



April 24, 2007

Mr. Mark Searfoss
Principal Environmental Engineer
Bureau of Landfill and Recycling Management
NJDEP – Division of Solid and Hazardous Waste
P.O. Box 414
Trenton, NJ 08625-0414

Re: Quarterly Landfill Gas Survey – March 2007
Legler Landfill, Facility No. 1511A
Jackson Township, Ocean County, New Jersey
FPA No. 06E202AR1

Dear Mr. Searfoss:

INTRODUCTION

This report presents the results of the Quarterly Landfill Gas (LFG) survey conducted at Legler Landfill, in Jackson Township, Ocean County, New Jersey. The subject landfill is identified as NJDEP Facility No. 1511A. The LFG survey was conducted on March 13, 2007.

BACKGROUND

As part of the Closure and Post Closure Plan Approval dated February 21, 1996, methane gas surveys are conducted around the landfill perimeter to monitor potential lateral, offsite gas migration. Since 2000, methane gas concentrations have increased in the southwestern corner of the landfill and as a result, the New Jersey Department of Environmental Protection (NJDEP) directed Jackson Township to perform quarterly offsite gas surveys to monitor methane gas migration. Specifically, offsite gas monitoring is conducted at 885 Lakehurst Avenue (Block 32, Lot 16.02). Access was granted by the property owners (Mr. and Mrs. Wickham) on August 23, 2002. This report discusses testing procedures and results from the December 2006 onsite and offsite quarterly LFG survey which was conducted in accordance with the 1996 Closure and Post Closure Plan and the Corrective Action Plan dated March 2002.

LANDFILL GAS TESTING PROCEDURES

Onsite gas sampling was performed at 39 gas sampling stations: 23 gas monitoring wells (GMW), 14 temporary gas sampling points (slam bar), and two flares. The gas monitoring wells are located primarily along the property boundary. Temporary gas sampling point (TGSP) samples are collected midway between GWM # 8 through GMW # 20. Onsite GMWs, TGSP and flare locations are presented on Drawing No. 1. Offsite gas sampling was conducted at 16 locations: three semi-permanent GMWs [constructed with one inch inside diameter PVC and screened from approximately 2 to 3 feet (ft) below ground surface (bgs)] and 13 TGSP locations. Offsite TGSP locations were advanced until methane was not detected. Sampling locations for offsite sample points are shown on Drawing No. 2.

LFG was measured at each sampling location using a LANDTEC GEM-2000 Gas Extraction Monitor. GMWs were sampled immediately after removing the protective well cap by inserting a three foot long section of tubing through the plastic well cap. TGSP locations were sampled using a slam bar to drive a three foot hole into the soil. Tubing was inserted into the hole and a sample was drawn from a depth of three ft bgs. Flares were sampled using a three foot section of tubing that was inserted into the sampling port to extract the gas. The probe remained in place until the instrument readings stabilized. Each gas sample was analyzed for percent methane, percent oxygen, percent carbon dioxide, and lower explosive limit (LEL).

GAS TESTING RESULTS

Onsite Gas Testing Results

Methane gas was detected in excess of the 25 percent LEL at 17 sampling locations (eight monitoring wells, seven TGSP locations, and both flares). This information is presented on Table 1. A review of the December 2006 Landfill Gas Survey Results indicates the number of gas sampling points with methane gas exceeding the 25 percent LEL increased since the last LFG survey. Changes in onsite methane gas over the past 12 months are presented on Table 2 and graphically on Figure 1.

Offsite Gas Monitoring Results

Methane gas was detected in excess of the 25 percent LEL at four sampling locations – two semi-permanent gas monitoring wells and two TGSP locations. Results of the offsite gas survey are presented on Table 1. Sample locations with methane exceeding the 25 percent LEL have increased since the December 2006 LFG survey. Changes in offsite methane gas over the past 12 months are presented on Table 2 and graphically on Figure 2.

CONCLUSIONS AND RECOMMENDATIONS

Results from the March 2007 LFG survey indicate an increase in the number of sampling points with methane detections exceeding the 25 percent LEL in comparison to the December 2006 LFG survey. Offsite gas migration has also slightly increased since the December 2006 LFG survey.

CLOSING AND LIMITATIONS

Services performed by French and Parrello Associates, P.A. during this project have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation, expressed or implied, and no warranty, guarantee, or fiduciary responsibility is included or intended in the services provided.

Should you have any questions or comments, please do not hesitate to contact us.

Very truly yours,

FRENCH & PARRELLO ASSOCIATES, P.A.



Colleen Dill, P.G.
Project Geologist
Geo-Environmental Services Department



John Vanderslice, P.G.
Manager of Environmental Services
Geo-Environmental Services Department

CD/JV/hp

cc: Dan Burke – *Township Engineer*

TABLE 1
MARCH 13, 2007 - ONSITE GAS SURVEY RESULTS
LEGLER LANDFILL (FACILITY No. 1511A)
JACKSON TOWNSHIP, OCEAN COUNTY, NEW JERSEY

Well No./ Gas Sampling Point	Percent Methane	Percent Lower Explosive Limit	Percent Carbon Dioxide	Percent Oxygen	Comments
Well # 1	0.0%	0.0%	0.6%	16.9%	
Well # 2	0.0%	0.0%	3.1%	15.5%	
Well # 3	0.0%	0.0%	3.8%	14.8%	
Well # 4	0.0%	0.0%	3.2%	13.5%	
Well # 5	0.0%	0.0%	3.7%	11.8%	lock missing
Well # 6	0.0%	0.0%	1.5%	16.2%	
Well # 7	0.0%	0.0%	3.9%	12.8%	
Well # 8	8.3%	166.0%	15.3%	0.8%	
GSP # 8a	0.0%	0.0%	0.0%	18.8%	
GSP # 8b	3.5%	70.0%	13.4%	1.8%	
Well # 9	0.1%	2.0%	9.2%	6.0%	
GSP # 9a	0.0%	0.0%	0.8%	18.9%	
Well # 10	1.0%	20.0%	12.7%	21.0%	
GSP # 10a	0.4%	8.0%	0.9%	19.8%	
Well # 11	0.0%	0.0%	1.7%	17.9%	
GSP # 11a	28.7%	574.0%	18.6%	0.7%	
Well # 12	36.1%	722.0%	20.7%	0.5%	
GSP # 12a	29.1%	582.0%	14.8%	5.3%	
Well # 13	41.8%	836.0%	20.2%	1.1%	
GSP # 13a	0.0%	0.0%	1.4%	18.6%	
Well # 14	0.0%	0.0%	1.6%	18.5%	
GSP # 14a	0.9%	18.0%	1.3%	18.5%	
Well # 15	10.7%	214.0%	18.4%	0.1%	
GSP # 15a	11.4%	228.0%	15.0%	3.9%	
Well # 16	6.9%	138.0%	17.1%	10.1%	
GSP # 16a	6.9%	138.0%	10.8%	6.5%	
Well # 17	15.2%	304.0%	16.9%	0.0%	
GSP # 17a	14.4%	288.0%	13.5%	0.5%	
Well # 18	4.8%	96.0%	16.7%	4.2%	
GSP # 18a	0.3%	6.0%	9.3%	6.7%	
Well # 19	51.2%	1024.0%	20.0%	0.5%	
GSP # 19a	17.8%	356.0%	14.1%	2.5%	
Well # 20	0.0%	0.0%	5.8%	12.9%	
GSP # 20a	0.0%	0.0%	2.6%	17.5%	
Well # 21	0.0%	0.0%	3.1%	17.2%	
Well # 22	0.0%	0.0%	0.2%	19.7%	
Well # 23	0.0%	0.0%	1.5%	19.0%	
Flare (F-1)	5.9%	118.0%	2.2%	17.8%	
Flare (F-2)	38.5%	770.0%	18.4%	5.1%	

Notes:

Results in bold exceed the 25% Lower Explosive Limit (LEL)
Background methane levels approximately 0.2% methane

TABLE 1
MARCH 13, 2007 - OFFSITE GAS SURVEY RESULTS
LEGLER LANDFILL (FACILITY No. 1511A)
JACKSON TOWNSHIP, OCEAN COUNTY, NEW JERSEY

Well No./ Gas Sampling Point	Percent Methane	Percent Lower Explosive Limit	Percent Carbon Dioxide	Percent Oxygen	Comments
MW-11a(5.5')	0.5%	10.0%	0.6%	18.9%	semi-permanent well
GSP-11a(44')	0.3%	6.0%	0.3%	19.3%	
GSP-11a(54')	0.0%	0.0%	0.1%	19.9%	
GSP-11a(67')	0.0%	0.0%	2.5%	14.2%	
GSP-11a(85')	0.1%	2.0%	4.8%	12.5%	
GSP-11a(100')	0.0%	0.0%	4.2%	15.2%	
MW-12(5.5')	37.6%	752.0%	20.6%	0.3%	semi-permanent well
GSP-12(16')	17.1%	342.0%	16.0%	3.0%	
GSP-12(34.5')	0.0%	0.0%	7.1%	8.8%	
GSP-12(54')	0.0%	0.0%	5.3%	15.2%	
GSP-12(68')	0.0%	0.0%	7.9%	11.9%	
GSP-12(87')	0.0%	0.0%	1.9%	17.8%	
MW-12a(4.5')	6.3%	126.0%	2.3%	17.1%	semi-permanent well
GSP-12a(20')	22.2%	444.0%	13.7%	0.7%	
GSP-12a(40')	0.0%	0.0%	0.0%	20.4%	
GSP-12a(60')	NS	NS	NS	NS	
GSP-12a(80')	NS	NS	NS	NS	
GSP-12a(120')	NS	NS	NS	NS	
GSP-12a(178')	NS	NS	NS	NS	

Notes:

Results in bold exceed the 25% Lower Explosive Limit (LEL)

Background methane levels approximately 0.2% methane

NS - Not Sampled

TABLE 2
 ONSITE METHANE GAS SURVEY RESULTS FROM MARCH 2006 TO MARCH 2007
 LEGLER LANDFILL (FACILITY No. 1511A)
 JACKSON TOWNSHIP, OCEAN COUNTY, NEW JERSEY

Gas Monitoring Well/ Gas Sampling Point	% CH4 (3-06)	% CH4 (6-06)	% CH4 (9-06)	% CH4 (12-06)	% CH4 (3-07)
Well # 1	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 2	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 3	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 4	0.0%	0.1%	0.0%	0.0%	0.0%
Well # 5	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 6	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 7	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 8	4.1%	0.0%	3.5%	0.0%	8.3%
GSP # 8a	0.0%	0.0%	0.0%	0.0%	0.0%
GSP # 8b	0.0%	0.0%	0.0%	0.0%	3.5%
Well # 9	0.0%	0.0%	0.3%	0.0%	0.1%
GSP # 9a	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 10	0.0%	0.0%	0.0%	0.0%	1.0%
GSP # 10a	0.0%	0.0%	0.0%	0.0%	0.4%
Well # 11	0.0%	0.0%	0.0%	0.0%	0.0%
GSP # 11a	13.9%	16.3%	16.8%	28.4%	28.7%
Well # 12	27.0%	0.1%	25.7%	5.3%	36.1%
GSP # 12a	4.5%	8.1%	0.0%	11.8%	29.1%
Well # 13	32.5%	0.2%	40.0%	34.4%	41.8%
GSP # 13a	0.0%	0.1%	0.3%	0.6%	0.0%
Well # 14	0.0%	0.2%	0.0%	0.0%	0.0%
GSP # 14a	0.0%	0.1%	0.0%	0.0%	0.9%
Well # 15	5.0%	0.3%	8.3%	0.7%	10.7%
GSP # 15a	4.6%	1.2%	0.3%	0.1%	11.4%
Well # 16	1.2%	0.0%	0.3%	0.0%	6.9%
GSP # 16a	0.0%	0.0%	0.0%	14.9%	6.9%
Well # 17	9.9%	0.7%	10.7%	0.3%	15.2%
GSP # 17a	0.0%	0.0%	0.0%	0.0%	14.4%
Well # 18	0.0%	0.0%	0.0%	0.1%	4.8%
GSP # 18a	0.0%	0.0%	0.0%	3.9%	0.3%
Well # 19	25.8%	24.5%	24.2%	10.0%	51.2%
GSP # 19a	0.5%	7.6%	0.0%	0.0%	17.8%
Well # 20	0.0%	0.0%	0.0%	0.0%	0.0%
GSP # 20a	0.0%	0.0%	0.3%	0.0%	0.0%
Well # 21	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 22	0.0%	0.0%	0.0%	0.0%	0.0%
Well # 23	0.0%	0.0%	0.0%	0.0%	0.0%
Flare (F-1)	7.4%	0.0%	34.2%	5.3%	5.9%
Flare (F-2)	38.7%	23.0%	43.2%	28.5%	38.5%

Note:

Data from 3-06 to 9-06 from the Quarterly Landfill Gas Survey Results, T&M Associates, October 2006

TABLE 2
 OFFSITE METHANE GAS SURVEY RESULTS FROM MARCH 2006 TO MARCH 2007
 LEGLER LANDFILL (FACILITY No. 1511A)
 JACKSON TOWNSHIP, OCEAN COUNTY, NEW JERSEY

Gas Monitoring Well/ Gas Sampling Point	% CH4 (3-06)	% CH4 (6-06)	% CH4 (9-06)	% CH4 (12-06)	% CH4 (3-07)
MW-11a(5.5')	3.2%	0.0%	0.0%	0.1%	0.5%
GSP-11a(44')	10.0%	3.2%	0.0%	0.0%	0.3%
GSP-11a(54')	0.4%	0.0%	0.0%	0.0%	0.0%
GSP-11a(67')	0.0%	0.0%	0.0%	0.0%	0.0%
GSP-11a(85')	0.0%	0.0%	0.0%	0.0%	0.1%
GSP-11a(100')	NS	NS	0.0%	0.0%	0.0%
MW-12(5.5')	8.7%	4.9%	0.0%	0.0%	37.6%
GSP-12(16')	0.0%	0.0%	0.0%	0.0%	17.1%
GSP-12(34.5')	0.0%	0.0%	0.0%	0.0%	0.0%
GSP-12(54')	0.0%	0.0%	2.2%	0.0%	0.0%
GSP-12(68')	0.0%	0.0%	0.4%	0.0%	0.0%
GSP-12(87')	0.0%	0.0%	0.0%	0.0%	0.0%
MW-12a(4.5')	22.7%	3.0%	0.0%	4.6%	6.3%
GSP-12a(20')	3.5%	14.7%	1.3%	0.4%	22.2%
GSP-12a(40')	7.9%	12.4%	0.3%	0.0%	0.0%
GSP-12a(60')	3.1%	0.7%	2.6%	0.0%	NS
GSP-12a(80')	0.0%	0.0%	3.4%	NS	NS
GSP-12a(120')	NS	NS	0.0%	NS	NS
GSP-12a(178')	NS	NS	NS	NS	NS

Note:

Data from 3-06 to 9-06 from the Quarterly Landfill Gas Survey Results, T&M Associates, October 2006

FIGURE 1
Changes in Onsite Methane Gas (March 2006 - March 2007)
Legler Landfill (Facility No. 1511A)
Jackson Township, Ocean County, New Jersey

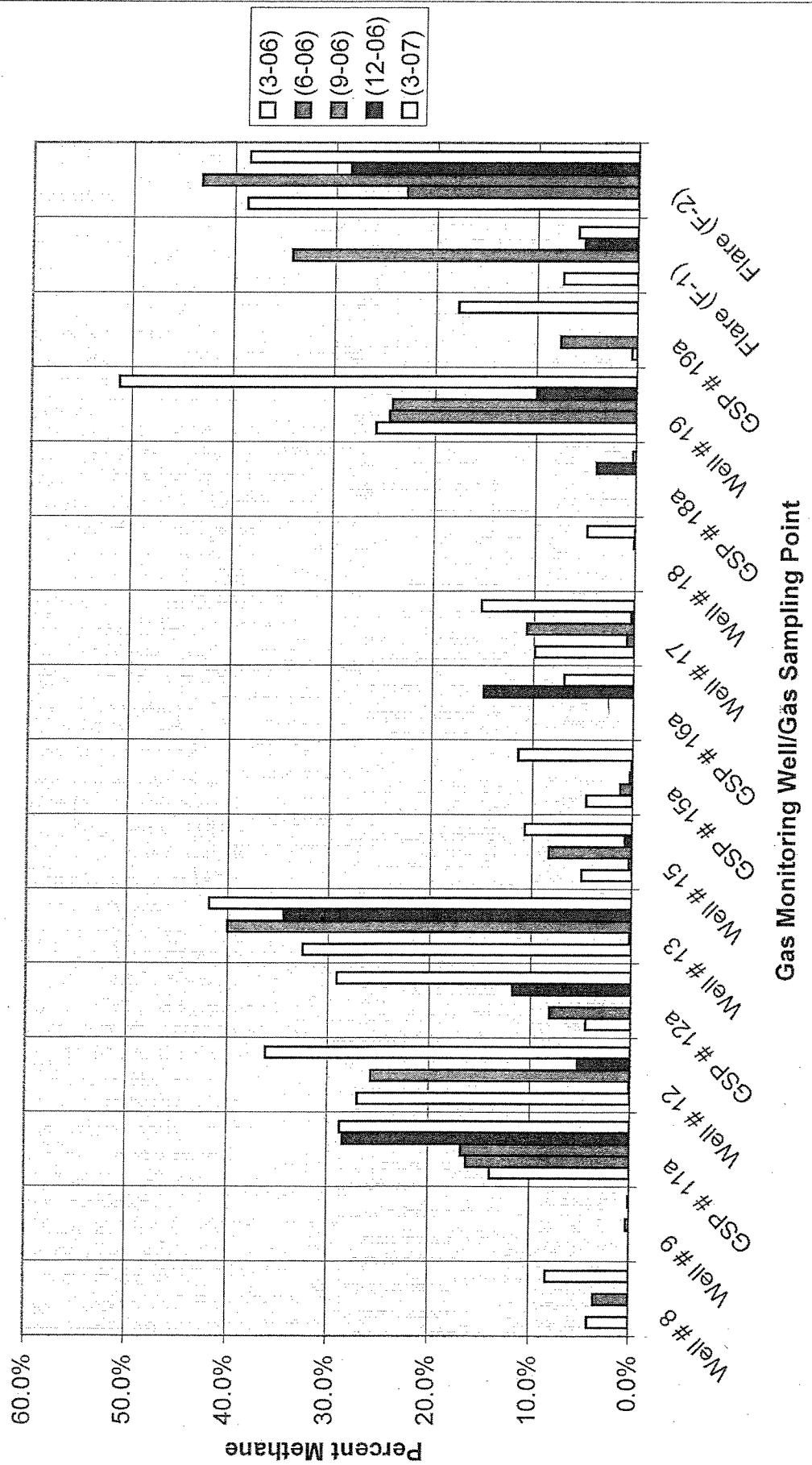
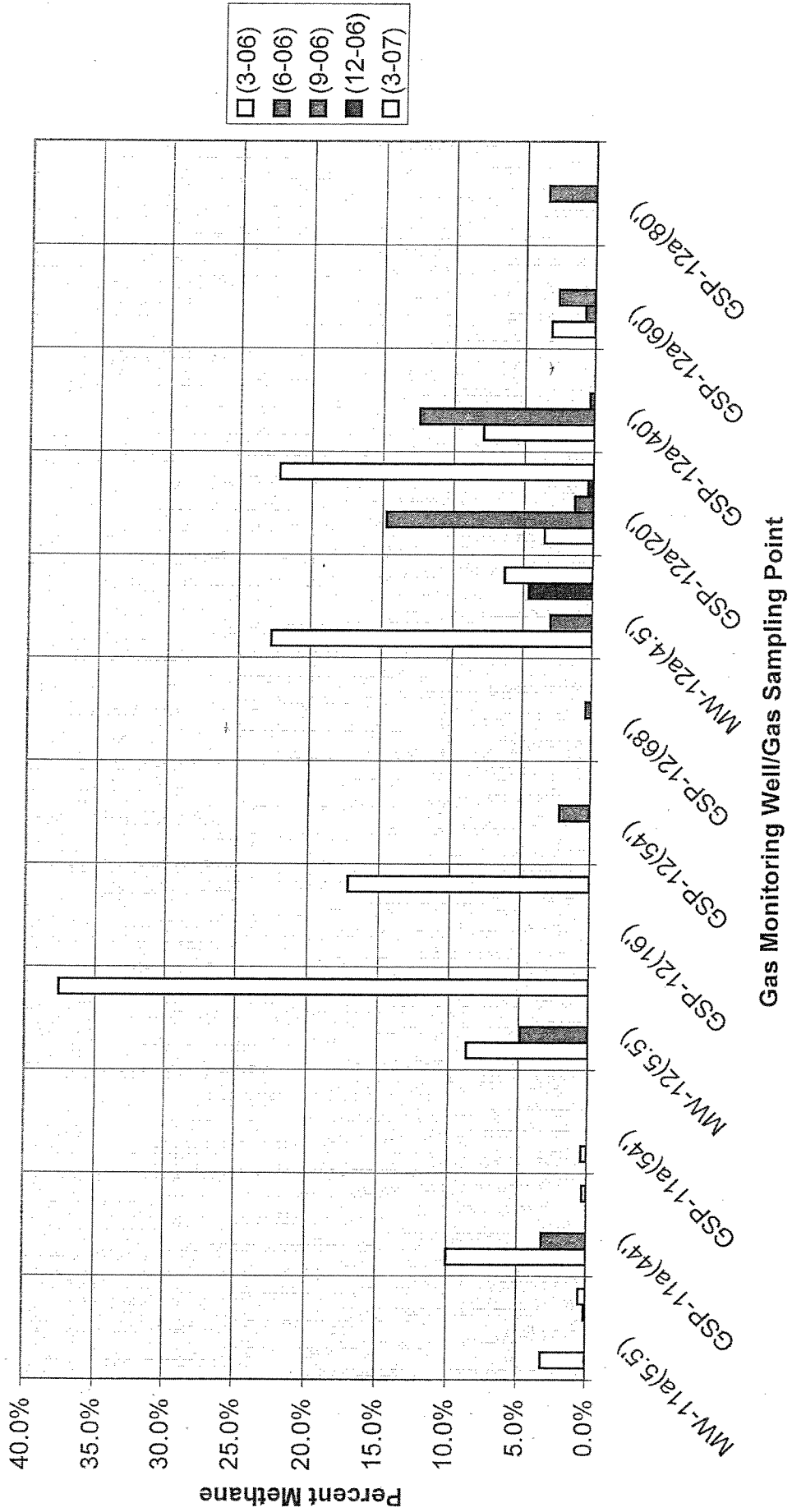
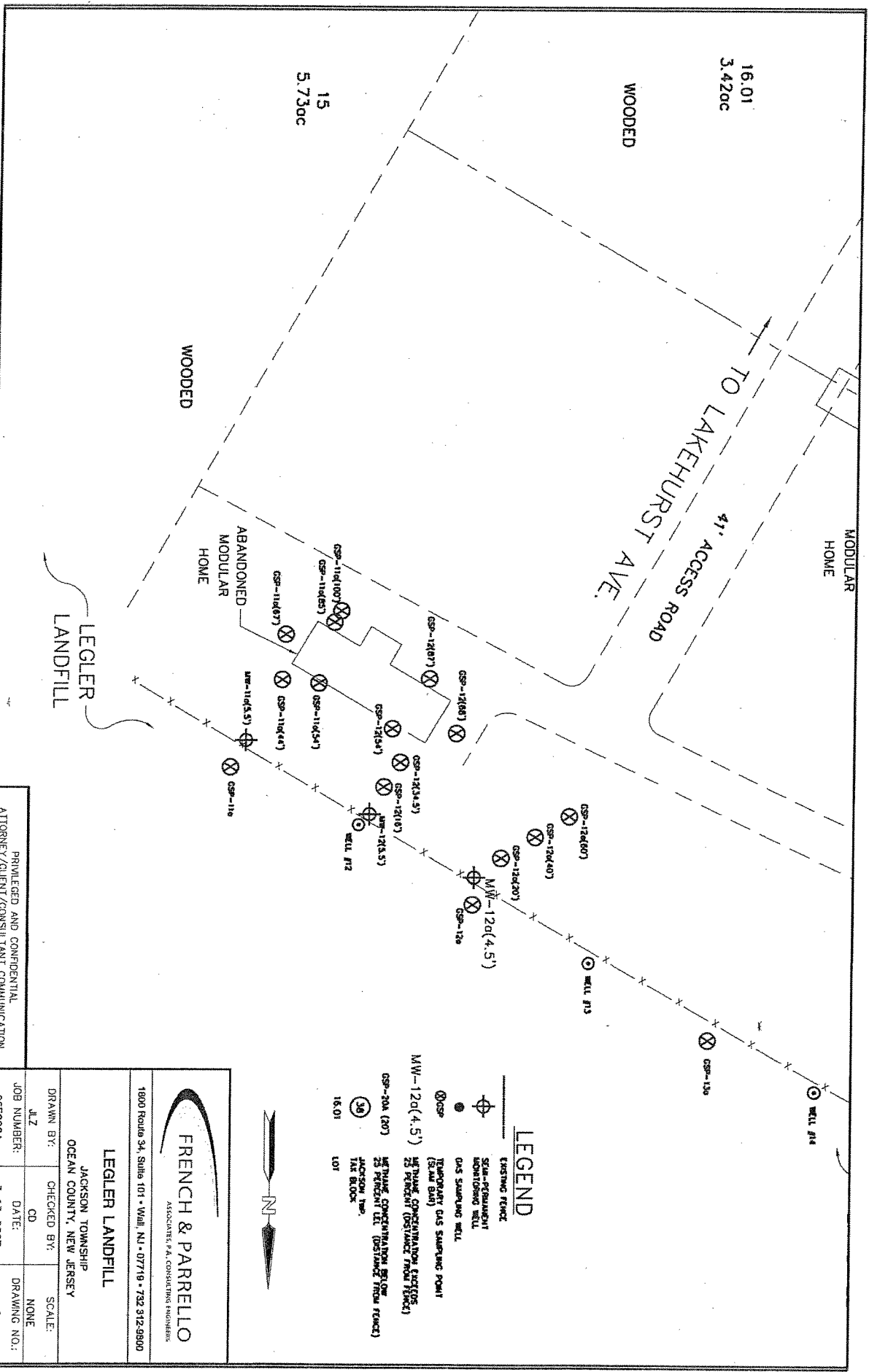


FIGURE 2
Changes in Offsite Methane Gas (March 2006 - March 2007)
Legler Landfill (Facility No. 15111A)
Jackson Township, Ocean county, New Jersey





PRIVILEGED AND CONFIDENTIAL
 ATTORNEY/CLIENT/CONSULTANT COMMUNICATION

FRENCH & PARRELLO
 ASSOCIATES, P.A., CONSULTING ENGINEERS

1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9900

LEGLER LANDFILL

JACKSON TOWNSHIP
 OCEAN COUNTY, NEW JERSEY

DRAWN BY:	ALZ	CHECKED BY:	CD	SCALE:	NONE
JOB NUMBER:	06E202A	DATE:	3-13-2007	DRAWING NO.:	2

- LEGEND**
- EXISTING FENCE
 - SLOPE-REINFORCED MONITORING WELL
 - ⊗ GAS SAMPLING WELL
 - ⊕ TEMPORARY GAS SAMPLING POINT (SLAM BAR)
 - ⊙ MTHANE CONCENTRATION EXCESS 25 PERCENT (DISTANCE FROM FENCE)
 - ⊙ MTHANE CONCENTRATION BELOW 25 PERCENT (DISTANCE FROM FENCE)
 - ⊙ JACKSON TWP. TAX BLOCK
 - 16.01 LOT

DRAWING NO.: 1		JOB NUMBER: 06E202A		PRIVILEGED AND CONFIDENTIAL ATTORNEY/CLIENT/CONSULTANT COMMUNICATION
DATE: 3-13-2007		DRAWN BY: JLZ		
SCALE: NONE		CHECKED BY: CD		LEGGER LANDFILL JACKSON TOWNSHIP OCEAN COUNTY, NEW JERSEY
1800 Route 34, Suite 101 • Wall, NJ • 07719 • 732 312-9800		FRENCH & PARELLO ASSOCIATES, P.A. CONSULTING ENGINEERS		

LEGEND

EXISTING FENCE	
GAS SAMPLING WELL	
TEMPORARY GAS SAMPLING POINT (SLAM BAR)	
METHANE CONCENTRATION EXCEEDS 25 PERCENT LOWER EXPLOSIVE LIMIT (LEL)	WELL #13
METHANE CONCENTRATION BELOW 25 PERCENT LEL	WELL #20
JACKSON TWP. TAX BLOCK	
LOT 16.01	
REMOVE CUT SHRUBS AND TREE DEBRIS	
CUT AND REMOVE TREES & SHRUBS FROM CHANNEL	

