15A	39.77	32.22
PZ-16	34.63	22.16	GC-5	36.50	28.00
PZ-17	40.82	26.83	GC-6	39.06	30.63
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on May 20, 1996.
6. Refer to the correspondence dated April 30, 1996 for information regarding installation on PZ-4A and PZ-15A.

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY	7.76	10,132,975	2,316,030	12,449,005	2,514,800
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>16.78</b>	<b>26,233,276</b>	<b>10,501,030</b>	<b>36,734,306</b>	<b>20,057,960</b>

Notes:

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.

*SALE  
WMA INVESTIGATE  
LOW FLOW TO  
WATER FOR  
ANALYSIS  
AS INDICATED  
7/21/96  
2:50  
JN*

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF MAY, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	769,580		144,600	28.8	492,000	0.00	32.6	6.6	
2	351,100		66,400	28.7	190,800	0.00	32.6	6.5	
3	337,870		64,120	28.5	178,600	0.40	32.6	6.7	
4*	N/R		N/R	28.5	N/R	0.10	32.6	N/R	
5*	N/R		N/R	28.4	N/R	0.00	32.7	N/R	
6	903,930		182,980	28.3	375,500	0.00	32.7	6.9	
7	319,850		60,700	27.9	124,400	0.00	32.7	6.9	
8	320,900		57,500	27.8	127,300	0.30	32.7	6.7	
9*	N/R		N/R	27.8	N/R	0.50	32.7	N/R	
10	637,395		111,900	27.8	242,800	0.00	32.7	6.5	
11*	N/R		N/R	27.8	N/R	0.00	32.8	N/R	
12*	N/R		N/R	27.6	N/R	0.00	32.8	N/R	
13	862,130		149,120	27.7	311,200	0.00	32.8	6.4	
14	350,750		59,380	27.7	124,000	0.00	32.8	6.2	
15	272,850		46,000	27.5	97,500	0.00	32.7	6.6	
16	279,660		47,100	27.4	76,500	0.00	32.7	6.6	
17	261,860		43,820	27.4	20,800	0.00	32.7	6.8	
18*	N/R		N/R	27.4	N/R	0.00	32.6	N/R	
19*	N/R		N/R	27.4	N/R	0.00	32.6	N/R	
20	1,084,255		140,980	27.6	62,500	0.80	32.2	6.3	
21	410,450		48,700	27.6	19,300	1.55	32.7	6.6	
22	354,220		134,300	27.7	20,000	0.51	33.1	6.6	
23	371,675		86,900	27.7	8,600	0.00	3.2	6.4	
24	286,080		77,100	27.6	5,800	0.10	33.0	6.6	
25*	N/R		N/R	27.7	N/R	0.00	32.6	N/R	
26*	N/R		N/R	27.7	N/R	0.00	31.9	N/R	
27*	N/R		N/R	29.9	N/R	0.00	31.2	N/R	
28*	N/R		N/R	27.7	N/R	0.00	30.6	N/R	
29	1,424,470		362,420	27.7	21,000	0.10	30.0	6.6	
30	266,450		62,580	27.7	2,300	3.40	29.9	6.8	
31	267,500		369,430	28.6	13,900	0.00	31.3	6.5	
TOTAL	10,132,975		2,316,030		2,514,800	7.76			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 5-01-96	Date Read: 5-08-96	Date Read: 5-15-96	Date Read: 5-29-96	Date Read:
# 1 35.3	# 1 35.2	# 1 35.2	# 1 35.1	
# 2 34.5	# 2 34.3	# 2 34.3	# 2 34.3	
# 3 34.8	# 3 34.8	# 3 34.7	# 3 34.7	
# 4 39.4	# 4 38.8	# 4 38.4	# 4 38.8	
# 5 37.6	# 5 37.5	# 5 37.4	# 5 37.3	
# 6 34.5	# 6 34.3	# 6 34.1	# 6 34.1	
# 7 33.9	# 7 34.8	# 7 32.7	# 7 32.7	
# 8 31.3	# 8 31.2	# 8 31.3	# 8 31.2	
# 12 31.5	# 12 31.4	# 12 31.2	# 12 31.2	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	0.0%
15	0.0%
16	0.0%
17	0.0%
18	0.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

GAS MONITORING POINTS  
AND WELLS  
READ: 5-16-96

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	N/R
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>9.02</b>	<b>16,100,301</b>	<b>8,185,000</b>	<b>24,285,301</b>	<b>17,543,160</b>

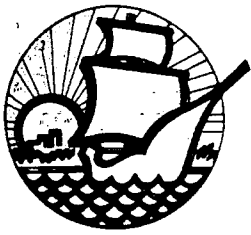
Notes:

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

D.E.P.

MAY 22 1996

SOUTHWEST DISTRICT  
TAMPA

May 20, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the April 1996, monthly ground water gradient, water balance and the material summary report for the above referenced subject. Please refer to my letter dated April 30, 1996 regarding the installation of PZ-4a and PZ-15A. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Len Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF APRIL, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	470,650		302,100	32.0	690,400	0.01	33.3	6.6	
2	149,200		98,000	32.0	242,500	0.00	33.3	6.5	
3	132,500		86,800	31.0	220,500	0.00	33.3	6.7	
4	139,830		88,100	32.4	228,500	0.00	33.0	6.5	
5	117,940		72,700	32.1	189,000	0.00	33.0	6.5	
6*	N/R		N/R	32.7	N/R	0.00	32.8	N/R	
7*	N/R		N/R	32.9	N/R	0.00	32.7	N/R	
8*	N/R		N/R	33.0	N/R	0.30	32.8	N/R	
9	53,461		323,500	33.0	852,200	0.00	32.6	6.4	
10	442,110		795,000	32.8	242,300	0.00	32.6	6.4	
11*	N/R		N/R	32.6	N/R	0.00	32.6	N/R	
12	811,650		139,200	32.4	444,500	0.00	32.5	6.6	
13*	N/R		N/R	32.2	N/R	0.00	32.6	N/R	
14*	N/R		N/R	32.0	N/R	0.00	32.7	N/R	
15*	N/R		N/R	32.6	N/R	0.40	31.8	N/R	
16*	N/R		N/R	32.8	N/R	0.00	31.6	N/R	
17*	N/R		N/R	32.7	N/R	0.00	31.3	N/R	
18	2,474,320		377,000	31.3	1,226,700	0.00	32.6	6.4	
19	412,590		66,920	32.0	12,500	0.00	32.3	6.2	
20	N/R		N/R	31.8	N/R	0.00	32.2	N/R	
21	N/R		N/R	31.5	N/R	0.00	32.2	N/R	
22	943,205		182,080	31.3	0	0.00	32.3	6.4	
23	381,150		56,220	31.3	201,400	0.00	32.2	6.4	
24	390,950		57,780	30.7	87,600	0.15	32.2	6.3	
25	353,850		51,100	30.5	0	0.00	32.3	6.4	
26	440,450		62,500	30.0	240,000	0.50	32.3	6.6	
27 *	N/R		N/R	29.9	N/R	0.00	32.3	N/R	
28*	N/R		N/R	29.8	N/R	0.00	32.3	N/R	
29	1,106,170		153,400	29.8	723,900	0.10	32.4	6.5	
30									
31									
TOTAL	8,820,026		2,912,400		5,602,000	1.46			

TOTAL ACREAGE--STAGE I: Open - 10 Intermediate - 120 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 4-03-96	Date Read: 4-15-96	Date Read: 4-24-96	Date Read:	Date Read:
# 1 35.3	# 1 35.1	# 1 35.2		
# 2 34.5	# 2 34.3	# 2 34.2		
# 3 34.7	# 3 34.7	# 3 34.7		
# 4 39.6	# 4 39.5	# 4 38.9		
# 5 37.8	# 5 37.7	# 5 37.5		
# 6 35.6	# 6 34.5	# 6 34.4		
# 7 33.1	# 7 33.0	# 7 32.8		
# 8 31.6	# 8 31.4	# 8 31.2		
# 12 31.7	# 12 31.5	# 12 31.4		

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	0.0%
15	0.0%
16	0.0%
17	0.0%
18	0.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: 4-18-96

Gas Monitoring Points, % L.E.L.	
#1	0.0%
#2	0.0%
#3	0.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL	1.46	8,820,026	2,912,400	11,732,426	5,602,000
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>9.02</b>	<b>16,100,301</b>	<b>8,185,000</b>	<b>24,285,301</b>	<b>17,543,160</b>

**Notes:**

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.

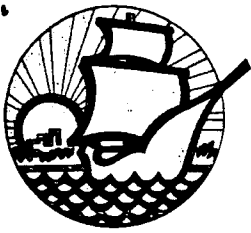


Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
April 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1	42.53	28.66	MW-5	39.96	31.11
PZ-2	42.53	29.70	MW-2	37.87	32.31
PZ-3	44.93	31.20	MW-1	38.71	33.16
PZ-4A	47.73	29.29	CW-4	37.54	34.39
PZ-5	43.96	29.38	CW-5A	41.23	36.99
PZ-6	45.04	32.28			
PZ-7	47.97	29.97	MW-6	39.29	33.14
-----					
STAGE II					
PZ-8	37.63	28.88	LRII-5	36.74	30.86
PZ-9	36.56	28.43	LRII-3	33.46	27.21
PZ-10	37.05	27.50	LRII-2	36.53	30.60
PZ-11	37.94	28.19	LRII-1	37.97	33.35
-----					
STAGE III					
PZ-12	38.39	28.24	GC-2	38.19	31.99
PZ-13	35.09	26.04	GC-3	35.02	28.71
PZ-14	33.47	25.63	GC-4	33.91	26.68
PZ-15	33.20	26.33	GC-1A	31.74	26.09
			PZ-15A	39.77	26.54
PZ-16	34.63	27.22	GC-5	36.50	27.98
PZ-17	40.82	28.27	GC-6	39.06	31.03
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. All riser elevation data was collected on November 2, 1994 except for PZ-1, 4A, 5, 6, 7 and 15A which was collected on April 15, 1996. All elevations are given in NGVD.
3. The ground water elevation data is given in NGVD.
4. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
5. Depth to ground measurements were collected on April 19, 1996.
6. Refer to the correspondence dated April 30, 1996 for information regarding installation on PZ-4A and PZ-15A.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

RECEIVED  
APR 18 1996  
BY Environmental Protection  
SOUTHWEST DISTRICT

April 12, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the March 1996, monthly ground water gradient, water balance and the material summary report for the above referenced subject. Please note that all information has been recorded with the appropriate date the data were collected. If you have any questions or require additional information please call me at 941-748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager



Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
March 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1			MW-5	39.96	31.83
PZ-2	42.53	30.02	MW-2	37.87	33.45
PZ-3	44.93	31.82	MW-1	38.71	34.26
PZ-4	45.04		CW-4	37.54	34.55
PZ-5	43.71	29.38	CW-5A	41.23	37.28
PZ-6	44.33	30.33			
PZ-7	48.15	29.70	MW-6	39.29	33.59
-----					
STAGE II					
PZ-8	37.63	31.21	LRII-5	36.74	30.99
PZ-9	36.56	31.69	LRII-3	33.51	27.03
PZ-10	37.05	31.20	LRII-2	36.53	30.80
PZ-11	37.94	31.37	LRII-1	37.97	33.53
-----					
STAGE III					
PZ-12	38.39	28.94	GC-2	38.19	32.92
PZ-13	35.09	27.14	GC-3	35.02	30.13
PZ-14	33.47	25.72	GC-4	33.91	27.65
PZ-15	33.20	26.47	GC-1A	31.74	26.54
PZ-16	34.63	27.83	GC-5	36.50	28.21
PZ-17	40.82	28.17	GC-6	39.06	30.91
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. The riser elevation for PZ-1 is unknown. The depth to ground water measurement was recorded as 13.99 ft.
3. Riser elevation data was collected on November 2, 1994 and is given in NGVD.
4. The ground water elevation data is given in NGVD.
5. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
6. Depth to ground measurements were collected on March 13, 1996.

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF MARCH, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTF IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	129,642		60,500	32.4	275,500	1.00	33.9	6.6	
2*	N/R		N/R	32.4	N/R	1.00	34.4	N/R	
3*	N/R		N/R	32.2	N/R	0.00	34.5	N/R	
4	414,003		366,700	32.0	751,500	0.00	34.5	6.5	
5	153,810		100,000	32.0	258,500	0.00	34.5	6.6	
6	163,525		108,700	31.8	286,000	0.00	34.5	6.5	
7	150,085		93,000	31.6	260,500	0.00	34.5	6.3	
8	133,271		79,400	31.4	237,200	0.10	34.5	6.6	
9*	N/R		N/R	31.0	N/R	0.00	34.5	N/R	
10*	N/R		N/R	31.0	N/R	0.00	34.5	N/R	
11	360,618		245,500	30.7	766,500	0.25	34.5	6.7	
12	100,655		75,400	31.0	238,500	0.00	34.1	6.6	
13	122,135		92,500	32.0	304,800	0.00	33.9	6.7	
14	105,231		78,200	32.0	254,000	0.00	33.9	6.4	
15	98,515		71,800	31.6	244,000	0.00	33.8	6.5	
16*	N/R		N/R	31.5	N/R	0.00	33.9	N/R	
17*	N/R		N/R	31.3	N/R	0.00	33.9	N/R	
18	327,870		222,800	31.0	776,700	0.00	33.8	5.7	
19	103,805		58,800	30.9	220,400	0.00	33.9	6.5	
20	124,175		73,400	30.7	274,900	0.00	33.9	6.6	
21	110,145		67,500	30.5	249,000	0.00	33.9	6.7	
22	88,455		55,100	30.0	205,500	0.00	33.9	6.6	
23*	N/R		N/R	29.8	N/R	0.00	33.9	N/R	
24*	N/R		N/R	29.7	N/R	0.00	33.9	N/R	
25	295,915		193,900	29.2	742,500	0.00	33.9	6.7	
26	85,520		70,000	29.0	271,000	0.50	33.9	6.6	
27	90,909		60,220	29.0	234,200	1.10	33.9	6.6	
28	74,990		81,980	28.8	235,900	0.65	34.0	6.4	
29	67,696		105,400	28.7	235,500	0.00	34.3	6.6	
30	N/R		N/R	28.7	N/R	0.80	34.3	N/R	
31	N/R		N/R	31.9	N/R	0.15	33.5	N/R	
TOTAL	3,300,970		2,360,800		7,322,600	5.55			

TOTAL ACREAGE--STAGE I: Open - 5 Intermediate - 125 Closed - 30

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 3-06-96	Date Read: 3-13-96	Date Read: 3-20-96	Date Read: 3-27-96	Date Read:
# 1 35.3	# 1 35.2	# 1 35.1	# 1 35.2	
# 2 34.5	# 2 34.3	# 2 34.2	# 2 34.6	
# 3 34.8	# 3 34.7	# 3 35.7	# 3 34.7	
# 4 39.3	# 4 38.4	# 4 38.5	# 4 39.9	
# 5 38.0	# 5 37.9	# 5 37.8	# 5 37.7	
# 6 34.7	# 6 34.6	# 6 34.5	# 6 34.4	
# 7 33.1	# 7 33.1	# 7 33.0	# 7 32.9	
# 8 31.7	# 8 31.6	# 8 31.5	# 8 32.3	
# 12 31.8	# 12 31.7	# 12 31.6	# 12 31.5	

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	0.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	1.0%
13	1.0%
14	1.0%
15	1.0%
16	0.0%
17	2.0%
18	1.0%

1. N/R: Not reported due to weekends, holidays, staff sickness.

## GAS MONITORING POINTS AND WELLS

READ: 3-15-96

Gas Monitoring Points, % L.E.L.	
#1	1.0%
#2	1.0%
#3	1.0%
#4	1.0%
#5	0.0%
#6	2.0%
#7	3.0%
#8	1.0%

**MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996**

<b>MONTH</b>	<b>RAINFALL</b>	<b>LEACHATE STAGE I</b>	<b>LEACHATE STAGE III</b>	<b>LEACHATE GENERATED</b>	<b>LEACHATE TREATED</b>
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH	5.50	3,300,970	2,360,800	5,661,770	7,322,600
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>7.56</b>	<b>7,280,275</b>	<b>5,272,600</b>	<b>12,552,875</b>	<b>11,941,160</b>

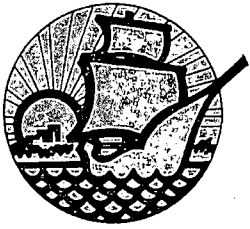
**Notes:**

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

D.E.P.

MAR 28 1996

TAMPA

March 25, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the February 1996, monthly ground water gradient, water balance and the material summary report for the above referenced subject. Per Mr. Ford's correspondence of March 11, 1996, leachate quantities have been summarized as shown on the attached table. This table will be included on all future reports.

On March 18, 1996 PSI installed the two piezometers as described in staff's correspondence of November 21, 1995, December 1, 1995 and FDEP's approval letter dated December 5, 1995. PSI has completed their report which describes the installation project. Staff will forward the report after all information required per Specific Condition No. 33 is complete. The information not currently available includes locating the piezometers via survey. Staff anticipates the surveying to be completed by mid April and the completed report sent to your office by April 29, 1996. If you need additional information please call me at (941) 748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
February 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1			MW-5	39.96	30.82
PZ-2	42.53	29.54	MW-2	37.87	33.00
PZ-3	44.93	32.67	MW-1	38.71	33.98
PZ-4	45.04		CW-4	37.54	34.57
PZ-5	43.71	29.47	CW-5A	41.23	37.47
PZ-6	44.33	29.27			
PZ-7	48.15	29.48	MW-6	39.29	33.48
-----					
STAGE II					
PZ-8	37.63	32.91	LRII-5	36.74	30.75
PZ-9	36.56	32.85	LRII-3	33.51	27.51
PZ-10	37.05	32.83	LRII-2	36.53	30.57
PZ-11	37.94	32.95	LRII-1	37.97	33.03
-----					
STAGE III					
PZ-12	38.39	28.82	GC-2	38.19	32.23
PZ-13	35.09	27.09	GC-3	35.02	29.48
PZ-14	33.47	26.04	GC-4	33.91	26.91
PZ-15	33.20	27.85	GC-1A	31.74	26.19
PZ-16	34.63	27.88	GC-5	36.50	28.15
PZ-17	40.82	28.67	GC-6	39.06	29.61
-----					

Notes:

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. The riser elevation for PZ-1 is unknown. The depth to ground water measurement was recorded as 13.62 ft.
3. Riser elevation data was collected on November 2, 1994 and is given in NGVD.
4. The ground water elevation data is given in NGVD.
5. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
6. Depth to ground measurements were collected on February 13, 1996.

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF FEBRUARY, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	104,220		50,000	33.0	177,900	0.00	34.0	6.2	
2	129,145		50,000	32.9	210,100	0.00	34.0	6.4	
3*	N/R		N/R	32.9	N/R	0.70	34.0	N/R	
4*	N/R		N/R	32.9	N/R	0.00	34.0	N/R	
5	160,270		50,000	32.9	247,100	0.00	34.0	6.6	
6	1,545		50,000	33.0	10,500	0.00	34.0	6.6	
	11,958		50,000	33.0	11,500	0.00	34.1	6.6	
	13,877		50,000	33.0	11,900	0.00	34.1	6.6	
9	14,160		50,000	33.2	13,400	0.00	34.1	6.5	
10*	N/R		N/R	33.2	N/R	0.00	34.1	N/R	
11*	N/R		N/R	33.4	N/R	0.00	34.2	N/R	
12	35,768			33.4	35,500	0.00	34.2	6.6	
13	9,152		68,000	33.4	10,000	0.00	34.2	6.6	Q meter stg. III
14	12,132		67,400	33.4	12,300	0.00	34.2	6.6	
15	13,686		66,200	33.4	12,000	0.15	34.2	7.2	
16	13,617		64,700	33.7	12,000	0.00	34.3	6.6	
17*	N/R		N/R	33.7	N/R	0.00	34.2	N/R	
18*	N/R		N/R	33.8	N/R	0.00	34.2	N/R	
19	56,555		192,800	33.8	67,000	0.00	34.2	6.2	
20	182,045		66,000	33.7	227,700	0.00	34.0	6.4	
21	179,355		61,400	33.5	274,500	0.00	34.0	6.6	
22	158,745		64,300	33.2	271,300	0.00	34.0	6.6	
23	137,065		62,100	33.0	259,500	0.00	34.0	6.4	
24*	N/R		N/R	32.9	N/R	0.00	34.1	N/R	
25*	N/R		N/R	32.7	N/R	0.00	34.1	N/R	
26	405,027		189,600	33.2	795,700	0.00	34.0	6.4	
27	100,869		53,000	31.9	237,500	0.00	34.0	6.7	
28	160,515		68,500	32.4	307,900	0.00	33.9	6.6	
	149,879		49,800	32.4	225,600	0.35	33.9	6.6	
31									
TOTAL	2,049,585		1,423,800		3,430,900	1.20			
TOTAL ACREAGE--STAGE I: Open - 5 Intermediate - 125 Closed - 30									
TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0									

GAS MONITORING WELLS	
WELL NUMBER	READING % L.E.L.
1	0.0%
2	2.0%
3	0.0%
4	0.0%
5	0.0%
6	0.0%
7	0.0%
8	0.0%
9	0.0%
10	0.0%
11	0.0%
12	0.0%
13	0.0%
14	0.0%
15	0.0%
16	0.0%
17	0.0%
18	0.0%

1. Stage III volumes estimated due to broken totalizer. New totalizer installed on 2/12/96.
2. N/R: Not reported due to weekends, holidays, staff sickness.

GAS MONITORING POINTS  
AND WELLS  
READ: 2-17-96

Gas Monitoring Points, % L.E.L.	
#1	1.0%
#2	0.0%
#3	1.0%
#4	0.0%
#5	0.0%
#6	0.0%
#7	0.0%
#8	0.0%

## WETLANDS STAFF GAUGE LEVELS

Date Read: 2-07-96	Date Read: 2-13-96	Date Read: 2-21-96	Date Read: 2-28-96	Date Read:
# 1 35.2	# 1 35.1	# 1 35.1	# 1 35.1	
# 2 35.5	# 2 34.4	# 2 34.2	# 2 34.2	
# 3 35.0	# 3 34.7	# 3 34.7	# 3 34.7	
# 4 39.3	# 4 38.7	# 4 39.1	# 4 39.9	
# 5 38.2	# 5 38.1	# 5 38.0	# 5 37.9	
# 6 34.6	# 6 34.5	# 6 34.5	# 6 34.5	
# 7 33.1	# 7 33.1	# 7 33.1	# 7 33.0	
# 8 31.6	# 8 31.5	# 8 31.5	# 8 31.4	
# 12 31.7	# 12 31.6	# 12 31.6	# 12 31.5	



MANATEE COUNTY SOLID WASTE MANAGEMENT FACILITY  
LENA ROAD LANDFILL  
LEACHATE TRACKING SUMMARY 1996

MONTH	RAINFALL	LEACHATE STAGE I	LEACHATE STAGE III	LEACHATE GENERATED	LEACHATE TREATED
JANUARY	0.86	1,929,720	1,488,000	3,417,720	1,187,660
FEBRUARY	1.20	2,049,585	1,423,800	3,473,385	3,430,900
MARCH					
APRIL					
MAY					
JUNE					
JULY					
AUGUST					
SEPTEMBER					
OCTOBER					
NOVEMBER					
DECEMBER					
<b>TOTAL</b>	<b>2.06</b>	<b>3,979,305</b>	<b>2,911,800</b>	<b>6,891,105</b>	<b>4,618,560</b>

Notes:

Rainfall data given in inches.

All other data given in gallons.

Treated leachate is leachate pumped from the holding pond to the treatment facility.

Leachate generated is the sum of leachate pumped from stage I and III.



# Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

March 11, 1996

Mr. Gus DiFonso  
Manatee County  
Solid Waste Management  
3333 Lena Road  
Bradenton, FL 34202

Re: Leachate Quantity Reporting  
Permit: #SO41-211176, Manatee County

Dear Mr. DiFonso:

Attached are two examples of a leachate quantity annual summary report. This type of summary is a quick and easy reference for both the Department and yourself to notice unusual quantities of leachate that may be collected from your landfill disposal units. This office suggests you use the format and submit the summary with each quarterly submittal of leachate quantity monthly reports, by January 15th, April 15th, July 15th, and October 15th each year. The Department intends to modify all related permits that do not currently require the reports be submitted quarterly.

Your attention to this matter will be greatly appreciated. If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.  
Solid Waste Section  
Division of Waste Management

KBF/ab  
Attachments

cc: Ben Alex, Manatee County  
Robert Butera, P.E., FDEP Tampa

**1995 Year to Date Leachate Tracking Summary**  
**Hernando County Northwest Waste Management Facility**

Month	Rainfall Inches	Leachate Gallons Pumped to Tank	Leachate Gallons Transported	Leachate Gallons In Process
January	11.2	421,800	443,400	(21,600)
February	1.1	139,200	150,800	(11,600)
March	1.2	105,200	104,400	800
April	7.3	242,300	243,600	(1,300)
May	3.5	172,500	179,800	(7,300)
June	9.7	452,300	458,200	(5,900)
July	5.6	453,700	411,800	41,900
August	7.9	451,900	469,800	(17,900)
September	5.0	346,000	371,200	(25,200)
October	9.8	790,700	797,100	(6,400)
November	1.0	118,000	116,000	2,000
December	2.2	97,000	98,600	(1,600)
YTD Total	65.5	3,790,600	3,844,700	(54,100)

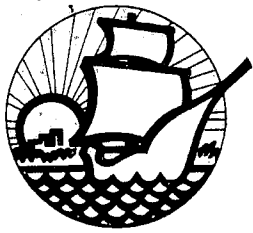
1995 LEACHATE BALANCE SUMMARY  
SOUTHEAST COUNTY LANDFILL  
HILLSBOROUGH COUNTY, FLORIDA

Month	Rainfall (in.)	Leachate Arriving at LTRF	Leachate/Effluent Leaving LTRF					Inflow/Outflow Balance For LTRF		
		Leachate Pumped to LTRF (gal.)	Total Leach. Hauled From LTRF (gal.)	Total Eff. Hauled (gal.)	Leachate Rec. From LTRF (gal.)	Effluent Rec. (gal.)	Effluent Sprayed (gal.)	Total Inflow To LTRF (gal.)	Total Outflow From LTRF (gal.)	Balance For Month (gal.)
January	4.60	3,104,000	3,166,000	(1) 0	0	0	0	3,104,000	3,166,000	(62,000)
February	2.40	4,063,000	2,942,000	(1) 0	0	0	650,000	4,063,000	4,062,000	1,000
March	1.90	3,467,000	2,320,000	(1) 0	0	113,000	932,000	3,467,000	3,705,000	(238,000)
April	1.60	2,625,000	1,124,000	393,000	60,000	0	700,000	2,625,000	2,528,000	97,000
May	2.40	2,331,000	865,725	652,689	0	0	1,000,270	2,331,000	2,255,439	75,561
June	8.30	2,369,000	904,543	758,000	0	0	568,520	2,369,000	2,252,277	116,723
July	17.90	2,296,000	845,087	1,185,000	0	0	319,750	2,296,000	2,236,821	59,179
August	15.80	2,940,000	1,620,842	1,050,000	0	0	398,520	2,940,000	2,997,072	(57,072)
September	8.80	2,939,000	1,696,897	783,000	0	25,500	507,500	2,939,000	3,168,909	(229,909)
October	5.40	3,130,000	972,984	865,000	0	76,500	600,480	3,130,000	2,763,129	366,871
November	4.30	2,539,360	699,787	1,016,000	0	17,000	785,275	2,539,360	2,465,827	73,533
December	0.50	2,570,333	525,473	1,113,000	0	173,900	661,185	2,570,333	2,391,573	178,760
YTD Total	73.90	34,373,693	17,683,338	7,815,689	60,000	405,900	7,123,500	34,373,693	33,992,047	

Notes:

1. Effluent quantities not measured separately.

f:\project\0995029.1\leachate\95summ.wb2



**MANATEE COUNTY  
GOVERNMENT**  
**Public Works Department**

**RECEIVED**  
FEB 21 1996  
Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

February 19, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the January 1996, monthly ground water gradient, water balance and the material summary report for the above referenced subject.

Per our conversation on February 13, 1996, installation of two piezometers and evaluation of our groundwater monitoring plan will be delayed due to budgetary reasons. As discussed, I will obtain a schedule from PSI outlining their expected start date and end date for these projects. Once I obtain the information, I will forward it on to you. Staff appreciates FDEP's patients regarding this matter. If you need additional information regarding this matter please call me at (941) 748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF JANUARY, 1996

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WHIR DISCHARGE pH	REMARKS
1	N/R		48,000	30.9	N/R	0.00	32.6	N/R	
2*	N/R		" "	N/R	N/R	0.00	N/R	N/R	
3*	83,345		" "	32.2	14,100	0.65	32.2	6.4	
4	50,965		" "	32.1	9,500	0.00	33.4	6.3	
5	106,405		" "	32.3	12,800	0.00	33.4	6.4	
6	N/R		" "	32.3	N/R	0.00	33.4	N/R	
7	N/R		" "	32.4	N/R	0.00	33.5	N/R	
8	348,470		" "	32.4	35,900	0.00	33.6	6.4	
9*	103,470		" "	32.4	10,800	0.00	33.6	6.4	
10*	120,030		" "	32.5	12,900	0.00	33.5	6.5	
11	89,995		" "	32.6	10,300	0.00	33.6	6.4	
12	137,985		" "	32.6	12,800	0.07	33.9	6.4	
13	N/R		" "	32.7	N/R	0.00	33.9	N/R	
14	N/R		" "	32.7	N/R	0.00	33.9	N/R	
15	N/R		" "	32.7	N/R	0.00	33.9	N/R	
16*	260,870		" "	32.9	46,500	0.00	34.0	6.4	
17*	20,365		" "	33.0	11,700	0.00	34.0	6.4	
18	19,570		" "	33.0	12,000	0.00	34.0	6.2	
19	20,930		" "	33.3	13,000	0.14	34.0	6.2	
20	N/R		" "	33.4	N/R	0.00	34.0	N/R	
21	N/R		" "	33.5	N/R	0.00	34.7	N/R	
22	43,520		" "	33.6	35,000	0.00	34.0	6.5	
23*	62,495		" "	33.6	89,700	0.00	34.0	6.4	
24*	23,120		" "	33.6	27,900	0.00	34.0	6.4	
25*	129,090		" "	33.4	296,400	0.00	34.0	6.6	
26	134,775		" "	33.2	273,400	0.00	34.0	6.4	
27	N/R		" "	33.0	N/R	0.00	34.0	N/R	
28	N/R		" "	33.0	N/R	0.00	34.0	N/R	
29	138,688		" "	33.0	214,660	0.00	34.0	7.4	
30*	35,632		" "	33.0	48,300	0.00	34.0	6.4	
31*	N/R		" "	N/R	N/R	N/R	N/R	N/R	
TOTAL	1,929,720		1,488,000		1,187,660	0.86			

TOTAL ACREAGE--STAGE I: Open - 6 Intermediate - 113 Closed - 0

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 1-03-96	Date Read: 1-10-96	Date Read: 1-17-96	Date Read: 1-24-96	Date Read: 1-31-96
#1 35.7	#1 35.3	#1 35.5	#1 35.2	#1 35.2
#2 34.7	#2 34.5	#2 34.5	#2 34.4	#2 35.4
#3 35.0	#3 34.8	#3 34.8	#3 34.7	#3 -0-
#4 40.5	#4 40.2	#4 39.9	#4 39.8	#4 39.5
#5 38.9	#5 38.9	#5 38.0	#5 38.9	#5 38.9
#6 34.8	#6 34.8	#6 34.7	#6 34.7	#6 -0-
#7 33.2	#7 33.2	#7 33.2	#7 33.1	#7 33.1
#8 31.7	#8 31.7	#8 31.7	#8 31.7	#8 31.6
#12 31.8	#12 31.8	#12 31.8	#12 31.8	#12 31.7

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	0.0
2	0.0
3	0.0
4	0
5	0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0

1. Stage III volumes estimated due to broken totalizer. New totalizer installed on 2/12/96.
2. N/R: Not reported due to weekends, holidays, staff sick.

## GAS MONITORING POINTS AND WELLS READ: 1-19-96

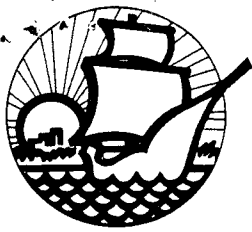
Gas Monitoring Points	
#1	0%
#2	2%
#3	4%
#4	0%
#5	3%
#6	0%
#7	2%
#8	0%

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
January 1996

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1			MW-5	39.96	31.72
PZ-2	42.53	30.07	MW-2	37.87	33.68
PZ-3	44.93	31.93	MW-1	38.71	33.38
PZ-4	45.04		CW-4	37.54	34.56
PZ-5	43.71	29.44	CW-5A	41.23	36.99
PZ-6	44.33	31.03			
PZ-7	48.15	30.16	MW-6	39.29	34.30
-----					
STAGE II					
PZ-8	37.63	32.67	LRII-5	36.74	31.75
PZ-9	36.56	32.98	LRII-3	33.51	28.57
PZ-10	37.05	33.08	LRII-2	36.53	31.37
PZ-11	37.94	32.36	LRII-1	37.97	34.83
-----					
STAGE III					
PZ-12	38.39	29.40	GC-2	38.19	33.21
PZ-13	35.09	27.22	GC-3	35.02	31.03
PZ-14	33.47	26.28	GC-4	33.91	28.02
PZ-15	33.20	27.27	GC-1A	31.74	26.59
PZ-16	34.63	28.39	GC-5	36.50	29.25
PZ-17	40.82	28.59	GC-6	39.06	31.32
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. The riser elevation for PZ-1 is unknown. The depth to ground water measurement was recorded as 13.72 ft.
3. Riser elevation data was collected on November 2, 1994 and is given in NGVD.
4. The ground water elevation data is given in NGVD.
5. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
6. Depth to ground measurements were collected on January 17, 1996.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

RECEIVED  
JAN 19 1996

Department of Environmental Protection  
SOUTHWEST DISTRICT

BY \_\_\_\_\_

January 16, 1996

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the December 1995, monthly ground water gradient, water balance and the material summary report for the above referenced subject. The following comments are included to address your correspondence of December 21, 1995 correspondence.

### Gas Report

The gas monitoring points and wells were measured on December 15, 1995, see attached spreadsheet. All future recordings will be included on the water balance report. Gas monitoring point 7 (GMP-7) has been relocated and now serves as a temporary office for landfill staff. GMP-7 will be monitored and reported at the frequency prescribed in the permit. GMP-5 no longer exist. I am unable to find any correspondence or the November 8, 1994 gas monitoring location map which would help in determining where the location of GMP-5 was or when it became abandoned. Staff recommends that gas measurements be taken inside the house hold hazardous waste building and designating that location as GMP-5. All other trailers and buildings located on the facility are monitored.



Allison Amram, P.G.  
January 16, 1996  
Page 2

Groundwater Gradient Reporting

After piezometer 15A and 4A have been installed, the top of casing for piezometer 1 will be shot. The groundwater elevation for PZ-11 for November should read 34.32 feet instead of 334.32 feet. If you require further information, or need assistance regarding this matter, please contact me at (941) 748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP ✓  
Lenox "Len" E. Bramble, P.E., Public Works Director  
*DM* Dan Gray, Utilities Operations Manager  
*HN* Gus DiFonzo, Solid Waste Manager

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
December 1995

Piezometer	Riser Elev.	Ground Water Elevation	Monitoring Well	Riser Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1			MW-5	39.96	31.62
PZ-2	42.53	32.29	MW-2	37.87	33.12
PZ-3	44.93	31.44	MW-1	38.71	33.52
PZ-4	45.04		CW-4	37.54	34.38
PZ-5	43.71	29.91	CW-5A	41.23	38.43
PZ-6	44.33	32.04			
PZ-7	48.15	32.53	MW-6	39.29	33.4
-----					
STAGE II					
PZ-8	37.63	31.23	LRII-5	36.74	30.39
PZ-9	36.56	32.13	LRII-3	33.51	27.35
PZ-10	37.05	32.12	LRII-2	36.53	29.98
PZ-11	37.94	30.95	LRII-1	37.97	33.38
-----					
STAGE III					
PZ-12	38.39	28.98	GC-2	38.19	31.45
PZ-13	35.09	26.66	GC-3	35.02	29.02
PZ-14	33.47	26.12	GC-4	33.91	26.69
PZ-15	33.20	27.03	GC-1A	31.74	26.02
PZ-16	34.63	27.64	GC-5	36.50	28.03
PZ-17	40.82	28.82	GC-6	39.06	30.71
-----					

**Notes:**

1. This table was prepared to facilitate a comparison between ground water elevation data collected from the piezometers and data collected the monitoring wells. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations may be compared to one another to monitor ground water movement across the slurry wall.
2. The riser elevation for PZ-1 is unknown. The depth to ground water measurement was recorded as 10.45 ft.
3. Riser elevation data was collected on November 2, 1994 and is given in NGVD.
4. The ground water elevation data is given in NGVD.
5. PZ-6 has no corresponding monitoring well in close proximity located outside of the slurry wall.
6. Depth to ground measurements were collected on December 13, 1995.

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF DECEMBER, 1995

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	164,933		65,000	32.2	315,700	0.00	34.3	6.4	
2*	N/R		N/R	31.8	N/R	0.00	34.3	N/R	
3*	N/R		N/R	32.0	N/R	0.00	34.0	N/R	
4	580,290		195,000	32.0	1,143,900	0.00	34.0	6.4	
5	197,925		65,000	32.0	385,000	0.00	33.8	6.4	
6	185,445		65,000	33.7	367,000	0.00	34.0	6.4	
7	172,734		65,000	31.7	350,800	0.00	33.8	6.4	
8	182,951		65,000	32.0	372,900	0.00	33.4	6.6	
9*	N/R		N/R	32.0	N/R	0.00	33.4	N/R	
10*	N/R		N/R	31.4	N/R	0.10	33.5	N/R	
11	492,375		195,000	31.0	1,085,300	0.00	33.4	6.4	
12	163,420		65,000	31.0	383,000	0.00	33.4	6.4	
13	187,230		65,000	30.9	396,400	0.00	33.4	6.6	
14	139,848		65,000	31.3	307,600	0.00	33.4	6.4	
15	172,148		65,000	31.6	379,000	0.00	32.9	6.5	
16*	N/R		N/R	31.5	N/R	0.00	32.9	N/R	
17*	N/R		N/R	31.0	N/R	0.00	32.9	N/R	
18	447,922		195,000	30.7	1,084,000	0.00	32.9	6.4	
19	145,938		65,000	31.9	371,100	0.18	32.7	6.6	
20	150,030		65,000	31.4	758,500	0.00	32.4	6.5	
21	137,720		65,000	31.0	377,500	0.00	32.4	6.5	
22	137,792		65,000	30.8	388,000	0.04	32.4	6.5	
23*	N/R		N/R	30.4	N/R	0.00	32.6	N/R	
24*	N/R		N/R	29.9	N/R	0.00	32.6	N/R	
25*	N/R		N/R	29.9	N/R	0.00	32.6	N/R	
26	485,449		260,000	30.0	878,500	0.00	32.6	6.4	
27	89,259		65,000	30.0	10,500	0.00	32.5	6.6	
28	90,455		65,000	30.1	11,000	0.00	32.6	6.6	
29	90,677		65,000	30.7	11,500	0.98	32.5	6.6	
30*	N/R		N/R	30.7	N/R	0.00	32.5	N/R	
31*	N/R		N/R	30.8	N/R		32.5	N/R	
TOTAL	4,414,541		1,885,000		9,377,200	1.30			
TOTAL ACREAGE--STAGE I: Open + 6 Intermediate - 113 Closed - 0									
TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0									

## WETLANDS STAFF GAUGE LEVELS

Date Read: 12-06-95	Date Read: 12-13-95	Date Read: 12-20-95	Date Read: 12-27-95	Date Read:
#1 35.3	#1 35.1	#1 35.1	#1 35.1	#1
#2 34.3	#2 34.3	#2 34.3	#2 34.2	#2
#3 34.8	#3 34.7	#3 34.8	#3 35.7	#3
#4 40.8	#4 40.5	#4 40.2	#4 39.5	#4
#5 38.9	#5 38.9	#5 38.7	#5 38.7	#5
#6 34.6	#6 34.6	#6 34.6	#6 34.5	#6
#7 33.1	#7 33.0	#7 32.9	#7 32.9	#7
#8 31.5	#8 31.3	#8 31.2	#8 31.2	#8
#12 31.6	#12 31.5	#12 31.5	#12 31.4	#12

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0

1. Stage III volumes estimated due to broken totalizer. New totalizer has been ordered but not yet received.
2. N/R: Not reported due to weekend and holidays.

## GAS MONITORING POINTS AND WELLS READ: 12-15-95

Gas Monitoring Points	
#1	0%
#2	0%
#3	0%
#4	0%
#6	0%
#8	0%

FDEP Survey - Leachate Management Workshop - NOV. 28, 1995

Name BEN ALEX

County MANATEE

Department SOLID WASTE

RECEIVED  
DEC 20 1995

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

(1) Was the length of time of the workshop appropriate for the subject matter covered? YES - A LITTLE SHORT

(2) If too long or too short, what length of time do you think would have been adequate to cover the material? What length of time would you like future workshops to be?

8 hrs

(3) Do you believe the information received will be helpful to you for future leachate management at your facility?

YES

(4) Do you feel your questions were responded to appropriately?

YES

(5) Are you interested in having sessions scheduled on various solid waste issues such as permitting, groundwater monitoring, cost estimates and other landfill operational procedures? Please suggest topics of interest. YES!

ALL THE ABOVE PLUS

FILL SEQUENCE, RULE INTERPRETATION, STORM WATER - COULD

DO ONE TOPIC PER QUARTER

(6) If your response to (5) was yes, should sessions for small or intermediate size counties be separate from sessions with the larger counties? why? (NO)

(7) How often should any future sessions be scheduled? Check one:

Quarterly \_\_\_\_\_ Semi-annually ✓ Annually \_\_\_\_\_

Other \_\_\_\_\_ What timeframe? BEFORE & AFTER  
RAIN SEASON



# Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

DEC 12 1995

Mr. Gus DiFonso, Director  
Manatee County  
Solid Waste Management  
3333 Lena Road  
Bradenton, FL 34202

Re: Survey Request on Nov. 28th, 1995 Inter-governmental  
Meeting on Leachate Management

Dear Mr. DiFonso:

The Florida Department of Environmental Protection's Southwest District Solid Waste Section thanks you for attending the inter-governmental sharing meeting on Leachate Management on Tuesday, November 28, 1995. Due to unexpected personal reasons I was not able to attend but I have listened to the recordings of the session and have been updated by staff. The workshop appears to have been a success but I would like to get your input on the merits and shortcomings of this meeting and your ideas for sessions the Solid Waste Section may schedule in the future.

Attached is a survey that I would appreciate you responding to and forwarding to my attention by December 31, 1995. Signing of the survey is optional. This information will be helpful for planning purposes of any future workshops. The Solid Waste Section is always available for any questions you may have relating to the Solid Waste Regulations or technical guidance.

All members of the Solid Waste staff sincerely thank you for your time and participation at the November 28th meeting. If you have any other questions or comments you may contact me at (813) 744-6100, Ext. 451.

Sincerely,

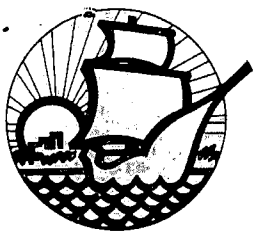
Robert J. Butera, P.E.  
Solid Waste Manager  
Southwest District

Attachment

cc: Kim Ford, P.E.  
Ben Alex, Manatee County

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

*Printed on recycled paper.*



# MANATEE COUNTY GOVERNMENT

## Public Works Department

RECEIVED  
DEC 18 1995

December 14, 1995

Department of Environmental Protection  
SOUTHWEST DISTRICT

BY \_\_\_\_\_

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the November 1995, monthly ground water gradient, water balance and the material summary report for the above referenced subject. Please note that the volume of leachate pumped from Stage III was estimated. The Stage III flow meter is damaged beyond repair. A new flow meter has been ordered. Volume estimates of leachate pumped from Stage III leachate will continue until the new flow meter is received. At that time the total acreage estimates will change. If you require further information, or need assistance regarding this matter, please contact me at (941) 748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

cc: Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF NOVEMBER, 1995

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	272,988		225,000	34.6	249,500	0.43	35.9	6.4	Stage III estimated
2	243,825		225,000	34.9	88,200	0.00	36.0	6.3	Stage III estimated
3	553,820		225,000	34.8	299,100	0.00	36.0	6.2	Stage III estimated
4*	N/R		N/R	35.3	N/R	0.00	35.8	N/R	
5*	N/R		N/R	35.2	N/R	0.00	35.9	N/R	
6	876,368		675,000	35.0	998,700	0.00	35.9	6.4	Stage III estimated
7	329,485		225,000	34.8	339,000	0.00	36.0	6.4	Stage III estimated
8	331,147		225,000	34.8	438,500	0.25	36.0	6.3	Stage III estimated
9	248,615		225,000	34.7	325,000	0.00	35.7	6.4	Stage III estimated
10	369,195		225,000	34.4	502,500	0.00	35.7	6.4	Stage III estimated
11*	N/R		N/R	34.2	N/R	0.04	35.7	N/R	
12*	N/R		N/R	34.4	N/R	0.00	35.5	N/R	
13	953,449		675,000	33.0	1,253,800	0.00	35.4	6.4	Stage III estimated
14	294,100		225,000	34.2	387,700	0.00	35.3	6.4	Stage III estimated
15	334,298		225,000	34.8	487,500	0.00	35.2	6.6	Stage III estimated
16	260,848		225,000	34.3	385,000	0.00	35.0	6.4	Stage III estimated
17	269,030		225,000	33.8	348,500	0.00	35.0	6.4	Stage III estimated
18*	N/R		N/R	33.4	N/R	0.00	35.0	N/R	
19*	N/R		N/R	33.2	N/R	0.00	35.0	N/R	
20	902,430		675,000	33.6	1,334,800	0.00	34.7	6.4	Stage III estimated
21	262,720		225,000	32.3	412,700	0.00	34.9	6.4	Stage III estimated
22	273,693		225,000	33.7	427,900	0.00	34.7	6.4	Stage III estimated
23*	N/R		N/R	33.2	N/R	0.00	34.6	N/R	
24*	N/R		N/R	33.0	N/R	0.00	34.6	N/R	
25*	N/R		N/R	32.7	N/R	0.00	34.2	N/R	
26*	N/R		N/R	31.9	N/R	0.00	34.2	N/R	
27	1,316,692		1,125,000	32.7	2,458,900	0.00	34.1	6.3	Stage III estimated
28	228,525		225,000	33.0	38,310	0.02	34.0	6.4	Stage III estimated
29	214,360		225,000	33.7	380,200	0.46	34.0	6.4	
30	192,487		225,000	32.3	356,200	0.00	34.1	6.4	
31									
TOTAL	8,727,875		6,750,000		11,512,010	1.20			

TOTAL ACREAGE--STAGE I: Open - 6 Intermediate - 113 Closed - 0

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 11-01-95	Date Read: 11-08-95	Date Read: 11-15-95	Date Read: 11-22-95	Date Read:
#1 36.5	#1 35.6	#1 35.3	#1 35.2	#1
#2 35.4	#2 34.7	#2 34.5	#2 34.4	#2
#3 35.6	#3 35.1	#3 34.8	#3 34.8	#3
#4 40.6	#4 40.8	#4 40.1	#4 40.5	#4
#5 39.0	#5 39.1	#5 39.1	#5 39.1	#5
#6 35.1	#6 35.0	#6 34.7	#6 34.7	#6
#7 33.6	#7 33.3	#7 33.2	#7 33.1	#7
#8 32.1	#8 31.8	#8 31.6	#8 31.5	#8
#12 32.3	#12 32.0	#12 31.8	#12 31.7	#12

## GAS MONITORING WELLS

WELL NUMBER	READING (Percent)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0

A: N.R. - Not reported due to weekend & holiday.  
B: Stage III volume estimated by determining avg. number of pump run hours & multiplying by est. flow rate based on Oct. data.

C: Stage III volumes estimated due to broken totalizer. New totalizer has been ordered.

## Gas Monitoring Points

Point	Reading
#1	0%
#2	0%
#3	0%
#4	0%
#5	N/A
#6	0%
#7	N/A
#8	0%

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
November 1995

Piezometer	NGVD Elev.	Ground Water Elevation	Monitoring Well	NGVD Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1			MW-5	39.96	32.31
PZ-2	42.53	31.61	MW-2	37.87	34.12
PZ-3	44.93	33.36	MW-1	38.71	34.98
PZ-4	45.04		CW-4	37.54	34.54
PZ-5	43.71	29.98	CW-5A	41.23	39.04
PZ-6	44.33	31.12			
PZ-7	48.15	32.01	MW-6	39.29	34.29
-----					
STAGE II					
PZ-8	37.63	34.29	LRII-5	36.74	30.99
PZ-9	36.56	34.56	LRII-3	33.51	28.51
PZ-10	37.05	34.40	LRII-2	36.53	30.99
PZ-11	37.94	334.32	LRII-1	37.97	32.65
-----					
STAGE III					
PZ-12	38.39	30.10	GC-2	38.19	32.61
PZ-13	35.09	27.58	GC-3	35.02	30.10
PZ-14	33.47	26.66	GC-4	33.91	27.56
PZ-15	33.20	27.47	GC-1A	31.74	26.29
PZ-16	34.63	28.70	GC-5	36.50	29.04
PZ-17	40.82	29.28	GC-6	39.06	31.52
-----					

**Notes:**

1. The NGVD elevation for PZ-1 is unknown. The piezometer elevation shall be shot ASAP.
2. The table was prepared so that the ground water elevation data obtained from the piezometers can be compared to the data obtained from their corresponding monitoring well. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations are compared to one another to estimate ground water movement inside and outside the slurry wall.
3. NGVD data taken on November 2, 1994 and is the elevation of the top of riser.
4. The ground water elevation data is given in NGVD.
5. PZ-6 has no corresponding monitoring well, in close proximity, located outside of the slurry wall.
6. PZ-4 is damaged due to closure construction. See correspondence dated November 21, 1995.
7. Groundwater elevation data was collected on November 17, 1995.



# MANATEE COUNTY GOVERNMENT

## Public Works Department

### TELEFAX COVER MEMO

PLEASE DELIVER THE FOLLOWING PAGE(S)

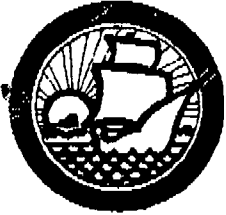
TO: Kim Ford  
FROM: Ben Alex 941/748-5543  
DATE: 3-20-96 Ext. 5444  
SUBJECT: OCT. LEACHMERE Q. AND: 74

Please call upon receipt \_\_\_\_ Please handle confidentially \_\_\_\_

COMMENTS:

Total number of pages including cover memo: 5

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL AS SOON AS POSSIBLE.



# MANATEE COUNTY GOVERNMENT

## Public Services Department

November 27, 1995

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill

Dear Ms. Amram:

Enclosed please find the October 1995, monthly ground water gradient water balance and the material summary report for the above referenced subject. If you require further information, or need assistance regarding this matter, please contact me at (941) 748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

bla

cc: Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, P.E., Public Works Director  
Dan Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

## MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF OCTOBER, 1995

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWT IN G.T.O.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WIER DISCHARGE CFS	REMARKS
1*	N/R		N/R	33.2	N/R	0.00	34.9	N/R	
2*	N/R		N/R	N/R	N/R	N/R	N/R	N/R	Data not taken
3	2,137,260		328,100	33.2	2,326,100	0.06	34.8	6.4	
4	409,121		328,652	33.6	596,700	0.14	34.4	6.4	Stage III estimated
5	369,747		481,176	33.1	527,000	1.79	34.8	5.9	Stage III estimated
6	313,503		302,300	34.8	348,500	2.00	35.0	6.2	
7*	N/R		N/R	34.6	N/R	0.00	35.6	N/R	
8*	N/R		N/R	34.5	N/R	0.02	35.5	N/R	
9	940,405		1,012,500	34.5	1,036,500	0.47	35.6	6.3	
10	306,862		375,100	34.6	332,200	0.35	35.7	6.4	
11	340,199		535,000	34.6	873,000	0.00	36.0	6.3	
12	324,848		489,000	34.6	341,000	0.16	38.0	6.4	
13	350,325		518,000	34.6	347,100	0.02	35.9	6.4	
14*	N/R		N/R	35.5	N/R	0.14	35.7	N/R	
15*	N/R		N/R	35.5	N/R	0.06	35.6	N/R	
16	1,087,584		635,400	35.5	991,800	0.00	35.8	6.4	
17	595,355		418,584	35.6	378,500	0.06	35.6	6.4	Stage III estimated
18	318,531		305,136	35.4	310,700	0.06	35.7	6.4	
19	319,172		312,960	35.3	336,300	0.03	35.7	6.3	Stage III estimated
20	382,550		385,332	35.0	369,500	0.03	35.7	6.2	Stage III estimated
21*	N/R		N/R	34.8	N/R	0.00	35.8	N/R	
22*	N/R		N/R	34.6	N/R	0.00	35.7	N/R	
23	1,069,012		312,960	34.4	1,011,100	0.00	35.7	6.4	Stage III estimated
24	474,276		264,080	34.5	568,700	0.00	35.4	6.4	Stage III estimated
25	470,780		318,928	33.8	579,500	0.00	35.4	6.4	Stage III estimated
26	432,585		219,077	33.3	536,800	0.00	35.4	6.4	Stage III estimated
27	513,555		289,488	33.3	671,400	0.00	35.4	6.4	Stage III estimated
28*	N/R		N/R	33.0	N/R	0.00	35.4	N/R	
29*	N/R		N/R	32.6	N/R	0.00	35.3	N/R	
30	1,033,345		312,960	32.6	1,335,500	0.00	35.0	6.4	Stage III estimated
31	242,577		232,764	33.0	243,100	3.64	34.9	6.4	Stage III estimated
TOTAL	12,231,690		8,375,377		13,556,000	6.97			
TOTAL ACREAGE -- STAGE I: Open - 6 Intermediate - 113 Closed - 0									
TOTAL ACREAGE -- STAGE III: Open - 0 Intermediate - 71 Closed - 0									

8.97

## WETLANDS STAFF GAUGE LEVELS

Date Read: 10-04-95	Date Read: 10-11-95	Date Read: 10-18-95	Date Read: 10-25-95	Date Read:
#1 35.3	#1 36.3	#1 35.5	#1 35.2	#1
#2 34.5	#2 35.5	#2 35.5	#2 34.5	#2
#3 34.9	#3 36.8	#3 35.1	#3 34.8	#3
#4 N/A	#4 40.5	#4 40.1	#4 40.2	#4
#5 34.8	#5 39.2	#5 39.0	#5 39.0	#5
#6 34.7	#6 35.0	#6 35.0	#6 34.8	#6
#7 33.2	#7 33.3	#7 33.3	#7 33.2	#7
#8 31.7	#8 32.0	#8 32.8	#8 31.6	#8
#12 31.7	#12 32.0	#12 31.9	#12 31.8	#12

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	48.0
15	0.0
16	0.0
17	0.0
18	0.0

A): N.R. - Not reported due to weekend.

B): Stage III volumes estimated due to broken totalizer. New totalizer has been ordered.

Gas Monitoring Points	
#	Point
#1	0%
#2	0%
#3	0%
#4	0%
#5	N/A
#6	0%
#7	0%
#8	0%

**Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
October 1995**

Piezometer	NGVD Elev.	Ground Water Elevation	Monitoring Well	NGVD Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1			MW-5	39.96	32.74
PZ-2	42.53	30.74	MW-2	37.87	35.88
PZ-3	44.93	34.60	MW-1	38.71	35.29
PZ-4	45.04		CW-4	37.54	34.93
PZ-5	43.71	29.96	CW-5A	41.23	39.01
PZ-6	44.33	31.74			
PZ-7	48.15	31.15	MW-6	39.29	35.55
-----					
STAGE II					
PZ-8	37.63	30.84	LR11-5	36.74	32.28
PZ-9	36.56	31.78	LR11-3	33.51	29.16
PZ-10	37.05	31.02	LR11-2	36.53	31.81
PZ-11	37.94	30.00	LR11-1	37.97	34.48
-----					
STAGE III					
PZ-12	38.39	31.72	GC-2	38.19	33.26
PZ-13	35.09	28.20	GC-3	35.02	31.63
PZ-14	33.47	27.48	GC-4	33.91	28.17
PZ-15	33.20	28.19	GC-1A	31.74	26.75
PZ-16	34.63	29.53	GC-5	36.50	29.78
PZ-17	40.82	30.56	GC-6	39.06	32.21
-----					

**Notes:**

1. The NGVD elevation for PZ-1 is unknown. The piezometer elevation shall be shot ASAP.
2. The table was prepared so that the ground water elevation data obtained from the piezometers can be compared to the data obtained from their corresponding monitoring well. For example, LR11-2 is located on the opposite side of the slurry wall to PZ-10. Thus, their ground water elevations are compared to one another to estimate ground water movement inside and outside the slurry wall.
3. NGVD data taken on November 2, 1994 and is the elevation of the top of riser.
4. The ground water elevation data is given in NGVD.
5. PZ-6 has no corresponding monitoring well, in close proximity, located outside of the slurry wall.
6. PZ-4 is damaged due to closure construction. See correspondence dated November 21, 1995.
7. Groundwater elevation data was collected on October 18, 1995.



# Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Virginia B. Wetherell  
Secretary

Mr. Gus DiFonso, Director  
Manatee County  
Solid Waste Management  
3333 Lena Road  
Bradenton, FL 34202

NOV - 9 1995

Re: November 28, 1995 Intergovernmental Meeting to Discuss Leachate  
Management Issues

Dear Mr. DiFonso:

The Florida Department of Environmental Protection Southwest District Solid Waste Section would like to invite you to attend an intergovernmental information sharing meeting, discussing the issues of Leachate Quantity Reports submittals and current available off-site leachate disposal options.

The meeting will be held on Tuesday, November 28, 1995, from 10:00 A.M. to 2:30 P.M., at the Department's Southwest District office in Tampa.

This meeting will allow you a forum to freely discuss any questions you may have in regard to and identify ways you can use the reported leachate quantity data and will allow for an exchange of information on off-site leachate disposal options available and currently used. Attached is a summary of data reported this year, for your review.

## AGENDA

Leachate Quantity Reports (formats and uses)	10:00 - 11:30 A.M.
Off-site Leachate Disposal (options and limitations)	11:30 A.M. - 12:30 P.M.
Lunch Presentation (Hillsborough County Southeast Landfill)	12:30 - 1:30 P.M.
Wrap-up and Questions	1:30 - 2:30 P.M.

Lunch delivery will be available at a cost of \$3.50 per person to include a sandwich, chips, and a soft drink, or you may bring your own lunch. There will be space available in the meeting room to allow up to 3 persons per facility to attend. The Department suggests that at least one individual who is directly responsible for leachate management at the facility attend the meeting. Counties may choose to invite their consultant if they are responsible for compiling leachate data for the landfill.

*"Protect, Conserve and Manage Florida's Environment and Natural Resources"*

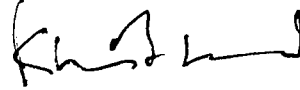
*Printed on recycled paper.*

Mr. Gus DiFonso  
Manatee County

NOV - 9 1995

You are requested to contact me at (813) 744-6100, ext. 382, prior to November 22, 1995, confirming who from your organization will be attending the meeting or if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kim B. Ford', with a stylized, cursive-like script.

Kim B. Ford, P.E.  
Solid Waste Section  
Division of Waste Management

KBF/ab  
Attachment

cc: Robert Butera, P.E., FDEP Tampa  
Susan Pelz, FDEP Tampa  
Ben Alex, Manatee County  
Lenox Bramble, Manatee County

## LEACHATE MANAGEMENT IN S.W. DISTRICT

Facility	Rainfall	# Days	Open Acres	Interm. Acres	Closed Acres	Collected	Leachate gal/acre/day	From	To
Citrus 7 Ac	27.2	180	0	0	7	206,595	164	1-Jan-95	30-Jun-95
Citrus Ex. Phs I	27.2	180	3	14	0	942,907	308	1-Jan-95	30-Jun-95
Desoto	33.2	180	4	4	0	1,609,268	1118	1-Jan-95	30-Jun-95
Hardee	24.3	180	9	5	0	3,995,220	1585	1-Jan-95	30-Jun-95
Hernando Croom	24.1	180	0	0	5	63,800	71	1-Jan-95	30-Jun-95
Hernando NW	34.0	180	6	0	0	1,533,300	1420	1-Jan-95	30-Jun-95
Hills DJJ	11.6	180	1	5	0	1,003,709	929	1-Jan-95	30-Jun-95
Hills. SE	21.2	180	5	92	23	17,872,000	827	1-Jan-95	30-Jun-95
Levy Area #1	38.0	180	0	3	0	160,490	297	1-Jan-95	30-Jun-95
Levy Area #2	38.0	180	3	0	0	996,125	1845	1-Jan-95	30-Jun-95
Levy Pond	38.0	180	1	0	0	1,031,791	5732	1-Jan-95	30-Jun-95
Manatee Stg I	17.5	180	6	113	0	52,495,162	2451	1-Jan-95	30-Jun-95
Manatee Stg III	17.5	180	0	71	0	21,517,427	1684	1-Jan-95	30-Jun-95
Manatee Pond	17.5	180	5	0	0	2,375,835	2640	1-Jan-95	30-Jun-95
Pasco East T1	20.3	180	0	0	7	99,800	79	1-Jan-95	30-Jun-95
Pasco East T2	20.3	180	0	0	7	129,600	103	1-Jan-95	30-Jun-95
Pasco East T3	20.3	180	0	0	5	7,000	8	1-Jan-95	30-Jun-95
Pasco East T4	20.3	180	0	6	5	36,000	18	1-Jan-95	30-Jun-95
Pasco East T5	20.3	180	2	4	0	680,800	630	1-Jan-95	30-Jun-95
Pasco West A1	26.9	180	8	0	0	3,130,029	2174	1-Jan-95	30-Jun-95
Pasco West Cls III	26.9	180	7	0	0	2,313,350	1836	1-Jan-95	30-Jun-95
Pin. 126th Ave.		180	12	0	0	0	0	1-Jan-95	30-Jun-95
Pin. Bridgeway Ac.	26.6	180	750	0	0	147,580,564	1093	1-Jan-95	30-Jun-95
Pin. Toytown	20.0	180	0	0	215	21,345,510	552	1-Jan-95	30-Jun-95
Polk NC	23.1	180	6	40	0	617,500	75	1-Jan-95	30-Jun-95
Polk NE	18.8	180	0	14	0	1,253,953	498	1-Jan-95	30-Jun-95
Polk SE	20.8	180	4	14	0	3,034,152	936	1-Jan-95	30-Jun-95
Sarasota B. R.	23.7	180	15	115	90	27,276,228	689	1-Jan-95	30-Jun-95

## LEACHATE MANAGEMENT IN S.W. DISTRICT

Facility	Rainfall	# Days	Open Acres	Interm. Acres	Closed Acres	Collected	Leachate gal/acre/day	From	To
Citrus 7 Ac	27.2	92	0	0	7	67,022	104	1-Jul-95	30-Sep-95
Citrus Ex. Phs I	27.2	92	3	14	0	597,023	382	1-Jul-95	30-Sep-95
Desoto	37.3	92	4	4	0	2,316,000	3147	1-Jul-95	30-Sep-95
Hardee	31.7	92	9	5	0	2,794,569	2170	1-Jul-95	30-Sep-95
Hernando Croom	23.8	92	0	0	5	23,200	50	1-Jul-95	30-Sep-95
Hernando NW	18.5	92	6	0	0	1,251,600	2267	1-Jul-95	30-Sep-95
Hills DJJ	14.9	92	1	5	0	388,200	703	1-Jul-95	30-Sep-95
Hills. SE	42.5	92	5	92	23	8,175,000	740	1-Jul-95	30-Sep-95
Levy Area #1	19.6	92	0	3	0	129,173	468	1-Jul-95	30-Sep-95
Levy Area #2	19.6	92	3	0	0	623,850	2260	1-Jul-95	30-Sep-95
Levy Pond	19.6	92	1	0	0	532,187	5785	1-Jul-95	30-Sep-95
Manatee Stg I	34.0	92	6	113	0	32,856,807	3001	1-Jul-95	30-Sep-95
Manatee Stg III	34.0	92	0	71	0	14,388,424	2203	1-Jul-95	30-Sep-95
Manatee Pond	34.0	92	5	0	0	4,615,908	10035	1-Jul-95	30-Sep-95
Pasco East T1	32.4	92	0	0	7	80,800	125	1-Jul-95	30-Sep-95
Pasco East T2	32.4	92	0	0	7	138,550	215	1-Jul-95	30-Sep-95
Pasco East T3	32.4	92	0	0	5	15,100	33	1-Jul-95	30-Sep-95
Pasco East T4	32.4	92	0	6	5	39,900	39	1-Jul-95	30-Sep-95
Pasco East T5	32.4	92	2	4	0	704,908	1277	1-Jul-95	30-Sep-95
Pasco West A1	20.5	92	8	0	0	1,703,959	2315	1-Jul-95	30-Sep-95
Pasco West Cls III	26.3	92	7	0	0	2,188,300	3398	1-Jul-95	30-Sep-95
Pin. 126th Ave.		92	12	0	0	0	0	1-Jul-95	30-Sep-95
Pin. Bridgeway Ac.		92	750	0	0	0	0	1-Jul-95	30-Sep-95
Pin. Toytown	26.4	92	0	0	215	10,987,910	556	1-Jul-95	30-Sep-95
Polk NC	27.8	92	6	40	0	408,013	96	1-Jul-95	30-Sep-95
Polk NE	31.8	92	0	14	0	728,755	566	1-Jul-95	30-Sep-95
Polk SE	25.5	92	4	14	0	2,582,884	1560	1-Jul-95	30-Sep-95
Sarasota B. R.	36.5	92	15	115	90	15,654,008	773	1-Jul-95	30-Sep-95





# MANATEE COUNTY GOVERNMENT

## Public Services Department

October 10, 1995

**RECEIVED**  
OCT 16 1995  
Department of Environmental Protection  
BY SOUTHWEST DISTRICT

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill  
Permit No. SO41-211176

Dear Ms. Amram:

Enclosed please find the September 1995, monthly ground water gradient, water balance and material summary report for the above referenced subject.

Please note that an inward gradient now exist around Stage III, except at monitoring location PZ-15. The inward gradient may be attributed to less rainfall reported this month as opposed to the amount of rainfall reported earlier in the year.

As discussed in the August report, staff would address the outward gradient stormwater mounding issue around Stage III and propose to FDEP a solution to eliminate the problem. Since that report, staff has determined that the problem may be associated with 5, 12 inch culverts conveying stormwater from the Stage III perimeter ditch onto the Stage III area. Additionally, the gradient and stormwater mounding problem may be attributed to the heavy rains we received during July and August. In a correspondence to Mr. Ford, dated September 27, 1995, staff proposed to plug the culverts, precluding stormwater in the perimeter ditch from discharging back onto Stage III. In a correspondence dated October 2, 1995, Mr. Ford gave his approval of staff's proposal. Mr. Ford also requested staff to take weekly groundwater measurements around Stage III after the culverts were plugged to demonstrate the problem has been resolved. Staff will proceed with these modifications and report to FDEP as described in Mr. Ford's latest correspondence.

Allison Amram, P.G.  
Monthly Report  
Page 2

If you require further information, or need assistance regarding this matter, please contact me at (941) 748-5543.

Sincerely,

*Benjamin L. Alex*

Benjamin L. Alex  
Solid Waste Technical Coordinator

bla

cc: Kim Ford, P.E., FDEP  
✓ Lenox E. "Len" Bramble, P.E., Public Services Director  
Daniel T. Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF SEPTEMBER, 1995

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	205,332		88,200	35.4	484,800	0.51	36.2	6.9	
2*	N/R		N/R	35.2	N/R	0.00	36.0	N/R	
3*	N/R		N/R	35.0	N/R	0.00	36.0	N/R	
4*	N/R		N/R	35.0	N/R	0.00	35.8	N/R	
5	880,340		383,160	34.9	1,922,500	0.40	35.5	6.4	Stage III estimated
6	292,360		383,160	35.6	513,800	0.19	35.5	6.4	Stage III estimated
7	302,675		296,100	35.3	525,500	0.31	35.5	6.4	
8	247,170		220,800	34.9	429,700	0.00	35.5	6.4	
9*	N/R		N/R	34.7	N/R	0.16	35.4	N/R	
10*	N/R		N/R	34.2	N/R	0.18	35.5	N/R	
11	822,120		64,490	33.9	1,531,100	1.81	35.8	6.4	
12	259,660		327,500	34.0	491,700	0.06	36.0	6.4	
13	305,066		381,000	33.9	576,000	1.05	35.7	6.0	
14	273,029		348,600	33.9	519,000	0.00	35.7	6.4	
15	321,180		361,400	34.3	509,600	0.00	35.5	6.3	
16*	N/R		N/R	34.3	N/R	0.00	35.4	N/R	
17*	N/R		N/R	34.9	N/R	0.00	35.2	N/R	
18	757,185		741,800	34.9	941,700	0.00	35.0	6.4	
19	250,362		119,520	35.7	199,600	0.00	35.2	6.3	Stage III estimated
20	454,758		11,200	35.4	552,000	0.00	35.0	6.4	
21	365,017		166,600	34.9	464,800	0.00	35.0	6.4	
22	324,242		18,942	34.5	519,600	0.02	35.1	6.2	
23*	N/R		N/R	34.1	N/R	0.29	34.9	N/R	
24*	N/R		N/R	34.6	N/R	0.00	34.8		
25	1,112,794		947,500	34.0	1,410,100	0.02	34.8	6.6	
26	386,784		147,300	34.7	511,500	0.00	34.8	N/R	
27	370,801		125,900	33.2	502,500	2.48	34.8	N/R	
28	397,328		312,900	33.8	561,200	0.02	35.3	6.6	
29	435,615		391,800	33.4	643,000	0.00	35.3	6.4	
30*	N/R		N/R	33.7	N/R	1.05	34.9	6.4	
31									
TOTAL	8,763,818		5,837,872		13,809,700	8.55			

TOTAL ACREAGE--STAGE I: Open - 6 Intermediate - 113 Closed - 0

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 09-06-95	Date Read: 09-13-95	Date Read: 09-20-95	Date Read: 09-27-95	Date Read:
# 1 35.8	#1 36.0	#1 35.5	#1 35.5	#1
# 2 36.3	#2 35.1	#2 35.7	#2 34.4	#2
# 3 36.6	#3 35.5	#3 35.0	#3 39.8	#3
# 4 40.4	#4 40.5	#4 40.3	#4 40.2	#4
# 5 35.5	#5 38.5	#5 38.5	#5 37.5	#5
# 6 34.9	#6 34.4	#6 34.7	#6 34.6	#6
# 7 33.3	#7 33.3	#7 33.2	#7 33.1	#7
# 8 31.0	#8 31.8	#8 31.7	#8 31.5	#8
#12 32.0	#12 31.9	#12 31.8	#12 31.6	#12

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0

A): N.R. - Not reported  
due to weekend.

B): Stage volumes estimated  
due to clogged totalizer.

Gas Monitoring Points	
#1	0%
#2	0%
#3	0%
#4	0%
#5	N/A
#6	0%
#7	N/A
#8	0%

Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
September 1995

Piezometer	NGVD Elev.	Ground Water Elevation	Monitoring Well	NGVD Elev.	Ground Water Elev.
-----					
STAGE I					
PZ-1			MW-5	39.96	32.62
PZ-2	42.53	32.50	MW-2	37.87	34.51
PZ-3	44.93	33.08	MW-1	38.71	35.06
PZ-4	45.04		CW-4	37.54	34.89
PZ-5	43.71	29.96	CW-5A	41.23	38.77
PZ-6	44.33	31.60			
PZ-7	48.15	32.54	MW-6	39.29	35.99
-----					
STAGE II					
PZ-8	37.63	33.71	LRII-5	36.74	31.75
PZ-9	36.56	34.13	LRII-3	33.51	27.97
PZ-10	37.05	34.13	LRII-2	36.53	31.52
PZ-11	37.94	33.92	LRII-1	37.97	33.64
-----					
STAGE III					
PZ-12	38.39	32.13	GC-2	38.19	33.31
PZ-13	35.09	28.39	GC-3	35.02	31.53
PZ-14	33.47	27.87	GC-4	33.91	28.06
PZ-15	33.20	28.24	GC-1A	31.74	26.73
PZ-16	34.63	29.61	GC-5	36.50	29.87
PZ-17	40.82	30.68	GC-6	39.06	32.51
-----					

Notes:

1. The NGVD elevation for PZ-1 is unknown. The piezometer elevation shall be shot ASAP.
2. The table was prepared so that the piezometer data can be compared to its corresponding monitoring well data. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10 and their ground water elevations are compared to one another.
3. NGVD data taken on November 2, 1994 and is the elevation of the top of riser.
4. The ground water elevation data is given in NGVD.
5. PZ-6 has no corresponding monitoring well, in close proximity, located outside of the slurry wall.
6. PZ-4 is damaged due to closure construction. A new piezometer may be necessary.

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION  
SOUTHWEST DISTRICT

CONVERSATION RECORD

Date 9/19/95 Subject LENA RD LF STAGE III  
Time 10:20 Permit No. \_\_\_\_\_

County \_\_\_\_\_  
MR Ben Alex Telephone No. (941) 748 5543

Representing MANATEE COUNTY

[ ] Phoned Me [ ☒ ] Was Called [ ] Scheduled Meeting [ ] Unscheduled Meeting

Other Individuals Involved in Conversation/Meeting \_\_\_\_\_

Bob Burns

Summary of Conversation/Meeting \_\_\_\_\_

WE EXPLAINED THAT A PLAN FOR  
CORRECTIVE ACTION FOR STAGE III

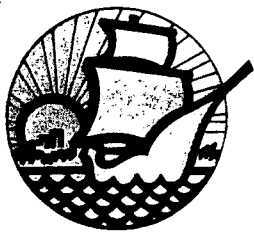
GRADIENT IS REQUIRED AND WE HAVE HELD  
OFF ON STATING A WAD BECAUSE CONSTRUCTION  
WAS NOT COMPLETED.

BEN SAID A LETTER WILL BE SENT FRIDAY  
TO EXPLAIN CORRECTIVE ACTIONS FOR STAGE III.

(continue on another  
sheet, if necessary)

Signature f m

Title \_\_\_\_\_



**MANATEE COUNTY  
GOVERNMENT**  
Public Works Department

**RECEIVED**  
SEP 15 1995  
Department of Environmental Protection  
BY SOUTHWEST DISTRICT

September 13, 1995

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill  
GMS ID. No. 4041C02025  
Permit No. SO41-211176

Dear Ms. Amram:

Enclosed please find the August 1995, monthly ground water gradient, water balance and material summary report for the above referenced subject.

Please note that an outward gradient continues to exist around Stage II. As indicated in my August 14, 1995 correspondence, in an attempt to reverse the outward gradient staff was preparing to replace the broken pipe line used to convey storm water from Stage II to wetland No. 6. I called Mr. Kim Ford on August 25, 1995 about the issue and we discussed alternatives for a temporary solution to the outward gradient problem. Mr. Ford has some concerns about discharging storm water from Stage II to wetland No. 6 and wants staff to supply him with data verifying that EPA and SWFWMD are aware of or have permitted the discharge from Stage II to wetland No 6. before we begin to lay the new pipe line. Until the data is supplied to Mr. Ford, staff will continue to discharge storm water from Stage II to the Stage II perimeter ditch in an attempt to reverse the gradient as discussed with Mr. Ford on August 25 and summarized in my August 28, 1995 correspondence to him.

Additionally, please note an outward gradient exist around the west side of Stage III at piezometer PZ-14, PZ-15 and PZ-16. This issue was discussed with Mr. Ford on September 7, 1995. Recently a french drain system was installed to collect storm water which was mounding on the west side of Stage III and convey it to the leachate collection system. While reviewing the "as built" with

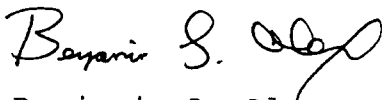


Allison Amram, P.G.  
August 1995, Monthly Report  
Page 2

Mr. Ford, he expressed some concerns about the grading on the west side of Stage III and that we may still have a mounding problem because of the existing grades. Mr. Ford advised me to meet with county staff and discuss the issue and to propose to him what solutions, if any, are required to eliminate storm water from mounding on the west side of Stage III.

If you require further information or need assistance regarding this matter, please contact me at (941) 748-5543.

Sincerely,

A handwritten signature in cursive script, appearing to read "Benjamin L. Alex", followed by a stylized flourish.

Benjamin L. Alex  
Solid Waste Technical Coordinator

bla

cc: Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, P.E., Public Services Director  
Daniel T. Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

**Manatee County  
Lena Road Sanitary Landfill  
Ground Water Elevation Data  
August 1995**

<b>Piezometer</b>	<b>NGVD Elev.</b>	<b>Ground Water Elevation</b>	<b>Monitoring Well</b>	<b>NGVD Elev.</b>	<b>Ground Water Elev.</b>
<b>STAGE I</b>					
PZ-1			MW-5	39.96	33.29
PZ-2	42.53	30.07	MW-2	37.87	35.12
PZ-3	44.93	32.97	MW-1	38.71	35.42
PZ-4	45.04	40.06	CW-4	37.54	35.29
PZ-5	43.71	29.96	CW-5A	41.23	38.58
PZ-6	44.33	28.79			
PZ-7	48.15	34.63	MW-6	39.29	36.08
<b>STAGE II</b>					
PZ-8	37.63	34.93	LRII-5	36.74	32.94
PZ-9	36.56	35.06	LRII-3	33.51	29.61
PZ-10	37.05	35.15	LRII-2	36.53	32.48
PZ-11	37.94	35.84	LRII-1	37.97	34.87
<b>STAGE III</b>					
PZ-12	38.39	33.59	GC-2	38.19	34.19
PZ-13	35.09	31.49	GC-3	35.02	31.97
PZ-14	33.47	32.37	GC-4	33.91	29.21
PZ-15	33.20	31.90	GC-1A	31.74	28.64
PZ-16	34.63	32.13	GC-5	36.50	29.80
PZ-17	40.82	32.52	GC-6	39.06	32.66

**Notes:**

1. The NGVD elevation for PZ-1 is unknown. The piezometer elevation shall be shot ASAP.
2. The table was prepared so that the piezometer data can be compared to its corresponding monitoring well data. For example, LRII-2 is located on the opposite side of the slurry wall to PZ-10 and their ground water elevations are compared to one another.
3. NGVD data taken on November 2, 1994 and is the elevation of the top of riser.
4. The ground water elevation data was obtained August 25 & 28, 1995.
5. The ground water elevation data is given in NGVD.
6. PZ-6 has no corresponding monitoring well, in close proximity, located outside of the slurry wall.



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF AUGUST, 1995

DATE	INPUT TO	LEACHATE	POND G.P.D.	LEACHATE	LEACHATE TO	RAINFALL	STORMWATER	WEST WEIR	REMARKS
	STAGE I	STAGE II	STAGE III	POND LEVEL	WWTP IN G.P.D.	IN INCHES	POND LEVEL	DISCHARGE pH	
1	496,000		164,816	31.0	257,200	0.00	34.0	6.2	Stage III estimated
2	408,200		153,700	30.9	125,700	1.75	34.0	6.9	
3	443,800		320,000	31.6	288,600	2.23	35.4	4.9	
4	467,500		393,500	32.9	218,800	0.00	36.0	6.8	
5	N.R.		N.R.	33.0	N.R.	0.00	36.0	N.R.	
6	N.R.		N.R.	33.6	N.R.	0.00	35.8	N.R.	
7	1,257,600		435,000	33.6	655,700	0.00	35.8	6.6	
8	425,500		159,000	34.0	279,200	0.00	35.5	6.6	
9	491,700		192,500	33.7	332,700	1.02	35.5	6.6	
10	475,500		222,500	33.8	327,800	0.00	35.5	6.6	
11	611,150		85,800	33.8	422,300	0.40	35.4	6.6	
12	N.R.		N.R.	34.0	N.R.	0.90	35.2	N.R.	
13	N.R.		N.R.	34.0	N.R.	0.00	35.8	N.R.	
14	197,933		519,919	33.9	1,327,900	0.00	35.7	6.6	Stage III estimated
15	514,090		234,100	33.9	455,400	0.06	35.7	6.4	
16	461,196		155,900	33.9	376,800	0.00	35.3	6.6	
17	382,755		151,500	33.7	389,400	0.00	35.0	6.6	
18	357,669		182,200	33.7	406,200.0	1.20	35.0	6.6	
19	N.R.		N.R.	34.0	N.R.	0.00	35.0	N.R.	
20	N.R.		N.R.	34.2	N.R.	0.01	35.0	N.R.	
21	1,077,652		712,000	34.2	559,600	0.00	35.0	6.4	
22	338,444		167,400	34.2	164,500	0.20	35.0	6.4	
23	360,606		37,600	34.2	190,100	1.65	34.9	6.4	
24	222,935		45,441	34.0	577,400	0.05	35.5	6.2	Stage III estimated
25	471,576		55,360	34.0	503,400	1.04	35.5	6.6	
26	N.R.		N.R.	35.3	N.R.	1.91	37.6	N.R.	Stage III estimated
27	N.R.		N.R.	35.3	N.R.	0.00	36.3	N.R.	
28	76,931		1,107,216	35.3	1,352,500	0.00	36.0	6.6	
29	950,000		309,500	35.8	454,000	0.05	35.8	6.4	Stage I estimated
30	211,722		386,500	35.6	510,800	0.13	35.8	6.4	
31	185,860		341,300	35.4	451,300	1.65	35.7	6.5	
TOTAL	10,886,319		6,532,752		10,627,300	14.25			

TOTAL ACREAGE--STAGE I: Open - 6 Intermediate - 113 Closed - 0

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 08-02-95	Date Read: 08-09-95	Date Read: 08-16-95	Date Read: 08-23-95	Date Read: 08-30-95
#1 36.3	#1 36.3	#1 36.1	#1 35.7	#1 36.5
#2 36.0	#2 36.2	#2 35.3	#2 34.7	#2 36.2
#3 35.3	#3 36.1	#3 35.6	#3 35.0	#3 Gauge Under Water
#4 38.6	#4 36.9	#4 40.3	#4 40.1	#4 40.5
#5 36.7	#5 37.2	#5 37.5	#5 37.3	#5 38.4
#6 34.6	#6 34.7	#6 34.7	#6 34.6	#6 34.9
#7 33.2	#7 33.2	#7 33.2	#7 33.2	#7 33.5
#8 31.7	#8 31.7	#8 31.7	#8 31.7	#8 33.0
#12 31.9	#12 31.9	#12 31.8	#12 31.8	#12 32.1

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	0.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	0.0

A): N.R. - Not reported due to weekend.

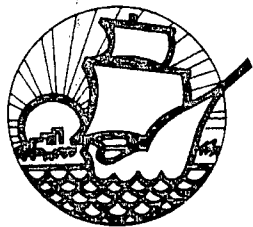
B): Stage volumes estimate due to clogged totalizer

Gas Monitoring Points	
#1	0%
#2	0%
#3	0%
#4	0%
#5	0%
#6	0%
#7	0%
#8	0%

Material Class Report  
Public Works - Lena Road Landfill  
Reporting Period 08/31/1995

Page: 1

Material Class	Current Month			Year To Date		
	Landfilled (tons)	Diverted (tons)	Recycled (tons)	Landfilled (tons)	Diverted (tons)	Recycled (tons)
ASH	0.0	0.0	0.0	0.0	0.0	0.0
BRADEN	0.0	0.0	0.0	0.0	0.0	0.0
C & D	3,404.2	0.0	0.0	16,480.9	0.0	0.0
CLEAN-UP	1,355.6	0.0	0.0	35,962.0	0.0	0.0
CONCRETE	0.0	0.0	0.0	0.0	0.0	0.0
FLUFF	0.0	0.0	0.0	0.0	0.0	0.0
FUEL	0.0	0.0	0.0	0.0	0.0	4,969.4
IL-TIRES	0.0	0.0	0.0	0.0	76.2	0.0
ILLEGAL	37.1	0.0	0.0	492.3	0.0	0.0
INFO	0.0	0.0	0.0	0.0	0.0	0.0
LRK-S	334.4	0.0	0.0	4,629.0	0.0	0.0
MIXED	21,808.5	0.0	0.0	293,654.4	0.0	0.0
MULCH	0.0	0.0	132.3	0.0	0.0	8,495.0
MULCH-HC	0.0	0.0	32.8	0.0	0.0	412.6
NO CHG	0.0	0.0	0.0	0.0	0.0	0.0
ROOFING	0.0	0.0	0.0	8,101.1	0.0	0.0
SH-TIRES	0.0	0.0	0.0	0.0	0.0	414.2
TIRES	0.0	24.2	0.0	0.0	271.2	0.0
WIL-WOODS	0.0	0.0	13.8	0.0	0.0	547.0
WOOD	0.0	6,743.2	0.0	0.0	49,138.2	0.0
	26,939.8	6,767.4	178.9	359,319.7	49,485.6	14,838.2 TOTAL



MANATEE COUNTY  
GOVERNMENT  
Public Works Department

August 14, 1995

D.E.P.

AUG 15 1995

SOUTHWEST DISTRICT  
TAMPA

Allison Amram, P.G.  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Lena Road Landfill  
GMS ID. No. 4041C02025  
Permit No. S041-211176

Dear Ms. Amram:

Enclosed please find the July, 1995 monthly ground water gradient and the material summary report for the above referenced subject.

Please note that an outward gradient continues to exist around the Stage II area. The reverse gradient exists because pumping of Stage II was discontinued due to broken pipe at several locations along the pipe line. The existing pipe was installed above grade and was severely damaged due to vehicular traffic and exposure to the elements.

Staff is currently ordering all new pipe to replace the existing pipe. The new pipe will be installed below grade to minimize any potential damage. Installation should occur by late August or early September. Once installation is complete, pumping conditions will resume and ground water elevations will be measured both inside and outside of the slurry wall to verify that an inward gradient exists around the entire perimeter of Stage II.

As previously done, the effluent from Stage II will be discharged to Wetland No. 6. However, before discharge occurs, ground water quality will be analyzed for permit/regulatory compliance. Staff does not anticipate a non-compliance with respect to ground water quality based on historical testing of the Wetland.

If you require further information or need assistance regarding this matter, please contact me at (941) 748-5543.

Sincerely,

Benjamin L. Alex  
Solid Waste Technical Coordinator

bla

cc: Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, Public Services Director  
Daniel T. Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

ADMINISTRATION • 4410 - 66th Street West, Bradenton, Florida 34210 • (813) 792-8811 • FAX (813) 795-3490



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF JULY, 1995

DATE	LEACHATE			LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR		REMARKS
	STAGE I	STAGE II	STAGE III					DISCHARGE	pH	
1				29.4		0.00	31.8			
2				28.8		0.00	31.7			
3*	1,487,000		OFF	28.4	1,026,500	0.00	31.7	7.2		
4				31.7		0.00	33.7			
5	925,000		OFF	27.7	584,000	0.00	31.7	7.2		
6	328,000		67,000	27.8	15,900	0.00	31.7	7.0		
7	477,000		77,000	28.0	244,600	0.00	31.5	7.0		
8				27.5		0.75	31.3			
9				31.5		0.00	31.3			
10*	1,563,000		204,000	28.0	1,141,500	0.02	31.2	7.0		
11	380,000		51,000	28.9	191,700	0.00	30.9	6.6		
12	474,000		69,000	29.4	233,400	0.48	30.8	6.9		
13	353,000		53,000	29.2	18,500	0.39	30.8	6.7		
14	404,700		62,600	39.0	199,300	0.39	29.8	6.9		
15				28.9		0.03	30.8			
16				28.6		0.02	30.8			
17*	1,214,100		168,800	28.6	602,600	1.02	30.8	6.3		
18	348,100		101,200	29.4	175,000.00	3.00	31.0	6.90		
19	471,270		0	29.9	230,100	0.03	32.0	6.7		Turbine clogged
20	417,100		56,400	29.9	212,500	0.00	32.0	6.2		
21	370,100		0	29.0	196,100	0.05	32.0	6.2		Turbine clogged
22				29.8		0.41	32.1			
23				30.5		0.00	32.0			
24*	1,210,700		0	30.4	639,700	0.94	31.9	6.4		
25	374,500		0	30.5	188,000	1.16	32.3	6.4		Turbine clogged
26	428,600		356,900	31.6	215,000	0.65	33.0	6.9		
27	381,500		269,500	30.8	185,500	0.75	33.2	6.6		
28	408,500		263,200	30.9	199,500	0.33	33.6	6.7		
29				31.0	332,800	0.34	33.7			
30				31.0	361,100	0.45	33.8			
31	1,190,500		218,200	31.0	560,200	0.00	34.0	6.2		
* High reading due to absence of Saturday & Sunday Readings										
TAL	13,206,670		2,017,800		7,753,500	11.21				

TOTAL ACREAGE--STAGE I: Open - 6 Intermediate - 113 Closed - 0

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 07-05-95		Date Read: 07-12-95		Date Read: 07-19-95		Date Read: 07-26-95		Date Read: N/A	
#1	35.0	#1	35.0	#1	35.7	#1	36.2		
#2	34.0	#2	33.8	#2	34.5	#2	35.1		
#3	34.5	#3	34.5	#3	34.9	#3	35.3		
#4	38.4	#4	38.5	#4	38.5	#4	38.5		
#5	36.2	#5	36.1	#5	36.5	#5	36.6		
#6	33.9	#6	33.9	#6	34.4	#6	34.5		
#7	33.8	#7	32.7	#7	33.1	#7	33.3		
#8	31.3	#8	31.2	#8	31.7	#8	31.8		
#12	31.4	#12	31.3	#12	31.0	#12	32.0		

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	2.0
2	0.0
3	0.0
4	0.0
5	0.0
6	0.0
7	0.0
8	0.0
9	0.0
10	0.0
11	0.0
12	0.0
13	3.0
14	0.0
15	0.0
16	0.0
17	0.0
18	70.0

GMW 18 to be monitored weekly during August.

Gas Monitoring Points	
#1	0%
#2	0%
#3	0%
#4	0%
#5	0%
#6	0%
#7	0%
#8	0%

is Accuracy

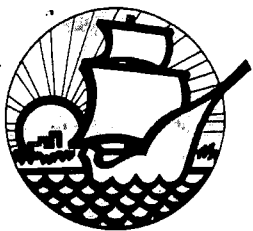
July - August 9/7/95

MONITORING WELL PIEZOMETER WATER TABLE ELEVATIONS (N.G.V.D.): FT.  
WELL LEVELS UPDATED WITH DATA OF 11-2-94 SURVEY.

DATE MEASURED ~~11-2-94~~ 14, 1995

WELL #	N.G.V.D.	PIEZOMETER	N.G.V.D.
MW 2	32.79	PZ 2	29.57
MW 1	31.42	PZ 3	29.26
CW 4	31.54	PZ 4	DESTROYED
CW 5A	31.85	PZ 5	31.71
		PZ 6	31.33
MW 6	33.21	PZ 7	29.69
LR2-5	30.57	PZ 8	31.55
LR2-3	26.71	PZ 9	31.35
LR2-2	29.78	PZ 10	31.55
LR2-1	32.28	PZ 11	31.44
GC 2	31.86	PZ 12	30.24
GC 3	29.27	PZ 13	27.09
GC 4	26.83	PZ 14	18.63
GC 1A	26.07	PZ 15	26.49
GC 5	28.17	PZ 16	27.69
GC 6	32.02	PZ 17	28.78

Material Class	Current Month			Year To Date		
	Landfilled (tons)	Diverted (tons)	Recycled (tons)	Landfilled (tons)	Diverted (tons)	Recycled (tons)
ASH	0.0	0.0	0.0	0.0	0.0	0.0
C & D	2,853.0	0.0	0.0	13,076.7	0.0	0.0
CLEAN MP	1,043.4	0.0	0.0	26,688.6	0.0	0.0
COOKWASTE	0.0	0.0	0.0	0.0	0.0	0.0
FLUKE	0.0	0.0	0.0	0.0	0.0	0.0
FUEL	0.0	0.0	579.2	0.0	0.0	4,969.4
IL TIRES	0.0	0.0	0.0	0.0	76.2	0.0
ILLEGAL	56.9	0.0	0.0	455.2	0.0	0.0
IRON	0.0	0.0	0.0	0.0	0.0	0.0
FRIGS	305.7	0.0	0.0	4,294.6	0.0	0.0
MIXED	20,543.4	0.0	0.0	279,762.1	0.0	0.0
MULCH	0.0	0.0	135.0	0.0	0.0	8,362.7
BUILDING	0.0	0.0	10.7	0.0	0.0	377.8
NO OIL	0.0	0.0	0.0	0.0	0.0	0.0
ROOFING	0.0	0.0	0.0	8,101.1	0.0	0.0
SH TIRES	0.0	0.0	0.0	0.0	0.0	414.2
TIRES	0.0	22.1	0.0	0.0	247.1	0.0
WIL-GOODS	0.0	0.0	12.6	0.0	0.0	533.2
WOOD	0.0	5,382.4	0.0	0.0	42,343.7	0.0
	24,802.4	5,404.5	737.5	332,378.3	42,667.0	14,659.3 TOTAL



# MANATEE COUNTY GOVERNMENT

## Public Works Department

July 15, 1995

Allison Amram, P.G.  
Division of Waste Management, Southwest District  
Florida Department of Environmental Protection  
3804 Coconut Palm Drive  
Tampa, Florida 33619

D.E.P.

JUL 18 1995

SOUTHWEST DISTRICT  
TAMPA

Re: Manatee County Solid Waste Management Facility  
Permit No. SO41-211176 - GMS ID No. 4041C02025

Dear Ms. Amram:

Enclosed please find the water balance, water gradients, and the material summary report for June, 1995. Included on the monthly report sheet, please find the gas monitoring well and points readings, the leachate and stormwater pond levels, and wetlands staff gauge readings. The total acreage status for Stages I and III are outlined at the bottom of the report.

Please note on the Water Table Elevation Report that readings for PZ 8, PZ9, PZ 10 and PZ 15 indicating an outward gradient may be due to an operational procedure. It is anticipated that this will be corrected when pumping operations resume.

If you require further information regarding this matter, please contact this office at 813/748-5543.

Sincerely,

Gus A. DiFonzo  
Solid Waste Manager

GAD:gbp

Enclosures: 3

cc: Robert Butera, P.E., FDEP  
Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, P.E., Public Services Director  
Daniel T. Gray, Utilities Operations Manager  
Robert Hall, P.E., Utilities Engineer



# MONTHLY WATER BALANCE AND GAS MONITORING REPORTS FOR THE MONTH OF JUNE, 1995

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	491,010		70,100	29.5	127,200	0.00	31.0	8.0	
2	431,040		30,400	29.3	205,400	3.36	31.4	7.0	
3				31.4		1.96	32.2		
4				31.7		0.38	33.7		
5 *	1,360,419		9,750	31.7	675,500	0.42	33.8	6.6	
6	450,550		Off	31.8	268,900	0.00	33.7	6.6	LS Mtr.2&3 Cleaned
7	430,450		209,950	31.8	260,600	0.00	33.5	6.6	
8	393,550		Off	31.7	235,200	0.00	33.4	6.6	
9	402,450		Off	31.5	242,500	0.00	33.1	6.8	Switched LS3 w/ LS2
10				31.4		0.04	33.0		
11				31.3		0.06	33.0		
12 *	1,206,000		119	32.9	721,100	0.01	32.9	6.9	
13	348,000		1,000	30.8	207,100	0.66	32.9	0.4	Recleaned LS3
14	750,000		68,000	30.8	226,400	0.00	32.9	7.1	
15	595,000		62,000	30.6	282,400	0.00	32.9	6.6	
16	627,000		50,000	30.1	308,400	0.00	32.8	6.4	GMW15 damaged
17				30.9		0.00	32.9		
18				29.5		0.05	32.8		
19 *	1,699,000		167,000	29.5	905,000	0.00	32.8	6.5	
20	477,000		52,000	29.3	266,000	0.00	32.7	6.4	
21	621,000		77,000	29.9	359,700	0.12	32.4	6.5	
22	535,000		45,000	30.7	303,200	0.05	32.0	6.5	
23	590,000		69,000	30.3	346,300	0.07	32.0	6.6	
24				29.9		0.20	32.9		
25				29.5		1.05	32.9		
26 *	1,594,000		195,000	29.5	966,500	0.00	32.3	6.4	
27	494,000		68,000	29.2	337,000	0.00	32.3	6.6	
28	501,000		75,000	29.2	345,300	0.00	31.8	6.6	
29	483,000		3,000	29.9	332,800	0.00	31.7	6.7	
30	522,000		0	29.5	361,100	0.00	31.8	6.9	
31									
* High reading due to absence of Saturday & Sunday Readings.									
TOTAL	15,001,469		1,252,319		8,283,600	8.43			

TOTAL ACREAGE -- STAGE I: Open - 0 Intermediate - 0 Closed - 0

TOTAL ACREAGE -- STAGE III: Open - 0 Intermediate - 0 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 06-07-95	Date Read: 06-14-95	Date Read: 06-21-95	Date Read: 06-28-95	Date Read: N/A
#1 35.2	#1 35.1	#1 35.9	#1 35.0	
#2 34.5	#2 34.5	#2 34.2	#2 34.2	
#3 34.9	#3 34.7	#3 34.6	#3 34.5	
#4 38.7	#4 38.5	#4 38.5	#4 38.5	
#5 37.0	#5 36.8	#5 36.5	#5 36.5	
#6 34.5	#6 34.3	#6 34.1	#6 34.2	
#7 33.1	#7 33.1	#7 32.9	#7 32.9	
#8 31.8	#8 31.6	#8 31.4	#8 31.5	
#12 31.9	#12 31.7	#12 31.5	#12 31.5	

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	0.0
2	2.0
3	1.0
4	5.0
5	2.0
6	2.0
7	0.0
8	2.0
9	0.0
10	0.0
11	0.0
12	1.0
13	0.0
14	0.0
15	0.0
16	0.0
17	0.0
18	2.0

Gas Monitoring Points	
#1	0%
#2	0%
#3	0%
#4	0%
#5	N/A
#6	0%
#7	0%
#8	0%



MONITORING WELL, PIEZOMETER WATER TABLE ELEVATIONS (N.G.V.D.); FT.  
DATE MEASURED 15-June-95

WELL #	N.G.V.D.	PIEZOMETER	N.G.V.D.
MW 2	35.06	PZ 2	30.20
MW 1	33.10	PZ 3	30.76
CW 4	34.25	PZ 4	*X*
CW 5A	35.81	PZ 5	30.46
		PZ 6	31.00
MW 6	34.24	PZ 7	30.11
LR2-5	31.78	PZ 8	31.96
LR2-3	27.76	PZ 9	31.68
LR2-2	31.11	PZ 10	31.72
LR2-1	33.46	PZ 11	31.77
GC 2	33.15	PZ 12	30.10
GC 3	30.58	PZ 13	28.26
GC 4	28.73	PZ 14	26.22
GC 1A	26.11	PZ 15	27.47
GC 5	30.48	PZ 16	28.00
GC 6	31.60	PZ 17	29.15

\*X\*-- PZ 4 broken due to heavy construction.

JUN 19 1995

STE

**Material Class Report**  
**Public Works - Lena Road Landfill**  
 Reporting Period 06/30/1995

Page: 1

Material Class	Current Month			Year To Date		
	Landfilled (tons)	Diverted (tons)	Recycled (tons)	Landfilled (tons)	Diverted (tons)	Recycled (tons)
ASH	0.0	0.0	0.0	0.0	0.0	0.0
C & D	3,968.8	0.0	0.0	10,223.7	0.0	0.0
CLEAN-UP	9,576.5	0.0	0.0	25,645.2	0.0	0.0
CONCRETE	0.0	0.0	0.0	0.0	0.0	0.0
FLUFF	0.0	0.0	0.0	0.0	0.0	0.0
FUEL	0.0	0.0	1,112.1	0.0	0.0	4,390.1
IL-TIRES	0.0	8.6	0.0	0.0	76.2	0.0
ILLEGAL	39.0	0.0	0.0	398.3	0.0	0.0
INFO	0.0	0.0	0.0	0.0	0.0	0.0
LBK-S	353.1	0.0	0.0	3,988.9	0.0	0.0
MIXED	62,314.9	0.0	0.0	259,218.7	0.0	0.0
MULCH	0.0	0.0	140.4	0.0	0.0	8,227.7
MULCH-NC	0.0	0.0	91.8	0.0	0.0	369.1
NO CHG	0.0	0.0	0.0	0.0	0.0	0.0
ROOFING	0.0	0.0	0.0	8,101.1	0.0	0.0
SH-TIRES	0.0	0.0	88.2	0.0	0.0	414.2
TIRES	0.0	28.4	0.0	0.0	225.0	0.0
WH-GOODS	0.0	0.0	35.7	0.0	0.0	520.6
WOOD	0.0	5,915.0	0.0	0.0	36,981.3	0.0
	76,252.3	5,952.0	1,468.2	307,575.9	37,282.5	13,921.7
						TOTAL

Kim

P.O. Box 25010, Bradenton, Florida 34206

# MONTHLY WATER BALANCE AND GAS MONITORING REPORT FOR THE MONTH OF MAY, 1995

DATE	INPUT TO STAGE I	LEACHATE STAGE II	POND G.P.D. STAGE III	LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
1	249,537		74,540	27.5	35,300		32.8	7.2	
2	83,400		369,900	27.6	11,600		32.8	7.2	
3	148,550		270,100	27.6	69,200		32.8	7.2	
4	361,950		231,900	27.6	184,600		32.8	7.2	
5	345,040		40,500	27.5	64,200		32.7	6.9	
6				27.6			32.8		
7				27.4			32.7		
8	1,143,520		119,580	27.3	507		32.7	7.2	
9	361,480		79,920	27.3	212,100		32.7	7.4	Leachate pump #1 broken
10	360,980		160,100	27.2	219,900		32.7	7.0	
11	365,975		220,470	27.2	64,800		32.7	8.0	
12	346,995		109,930	27.1	53,900		32.7	8.2	
13				27.1			32.7		
14				27.1			32.7		
15	713,930		449,560	27.1	128,600		32.7	7.6	
16	72,150		160,040	27.2	11,000		32.7	7.3	
17	376,280		170,650	29.0	65,000		32.0	7.9	
18	374,288		139,250	30.0	148,500		32.8	7.9	
19	355,342		80,080	30.9	160,900		32.8	7.6	
20				30.8		0.11	31.5		
21				30.7			31.5		
22	1,178,030		290,120	30.6	437,600		31.5	7.6	
23	420,040		159,900	30.3	145,000		31.4	7.2	
24	418,950		79,950	30.3	140,500		31.3	7.9	
25	451,043		79,950	30.0	173,200		31.4	8.2	
26	357,102		80,050	30.0	131,500		31.4	7.9	
27				29.9		0.85	31.3		
28				29.6		0.38	31.4		
29				29.3			31.4	7.4	
30	1,836,925		229,950	29.0	844,400		31.4	8.0	
31	523,915		80,000	29.7	325,200		31.1		
TOTAL	2,676,520		3,676,440		3,627,507	1.34			

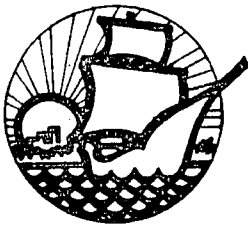
TOTAL ACREAGE--STAGE I: Open - 2 Intermediate - 117 Closed - 0

TOTAL ACREAGE--STAGE III: Open - 0 Intermediate - 71 Closed - 0

## WETLANDS STAFF GAUGE LEVELS

Date Read: 05-03-95	Date Read: 05-10-95	Date Read: 05-17-95	Date Read: 05-24-95	Date Read: 05-31-94
# 1 34.8	# 1 34.8	# 1 34.8	# 1 34.8	# 1 34.8
# 2 33.7	# 2 33.5	# 2 33.5	# 2 33.5	# 2 33.5
# 3 34.5	# 3 34.5	# 3 34.5	# 3 34.5	# 3 34.5
# 4 38.0	# 4 38.7	# 4 38.5	# 4 38.5	# 4 38.5
# 5 36.9	# 5 36.7	# 5 36.5	# 5 36.2	# 5 34.9
# 6 34.1	# 6 33.9	# 6 33.8	# 6 33.8	# 6 33.8
# 7 32.0	# 7 32.9	# 7 32.7	# 7 32.5	# 7 38.5
# 8 31.6	# 8 31.9	# 8 31.7	# 8 31.5	# 8 31.5
# 12 31.6	# 12 31.3	# 12 31.2	# 12 30.0	# 12 30.9

GAS MONITORING WELLS	
WELL NUMBER	READING (Percent)
1	2
2	0
3	0
4	8
5	OXY-19.0 / LEL-0 h2s--1
6	0
7	0
8	OXY-20.5 / LEL-0 h2s--1
9	0
10	0
11	OXY-8.7 / LEL-1 h2s--1
12	0
13	0
14	0
15	OXY-4.4 / LEL-8 h2s--0
16	0
17	0
18	OXY - 9.7



# MANATEE COUNTY GOVERNMENT

Public Works Department

May 12, 1995

Allison Amram, Environmental Specialist  
Division of Waste Management, Southwest District  
Florida Department of Environmental Protection  
3804 Coconut Palm Drive  
Tampa, Florida 33619

**RECEIVED**  
MAY 16 1995

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

Re: Manatee County Solid Waste Management Facility  
Permit No. SO41-211176

Dear Ms. Amram:

Enclosed please find the water balance, water gradients, and the material summary reports for April, 1995. In addition, we have incorporated the gas monitoring well and points readings, the leachate and stormwater pond levels, and wetlands staff gauge readings into the water balance report sheet. The total acreage status for Stage III, as well as Stage I, is also outlined at the bottom of the report.

If you require further information regarding this matter, please contact this office at 813/748-5543.

Sincerely,

Gus A. DiFonzo  
Solid Waste Manager

/gbp

Enclosures: 3

cc: Robert Butera, P.E., FDEP  
Kim Ford, P.E., FDEP  
Lenox E. "Len" Bramble, Director  
Daniel T. Gray, Utilities Operations Manager  
Robert Hall, P.E., Utilities Engineer



## 2

DATE	INPUT TO LEACHATE POND G.P.D.			LEACHATE POND LEVEL	LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	STORMWATER POND LEVEL	WEST WEIR DISCHARGE pH	REMARKS
	STAGE I	STAGE II	STAGE III						
1									
2									
3	1,171,840		150,640	28	413,800		32.9	7.3	
4	440,545		46,300	28	157,800		32.9	7.4	
5	406,465		56,470	28	138,800		32.9	7.4	
6	439,888		63,730	28	155,900	0.30	32.9	7.2	
7	385,712		63,800	28.3	122,800	0.48	32.9	7.2	
8									
9									
10	1,189,880		157,155	27.4	416,800		32.9	7.0	
11	2,572,953		540,300	27.4	12,600		32.9	7.2	
12	286,480		169,800	27.5	24,000		32.9	7.1	
13	87,790		* Remarks	27.5	11,800	0.01	32.9	7.2	Flow Meter Broken
14	99,910		* Remarks	27.6	13,100		32.9	7.4	Flow Meter Broken
15									
16									
17	1,157,060		1,050,600	27.4	411,700		32.7	7.0	
18	1,151,310		319,840	27.2	118,300		32.7	6.9	
19	71,450		389,460	27.2	13,000		32.7	7.2	
20	75,250		300,200	27.2	11,000		32.85	6.9	
21	79,002		310,300	27.3	12,200		32.8	6.9	
22									
23									
24	661,978		1,099,600	27.3	184,800		32.8	7.0	
25	410,000		400,400	27.3	134,500		32.7	6.9	
26	830,030		920,400	27.2	131,200	0.06	32.7	7.2	
27	150,425		580,070	27.2	107,300		32.7	7.2	
28	489,558		1,004,620	27.1	11,500		32.7	6.6	
29									
30									
31									
TOTAL	12,157,526	0	7,623,685		2,602,900	0.85			

TOTAL ACREAGE--STAGE I:	Open: 2	Intermediate: 117	Closed: 0
TOTAL ACREAGE--STAGE III:	Open: 0	Intermediate: 71	Closed: 0

5/11/95-gbp

GAS MONITORING WELLS	
STATION NUMBER	READING
1	1
2	0
3	2
4	3
5	4
6	1
7	0
8	0
9	6
10	22
11	0
12	3
13	3
14	74
15	24
16	2
17	2
18	83

GAS MONITORING POINTS	
#1	3
#2	1
#3	0
#4	1
#5	N/A
#6	0
#7	1
#8	4

REMARKS
Readings taken on 3rd Friday of each month.

WETLANDS STAFF GAUGE LEVELS	
Date Read: 4-5	
#1	35.2
#2	34.2
#3	34.6
#4	39.6
#5	37.3
#6	34.3
#7	33.2
#8	32.2
#12	32.0
Date Read: 4-12	
#1	35.1
#2	34.1
#3	34.6
#4	39.5
#5	37.2
#6	34.3
#7	33.1
#8	32.1
#12	32.0
Date Read: 4-19	
#1	34.9
#2	34.0
#3	34.5
#4	39.3
#5	37.1
#6	34.2
#7	33.1
#8	32.0
#12	31.7
Date Read: 4-26	
#1	34.8
#2	33.5
#3	34.5
#4	39.1
#5	36.9
#6	34.0
#7	33.1
#8	31.9
#12	31.5

4/95  
Def report

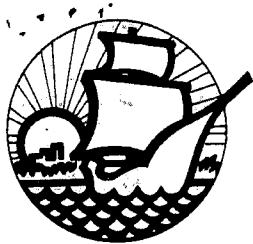
MONITORING WELL, PIEZOMETER WATER TABLE ELEVATIONS (N.G.V.D.), FT.  
DATE MEASURED 22-APR-95

WELL #	N.G.V.D.	PIEZOMETER	N.G.V.D.
MW 2	34.02	PZ 2	42.53
MW 1	32.51	PZ 3	44.93
CW 4	32.33	PZ 4	45.04
CW 5A	N/A	PZ 5	43.71
		PZ 6	44.33
MW 6	32.53	PZ 7	44.69
LR2-5	30.11	PZ 8	37.63
LR2-3	26.26	PZ 9	36.56
LR2-2	29.45	PZ 10	37.05
LR2-1	32.10	PZ 11	37.94
GC 2	31.48	PZ 12	38.39
GC 3	28.98	PZ 13	35.09
GC 4	28.69	PZ 14	33.47
GC 1A	N/A	PZ 15	33.20
GC 5	27.39	PZ 16	34.63
GC 6	30.60	PZ 17	40.82

is incorrect  
B.A.  
4/7/95



APR 26 1995



Kim

# MANATEE COUNTY GOVERNMENT

## Public Works Department

April 7, 1995

Allison Amram, Environmental Specialist  
Division of Waste Management, Southwest District  
Florida Department of Environmental Protection  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Re: Manatee County Solid Waste Management Facility  
Permit No. SO41-211176

Dear Ms. Amram:

Enclosed please find the water balance, water gradients, and the material summary reports for March, 1995. In addition, we have enclosed the first monthly gas monitoring report taken April 6, 1995. It is our intention to incorporate this report into our monthly water balance sheet for future reporting.

If you require further information regarding this matter, please contact this office at 813/748-5543.

Sincerely,

Gus A. DiFonzo  
Solid Waste Manager

/gbp

Enclosures: 4

cc: Lenox E. "Len" Bramble, Director  
Daniel T. Gray, Utilities Operations Manager  
Robert Hall, Utilities Engineer





APR 10 1995

## MONTHLY WATER BALANCE REPORT FOR THE MONTH OF MARCH, 1995

DAY	INPUT TO LEACHATE POND	G.P.D.	LEACHATE TO WWTP	RAINFALL IN INCHES	WEST WEIR DISCHARGE pH	REMARKS
	STAGE I	STAGE II	STAGE III	IN G.P.D.		
1	363,325		248,940	119,900	7.200	
2	337,720		148,400	111,300	7.060	
3	408,950		158,803	97,500	1.05	7.150
4						
5						
6	117,250		408,570	35,700	7.00	
7	447,100		153,295	12,300	7.01	
8	408,500		139,420	11,900	7.02	
9	443,150		184,765	35,100	6.90	
10	830,150		255,335	143,700	6.87	
11						
12						
13	1,155,000		279,750	427,800	7.00	
14	353,950		111,265	118,700	7.00	
15	438,050		154,013	147,400	0.08	7.33
16	361,950		133,892	117,700	7.07	
17	414,000		149,077	139,700	7.13	
18						
19						
20	1,106,050		504,398	386,900	6.85	
21	369,950		157,966	136,700	6.90	
22	402,600		159,364	155,300	6.94	
23	341,750		135,690	134,500	7.05	
24	389,700		159,485	155,100	7.15	
25						
26						
27	1,054,000		375,525	424,200	7.12	
28	349,000		116,630	142,300	7.10	
29	401,000		147,720	163,800	7.37	
30	326,000		111,680	132,100	7.90	Use of new analog pH meter/model 301
31	370,600		137,350	151,300	0.18	7.80
Sub – Total	11,189,745	0	4,531,333	3,500,900	1.31	
TOTALS	11,189,745	0	4,531,333	3,500,900	1.31	
TOTAL ACREAGE: Open: 2 Intermediate: 188 Closed: 0 4/4/95 – gbp						

RECEIVED  
MAR 27 1995

SOLID WASTE

MONITORING WELL, PIEZOMETER WATER TABLE ELEVATIONS (N.G.V.D.); FT.  
DATE MEASURED 27-MAR-95

WELL #	N.G.V.D.	PIEZOMETER	N.G.V.D.
MW 2	34.21	PZ 2	30.03
MW 1	33.06	PZ 3	28.93
CW 4	33.75	PZ 4	34.69
CW 5A	*	PZ 5	30.34
		PZ 6	31.29
MW 6	32.99	PZ 7	30.11
LR2-5	30.24	PZ 8	29.38
LR2-3	26.18	PZ 9	29.60
LR2-2	30.47	PZ 10	29.32
LR2-1	33.02	PZ 11	29.44
GC 2	32.31	PZ 12	30.99
GC 3	32.95	PZ 13	26.91
GC 4	27.65	PZ 14	25.22
GC 1A	*	PZ 15	27.37
GC 5	28.42	PZ 16	27.71
GC 6	31.10	PZ 17	28.59

\* MEASUREING POINT ELEVATIONS NEEDED TO DETERMINE N.G.V.D.

Material Class	Current Month			Year To Date		
	Landfilled (tons)	Diverted (tons)	Recycled (tons)	Landfilled (tons)	Diverted (tons)	Recycled (tons)
ASH	0.0	0.0	0.0	0.0	0.0	0.0
C & D	0.0	0.0	0.0	0.0	0.0	0.0
CLEAN-UP	4,320.1	0.0	0.0	15,558.6	0.0	0.0
CONCRETE	0.0	0.0	0.0	0.0	0.0	0.0
FLUFF	0.0	0.0	0.0	0.0	0.0	0.0
IL-TIRES	0.0	2.4	0.0	0.0	51.7	0.0
ILLEGAL	25.0	0.0	0.0	255.6	0.0	0.0
LBK-S	529.1	0.0	0.0	2,803.4	0.0	0.0
MIXED	28,375.8	0.0	0.0	150,887.2	0.0	0.0
MULCH	0.0	0.0	791.0	0.0	0.0	7,618.0
ROOFING	1,565.0	0.0	0.0	8,101.1	0.0	0.0
SH-TIRES	0.0	0.0	202.9	0.0	0.0	326.0
TIRES	0.0	29.0	0.0	0.0	152.9	0.0
WH-GOODS	0.0	0.0	17.5	0.0	0.0	106.3
WOOD	0.0	6,143.3	0.0	0.0	20,037.5	0.0
	34,815.0	6,174.7	1,011.4	177,605.9	20,242.1	8,050.3 TOTAL

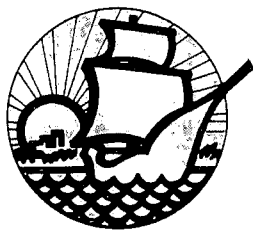
**MANATEE COUNTY PUBLIC SERVICES  
SOLID WASTE MANAGEMENT FACILITY**

**GAS MONITORING WELLS - APRIL 6, 1995**

GAS WELL NO.	READING
1	1
2	0
3	2
4	3
5	4
6	1
7	0
8	0
9	6
10	22
11	0
12	3
13	3
14	74
15	24
16	2
17	2
18	83

**GAS MONITORING POINT**

1	3
2	1
3	0
4	1
5	N/A
6	0
7	1
8	4



**MANATEE COUNTY  
GOVERNMENT**  
Public Works Department

March 15, 1995

**RECEIVED**  
MAR 10 1995

Department of Environmental Protection,  
SOUTHWEST DISTRICT

BY \_\_\_\_\_

Allison Amram, Environmental Specialist  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

Re: Manatee County Solid Waste Management Facility  
Permit No. S041-21176

Dear Ms. Amram:

Enclosed please find the water balance, water gradients, and the material summary report for February, 1995.

If you have any questions, please contact me at (813) 748-5543, Extension 5543.

Sincerely,

Gregory F. Yekaitis  
Solid Waste Technical Coordinator

gfy

cc: Lenox E. "Len" Bramble, Director  
Daniel T. Gray, Utilities Operations Manager  
Robert Hall, Utilities Engineer  
Gus DiFonzo, Solid Waste Manager

FEB. '95

TOTAL ACREAGE:	OPEN	2	INTERMEDIATE	188	CLOSED	0
----------------	------	---	--------------	-----	--------	---

MONITORING WELL, PIEZOMETER WATER TABLE ELEVATIONS (N.G.V.D.); FT.  
DATE MEASURED 24-FEB-95

WELL #	N.G.V.D.	PIEZOMETER	N.G.V.D.
MW 2	34.77	PZ 2	29.95
MW 1	32.14	PZ 3	30.10
CW 4	34.50	PZ 4	29.69
		PZ 5	29.79
		PZ 6	31.08
MW 6	33.28	PZ 7	29.73
LR2-5	31.36	PZ 8	31.71
LR2-3	27.26	PZ 9	31.72
LR2-2	31.03	PZ 10	31.85
LR2-1	34.17	PZ 11	31.86
GC 2	32.98	PZ 12	31.56
GC 3	33.90	PZ 13	27.24
GC 4	27.48	PZ 14	26.12
GC 1	26.36	PZ 15	27.04
GC 5	28.77	PZ 16	27.80
GC 6	31.29	PZ 17	28.57

RECEIVED  
FEB 28 1995  
SOLID WASTE

03/01/95  
08:45:49

Material Class Report  
Public Works - Lena Road Landfill  
Reporting Period 02/28/1995

Page: 1

Material Class	Current Month			Year To Date		
	Landfilled (tons)	Diverted (tons)	Recycled (tons)	Landfilled (tons)	Diverted (tons)	Recycled (tons)
ASH	0.0	0.0	0.0	0.0	0.0	0.0
CLEAN-UP	3,570.6	0.0	0.0	11,238.6	0.0	0.0
CONCRETE	0.0	0.0	0.0	0.0	0.0	0.0
FLUFF	0.0	0.0	0.0	0.0	0.0	0.0
IL-TIRES	0.0	3.3	0.0	0.0	49.2	0.0
ILLEGAL	25.1	0.0	0.0	230.6	0.0	0.0
LBK-S	426.5	0.0	0.0	2,274.3	0.0	0.0
MIXED	23,675.9	0.0	0.0	122,522.2	0.0	0.0
MULCH	0.0	0.0	935.7	0.0	0.0	6,827.0
ROOFING	1,300.0	0.0	0.0	6,536.1	0.0	0.0
SH-TIRES	0.0	0.0	0.0	0.0	0.0	123.2
TIRES	0.0	31.0	0.0	0.0	123.9	0.0
WH-GOODS	0.0	0.0	15.0	0.0	0.0	88.9
WOOD	0.0	3,260.6	0.0	0.0	13,894.2	0.0
	28,998.1	3,294.9	950.7	142,801.8	14,067.3	7,039.1 TOTAL



# MONTHLY WATER BALANCE REPORT FOR THE MONTH OF JANUARY, 1995

DAY	INPUT TO LEACHATE POND G.P.D.			LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	WEST WEIR DISCHARGE(MGD)	REMARKS
	STAGE I	STAGE II	STAGE III				
1							
2	240,000		367,650	1,500,000	0	6.5	
3	66,000		83,000	340,000	0	6.4	
4	54,000		69,000	287,000	0.5	6.5	
5	55,000			284,000	0	6.3	
6	59,000			305,000	0	6.3	
7							
8							
9	166,000			881,000	0	6.5	
10							
11							
12	162,000			886,000	0	6.4	
13							
14							
15							
16	210,000		665,000	1,120,000	1.8	6.4	
17	65,000		27,000	334,000	0	6.4	
18	56,000		36,000	622,000	0	6.5	
19	54,000		102,000	277,000	0	6.5	
20							
21							
22							
23	232,000		396,000	1,115,000	0	6.4	
24	53,000		90,000	271,000	0	6.5	
25	42,000		66,000	220,000	0	6.4	
26	63,000		104,000	322,000	0	6.4	
27	54,000		85,000	274,000	0	6.4	
28							
29							
30	165,000		253,000	800,000	0.4	6.2	
31	53,000		73,000	269,000	0	6.5	
Sub-Total							
TOTALS	1,849,000		2,416,650	10,107,000	2.70		
TOTAL ACREAGE:    OPEN: 2       INTERMEDIATE: 188       CLOSED: 0							

**RECEIVED**  
 FEB 16 1995  
 Department of Environmental Protection  
 BY SOUTH WEST DISTRICT

97

1/3/94

Light rain

1- doper down

3- pans down

- entrance to both working faces

are sloppy + muddy

- had to dig by Highway to try & dry out + firm up access road

- storm warnings on yellow alert status

- minor accident on residential area - no injuries

1/4/94

clear + cool

Because of wet conditions, moved residential area to north + adjacent commercial area 70-5-12

1, 5, 94

Open till 5:30 pm.

1/6/94

cold

322 BAGS ASBESTOS

AREA E7, RESID.

RECEIVED  
FEB 16 1995

Department of Environmental Protection  
BY SOUTHWEST DISTRICT

MANATEE COUNTY SOLID WASTE  
MANAGEMENT FACILITY  
LOAD INSPECTION FORM

DATE: 1-6-94 INSPECTOR: Heys TIME: 10:25

LOCATION: Comm area J-14-SS-2

DRIVERS NAME: Bryan Highland

DRIVER'S LICENSE #: H45307563179

COMPANY NAME: Farrastall Enter. TRUCK I.D.: H56626

ORIGIN OF WASTE: paper board warehouse  
47th at Sarasota

COMPOSITION OF WASTE: cardboard and paper rolls

building burnt down & is now under demolition

HAZARDOUS MATERIALS FOUND: YES ☒ NO

BIO-HAZARDOUS MATERIALS FOUND: YES ☒ NO

IF YES EXPLAIN:

IF YES MANAGEMENT IMPORTED: YES

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NDT APPL KABLE		2. Page 1 of 1	
3. Generator's Name and Mailing Address SCOTTY'S STORE # 8 6005 MANATEE AVE. WEST BRADENTON, FL 34209		4. Generator's Phone (813) 794-6471		5. A.C.T. EMERGENCY RESPONSE 1-800-226-0911	
6. Transporter's Company Name AMERICAN COMPLIANCE TECH, INC.		7. Transporter's US EPA ID Number N/A		8. Truck # 4 X 4	
9. Designated Facility Name and Site Address MANATEE COUNTY LANDFILL		10. Designated Facility's US EPA ID Number N/A		11. Transporter's Phone (813) 792-1200	
12. Waste Shipping Name and Description		13. Container No.		14. Date	
NEUTRALIZED MURATK ACID CONTAMINATED SDIL		002		1/16/94	
NEUTRALIZED MURATK ACID CONTAMINATED A/C FILTERS		002		1/16/94	
15. Additional Descriptions for Materials Listed Above ALL ACID NEUTRALIZED. A/C FILTERS CONTAINED IN POLY PLASTIC BAGS.		16. Handling Code for Wastes Listed Above A.C.T. PROTECT # 3384-94			
17. Special Handling Instructions and Additional Information Transporter hereby certifies that all of the material in this load was placed on my truck at the address referenced above. Nothing has been added to this load after departure from the address listed above.					
18. GENERATOR'S CERTIFICATION: I certify the material described above is the material for which I am responsible for ensuring proper disposal of hazardous waste.					
19. Transporter's Signature Greg J. Kruse		20. Transporter's Title A.C.T. INC.		21. Date 1/16/94	
22. Facility Owner or Operator: Certification of receipt of waste material received by the receiver except as noted in item 15. Please forward an executed copy of this manifest to: AMERICAN COMPLIANCE TECHNOLOGIES, INC. 4400 S. FLORIDA AVE. #23 LAKELAND, FL 33813					
23. Facility Owner or Operator's Signature G. J. Kruse		24. Facility Owner or Operator's Title A.C.T. INC.		25. Date 1/16/94	

TRANSPORTER #2

12-BLS-C5 Rev. 11/89

1/7/94  
3000 gal of mudd, Sand  
as soil condit<sup>n</sup> men  
added steps to correction

1.8.94 Sat.  
Rain still shutting  
Rece out  
Brend Light duty  
E.U. Retired  
Vince vacation

1/10/94

radios were missing found in  
equipment - plain booties were dead  
cool

1/11/94

- Start moving Easy Road
- Repair scale A scale
- remove 3/4" net from pod

1/12/94

Wed

ROAD GANG HERE

1/13/94

- Road Gang on litter
- 3 people out

Bud, Ron, Joe

1/14/94

Rain working faces are wet & sloppy

Bud Doug visible out

3 pens in lab

2 dogs in commode & suspect

1 dog in resident's & suspect

cat suspect down up at 10:30

water in fuel

1/15/94

Cold.

Ree out sick

H H W day

1/17/94

Ree out, Joe W. out

Don called in will be out

1/18/94

puco out

1/19/94

1/20/94

MANATEE COUNTY SOLID WASTE  
MANAGEMENT FACILITY  
LOAD INSPECTION FORM

DATE: 1-20-94 INSPECTOR: Amy TIME: 2:55  
LOCATION: common area  
DRIVERS NAME: Joseph D. Ommig  
DRIVER'S LICENSE #: 8408-0520-484-25-128-0  
COMPANY NAME: Gary Manda TRUCK I.D.: M6237P  
ORIGIN OF WASTE: TARA SR 20

COMPOSITION OF WASTE: C & D - PVC PIPE, DRYWALL,  
CARPET, CARDBOARD, PLASTIC, REBAR, PAINT PAH

HAZARDOUS MATERIALS FOUND: YES NO  
BIO-HAZARDOUS MATERIALS FOUND: YES NO  
IF YES EXPLAIN:

IF YES MANAGEMENT INFORMED: YES

MANATEE COUNTY SOLID WASTE  
MANAGEMENT FACILITY  
LOAD INSPECTION FORM

DATE: 1-20-94 INSPECTOR: Amy TIME: 3:18  
LOCATION: common area  
DRIVERS NAME: Bradley Nelson Latham  
DRIVER'S LICENSE #: 1350-074-68-322-0  
COMPANY NAME: Curlier Jones site cleanup TRUCK I.D.: NTC 282  
ORIGIN OF WASTE: Mill Creek E. 64  
Cairhill Construction  
COMPOSITION OF WASTE: Drywall

HAZARDOUS MATERIALS FOUND: YES NO  
BIO-HAZARDOUS MATERIALS FOUND: YES NO  
IF YES EXPLAIN:

IF YES MANAGEMENT INFORMED: YES

MANATEE COUNTY SOLID WASTE  
MANAGEMENT FACILITY  
LOAD INSPECTION FORM

DATE: 1-20-94 INSPECTOR: Amy TIME:  
LOCATION: common area  
DRIVERS NAME: William Amy Wimpy  
DRIVER'S LICENSE #: W510-922-56-201-0  
COMPANY NAME: Wimpy's Bulk Hauling TRUCK I.D.: M03  
ORIGIN OF WASTE: Mill Creek East 64

COMPOSITION OF WASTE: C & D: drywall, plastic,  
rebar & wire mesh

HAZARDOUS MATERIALS FOUND: YES NO  
BIO-HAZARDOUS MATERIALS FOUND: YES NO  
IF YES EXPLAIN:

IF YES MANAGEMENT INFORMED: YES

1/21/94

Rec out

Ron out

Frank out

1/22/94

Ron out

Rec out

Frank out

Brode out

1/24/94

2 operators out

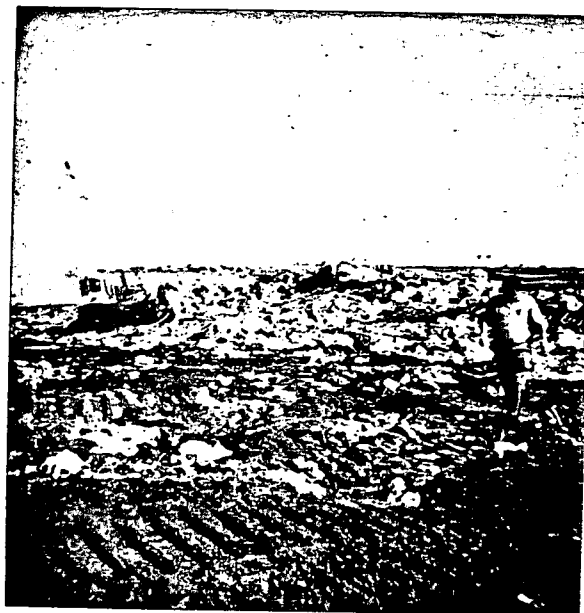
Finishing water main

between stage I &amp; II

- Bio Hazardous waste Found



9:45am notified John Burns of  
Health Dept + EAC waste care Brown



Red Bag was determined to come  
From Blake Hospital not manatee

71.4 - E-5 - asbestos 1-24-94

# WASTE SHIPMENT RECORD

1. WORK SITE NAME AND MAILING ADDRESS: L.W. BLAKE HOSPITAL  
2020 59th Street West, Bradenton, Florida  
JOB NO.: 8513
- OWNER'S NAME AND MAILING ADDRESS: HOSPITAL CORPORATION OF AMERICA  
One Park Plaza, Nashville, Tennessee  
Phone No.:  
2. OPERATOR'S NAME AND ADDRESS: DPC General Contractors, Inc.  
1600 N.W. 21 Terrace, Miami, Florida 33142  
Phone No.: 305/325-0447
3. WASTE DISPOSAL SITE (MDS): MANATEE COUNTY LANDFILL  
3333 Lena Road, Bradenton, Florida  
Phone No.: 813/748-5543
4. NAME AND ADDRESS OF RESPONSIBLE AGENCY: FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION  
SOUTHWEST DISTRICT OFFICE  
4520 Oak Foli Blvd., Tampa, Florida 33610-7347  
Phone No.: 813/744-6100
5. DESCRIPTION OF MATERIALS: 6. CONTAINERS/ NO. TYPE: 7. TOTAL QTY./ M3 (YD. 3):  
FIBER GLASSING 602 Double 6MIL
8. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION:  
Ronald Polanski
9. OPERATOR'S CERTIFICATION:  
I hereby declare that the contents of the consignment are carefully and accurately described above by proper shipping name and are properly packed, marked and labeled, and are in proper condition for transport by highway according to applicable regulations and governing jurisdictions.  
Ronald Polanski  
DPC GENERAL CONTRACTORS, INC.  
10. TRANSPORTER 1: (ACKNOWLEDGES RECEIPT OF MATERIALS)  
DPC GENERAL CONTRACTORS, INC.  
Date: 1/24/94
11. DPC GENERAL CONTRACTORS, INC.  
TRANSPORTER 2: (ACKNOWLEDGES RECEIPT OF MATERIALS)  
WALPOLE, INC.  
Date:
12. Printed Name/Title: DISCREPANCY INDICATION SPACE: None Signature: Date:
13. WASTE DISPOSAL SITE: (CERTIFICATION OF RECEIPT OF ASBESTOS MATERIALS COVERED BY THIS MANIFEST.)  
MANATEE COUNTY LANDFILL

1/25/94

- Resume leachate pumping to SE LWT
- Frank on ~~light~~ light duty

1/25/94

1/27/94

Gary, Steve, Vince out

1/28/94

Vince out, Brenda Frank light duty

1/29/94

Vince out, Brenda out, Rice out  
Ron out, Frank light duty  
Rain

Commercial 50-0-14

Residential 70-0-7

1/31/94

John Rice, Teresa out, Gary light & Frank light  
Rain

2/1/94

Rice, Teresa & Frank out

2/2/94

Rain

2/3/94



2-7-94  
 Ace out  
 Reg

WASTE SHIPMENT RECORD

1. WORK SITE NAME AND MAILING ADDRESS:  
 L.W. BLAKE HOSPITAL  
 2020 89th Street West, Bradenton, Florida

JOB NO.: 8613

2. OWNER'S NAME AND MAILING ADDRESS:  
 HOSPITAL CORPORATION OF AMERICA  
 One Park Plaza, Nashville, Tennessee

3. OPERATOR'S NAME AND ADDRESS:  
 DPC General Contractors, Inc.  
 1800 N.W. 21 Terrace, Miami, Florida 33142

Phone No.: 305/325-0447

4. WASTE DISPOSAL SITE (WDS):  
 MANATEE COUNTY LANDFILL  
 3333 Lena Road, Bradenton, Florida

Phone No.: 813/748-5543

5. NAME AND ADDRESS OF RESPONSIBLE AGENCY:  
 FLORIDA DEPARTMENT OF ENVIRONMENTAL REGULATION  
 SOUTHWEST DISTRICT OFFICE  
 4520 Oak Fox Blvd., Tampa, Florida 33610-7347

Phone No.: 813/744-6100

6. DESCRIPTION OF MATERIALS:

7. CONTAINERS/  
 NO. TYPE

8. IDENTITY/  
 MS NO. 31

9. SPECIAL HANDLING INSTRUCTIONS AND ADDITIONAL INFORMATION:  
 FIRE PROOFING  
 26 x 12 L. CARRED BAGS  
 302 BAGS

10. OPERATOR'S CERTIFICATION:  
 I hereby declare that the contents of this consignment are correctly and accurately described above by proper listing of  
 name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by  
 highway according to applicable Federal, State and Government regulations.

11. DPC GENERAL CONTRACTORS, INC.  
 TRANSPORTER 1: (ACKNOWLEDGES RECEIPT OF MATERIALS)  
 DPC GENERAL CONTRACTORS, INC.

2/7/94  
 Date

12. DPC GENERAL CONTRACTORS, INC.  
 TRANSPORTER 2: (ACKNOWLEDGES RECEIPT OF MATERIALS)  
 WALPOLE, INC.

2/7/94  
 Date

13. Printed Name/Title: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
 DISCREPANCY INDICATION SPACE: None  
 WASTE DISPOSAL SITE: CERTIFICATION OF RECEIPT OF ASBESTOS MATERIALS COVERED BY THIS MANIFEST  
 MANATEE COUNTY LANDFILL

2-7-94  
 Date

2-8-94  
 Lachill Engu. Hous

2-9-94  
 crews picky paper

2-10-94  
 moving and litter control

2-11-94  
 load inspected by street's Dept.

2, 12, 94

2/10 in Rain 7:30 AM.

Mary Sheppard was here Sierra Club.

2/14/94

chuck 500,000 yd<sup>3</sup> of soil  
at port for cement

2/15/94

Rece is back, Gues starts on scales

2/16/94

charlie has gone to dentist - will pick up  
fimo

MANATEE COUNTY SOLID WASTE  
MANAGEMENT FACILITY  
LOAD INSPECTION FORM

DATE: 2-16-94 INSPECTOR: Mary TIME: 3:45  
LOCATION: Comm. area H-15-512  
DRIVERS NAME: Patrick Lloyd Kelley  
DRIVER'S LICENSE #: K400-622-34-455-0  
COMPANY NAME: I.W.S. - TRUCK I.D.: 138  
ORIGIN OF WASTE: Port Manatee County Jail

COMPOSITION OF WASTE: concrete block, plastic, styrofoam,  
wood, cardboard, wire mesh, empty 5 gal buckets

HAZARDOUS MATERIALS FOUND: YES NO  
BIO-HAZARDOUS MATERIALS FOUND: YES NO  
IF YES EXPLAIN:

IF YES MANAGEMENT INFORMED: YES

Dgt.

2-17-94

Steve - off sick

Ron -

Brenda -

Doug - Hurt back

Charles - making up for 2-16-94

Charles - went home with tooth ache 11:00 AM

2-18, 94

Rain

Steve out sick

Ron Out Sick

~~Rece~~ (Rece. A. U. T.)

Bridgett and Lori in seale house

2/19/94

Start Budget preparation

2/20/94

replace mother board in seale house  
computer

2/22/94

Facilities Management is starting Seale  
house mods.

2, 23, 94

~~SI~~ SIERRA Club. REP. VIDEOD WORKING  
Tom. HAYe

2/24/94  
Rain.

2, 25, 94  
Cari on scale  
checked Out Right on the money

2, 26, 94  
Cari on scale

2/28/94  
meeting at Seale house to determine  
proper location of computer, keyboard  
cabinets etc.

3-2-94  
2.1" rain 8:35 AM.

3/3/94  
windy rain  
Philip & Wanda 2 Nys  
went home sick.

Seale

WORKING FACE

3, 5, 94,  
Charlie went home

3-6-94

- Rehol scale house
- calibrate scales
- George Honnig exploding gas canisters on top of hill
- heat computers in scale house

3-7-94

6:50 am

scales came up ok  
 Seed out

3-8-94

Slight odor from hill

3-11-94

Windy 10 to 15 mph.  
 Cleared stage III blow meter.

3-12-94

Everyone here today. Sunny &  
 a little cool. No rain.

3-14-94

Greg on Vac. Everyone else here today  
sunny a little breeze and no rain!

Bridget running scales

3-15-94

cloudy

3, 16, 94

Tire shredder is here.

3, 17, 94

Bill Thompson Here at 7:15 AM put new change  
due program in computer at scale house

3-18-94

7:30 AM FIRE IN COMMERCIAL GROW

- FLAMES VISIBLE

- Broken water line alerted 3 trucks

respond plus our water action

- Big Valant respond at 8:10 AM

- Dog fire notified at 8:05 AM

- Fire under control at 9:15 AM
- connected hose moved to adjacent to residential area
  - area of fire was approx 20' x 50' and 4' deep
  - area was covered with 1' soil
  - will have SEW-TP cleared over Sunday particularly for smoke/flowers & call Bag Yefectiv it needed
  - Monday we will open area to see if fire is still hot & whether to proceed to fill with trash
- ROAD GANG WAS HERE

3-21-94 7:00 Philip Smith - off sick  
no smoke in comm area H-12-58.6  
moved comm. vehicles back in.

3-22-94  
Scale A malfunction

3-23-94

Evening Scale back to ch scale & show up  
Scale of Service for topic - u. check

Tire shredding completed they will be back Monday for there equipment.

3,24,94

Good People started work today

Steve left at 1:30 p.m.

Traffic light west end of a scale torn off By Nin

3,25,94

Brenda out Ron out  
Bridgett on scale

3-28-94

Scale after dark late  
start Joe of scales to scale attend out  
operators -

- Strong wind 30-40 mph out of South  
north likely  
Phillip Frank & Terence out

3-29-94 1.0" rain last night  
2 operators short

3-30-94

3 operators short

3-31-94

2 operators short

19 people out

open cell doors in

4,1,94

2 operators short

4,2,94

Road Gang here, Frank, out.  
JOE in relief on scales.

4/1/94

short on supervision  
two operators short  
short a security



4/5/94

Peg

Willowmont 7

4/6/94

- on op out with hole up Pri.
- still meeting
- willowmont

4/7/94

Willowmont photos

start fill plan

4/8/94

2 op shoot

4, 9, 94

Joe D. on vac. Frank out sick  
Everybody else here

4/10/94

work on socke / Hook 8:25 AM

Finished at 2:00 PM

4/11/94

6:30 open socke hook

2 pans down

Get comp down for Service

1 digger down

Socke hook problem with transfer of all initials

4/12/94

3 op shoot

4/12/94

Still meeting for day

4/13/94

wt loss &amp; monitoring

4/14/94

L.Hor control

4/15/94

water bod filter control

4/16/94

preparing East edge of commercial area for trash on  
mon. Everybody Here  
H.H. Waste Day.

4/18/94

everyone here except towse  
all eq. picked up

Tues 4-19-94

1.45" rain 7:00 AM.

took rental D-7 open cab to south west lake  
for highway dept's use. - 9:00 AM.

4/20/94

Engv RPD

Solid waste op sklb meeting

1.1" rain

4/21/94

1.25" rain

4/22/94

2 1/2" in Rain Thurs. mte

East ditch near old ramp L-7 on  
map - marked out & exposed slough well  
& other areas near commercial face

stuck 1 of 75-K-12 now connected  
Ben to move west

4,23,94

Rain Friday nite 3/4

Charlie on vac.

AT Wood layed pipe for camera wiring

Mon 4-25-94 0.35" rain 7:00 AM

Tue 4-26-94 0.70 rain @ 7:00 AM  
Frank out sick

Wed. 4,27,94

D.7. & G.P. 30821 went down, 10:AM. front Idler.

Thu 4/28/94

no rain

NEW D7 DOZER, ARRIVED.

Fri 4/29/94

compacts down on days down  
load in p/u & 2 doz in com.

4,30,94

no rain Everybody here

5/2/94

- complete litter Benet north of com

- repair without

- working com 73-K-11

Mr 50-5-10

commercial

5/3/94

Pan # 2131 diesel is auto oil

Fuel Injector not yesterday

Greg Injector head, neck, slow back

ling

5/4/94

No rain in gauge @ 7:00.

m 7:00 AM

~~Greg~~ Greg not @ landfill today, in town for staff meetings. Worked on litter fences & mowing. Paul worked getting top of stage ready for trucks.

in @ 7:00 am.

front Idler.

5-5-94

No rain in gauge @ 7:00.

Vince Etore - out sick.

New Dozer 31518 right side hyd cylinder has a small leak.

hour  
m.

5, 7, 94

Charles Shertzer out sick.

of com

5-9-94

no rain

Greg off injury

Charles off virus

5-10-94

no rain

Guy back

Charles worked 1.5 hrs & went home sick

5.11.94

no rain

Ron Cox left at noon

5-12-94

Doug & Vince out sick  
No rain @ 07:00

5-12-94

DEP IASP set for 9:00 AM

Vince out sick - called @ 8:05

5,14,94

no rain

Vince out sick Frank out no call

5-16-94

no rain

Vince out sick

John off - death in family

Philip worked pm. 5:00 to 11:00 6 hrs

5-17-94

no rain

John off

Philip working 5:00 to 6:00 13 hrs

4 PM Charles home sick

5-18-94

Guy is for wed meeting

sick  
rain

05

McCall

rain

6 hrs

rain

13 hrs

14 hrs

5-19-99

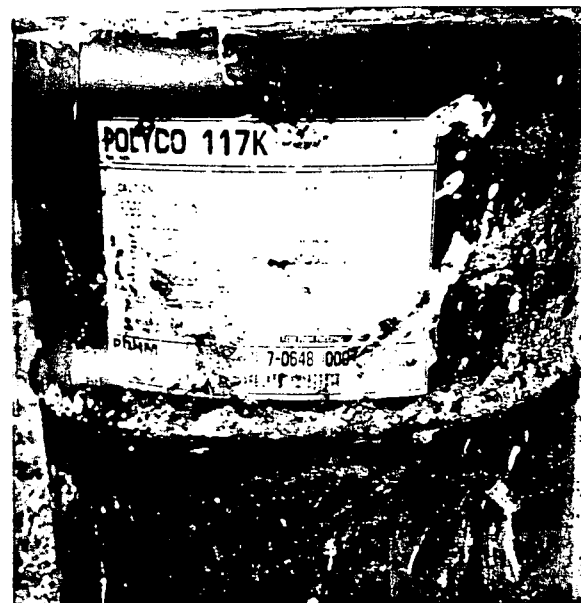
Hazardous waste found

3 drums mostly empty

2 Form oil

1 vinyl acetate - some spillage 1961

Enc called  
will respond  
by Paul Ponie



5, 20, 94

Bon out sick

Casly on vac

Frank out. no call AT 7 AM

High winds afternoon. no Rain

5, 21, 94

Bon out sick

Charlie Hansicker was here for bus tour  
approx 10: AM

5-22-94

8:30 moving scale to  
chip concrete from a scale  
12:00



5/23/94  
Finish L. Mac farm

5/24/94

5,25,94  
Bill Warden, Structural Dept  
picked up. Barrels 4,25,94 - 1030 AM.  
Doug out sick. Dr app.

5,26,94  
3500 gals Grease from Waste Water, 12:30  
Dumped in C.12. Residential Area.  
Doug back out sick.  
17. bags asbestos Buried AREA.C12.

5-27-94  
No rain @ 07:00  
Joe W. on vac.

5,28,94 no rain Fri nite  
charlie on vac. Joe W. on vac.

5-31-94  
very dry condition  
dehumidification is down both belly  
pans 2 days



6, 3, 94

Joe D. Ron. C. Brenda C. on vac.  
35.00 in Rain

6, 4, 94

Bill Thompson put computer back in service  
for doing capture discs. Back hoe was here and  
dug trench for Grease disposal yesterday

Ron Brenda Joe. on vac.

Dep. left Barrels in H.W. compound

6-6-94

1.1" rain in gauge 7:00 A.

first load of grease came in about 11:30

last 3 customers out of landfill 5:30

6-7-94

12:00 2.2" rain

6 lds grease Today

we had to haul mulch to comm area  
moved res area closer to rd for about  
2 hrs

6.8.94

Received more Grease. no Rain  
put mulch in commercial area.

6.9.94

State inspectors closed Dr. B scale for bad  
weights in approximately 3 hrs. Economy scale  
repaired it. more Grease Today.

Casey Ron Joe on vac.

6.10.94

No Rain Casey, Ron, Joe, on vac  
Received more Grease.

6.11.94

Ron, Joe on vac. no Rain

6.12.94 Sunday

Economy Scales Here all day for repair on  
a scale.

6.13.94,

6.14.94

heavy rain in afternoon

6.15.94

Storm still

6-16, 94

1 1/2" Rain in gauge at 7: AM  
D3 dozer went for track job. 21  
Rain at 4 P.M.

6-17, 94

Light Shower after noon  
Dozer Dm. for lift cyl. seal repair

6-18, 94

No Rain in gauge at 7: AM.  
Every Body Here  
Rain started 2:30 P.M. Stopped 3:15 .0025  
H.H.W. DAY

6/20/94

cloudy 2 people shoot today

6, 25, 94

charlie out sick. No Rain at 7: AM.  
vince on vac. Bananas today

6/27/94

two op OUT  
 1 Seal OUT  
 Both compactors &  
 mover down

6/28/94

compactors down  
 Large mover up  
 hot

compactors up at 2:00 pm

Large mover up at 3:00 pm

Loader down with short in starter

6/29/94

2.2 in Rain in Gauge at 7:AM.

Tire shredder arrived. Rain started 4:15 pm hard  
 SLUDGE TRKS HAULING. LOADER DN

6/30/94

1.1 in Rain in Gauge - 7:AM.

7-1-94

~~SLUDGE TRKS~~ Rain 3:PM To 3:45 pm - 25.00  
 (column)  
 Excavating system being repaired  
 SLUDGE TRKS HAULING approx 40 loads

7/2/94

Rain at 11:15 AM, TILL 2 pm - 2/10 in  
 Early on Vicer

7/3/94 A-SCALE REPAIR

7/5/94

2 op on vacation  
 1 op on Lte date

7/5/94 cont.

- started using computer today per B. Inst.

- Rainy conditions over weekend has caused poor entrance roads to working faces and some washouts in the road places OPEN Till 5:30

7/6/94

<sup>rain</sup>  
 afternoon work off  
 at 3:30 PM  
 and 2:00 AM  
 due to mud functions

7/7/94

NO Rain  
 OPEN Till 5:30

7/8/94

Slight T-storm  
 not much rain

7/11/94

compostor down for service  
 2 dozen down for repair  
 1 pen down  
 Sect. out

7/12/94

7/13/94

by Dr. V. Gray

has  
to  
be in  
5:30

7/14/94

Storm preparedness report in  
small fire in commercial area

7/15/94

.2500 in Rain 4:00 pm.

7.16.94

HHHW DAY

NO Rain

7-18-94

1" rain

but slopes are worked out  
top of hill is very wet  
start next small hill & the northeast-  
residential area will be best dry  
area, use the control today  
& use mulch  
power out during clearing  
could not set alarm

voice

in

7-19-94

1/2 rain for out house is  
scale house. houses down

7, 23, 94 Sat.

Frank out.

7-25-94

Monday ~~day~~ ~~vacation~~  
vince called in sick

Frank is on late duty (off 3:35 PM)  
Compton down

7-26-94

Frank out

early morning rain  
0.9" rain

7.27.94

Rain 10:00 to 11:00 PM.

7-28-94

Meeting DEB Group on closure

7-29-94

cloudy large house down

Lat 7,30,94

Ron out dict

Brenda on vac. no rain Fri nite

Early went to the oaks Eye injury

Cari and Roadgangs bulking paint in Garage

Early Peters out with Eye Injury

Monday 8/1/94

Early still out with eye injury

Joe on vacation

Charlie must leave early

Tuesday 8/2/94

dry

late rain 1/2"

8/3/94

still wet

mona down

8/4/94

one fan down possibly tongue down

ladder down

mona down

8,5,94

Ron out for Pres. Appt.

8,6,94

Brenda out

Rain at 10:AM.



8-8-94  
 dug at 7:00 AM  
 rain started at 10:00  
 1.6" rain

8-9-94  
 start security, cameras repair

8-10-94  
 heavy rain in afternoon

8-11-94  
 well land tour sawtooth Co.

8-12-94  
 compactors made ground

8-15-94  
 compactors down  
 rain

8-16-94  
 compactors down .6" rain.

8/17/94  
 rain started at 4:30 PM 0.5"  
 compactors up  
 move residential area to  
 east side of fire pile due to  
 muddy conditions on top

8/18/94

Clear

Compressor down - hydraulic hose leak off 11  
1 hr

8/19/94

PST here to install

wall GC1-A & CCA mus  
& install new mus

8/20/94

Scale house lock broken

Two security shifts broken at  
Scale house

8-22-94

HON here at 9:00 for  
technical review

8-23-94

Dodge Down for service

8/24/94

Scale A has malfunctioned  
today called for scale repair  
Florida glass truck turned  
over at bend on low road

8/25/94

Flow of waterings 1 1/2" per in

com working fine wet  
was OK

USE 3 pgs

USE 2 relief trucks

8-26-94

0.2" rain

11:10 AM

8/26/94

ASBESTOS REMOVAL  
MANATEE CO. SCHOOLS

J-5-72.1

NUMBER ON BAG THAT CORRESPONDS  
WITH SCHOOL

NAME OF SCHOOL

✓0491	Feb 22 94	Lincoln Memorial Middle
✓0181	MARCH 21-94	MANATEE High
✓0431	March 30-94	Southeast High
✓0181+0491	April 13-94	Manatee + Lincoln Middle
✓0031	April 18-94	ANNA MARIA Elem
✓0351+0481	May 5-94	Palmetto High + Bradenton Pl.
✓0181	MAY 23-94	Manatee High
✓0181	JUNE 25-94	Manatee High
✓0051	July 27-94	BALLARD Elem

ASBESTOS REMOVAL  
MANATEE CO. SCHOOLSNUMBER ON BAG THAT CORRESPONDS  
WITH SCHOOL

NAME OF SCHOOL

✓0421	Aug 1 94	Samoset Elem
✓0181	Aug 2 94	Manatee High
✓0351	Aug 2 94	Palmetto High
✓0491	Aug 19 94	Lincoln m.m.
✓0491	Aug 24 94	Lincoln m.m.

8-29-94

0.65" rain 7:20 AM

8,30,94

0" Rain

8,31,94

no Rain

9,1,94

no Rain

9,2,94

no Rain

I've moved in

Brenda + Ron on vac

I tend out

9, 3, 94

Brenda + Ron on vac

Mon 9, 5, 94 0.2" rain

Mon 9-12-94 0.55" rain

Charles - out sick

Philip - out sick

Tues 9-13-94 0.40" rain

Wed 9, 14, 94 no rain

Thurs 9, 15, 94 0.20 rain

Fri 9, 16, 94 0.50 rain

seeding slopes south and east commercial area  
Rex compactor left to be rebuilt.

9, 17, 94 Sat

OAK TREE BY SCALEHOUSE BLEW OVER  
2 in Rain Last nite Torrential Downpour  
Had to move pickup area  
H H W DAY

Mon 9-19-94 0.20" rain

Tues 9-20-94 0.65" rain

School bus Tours start today

Steve starts 3 wk vac today

Wed 9, 21, 94

Steve out, Gary out, Darrell out, Doug out,

9,22,94 Thurs.

no Rain ones nite

Steve Doug Darrell out.

Harry planted oak tree between scale house & office

9,23,94

Steve out.

Radiator and Radiator Guard doors on Q.7. dozer damaged. Door Glass broken in 30821.

Philip hauling dirt out of Southlake to stockpile 6 hr

9,24,94

Mon. 9-26-94 0.30" rain 7:00 AM

#30821 in for 250. hr service

#29079 in for service

1.30" rain 3:00 P.M.

Tues 9-27-94 no rain last night

Wed. 9,28,94 no rain Last nite

Thurs 9,29,94 no Rain Last nite

Fri 9,30,94 no Rain last nite

High winds out of East and South East.

Sat. 10,1,94

3 pass hauling to Stockpile

no Rain

Mon 10-3-94 1.5" rain 7:00 AM

Tues 10-4-94 0.1" rain

Disposal Site		Transporter		Generator	
1. Name and address of disposal site Boise-A-Allison Store 4311 Hwy 51 Boise, ID 83720		2. Name and address of transporter CROSS ENVIRONMENTAL SERVICES, INC. 3000 Blue Ridge Road PO Box 889 Crystal Springs, TN 38044 Tel: (615) 724-1188 Fax: (615) 724-1116		3. Name and address of generator Hudson County Landfill 3333 Lora Road Bridgeton, NJ 08302	
4. Material description Listed, double mixed, salt poly (not listed)		5. Material description Listed, double mixed, salt poly (not listed)		6. Material description Listed, double mixed, salt poly (not listed)	
7. Date of shipment 10/12/94		8. Date of shipment 10/12/94		9. Date of shipment 10/12/94	
10. Signature of transporter JERRY WILLIAMS, Operations Mgr. Signature: <i>[Signature]</i>		11. Signature of generator Signature: <i>[Signature]</i>		12. Signature of disposal site Signature: <i>[Signature]</i>	
13. Name and address of generator CROSS ENVIRONMENTAL SERVICES, INC. 3000 Blue Ridge Road PO Box 889 Crystal Springs, TN 38044 Tel: (615) 724-1188 Fax: (615) 724-1116		14. Name and address of transporter CROSS ENVIRONMENTAL SERVICES, INC. 3000 Blue Ridge Road PO Box 889 Crystal Springs, TN 38044 Tel: (615) 724-1188 Fax: (615) 724-1116		15. Name and address of disposal site Boise-A-Allison Store 4311 Hwy 51 Boise, ID 83720	

White - Generator, Grey - Landfill, Pink - Transporter, Gold - Generator

house & office

on D. 7. dozer  
821  
stop to 6 hr.

Wed. 10/12/94

NO Rain, ret seals on Top commercial area 93.00

Thurs. 10/13/94

Slow Rain 3/0  
Kenetek brought in another tub grinder  
compactor serviced

Fri

10/14/94

NO rain last nite

3 scrapers running

John Zigler on P.H.D.

H H W Collection Day for small business.

Sat

10/15/94

H H W collection day

NO Rain

nit

Mon

10-17-94

no rain

started 8" pump - leachate level less than 6.0

D.E.P here for longitude & latitudes of 6 weir structures

Tues

10-18-94

no rain

leachate level at 6.30' could not start 8" pump  
radiator leaking! needs to be replaced

Weds

10-19-94

no rain

last nite

Mon 10-24-94 no rain

Tues 10-25-94 no rain

leachate level at .5.60'

Wed. 10-26-94 no rain Joe D. <sup>only</sup> Vince, Doug out

Rain at 4:45 PM Torrential down pour  
1.6" in rain

Thurs, 10-27-94 muddy conditions commercial area  
Joe D. Vince, Casey Stone out

Mon 10-31-94 1.55" rain

Teresa & Vince off

Cat compactor down, 2 = D7 wide tires down,

1 = 623E scraper down, 20' bat wing mower still down

leachate level less than 5', 8" pump down = radiator

Doug went home 8:30

Charles went to the Oaks clinic = lower back & leg strain

Mon 11-14-94 no rain

Vince - out

high gusty winds, threat of storm Gordon

Tues 11-15-94 0.1" rain 7:30 AM

everyone here today, fueled all Equip and pulled 4" pu  
from S.E. lake as a precaution! ran generator to scale ho  
for 2.5 hrs, leachate level at 5.50', high gusty winds

Wed

01, 04 '95

85

W

Rain in AM. 2/10 by 9:AM.

Cleaning Leachate and stormwater ponds with Backhoe.

Brenda back from vac. @

5/10 in Rain Total For Today.

Thurs. 01.05.95 Thurs

Cold windy wind out of N.E. no Rain

Fri 01, 6, 95

High winds out of South East.

Vince on vacation Teresa vac.

01, 07, 95

Charlie out sick Vince on vac

Severe thunder storm warnings. AM.

light Rain 8:AM. 6/10 in Rain Total

Contractors Here to bid on LEACHATE COLL. PROJ.

Mon 01-09-95

0.5" rain in gauge

Vince on vac. 43° and heavy fog

Tues 01, 10, 95

no Rain

Wed 01, 11, 95

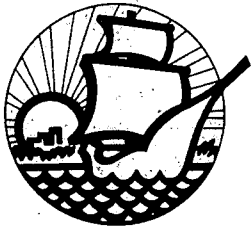
no Rain Cool in AM.

Thurs 01, 12, 95

Vince on vac. no Rain

interviewed for landfill ATT 1 job 3 app. Carolyn Howell  
present. Loader 1 scraper du





# MANATEE COUNTY GOVERNMENT

## Public Works Department

D.E.P.

January 15, 1995

JAN 26 1995

SOUTHWEST DISTRICT  
TAMPA

Allison Amram, Environmental Specialist  
Division of Waste Management  
Department of Environmental Protection, South West District  
3804 Coconut Palm Drive  
Tampa, FL 33619

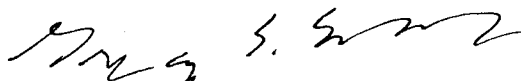
Re: Manatee County Solid Waste Management Facility  
Permit No. SO41-21179, Biannual Groundwater Monitoring Report

Dear Ms. Amram:

Enclosed you will find portions of our biannual groundwater monitoring report. Pursuant to our phone conversation on January 11, 1995, the missing areas of the report consisting of the chemical analyses for the groundwater wells, the leachate analysis, and the groundwater well gradient comparisons will be forwarded to you as soon as possible.

If you have any questions, please contact me at (813) 792-8811, Extension 5293, Thank you for your cooperation in this matter.

Sincerely,

  
Gregory F. Yekaitis  
Solid Waste Technical Coordinator

gfy

cc: - Chongman Lee, FDEP, Tallahassee  
- Lenox E. (Len) Bramble, Director  
John Harllee, Esquire  
Roger Hill, Shroeder-Manatee Ranch  
Leonard Eder, Eder and Associates  
Lisa Perros, USEPA, Region IV, Waste Management District  
~~Daniel~~ T. Gray, Utilities Operations Manager  
Gus DiFonzo, Solid Waste Manager

*Kim  
leachate / rain fall  
delta  
A*

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF October 1994

*file copy*

DAY	INPUT TO LEACHATE POND G.P.D.			LEACHATE TO WWTP IN G.P.D.	RAINFALL IN INCHES	WEST WEIR DISCHARGE pH	REMARKS
	STAGE I	STAGE II	STAGE III				
1							
2							
3							
4	135,000		909,000	1,690,000	0.0	6.8	
5	238,000		84,000	109,000	0.0	6.7	
6	108,000		90,000	199,000	0.0	6.7	
7	108,000		72,000	207,000	0.0	6.8	
8							
9							
10							
11	726,000		555,000	801,000	0.0	6.7	
12	90,000		60,000	205,000	0.0	6.7	
13	126,000		60,000	188,000	1.0	6.8	
14	162,000		60,000	208,000	0.0	6.5	
15							
16							
17	390,000		162,000	574,000	0.0	6.4	
18	126,000		97,000	204,000	0.0	6.5	
19	138,000		60,000	218,000	0.0	6.5	
20	144,000		48,000	195,000	0.0	6.3	
21	162,000		48,000	200,000	0.0	6.3	
22							
23							
24	486,000		120,000	596,000	0.0	6.3	
25	168,000		42,000	205,000	0.0	6.3	
26							
27							
28							
29							
30							
31	966,000		294,000	792,000	0.0	6.7	
TOTALS	4,273,000		2,761,000	6,591,000	1.0		
TOTAL AC. OPEN 2 INTER. 198 CLOSED 0							

# MONTHLY WATER BALANCE REPORT FOR THE MONTH OF NOVEMBER, 1994

INPUT TO LEACHATE POND G.P.D.				LEACHATE TO WWTP	RAINFALL IN INCHES	WEST WEIR DISCHARGE pH	REMARKS
DAY	STAGE I	STAGE II	STAGE III	IN G.P.D.			
						6.7	
1	10,000		81,000	209,000	0.1	6.9	
2	38,000		63,000	204,000	0	6.9	
3	24,000		60,000	188,000	0	6.8	
4	24,000		83,000	199,000	0		
5							
6							
7	230,000		219,000	591,000	0	6.5	
8	40,000		70,000	194,000	0	6.6	
9	42,000		77,000	199,000	0	6.4	
10	39,000		61,000	181,000	0.7	6.7	
11	38,000		64,000	187,000	0	6.6	
12							
13							
14	119,000		230,000	592,000	0	6.4	
15	42,000		78,000	203,000	0	6.4	
16							
17	113,000		165,000	644,000	1	6.8	
18	47,000		84,000	320,000	0	6.6	
19							
20							
21							
22	185,000		309,000	1,256,000	0	6.5	
23							
24							
25	133,000		180,000	918,000	0	6.5	
26							
27							
28	140,000		204,000	977,000	0	6.6	
29	45,000		67,000	315,000	0	6.7	
30	48,000		70,000	338,000	0	6.7	
31							
Sub - Total							
TOTALS	1,357,000		2,165,000	7,715,000	1.8		
TOTAL ACREAGE: OPEN 2 INTERMEDIATE 188 CLOSED 0							

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF DECEMBER 1994

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1												
2												
3												
4												
5	230,000		175,000		973,000	0						6.9
6	57,000		51,000		326,000	0						6.9
7	102,000		53,000		324,000	0						6.9
8												
9	107,000		98,000		614,000	0						6.9
10												
11												
12												
13												
14	270,000	NOT APPLICABLE	202,000	NOT APPLICABLE	1,539,000	0						6.8
15	65,000		-----		377,000	0						6.5
16	55,000		55,000		306,000	0						6.8
17												
18												
19												
20	222,000		280,000		1,235,000	0						6.5
21	55,000		50,000		307,000	1.7						6.8
22	48,000		65,000		314,000	0.4						6.7
23	38,000		56,000		257,000	0.4						6.7
24												
25												
26	155,000		225,000		936,000	0						6.6
27	52,000		-----		332,000	0						6.8
28	37,000		128,000		244,000	0						6.7
29												
30												
31												
TOTALS		1,493,000	1,438,000		8,084,000	2.5						

TOTAL LEACHATE INPUT 2,931,000

TOTAL ACREAGE: OPEN 2 INTERMEDIATE 188 CLOSED 0

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF September 1994

DAY OF MONTH	LEACHATE INPUT TO POND G.P.D.			LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.H.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
	STAGE I	STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	33,000		143,000		230,000	0.0						6.6
2	22,000		131,000		210,000	0.0						6.6
3												
4												
5	123,000		374,000		690,000	0.3						
6	31,000		122,000		253,000	0.2						6.7
7	30,000		119,000		484,000	0.0						6.6
8	35,000		106,000		203,000	0.0						7.0
9	23,000		108,000		203,000	0.0						7.0
10												6.9
11												
12	500,000		304,000		713,000	0.0						7.0
13												
14	350,000		96,000		460,000	0.2						7.0
15	178,000		48,000		330,000	0.1						
16												6.9
17												
18												
19	164,000		240,000		966,000	0.2						6.9
20	160,000		140,000		201,000	0.7						6.8
21	175,000		154,000		240,000	0.0						6.8
22	172,000		144,000		240,000	0.0						7.0
23	162,000		132,000		230,000	0.0						7.0
24												
25												
26	514,000		387,000		750,000	0.3						6.7
27	182,000		150,000		250,000	1.3						6.9
28	187,000		183,000		500,000	0.0						6.9
29												
30												
31												
TOTALS	3,041,000		3,082,000		7,053,000	3.0						

TOTAL LEACHATE INPUT 6,123,000

GFY:acm  
1991

**RECEIVED**  
NOV 15 1994

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

*file copy*

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF August 1994

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.			LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III					NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	155,000					616,000	1.1						6.4
2	37,000					148,000	0						6.4
3	35,000					131,000	0						6.4
4	28,000					164,000	0						6.4
5													
6													
7													
8													
9	144,000		10,000			786,000	0.9						6.7
10	28,000		3,000			169,000	0						6.3
11	28,000					35,000	0.7						6.5
12	26,000					9,000	0.3						6.5
13													
14													
15	87,000					30,000	0.7						6.6
16													
17													
18	90,000		16,000			29,000	0.5						6.6
19	40,000		139,000			9,000	0						6.6
20													
21													
22	112,000		398,000			30,000	0						6.6
23	34,000		122,000			10,000	0						6.6
24													
25													
26	208,000		458,000			30,000	0.2						6.6
27													
28													
29													
30	266,000		48,000			68,000	0						6.8
31	34,000		152,000			10,000	0						6.7
TOTALS		1,352,000	1,346,000			2,274,000	4.4						

TOTAL LEACHATE INPUT 2,698,000

CPY:atm  
1991  
cc: Helen Smith

88-4 H-  
for our  
Records  
Dm

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF July, 1994

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III		NORTH		SOUTH	WEST	NORTH	SOUTH	WEST	
1	6,700		118,000		210,000	.2						6.2
2												
3												
4												
5	28,000		447,300		838,000	.9						6.2
6	7,300		89,000		213,000	.1						6.3
7	6,800		77,000		396,000	.4						6.3
8	7,300		98,000		237,000	.0						6.3
9												
10												
11	20,000		385,000		625,000	.0						6.4
12	63,000		76,700		209,000	1.0						6.4
13	97,000		92,000		198,000	.0						6.2
14	55,000		72,000		186,000	.3						6.2
15	40,000		57,000		138,000	1.1						6.3
16						1.0						
17												
18	176,000		280,000		713,000	.6						6.3
19												
20	31,000				161,000	.3						6.3
21	64,000				128,000	.6						6.4
22												
23												
24	38,000				157,000	.4						6.3
25												
26	191,000				804,000	.9						6.4
27	187,000				159,200	.1						6.2
28	37,000				166,000	.3						6.4
29												
30												
31												
TOTALS	1,055,100		1,791,000		5,537,000	8.2						

RECEIVED

TOTAL LEACHATE INPUT 2,846,100

RECEIVED  
AUG 4 - 1994

PUBLIC WORKS  
RECYCLING

*Handwritten signature/initials*

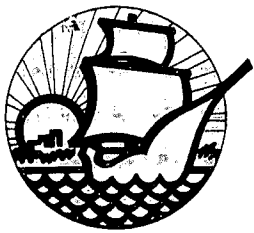
MONTHLY WATER BALANCE REPORT FOR THE MONTH OF January, 1994

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I)	LEACHATE TO S.E.W.W.T.P.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III	G.P.D.	G.P.D.		NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1												
2					29,000	.90						6.7
3	76,000		227,000		11,000	1.0						6.7
4	29,000		83,000		9,000	0						6.8
5	14,000		47,000		9,000	0						6.8
6	13,000		44,000		11,000	0						6.9
7	23,000		88,000		8,000	.2						6.8
8	30,000		73,000									
9					21,000	0						6.8
10	132,000		156,000		19,000	0						6.8
11												
12	39,000		156,000		10,000	0						6.8
13												
14	24,000		90,000									
15												
16												
17					57,000	1.4						6.5
18	103,000		80,000		9,000	0						6.6
19	17,000		36,000		11,000	0						6.6
20	22,000		5,000		21,000	0						6.5
21	23,000		90,000									
22												
23												
24	69,000		75,000		29,000	0						6.7
25	21,000		95,000		54,000	0						6.7
26	28,000		91,000		312,000	0						6.7
27	31,000		8,000		352,000	0						6.7
28	16,000		84,000		308,000	0						
29												
30												6.8
31	78,000		264,000		1,010,000	.2						
TOTALS	788,000		1,792,000		1,938,000	3.7						

TOTAL LEACHATE INPUT 2,580,000

GFY:atm  
1991





**MANATEE COUNTY  
GOVERNMENT**  
Public Works Department

June 14, 1994

**RECEIVED**  
JUN 16 1994

Department of Environmental Protection,  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

Kim Ford, P.E.  
Solid Waste Section  
Florida Department of Environmental Protection  
Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Re: 1993 Leachate Production and Rain Fall Graph

Dear Mr. Ford:

Enclosed you will find the 1993 leachate production and rainfall graphs for the Manatee County Solid Waste Management facility that you requested during your May 13, 1994 visit.

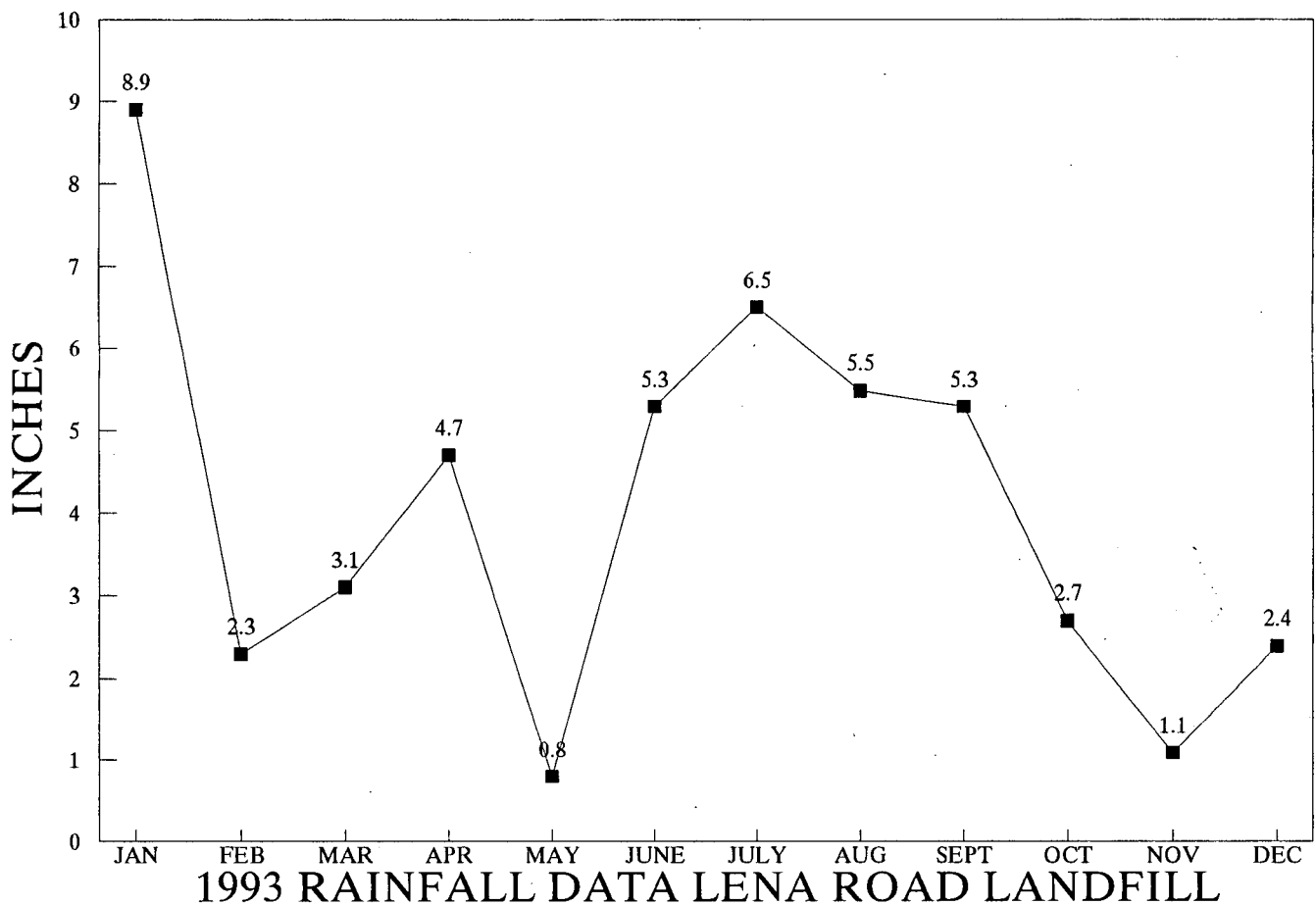
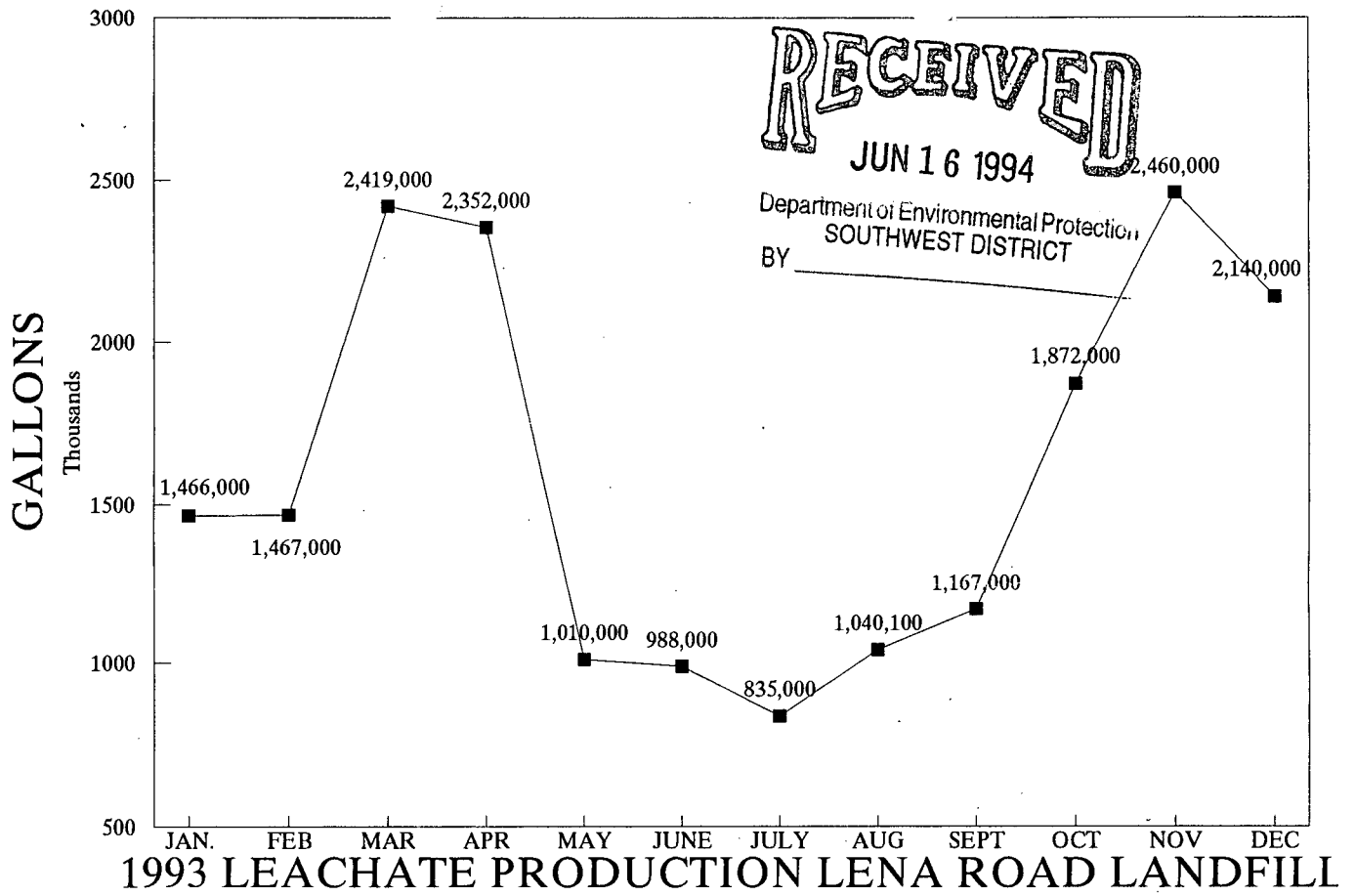
If I can be of further service please contact me at (813) 748.5543.

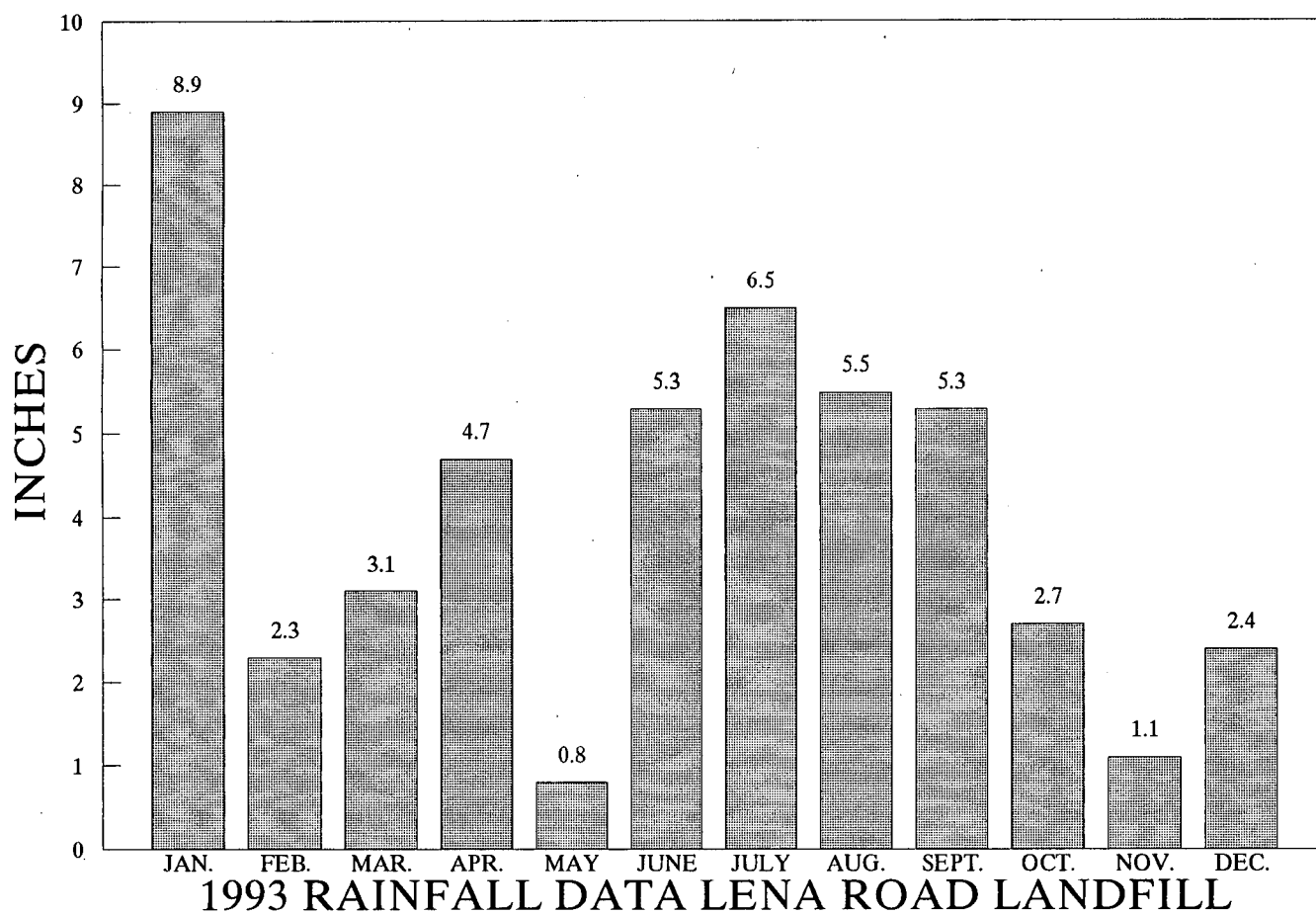
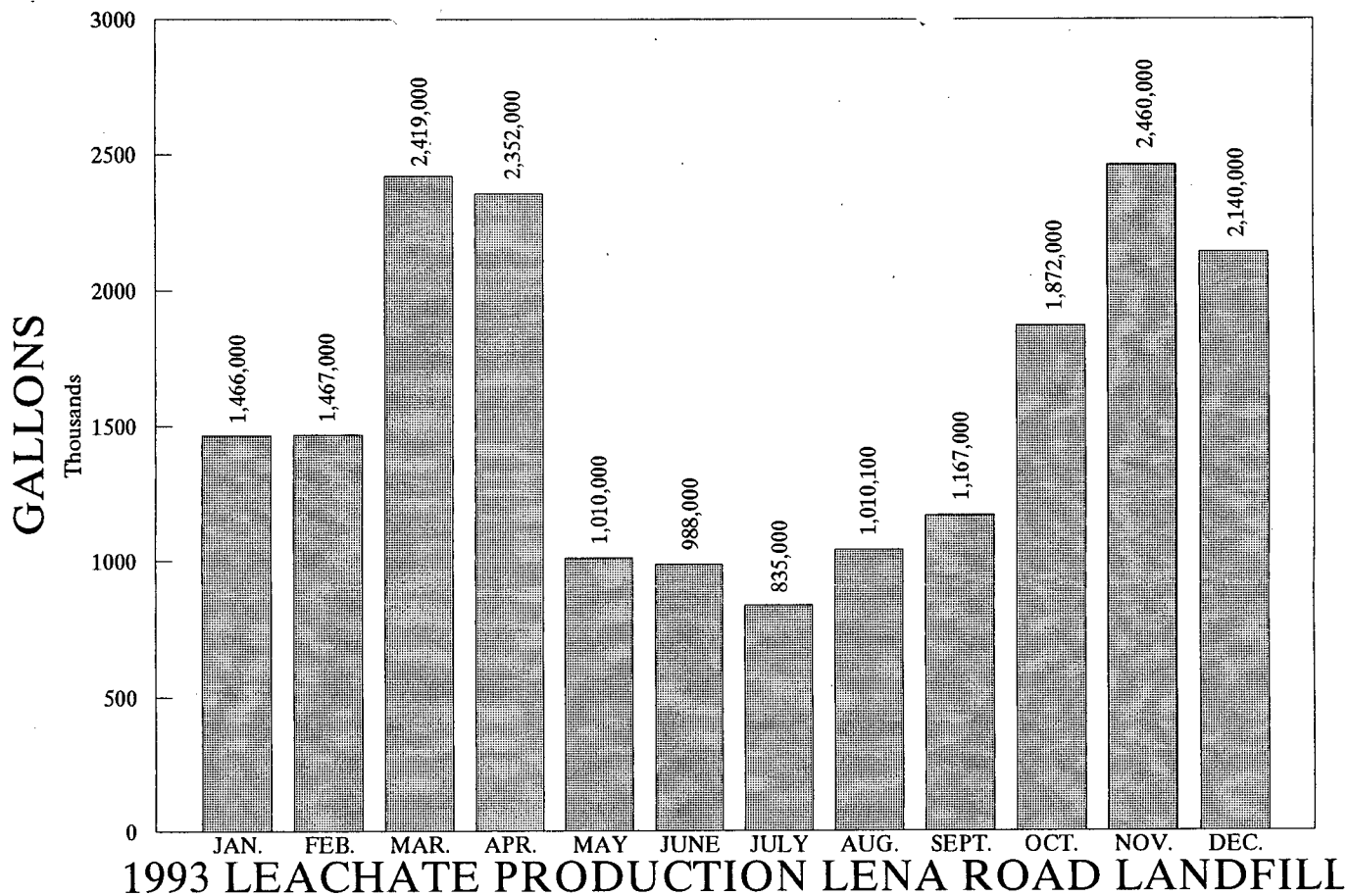
Sincerely,

Gregory F. Yekaitis  
Solid Waste Technical Coordinator

GFY/tyk

cc: Richard A. Wilford, Director Public Works  
Charles Hunsicker, Assistant Director Public Works  
Daniel T. Gray, Deputy Director/Operations  
Gus DiFonzo, Solid Waste Division Manager





MONTHLY WATER BALANCE REPORT FOR THE MONTH OF February, 1994

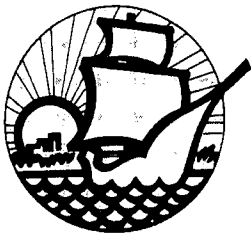
DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I)	LEACHATE TO S.E.W.W.T.P.	RAINFALL INCHES	STAGE I			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III	G.P.D.	G.P.D.		WEIR NORTH	DISCHARGE SOUTH	FLOW(MGD) WEST	NORTH	SOUTH	WEST
1	18000		80,000		341,000	0						6.8
2	30000		77,000		363,000	0						6.9
3	18000		52,000		296,000	0						6.9
4	22000		69,000		340,000	0						7.0
5	20000		72,000		85,000							
6												
7	20000		72,000		85,000							
8	20000		72,000		85,000							
9	20000		72,000		85,000							
10	20000		72,000		85,000							
11	20000		72,000		85,000							
12	20000		72,000		85,000							
13												
14	20000	NOT APPLICABLE	72,000	NOT APPLICABLE								
15	18000		52,000		10,000	0	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE		7.0
16	24000		59,000		109,000	0						7.0
17	17000		49,000		9,000	0						7.2
18												
19												
20												
21	85000	NOT APPLICABLE	2,000	NOT APPLICABLE	398,000	0	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE		7.8
22	20000		48,000		10,000	0						7.7
23	24000		50,000		10,000	0						7.8
24												
25	38000		86,000		19,000	1.0						7.1
26												
27												
28	52000		139,000		29,000	0						7.0
29												
30												
31												
TOTALS		526,000	1,339,000		2,614,000	1.0						
TOTAL LEACHATE INPUT		1,865,000										

GFY:atm  
1991

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF March, 1994

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III	NORTH	SOUTH		WEST	NORTH	SOUTH	WEST		
1												
2	43,000		121,000		212,000	2.0						6.9
3	22,000		55,000		249,000	.1						6.9
4	27,000		43,000		305,000	0						6.7
5												
6												
7	63,000		157,000		956,000	0						6.7
8	21,000		54,000		330,000	0						6.6
9	23,000		9,000		324,000	0						6.8
10	24,000				337,000	0						7.0
11	17,000				667,000	0						7.0
12												
13												
14	53,000		183,000		990,000	0						7.1
15		NOT APPLICABLE		NOT APPLICABLE			NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE		7.5
16	48,000		55,000		337,000	0						7.4
17	20,000				10,000	0						7.2
18	19,000		9,000		10,000	0						
19												
20		NOT APPLICABLE		NOT APPLICABLE			NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE		6.8
21	58,000		117,000		29,000	0						6.8
22	18,000		50,000		39,000	0						6.8
23	18,000		61,000		48,000	0						6.7
24	19,000		58,000		58,000	0						6.7
25	18,000		56,000		10,000	0						
26												
27												
28												
29	74,000		230,000		39,000	1.0						6.6
30	12,000		47,000		9,000	0						6.7
31	17,000		77,000		11,000	0						6.7
TOTALS												
614,000		1,382,000		4,970,000								
TOTAL LEACHATE INPUT		1,996,000										

GFY:atm  
1991



# MANATEE COUNTY GOVERNMENT

## Public Works Department

April 1, 1994

Kim Ford, P.E.  
Florida Department of Environmental Protection  
Solid Waste Section  
Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

D.E.P.

APR 05 1994

SOUTHWEST DISTRICT  
TAMPA

RE: Manatee County Solid Waste Management Facility  
Permit No. S041-211176, Leachate Quantity Reports

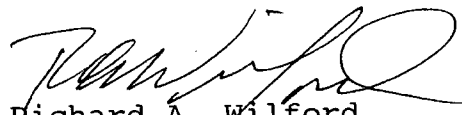
Dear Mr. Ford:

Below is a summary of information pursuant to your written request on March 2, 1994, for data regarding leachate generation at the above referenced facility, and the status of landfill areas since January 1, to March 1, 1994.

Landfill Acres	<u>Open</u> 2	<u>Closed</u> 0	<u>Intermediate</u> 188	
Leachate Gallons	<u>Collected</u> 4,445,000	<u>Impounded</u> 4,445,000	<u>Recirculated</u> 0	Sent to Wastewater Plant 4,552,000

If you have any questions, please call me at (813) 792-8811.

Sincerely,

  
Richard A. Wilford  
Public Works Director

cc: Charles Hunsicker, Assistant Director  
Daniel T. Gray, Deputy Director of Operations  
Gus DiFonzo, Solid Waste Division Manager  
Greg Yekaitis, Solid Waste Technical Coordinator





Lawton Chiles  
Governor

# Florida Department of Environmental Protection

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
813-744-6100

Virginia B. Wetherell  
Secretary

March 2, 1994

Mr. Richard Wilford  
Manatee County  
4501 66th Street West  
Bradenton, FL 34210

Re: Lena Road Landfill  
Permit No. S041-206084  
Leachate Quantity Reports

Dear Mr. Wilford:

FAC Rule 17-701.500(8)(g) requires that "precipitation records shall be maintained and used by the permittee to compare with leachate generation rates". Leachate/water balance data should be kept on a spreadsheet format and provided monthly to this office. Please verify the number of open, intermediate, and closed acres. Please provide daily records from January 1, 1994 for the following:

- \* Quantities of leachate collected
- \* Quantities of leachate stored or impounded
- \* Quantities of leachate recirculated
- \* Quantities of leachate hauled or piped to a WWTP

This information will be evaluated by the Department. Design or operational changes may be needed to prevent unauthorized discharges or excessive head over lined disposal areas. If you have any questions, you may call me at (813) 744-6100, extension 382.

Sincerely,

Kim B. Ford, P.E.  
Solid Waste Section  
Division of Waste Management

KBF/ab

cc: Greg Yekaitis, Manatee County  
Robert Butera, P.E., FDEP Tampa  
Steve Morgan, FDEP Tampa  
Kathy Anderson, FDEP Tallahassee

RECEIVED  
OCT 12 1993

LEACHATE MANAGEMENT SUMMARY Department of Environment Protection  
SOUTHWEST DISTRICT

Landfill Name Manatee County Solid Waste Management Facility BY \_\_\_\_\_  
Location 3333 Lena Road, Bradenton, Florida, Manatee County  
Phone Number (813) 748-5543

Place an "X" in the applicable spaces.

ON-SITE LEACHATE MANAGEMENT METHODS:

Impoundment Only	_____
Impoundment with Aeration	_____
Impoundment with Evaporation	<u>X</u>
Irrigation of intermediate areas	_____
Recirculation	_____
Pre-treatment or Other (Describe)	_____

OFF-SITE LEACHATE DISPOSAL METHODS:

Wastewater Treatment Plant

County owned, Identify Southeast Regional Waste Water Treatment Plant

Non-County owned, Identify \_\_\_\_\_

Other (Describe)

TESTING CRITERIA:

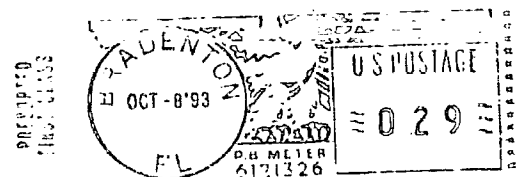
Please attach copies of your most recent leachate analysis.

Prepared By: Gregory Yekaitis Date: 9/21/93





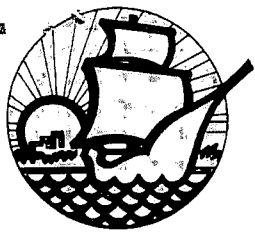
**Manatee County Public Works**  
Administration  
4501 66th St. West, Zip 34210  
P.O. Box 25010  
Bradenton, FL 34206



Ms Susan J. Pelz  
Solid Waste Section  
Division of Waste Management  
Fla. Dept. of Environmental Protection  
Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

33619-8318 71





**MANATEE COUNTY  
GOVERNMENT**  
**Public Works Department**

**RECEIVED**  
NOV 18 1993

Department of Environmental Protection  
SOUTHWEST DISTRICT  
BY \_\_\_\_\_

November 12, 1993

Susan J. Pelz  
Solid Waste Section  
Division of Waste Management  
Florida Department of Environmental Protection  
Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

RE: Manatee County Solid Waste Management Facility  
Permit Number S041-206084

Dear Ms Pelz:

We are in receipt of your September 8, 1993, leachate management evaluation and have reviewed the tabulated results for Manatee County.

The number of active Landfill acres is approximately 3.5 acres, intermediate closed acres is 186, and 0 acres have final closure at this time.

Approximately 128 acres are permitted for future Landfill with leachate collection system in place. However, no refuse has been placed in this area.

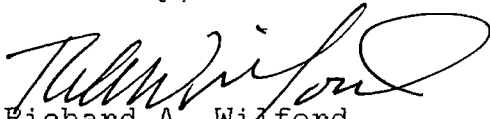
The leachate produced appears low because leachate figures for a 70 acre portion of the intermediate covered area have not produced reliable leachate quantities from 3 different types of flow measurement, which are a magnetic sensor, ultrasonic flow meter, and paddle wheel meter. The problem seems to be with an iron oxide silt laden leachate in the 70 acre site. This material in our leachate has proved difficult to measure with current flow meter technology. We are searching for a more reliable method of leachate quantity recording with our Engineering Department and a suggestion of utilizing our hour meters on each pump accompanied by monthly "draw down tests" on the pump station is currently in process.

November 12, 1993  
Susan J. Pelz  
Page 2

On October 19, 1993, Gregory Yekaitis, Solid Waste Technical Coordinator, invited you and your staff to visit our facility for first hand look at the operation. We hope you will accept our request and visit us in the near future.

If I can be of further assistance, please contact me at (813) 792-8811.

Sincerely,



Richard A. Wilford  
Public Works Director

RAW/tyk

cc: Charles Hunsicker, Assistant Director of Public Works  
Daniel Gray, Deputy Director/Operations  
Gus DiFonzo, Solid Waste Division Manager  
Gregory Yekaitis, Solid Waste Technical Coordinator



# Florida Department of Environmental Protection

Lawton Chiles  
Governor

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619  
813-744-6100

Virginia B. Wetherell  
Secretary

Richard Wilford  
Manatee County  
4501 66th Street West  
Bradenton, FL 34210

September 8, 1993

RE: Lena Road Landfill, Manatee County  
Permit No. SO41-206084  
Leachate Management

Dear Mr. Wilford:

Attached you will find a summary of the information received on leachate management (FDEP request of March 1993) in the Southwest District for a ninety day period in 1993. Evaluation of this information has raised the following concerns:

1. The number of active or open landfill acres appear high and the number of acres ready for final closure, but not closed, appear low. Please verify the number of open, intermediate, and closed acres.
2. The gallons of leachate collected per day appears low.

Manatee County is requested to provide complete daily leachate balance data in a summary format for each month for the Lena Road Landfill, Stages I and II. Additionally, in an effort to develop a database of leachate management and testing practices in the District, the Department requests the attached Leachate Management Summary Form be completed.

The Department requests that all information be provided to the Solid Waste Section, FDEP, Tampa office within fifteen (15) days of this notice. If you have any questions, you may contact me at (813) 744-6100 ext. 386, or Kim Ford at ext. 382.

Sincerely,

A handwritten signature in dark ink, appearing to read "SJP", is written over a horizontal line.

Susan J. Pelz  
Solid Waste Section  
Division of Waste Management

Attachments

cc: Greg Yekaitis, Manatee County  
Bob Butera, FDEP Tampa  
Kim Ford, FDEP Tampa  
Steve Morgan, FDEP Tampa  
Kathy Anderson, FDEP Tallahassee

# LEACHATE MANAGEMENT IN S.W. DISTRICT

for 90 days in 1993 ( rainfall amount varies, 6-13 inches )

Facility	Open Acres	Interm. Acres	Closed Acres	Leachate gal/acre/day	Collected	Impounded	Recirculated	T.P.	Evap.	Irrigation
Levy	4	3		773	487,530	*			*	367,900
Citrus	3	11	7	1506	1,898,000	*		1,898,000		
Sumter, compost				insufficient data ( impoundment and recirculation )						
Hern. N.W.	4			787	283,500			283,500		
Hern. Croom			5	199	89,750			89,750		
E. Pasco	14		42	157	792,000			792,000		
W. Pasco	7			371	234,000			234,000		
Polk NC	20	26		69	287,800	*	262,800	25,000	5,256	
Polk SE	8	10		843	1,366,000	*	1,206,000	160,000	24,120	
Polk NE	4	10		404	509,800	*	349,800	160,000	6,996	
Hills. SE	80	84	18	165	2,708,789		604,000	2,104,789	12,080	
DJJ	9	7			*	2,050,000	1,697,100		33,942	
Bridgeway Acres				insufficient data ( evaporation in cooling towers )						
Toytown			215	201	3,900,000	*		3,900,000		
126th Ave.	12			insufficient data ( impoundment in landfill )						
Manatee	5	212		274	5,352,000	7,780,000		32,049,000		
Hardee	10	3		insufficient data ( irrigation sprayfield )						
Desoto	3	5		1336	961,606	584,000	717,563	647,288	345,654	
Sarasota	71	49	100	545	32,621,400	87,000,000	8,780,000		175,600	

Collected : pump hours x pump capacity

Impounded : average amount impounded

Recirculated : all amounts distributed inside lined cells

T.P. : amount hauled or piped to treatment plant

Evap. : evaporation @ 2% of amount recirculated

unless other specific information is provided

Irrigation : spray irrigation outside lined cells

\* : applicable information not provided

LEACHATE MANAGEMENT SUMMARY

Landfill Name \_\_\_\_\_

Location \_\_\_\_\_

Phone Number \_\_\_\_\_

Place an "X" in the applicable spaces.

ON-SITE LEACHATE MANAGEMENT METHODS:

Impoundment Only \_\_\_\_\_

Impoundment with Aeration \_\_\_\_\_

Impoundment with Evaporation \_\_\_\_\_

Irrigation of intermediate areas \_\_\_\_\_

Recirculation \_\_\_\_\_

Pre-treatment or Other (Describe)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

OFF-SITE LEACHATE DISPOSAL METHODS:

Wastewater Treatment Plant

County owned, Identify \_\_\_\_\_

Non-County owned, Identify \_\_\_\_\_

Other (Describe)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TESTING CRITERIA:

Please attach copies of your most recent leachate analysis.

Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF October, 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.			LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III					NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	29,000		39,000			256,000	0						6.5
2	26,000		40,000			222,000	0						6.3
3													6.5
4	62,000		73,000			423,000	0						6.5
5	28,000		37,000			193,000	0						6.5
6	26,000		31,000			194,000	0						6.4
7	32,000		42,000			207,000	1.0						
8													
9													
10													6.6
11	120,000		120,000			773,000	0						6.4
12	26,000		12,000			175,000	0						6.4
13	29,000		15,000			173,000	0						6.4
14	29,000		26,000			210,000	.1						6.4
15	22,000		31,000			153,000	0						6.2
16	28,000		32,000			164,000	1.2						
17													6.3
18	21,000		11,500			197,000							
19													6.3
20	44,000		84,000			480,000	0						6.3
21	43,000		81,000			465,000	0						6.4
22	43,000		17,000			46,000	0						6.5
23	46,000		50,000			435,000	0						
24													6.4
25	71,000		103,000			85,000	0						6.5
26	34,000		18,000			388,000	0						6.5
27	30,000		55,000			367,000	.4						6.5
28	25,000		50,000			304,000	0						6.5
29	25,000		50,000			304,000	0						6.5
30	30,000		61,000			348,000	0						
31													
TOTALS		844,000	1,028,000			7,438,000	2.7						

TOTAL LEACHATE INPUT 1,872

6/1  
GTY:atm  
1991

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF November 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)						
		STAGE II	STAGE III		NORTH		SOUTH	WEST	NORTH	SOUTH	WEST					
1																
2	110,000		208,000		1,495,000	0						6.5				
3	27,000		54,000		220,000	0						6.5				
4	30,000		68,000		225,000	0						6.5				
5	36,000		78,000		255,000	0						6.5				
6																
7																
8	88,000		281,000		646,000	1.1						6.5				
9	27,000		195,000		223,000	0						6.5				
10	32,000		82,000		202,000	0						6.4				
11	28,000		174,000		200,000	0						6.6				
12	34,000		68,000		201,000	0						6.6				
13	26,000		75,000		164,000	0						6.6				
14		NOT APPLICABLE		NOT APPLICABLE												
15	60,000		143,000		457,000	0	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	6.6					
16																
17	56,000		125,000		438,000	0									6.7	
18	33,000		71,000		146,000	0									6.6	
19	26,000		73,000		264,000	0									6.7	
20	34,000		72,000		210,000	0									6.7	
21																
22	50,000		63,000		34,000	0									6.7	
23	29,000		50,000		23,000	0									6.9	
24	29,000	40,000	99,000	0									6.8			
25																
26	56,000		149,000		669,000	0						6.9				
27	23,000		62,000		49,000							6.9				
28																
29	39,000		102,000		22,000	0						7.0				
30	20,000		34,000		74,000	0						7.0				
31																
TOTALS		893,000	2,067,000		6,016,000	1.1										

TOTAL LEACHATE INPUT 2,960,000

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MONTHLY WATER BALANCE REPORT FOR THE MONTH OF December, 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND C.P.D.			LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III					NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	20,000		60,000			10,000	0						7.0
2	22,000		67,000			10,000	0						7.1
3	22,000		75,000			10,000	0						7.1
4	22,000		65,000			8,000	0						7.0
5													
6	43,000		74,000			21,000	0						7.3
7	24,000		72,000			79,000	0						7.1
8													
9	46,000		112,000			616,000	0						6.8
10	26,000		40,000			357,000	0						7.3
11													
12													
13	75,000		104,000			838,000	0						7.2
14	32,000		47,000			532,000	0						7.4
15	28,000		127,000			465,000	0						7.3
16	19,000		43,000			80,000	0						7.5
17	14,000		21,000			8,000	0						7.1
18	30,000		56,000			492,000	0						7.0
19													
20	55,000		127,000			559,000	0						6.9
21	32,000		70,000			308,000	.3						6.9
22													
23	24,000		55,000			280,000	1.0						6.9
24	18,000		33,000			353,000	0						7.0
25													
26													
27	49,000		125,000			924,000	1.1						7.0
28	18,000		56,000			318,000	0						7.0
29	24,000		68,000			324,000	0						7.0
30													
31													
TOTALS		643,000	1,497,000			6,592,000	2.4						

TOTAL LEACHATE INPUT 2,140,000

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF July, 1993

DAY OF MONTH	LEACHATE INPUT TO POND G.P.D.			LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
	STAGE I	STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	28,000				204,000	0						6.7
2	35,000				221,000	.9						6.4
3	33,000				218,000	.3						6.5
4												
5												
6	71,000				747,000	0						6.7
7	38,000				278,000	.4						6.8
8	38,000				257,000	0						6.7
9	43,000				196,000	1.3						6.5
10	45,000				204,000	0						6.5
11												
12	99,000				709,000	1.5						6.7
13	8,000				182,000	.4						6.6
14	7,000				342,000	0						6.7
15												
16	93,000				584,000	0						6.8
17	12,000				257,000	0						6.4
18												
19												
20	21,000				853,000	0						6.5
21	7,000				221,000	0						
22	7,000				232,000	.1						6.5
23	7,000				220,000	0						6.4
24	60,000				180,000	0						6.4
25												
26	60,000				358,000	0						6.4
27	47,000				196,000	0						6.4
28												
29	58,000				263,000	0.7						6.4
30												
31	18,000				439,000	0.9						6.5
TOTALS	835,000				7,321,000	6.5						

TOTAL LEACHATE INPUT 835,000

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF August, 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1												
2	12,000				363,000	0						
3												
4	39,000				85,000	.3						
5	128,000				590,000	0						
6	61,000		FLOW		231,000	0						6.3
7	40,000		METER		160,000	0						6.3
8			OUT									
9	49,000				371,000	0						
10												
11					134,000	.3						
12					92,000	0						
13					386,000	0						6.7
14												
15												
16	126,000				0	.4						
17	62,000				331,000	.6						
18	51,000				361,000	0						
19	42,000				277,000	0						
20	37,000				262,000	0						6.3
21	32,000				239,000	0						6.4
22												
23												
24	107,000				153,000	.4						6.3
25	30,000				255,000	0						
26												
27	62,000				515,000	.6						6.3
28	28,000				235,000	.1						6.3
29												
30	83,000				507,000	1.4						
31	46,000				225,000	1.4						6.3
TOTALS		1,040,000			6,470,000	5.5						

TOTAL LEACHATE INPUT 1,040,000

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF September, 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	41,000				230,000	0.4						6.4
2	36,000				185,000	0.1						6.5
3												
4	68,000				337,000	0						6.5
5												
6												
7	110,000				539,000	.1						6.4
8	39,000				40,000	.9						6.4
9	37,000				19,000	.3						6.5
10	36,000				19,000	----						6.3
11	36,000				166,000	----						6.4
12												
13	81,000				391,000	.2						----
14	56,000	NOT APPLICABLE		NOT APPLICABLE	524,000	1.4						6.8
15	31,000				488,000	0	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE		6.5
16	41,000				91,000	1.0						6.4
17	47,000				50,000	0						6.3
18	37,000				406,000	0						6.5
19												
20	108,000				719,000	0						6.3
21	33,000				320,000	0						6.3
22	31,000				328,000	0.1						6.3
23	71,000				319,000	0						6.3
24	35,000				317,000	0						6.3
25	38,000				336,000	0						6.4
26												
27	63,000				538,000	2.8						6.4
28	31,000				271,000	0						6.4
29	32,000				275,000	0						6.3
30	29,000				265,000	0						6.3
31												
TOTALS		1,167,000			7,173,000	5.3						

TOTAL LEACHATE INPUT 1,167,000

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF April 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	100,000		-		349,000	1.7						6.8
2												
3												
4												
5	538,000				1,432,800	0.9						6.9
6	116,000				329,000	0						6.9
7	134,000				372,000	0						6.8
8	128,000				339,000	0						6.9
9	104,000				270,000	0						6.5
10	119,000				326,000	0.3						6.7
11												
12	274,000		-		805,000	0						6.8
13	143,000		-		320,000	0						6.9
14	134,000		-		361,000	0						6.8
15	* 41,000		-		382,000	0						6.8
16	50,000		-		344,000	1.6						6.6
17												
18												
19	93,000		-		936,000	0						6.8
20	34,000		-		392,000	0						6.8
21	47,000		-		393,000	0						6.9
22	40,000		-		391,000	0						6.8
23	28,000		0		391,000	0						6.5
24	32,000		0		354,000	0						6.5
25												
26	88,000		-		903,000	.2						6.8
27	40,000		-		397,000	0						6.8
28	34,000		-		379,000	0						6.9
29	35,000		-		386,000	0						6.8
30												
31												
TOTALS		2,352,000			10,554,000	4.7						

TOTAL LEACHATE INPUT \_\_\_\_\_

\* mwrwe re-calibrated

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF May 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I)	LEACHATE TO S.E.W.W.T.P.	RAINFALL INCHES	STAGE I			AVERAGE DAILY WEIR (pH)			
		STAGE II	STAGE III	G.P.D.	G.P.D.		WEIR DISCHARGE	FLOW(MGD)	NORTH	SOUTH	WEST	NORTH	SOUTH
1	66,000				641,000	0							6.5
2													
3	80,000				868,000	0							6.8
4	39,000				412,000	0							6.8
5	30,000				359,000	0							6.9
6	34,000				380,000	0							6.8
7													
8	58,000				612,000	0							6.7
9													
10	76,000				871,000	0							6.8
11	31,000				349,000	0							6.8
12	39,000				388,000	0							6.8
13	39,000				374,000	0							6.9
14	39,000				292,000	.1							6.6
15	27,000				327,000	0							6.6
16													
17	76,000				829,000	0							6.8
18	34,000				342,000	0							6.9
19	38,000				341,000	0							6.9
20	36,000				321,000	0							6.8
21	25,000				261,000	0							6.3
22	27,000				292,000	0							6.2
23													
24	69,000				716,000	0							6.6
25	28,000				273,000	-							6.7
26	34,000				312,000	0							6.7
27													
28	57,000				1,236,000	0							6.4
29	28,000				612,000	0.7							6.5
30													
31													
TOTALS		1,010,000			11,408,000	0.8							

TOTAL LEACHATE INPUT \_\_\_\_\_

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF June 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I)	LEACHATE TO S.E.W.W.T.P.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III	G.P.D.	G.P.D.		NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	106,000				2,712,000	0.9						6.6
2	30,000				724,000	0						6.5
3	29,000				736,888	0						6.5
4	28,000				718,000	0						6.7
5	26,000				677,000	0						6.8
6												
7	65,000				1,719,000	0						6.7
8	32,000				705,000	0						6.8
9	30,000				672,000	0						6.7
10	32,000				329,000	0						6.8
11	25,000				286,000	0						6.3
12	26,000				287,000	0						6.7
13												
14	69,000				696,000	0						6.7
15	28,000				257,000	0.1						6.7
16	32,000				352,000	0.1						6.8
17	26,000				282,000	0.1						6.7
18	32,000				194,000	1.0						6.7
19	34,000				206,000	0						6.8
20												
21	62,000				490,000	0.1						6.7
22	29,000				195,000	0						6.8
23	19,000				175,000	0.2						6.8
24	31,000				195,000	0						6.7
25	24,000				141,000	1.0						6.6
26	26,000				134,000	0.6						6.7
27												
28	80,000				121,000	1.2						6.7
29												
30	67,000				290,000	0						6.8
31												
TOTALS												
	988,000				13,293,000	5.3						

TOTAL LEACHATE INPUT 988,000

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF March 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	135,000				887,000	0						6.8
2	60,000				348,000	0						6.6
3	73,000				468,000	0						6.7
4	65,000				353,000	1.1						6.8
5												
6												
7												
8	276,000				1,555,000	0						6.9
9	72,000				336,000	0						6.8
10	53,000				117,000	0						6.8
11	106,000				360,000	0						6.9
12	78,000				252,000	0						6.4
13	127,000				357,000	1.7						6.6
14												
15												
16	95,000				267,000	0						6.8
17	96,000				176,000	0						6.8
18	71,000				114,000	.3						6.9
19												
20	211,000				658,000	0						6.7
21												
22	250,000				829,000	0						6.8
23	115,000				399,000	0						6.9
24	130,000				368,000	0						6.9
25	121,000				387,000	0						6.8
26	98,000				288,000	0						6.5
27												
28												
29												
30	120,000				349,000	0						6.9
31	137,000				378,000	0						6.9
TOTALS												
		2,419,000			9,246,000	3.1						

TOTAL LEACHATE INPUT 2,419,000



MONTHLY WATER BALANCE REPORT FOR THE MONTH OF February 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III		NORTH		SOUTH	WEST	NORTH	SOUTH	WEST	
1	122,000				928,000	0						6.9
2	62,000				464,000	0						7.0
3	52,000				450,000	0						6.9
4	48,000				409,000	0						7.0
5												
6	92,000				695,000	0						6.7
7												
8	115,000				964,000	0.1						6.8
9	39,000				413,000	0						6.9
10	52,000				432,000	0						7.0
11	52,000				410,000	0						6.9
12						.3						
13	85,000				711,000	0						6.7
14		NOT APPLICABLE		NOT APPLICABLE								
15	100,000				967,000	0	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE	NO DISCHARGE		6.9
16	46,000				397,000	0						6.9
17	50,000				411,000	0.2						7.0
18	58,000				392,000	0						6.9
19	51,000				344,000	0						6.7
20	63,000				362,000	0						6.7
21												
22	146,000				936,000	0						6.9
23	58,000				404,000	0.5						6.8
24	42,000				408,000	0						6.7
25	52,000				397,000	0						6.7
26												
27	82,000				750,000	1.2						6.7
28												
29												
30												
31												
TOTALS		1,467,000			11,644,000	2.3						

TOTAL LEACHATE INPUT 1,467,000

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF January 1993

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.			LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III					NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1													
2	92,000					747,000	0						6.8
3													
4	98,000					1,009,000	0						6.9
5	49,000					412,000	.5						7.0
6	44,000					451,000	0						6.9
7	42,000					384,000	0						7.0
8	50,000					375,000	0						6.6
9	51,000					489,000	1.8						6.8
10													
11	94,000					885,000	1.7						6.9
12	38,000					451,000	0						6.9
13	41,000					395,000	0						7.0
14	35,000					346,000	0						7.0
15													
16	138,000					709,000	4.4						7.4
17													
18	92,000					912,000	0						7.1
19	42,000					341,000	0						7.0
20	33,000					0	0						7.0
21	37,000					0	0						6.9
22													
23	75,000					391,000	0						6.5
24													
25	121,000					1,002,000	0						6.9
26													
27	146,000					892,000	.5						6.9
28	52,000					434,000	0						6.8
29													
30	96,000					534,000	0						6.6
31													
TOTALS		1,466,000				11,159,000	8.9						

TOTAL LEACHATE INPUT 1,466,000

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF October 1992

DAY OF MONTH	LEACHATE INPUT TO POND G.P.D.			LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
	STAGE I	STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	66,000											
2	42,000				725,000	0						
3	60,000				267,000	0.2						6.9
4					8,500	1.9						6.8
5												7.0
6												
7	45,000											
8					350,000	0.1						
9	107,000											7.2
10	44,000				698,000	0						
11					331,000	0						7.0
12	116,000											7.0
13	53,000				825,000	.3						
14					400,000	0						7.1
15												7.0
16	134,000											
17					996,000	0						
18	45,000											7.0
19	112,000				317,000	0						
20					772,000	0						6.9
21	92,000											6.9
22	46,000				611,000	0						
23	42,000				306,000	0						6.9
24	54,000				160,000	0						7.0
25					540,000	0						6.9
26	122,000											6.8
27					806,000	0						
28	93,000											6.9
29	50,000				743,000	0						
30	42,000				364,000	0						6.9
31	43,000				291,000	0						6.9
					322,000	0						6.9
												7.0
TOTALS					1,408,000							
						9,832,500						
							2.5					
Total LEACHATE INPUT					1,408,000							

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EACHATE INPT

MONTHLY WATER BALANCE REPORT FOR THE MONTH OF December 1992

DAY OF MONTH	STAGE I	LEACHATE INPUT TO POND G.P.D.		LEACHATE IRRIGATION (STAGE I) G.P.D.	LEACHATE TO S.E.W.T.P. G.P.D.	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW(MGD)			AVERAGE DAILY WEIR (pH)		
		STAGE II	STAGE III				NORTH	SOUTH	WEST	NORTH	SOUTH	WEST
1	54,000				389,000	0						6.9
2	61,000				448,000	0						6.9
3	57,000				436,000	.5						7.0
4	47,000				307,000	0						6.9
5	45,000				406,000	0						7.0
6												
7	132,000				969,000	0						6.9
8												
9	100,000				572,000	0						6.8
10	55,000				330,000	1.3						7.4
11	65,000				368,000	0						6.9
12												
13												
14	164,000				1,016,000	0						--
15	49,000				304,000	0						6.9
16	55,000				219,000	0						6.9
17	57,000				334,000	0						6.8
18												
19	103,000				548,000	0						7.0
20												
21	116,000				261,000	0						7.0
22	47,000				477,000	0						6.9
23	48,000				488,000	0						6.9
24	46,000				486,000	0						7.0
25												
26	89,000				758,000	0.1						6.9
27												
28	97,000				982,000	0						6.9
29	50,000				502,000	0						6.9
30	45,000				429,000	0						6.9
31	50,000				472,000	0						7.0
TOTALS		1,632,000			11,501,000	1.9						

TOTAL LEACHATE INPUT 1,632,000

05/28/93 15:09

813 795 3490

MC PUBLIC WORKS

001



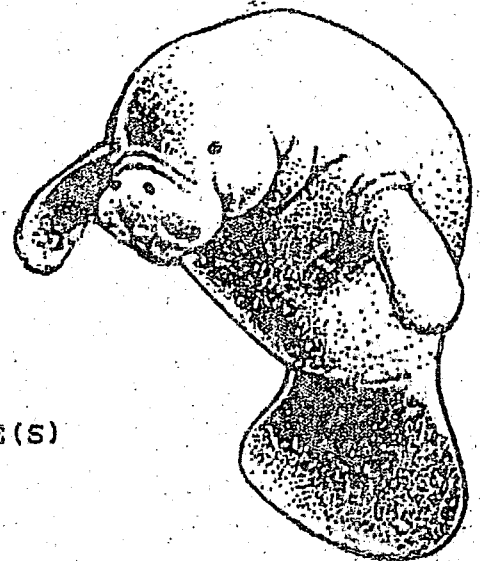
# MANATEE COUNTY GOVERNMENT

Public Works Department

813-744-6090

## TELEFAX COVER MEMO

TELEFAX (813) 795-3490  
TELEFAX (IR-COUNTY) 5490



PLEASE DELIVER THE FOLLOWING PAGE(S)

TO: Kim Ford  
ADDRESS: D.E.R. Tampa  
FROM: Greg Yekaitis Extension 5317  
DATE: 5/28/93 Time Transmitted: 3:05 pm  
SUBJECT: Rainfall Data

Please call upon receipt ☐ Please handle confidentially ☐

COMMENTS: \_\_\_\_\_

Total number of pages including cover memo: 3

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL AS SOON AS POSSIBLE

THE MONTH OF January 1991

DAY OF MONTH	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW		
		NORTH	SOUTH	WEST
1				
2	0			
3				
4	0			
5	.5			
6	0			
7	0			
8	0			
9	1.8			
10				
11	1.7			
12	0			
13	0			
14	0			
15				
16	4.4			
17				
18	0			
19	0			
20	0			
21	0			
22				
23	0			
24				
25	0			
26				
27	.5			
28	0			
29				
30	0			
31				

TOTAL 8.9

GVY:ata  
1991THE MONTH OF February 1993

DAY OF MONTH	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLO		
		NORTH	SOUTH	WE
1	0			
2	0			
3	0			
4	0			
5				
6	0			
7				
8	0.1			
9	0			
10	0			
11	0			
12	.3			
13	0			
14				
15	0			
16	0			
17	0.2			
18	0			
19	0			
20	0			
21				
22	0			
23	0.5			
24	0			
25	0			
26				
27	1.2			
28				
29				
30				
31				

TOTAL 2.3

GVY:ata  
1991

THE MONTH OF March 1993

DAY OF MONTH	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW (MGD)	
		NORTH	SOUTH
1	0		
2	0		
3	0		
4	1.1		
5			
6			
7			
8	0		
9	0		
10	0		
11	0		
12	0		
13	1.7		
14			
15			
16	0		
17	0		
18	0.3		
19			
20	0		
21			
22	0		
23	0		
24	0		
25	0		
26	0		
27			
28			
29			
30	0		
31	0		
TOTAL		3.1	

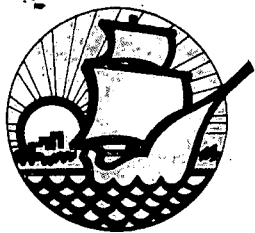
CFY:012  
1991

MONTH OF April 1993

DAY OF MONTH	RAINFALL INCHES	STAGE I WEIR DISCHARGE FLOW (MGD)	
		NORTH	SOUTH
1	1.7		
2			
3			
4			
5	0.9		
6	0		
7	0		
8	0		
9	0		
10	0.3		
11			
12	0		
13	0		
14	0		
15	0		
16	1.6		
17			
18			
19	0		
20	0		
21	0		
22	0		
23	0		
24	0		
25	0		
26			
27	0.2		
28	0		
29	0		
30	0		
31			
TOTAL		4.7	

CFY:012  
1991





# MANATEE COUNTY GOVERNMENT

## Public Works Department

May 6, 1993

RECEIVED  
MAY 12 1993

Department of Environmental Regulation  
SOUTH WEST DISTRICT

Kim B. Ford, P.E.  
Florida Department of Environmental Regulation  
Solid Waste Section  
Division of Waste Management  
3804 Coconut Palm  
Tampa, Florida 33619

Re: Lena Road Landfill  
Permit No. SO41-206084  
Quantity Report

Dear Mr. Ford:

In accordance with your recent letter, attached you will find the records for the period from January 1, 1993, through March 31, 1993, for the following:

Quantities of leachate collected and stored

Quantities of leachate recirculated

Quantities of leachate hauled or piped to a wastewater treatment plant.

If you need any further information or there are any questions, please contact me at 813/792-8811, Extension 5244.

Sincerely,

Richard A. Wilford  
Director

RAW/sks

Attachments

cc: Charles Hunsicker, Assistant Director  
Daniel Gray, Deputy Director of Operations  
Gus DiFonzo, Solid Waste Division Manager



## LEACHATE

## QUANTITY REPORT

## LENA ROAD LANDFILL

PERMIT No. SO41-206084

January 1993

Date	Leachate Collected and Stored	Leachate Recirculated	Leachate Piped to WWTP
1			
2	92,000	0	747,000
3			
4	98,000	0	1,009,000
5	49,000	0	412,000
6	44,000	0	451,000
7	42,000	0	384,000
8	50,000	0	375,000
9	51,000	0	489,000
10			
11	94,000	0	885,000
12	38,000	0	451,000
13	41,000	0	395,000
14	35,000	0	346,000
15			
16	138,000	0	709,000
17			
18	92,000	0	912,000
19	42,000	0	341,000
20	33,000	0	0
21	37,000	0	0
22			
23	75,000	0	391,000
24			
25	121,000	0	1,002,000
26			
27	146,000	0	892,000
28	52,000	0	434,000
29			
30	96,000	0	534,000
31			

Total 1,466,000

11,159,000

## LEACHATE

## QUANTITY REPORT

## LENA ROAD LANDFILL

PERMIT No. SO41-206084

February 1993

Date	Leachate Collected and Stored	Leachate Recirculated	Leachate Piped to WWTP
1	122,000	0	928,000
2	62,000	0	464,000
3	52,000	0	450,000
4	48,000	0	409,000
5			
6	92,000	0	695,000
7			
8	115,000	0	964,000
9	39,000	0	413,000
10	52,000	0	432,000
11	52,000	0	410,000
12			
13	85,000		711,000
14			
15	100,000	0	967,000
16	46,000	0	397,000
17	50,000	0	411,000
18	58,000		392,000
19	51,000	0	344,000
20	63,000	0	362,000
21			
22	146,000	0	936,000
23	58,000	0	404,000
24	42,000		408,000
25	52,000	0	397,000
26			
27	82,000	0	750,000
28			
29			
30			
31			

TOTAL

1,467,000

11,644,000

## LEACHATE

## QUANTITY REPORT

## LENA ROAD LANDFILL

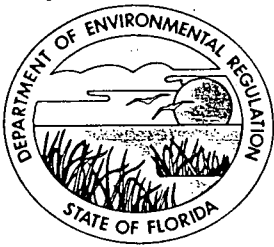
PERMIT No. SO41-206084

March 1993

Date	Leachate Collected and Stored	Leachate Recirculated	Leachate Piped to WWTP
1	135,000	0	887,000
2	60,000	0	348,000
3	73,000	0	468,000
4	65,000	0	353,000
5			
6			
7			
8	276,000		1,555,000
9	72,000		336,000
10	53,000		117,000
11	106,000		360,000
12	78,000	0	252,000
13	127,000	0	357,000
14			
15			
16	95,000	0	267,000
17	96,000	0	176,000
18	71,000	0	114,000
19			
20	211,000	0	658,000
21			
22	250,000	0	829,000
23	115,000	0	399,000
24	130,000	0	368,000
25	121,000	0	387,000
26	98,000	0	288,000
27			
28			
29			
30	120,000	0	349,000
31	137,000	0	378,000

TOTAL 2,419,000

9,246,000



# Florida Department of Environmental Regulation

Southwest District

3804 Coconut Palm

Tampa, Florida 33619

Lawton Chiles, Governor

813-744-6100

Virginia B. Wetherell, Secretary

Richard Wilford  
Manatee County  
4501 66th Street West  
Bradenton, FL 34210

MAR 30 1993

RE: Lena Road Landfill  
Permit No. SO41-206084  
Quantity Report

Dear Mr. Wilford:

The Department requests the following information and/or reports to be submitted prior to May 15, 1993. Please provide daily records from January 1, 1993 through April 1, 1993 for the following:

- \* Quantities of leachate collected
- \* Quantities of leachate stored or impounded
- \* Quantities of leachate recirculated
- \* Quantities of leachate hauled or piped to a wastewater treatment plant

This information will be evaluated by the Department. Design or operational changes may be needed to prevent unauthorized discharges or excessive head over lined disposal areas. If you have any questions, you may call me at (813) 744-6100 ext. 382.

Sincerely,

Kim B. Ford, P.E.  
Solid Waste Section  
Division of Waste Management

cc: Greg Yekaitis, Manatee County  
Robert Butera, FDER Tampa  
Steve Morgan, FDER Tampa  
Kathy Anderson, FDER Tallahassee