THIRD QUARTERLY AIR QUALITY MONITORING REPORT for the HEWITT PIT LANDFILL

July-September 2006

Facility I.D.: 3530; Sector: PB
Application #343861
7245 Laurel Canyon Boulevard
North Hollywood, CA 91605-3709

Submitted to

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive
Diamond Bar, California 91765

Prepared by

GC ENVIRONMENTAL, INC.
1230 North Jefferson Street, Suite J
Anaheim, California 92807

On behalf of

CALMAT PROPERTIES
3200 San Fernando Road
Los Angeles, California 90065

Project Number 1003-11
October 2006

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
THIRD QUARTER 2006 QUARTERLY MONITORING REPORT
FOR THE
HEWITT PIT LANDFILL

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Project 1003-11

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AIR QUALITY MONITORING REPORT

for the

HEWITT PIT LANDFILL

Project Number 1003-11
July - September 2006

TABLE OF CONTENTS

SECTION **Page**

1.0 INTRODUCTION 1

2.0 MONITORING PROCEDURES 3

2.1 Gas Migration Monitoring 3

3.0 RESULTS 4

3.1 Gas Migration Monitoring Results 4

3.2 Annual Source Test Results 4

4.0 LIMITATIONS 4

FIGURES

1 GAS MONITORING PROBE LOCATION MAP

ATTACHMENTS

1 GAS MONITORING PROBE DATA
2 PROBE IDENTIFICATION TABLE
3 TOXIC AIR CONTAMINANTS (TAC) LABORATORY RESULTS
4 LABORTORY RESULTS FOR TOCS AND TACS IN MAIN GAS HEADER INLET
5 ANNUAL SOURCE TEST REPORT

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1.0 INTRODUCTION

This Third Quarter Air Quality Monitoring Report has been prepared for the Hewitt Pit Landfill in accordance with the South Coast Air Quality Management District's (SCAQMD) approved Rule 1150.1 Compliance Plan issued on December 17, 1999. The Hewitt Landfill is in compliance with all requirements of the 1150.1 Plan.

Based on the probe monitoring results, with the exception of probe 3B (ID# 05M of **Attachment 1**), all methane readings were less than 5%. The methane readings in probe 3B were 6.6%, 6.6% and 5.3% on July 14, July 21 and August 4, 2006 respectively, which exceed the regulatory limit of 5%. Well W26, located near the northern property line (**Figure 1**), was adjusted to correct probe 3B exceedences. At the end of this quarter, the methane in probe 3B had been brought down to 1.8% on September 29, 2006.

Landfill surface maintenance was performed on the northern most 15 acres of the landfill. Grading was performed under permit and approvals from the South Coast Air Quality Management District, City of Los Angeles Grading Division, Regional Water Quality Control Board, and Local Enforcement Agency.

Prior to performing grading, during, and following grading methane gas in the probes was measured. There was no appreciable change in methane in the probes at any time. Furthermore, grading had a positive benefit of improving the landfill surface seal. The methane content in several wells increased, most notably Well W6 went from 8.8% to 26.0% CH_4. No refuse was encountered and there were no noticeable odors during the work.

Flare source testing was performed August 16, 2006 (**Attachment 5**). Actual flare emissions were below allowable emissions for all monitored parameters.

A summary of 1150.1 conditions and the monitoring results are summarized on the following table. **Figure 1** shows a layout of the landfill.

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SUMMARY OF REQUIRED MONITORING, SCHEDULE AND RESULTS

Required Monitoring	Schedule	Results
TOCs in subsurface refuse boundary sampling probes (probes) to be less than 5%.	Monthly (minimum) Weekly (actual)	With the exception of probe 3B (ID# 05M), there were no TOC exceedences measured in the probes. Well W26 was adjusted to correct probe 3B exceedences. At the end of this quarter, the methane in probe 3B had been brought down to 1.8%. Probe monitoring data is attached to this report as **Attachment 1.** A probe identification table, shown as **Attachment 2**, corresponds to the monitoring probe locations on **Figure 1.** Monitoring was performed weekly for this quarter.
TACs in probes.	Annually 2nd Quarterly Report.	*Results shown as **Attachment 3.**
Integrated surface sampling to be less than 50 ppmv as TOCs.	Annually 2nd Quarterly Report	Not required for this quarter.
Instantaneous surface monitoring to be less than 500 ppmv as TOCs.	Annually 2nd Quarterly Report	Not required for this quarter.
TOCs and TACs in the main gas collection header inlet.	Annually, included with this report.	Laboratory results listed in **Attachment 4.**
Flare source test and destruction of NMOCs as specified in SCAQMD Rule 1150.1 Section (j)(1)(B).	Annually, included with this report.	The annual source test report is attached to this compliance report as **Attachment 5.** The flare destruction efficiency was 94.11%. The NMOC exhaust concentration was 2.02 ppmv hexane at 3% oxygen, well below the 20 ppmv concentration limit.

*The results of the TACs in the probe were not available in time for the 2nd quarterly report at the time the report was written. Therefore, the results are included in this (3rd Quarterly) Report.

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2.0 MONITORING PROCEDURES

2.1 Gas Migration Monitoring

Gas migration monitoring consists of monitoring probes located at the landfill perimeter as shown on **Figure 1**. At a minimum, probes were monitored for percent methane, percent oxygen and pressure using LandTec GEM-500 and GEM-2000 gas extraction monitors.

Equipment Description

The GEM instruments were specifically designed for use on landfills to monitor landfill gas migration control systems, gas collection systems, flares, and migration probes.

GEM instrument specifications are as follows:

	Sensor Range	Resolution
Methane	0 to 100%	0.1%
Carbon dioxide	0 to 75%	0.1%
Oxygen	0 to 100%	0.1%

Typical accuracy of GEM-500 at 5% methane concentration is +0.3% methane by volume and +1.9% methane by volume at 75% methane concentration.

Probe Monitoring Procedures

The GEM units were calibrated prior to monitoring. The pressure transducers of the GEM units were reset to zero prior to attaching the unit to a monitoring probe.

Prior to probe testing, at least two probe casing volumes of gas are evacuated. Probe monitoring was performed using a Landtec GEM 500 or GEM 2000. Measurements included percent methane, percent oxygen, percent CO2, balance gas, date, probe number, and pressure for each probe and are summarized in **Attachment 1**. A conversion table reconciling the probe numbering system at the landfill with the software storage program used is also shown in **Attachment 2**.

Toxic Air Contaminants (TACs) were also analyzed for landfill probe 3B (shown as probe 05M in **Attachment 1**). Methane in probe 3B had the highest methane content (6.6% on July 21, 2006) prior to pulling the sample, but only 2.1% when the sample was collected for TACs analysis. The results are included as **Attachment 3**.

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3.0 RESULTS

3.1 Gas Migration Monitoring Results

With the exception of Probe 3B, there were no exceedences of 5% methane during probe monitoring for this quarter. The highest detected methane reading was at monitoring Probe 3B (Datafield Probe ID #05M, see **Attachment 1**) on July 21, 2006 when the indicated methane concentration was 6.6 percent.

3.2 Annual Source Test Results

The results of the testing program are provided on the following table. All measured emission rates were within the Permit to Operate (PTO) limits.

Summary of Annual Source Test Results

Parameter	Measured Emission	Allowable Emissions
Landfill Gas Flow Rate	674 scfm	1500 scfm
Reactive Organic Gases	0.0621 lbs/hr	2.0 lbs/hr
Oxides of Nitrogen (as NO_2)	0.179 lbs/hr	1.2 lbs/hr
Oxides of Sulfur (as SO_2)	0.117 lbs/hr	0.15 lbs/hr
Carbon Monoxide	<0.321 lbs/hr	4.0 lbs/hr
Particulate Matter (PM10)	0.075 lbs/hr	3.6 lbs/hr

4.0 LIMITATIONS

This report may be used only by the client and SCAQMD, and only for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on site and off site) or other factors may change over time, and additional work may be required with the passage of time. Any party other than the client who wishes to use this report shall notify GC Environmental, Inc. of such intended use. Non-compliance with any of these requirements by the client or anyone else will release GC Environmental, Inc. from any liability resulting from the use of this report by any unauthorized party.

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Figure 1

PROBE LOCATIONS

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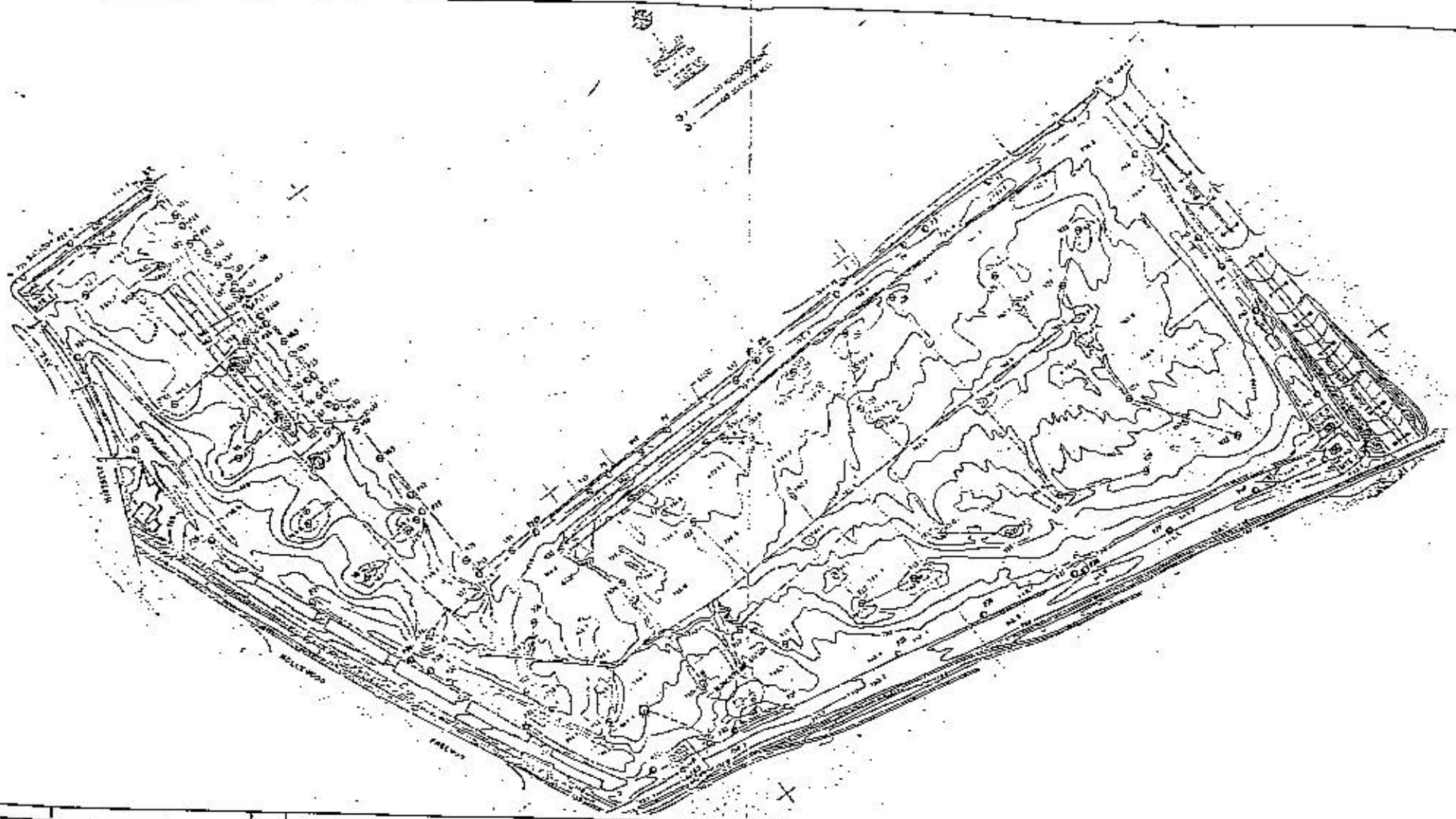

REV.	DATE	DESCRIPTION	BY

ENGINEER: GC ENVIRONMENTAL, INC.
1220 NORTH JEFFERSON ST, SUITE J
ANAHEIM CA, 92807, (714) 632-9961

PROJECT LOCATION: HEWITT PIT LANDFILL
N. HOLLYWOOD, CA

DESCRIPTION: GAS MONITORING PROBE LOCATIONS

PROJECT NO. 1003-1 | REF. ENGS. | FILE NAME

SHEET: FIG. 1

Attachment 1

GAS PROBE

MONITORING DATA

July through September 2006

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Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Field Technician and Weather Conditions

Technician	Date	Ambient Temp	Barometric Pressure (in - Hg)	General Weather	Wind Speed	Wind Direction
jvelazquez	07/03/2006	80	29.9	Clear	Light Wind	SW
Juan V	07/06/2006	90	29.4	Mostly Clear		
Juan V	07/14/2006	100	29.4	Mostly Clear		
Juan V	07/21/2006	104	29.6	Mostly Clear		
JVelazquez	07/28/2006	104	28.9	Clear	Light Wind	SW
JV	08/04/2006	89	28.9	Clear	Light Wind	SW
JVelazquez	08/11/2006	89	28.9	Clear	Light Wind	SW
JVelazquez	08/18/2006	90	28.5	Clear	Light Wind	SW
jvelazquez	08/23/2006	99	28.5	Clear	Light Wind	SW
jvelazquez	08/24/2006	98	28.5	Clear	Light Wind	SW
jv	08/31/2006	100	28.5	Mostly Clear	Light Wind	SW
JMV	09/05/2006	90	28.9	Clear	Light Wind	SW
JMV	09/08/2006	89	28.5	Clear	Light Wind	SW
JMV	09/15/2006	90	28.9	Clear	Light Wind	SW
JMV	09/22/2006	89	28.9	Clear	Light Wind	SW
JMV	09/29/2006	90	28.9	Clear	Light Wind	SW

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
01M	07/03/2006	09:25	0.0	2.1	18.0	79.9		-
01M	07/06/2006	07:57	0.0	1.9	17.9	80.2		-
01M	07/14/2006	07:27	0.3	2.1	20.3	77.3	0.0	-
01M	07/21/2006	08:01	0.0	2.3	18.3	79.4	0.0	-
01M	07/28/2006	07:17	0.0	2.0	18.7	79.3	0.0	-
01M	08/04/2006	08:38	0.0	2.3	18.4	79.3	0.0	-
01M	08/11/2006	06:58	0.0	2.3	18.1	79.6	0.0	-
01M	08/18/2006	07:38	0.0	2.3	18.7	79.0	0.0	-
01M	08/23/2006	13:24	0.0	2.4	18.3	79.3	0.0	-
01M	08/31/2006	07:33	0.0	2.7	17.9	79.4	0.0	-
01M	09/08/2006	12:40	0.0	2.2	18.3	79.5	0.0	-
01M	09/15/2006	07:00	0.0	2.5	18.0	79.5	0.0	-
01M	09/22/2006	12:29	0.0	0.0	20.7	79.3	0.0	-
01M	09/29/2006	07:50	0.0	2.3	18.6	79.1	0.0	-
02M	07/03/2006	09:29	0.0	0.6	19.2	80.2		-
02M	07/06/2006	07:58	0.0	0.0	19.9	80.1		-
02M	07/14/2006	07:29	0.2	0.0	21.0	78.8	0.0	-
02M	07/21/2006	08:03	0.0	0.0	20.8	79.2	0.0	-
02M	07/28/2006	07:19	0.0	0.0	20.6	79.4	0.0	-
02M	08/04/2006	08:40	0.0	0.0	20.8	79.2	0.0	-
02M	08/11/2006	07:00	0.0	0.0	20.7	79.3	0.0	-
02M	08/18/2006	07:40	0.0	0.0	21.1	78.9	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
02M	08/23/2006	13:26	0.1	0.4	20.3	79.2	0.0	-
02M	08/31/2006	07:35	0.0	0.0	20.8	79.2	0.0	-
02M	09/08/2006	12:41	0.0	0.0	20.4	79.6	0.0	-
02M	09/15/2006	07:04	0.0	0.0	21.0	79.0	0.0	-
02M	09/22/2006	12:31	0.0	0.0	20.9	79.1	0.0	-
02M	09/29/2006	07:52	0.0	0.0	20.8	79.2	0.0	-
03M	07/03/2006	09:41	0.0	0.5	19.3	80.2		-
03M	07/06/2006	08:01	0.0	0.0	19.9	80.1		-
03M	07/14/2006	07:34	0.0	0.9	20.0	79.1	0.0	-
03M	07/21/2006	08:08	0.0	1.1	19.4	79.5	0.0	-
03M	07/28/2006	07:27	0.0	0.3	20.3	79.4	0.0	-
03M	08/04/2006	08:44	0.0	0.7	20.1	79.2	0.0	-
03M	08/11/2006	07:04	0.0	0.9	19.7	79.4	0.0	-
03M	08/18/2006	07:45	0.0	0.8	20.3	78.9	0.0	-
03M	08/23/2006	13:45	0.0	1.6	18.8	79.6	0.0	-
03M	08/31/2006	07:40	0.0	1.7	19.3	79.0	0.0	-
03M	09/08/2006	12:44	0.0	0.9	19.9	79.2	0.0	-
03M	09/15/2006	07:24	0.0	1.1	20.0	78.9	0.0	-
03M	09/22/2006	08:59	0.0	0.0	20.9	79.1	0.0	-
03M	09/29/2006	07:57	0.0	1.4	19.0	79.6	0.0	-
04M	07/03/2006	09:43	0.0	1.2	19.0	79.8		-
04M	07/06/2006	08:03	0.0	0.1	19.9	80.0		-
04M	07/06/2006	08:03	0.0	0.1	19.9	80.0		-
04M	07/14/2006	07:36	0.0	3.0	17.2	79.8	0.0	-
04M	07/21/2006	08:10	0.0	3.5	16.4	80.1	0.0	-
04M	07/28/2006	07:29	0.0	0.8	19.7	79.5	0.0	-
04M	08/04/2006	08:46	0.0	1.7	19.1	79.2	0.0	-
04M	08/11/2006	07:05	0.0	3.2	16.9	79.9	0.0	-
04M	08/18/2006	07:47	0.0	1.8	19.0	79.2	0.0	-
04M	08/23/2006	13:47	0.0	2.6	17.6	79.8	0.0	-
04M	08/31/2006	07:42	0.0	3.7	17.0	79.3	0.0	-
04M	09/08/2006	12:46	0.0	1.7	19.0	79.3	0.0	-
04M	09/15/2006	07:25	0.0	3.8	16.9	79.3	0.0	-
04M	09/22/2006	09:00	0.0	6.5	12.8	80.7	0.0	-
04M	09/29/2006	08:00	0.0	2.9	18.5	78.6	0.0	-
05M	07/03/2006	09:47	0.0	14.1	6.0	79.9		-
05M	07/06/2006	08:06	1.8	6.7	13.5	78.0		-
05M	07/14/2006	07:40	6.6	14.8	7.4	71.2	0.0	-
05M	07/21/2006	08:14	6.6	11.6	9.9	71.9	0.0	-
05M	07/28/2006	07:33	0.8	6.3	14.0	78.9	0.0	-
05M	08/04/2006	08:51	5.3	13.0	8.8	72.9	0.0	-
05M	08/11/2006	07:12	4.6	9.2	12.6	73.6	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
05M	08/18/2006	07:51	2.3	4.7	16.5	76.5	0.0	-
05M	08/23/2006	13:55	3.4	6.5	12.4	77.7	0.0	-
05M	08/31/2006	07:47	3.8	6.5	15.3	74.4	0.0	-
05M	09/08/2006	12:50	4.3	8.3	15.0	72.4	0.0	-
05M	09/15/2006	07:35	4.6	8.1	14.6	72.7	0.0	-
05M	09/15/2006	07:35	4.6	8.1	14.6	72.7	0.0	-
05M	09/22/2006	09:03	3.7	6.0	15.7	74.6	0.0	-
05M	09/29/2006	08:04	1.8	3.6	17.5	77.1	0.0	-
06M	07/03/2006	09:49	0.0	0.4	19.3	80.3		-
06M	07/06/2006	08:08	0.0	0.3	19.6	80.1		-
06M	07/14/2006	07:43	0.0	5.1	15.1	79.8	0.0	-
06M	07/21/2006	08:15	0.0	4.4	16.3	79.3	0.0	-
06M	07/28/2006	07:35	0.0	8.5	11.8	79.7	0.0	-
06M	08/04/2006	08:53	0.0	7.0	14.2	78.8	0.0	-
06M	08/11/2006	07:13	0.0	3.3	17.6	79.1	0.0	-
06M	08/18/2006	07:53	0.0	7.6	13.1	79.3	0.0	-
06M	08/23/2006	13:57	0.0	6.1	14.7	79.2	0.0	-
06M	08/31/2006	07:50	0.0	3.7	16.7	79.6	0.0	-
06M	09/08/2006	13:01	0.0	2.7	17.7	79.6	0.0	-
06M	09/15/2006	07:39	0.0	8.7	17.8	73.5	0.0	-
06M	09/22/2006	09:05	0.0	7.3	13.0	79.7	0.0	-
06M	09/29/2006	08:06	0.0	3.6	17.4	79.0	0.0	-
07M	07/03/2006	09:51	0.0	1.3	19.0	79.7		-
07M	07/06/2006	08:09	0.0	0.0	19.9	80.1		-
07M	07/14/2006	07:45	0.0	2.7	17.8	79.5	0.0	-
07M	07/21/2006	08:17	0.0	2.8	17.7	79.5	0.0	-
07M	07/28/2006	07:37	0.0	0.9	19.6	79.5	0.0	-
07M	08/04/2006	08:54	0.0	1.3	19.3	79.4	0.0	-
07M	08/11/2006	07:15	0.0	2.3	18.0	79.7	0.0	-
07M	08/18/2006	07:55	0.0	1.4	19.4	79.2	0.0	-
07M	08/23/2006	13:58	0.0	2.7	17.4	79.9	0.0	-
07M	08/31/2006	07:51	0.0	2.6	18.1	79.3	0.0	-
07M	09/08/2006	13:02	0.0	0.6	19.9	79.5	0.0	-
07M	09/15/2006	07:40	0.0	2.1	18.5	79.4	0.0	-
07M	09/22/2006	09:06	0.0	2.7	17.7	79.6	0.0	-
07M	09/29/2006	08:09	0.0	1.1	19.3	79.6	0.0	-
08M	07/03/2006	09:58	0.0	1.5	18.7	79.8		-
08M	07/06/2006	08:14	0.0	0.2	19.6	80.2		-
08M	07/14/2006	07:53	0.0	2.2	18.4	79.4	0.0	-
08M	07/21/2006	08:24	0.0	8.2	14.0	77.8	0.0	-
08M	07/28/2006	07:44	0.0	0.0	20.6	79.4	0.0	-
08M	08/04/2006	09:01	0.0	0.0	20.8	79.2	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
08M	08/11/2006	07:21	0.0	0.0	20.7	79.3	0.0	-
08M	08/18/2006	08:03	0.0	0.2	20.8	79.0	0.0	-
08M	08/23/2006	14:03	0.0	0.5	19.8	79.7	0.0	-
08M	08/31/2006	07:58	0.0	0.5	20.1	79.4	0.0	-
08M	09/08/2006	13:06	0.0	0.0	20.5	79.5	0.0	-
08M	09/15/2006	07:45	0.0	1.3	20.9	77.8	0.0	-
08M	09/22/2006	09:15	0.0	11.9	6.9	81.2	0.0	-
08M	09/29/2006	08:10	0.0	0.0	20.8	79.2	0.0	-
09M	07/03/2006	09:59	0.0	1.6	19.0	79.4		-
09M	07/06/2006	08:15	0.0	0.1	19.7	80.2		-
09M	07/14/2006	07:54	0.0	2.4	18.7	78.9	0.0	-
09M	07/21/2006	08:27	0.0	0.0	20.6	79.4	0.0	-
09M	07/28/2006	07:46	0.0	1.6	19.6	78.8	0.0	-
09M	08/04/2006	09:03	0.0	1.8	18.8	79.4	0.0	-
09M	08/11/2006	07:22	0.0	2.8	17.5	79.7	0.0	-
09M	08/18/2006	08:05	0.0	1.7	19.4	78.9	0.0	-
09M	08/23/2006	14:11	0.0	2.9	17.6	79.5	0.0	-
09M	08/31/2006	07:59	0.0	3.0	17.9	79.1	0.0	-
09M	09/08/2006	13:07	0.0	0.1	20.4	79.5	0.0	-
09M	09/15/2006	07:54	0.0	1.3	21.0	77.7	0.0	-
09M	09/22/2006	09:17	0.0	4.6	13.2	82.2	0.0	-
09M	09/29/2006	08:11	0.0	2.5	18.2	79.3	0.0	-
10M	07/03/2006	10:03	0.0	1.8	17.1	81.1		-
10M	07/06/2006	08:16	0.0	0.1	19.7	80.2		-
10M	07/14/2006	08:00	0.0	2.7	17.1	80.2	0.0	-
10M	07/21/2006	08:28	0.0	2.6	17.0	80.4	0.0	-
10M	07/28/2006	07:50	0.0	4.1	15.8	80.1	0.0	-
10M	08/04/2006	09:07	0.0	2.8	17.0	80.2	0.0	-
10M	08/11/2006	07:25	0.0	0.0	20.5	79.5	0.0	-
10M	08/18/2006	08:08	0.0	2.6	17.3	80.1	0.0	-
10M	08/23/2006	14:12	0.0	2.2	16.9	80.9	0.0	-
10M	08/31/2006	08:03	0.0	2.4	17.3	80.3	0.0	-
10M	09/08/2006	13:10	0.0	0.0	20.3	79.7	0.0	-
10M	09/15/2006	07:59	0.0	2.3	18.8	78.9	0.0	-
10M	09/22/2006	09:26	0.0	2.3	19.3	78.4	0.0	-
10M	09/29/2006	08:17	0.0	1.7	20.7	77.6	0.0	-
11M	07/03/2006	10:04	0.0	1.0	18.4	80.6		-
11M	07/06/2006	08:18	0.0	0.0	19.7	80.3		-
11M	07/14/2006	08:02	0.0	2.0	15.3	82.7	0.0	-
11M	07/21/2006	08:29	0.0	1.8	15.5	82.7	0.0	-
11M	07/28/2006	07:52	0.0	1.7	15.6	82.7	0.0	-
11M	08/04/2006	09:08	0.0	1.5	16.3	82.2	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
11M	08/11/2006	07:28	0.0	1.4	16.3	82.3	0.0	-
11M	08/18/2006	08:09	0.0	1.3	16.9	81.8	0.0	-
11M	08/23/2006	14:14	0.0	1.1	16.4	82.5	0.0	-
11M	08/31/2006	08:05	0.0	1.2	16.6	82.2	0.0	-
11M	09/08/2006	13:11	0.0	0.0	20.5	79.5	0.0	-
11M	09/15/2006	08:00	0.0	1.1	16.7	82.2	0.0	-
11M	09/22/2006	09:28	0.0	1.0	16.7	82.3	0.0	-
11M	09/29/2006	08:19	0.0	1.0	17.0	82.0	0.0	-
12M	07/03/2006	10:05	0.0	3.6	16.5	79.9		-
12M	07/06/2006	08:19			19.8			-
12M	07/14/2006	08:03	0.0	4.1	16.7	79.2	0.0	-
12M	07/21/2006	08:31	0.0	3.2	17.2	79.6	0.0	-
12M	07/28/2006	07:54	0.0	2.3	18.4	79.3	0.0	-
12M	08/04/2006	09:10	0.0	2.5	18.0	79.5	0.0	-
12M	08/11/2006	07:30	0.0	3.1	16.9	80.0	0.0	-
12M	08/18/2006	08:11	0.0	2.8	17.8	79.4	0.0	-
12M	08/23/2006	14:15	0.0	4.5	15.0	80.5	0.0	-
12M	08/31/2006	08:06	0.0	3.5	16.5	80.0	0.0	-
12M	09/08/2006	13:13	0.0	0.0	20.5	79.5	0.0	-
12M	09/15/2006	08:01	0.0	2.8	17.3	79.9	0.0	-
12M	09/22/2006	09:30	0.0	2.9	17.0	80.1	0.0	-
12M	09/29/2006	08:21	0.0	1.9	18.5	79.6	0.0	-
13M	07/03/2006	10:06	0.0	0.3	19.5	80.2		-
13M	07/06/2006	08:21	0.0	0.0	19.8	80.2		-
13M	07/14/2006	08:04	0.0	0.0	20.9	79.1	0.0	-
13M	07/21/2006	08:32	0.0	3.7	16.7	79.6	0.0	-
13M	07/28/2006	07:56	0.0	2.7	17.6	79.7	0.0	-
13M	08/04/2006	09:11	0.0	1.5	19.1	79.4	0.0	-
13M	08/11/2006	07:31	0.0	3.9	16.4	79.7	0.0	-
13M	08/18/2006	08:14	0.0	0.5	20.4	79.1	0.0	-
13M	08/23/2006	14:17	0.1	2.2	17.9	79.8	0.0	-
13M	08/31/2006	08:08	0.0	1.4	19.2	79.4	0.0	-
13M	09/08/2006	13:14	0.0	3.2	17.0	79.8	0.0	-
13M	09/15/2006	08:03	0.0	1.0	19.9	79.1	0.0	-
13M	09/22/2006	09:31	0.0	3.1	17.3	79.6	0.0	-
13M	09/29/2006	08:23	0.0	1.5	19.4	79.1	0.0	-
14M	07/03/2006	10:07	0.0	0.3	19.6	80.1		-
14M	07/06/2006	08:23	0.0	0.0	19.9	80.1		-
14M	07/14/2006	08:06	0.0	0.0	21.0	79.0	0.0	-
14M	07/21/2006	08:33	0.0	0.1	20.4	79.5	0.0	-
14M	07/28/2006	07:57	0.0	0.0	20.5	79.5	0.0	-
14M	08/04/2006	09:13	0.0	0.0	20.8	79.2	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
14M	08/11/2006	07:33	0.0	0.0	20.6	79.4	0.0	-
14M	08/18/2006	08:16	0.0	0.0	20.9	79.1	0.0	-
14M	08/23/2006	14:18	0.0	0.0	20.2	79.8	0.0	-
14M	08/23/2006	14:18	0.0	0.0	20.2	79.8	0.0	-
14M	08/31/2006	08:10	0.0	0.0	20.7	79.3	0.0	-
14M	09/08/2006	13:15	0.0	0.0	20.4	79.6	0.0	-
14M	09/15/2006	08:05	0.0	0.0	21.0	79.0	0.0	-
14M	09/22/2006	09:33	0.0	0.0	20.6	79.4	0.0	-
14M	09/29/2006	08:25	0.0	0.0	20.8	79.2	0.0	-
15M	07/03/2006	10:11	0.0	1.1	19.0	79.9		-
15M	07/06/2006	08:26	0.0	1.0	18.7	80.3		-
15M	07/14/2006	08:14	0.0	1.9	18.6	79.5	0.0	-
15M	07/21/2006	08:37	0.0	1.9	18.6	79.5	0.0	-
15M	07/28/2006	08:03	0.0	1.9	18.6	79.5	0.0	-
15M	08/04/2006	09:17	0.0	1.8	18.9	79.3	0.0	-
15M	08/11/2006	07:39	0.0	1.8	18.8	79.4	0.0	-
15M	08/18/2006	08:20	0.0	1.8	19.0	79.2	0.0	-
15M	08/23/2006	14:22	0.1	1.7	18.2	80.0	0.0	-
15M	08/31/2006	08:13	0.0	1.8	18.5	79.7	0.0	-
15M	09/08/2006	13:19	0.0	1.6	18.7	79.7	0.0	-
15M	09/15/2006	08:13	0.0	1.7	19.4	78.9	0.0	-
15M	09/22/2006	09:37	0.0	1.6	19.4	79.0	0.0	-
15M	09/29/2006	08:28	0.0	1.4	19.4	79.2	0.0	-
16M	07/03/2006	10:13	0.0	1.9	18.0	80.1		-
16M	07/06/2006	08:31	0.0	0.0	19.7	80.3		-
16M	07/14/2006	08:24	0.0	0.0	21.0	79.0	0.0	-
16M	07/21/2006	08:41	0.0	0.0	20.9	79.1	0.0	-
16M	07/28/2006	08:07	0.0	0.0	20.6	79.4	0.0	-
16M	08/04/2006	09:21	0.0	0.0	20.9	79.1	0.0	-
16M	08/11/2006	09:38	0.0	0.0	20.8	79.2	0.0	-
16M	08/18/2006	08:23	0.0	0.0	20.9	79.1	0.0	-
16M	08/23/2006	14:26	0.3	12.2	4.5	83.0	0.0	-
16M	08/31/2006	08:17	0.0	0.0	20.8	79.2	0.0	-
16M	09/08/2006	13:22	0.0	0.0	20.5	79.5	0.0	-
16M	09/15/2006	08:17	0.0	0.0	21.1	78.9	0.0	-
16M	09/22/2006	09:43	0.0	0.0	20.8	79.2	0.0	-
16M	09/29/2006	08:33	0.0	0.0	21.0	79.0	0.0	-
17M	07/03/2006	10:19	0.0	0.3	19.4	80.3		-
17M	07/06/2006	08:37	0.0	0.0	19.5	80.5		-
17M	07/14/2006	08:31	0.0	0.0	21.0	79.0	0.0	-
17M	07/21/2006	08:52	0.0	0.0	20.5	79.5	0.0	-
17M	07/28/2006	08:16	0.0	0.0	20.3	79.7	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
17M	08/04/2006	09:31	0.0	0.0	20.7	79.3	0.0	-
17M	08/11/2006	09:48	0.0	0.0	20.5	79.5	0.0	-
17M	08/18/2006	08:31	0.0	0.0	20.7	79.3	0.0	-
17M	08/23/2006	14:30	0.1	0.0	20.4	79.5	0.0	-
17M	08/31/2006	08:24	0.0	0.0	20.7	79.3	0.0	-
17M	09/08/2006	13:27	0.0	0.0	20.1	79.9	0.0	-
17M	09/15/2006	08:25	0.0	0.0	20.8	79.2	0.0	-
17M	09/22/2006	09:57	0.0	0.0	20.5	79.5	0.0	-
17M	09/29/2006	08:43	0.0	0.0	20.6	79.4	0.0	-
18M	07/03/2006	10:20	0.0	0.5	19.5	80.0		-
18M	07/06/2006	08:39	0.0	0.1	19.8	80.1		-
18M	07/14/2006	08:33	0.0	0.3	20.3	79.4	0.0	-
18M	07/21/2006	08:54	0.0	0.3	20.3	79.4	0.0	-
18M	07/28/2006	08:17	0.0	0.2	20.2	79.6	0.0	-
18M	08/04/2006	09:32	0.0	0.2	20.6	79.2	0.0	-
18M	08/11/2006	09:50	0.0	0.2	20.2	79.6	0.0	-
18M	08/18/2006	08:33	0.0	0.1	20.7	79.2	0.0	-
18M	08/23/2006	14:31	0.0	0.1	19.8	80.1	0.0	-
18M	08/31/2006	08:25	0.0	0.2	20.5	79.3	0.0	-
18M	09/08/2006	13:28	0.0	0.1	20.1	79.8	0.0	-
18M	09/15/2006	08:27	0.0	0.2	20.6	79.2	0.0	-
18M	09/22/2006	09:59	0.0	0.1	20.6	79.3	0.0	-
18M	09/29/2006	08:45	0.0	0.1	20.6	79.3	0.0	-
19M	07/03/2006	10:25	0.0	0.4	19.3	80.3		-
19M	07/06/2006	08:43	0.0	0.1	19.3	80.6		-
19M	07/14/2006	08:37	0.0	0.0	20.8	79.2	0.0	-
19M	07/14/2006	08:38	0.0	0.0	20.8	79.2	0.0	-
19M	07/21/2006	08:58	0.0	0.1	20.4	79.5	0.0	-
19M	07/28/2006	08:23	0.0	0.0	20.4	79.6	0.0	-
19M	08/04/2006	09:35	0.0	0.0	20.8	79.2	0.0	-
19M	08/11/2006	09:51	0.0	0.0	20.6	79.4	0.0	-
19M	08/18/2006	08:39	0.0	0.0	20.8	79.2	0.0	-
19M	08/23/2006	14:33	0.1	0.0	20.6	79.3	0.0	-
19M	08/31/2006	08:27	0.0	0.0	20.9	79.1	0.0	-
19M	09/05/2006	10:18	0.0	0.0	20.8	79.2	0.0	-
19M	09/08/2006	13:29	0.0	0.0	20.3	79.7	0.0	-
19M	09/15/2006	08:29	0.0	0.0	20.9	79.1	0.0	-
19M	09/22/2006	10:07	0.4	0.0	20.1	79.5	0.0	-
19M	09/22/2006	10:07	0.4	0.0	20.1	79.5	0.0	-
19M	09/29/2006	08:51	0.0	0.0	20.7	79.3	0.0	-
20M	07/03/2006	10:29	0.0	0.3	19.6	80.1		-
20M	07/06/2006	08:45	0.0	0.0	19.7	80.3		-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
20M	07/14/2006	08:39	0.0	0.0	21.0	79.0	0.0	-
20M	07/21/2006	08:59	0.0	0.0	20.7	79.3	0.0	-
20M	07/28/2006	08:25	0.0	0.0	20.6	79.4	0.0	-
20M	08/04/2006	09:39	0.0	0.0	20.8	79.2	0.0	-
20M	08/11/2006	09:56	0.0	0.0	20.4	79.6	0.0	-
20M	08/18/2006	08:43	0.0	0.0	20.9	79.1	0.0	-
20M	08/23/2006	14:37	0.0	0.0	20.5	79.5	0.0	-
20M	08/31/2006	08:29	0.0	0.0	20.8	79.2	0.0	-
20M	09/05/2006	10:23	0.0	0.0	20.8	79.2	0.0	-
20M	09/08/2006	13:40	0.0	0.0	20.6	79.4	0.0	-
20M	09/15/2006	08:32	0.0	0.0	21.0	79.0	0.0	-
20M	09/22/2006	10:08	0.1	0.0	20.9	79.0	0.0	-
20M	09/29/2006	08:52	0.0	0.0	20.8	79.2	0.0	-
21M	07/03/2006	10:31	0.0	0.3	19.7	80.0		-
21M	07/06/2006	08:47	0.0	0.0	19.7	80.3		-
21M	07/14/2006	08:42	0.0	0.0	20.8	79.2	0.0	-
21M	07/21/2006	09:00	0.0	0.0	20.9	79.1	0.0	-
21M	07/28/2006	08:28	0.0	0.0	19.8	80.2	0.0	-
21M	08/04/2006	09:40	0.0	0.0	20.9	79.1	0.0	-
21M	08/11/2006	09:57	0.0	0.0	20.5	79.5	0.0	-
21M	08/18/2006	08:49	0.0	0.2	20.5	79.3	0.0	-
21M	08/23/2006	14:39	0.0	3.4	15.5	81.1	0.0	-
21M	08/31/2006	08:33	0.0	0.0	20.8	79.2	0.0	-
21M	09/05/2006	10:25	0.0	0.0	20.8	79.2	0.0	-
21M	09/08/2006	13:44	0.0	0.0	20.6	79.4	0.0	-
21M	09/08/2006	13:44	0.0	0.0	20.6	79.4	0.0	-
21M	09/15/2006	08:35	0.0	0.0	21.0	79.0	0.0	-
21M	09/22/2006	10:11	0.1	0.0	20.9	79.0	0.0	-
21M	09/29/2006	08:55	0.0	0.0	20.9	79.1	0.0	-
22M	07/03/2006	10:33	0.0	0.3	19.6	80.1		-
22M	07/06/2006	08:50	0.0	0.0	19.8	80.2		-
22M	07/14/2006	08:43	0.0	0.0	21.0	79.0	0.0	-
22M	07/21/2006	09:02	0.0	0.0	20.9	79.1	0.0	-
22M	07/28/2006	08:29	0.0	0.0	20.7	79.3	0.0	-
22M	08/04/2006	09:42	0.0	0.0	20.9	79.1	0.0	-
22M	08/11/2006	09:59	0.0	3.4	16.1	80.5	0.0	-
22M	08/18/2006	08:52	0.0	1.9	18.6	79.5	0.0	-
22M	08/23/2006	14:41	0.0	4.9	13.9	81.2	0.0	-
22M	08/31/2006	08:35	0.0	0.0	20.8	79.2	0.0	-
22M	09/05/2006	10:28	0.0	1.2	19.1	79.7	0.0	-
22M	09/08/2006	13:46	0.0	1.8	17.8	80.4	0.0	-
22M	09/15/2006	08:39	0.0	0.0	21.0	79.0	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
22M	09/22/2006	10:14	0.0	0.0	20.9	79.1	0.0	-
22M	09/29/2006	08:58	0.0	0.0	20.9	79.1	0.0	-
23M	07/03/2006	10:34	0.0	0.3	19.7	80.0		-
23M	07/06/2006	08:54	0.0	0.0	19.8	80.2		-
23M	07/14/2006	08:45	0.0	0.1	21.1	78.8	0.0	-
23M	07/21/2006	09:04	0.0	0.0	20.9	79.1	-0.1	-
23M	07/28/2006	08:34	0.0	0.7	19.9	79.4	0.0	-
23M	08/04/2006	09:44	0.0	0.0	20.9	79.1	0.0	-
23M	08/11/2006	10:01	0.0	0.1	20.3	79.6	0.0	-
23M	08/18/2006	08:53	0.0	0.0	20.7	79.3	0.0	-
23M	08/23/2006	14:43	0.0	6.3	12.4	81.3	0.0	-
23M	08/31/2006	08:38	0.0	0.3	20.3	79.4	0.0	-
23M	09/05/2006	10:30	0.0	0.0	20.6	79.4	0.0	-
23M	09/08/2006	13:48	0.0	2.3	17.4	80.3	0.0	-
23M	09/15/2006	08:42	0.0	0.1	20.7	79.2	0.0	-
23M	09/15/2006	08:42	0.0	0.1	20.7	79.2	0.0	-
23M	09/22/2006	10:16	0.0	0.2	20.7	79.1	0.0	-
23M	09/29/2006	09:00	0.0	0.0	20.9	79.1	0.0	-
24M	07/03/2006	10:35	0.0	0.3	19.6	80.1		-
24M	07/06/2006	08:57	0.0	0.0	19.9	80.1		-
24M	07/14/2006	08:47	0.0	0.1	21.1	78.8	0.0	-
24M	07/21/2006	09:05	0.0	0.0	20.9	79.1	0.0	-
24M	07/28/2006	08:35	0.0	0.0	20.6	79.4	0.0	-
24M	08/04/2006	09:47	0.0	0.0	21.0	79.0	0.0	-
24M	08/11/2006	10:02	0.0	0.0	20.5	79.5	0.0	-
24M	08/18/2006	08:55	0.0	0.0	21.0	79.0	0.0	-
24M	08/23/2006	14:46	0.0	0.2	19.5	80.3	0.0	-
24M	08/31/2006	08:40	0.0	0.0	20.9	79.1	0.0	-
24M	09/05/2006	10:32	0.0	0.0	20.6	79.4	0.0	-
24M	09/08/2006	13:50	0.0	0.0	20.5	79.5	0.0	-
24M	09/15/2006	08:44	0.0	0.0	21.0	79.0	0.0	-
24M	09/22/2006	10:18	0.0	0.0	21.0	79.0	0.0	-
24M	09/29/2006	09:02	0.0	0.0	20.9	79.1	0.0	-
25M	07/03/2006	10:36	0.0	0.3	19.7	80.0		-
25M	07/06/2006	09:00	0.0	0.0	20.0	80.0		-
25M	07/14/2006	08:51	0.0	0.0	21.1	78.9	0.0	-
25M	07/21/2006	09:06	0.0	0.0	20.8	79.2	0.0	-
25M	07/28/2006	08:36	0.0	0.0	20.6	79.4	0.0	-
25M	08/04/2006	09:48	0.0	0.0	20.9	79.1	0.0	-
25M	08/11/2006	10:03	0.0	0.0	20.5	79.5	0.0	-
25M	08/18/2006	08:57	0.0	0.0	21.0	79.0	0.0	-
25M	08/23/2006	14:47	0.1	0.9	18.6	80.4	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
25M	08/31/2006	08:42	0.0	0.0	20.9	79.1	0.0	-
25M	09/05/2006	10:34	0.0	0.0	20.7	79.3	0.0	-
25M	09/08/2006	13:51	0.0	0.9	18.9	80.2	0.0	-
25M	09/15/2006	08:45	0.0	0.0	21.0	79.0	0.0	-
25M	09/22/2006	10:18	0.0	0.0	20.9	79.1	0.0	-
25M	09/29/2006	09:03	0.0	0.0	21.0	79.0	0.0	-
26M	07/03/2006	10:37	0.0	0.3	19.7	80.0		-
26M	07/06/2006	09:03	0.0	0.0	20.0	80.0		-
26M	07/14/2006	08:52	0.0	1.0	19.8	79.2	0.0	-
26M	07/21/2006	09:07	0.0	0.0	20.9	79.1	0.0	-
26M	07/28/2006	08:38	0.0	0.6	19.8	79.6	0.0	-
26M	08/04/2006	09:52	0.0	0.8	20.1	79.1	0.0	-
26M	08/11/2006	10:05	0.0	1.0	19.3	79.7	0.0	-
26M	08/18/2006	08:58	0.0	0.8	20.0	79.2	0.0	-
26M	08/23/2006	14:49	0.0	0.8	18.9	80.3	0.0	-
26M	08/31/2006	08:43	0.0	1.1	19.5	79.4	0.0	-
26M	09/05/2006	10:36	0.0	0.3	20.0	79.7	0.0	-
26M	09/08/2006	13:53	0.0	0.7	19.5	79.8	0.0	-
26M	09/08/2006	13:53	0.0	0.7	19.5	79.8	0.0	-
26M	09/15/2006	08:47	0.0	0.7	20.1	79.2	0.0	-
26M	09/22/2006	10:20	0.0	0.6	20.1	79.3	0.0	-
26M	09/29/2006	09:05	0.0	0.2	20.5	79.3	0.0	-
27M	07/03/2006	10:40	0.0	0.3	19.7	80.0		-
27M	07/06/2006	09:05	0.0	0.0	20.1	79.9		-
27M	07/06/2006	09:05	0.0	0.0	20.1	79.9		-
27M	07/14/2006	08:54	0.0	0.0	21.0	79.0	0.0	-
27M	07/21/2006	09:10	0.0	0.0	21.0	79.0	0.0	-
27M	07/28/2006	08:40	0.0	0.0	20.6	79.4	0.0	-
27M	08/04/2006	09:54	0.0	0.0	20.9	79.1	0.0	-
27M	08/11/2006	10:06	0.0	0.0	20.4	79.6	0.0	-
27M	08/18/2006	09:01	0.0	0.0	21.0	79.0	0.0	-
27M	08/23/2006	14:50	0.0	0.0	20.1	79.9	0.0	-
27M	08/31/2006	08:46	0.0	0.0	20.8	79.2	0.0	-
27M	09/05/2006	10:38	0.0	0.0	20.3	79.7	0.0	-
27M	09/08/2006	13:55	0.0	0.0	20.4	79.6	0.0	-
27M	09/15/2006	08:49	0.0	0.0	21.0	79.0	0.0	-
27M	09/22/2006	10:21	0.0	0.0	20.9	79.1	0.0	-
27M	09/29/2006	09:07	0.0	0.0	20.8	79.2	0.0	-
28M	07/03/2006	10:41	0.0	1.2	18.8	80.0		-
28M	07/06/2006	09:09	0.0	0.0	20.2	79.8		-
28M	07/14/2006	08:55	0.0	0.0	21.2	78.8	0.0	-
28M	07/14/2006	08:55	0.0	0.0	21.2	78.8	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
28M	07/21/2006	09:18	0.0	0.0	21.0	79.0	0.0	-
28M	07/28/2006	08:41	0.0	0.2	20.0	79.8	0.0	-
28M	08/04/2006	09:56	0.0	0.0	20.9	79.1	0.0	-
28M	08/11/2006	10:08	0.0	0.0	20.5	79.5	0.0	-
28M	08/18/2006	09:03	0.0	0.0	21.0	79.0	0.0	-
28M	08/23/2006	14:52	0.0	1.8	17.8	80.4	0.0	-
28M	08/31/2006	08:49	0.0	0.0	21.0	79.0	0.0	-
28M	09/05/2006	10:39	0.0	0.0	20.5	79.5	0.0	-
28M	09/08/2006	13:57	0.0	0.1	20.2	79.7	0.0	-
28M	09/15/2006	08:51	0.0	0.4	20.5	79.1	0.0	-
28M	09/22/2006	10:24	0.0	0.0	21.0	79.0	0.0	-
28M	09/29/2006	09:13	0.0	0.0	20.9	79.1	0.0	-
29M	07/03/2006	10:42	0.0	0.3	19.8	79.9		-
29M	07/06/2006	09:11	0.0	0.0	20.1	79.9		-
29M	07/14/2006	08:57	0.0	0.0	21.3	78.7	0.0	-
29M	07/21/2006	09:21	0.0	0.0	20.9	79.1	0.0	-
29M	07/28/2006	08:42	0.0	0.0	20.6	79.4	0.0	-
29M	08/04/2006	09:58	0.0	0.0	20.9	79.1	0.0	-
29M	08/11/2006	10:09	0.0	0.1	20.3	79.6	0.0	-
29M	08/18/2006	09:05	0.0	0.0	21.1	78.9	0.0	-
29M	08/23/2006	14:53	0.0	5.1	13.8	81.1	0.0	-
29M	08/31/2006	08:52	0.0	0.0	20.9	79.1	0.0	-
29M	09/05/2006	10:41	0.0	0.0	20.6	79.4	0.0	-
29M	09/08/2006	13:59	0.0	0.8	19.3	79.9	0.0	-
29M	09/08/2006	13:59	0.0	0.8	19.3	79.9	0.0	-
29M	09/15/2006	08:53	0.0	0.0	21.0	79.0	0.0	-
29M	09/22/2006	10:25	0.0	0.0	21.0	79.0	0.0	-
29M	09/29/2006	09:14	0.0	0.0	21.0	79.0	0.0	-
30M	07/03/2006	10:43	0.0	0.3	19.7	80.0		-
30M	07/06/2006	09:12	0.0	0.0	20.1	79.9		-
30M	07/14/2006	08:59	0.0	0.0	21.3	78.7	0.0	-
30M	07/21/2006	09:23	0.0	0.0	21.0	79.0	0.0	-
30M	07/28/2006	08:44	0.0	0.0	20.6	79.4	0.0	-
30M	08/04/2006	09:59	0.0	0.0	21.0	79.0	0.0	-
30M	08/11/2006	10:10	0.0	0.0	20.6	79.4	0.0	-
30M	08/18/2006	09:06	0.0	0.0	21.2	78.8	0.0	-
30M	08/23/2006	14:55	0.0	6.6	12.6	80.8	0.0	-
30M	08/31/2006	08:54	0.0	0.0	20.9	79.1	0.0	-
30M	08/31/2006	08:54	0.0	0.0	20.9	79.1	0.0	-
30M	09/05/2006	10:43	0.0	0.0	20.6	79.4	0.0	-
30M	09/08/2006	14:00	0.0	0.0	20.5	79.5	0.0	-
30M	09/15/2006	08:54	0.0	0.0	21.1	78.9	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
30M	09/22/2006	10:26	0.0	0.0	21.0	79.0	0.0	-
30M	09/29/2006	09:16	0.0	0.0	21.1	78.9	0.0	-
31M	07/03/2006	10:44	0.0	0.3	19.7	80.0		-
31M	07/06/2006	09:14	0.0	0.0	20.2	79.8		-
31M	07/14/2006	09:01	0.0	0.0	21.3	78.7	0.0	-
31M	07/21/2006	09:24	0.0	0.0	21.0	79.0	0.0	-
31M	07/28/2006	08:46	0.0	0.0	20.5	79.5	0.0	-
31M	08/04/2006	10:01	0.0	0.0	20.9	79.1	0.0	-
31M	08/11/2006	10:13	0.0	0.0	20.5	79.5	0.0	-
31M	08/18/2006	09:09	0.0	0.0	21.0	79.0	0.0	-
31M	08/23/2006	14:56	0.0	0.0	20.3	79.7	0.0	-
31M	08/31/2006	08:57	0.1	0.0	20.9	79.0	0.0	-
31M	09/05/2006	10:45	0.0	0.0	20.3	79.7	0.0	-
31M	09/08/2006	14:02	0.0	0.0	20.6	79.4	0.0	-
31M	09/08/2006	14:06	0.0	0.3	19.9	79.8	0.0	-
31M	09/15/2006	08:56	0.0	0.0	21.1	78.9	0.0	-
31M	09/22/2006	10:28	0.0	0.0	20.9	79.1	0.0	-
31M	09/29/2006	09:17	0.0	0.0	21.0	79.0	0.0	-
32M	07/03/2006	10:46	0.0	0.3	19.8	79.9		-
32M	07/06/2006	09:16	0.0	0.0	20.1	79.9		-
32M	07/14/2006	09:02	0.0	0.0	21.3	78.7	0.0	-
32M	07/21/2006	09:26	0.0	0.0	21.0	79.0	0.0	-
32M	07/28/2006	08:50	0.0	0.0	20.6	79.4	0.0	-
32M	08/04/2006	10:03	0.0	0.0	21.0	79.0	0.0	-
32M	08/11/2006	10:15	0.0	0.0	20.7	79.3	0.0	-
32M	08/18/2006	09:11	0.0	0.0	21.1	78.9	0.0	-
32M	08/23/2006	14:58	0.0	0.7	18.8	80.5	0.0	-
32M	08/31/2006	08:59	0.0	0.0	21.0	79.0	0.0	-
32M	09/05/2006	10:47	0.0	0.0	20.4	79.6	0.0	-
32M	09/05/2006	10:47	0.0	0.0	20.4	79.6	0.0	-
32M	09/08/2006	14:07	0.0	5.2	13.9	80.9	0.0	-
32M	09/15/2006	08:58	0.0	0.0	21.1	78.9	0.0	-
32M	09/22/2006	10:29	0.0	0.0	21.0	79.0	0.0	-
32M	09/29/2006	09:19	0.0	0.0	21.1	78.9	0.0	-
33M	07/03/2006	10:47	0.0	0.2	19.7	80.1		-
33M	07/06/2006	09:18	0.0	0.0	20.1	79.9		-
33M	07/14/2006	09:03	0.0	0.0	21.3	78.7	0.0	-
33M	07/21/2006	09:28	0.0	0.0	21.1	78.9	0.0	-
33M	07/28/2006	08:52	0.0	0.0	20.7	79.3	0.0	-
33M	08/04/2006	10:04	0.0	0.0	21.0	79.0	0.0	-
33M	08/11/2006	10:16	0.0	0.0	20.7	79.3	0.0	-
33M	08/18/2006	09:13	0.0	0.0	21.2	78.8	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
33M	08/23/2006	14:59	0.0	6.0	12.1	81.9	0.0	-
33M	08/31/2006	09:01	0.0	0.0	21.0	79.0	0.0	-
33M	09/05/2006	10:49	0.0	0.0	20.4	79.6	0.0	-
33M	09/15/2006	09:02	0.0	0.0	21.1	78.9	0.0	-
33M	09/22/2006	10:30	0.0	0.0	21.0	79.0	0.0	-
33M	09/29/2006	09:20	0.0	0.0	21.0	79.0	0.1	-
34M	07/03/2006	10:51	0.0	0.3	19.8	79.9		-
34M	07/06/2006	09:20	0.0	0.0	20.1	79.9		-
34M	07/14/2006	09:06	0.0	0.0	21.3	78.7	0.0	-
34M	07/21/2006	09:30	0.0	0.0	21.1	78.9	0.0	-
34M	07/28/2006	08:53	0.0	0.0	20.6	79.4	0.0	-
34M	08/04/2006	10:06	0.0	0.0	21.0	79.0	0.0	-
34M	08/11/2006	10:18	0.0	0.0	20.8	79.2	0.0	-
34M	08/18/2006	09:15	0.0	0.1	20.9	79.0	0.0	-
34M	08/23/2006	15:01	0.0	1.0	18.4	80.6	0.0	-
34M	08/31/2006	09:02	0.0	0.0	21.0	79.0	0.0	-
34M	09/05/2006	10:52	0.0	0.0	20.4	79.6	0.0	-
34M	09/08/2006	14:09	0.0	0.0	20.4	79.6	0.0	-
34M	09/15/2006	09:05	0.0	0.0	21.1	78.9	0.0	-
34M	09/22/2006	10:31	0.0	0.0	20.9	79.1	0.0	-
34M	09/29/2006	09:23	0.0	0.0	21.1	78.9	0.0	-
35M	07/03/2006	10:52	0.0	0.8	19.0	80.2		-
35M	07/06/2006	09:22	0.0	0.0	20.1	79.9		-
35M	07/14/2006	09:08	0.0	0.0	21.3	78.7	0.0	-
35M	07/21/2006	09:31	0.0	0.0	21.0	79.0	0.0	-
35M	07/28/2006	08:55	0.0	0.0	20.7	79.3	0.0	-
35M	08/04/2006	10:07	0.0	0.0	20.9	79.1	0.0	-
35M	08/11/2006	10:20	0.0	0.0	20.8	79.2	0.0	-
35M	08/18/2006	09:16	0.0	0.0	21.1	78.9	0.0	-
35M	08/23/2006	15:03	0.0	6.5	12.0	81.5	0.0	-
35M	08/31/2006	09:04	0.0	0.0	21.0	79.0	0.0	-
35M	09/05/2006	10:53	0.0	0.0	20.4	79.6	0.0	-
35M	09/08/2006	14:10	0.0	0.3	19.5	80.2	0.0	-
35M	09/15/2006	09:07	0.0	0.0	21.1	78.9	0.0	-
35M	09/22/2006	10:32	0.0	0.0	21.0	79.0	0.0	-
35M	09/29/2006	09:24	0.0	0.0	21.1	78.9	0.0	-
36M	07/03/2006	10:53	0.0	4.4	15.4	80.2		-
36M	07/06/2006	09:24	0.0	3.8	15.9	80.3		-
36M	07/14/2006	09:10	0.0	6.1	13.6	80.3	0.0	-
36M	07/21/2006	09:33	0.0	6.8	12.6	80.6	0.0	-
36M	07/28/2006	08:57	0.0	5.6	14.3	80.1	0.0	-
36M	08/04/2006	10:09	0.0	6.2	14.1	79.7	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
36M	08/11/2006	10:22	0.0	5.4	14.3	80.3	0.0	-
36M	08/18/2006	09:19	0.0	3.8	16.8	79.4	0.0	-
36M	08/23/2006	15:05	0.0	9.1	9.8	81.1	0.0	-
36M	08/31/2006	09:06	0.0	4.8	15.2	80.0	0.0	-
36M	09/05/2006	10:56	0.0	3.6	16.4	80.0	0.0	-
36M	09/08/2006	14:12	0.0	6.3	13.2	80.5	0.0	-
36M	09/15/2006	09:09	0.0	7.2	12.2	80.6	0.0	-
36M	09/22/2006	10:33	0.0	5.0	14.5	80.5	0.0	-
36M	09/22/2006	10:34	0.0	5.0	14.5	80.5	0.0	-
36M	09/29/2006	09:27	0.0	3.8	16.2	80.0	0.0	-
37M	07/03/2006	10:55	0.0	0.3	19.7	80.0		-
37M	07/06/2006	09:25	0.0	0.0	20.1	79.9		-
37M	07/14/2006	09:12	0.0	0.0	21.2	78.8	0.0	-
37M	07/21/2006	09:35	0.0	0.0	21.0	79.0	0.0	-
37M	07/28/2006	08:58	0.0	0.0	20.7	79.3	0.0	-
37M	08/04/2006	10:11	0.0	0.0	20.9	79.1	-0.1	-
37M	08/11/2006	10:24	0.0	0.0	20.9	79.1	0.0	-
37M	08/18/2006	09:21	0.0	0.0	21.1	78.9	0.0	-
37M	08/23/2006	15:07	0.1	1.2	17.9	80.8	0.0	-
37M	08/31/2006	09:09	0.0	0.0	21.0	79.0	0.0	-
37M	09/05/2006	10:58	0.0	0.0	20.4	79.6	0.0	-
37M	09/08/2006	14:14	0.0	0.0	20.6	79.4	0.0	-
37M	09/15/2006	09:11	0.0	0.0	21.0	79.0	0.0	-
37M	09/22/2006	10:35	0.0	0.0	20.9	79.1	0.0	-
37M	09/29/2006	09:29	0.0	0.0	21.1	78.9	0.0	-
38M	07/03/2006	10:57	0.0	0.2	19.9	79.9		-
38M	07/06/2006	09:27	0.0	0.0	20.1	79.9		-
38M	07/14/2006	09:14	0.0	0.0	21.3	78.7	0.0	-
38M	07/21/2006	09:37	0.0	0.0	21.0	79.0	0.0	-
38M	07/28/2006	09:00	0.0	0.0	20.7	79.3	0.0	-
38M	08/04/2006	10:12	0.0	0.0	20.9	79.1	0.0	-
38M	08/11/2006	10:25	0.0	0.0	20.8	79.2	0.0	-
38M	08/18/2006	09:22	0.0	0.0	21.2	78.8	0.0	-
38M	08/23/2006	15:08	0.1	4.9	13.1	81.9	0.0	-
38M	08/31/2006	09:10	0.0	0.0	21.1	78.9	0.0	-
38M	09/05/2006	11:00	0.0	0.0	20.4	79.6	0.0	-
38M	09/08/2006	14:15	0.0	0.0	20.6	79.4	0.0	-
38M	09/15/2006	09:13	0.0	0.0	21.1	78.9	0.0	-
38M	09/22/2006	10:36	0.0	0.0	21.0	79.0	0.0	-
38M	09/29/2006	09:31	0.0	0.0	21.2	78.8	0.0	-
39M	07/03/2006	10:59	0.0	0.9	19.3	79.8		-
39M	07/06/2006	09:29	0.0	0.0	20.2	79.8		-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
39M	07/14/2006	09:15	0.0	0.2	20.8	79.0	0.0	-
39M	07/21/2006	09:39	0.0	0.0	20.9	79.1	0.0	-
39M	07/28/2006	09:01	0.0	0.4	20.2	79.4	0.0	-
39M	08/04/2006	10:13	0.0	1.1	19.6	79.3	0.0	-
39M	08/11/2006	10:27	0.0	0.7	20.0	79.3	0.0	-
39M	08/18/2006	09:24	0.0	1.1	19.8	79.1	0.0	-
39M	08/23/2006	15:09	0.0	0.0	19.8	80.2	0.0	-
39M	08/31/2006	09:12	0.0	1.4	19.2	79.4	0.0	-
39M	09/05/2006	11:01	0.0	0.8	19.1	80.1	0.0	-
39M	09/08/2006	14:17	0.0	1.0	19.0	80.0	0.0	-
39M	09/15/2006	09:15	0.0	1.1	19.6	79.3	0.0	-
39M	09/22/2006	10:37	0.0	0.9	19.8	79.3	0.0	-
39M	09/29/2006	09:33	0.0	0.5	20.4	79.1	0.0	-
40M	07/03/2006	11:01	0.0	0.2	19.9	79.9		-
40M	07/06/2006	09:31	0.0	0.0	20.1	79.9		-
40M	07/14/2006	09:18	0.0	0.0	21.1	78.9	0.0	-
40M	07/21/2006	09:40	0.0	0.0	20.9	79.1	0.0	-
40M	07/28/2006	09:03	0.0	0.2	20.4	79.4	0.0	-
40M	08/04/2006	10:16	0.0	0.5	20.5	79.0	0.0	-
40M	08/11/2006	10:30	0.0	0.2	20.5	79.3	0.0	-
40M	08/18/2006	09:30	0.0	0.1	20.9	79.0	0.0	-
40M	08/23/2006	15:11	0.0	0.0	19.8	80.2	0.0	-
40M	08/31/2006	09:15	0.0	0.2	20.7	79.1	0.0	-
40M	09/05/2006	11:03	0.0	0.0	19.9	80.1	0.0	-
40M	09/08/2006	14:19	0.0	0.1	20.2	79.7	0.0	-
40M	09/15/2006	09:17	0.0	0.0	20.9	79.1	0.0	-
40M	09/22/2006	10:40	0.0	0.0	20.7	79.3	0.0	-
40M	09/29/2006	09:35	0.0	0.0	21.0	79.0	0.0	-
41M	07/03/2006	11:02	0.0	0.3	19.9	79.8		-
41M	07/06/2006	09:33	0.0	0.0	20.1	79.9		-
41M	07/14/2006	09:19	0.0	0.0	21.2	78.8	0.0	-
41M	07/14/2006	09:19	0.0	0.0	21.2	78.8	0.0	-
41M	07/21/2006	09:41	0.0	0.0	21.2	78.8	0.0	-
41M	07/28/2006	09:05	0.0	0.0	20.7	79.3	0.0	-
41M	08/04/2006	10:17	0.0	0.0	21.0	79.0	0.0	-
41M	08/11/2006	10:32	0.0	0.0	20.9	79.1	0.0	-
41M	08/18/2006	09:33	0.0	0.0	21.2	78.8	0.0	-
41M	08/23/2006	15:15	0.0	1.8	16.6	81.6	0.0	-
41M	08/31/2006	09:17	0.0	0.3	20.5	79.2	0.0	-
41M	09/05/2006	11:06	0.0	0.4	19.5	80.1	0.0	-
41M	09/08/2006	14:21	0.0	1.6	18.4	80.0	0.0	-
41M	09/15/2006	09:22	0.0	0.0	21.1	78.9	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
41M	09/22/2006	10:41	0.0	0.0	21.0	79.0	0.0	-
41M	09/29/2006	09:38	0.0	0.0	21.0	79.0	0.0	-
42M	07/03/2006	11:04	0.0	0.3	19.9	79.8		-
42M	07/06/2006	09:36	0.0	0.0	20.1	79.9		-
42M	07/14/2006	09:21	0.0	0.0	21.3	78.7	0.0	-
42M	07/21/2006	09:42	0.0	0.0	20.8	79.2	0.0	-
42M	07/28/2006	09:06	0.0	0.0	20.8	79.2	0.0	-
42M	08/04/2006	10:18	0.0	0.0	20.9	79.1	0.0	-
42M	08/11/2006	10:33	0.0	0.0	20.9	79.1	0.0	-
42M	08/18/2006	09:36	0.0	0.0	21.2	78.8	0.0	-
42M	08/23/2006	15:16	0.1	4.2	13.8	81.9	0.0	-
42M	08/31/2006	09:21	0.0	0.0	20.9	79.1	0.0	-
42M	09/05/2006	11:08	0.0	0.0	20.3	79.7	0.0	-
42M	09/08/2006	14:22	0.0	3.2	16.2	80.6	0.0	-
42M	09/15/2006	09:24	0.0	0.0	21.2	78.8	0.0	-
42M	09/22/2006	10:42	0.0	0.0	21.0	79.0	0.0	-
42M	09/29/2006	09:39	0.0	0.0	21.1	78.9	0.0	-
43M	07/03/2006	11:05	0.0	0.2	19.9	79.9		-
43M	07/06/2006	09:37	0.0	0.0	20.2	79.8		-
43M	07/14/2006	09:23	0.0	0.0	21.3	78.7	0.0	-
43M	07/21/2006	09:43	0.0	0.0	21.0	79.0	0.0	-
43M	07/28/2006	09:07	0.0	0.0	20.8	79.2	0.0	-
43M	08/04/2006	10:19	0.0	0.0	21.0	79.0	0.0	-
43M	08/11/2006	10:36	0.0	0.0	20.9	79.1	0.0	-
43M	08/18/2006	09:38	0.0	0.9	19.8	79.3	0.0	-
43M	08/23/2006	15:18	0.1	2.0	15.3	82.6	0.0	-
43M	08/31/2006	09:23	0.0	1.1	19.2	79.7	0.0	-
43M	09/05/2006	11:11	0.1	0.5	19.4	80.0	0.0	-
43M	09/08/2006	14:25	0.0	1.6	17.8	80.6	0.0	-
43M	09/15/2006	09:27	0.0	0.6	19.9	79.5	0.0	-
43M	09/22/2006	10:44	0.0	0.2	19.9	79.9	0.0	-
43M	09/29/2006	09:42	0.0	0.9	19.6	79.5	0.0	-
44M	07/03/2006	11:06	0.0	0.2	19.9	79.9		-
44M	07/06/2006	09:39	0.0	0.0	20.2	79.8		-
44M	07/14/2006	09:24	0.0	0.0	21.3	78.7	0.0	-
44M	07/21/2006	09:45	0.0	0.0	20.9	79.1	0.0	-
44M	07/28/2006	09:09	0.0	0.0	20.8	79.2	0.0	-
44M	08/04/2006	10:20	0.0	0.0	20.9	79.1	0.0	-
44M	08/11/2006	10:37	0.0	0.0	20.8	79.2	0.0	-
44M	08/18/2006	09:40	0.0	0.0	21.1	78.9	0.0	-
44M	08/23/2006	15:19	0.0	2.0	15.1	82.9	0.0	-
44M	08/31/2006	09:24	0.0	0.2	20.6	79.2	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
44M	09/05/2006	11:12	0.0	0.2	19.6	80.2	0.0	-
44M	09/08/2006	14:27	0.0	1.7	17.8	80.5	0.0	-
44M	09/15/2006	09:28	0.0	0.0	21.0	79.0	0.0	-
44M	09/22/2006	10:47	0.0	0.0	21.0	79.0	0.0	-
44M	09/29/2006	09:44	0.0	0.0	21.2	78.8	0.0	-
45M	07/03/2006	11:08	0.0	3.1	17.1	79.8		-
45M	07/06/2006	09:47	0.0	0.0	20.2	79.8		-
45M	07/14/2006	09:26	0.0	0.1	21.3	78.6	0.0	-
45M	07/21/2006	09:46	0.0	0.0	20.9	79.1	0.0	-
45M	07/28/2006	09:13	0.0	0.0	20.8	79.2	0.0	-
45M	08/04/2006	10:22	0.0	0.0	21.1	78.9	0.0	-
45M	08/11/2006	10:39	0.0	0.0	20.8	79.2	0.0	-
45M	08/18/2006	09:43	0.0	0.0	21.2	78.8	0.0	-
45M	08/23/2006	15:21	0.0	0.0	18.8	81.2	0.0	-
45M	08/31/2006	09:26	0.0	0.0	21.0	79.0	0.0	-
45M	09/05/2006	11:14	0.1	0.0	20.2	79.7	0.0	-
45M	09/08/2006	14:29	0.0	0.0	20.3	79.7	0.0	-
45M	09/15/2006	09:31	0.0	0.0	21.0	79.0	0.0	-
45M	09/22/2006	10:48	0.0	0.0	20.9	79.1	0.0	-
45M	09/29/2006	09:46	0.0	0.0	21.1	78.9	0.0	-
46M	07/03/2006	11:09	0.0	0.3	19.8	79.9		-
46M	07/06/2006	09:48	0.0	0.0	20.3	79.7		-
46M	07/14/2006	09:28	0.0	0.0	21.5	78.5	0.0	-
46M	07/21/2006	09:47	0.0	0.0	20.9	79.1	0.0	-
46M	07/28/2006	09:15	0.0	0.0	20.8	79.2	0.0	-
46M	08/04/2006	10:24	0.0	0.0	21.1	78.9	0.0	-
46M	08/11/2006	10:42	0.0	0.0	20.8	79.2	0.0	-
46M	08/18/2006	09:45	0.0	0.0	21.2	78.8	0.0	-
46M	08/23/2006	15:23	0.0	1.5	15.8	82.7	0.0	-
46M	08/31/2006	09:27	0.1	0.0	21.0	78.9	0.0	-
46M	09/05/2006	11:16	0.0	0.0	20.1	79.9	0.0	-
46M	09/08/2006	14:30	0.0	0.0	20.5	79.5	0.0	-
46M	09/15/2006	09:33	0.0	0.0	21.0	79.0	0.0	-
46M	09/22/2006	10:49	0.0	0.0	20.9	79.1	0.0	-
46M	09/29/2006	09:49	0.0	0.0	21.2	78.8	0.0	-
47M	07/03/2006	11:10	0.0	0.2	20.0	79.8		-
47M	07/06/2006	09:49	0.0	0.0	20.2	79.8		-
47M	07/14/2006	09:29	0.0	0.0	21.4	78.6	0.0	-
47M	07/21/2006	09:48	0.0	0.6	20.1	79.3	0.0	-
47M	07/28/2006	09:17	0.0	0.0	20.8	79.2	0.0	-
47M	08/04/2006	10:26	0.0	0.0	21.0	79.0	0.0	-
47M	08/11/2006	10:43	0.0	0.0	20.9	79.1	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
47M	08/18/2006	09:47	0.1	0.0	21.1	78.8	0.0	-
47M	08/23/2006	15:25	0.0	2.1	15.3	82.6	0.0	-
47M	08/31/2006	09:29	0.0	0.0	20.9	79.1	0.0	-
47M	09/05/2006	11:18	0.0	0.0	20.2	79.8	0.0	-
47M	09/08/2006	14:32	0.0	0.2	19.9	79.9	0.0	-
47M	09/15/2006	09:34	0.0	0.0	21.0	79.0	0.0	-
47M	09/22/2006	10:50	0.0	0.0	20.8	79.2	0.0	-
47M	09/29/2006	09:50	0.0	0.0	21.2	78.8	0.0	-
48M	07/03/2006	11:12	0.0	1.1	19.2	79.7		-
48M	07/06/2006	09:51	0.0	0.3	19.8	79.9		-
48M	07/14/2006	09:31	0.0	1.0	20.0	79.0	0.0	-
48M	07/21/2006	09:50	0.0	1.1	19.5	79.4	0.0	-
48M	07/28/2006	09:18	0.0	0.7	20.0	79.3	0.0	-
48M	08/04/2006	10:28	0.0	0.9	19.9	79.2	0.0	-
48M	08/11/2006	10:44	0.0	1.0	19.5	79.5	0.0	-
48M	08/18/2006	09:49	0.0	0.9	20.0	79.1	0.0	-
48M	08/23/2006	15:26	0.1	1.0	16.1	82.8	0.0	-
48M	08/31/2006	09:31	0.0	1.7	18.8	79.5	0.0	-
48M	09/05/2006	11:22	0.0	0.0	20.0	80.0	0.0	-
48M	09/08/2006	14:33	0.0	1.6	18.4	80.0	0.0	-
48M	09/15/2006	09:36	0.0	1.7	19.1	79.2	0.0	-
48M	09/22/2006	10:52	0.0	1.4	18.9	79.7	0.0	-
48M	09/29/2006	09:52	0.0	0.8	19.9	79.3	0.0	-
49M	07/03/2006	11:14	0.0	1.6	18.7	79.7		-
49M	07/06/2006	09:52	0.0	0.0	20.2	79.8		-
49M	07/14/2006	09:32	0.0	2.5	18.7	78.8	0.0	-
49M	07/21/2006	09:52	0.0	2.5	18.3	79.2	0.0	-
49M	07/28/2006	09:20	0.0	2.4	18.4	79.2	0.0	-
49M	08/04/2006	10:31	0.0	2.5	18.7	78.8	0.0	-
49M	08/11/2006	10:46	0.0	2.4	18.3	79.3	0.0	-
49M	08/18/2006	09:52	0.0	2.3	18.9	78.8	0.0	-
49M	08/23/2006	15:28	0.1	2.2	15.0	82.7	0.0	-
49M	08/31/2006	09:33	0.0	2.4	18.6	79.0	0.0	-
49M	09/05/2006	11:25	0.0	1.9	17.9	80.2	0.0	-
49M	09/08/2006	14:36	0.0	1.7	18.5	79.8	0.0	-
49M	09/15/2006	09:38	0.0	1.7	19.4	78.9	0.0	-
49M	09/22/2006	10:54	0.0	1.7	19.1	79.2	0.0	-
49M	09/29/2006	09:55	0.0	1.5	19.6	78.9	0.0	-
50M	07/03/2006	11:15	0.0	2.0	18.6	79.4		-
50M	07/06/2006	09:54	0.0	0.0	20.2	79.8		-
50M	07/14/2006	09:34	0.0	1.9	19.0	79.1	0.0	-
50M	07/21/2006	09:53	0.0	1.9	18.6	79.5	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
50M	07/28/2006	09:22	0.0	2.0	18.5	79.5	0.0	-
50M	08/04/2006	10:33	0.0	2.1	18.6	79.3	0.0	-
50M	08/11/2006	10:48	0.0	2.1	18.4	79.5	0.0	-
50M	08/18/2006	09:53	0.1	2.2	18.7	79.0	0.0	-
50M	08/23/2006	15:29	0.1	1.8	14.9	83.2	0.0	-
50M	08/31/2006	09:35	0.0	2.1	18.6	79.3	0.0	-
50M	09/05/2006	11:27	0.1	2.0	17.6	80.3	0.0	-
50M	09/08/2006	14:37	0.0	2.1	18.0	79.9	0.0	-
50M	09/15/2006	09:41	0.0	2.3	18.7	79.0	0.0	-
50M	09/22/2006	10:55	0.0	2.2	18.4	79.4	0.0	-
50M	09/29/2006	09:57	0.0	2.3	18.6	79.1	0.0	-
51M	07/03/2006	11:22	0.0	0.7	19.4	79.9		-
51M	07/06/2006	09:56	0.0	0.0	20.3	79.7		-
51M	07/14/2006	09:36	0.0	0.0	21.4	78.6	0.0	-
51M	07/21/2006	09:56	0.0	0.0	21.2	78.8	0.0	-
51M	07/28/2006	09:24	0.0	0.0	20.9	79.1	0.0	-
51M	08/04/2006	10:34	0.0	0.0	21.0	79.0	0.0	-
51M	08/11/2006	10:52	0.0	1.3	19.2	79.5	0.0	-
51M	08/18/2006	09:57	0.0	1.3	19.7	79.0	0.0	-
51M	08/23/2006	15:34	0.1	1.0	14.9	84.0	0.0	-
51M	09/05/2006	11:31	0.8	1.0	18.3	79.9	0.0	-
51M	09/08/2006	14:39	0.0	1.2	18.9	79.9	0.0	-
51M	09/15/2006	09:43	0.0	0.0	21.1	78.9	0.0	-
51M	09/22/2006	10:58	0.0	0.0	20.8	79.2	0.0	-
51M	09/29/2006	10:00	0.0	0.0	21.0	79.0	0.0	-
52M	07/03/2006	11:23	0.0	0.7	19.5	79.8		-
52M	07/06/2006	09:58	0.0	0.0	20.3	79.7		-
52M	07/14/2006	09:38	0.0	0.0	21.4	78.6	0.0	-
52M	07/21/2006	09:58	0.0	0.0	21.0	79.0	-0.7	-
52M	07/28/2006	09:26	0.0	0.0	20.9	79.1	0.0	-
52M	08/04/2006	10:35	0.0	0.0	21.2	78.8	0.0	-
52M	08/11/2006	10:54	0.0	1.7	18.6	79.7	0.0	-
52M	08/18/2006	10:05	0.0	1.7	19.0	79.3	0.0	-
52M	08/23/2006	15:35	0.1	1.5	14.0	84.4	0.0	-
52M	09/05/2006	11:33	0.6	0.0	19.4	80.0	0.0	-
52M	09/08/2006	14:41	0.0	0.0	20.4	79.6	0.0	-
52M	09/15/2006	09:45	0.0	0.0	21.1	78.9	0.0	-
52M	09/22/2006	11:00	0.2	0.6	20.2	79.0	0.0	-
52M	09/29/2006	10:01	0.1	0.3	20.6	79.0	0.0	-
53M	07/03/2006	11:26	0.0	0.6	19.6	79.8		-
53M	07/06/2006	10:03	0.0	0.0	20.2	79.8		-
53M	07/14/2006	09:40	0.0	0.7	20.4	78.9	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
53M	07/21/2006	10:00	0.0	1.2	19.6	79.2	0.0	-
53M	07/28/2006	09:29	0.0	1.1	19.7	79.2	0.0	-
53M	08/04/2006	10:37	0.0	1.3	19.8	78.9	0.0	-
53M	08/11/2006	10:57	0.0	1.2	19.1	79.7	0.0	-
53M	08/18/2006	10:07	0.0	0.0	21.0	79.0	0.0	-
53M	08/23/2006	15:39	0.0	0.3	14.2	85.5	0.0	-
53M	09/15/2006	09:48	0.0	1.9	19.0	79.1	0.0	-
53M	09/22/2006	11:02	0.0	1.8	18.7	79.5	0.0	-
53M	09/29/2006	10:04	0.0	1.7	19.0	79.3	0.0	-
54M	07/03/2006	11:32	0.0	0.3	19.8	79.9		-
54M	07/06/2006	10:04	0.0	0.0	20.2	79.8		-
54M	07/14/2006	09:42	0.0	0.0	21.1	78.9	0.0	-
54M	07/21/2006	10:03	0.0	1.7	18.8	79.5	0.0	-
54M	07/28/2006	09:31	0.0	0.0	20.8	79.2	0.0	-
54M	08/04/2006	10:40	0.0	0.0	21.0	79.0	0.0	-
54M	08/11/2006	11:01	0.0	0.1	20.3	79.6	0.0	-
54M	08/18/2006	10:08	0.0	0.0	21.0	79.0	0.0	-
54M	08/23/2006	15:40	0.2	0.0	14.5	85.3	0.0	-
54M	08/31/2006	09:45	0.0	1.1	19.4	79.5	0.0	-
54M	09/05/2006	11:47	0.1	1.8	14.0	84.1	0.0	-
54M	09/08/2006	14:45	0.0	1.9	17.2	80.9	0.0	-
54M	09/15/2006	09:52	0.0	1.3	19.1	79.6	0.0	-
54M	09/22/2006	11:04	0.0	1.5	18.2	80.3	0.0	-
54M	09/29/2006	10:08	0.0	2.0	17.9	80.1	0.0	-
55M	07/03/2006	11:34	0.0	0.3	19.8	79.9		-
55M	07/06/2006	10:06	0.0	0.0	20.3	79.7		-
55M	07/14/2006	09:43	0.0	0.0	21.4	78.6	0.0	-
55M	07/21/2006	10:04	0.0	0.0	21.0	79.0	0.0	-
55M	07/28/2006	09:36	0.0	0.0	21.0	79.0	0.0	-
55M	08/04/2006	10:41	0.0	0.0	21.1	78.9	0.0	-
55M	08/11/2006	11:03	0.0	0.3	19.9	79.8	0.0	-
55M	08/18/2006	10:12	0.0	0.5	20.3	79.2	0.0	-
55M	08/23/2006	15:42	0.1	0.0	14.5	85.4	0.0	-
55M	08/31/2006	09:48	0.0	0.5	20.1	79.4	0.0	-
55M	09/05/2006	11:50	0.0	0.0	15.1	84.9	0.0	-
55M	09/08/2006	14:46	0.0	1.9	17.1	81.0	0.0	-
55M	09/15/2006	09:55	0.0	0.4	20.4	79.2	0.0	-
55M	09/22/2006	11:06	0.0	0.0	20.7	79.3	0.0	-
55M	09/29/2006	10:11	0.0	1.2	18.8	80.0	0.0	-
56M	07/03/2006	11:36	0.0	0.9	19.3	79.8		-
56M	07/06/2006	10:08	0.0	0.0	20.2	79.8		-
56M	07/14/2006	09:45	0.0	0.0	21.4	78.6	0.1	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
56M	07/21/2006	10:05	0.0	0.0	21.0	79.0	0.0	-
56M	07/28/2006	09:52	0.0	0.6	20.1	79.3	0.0	-
56M	08/04/2006	10:43	0.0	0.0	21.2	78.8	0.0	-
56M	08/11/2006	11:07	0.0	1.2	18.9	79.9	0.0	-
56M	08/18/2006	10:15	0.0	1.3	19.3	79.4	0.0	-
56M	08/23/2006	15:43	0.1	0.0	14.5	85.4	0.0	-
56M	08/31/2006	09:50	0.0	1.2	19.4	79.4	0.0	-
56M	09/05/2006	11:53	0.1	1.0	13.0	85.9	0.0	-
56M	09/08/2006	14:49	0.1	0.0	20.3	79.6	0.0	-
56M	09/15/2006	09:57	0.0	0.7	20.1	79.2	0.0	-
56M	09/22/2006	11:09	0.0	1.6	18.3	80.1	0.0	-
56M	09/29/2006	10:13	0.0	1.1	19.1	79.8	0.0	-
57M	07/03/2006	11:38	0.0	1.8	18.5	79.7		-
57M	07/06/2006	10:10	0.0	0.0	20.1	79.9		-
57M	07/14/2006	09:46	0.0	0.0	21.2	78.8	0.0	-
57M	07/21/2006	10:09	0.1	1.4	19.4	79.1	0.0	-
57M	07/28/2006	09:56	0.0	0.6	20.1	79.3	0.0	-
57M	08/04/2006	10:45	0.0	0.0	21.0	79.0	0.0	-
57M	08/11/2006	11:10	0.0	1.4	19.1	79.5	0.0	-
57M	08/18/2006	10:18	0.0	1.4	19.5	79.1	0.0	-
57M	08/23/2006	15:44	0.0	1.6	13.1	85.3	0.0	-
57M	08/31/2006	09:55	0.0	0.8	20.0	79.2	0.0	-
57M	09/05/2006	11:55	0.0	0.9	12.9	86.2	0.0	-
57M	09/08/2006	14:50	0.0	2.1	18.1	79.8	0.0	-
57M	09/15/2006	10:00	0.0	0.0	20.9	79.1	0.0	-
57M	09/22/2006	11:11	0.0	0.9	19.6	79.5	0.0	-
57M	09/29/2006	10:16	0.0	1.1	19.3	79.6	0.0	-
58M	07/03/2006	11:41	0.0	2.1	18.1	79.8		-
58M	07/06/2006	10:12	0.0	0.4	19.4	80.2		-
58M	07/14/2006	09:49	0.0	1.0	19.8	79.2	0.0	-
58M	07/21/2006	10:15	0.0	1.8	18.6	79.6	0.0	-
58M	07/28/2006	09:59	0.0	0.7	19.8	79.5	0.0	-
58M	08/04/2006	10:49	0.0	1.0	19.9	79.1	0.0	-
58M	08/11/2006	11:13	0.0	0.8	19.4	79.8	0.0	-
58M	08/18/2006	10:21	0.0	1.1	19.6	79.3	0.0	-
58M	08/23/2006	15:47	0.1	1.4	12.9	85.6	0.0	-
58M	08/31/2006	09:57	0.0	0.8	19.8	79.4	0.0	-
58M	09/05/2006	11:58	0.1	0.2	13.2	86.5	0.0	-
58M	09/08/2006	14:53	0.0	1.7	18.1	80.2	0.0	-
58M	09/15/2006	10:02	0.0	0.0	20.8	79.2	0.0	-
58M	09/22/2006	11:13	0.0	1.2	19.4	79.4	0.0	-
58M	09/29/2006	10:18	0.0	0.3	20.2	79.5	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
59M	07/03/2006	11:42	0.0	2.2	18.1	79.7		-
59M	07/06/2006	10:15	0.0	0.0	20.1	79.9		-
59M	07/14/2006	09:52	0.0	2.0	17.9	80.1	0.0	-
59M	07/21/2006	10:18	0.1	1.2	18.9	79.8	0.0	-
59M	07/28/2006	10:03	0.0	1.0	19.2	79.8	0.0	-
59M	08/04/2006	10:53	0.0	1.4	19.1	79.5	0.0	-
59M	08/11/2006	11:16	0.0	1.2	18.6	80.2	0.0	-
59M	08/18/2006	10:24	0.1	1.5	18.7	79.7	0.0	-
59M	08/23/2006	15:49	0.0	0.9	13.0	86.1	0.0	-
59M	08/31/2006	10:00	0.0	1.4	18.9	79.7	0.0	-
59M	09/05/2006	12:01	0.1	0.3	12.9	86.7	0.0	-
59M	09/08/2006	14:57	0.0	2.1	16.6	81.3	0.0	-
59M	09/15/2006	10:06	0.0	1.1	19.6	79.3	0.0	-
59M	09/22/2006	11:15	0.0	1.2	18.8	80.0	0.0	-
59M	09/29/2006	10:20	0.0	0.8	19.4	79.8	0.0	-
60M	07/03/2006	11:44	0.0	1.9	17.7	80.4		-
60M	07/06/2006	10:19	0.0	1.1	18.6	80.3		-
60M	07/14/2006	09:55	0.0	3.4	16.3	80.3	0.0	-
60M	07/21/2006	10:20	0.0	2.1	17.9	80.0	0.0	-
60M	07/28/2006	10:06	0.0	1.9	18.2	79.9	0.0	-
60M	08/04/2006	10:55	0.0	2.4	18.0	79.6	0.0	-
60M	08/11/2006	11:18	0.0	2.9	16.6	80.5	0.0	-
60M	08/18/2006	10:27	0.0	2.3	17.8	79.9	0.0	-
60M	08/23/2006	15:51	0.0	2.8	11.3	85.9	0.0	-
60M	08/31/2006	10:02	0.0	1.9	18.3	79.8	0.0	-
60M	09/05/2006	12:04	0.1	1.6	11.8	86.5	0.0	-
60M	09/08/2006	14:59	0.0	3.9	14.4	81.7	0.0	-
60M	09/15/2006	10:11	0.0	2.8	17.2	80.0	0.0	-
60M	09/22/2006	11:17	0.0	2.2	17.8	80.0	0.0	-
60M	09/29/2006	10:23	0.0	2.2	17.8	80.0	0.0	-
61M	07/03/2006	11:47	0.0	1.5	18.6	79.9		-
61M	07/06/2006	10:22	0.0	0.7	19.0	80.3		-
61M	07/14/2006	09:58	0.0	0.4	20.2	79.4	0.0	-
61M	07/21/2006	10:23	0.1	0.0	20.5	79.4	0.0	-
61M	07/28/2006	10:10	0.0	1.3	18.8	79.9	0.0	-
61M	08/04/2006	10:59	0.0	0.0	20.8	79.2	0.0	-
61M	08/11/2006	11:22	0.0	1.0	18.8	80.2	0.0	-
61M	08/18/2006	10:30	0.0	1.3	18.9	79.8	0.0	-
61M	08/23/2006	15:54	0.1	1.1	12.9	85.9	0.0	-
61M	08/31/2006	10:05	0.0	1.2	18.8	80.0	0.0	-
61M	09/05/2006	12:06	0.1	0.7	12.1	87.1	0.0	-
61M	09/08/2006	15:02	0.0	1.8	16.7	81.5	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
61M	09/15/2006	10:15	0.0	1.5	18.0	80.5	0.0	-
61M	09/22/2006	11:19	0.0	0.0	20.7	79.3	0.0	-
61M	09/29/2006	10:27	0.0	0.9	19.1	80.0	0.0	-
62M	07/03/2006	11:48	0.0	1.7	18.3	80.0		-
62M	07/06/2006	10:24	0.0	1.0	18.5	80.5		-
62M	07/14/2006	10:00	0.0	2.3	17.5	80.2	0.0	-
62M	07/21/2006	10:25	0.1	2.3	17.3	80.3	0.0	-
62M	07/28/2006	10:12	0.0	2.5	16.9	80.6	0.0	-
62M	08/04/2006	11:01	0.0	2.6	17.5	79.9	0.0	-
62M	08/11/2006	11:24	0.0	2.5	16.5	81.0	0.0	-
62M	08/18/2006	10:32	0.0	2.7	17.1	80.2	0.0	-
62M	08/23/2006	15:56	0.1	2.4	11.6	85.9	0.0	-
62M	08/31/2006	10:08	0.0	2.7	16.7	80.6	0.0	-
62M	09/05/2006	12:09	0.1	2.6	10.2	87.1	0.0	-
62M	09/08/2006	15:05	0.0	0.6	18.7	80.7	0.0	-
62M	09/15/2006	10:17	0.0	3.4	15.8	80.8	0.0	-
62M	09/22/2006	11:21	0.0	3.2	15.9	80.9	0.0	-
62M	09/29/2006	10:29	0.0	2.2	17.6	80.2	0.0	-
63M	07/03/2006	11:50	0.0	0.4	19.4	80.2		-
63M	07/06/2006	10:27	0.0	0.5	19.1	80.4		-
63M	07/14/2006	10:03	0.0	0.8	19.4	79.8	0.0	-
63M	07/21/2006	10:29	0.1	1.1	18.9	79.9	0.0	-
63M	07/28/2006	10:14	0.0	0.3	19.8	79.9	0.0	-
63M	08/04/2006	11:03	0.0	0.4	20.3	79.3	0.0	-
63M	08/11/2006	11:27	0.0	0.7	18.7	80.6	0.0	-
63M	08/18/2006	10:35	0.0	0.5	19.9	79.6	0.0	-
63M	08/23/2006	15:59	0.0	0.9	13.0	86.1	0.0	-
63M	08/31/2006	10:10	0.0	0.9	19.1	80.0	0.0	-
63M	09/05/2006	12:31	0.2	0.1	12.5	87.2	0.0	-
63M	09/08/2006	15:08	0.0	1.0	18.0	81.0	0.0	-
63M	09/15/2006	10:22	0.0	0.5	20.1	79.4	0.0	-
63M	09/22/2006	11:23	0.0	1.8	17.5	80.7	0.0	-
63M	09/29/2006	10:31	0.0	0.5	19.5	80.0	0.0	-
64M	07/03/2006	11:52	0.0	3.1	17.8	79.1		-
64M	07/06/2006	10:30	0.0	0.0	19.7	80.3		-
64M	07/14/2006	10:05	0.0	0.0	20.6	79.4	0.0	-
64M	07/21/2006	10:31	0.5	2.2	18.6	78.7	0.0	-
64M	07/28/2006	10:17	0.2	1.4	18.9	79.5	0.0	-
64M	08/04/2006	11:08	0.1	1.6	19.4	78.9	0.0	-
64M	08/11/2006	11:29	0.1	2.0	18.2	79.7	0.0	-
64M	08/18/2006	10:38	0.4	2.3	18.5	78.8	0.0	-
64M	08/23/2006	16:01	0.3	1.8	12.9	85.0	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
64M	08/31/2006	10:13	0.0	0.0	20.2	79.8	0.0	-
64M	09/05/2006	12:14	0.2	0.0	12.7	87.1	0.0	-
64M	09/08/2006	15:11	0.0	0.0	19.6	80.4	0.0	-
64M	09/15/2006	10:26	0.1	0.8	20.1	79.0	0.0	-
64M	09/22/2006	11:25	0.1	1.0	19.6	79.3	0.0	-
64M	09/29/2006	10:34	0.0	0.5	20.0	79.5	0.0	-
65M	07/03/2006	11:56	0.0	0.7	19.3	80.0		-
65M	07/06/2006	10:36	0.0	0.1	19.4	80.5		-
65M	07/14/2006	10:08	0.1	0.0	20.6	79.3	0.0	-
65M	07/21/2006	10:36	0.1	0.4	19.7	79.8	0.0	-
65M	07/28/2006	10:34	0.0	0.2	19.6	80.2	0.1	-
65M	08/04/2006	11:12	0.0	0.3	20.1	79.6	0.0	-
65M	08/11/2006	11:34	0.0	0.4	18.9	80.7	0.0	-
65M	08/18/2006	10:44	0.0	0.3	19.9	79.8	0.0	-
65M	08/23/2006	16:05	0.1	0.4	13.3	86.2	0.0	-
65M	08/31/2006	10:18	0.0	0.5	19.5	80.0	0.0	-
65M	09/08/2006	15:12	0.0	0.0	19.8	80.2	0.0	-
65M	09/15/2006	10:29	0.0	0.5	20.3	79.2	0.0	-
65M	09/22/2006	11:28	0.0	0.0	20.7	79.3	0.0	-
65M	09/29/2006	10:46	0.0	0.1	19.8	80.1	0.0	-
66M	07/03/2006	11:58	0.0	0.3	19.7	80.0		-
66M	07/06/2006	10:38	0.0	0.0	19.6	80.4		-
66M	07/14/2006	10:11	0.1	0.0	20.6	79.3	0.0	-
66M	07/21/2006	10:38	0.1	0.0	20.5	79.4	0.0	-
66M	07/21/2006	10:38	0.1	0.0	20.5	79.4	0.0	-
66M	07/28/2006	10:36	0.0	0.0	19.9	80.1	0.1	-
66M	08/04/2006	11:13	0.0	0.0	20.7	79.3	0.0	-
66M	08/11/2006	11:36	0.0	0.0	19.3	80.7	0.0	-
66M	08/18/2006	10:47	0.0	0.0	20.5	79.5	0.0	-
66M	08/23/2006	16:07	0.1	0.0	14.1	85.8	0.0	-
66M	08/31/2006	10:20	0.0	0.0	20.3	79.7	0.0	-
66M	09/08/2006	15:15	0.0	0.0	19.7	80.3	0.0	-
66M	09/15/2006	10:31	0.0	0.0	21.0	79.0	0.0	-
66M	09/22/2006	11:29	0.0	0.0	20.8	79.2	0.0	-
66M	09/29/2006	10:48	0.0	0.0	20.6	79.4	0.0	-
67M	07/03/2006	12:00	0.0	0.5	19.6	79.9		-
67M	07/06/2006	10:40	0.0	0.0	19.8	80.2		-
67M	07/14/2006	10:13	0.1	0.0	20.6	79.3	0.0	-
67M	07/21/2006	10:43	0.2	0.2	20.0	79.6	0.0	-
67M	07/28/2006	10:39	0.0	0.0	20.1	79.9	0.0	-
67M	08/04/2006	11:15	0.0	0.0	20.8	79.2	0.0	-
67M	08/11/2006	11:38	0.0	0.0	19.3	80.7	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
67M	08/18/2006	10:48	0.0	0.0	20.7	79.3	0.0	-
67M	08/23/2006	16:13	0.0	0.0	14.2	85.8	0.0	-
67M	08/31/2006	10:24	0.1	0.0	20.5	79.4	0.0	-
67M	09/15/2006	10:32	0.1	0.0	21.0	78.9	0.0	-
67M	09/22/2006	11:32	0.0	0.0	20.7	79.3	0.0	-
67M	09/29/2006	10:51	0.0	0.0	20.1	79.9	0.0	-
68M	07/03/2006	12:01	0.0	1.0	19.1	79.9		-
68M	07/06/2006	10:41	0.0	0.0	19.8	80.2		-
68M	07/14/2006	10:18	0.1	0.0	20.6	79.3	0.0	-
68M	07/21/2006	10:45	0.3	0.1	20.4	79.2	0.0	-
68M	07/28/2006	10:40	0.0	0.0	20.2	79.8	0.0	-
68M	08/04/2006	11:17	0.0	0.0	20.9	79.1	0.0	-
68M	08/11/2006	11:40	0.0	0.0	19.2	80.8	0.0	-
68M	08/18/2006	10:50	0.1	0.0	20.9	79.0	0.0	-
68M	08/23/2006	16:14	0.0	0.0	14.2	85.8	0.0	-
68M	08/31/2006	10:25	0.0	0.0	20.6	79.4	0.0	-
68M	09/08/2006	15:18	0.0	0.0	19.7	80.3	0.0	-
68M	09/15/2006	10:34	0.0	0.0	21.1	78.9	0.0	-
68M	09/22/2006	11:35	0.0	0.0	20.7	79.3	0.0	-
68M	09/29/2006	10:52	0.0	0.0	20.5	79.5	0.0	-
69M	07/03/2006	12:03	0.0	1.1	19.0	79.9		-
69M	07/06/2006	10:43	0.0	0.6	18.8	80.6		-
69M	07/14/2006	10:21	0.1	1.0	19.0	79.9	-0.1	-
69M	07/21/2006	10:48	0.2	0.7	19.2	79.9	0.0	-
69M	07/28/2006	10:44	0.0	0.7	18.8	80.5	0.0	-
69M	08/04/2006	11:21	0.0	0.8	19.6	79.6	0.0	-
69M	08/11/2006	11:45	0.0	0.8	17.0	82.2	0.0	-
69M	08/18/2006	10:52	0.0	0.9	19.3	79.8	0.0	-
69M	08/24/2006	08:30	0.0	1.1	19.5	79.4	0.0	-
69M	08/31/2006	10:28	0.0	0.7	19.4	79.9	0.0	-
69M	09/08/2006	15:21	0.0	0.6	18.7	80.7	0.0	-
69M	09/15/2006	10:36	0.0	0.8	19.9	79.3	0.0	-
69M	09/22/2006	11:37	0.0	0.0	20.8	79.2	0.0	-
69M	09/29/2006	10:56	0.0	0.7	19.2	80.1	0.0	-
70M	07/03/2006	12:06	0.0	1.2	18.8	80.0		-
70M	07/06/2006	10:46	0.0	0.0	19.8	80.2		-
70M	07/14/2006	10:23	0.1	1.5	18.8	79.6	0.0	-
70M	07/21/2006	10:52	0.3	1.7	18.4	79.6	0.0	-
70M	07/28/2006	10:47	0.0	1.5	17.9	80.6	0.0	-
70M	08/04/2006	11:23	0.0	1.5	18.8	79.7	0.0	-
70M	08/11/2006	11:48	0.0	1.5	16.2	82.3	0.0	-
70M	08/18/2006	10:55	0.0	1.3	18.9	79.8	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
70M	08/24/2006	08:32	0.0	1.9	18.6	79.5	0.0	-
70M	08/31/2006	10:31	0.0	1.7	18.2	80.1	0.0	-
70M	09/08/2006	15:23	0.0	1.1	18.3	80.6	0.0	-
70M	09/15/2006	10:39	0.0	1.5	19.1	79.4	0.0	-
70M	09/22/2006	11:39	0.0	1.3	18.9	79.8	0.0	-
70M	09/29/2006	10:58	0.0	1.2	18.6	80.2	0.0	-
71M	07/03/2006	12:08	0.0	0.3	19.8	79.9		-
71M	07/06/2006	10:48	0.0	0.0	19.8	80.2		-
71M	07/06/2006	10:48	0.0	0.0	19.9	80.1		-
71M	07/14/2006	10:26	0.1	0.0	21.0	78.9	0.0	-
71M	07/21/2006	10:57	0.2	0.0	20.8	79.0	0.0	-
71M	07/28/2006	10:51	0.0	0.0	19.9	80.1	0.0	-
71M	08/04/2006	11:27	0.0	0.0	20.8	79.2	0.0	-
71M	08/11/2006	11:52	0.0	0.0	17.2	82.8	0.0	-
71M	08/18/2006	10:59	0.0	0.0	20.5	79.5	0.0	-
71M	08/24/2006	08:35	0.0	0.0	20.7	79.3	0.0	-
71M	08/31/2006	10:34	0.0	0.0	20.3	79.7	0.0	-
71M	09/08/2006	15:25	0.0	0.0	19.9	80.1	0.0	-
71M	09/15/2006	10:43	0.0	0.0	21.0	79.0	0.0	-
71M	09/22/2006	11:41	0.0	0.0	20.8	79.2	0.0	-
71M	09/29/2006	11:02	0.0	0.0	20.1	79.9	0.0	-
72M	07/03/2006	12:11	0.0	0.2	19.7	80.1		-
72M	07/06/2006	10:51	0.0	1.1	18.2	80.7		-
72M	07/14/2006	10:29	0.1	2.6	17.7	79.6	0.0	-
72M	07/21/2006	11:00	0.3	3.2	16.6	79.9	0.0	-
72M	07/28/2006	10:55	0.0	1.3	18.2	80.5	0.0	-
72M	08/04/2006	11:31	0.0	2.1	17.9	80.0	0.0	-
72M	08/11/2006	11:55	0.0	2.6	14.0	83.4	0.0	-
72M	08/18/2006	11:01	0.0	1.5	18.5	80.0	0.0	-
72M	08/24/2006	08:39	0.0	3.3	17.1	79.6	0.0	-
72M	08/31/2006	10:38	0.0	2.8	17.0	80.2	0.0	-
72M	09/08/2006	15:26	0.0	0.0	19.9	80.1	0.0	-
72M	09/15/2006	10:47	0.0	2.9	18.0	79.1	0.0	-
72M	09/15/2006	10:48	0.0	2.9	18.0	79.1	0.0	-
72M	09/22/2006	11:42	0.0	0.0	20.8	79.2	0.0	-
72M	09/29/2006	11:04	0.0	3.7	15.5	80.8	0.0	-
73M	07/03/2006	12:13	0.0	0.3	19.7	80.0		-
73M	07/06/2006	10:52	0.0	0.0	19.8	80.2		-
73M	07/14/2006	10:31	0.1	0.0	20.8	79.1	0.0	-
73M	07/21/2006	11:02	0.2	0.0	20.9	78.9	0.0	-
73M	07/21/2006	11:02	0.2	0.0	20.9	78.9	0.0	-
73M	07/28/2006	10:58	0.0	0.0	19.5	80.5	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
73M	08/04/2006	11:33	0.0	0.0	20.6	79.4	0.0	-
73M	08/11/2006	11:57	0.0	0.0	16.7	83.3	0.0	-
73M	08/18/2006	11:03	0.0	0.0	20.9	79.1	0.0	-
73M	08/24/2006	08:42	0.0	0.1	20.3	79.6	0.0	-
73M	08/31/2006	10:40	0.0	0.0	20.1	79.9	0.0	-
73M	09/08/2006	15:27	0.0	0.0	19.9	80.1	0.0	-
73M	09/15/2006	10:51	0.0	0.0	20.8	79.2	0.0	-
73M	09/22/2006	11:44	0.0	0.1	20.2	79.7	0.0	-
73M	09/29/2006	11:06	0.0	0.1	19.7	80.2	0.0	-
74M	07/03/2006	12:16	0.0	0.8	19.3	79.9		-
74M	07/06/2006	10:55	0.0	0.0	19.9	80.1		-
74M	07/14/2006	10:32	0.2	0.0	21.2	78.6	0.0	-
74M	07/21/2006	11:05	0.2	0.0	20.9	78.9	0.0	-
74M	07/28/2006	10:59	0.0	0.0	19.6	80.4	0.0	-
74M	08/04/2006	11:35	0.0	0.0	20.8	79.2	0.0	-
74M	08/11/2006	12:00	0.0	0.0	16.6	83.4	0.0	-
74M	08/18/2006	11:04	0.0	0.0	20.8	79.2	0.0	-
74M	08/24/2006	08:44	0.0	0.0	20.5	79.5	0.0	-
74M	08/31/2006	10:45	0.0	0.0	20.2	79.8	0.0	-
74M	09/08/2006	15:28	0.0	0.0	20.1	79.9	0.0	-
74M	09/15/2006	10:54	0.0	0.0	20.9	79.1	0.0	-
74M	09/22/2006	11:47	0.0	0.3	20.4	79.3	0.0	-
74M	09/29/2006	11:09	0.0	0.0	19.9	80.1	0.0	-
75M	07/03/2006	12:18	0.0	0.5	19.6	79.9		-
75M	07/06/2006	10:57	0.0	0.0	19.9	80.1		-
75M	07/14/2006	10:34	0.2	0.0	21.1	78.7	0.0	-
75M	07/21/2006	11:07	0.4	0.0	21.0	78.6	0.0	-
75M	07/21/2006	11:07	0.4	0.0	21.0	78.6	0.0	-
75M	07/28/2006	11:01	0.0	0.0	19.6	80.4	0.0	-
75M	08/04/2006	11:37	0.0	0.0	20.8	79.2	0.0	-
75M	08/11/2006	12:03	0.0	0.0	16.5	83.5	0.0	-
75M	08/18/2006	11:06	0.0	0.0	20.7	79.3	0.0	-
75M	08/24/2006	08:48	0.0	0.0	20.5	79.5	0.0	-
75M	08/31/2006	10:48	0.0	0.0	20.5	79.5	0.0	-
75M	09/08/2006	15:30	0.0	0.0	19.9	80.1	0.0	-
75M	09/15/2006	11:03	0.3	0.0	21.0	78.7	0.0	-
75M	09/22/2006	11:49	0.0	0.0	20.8	79.2	0.0	-
75M	09/29/2006	11:11	0.4	0.0	19.9	79.7	0.0	-
76M	07/03/2006	12:21	0.0	0.3	19.7	80.0		-
76M	07/06/2006	11:00	0.0	0.0	20.0	80.0		-
76M	07/06/2006	11:01	0.0	0.0	20.0	80.0		-
76M	07/14/2006	10:37	0.1	0.0	21.1	78.8	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
76M	07/21/2006	11:11	0.3	0.0	21.0	78.7	0.0	-
76M	07/28/2006	11:05	0.0	0.0	19.3	80.7	0.0	-
76M	08/04/2006	11:40	0.0	0.0	20.8	79.2	0.0	-
76M	08/11/2006	12:09	0.0	0.0	15.9	84.1	0.0	-
76M	08/18/2006	11:09	0.0	0.0	20.7	79.3	0.0	-
76M	08/24/2006	08:51	0.0	0.0	20.5	79.5	0.0	-
76M	08/31/2006	10:52	0.1	0.0	20.5	79.4	0.0	-
76M	09/08/2006	15:32	0.0	0.0	20.0	80.0	0.0	-
76M	09/15/2006	11:05	0.2	0.0	21.0	78.8	0.0	-
76M	09/22/2006	11:51	0.0	0.0	20.9	79.1	0.0	-
76M	09/29/2006	11:14	0.0	0.0	20.0	80.0	0.0	-
77M	07/03/2006	12:24	0.0	0.4	19.6	80.0		-
77M	07/06/2006	11:04	0.0	0.0	17.7	82.3		-
77M	07/14/2006	10:40	0.1	0.0	21.0	78.9	0.0	-
77M	07/21/2006	11:16	0.3	0.0	20.9	78.8	0.0	-
77M	07/28/2006	11:09	0.0	0.0	18.9	81.1	0.0	-
77M	08/04/2006	11:43	0.0	0.0	20.5	79.5	0.0	-
77M	08/11/2006	12:12	0.0	0.0	15.5	84.5	0.0	-
77M	08/18/2006	11:11	0.0	0.0	20.4	79.6	0.0	-
77M	08/24/2006	08:53	0.0	0.0	20.5	79.5	0.0	-
77M	08/31/2006	10:55	0.0	0.0	20.3	79.7	0.0	-
77M	09/08/2006	15:35	0.0	0.0	20.0	80.0	0.0	-
77M	09/15/2006	11:09	0.1	0.0	20.9	79.0	0.0	-
77M	09/22/2006	11:54	0.0	0.0	20.9	79.1	0.0	-
77M	09/29/2006	11:17	0.0	0.0	19.4	80.6	0.0	-
78M	07/03/2006	12:38	0.0	5.5	12.9	81.6		-
78M	07/06/2006	11:06	0.0	0.4	19.3	80.3		-
78M	07/14/2006	10:44	0.2	9.6	10.8	79.4	0.0	-
78M	07/21/2006	11:20	0.3	10.2	10.0	79.5	0.0	-
78M	07/28/2006	11:12	0.0	8.1	9.8	82.1	0.0	-
78M	08/04/2006	11:46	0.0	8.5	12.1	79.4	0.0	-
78M	08/11/2006	12:16	0.0	9.5	7.6	82.9	0.1	-
78M	08/18/2006	11:14	0.0	6.7	13.7	79.6	0.0	-
78M	08/18/2006	11:14	0.0	6.7	13.7	79.6	0.0	-
78M	08/24/2006	08:56	0.0	11.0	9.2	79.8	0.0	-
78M	08/31/2006	10:58	0.0	10.5	9.4	80.1	0.0	-
78M	09/08/2006	15:37	0.0	4.9	15.0	80.1	0.0	-
78M	09/15/2006	11:12	0.0	10.6	9.8	79.6	0.0	-
78M	09/22/2006	11:57	0.0	11.5	8.3	80.2	0.0	-
78M	09/29/2006	11:21	0.0	9.8	9.3	80.9	0.0	-
79M	07/03/2006	12:40	0.0	7.6	10.7	81.7		-
79M	07/06/2006	11:11	0.0	12.2	7.5	80.3		-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
79M	07/14/2006	10:48	0.1	10.3	9.6	80.0	0.0	-
79M	07/21/2006	11:23	0.3	10.8	8.5	80.4	0.0	-
79M	07/28/2006	11:17	0.0	16.0	3.2	80.8	0.0	-
79M	08/04/2006	11:49	0.0	11.1	8.3	80.6	0.0	-
79M	08/11/2006	12:20	0.0	9.7	6.9	83.4	0.0	-
79M	08/11/2006	12:21	0.0	9.7	6.9	83.4	0.0	-
79M	08/18/2006	11:18	0.0	12.6	6.8	80.6	0.0	-
79M	08/24/2006	08:59	0.0	13.6	6.5	79.9	0.0	-
79M	08/31/2006	11:01	0.0	12.3	6.9	80.8	0.0	-
79M	09/08/2006	15:40	0.0	14.4	4.8	80.8	0.0	-
79M	09/15/2006	11:15	0.0	9.9	9.8	80.3	0.0	-
79M	09/22/2006	12:00	0.0	14.9	5.3	79.8	0.0	-
79M	09/29/2006	11:24	0.0	6.0	13.0	81.0	0.0	-
80M	07/03/2006	12:43	0.0	2.4	16.7	80.9		-
80M	07/03/2006	12:43	0.0	2.4	16.7	80.9		-
80M	07/06/2006	11:13	0.0	0.0	19.7	80.3		-
80M	07/14/2006	10:50	0.2	0.0	21.1	78.7	0.0	-
80M	07/21/2006	11:25	0.2	0.0	21.1	78.7	0.0	-
80M	07/28/2006	11:19	0.0	0.0	16.6	83.4	0.0	-
80M	08/04/2006	11:52	0.0	0.0	21.0	79.0	0.0	-
80M	08/11/2006	12:22	0.0	0.0	15.0	85.0	0.0	-
80M	08/18/2006	11:19	0.0	0.0	20.5	79.5	0.0	-
80M	08/24/2006	09:01	0.0	0.0	20.5	79.5	0.0	-
80M	08/31/2006	11:05	0.0	0.0	20.2	79.8	0.0	-
80M	09/08/2006	15:43	0.0	0.0	20.0	80.0	0.0	-
80M	09/15/2006	11:18	0.0	0.0	21.0	79.0	0.0	-
80M	09/22/2006	12:03	0.0	0.0	21.0	79.0	0.0	-
80M	09/29/2006	11:29	0.0	0.0	19.3	80.7	0.0	-
81M	07/03/2006	12:46	0.0	0.2	19.7	80.1		-
81M	07/06/2006	11:23	0.0	0.0	19.8	80.2		-
81M	07/14/2006	10:53	0.2	0.0	21.0	78.8	0.0	-
81M	07/21/2006	11:30	0.3	0.0	20.9	78.8	0.0	-
81M	07/28/2006	11:24	0.0	0.0	16.5	83.5	0.0	-
81M	08/04/2006	11:54	0.0	0.0	20.8	79.2	0.0	-
81M	08/11/2006	12:24	0.0	0.0	15.2	84.8	0.0	-
81M	08/18/2006	11:24	0.0	0.0	20.7	79.3	0.0	-
81M	08/24/2006	09:02	0.0	0.0	20.6	79.4	0.0	-
81M	08/31/2006	11:08	0.0	0.0	20.2	79.8	0.0	-
81M	09/08/2006	15:44	0.0	0.0	20.3	79.7	0.0	-
81M	09/15/2006	11:26	0.0	0.0	20.7	79.3	0.0	-
81M	09/22/2006	12:09	0.0	0.0	20.8	79.2	0.0	-
81M	09/29/2006	11:35	0.0	0.0	19.6	80.4	0.0	-

Hewitt Pit Probe Monitoring Data - 7/01/2006 through 9/30/2006

Name	Date	Time	Methane (% by vol)	Carbon Dioxide (% by vol)	Oxygen (% by vol)	Balance Gas (% by vol)	Static Press (Inch H2O)	Comments
FLARE	07/03/2006	12:58	18.9	24.7	3.3	53.1		-
FLARE	07/06/2006	11:30	21.7	24.8	5.0	48.5		-
FLARE	07/14/2006	11:07	26.4	24.0	4.7	44.9	15.7	-
FLARE	07/21/2006	11:42	27.1	24.0	4.9	44.0	15.6	-
FLARE	07/28/2006	11:43	22.5	23.4	2.9	51.2	15.4	-
FLARE	08/04/2006	12:07	22.2	23.5	4.5	49.8	15.6	-
FLARE	08/11/2006	12:32	21.0	22.8	3.3	52.9	16.2	-
FLARE	08/18/2006	11:31	22.6	22.6	4.8	50.0	15.8	-
FLARE	08/24/2006	09:18	22.8	22.8	4.7	49.7	16.0	-
FLARE	08/31/2006	11:13	22.6	22.9	5.0	49.5	16.1	-
FLARE	09/08/2006	15:51	22.5	23.6	4.4	49.5	15.5	-
FLARE	09/15/2006	11:53	23.3	24.0	4.6	48.1	15.4	-
FLARE	09/22/2006	12:14	20.8	21.5	5.3	52.4	19.1	-
FLARE	09/29/2006	11:41	20.6	21.6	5.2	52.6	18.3	-

Attachment 2

PROBE IDENTIFICATION TABLE

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HEWITT PIT LANDFILL

PROBE ID# CROSS REFERENCE LIST

Datafield Software Probe ID#	Hewitt Pit Monitoring Probe ID#		Datafield Software Probe ID#	Hewitt Pit Monitoring Probe ID#
01M	1		42M	6C'
02M	1A		43M	7B'
03M	2		44M	7C'
04M	2A		45M	18B
05M	3B		46M	8B
06M	4		47M	8C'
07M	4A		48M	19
08M	5		49M	20
09M	5A		50M	20A
10M	6B		51M	22
11M	6C		52M	22A
12M	6D		53M	23
13M	7		54M	24
14M	7A		55M	24A
15M	8A		56M	25
16M	9		57M	25A
17M	10		58M	26
18M	10A		59M	26A
19M	11B		60M	26B
20M	12B		61M	27
21M	13B		62M	27A
22M	13D		63M	28
23M	13C		64M	30A
24M	1B'		65M	31
25M	1C'		66M	31A
26M	13X		67M	32
27M	14B		68M	32A
28M	14C		69M	33
29M	2B'		70M	34
30M	2C'		71M	35
31M	15A		72M	36B
32M	3B'		73M	37
33M	3C'		74M	38
34M	4B'		75M	39
35M	4C'		76M	40
36M	16A		77M	41
37M	5B'		78M	42
38M	5C'		79M	43
39M	16X		80M	45
40M	17A		81M	46
41M	6A'			

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Attachment 3

TOXIC AIR CONTAMINANTS (TAC) LABORATORY RESULTS

Probe 3B (05M) – August 23, 2006

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August 30, 2006 LTR/290/06

Brian Millage
GC Environmental
1230 N. Jefferson, Ste. J
Anaheim, CA 92807

re: Hewitt Pit

Dear Brian:

Please find enclosed the laboratory analysis reports, quality assurance summaries, and the original chain of custody forms for two Tedlar bag samples received August 23, 2006.

The Tedlar bag samples were analyzed for SCAQMD 1150.1 / TO-14 components, permanent gases, and total gaseous non-methane organics (TGNMO) as requested on the chain of custody form.

Sincerely,

AtmAA, Inc.

Michael L. Porter
Laboratory Director

Encl.
MLP/bwf

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LABORATORY ANALYSIS REPORT

SCAQMD Rule 1150.1 Components Analysis in Tedlar Bag Sample

Report Date: August 30, 2006
Client: GC Environmental
Project Location: Hewitt Pit Landfill
Client Project No.: 1003-9
Date Received: August 23, 2006
Date Analyzed: August 24 & 25, 2006

AtmAA Lab No.:	02356-17
Sample I.D.:	Probe 3B
Components	*(Concentration in %,v)*
Nitrogen	74.2
Oxygen	17.8
Methane	2.10
Carbon dioxide	3.80
	(Concentration in ppmv)
TGNMO	16.7
Hydrogen sulfide	<0.5
	(Concentration in ppbv)
Benzene	<20
Benzylchloride	<40
Chlorobenzene	<30
Dichlorobenzenes*	<30
1,1-dichloroethane	<30
1,2-dichloroethane	<20
1,1-dichloroethylene	<30
Dichloromethane	<30
1,2-dibromoethane	<30
Perchloroethylene	<20
Carbon tetrachloride	<30
Toluene	<20
1,1,1-trichloroethane	<20
Trichloroethene	<20
Chloroform	<20
Vinyl chloride	<30
m+p-xylenes	<30
o-xylene	<20

The accuracy of permanent gas analysis by TCD/GC is +/- 2%, actual results are reported.
The reported oxygen concentration includes any argon present in the sample. Calibration is based on a standard atmosphere containing 20.95% oxygen and 0.93% argon.
TGNMO is total gaseous non-methane organics measured and reported as ppm methane.
** total amount containing meta, para, and ortho isomers*

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)

Project Location: Hewitt Pit Landfill
Date Received: August 23, 2006
Date Analyzed: August 24 & 25, 2006

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in %,v)			
Nitrogen	Probe 3B	74.2	74.1	74.2	0.067
Oxygen	Probe 3B	17.6	17.9	17.8	0.84
Methane	Probe 3B	2.10	2.10	2.10	0.0
Carbon dioxide	Probe 3B	3.79	3.80	3.80	0.13
		(Concentration in ppmv)			
TGNMO	No Repeat				
Hydrogen sulfide	Probe 3B	<0.5	<0.5	---	---
		(Concentration in ppbv)			
Benzene	Probe 3B	<20	<20	---	---
Benzylchloride	Probe 3B	<40	<40	---	---
Chlorobenzene	Probe 3B	<30	<30	---	---
Dichlorobenzenes	Probe 3B	<30	<30	---	---
1,1-dichloroethane	Probe 3B	<30	<30	---	---
1,2-dichloroethane	Probe 3B	<20	<20	---	---
1,1-dichloroethylene	Probe 3B	<30	<30	---	---
Dichloromethane	Probe 3B	<30	<30	---	---
1,2-dibromoethane	Probe 3B	<30	<30	---	---
Perchloroethylene	Probe 3B	<20	<20	---	---
Carbon tetrachloride	Probe 3B	<30	<30	---	---
Toluene	Probe 3B	<20	<20	---	---
1,1,1-trichloroethane	Probe 3B	<20	<20	---	---

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)
(continued)

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
Trichloroethene	Probe 3B	<20	<20	---	---
Chloroform	Probe 3B	<20	<20	---	---
Vinyl chloride	Probe 3B	<30	<30	---	---
m+p-xylenes	Probe 3B	<30	<30	---	---
o-xylene	Probe 3B	<20	<20	---	---

One Tedlar bag sample, laboratory number 02356-17, was analyzed for SCAQMD Rule 1150.1 components, permanent gases, and total gaseous non-methane organics (TGNMO). Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % Difference from Mean for 4 repeat measurements from one Tedlar bag samples is 0.26%.

Attachment 4

LABORATORY RESULTS FOR TOCs and TACs in MAIN GAS HEADER INLET

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LABORATORY ANALYSIS REPORT

Permanent Gases and Total Gaseous Non- Methane Organics (TGNMO)
Analysis in Landfill Gas Tedlar Bag Sample

Report Date: August 30, 2006
Client: GC Environmental
Project Location: Hewitt Pit Landfill
Client Project No.: 1003-9
Date Received: August 23, 2006
Date Analyzed: August 24 & 25, 2006

ANALYSIS DESCRIPTION

Permanent gases were measured by thermal conductivity detection/gas chromatography (TCD/GC). Total gaseous non-methane organics (TGNMO) was measured by flame ionization detection/total combustion analysis (FID/TCA), EPA Method 25.

AtmAA Lab No.:	02356-18
Sample I.D.:	HP-Inlet

Components	*(Concentration in %,v)*
Nitrogen	47.2
Oxygen	5.71
Methane	23.4
Carbon dioxide	22.5
	(Concentration in ppmv)
TGNMO	467

The reported oxygen concentration includes any argon present in the sample. Calibration is based on a standard atmosphere containing 20.95% oxygen and 0.93% argon.
The accuracy of permanent gas analysis by TCD/GC is +/- 2%, actual results are reported.
TGNMO is total gaseous non-methane organics measured and reported as ppm methane.

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)

Project Location: Hewitt Pit Landfill
Date Received: August 23, 2006
Date Analyzed: August 24 & 25, 2006

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in %,v)			
Nitrogen	HP-Inlet	47.1	47.3	47.2	0.21
Oxygen	HP-Inlet	5.71	5.71	5.71	0.0
Methane	HP-Inlet	23.4	23.4	23.4	0.0
Carbon dioxide	HP-Inlet	22.5	22.5	22.5	0.0
		(Concentration in ppmv)			
TGNMO	HP-Inlet	463	471	467	0.86

One Tedlar bag sample, laboratory number 02356-18, was analyzed for permanent gases and TGNMO. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % Difference from Mean for 5 repeat measurements from one Tedlar bag sample is 0.21%.

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LABORATORY ANALYSIS REPORT

TO-14 Component Analysis in Landfill Gas Tedlar Bag Sample, by GC/MS

Report Date: August 30, 2006
Client: GC Environmental
Project Location: Hewitt Pit Landfill
Client Project No.: 1003-9
Date Received: August 23, 2006
Date Analyzed: August 25, 2006

AtmAA Lab No.:	02356-18
Sample ID:	HP-Inlet
Components	*(Concentations in ppbv)*
Freon-12	143
Methyl chloride	<40
Freon-114	52.4
Vinyl chloride	440
Methyl bromide	<40
Ethyl chloride	<30
Freon-11	<30
1,1-dichloroethylene	<30
Dichloromethane	<30
Freon-113	<30
1,1-dichloroethane	<30
c-1,2-dichloroethene	103
Chloroform	<20
1,2-dichloroethane	<20
1,1,1-trichloroethane	<20
Benzene	202
Carbon tetrachloride	<30
1,2-dichloropropane	<30
Trichloroethene	<20
t-1,3-dichloropropene	<30
c-1,3-dichloropropene	<30
1,1,2-trichloroethane	<30
Toluene	244
1,2-dibromoethane	<30
Perchloroethylene	<20
Chlorobenzene	50
Ethylbenzene	543
m+p-xylenes	348
Styrene	<30
1,1,2,2-tetrachloroethane	<30
o-xylene	180
4-ethyl-toluene	116
1,3,5-trimethylbenzene	60.9
1,2,4-trimethylbenzene	189
m-dichlorobenzene	<20
p-dichlorobenzene	68.2
Benzylchloride	<40
o-dichlorobenzene	<20
1,2,4-trichlorobenzene	<60
Hexachlorobutadiene	<50

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)

Project Location: Hewitt Pit Landfill
Date Received: August 23, 2006
Date Analyzed: August 25, 2006

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
Freon-12	HP-Inlet	144	142	143	0.70
Methyl chloride	HP-Inlet	<40	<40	---	---
Freon-114	HP-Inlet	53.2	51.6	52.4	1.5
Vinyl chloride	HP-Inlet	441	440	440	0.11
Methyl bromide	HP-Inlet	<40	<40	---	---
Ethyl chloride	HP-Inlet	<30	<30	---	---
Freon-11	HP-Inlet	<30	<30	---	---
1,1-dichloroethylene	HP-Inlet	<30	<30	---	---
Dichloromethane	HP-Inlet	<30	<30	---	---
Freon-113	HP-Inlet	<30	<30	---	---
1,1-dichloroethane	HP-Inlet	<30	<30	---	---
c-1,2-dichloroethene	HP-Inlet	105	101	103	1.9
Chloroform	HP-Inlet	<20	<20	---	---
1,2-dichloroethane	HP-Inlet	<20	<20	---	---
1,1,1-trichloroethane	HP-Inlet	<20	<20	---	---
Benzene	HP-Inlet	202	203	202	0.25
Carbon tetrachloride	HP-Inlet	<30	<30	---	---
1,2-dichloropropane	HP-Inlet	<30	<30	---	---
Trichloroethene	HP-Inlet	<20	<20	---	---
t-1,3-dichloropropene	HP-Inlet	<30	<30	---	---
c-1,3-dichloropropene	HP-Inlet	<30	<30	---	---

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)
(continued)

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
1,1,2-trichloroethane	HP-Inlet	<30	<30	---	---
Toluene	HP-Inlet	247	240	244	1.4
1,2-dibromoethane	HP-Inlet	<30	<30	---	---
Perchloroethylene	HP-Inlet	<20	<20	---	---
Chlorobenzene	HP-Inlet	50.0	49.9	50.0	0.10
Ethylbenzene	HP-Inlet	563	523	543	3.7
m+p-xylenes	HP-Inlet	355	340	348	2.2
Styrene	HP-Inlet	<30	<30	---	---
1,1,2,2-tetrachloroethane	HP-Inlet	<30	<30	---	---
o-xylene	HP-Inlet	188	172	180	4.4
4-ethyl-toluene	HP-Inlet	123	109	116	6.0
1,3,5-trimethylbenzene	HP-Inlet	65.2	56.6	60.9	7.1
1,2,4-trimethylbenzene	HP-Inlet	203	175	189	7.4
m-dichlorobenzene	HP-Inlet	<20	<20	---	---
p-dichlorobenzene	HP-Inlet	71.7	64.6	68.2	5.2
Benzylchloride	HP-Inlet	<40	<40	---	---
o-dichlorobenzene	HP-Inlet	<20	<20	---	---
1,2,4-trichlorobenzene	HP-Inlet	<60	<60	---	---
Hexachlorobutadiene	HP-Inlet	<50	<50	---	---

One Tedlar bag sample, laboratory number 02356-18, was analyzed for listed TO-14 components by GC/MS. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % Difference from Mean for 14 repeat measurements from the one Tedlar bag sample is 3.0%.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES
GC Environmental/Hewitt Pit LF	Hewitt Pit Landfill North Hollywood, CA	
Project No. 1003-9	Field Logbook No.	
Sampler: (Signature) Jerry Ren	Chain of Custody Tape No.	

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	1150.1 LIST	Permanent Gases	TGNMO	TO-14	Fixed Gases		REMARKS
Prob 3B	8/23/06	10:15 AM	02356-17	GAS	X	X	X				
HP-INLET	8/23/06	3:00 pm	18	GAS			X	X	X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
(Jerry Ren)	8/23/06	3:15 pm		8/23/06	3:15 pm
	8/23/06	1630			

Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
				8-23-06	4:00

Sample Disposal Method:	Disposed of by: (Signature)	Date	Time

SAMPLE COLLECTOR	ANALYTICAL LABORATORY	
~~HORIZON AIR MEASUREMENT SERVICES, INC~~ ~~996 Lawrence Drive, Suite 108~~ ~~Newbury Park, CA 91320~~ ~~(805) 498-8781 Fax (805) 498-3173~~ GC Environmental 1230 N. Jefferson St. Suite J Anaheim, CA 92807 Tel = (714) 652-9969	AtmAA. INC. Calabasas, CA.	№ 8832

Attachment 5

ANNUAL SOURCE TEST REPORT

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HORIZON

AIR MEASUREMENT SERVICES, INC.

Horizon Test #: G21-010-FR
Date Tested: August 16, 2006
Report Date: September 21, 2006
Revision Number: 0

ANNUAL EMISSION COMPLIANCE TEST ON A LANDFILL GAS FLARE

Hewitt Landfill
Facility ID No. 3530 Sector PB
Application No. D96633

Prepared for:

GC Environmental
1230 North Jefferson Street, Suite J
Anaheim, California 92807

Facility:

Hewitt Landfill
7245 Laurel Canyon Boulevard
North Hollywood, California 91605

Prepared by:

Horizon Air Measurement Services, Inc.
996 Lawrence Drive, Suite 108
Newbury Park, California 91320

Regulatory Agency:

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 91765

Scott H. Burch
Sr. Project Manager

Richard J. Vacherot
Technical Director

HORIZON
AIR MEASUREMENT SERVICES, INC.

September 21, 2006

Dr. Jerry Ren
GC Environmental
1230 N. Jefferson Street, Suite J
Anaheim, California 92807

Dear Dr. Ren:

Please find enclosed three copies of the final report entitled "Emission Compliance Test on a Landfill Gas Flare."

If you have any questions, please call me at (805) 498-8781.

Sincerely,

HORIZON AIR MEASUREMENT SERVICES, INC.

Scott H. Bunch
Sr. Project Manager

SB:ng

996 LAWRENCE DR., SUITE 100, NEWBURY PARK, CALIFORNIA 91320 • (805) 498-8781 • FAX (805) 498-3773

TABLE OF CONTENTS

1. INTRODUCTION ..... Page 1

2. SUMMARY OF RESULTS ..... Page 3

3. FLARE DESCRIPTION AND OPERATION ..... Page 5
   - 3.1 Process Description ..... Page 5
   - 3.2 Equipment Description ..... Page 5
   - 3.3 Operating Conditions ..... Page 5

4. SAMPLING/ANALYSES ..... Page 6
   - 4.1 Sample Location ..... Page 6
   - 4.1.1 Flare Exhaust ..... Page 6
   - 4.1.2 Landfill Gas Supply Line ..... Page 6
   - 4.2 Moisture (Inlet/Outlet) ..... Page 7
   - 4.3 Flow Rate (Inlet/Outlet) ..... Page 7
   - 4.4 Particulate Matter (Outlet Only) ..... Page 7
   - 4.5 Oxides of Nitrogen, Carbon Monoxide, Carbon Dioxide and Oxygen (Exhaust Only) ..... Page 7
   - 4.6 Carbon Monoxide, Carbon Dioxide, Oxygen and Nitrogen (Inlet) ..... Page 8
   - 4.7 Hydrogen sulfide and C_1 - C_3 Sulfur Compounds (Inlet) ..... Page 8
   - 4.8 Speciated Organic Compounds - SCAQMD Rule 1150.1 List (Inlet/Exhaust) ..... Page 8
   - 4.9 Total Non-Methane Hydrocarbons, Methane (Inlet) ..... Page 8
   - 4.10 Total Non Methane Hydrocarbons and Methane (Exhaust) ..... Page 9

5. RESULTS DISCUSSION ..... Page 10

APPENDIX A - Methods Description
APPENDIX B - Computer Printout of Results
APPENDIX C - Laboratory Data
APPENDIX D - Field Data
APPENDIX E - CEM Strip Charts
APPENDIX F - Process Data
APPENDIX G - Calibration Data
APPENDIX H - Permit to Operate

1. INTRODUCTION

At the request of GC Environmental, Inc., Horizon Air Measurement Services, Inc. (Horizon) conducted a source test on a landfill gas flare (Facility No. 3530 Sector PB - Application No. D96633) at the Hewitt Landfill located in North Hollywood, California. The test was conducted on the inlet and outlet of the flare controlling emissions from a landfill gas collection system. Flare operation was the responsibility of the on-site staff. The compounds of interest, associated test methods and applicable sample locations of the subject program are provided in Table 1-1.

Mr. Scott H. Bunch and Mr. Travis L. Williams of Horizon conducted the source test on August 23, 2006. Dr. Jerry Ren of GC Environmental coordinated the testing.

A summary of results are provided in Section 2. A brief description of the flare and flare operating conditions during the test program is provided in Section 3. A summary of sampling/analytical techniques utilized is provided in Section 4. More detailed results, including speciated organic compound destruction efficiencies are provided in section 5. All pertinent documentation can be found in the appendices.

Table 1-1
Compounds of Interest
Hewitt Landfill Flare
August 2006

Parameter	Location	Method	No. of Test Runs per Condition
Total Non Methane Hydrocarbons	Inlet	SCAQMD Method 25.1	1 (in duplicate)
	Outlet	SCAQMD Method 25.3	1 (in duplicate)
Reduced Sulfur Compounds (C_1-C_3) Including H_2S	Inlet	SCAQMD Method 307.91	1
Speciated Organic Compounds	Inlet	Whole Air/GC-MS (1150 list)	1
	Outlet	Whole Air/GC-MS (1150 list)	1
Particulate Matter	Outlet	SCAQMD Method 5.1	1
Oxides of Nitrogen	Outlet	SCAQMD Method 100.1	1
Carbon Monoxide	Inlet	SCAQMD Method 25.1	1 (in duplicate)
	Outlet	SCAQMD Method 100.1	1
Oxygen	Inlet	SCAQMD Method 10.1	1 (in duplicate)
	Outlet	SCAQMD Method 100.1	1
Carbon Dioxide	Inlet	SCAQMD Method 25.1	1 (in duplicate)
	Outlet	SCAQMD Method 100.1	1
Methane	Inlet	SCAQMD Method 25.1	1 (in duplicate)
	Outlet	SCAQMD Method 25.3	1 (in duplicate)
Flow Rate/Temperature	Inlet	Facility Fuel Meter	1
	Outlet	Calculated	1
Moisture	Inlet	Wet Bulb/Dry Bulb	1
	Outlet	SCAQMD Method 5.1	1
BTU Content	Inlet	SCAQMD Method 25.1	1 (in duplicate)

2. SUMMARY OF RESULTS

The results of the testing program are provided in Table 2-1. All measured emission rates were within the Permit to Operate (PTO) limits.

Since the average measured exhaust stack gas velocity was below the lowest quantifiable limit of SCAQMD Method 2.1 (0.05 in. W.G. ΔP), the exhaust flow rate was calculated based upon the following equation:

$$\textit{Landfill Gas Flow Rate (scfm)} \times \textit{Expansion Factor} \times 20.92/(20.92 - \%\ O_2)$$

Emission rate values are based upon calculated exhaust flow rates. Section 5 provides a more detailed discussion of results.

Table 2-1
Summary of Results
Hewitt Landfill Flare
August 23, 2006

Parameter	Measured Emissions	Allowable Emissions
Landfill Gas Flow Rate	674 scfm	1500 scfm
Oxides of Nitrogen (as NO_2)	0.179 lb/hr 0.0204 lb/MMBtu	1.2 lbs/hr 0.06 lb/MMBtu (Rule 1303)
Particulate Matter	0.075 lb/hr	3.6 lbs/hr
Carbon Monoxide	<0.321 lb/hr	4.0 lbs/hr
Reactive Organic Gases (as CH_4)	0.0621 lb/hr 2.02 ppm C_6 @ 3% O_2	2.0 lb/hr 20 ppm C_6 @ 3% O_2 (Rule 1150.1)
Oxides of Sulfur (as SO_2)*	0.117 lb/hr	0.15 lbs/hr

* Value calculated based upon the concentration of landfill gas reduced sulfur compounds measured at the flare inlet.

3. FLARE DESCRIPTION AND OPERATION

3.1 Process Description

Landfill gas, which contains 30% to 60% methane, is produced when buried refuse decomposes anaerobically. The subject equipment collects and destroys the gas that is produced at the Hewitt Landfill. The gas collection system utilizes wells installed in refuse to collect the landfill gas (LFG). The depth of the wells varies with the depth of the waste. The destruction of the collected gas occurs in the ground flare.

3.2 Equipment Description

Following is a description of the subject landfill gas collection and flare system:

1. Flare, John Zink, Model ZTOF, 8'-0" Dia. X 24'-0" H., 20,000,000 Btu/hr, with an automatic shutoff valve on the landfill gas inlet, flame arrestor, UV scanner and two automatic temperature controlled air dampers.
2. Exhaust system with two 15 H.P. blowers collecting gas from the LFG collection wells.
3. Inlet separator for water and particulate removal, V101 1'-8" O.D. X 7'-6" H.
4. Condensate water pump, P101, pneumatic to transfer water from V101 to the 1,000 gallon holding tanks.
5. Condensate destruction station with an air compressor, two 1000 gallons capacity holding tanks, pneumatic pump and spray nozzle.

3.3 Operating Conditions

The following operating conditions are set by Permit conditions:

Maximum Gas Flow	1500 scf/minute
Stack Temperature	≥1400 °F
Condensate Flow Rate	≤2 gpm

The landfill gas flow rate and stack temperature were recorded by Horizon and are included in Appendix E - Process Data.

4. SAMPLING/ANALYSES

The sampling/analytical program had been designed to quantify the parameters of interest outlined in Table 1-1.

4.1 Sample Location

4.1.1 Flare Exhaust

At the flare exhaust, 24 sample points (12 per diameter), determined in accordance with SCAQMD Method 1.1, were utilized for the determination of the following compounds:

- Particulate matter
- NO_X
- CO
- O_2/CO_2
- Flow Rate
- Moisture

A single sample point was utilized for the following compound sample collection:

- speciated organic compounds
- total non-methane hydrocarbons
- methane

4.1.2 Landfill Gas Supply Line

A single sample point was utilized for the collection of the following compounds:

- total non-methane hydrocarbons
- methane
- CO
- CO_2/O_2
- reduced sulfur compounds
- speciated organic compounds
- BTU content
- moisture

4.2 Moisture (Inlet/Outlet)

Moisture content of the landfill gas was determined using a wet bulb/dry bulb. Moisture content of the exhaust was determined in conjunction with SCAQMD Method 5.1 sampling. A description of SCAQMD Method 4.1 is provided in Appendix A.

4.3 Flow Rate (Inlet/Outlet)

The landfill gas flow rate was determined using the permanent facility flow meter. The flare exhaust flow rate was determined using SCAQMD Methods 1.1 and 2.1 in conjunction with SCAQMD Method 5.1. Since the average measured flare exhaust velocity was below the applicable limit (0.05 in WC ΔP) of SCAQMD Method 2.1, the exhaust flow rate used for emission rate calculations, was calculated stoichiometrically. Descriptions of SCAQMD Methods 1.1, and 2.1 are provided in Appendix A.

4.4 Particulate Matter (Outlet Only)

Horizon conducted one, one-hour test run on the flare exhaust in accordance with SCAQMD Method 5.1 protocol. Twenty-four traverse points (twelve per diameter) were utilized for the collection of particulate matter at the flare exhaust. Samples were withdrawn isokinetically from each of the pre-determined traverse points. A description of SCAQMD Method 5.1 is provided in Appendix A.

4.5 Oxides of Nitrogen, Carbon Monoxide, Carbon Dioxide and Oxygen (Exhaust Only)

One test run was conducted at the flare exhaust for NO_x, CO, O_2 and CO_2 concentrations. Twenty-four sample points (12 per diameter) were utilized. All sampling was performed in strict accordance with SCAQMD Method 100.1, as detailed in Appendix A.

4.6 Carbon Monoxide, Carbon Dioxide, Oxygen and Nitrogen (Inlet)

Carbon monoxide and carbon dioxide concentrations of the landfill gas were determined using SCAQMD Method 25.1 total combustion analyses. Oxygen was determined using SCAQMD Method 10.1 analysis from Method 25.1 samples. Nitrogen was determined by difference. A description of SCAQMD Methods 10.1 and 25.1 are provided in Appendix A.

4.7 Hydrogen sulfide and C_1 - C_3 Sulfur Compounds (Inlet)

One hydrogen sulfide and C_1 - C_3 sulfur compound samples of the landfill gas were collected using the Tedlar bag collection system depicted in Appendix A. All system components coming in contact with the landfill gas were constructed of polypropylene or Teflon. All reduced sulfur samples were analyzed within twenty-four (24) hours of collection. Hydrogen sulfide and C_1 - C_3 sulfur compounds are analyzed using a Method 307.91 equivalent by AtmAA, Inc. Equivalency has been formally granted by SCAQMD to AtmAA, Inc. for this Method. A description of SCAQMD Method 307.91 equivalent is provided in Appendix A.

4.8 Speciated Organic Compounds - SCAQMD Rule 1150.1 List (Inlet/Exhaust)

Speciated organic compounds were collected at the landfill gas inlet and exhaust using the Tedlar bag collection system depicted in Appendix A. Speciated organic compounds were identified and quantified using GC/MS analytical procedures.

4.9 Total Non-Methane Hydrocarbons, Methane (Inlet)

Total non-methane hydrocarbons and methane concentration of the landfill gas was determined using SCAQMD Method 25.1. A description of SCAQMD Method 25.1 is provided in Appendix A.

4.10 Total Non Methane Hydrocarbons and Methane (Exhaust)

Methane and total non-methane hydrocarbon (TNMHC) samples were collected at the outlet and analyzed using SCAQMD Method 25.3 procedures. A description of SCAQMD Method 25.3 is provided in Appendix A.

5. RESULTS DISCUSSION

The results of the test program are provided in Table 5-1. Trace organic species concentration, emission rates and destruction efficiencies are provided in Table 5-2.

Test Critique

Since the measured exhaust velocity was below the Method 2.1 limit of 0.05 in. W.G ΔP, the flare exhaust flow rate was calculated using the equation in Section 2. The expansion factor used in the equation was calculated based on the stoichiometric combustion of the Hewitt Landfill gas. Thus, all emission rate values are based upon the calculated exhaust gas flow rates as opposed to the average flow rates measured using the S-type pitot tube.

Table 5-1
Summary of Results
Hewitt Landfill
Flare
August 23, 2006

	LANDFILL GAS	FLARE EXHAUST	
Run Number	1	1	
STACK GAS CHARACTERISTICS			
Temperature, degrees F	NA	1598	
Moisture, %	6.2	9.4	
Flow Rate, acfm	674		
Flow Rate, dscfm	632	3629	*
Fixed Gases			
Oxygen, %	6.65	10.93	
Carbon Dioxide, %	22.7	8.93	
Methane, %	23.0	-	
BTU Value, Btu/scf	232	-	
EMISSIONS			
Oxides of Nitrogen			
ppm	-	6.80	
ppm @ 3 % O2	-	12.2	
lb/hr	-	0.179	
lb/MMBtu	-	0.0204	
Carbon Monoxide			
ppm	-	< 20.0	
ppm @ 3 % O2	-	< 35.9	
lb/hr	-	< 0.321	
lb/MMBtu	-	< 0.0365	
Total Particulate Matter			
gr/dscf	-	0.0024	
lb/hr	-	0.075	
Total Non-Methane Hydrocarbons (Reactive Organic Compounds)			
ppm, as Methane	658	6.76	
lb/hr, as Methane	1.05	0.0621	
Sulfur Compounds			
Hydrogen Sulfide, ppm	16.7	-	
Total Sulfur, ppm as H2S	18.3	-	
Oxides of Sulfur**			
lb/hr	-	0.117	

* Flow Rate calculated stoichiometrically
** Calculated from sulfur balance

Table 5-2
Trace Organic Species
Destruction Efficiency Results
Hewitt Landfill
Flare
August 23, 2006

Species	Inlet Concentration (ppb)	Inlet Emission Rate (lb/hr)	Outlet Concentration (ppb)	Outlet Emission Rate (lb/hr)	Destruction Efficiency (%)
Hydrogen Sulfide	16700	5.69E-02	< 500	< 9.78E-03	> 82.81
Benzene	226	1.76E-03	0.38	1.70E-05	99.03
Benzychloride	< 40	< 5.08E-04	< 0.8	< 5.83E-05	NA
Chlorobenzene	70.4	7.95E-04	< 0.4	< 2.59E-05	> 96.74
Dichlorobenzenes	160	2.35E-03	< 1.1	< 9.28E-05	> 96.05
1,1-dichloroethane	< 30	< 2.97E-04	< 0.4	< 2.27E-05	NA
1,2-dichloroethane	< 20	< 1.98E-04	< 0.3	< 1.70E-05	NA
1,1-dichloroethylene	< 40	< 3.88E-04	< 0.4	< 2.23E-05	NA
Dichloromethane	< 30	< 2.55E-04	0.44	2.15E-05	NA
1,2-dibromoethane	< 30	< 5.63E-04	< 0.4	< 4.31E-05	NA
Perchloroethene	21.8	5.16E-04	< 0.3	< 4.08E-05	> 92.10
Carbon tetrachloride	< 30	< 4.62E-04	< 0.3	< 2.65E-05	NA
Toluene	280	2.57E-03	0.73	3.85E-05	98.50
1,1,1-trichloroethane	< 20	< 2.66E-04	< 0.3	< 2.29E-05	NA
Trichloroethene	< 20	< 2.62E-04	< 0.3	< 2.25E-05	NA
Chloroform	< 20	< 2.38E-04	< 0.3	< 2.05E-05	NA
Vinyl Chloride	457	2.85E-03	< 0.4	< 1.43E-05	> 99.50
m xylenes	434	4.60E-03	0.82	4.99E-05	98.92
o+p xylene	230	2.44E-03	< 0.3	< 1.82E-05	> 99.25
TNMHC	658248	1.05E+00	6760	6.21E-02	94.11

Note: All values preceded by "<" are below the detection limit - reported values are detection limit values.
NA--Not applicable: Destruction efficiency cannot be calculated since both inlet and outlet values are below the detection limit.

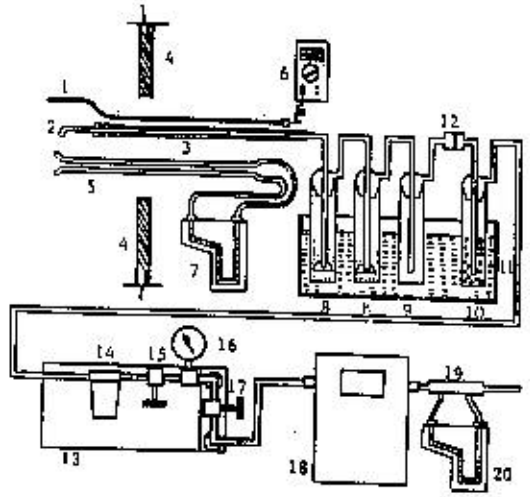
APPENDIX A - Methods Description

Method: **Determination of Particulate Matter Emissions From Stationary Sources Using a Wet Impingement Train**

Reference: SCAQMD Method 5.1

Principle: Stack gas is withdrawn isokinetically from the source through a sample train. Particulate matter is collected in impingers containing deionized water and on a back-up filter. The impingers are contained in an ice bath to maintain a sampled gas temperature of approximately 15° C (60° F). The filter is not heated.

Sampling Procedure: The sampling train is shown in the figure below. The sample is drawn isokinetically through a glass or quartz probe (hi-temp). The probe is connected to an impinger train by Teflon tubing. The train consists of two Greenburg-Smith impingers which contain 100 ml of DI water; an empty impinger as a knock-out; and an impinger containing silica gel to protect the pump from moisture. Sample is withdrawn isokinetically from each predetermined sample point (determined using SCAQMD Method 1.1) through the sample train, which is followed by a vacuum line, a pump, a dry gas meter and a calibrated orifice.



1. Temperature Sensor
2. Nozzle
3. Glass Lined Stainless Steel Probe
4. S-type Pitot Tube
5. Stack Wall
6. Temperature Sensor Meter
7. Pitot Tube Inclined Manometer
8. Impinger with 100 ml H_2O
9. Empty Bubbler
10. Bubbler with Silica Gel
11. Ice Bath
12. Filter
13. Sealed Pump (Leak Free)
14. Filter for Pump
15. Metering Valve
16. Vacuum Gauge
17. By-pass Valve
18. Temperature Compensated Dry Gas Meter
19. Orifice

Sample Recovery: The moisture content is determined either gravimetrically or volumetrically from initial and final impinger weights or volume. Then the filter, probe/impinger rinse (including nozzle rinse, liner rinse, impinger contents and rinses) and silica gel are recovered into Containers #1, #2 and #3, respectively.

Analytical Procedure: The aqueous sample is filtered through a tared fiberglass filter. An organic extraction is performed on the resulting solution using methylene chloride. Both the extraction filter and sample train filter are desiccated then measured gravimetrically. The organic extract and aqueous catch are evaporated, desiccated and measured gravimetrically.

If significant levels of sulfur compounds are present in the stack, each sample fraction is analyzed by acid-base titration for acid sulfate content and by barium-thorin titration for sulfate content.

Method: **Determination of Total Gaseous Non-Methane Organic Emissions as Carbon**

Reference: SCAQMD Method 25.1

Principle: A sample of flue gas is drawn through a condensate trap and into an evacuated 12 liter tank. Volatile organic compounds (VOC), as total gaseous non-methane organics (TGNMO), are determined by combining results from independent analysis of condensate in the traps and gases in the tanks.

Sampling Procedure: Duplicate gas samples are withdrawn from a source at a constant rate through condensate traps immersed in dry ice followed by evacuated 12 liter (nominal) tanks. Heavy organic components condense as liquids and solids in the condensate traps. Lighter components pass as gases through the traps into the tanks. The combined results from tanks and trap analyses are used to determine a qualitative and quantitative expression of the effluent gas stream. Duplicate sampling is designed into the system to demonstrate precision.

The sampling apparatus is checked for leaks prior to the sampling program by attaching the probe end to an absolute pressure gauge and vacuum pump in series. The sample lines were evacuated to less than 10 mm Hg and the gauge shutoff valve is then closed. The sample lines are deemed to be leak-free if no loss of vacuum occurs as indicated by the vacuum gauge. During sampling the tank pressures are monitored with a 0-30 inch vacuum gauge to ensure integrated sampling.

The final vacuum of each sample is measured using a slack tube manometer. The sample is then pressurized to 800 mm Hg absolute with ultrapure nitrogen. Each sample is then analyzed using the SCAQMD TCA procedure for total non methane hydrocarbons.

Analytical Procedure: Condensate traps are analyzed by first stripping carbon dioxide (CO_2) from the trap. The organic contents are then removed and oxidized to CO_2. This CO_2 is quantitatively collected in an evacuated vessel and measured by injection into a flame ionization detection/total combustion analysis (FID/TCA) system.

The organic content of the sample fraction collected in each tank is measured by injecting a portion into the FID/TCA analysis system which uses a two phase gas chromatography (GC) column to separate carbon monoxide (CO), methane (CH_4) and carbon dioxide (CO_2) from each other and from the total gaseous non-methane organics (TGNMO) which are eluted as backflush. All eluted components are first oxidized to CO_2 by a hopcalite catalyst and then reduced to methane by a nickel catalyst. The resulting methane is detected using the flame ionization detector. A gas standard containing CO, CH_4, CO_2 and propane, traceable to NBS, is used to calibrated the FID/TCA analysis system.

CONTINUOUS EMISSIONS MONITORING SYSTEM - TRUCK

SCAQMD Method 100.1 - Truck

The continuous emissions monitoring system consists of a Thermo Electron Model 10AR chemiluminescence NO/NO_X analyzer, a Teledyne electro chemical O_2 analyzer, a Thermo Electron Model 48H CO gas filter correlation analyzer and a Horiba PIR 2000 non dispersive infrared CO_2 analyzer. All analyzer specifications are provided in Table 1. All concentrations are determined on a dry basis. Concentrations of NO_X, CO, O_2 and CO_2 are continuously recorded on a Linseis 10-inch strip chart recorder and a Daq View Data Acquisition System (DAS). The extractive monitoring system conforms with the requirements of SCAQMD Method 100.1.

The sampling probe (heated to 250°F), constructed of 1/2 inch-diameter 316 stainless steel, is connected to a condenser with a six foot length of 3/8 inch Teflon line (heated to 250°F). A Nupro stainless steel filter (10 micron) is connected at the tip of the probe and maintained at stack temperature.

The condenser consists of a series of two stainless steel moisture knock-out bottles immersed in an ice water bath. The system is designed to minimize contact between the sample and the condensate. Condensate is continuously removed from the knock-out bottles via a peristaltic pump. The condenser outlet temperature is monitored either manually at 10-minute intervals or on a strip chart recorder/DAS system. The sample exiting the condenser is then transported through a filter, housed in a stainless steel holder, followed by 3/8 inch O.D. Teflon tubing and a Teflon coated (or stainless steel/viton) diaphragm pump to the sample manifold. The sample manifold is constructed of stainless steel tubing and directs the sample through each of four rotameters to the NO_X monitor, O_2 monitor, CO monitor, CO_2 monitor and excess sample exhaust line, respectively. Sample flow through each channel is controlled by a back pressure regulator and by stainless steel needle valves on each rotameter. All components of the sampling system that contact the sample are composed of stainless steel, Teflon or glass.

The calibration system is comprised of two parts: the analyzer calibration and the system bias check. The calibration gases are, at a minimum, certified to ± 1% by the manufacturer. Where necessary to comply with the reference method requirements, EPA Protocol 1 gases are used. The cylinders are equipped with pressure regulators which supply the calibration gas to the analyzers at the same pressure and flow rate as the sample. The selection of zero, span or sample gas directed to each analyzer is accomplished by operation of the zero, calibration or sample selector knobs located on the main flow control panel.

For SCAQMD Method 100.1 testing, the following procedures are conducted before and after each series of test runs:

Leak Check:

The leak check is performed by plugging the end of the sampling probe, evacuating the system to at least 20 inches of Hg. The leak check is deemed satisfactory if the system holds 20 inches of Hg vacuum for five minutes with less than one inch Hg loss.

Linearity Check:

The NO_X, CO, CO_2 and O_2 analyzers linearity check is performed by introducing, at a minimum, zero gas, mid range calibration gas (40-60% scale) and high range calibration gas (80-100% scale). Instrument span value is set on each instrument with the mid range gas. The high range calibration gas (80-100% scale) is then introduced into each instrument without any calibration adjustments. Linearity is confirmed, if all values agree with the calibration gas value to within 1% of the range.

Stratification Check:

A stack stratification check is performed (pre-test only) by traversing the stack with the appropriate number of traverse alternately with the reference point (center). If the gas composition is homogenous, <10% variation between any traverse points in the gas stream and the normalized average point, single point gas sampling is performed at the reference point. If stratification exceeds the 10% criteria, then the stack cross section is traversed during sampling.

System Bias Check:

The system bias check is accomplished by transporting the same gases used to zero and span the analyzers to the sample system as close as practical to the probe inlet. This is accomplished by opening a valve located on the probe, allowing the gas to flow

TABLE 1

CONTINUOUS EMISSIONS MONITORING LABORATORY - TRUCK

NO_X CHEMILUMINESCENT ANALYZER -- THERMO ELECTRON MODEL 10 A

Response Time (0-90%)	1.5 sec -- NO mode/1.7 sec -- NO_x mode
Zero Drift	Negligible after 1/2 hour warmup
Linearity	± 1% of full scale
Accuracy	Derived from the NO or NO_2 calibration gas, ± 1% of full scale
Operating Ranges (ppm)	2.5, 10, 25, 100, 250, 1000, 2500, 10000
Output	0-1 volt

O_2 ANALYZER, FUEL TYPE -- TELEDYNE MODEL 326RA

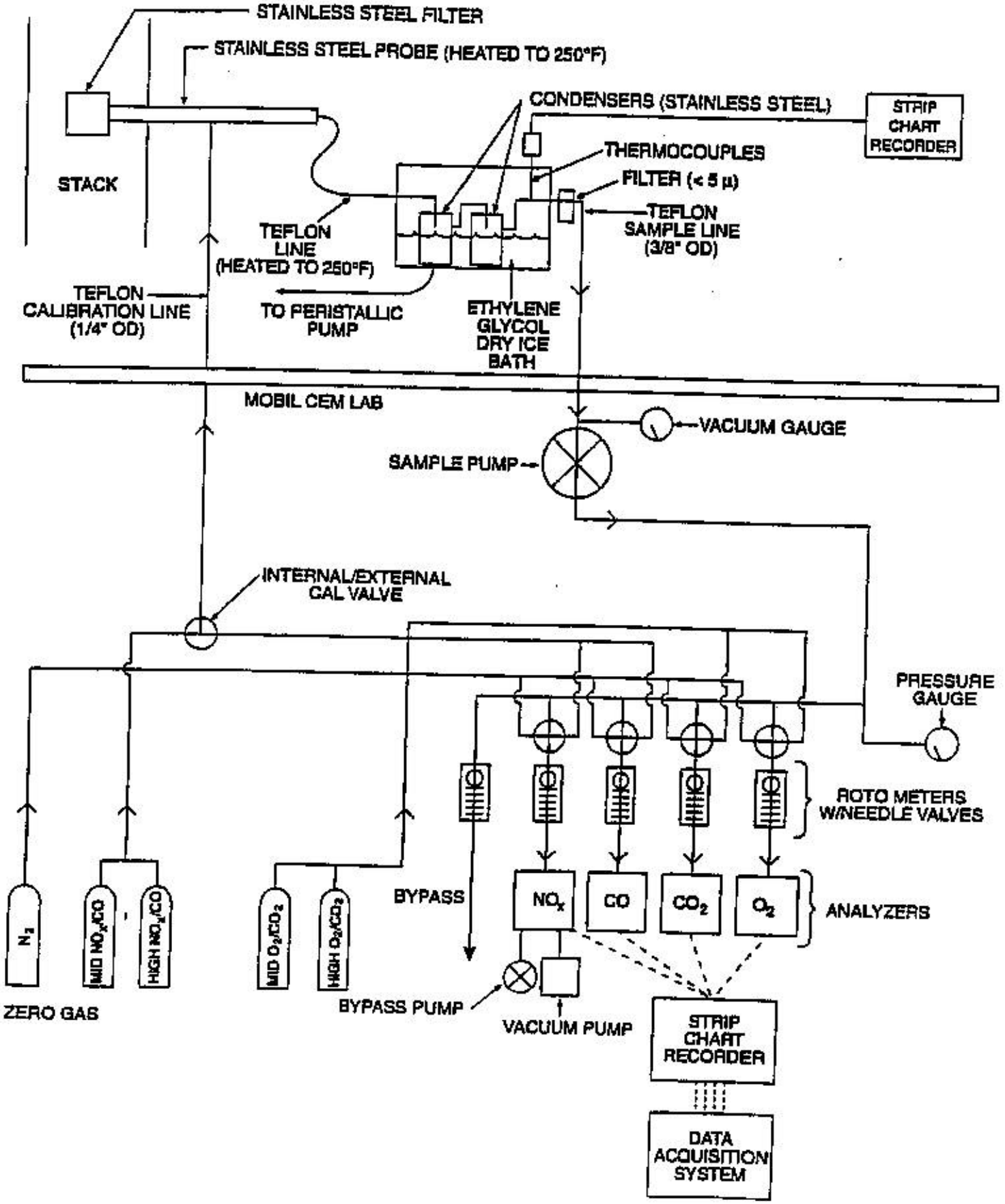
Response Time (0-90%)	60 seconds
Accuracy	± 1% of scale at constant temperature ± 1% of scale of ± 5% of reading, whichever is greater, over the operation temperature range.
Operating Ranges (%)	0-5, 0-25
Output	0-1 volt

O_2 ANALYZER, PARAMAGNETIC -- SERVOMEX MODEL 1400B

Response Time (0-90%)	15 seconds
Accuracy	0.1% oxygen
Linearity	± 1% scale
Operating Ranges (%)	0-25, 0-100
Output	0-1 volt

CO GAS FILTER CORRELATION -- THERMO ELECTRON MODEL 48H

Response Time (0-95%)	1 minute
Zero Drift	± 0.2 ppm CO
Span Drift	Less than 1% full scale in 24 hours
Linearity	± 1% full scale, all ranges
Accuracy	± 0.1 ppm CO
Operating Ranges (ppm)	10, 100, 200, 500, 1,000, 2,000, 5,000, 10,000, 20,000
Output	0-1 volt



CEM System Schematic

Method:	**Oxygen (O_2) by Continuous Analyzer**
Applicable Reference Methods:	EPA 3A, EPA 20, CARB 100, BAAQMD ST-14, SCAQMD 100.1
Principle:	A sample is continuously withdrawn from the flue gas stream, conditioned and conveyed to the instrument for direct readout of O_2 concentration.
Analyzer:	Teledyne Model 326R
Measurement Principle:	Electrochemical cell
Ranges:	0-5, 0-25% 0-100%
Accuracy:	1% of full scale
Output:	0-1 V
Interferences:	Halogens and halogenated compounds will cause a positive interference. Acid gases will consume the fuel cell and cause a slow calibration drift.
Response Time:	90% <60 seconds
Sampling Procedure:	A representative flue gas sample is collected and conditioned using the CEM system described previously. If Method 20 is used, that method's specific procedures for selecting sample points are used. Otherwise, stratification checks are performed at the start of a test program to select single or multiple-point sample locations.
Analytical Procedure:	An electrochemical cell is used to measure O_2 concentration. Oxygen in the flue gas diffuses through a Teflon membrane and is reduced on the surface of the cathode. A corresponding oxidation occurs at the anode internally and an electric current is produced that is proportional to the concentration of oxygen. This current is measured and conditioned by the instrument's electronic circuitry to give an output in percent O_2 by volume.

Method:	**Carbon Monoxide (CO) by NDIR/Gas Filter Correlation**
Applicable Reference Methods:	EPA 10; CARB 1-100; BAAQMD ST-6, SCAQMD 100.1
Principle:	A sample is continuously drawn from the flue gas stream, conditioned and conveyed to the instrument for direct readout of CO concentration.
Analyzer:	TECO, Model 48H
Measurement Principle:	NDIR/Gas Filter Correlation
Precision:	0.1% ppm
Ranges:	0-10, 0-100, 0-200, 0-500, 0-1,000, 0-2,000, 0-5,000, 0-10,000, 0-20,000
Output:	0-1 V
Interferences:	Negligible interference from water and CO_2
Rise/Fall times (0-95%)	1 minute @ 1 lpm flow, 30 second integration time
Sampling Procedure:	A representative flue gas sample is collected and conditioned using the CEM system described previously. Sample point selection has been described previously.
Analytical Procedure:	Radiation from an infrared source is chopped and then passed through a gas filter which alternates between CO and N_2 due to rotation of a filter wheel. The radiation then passes through a narrow band-pass filter and a multiple optical pass sample cell where absorption by the sample gas occurs. The IR radiation exits the sample cell and falls on a solid state IR detector.

AtmAA Inc.
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environmental consultants
laboratory services

Tandem Gas Chromatographic/Mass Spectroscopic-Electrolytic Conductivity Detector (GC/MS-ELCD) Method for Determination of Total Sulfur in Gas Samples

AtmAA, Inc.
03-060

3/30/93

This method measures selected reduced sulfur species, including but not limited to hydrogen sulfide, carbonyl sulfide, methyl mercaptan, ethyl mercaptan, dimethyl sulfide, carbon disulfide, isopropyl mercaptan, n-propyl mercaptan, and dimethyl disulfide in gaseous sample matrices using gas chromatographic separation and a mass spectrometric and electrolytic conductivity detector (ELCD), where the ELCD measures hydrogen sulfide only. A non-polar methyl silicon capillary gas chromatographic column is used for component separation and selected ion monitoring is used for component quantification. Component quantification is obtained using a multi-component external standard prepared by Scott Specialty Gases. The lower detection limit varies by component but is at least 0.1 ppmv ethyl mercaptan (component of lowest sensitivity) for a 0.31 ml sample volume injection. The upper quantitation limit has not been determined but is at least beyond 80 ppmv dimethyl disulfide, for which response remained linear from 0.1 ppmv to 80 ppmv.

Hydrogen sulfide is measured using an electrolytic conductivity detector operated in the oxidative sulfur mode. A Chromosil 310 column, operated isothermally at 45°C. is used to separate H_2S from other sulfur components. A fixed volume loop injection is used in the analysis for H_2S.

Lower Detection Limits (LDL's):

Using a 1 ml injection volume for H_2S by electrolytic conductivity detector and 0.40 ml injection volume for GC/MS measured sulfur compounds, the following LDL's are obtained:

	(ppmv)
Hydrogen sulfide	0.5
Carbonyl sulfide	0.03
Methyl mercaptan	0.03
Ethyl mercaptan	0.04
Dimethyl sulfide	0.02
Carbon disulfide	0.02
i-propyl mercaptan	0.03
n-propyl mercaptan	0.03
Dimethyl disulfide	0.02

Component	Quantitation ion	Confirmation ion
carbonyl sulfide	60	none
methyl mercaptan	47	48
ethyl mercaptan	62	47
dimethyl sulfide	62	47
carbon disulfide	76	78
iso-propyl mercaptan	76	43,47,61
n-propyl mercaptan	76	43,47,61
dimethyl disulfide	94	79

Sulfur dioxide is analyzed by monitoring mass 64 which is included in Group 2 ions.

Calibration:

Gaseous standards can be analyzed prior to or after a set of samples. Response factors are determined from a single point standard calibration. Multi-point calibrations are performed to verify linearity. Consistency of standard response with continuing calibrations is observed to indicate performance of multi-point calibration.

Samples containing components at less than the stated LDL can be analyzed by cryogenically focusing a measured volume of gaseous sample onto a glass bead filled Teflon loop immersed in liquid argon. The sample is thermally transferred upon injection by immersing the sample loop in near boiling temperature water. The LDL obtained by this technique is calculated as:

$$LDL_{cryo} = (\text{cryo volume}/0.40)*LDL_{0.40}$$

Acceptable volumes for cryogenic concentration range from 3 to 100 ml. and are determined based on amounts of other components in the sample such as water, carbon dioxide or hydrocarbons.

Procedure:

A volumetric sample of landfill or source collected gas is transferred from a Tedlar[R] bag to the 6-port valve injection line using a glass syringe of approximately 10 ml. A Teflon loop of 0.40 ml volume is used to inject the sample. When sample concentrations exceed that of the standard, appropriate volumetric sample dilutions are made using the glass syringes with dry nitrogen diluent. Immediately after sample injection, the GC/MS is started. Standards are analyzed in the same manner as samples. Appropriate component peaks are monitored and integrated after sample analysis data set has been obtained.

Hydrogen sulfide is measured using the electrolytic conductivity detector by a separate direct fixed loop valve injection using heated Teflon loop, transfer lines, and Teflon Chromosil 310 GC column.

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environmental consultants
laboratory services

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03-060

3/30/93

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	(ppmv)
Hydrogen sulfide	0.5
Carbonyl sulfide	0.03
Methyl mercaptan	0.03
Ethyl mercaptan	0.04
Dimethyl sulfide	0.02
Carbon disulfide	0.02
i-propyl mercaptan	0.03
n-propyl mercaptan	0.03
Dimethyl disulfide	0.02

Component	Quantitation ion	Confirmation ion
carbonyl sulfide	60	none
methyl mercaptan	47	48
ethyl mercaptan	62	47
dimethyl sulfide	62	47
carbon disulfide	76	78
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Samples containing components at less than the stated LDL can be analyzed by cryogenically focusing a measured volume of gaseous sample onto a glass bead filled Teflon loop immersed in liquid argon. The sample is thermally transferred upon injection by immersing the sample loop in near boiling temperature water. The LDL obtained by this technique is calculated as:

$$LDL_{cryo} = (\text{cryo volume}/0.40)*LDL_{0.40}$$

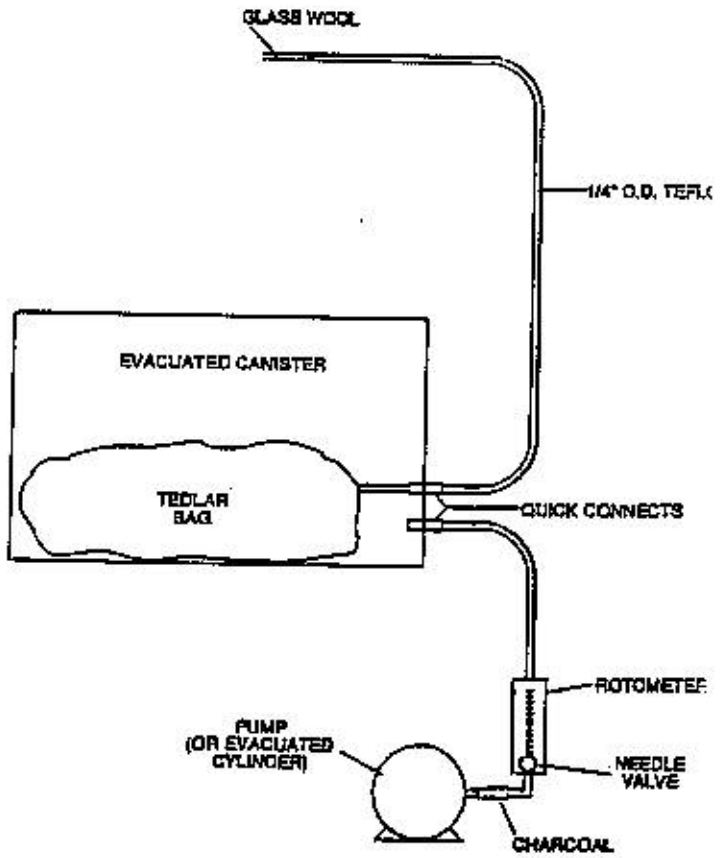
Acceptable volumes for cryogenic concentration range from 3 to 100 ml. and are determined based on amounts of other components in the sample such as water, carbon dioxide or hydrocarbons.

Procedure:

A volumetric sample of landfill or source collected gas is transferred from a Tedlar® bag to the 6-port valve injection line using a glass syringe of approximately 10 ml. A Teflon loop of 0.40 ml volume is used to inject the sample. When sample concentrations exceed that of the standard, appropriate volumetric sample dilutions are made using the glass syringes with dry nitrogen diluent. Immediately after sample injection, the GC/MS is started. Standards are analyzed in the same manner as samples. Appropriate component peaks are monitored and integrated after sample analysis data set has been obtained.

Hydrogen sulfide is measured using the electrolytic conductivity detector by a separate direct fixed loop valve injection using heated Teflon loop, transfer lines, and Teflon Chromosil 310 GC column.

Method:	**Hydrocarbons by SCAQMD Micro Total Carbon Analyses**
Reference:	SCAQMD Hydrocardons - Tedlar Bag Method
Principle:	Duplicate Tedlar bags are filled with flue gas at a constant rate. The bag contents are analyzed by total combustion analyses/flame ionization detection for methane and total gaseous non methane hydrocarbons.
Sampling Procedure:	Duplicate samples are collected by evacuating the canister, see figure, at a constant rate over each test run using a rotameter/needle valve and a diaphragm pump. Prior to each sampling run, the evacuated canister (containing the Tedlar bag) is leak checked at 2" Hg vacuum. The sample train upstream of the Tedlar bag is then purged with stack gas. At the conclusion of each test run, each Tedlar bag sample is sealed and stored in an opaque container pending analysis.
Analytical Procedure:	Methane and TNMHC concentration from both samples are determined using the SCAQMD Total Combustion Analysis (TCA) procedure.



Facility: GC Env./Hewitt Landfill
Source: Flare
Job No.: G21-010
Date: 08/24/06

TOTAL COMBUSTION ANALYSIS RESULTS

Sample ID	Inlet	Inlet	
Run Number	1A	1B	Average
Methane in Tank	228000	232000	230000
TNMHC,Tank (Noncond.)	174	126	
TNMHC - Condensables	527.9	488.6	
TNMHC - Total	701.9	614.6	
CO Concentration (ppm)	6.38	6.31	6.35
CO2 Concentration (ppm)	224000	230000	227000
O2 Concentration (%)	5.96	7.33	6.65
Sample Parameters			
Tank Number	P	Q	
Trap Number	H	F	
Sample Tank Volume (l)	12.396	12.436	
Initial Pressure (Torr)	1.3	1.3	
Initial Temperature (deg. K)	292	292	
Final Pressure (mm Hg)	405	422	
Final Temperature (deg. K)	292	292	
Sample Volume (l)	6.61	6.91	
Analysis Pressure (mm Hg)	820	820	
Analysis Temperature (deg. K)	292	292	
ICV Volume (l)	2.266	2.266	
ICV Final Pressure (mm Hg)	800	800	
ICV Final Temperature (deg. K)	292	292	
CO2 in ICV (ppm)	1540	1490	
TNMHC,Trap (Condensables)	528	489	
Stack Total TNMHC	702	615	658

NOTE: All hydrocarbon values are in terms of ppm, v/v, as methane.

EXPANSION AND F-FACTOR CALC. METHOD

Client:	GC Env./Hewitt Landfill	Date:	08/24/06
Location:	North Hollywood, CA	Job #:	G21-010
Unit:	Flare	Run #:	1

Fuel temperature		deg. F	Std. Temp.	60	deg. F
Fuel Pressure		psi			
Fuel Flow Rate		cfm	Fuel Flow	632	dscfm
Exhaust Outlet O2	10.93	%			
Barometric Pressure	29.09				

COMPONENTS		MOLE %	HHV btu/ft3	LLV btu/ft3	Exp Factor dscf/scf fuel
Oxygen		6.65			0.066
Nitrogen		47.65			0.477
Carbon Dioxide		22.70			0.227
Methane		23.00	232.30	209.16	1.971
Ethane	C2		0.00	0.00	0.000
Propane	C3		0.00	0.00	0.000
Iso-Butane	C4		0.00	0.00	0.000
N-Butane			0.00	0.00	0.000
Iso-Pentane	C5		0.00	0.00	0.000
N-Pentane			0.00	0.00	0.000
Hexane	C6		0.00	0.00	0.000
Heptane	C7		0.00	0.00	0.000
Octane	C8		0.00	0.00	0.000
Nonane	C9		0.00	0.00	
Total		**100.00**	**232.30**	**209.16**	**2.74**

CALCULATIONS

EXHAUST FLOW RATE, Q = (scfm*Exp Fac)*(20.92(20.92-%O2)

3629 DSCFM

EPA F-Factor = (scf exhaust/scf fuel)/(btu/scf fuel)*(1000000 btu/MMbtu)

11800 dscf/Mmbtu

SCAQMD Method 5.1 Particulate Emissions

Facility: GC Env./Hewitt Landfill
Source: Flare
Job No.: G21-010
Date: 08/24/06

STANDARD TEMPERATURE	Degrees F	60		
RUN NUMBER	******	1	1	
CLOCK TIME: INITIAL	******	1342	1342	
CLOCK TIME: FINAL	******	1448	1448	
AVG. STACK TEMPERATURE	Degrees F	1598		
AVG. SQUARE DELTA P	Inches H20	0.0841		
NOZZLE DIAMETER	Inches	1.047		
BAROMETRIC PRESSURE	Inches HG	29.09		
SAMPLING TIME	Minutes	60		
SAMPLE VOLUME	Cubic Feet	50.236		
AVG. METER TEMP.	Degrees F	111		
AVG. DELTA H	Inches H20	2.19		
DGM CALIB. FACTOR [Y]	******	0.992		
WATER COLLECTED	Milliliters	98		
CO 2	Percent	8.93		
O 2	Percent	10.93		
CO	Percent			
CH4	Percent			
N 2	Percent	80.14		
STACK AREA	Square Inches	7238.2		
STATIC PRESSURE	Inches WG.	-0.005		
PITOT COEFFICIENT	******	0.84		
SAMPLE VOLUME DRY	DSCF	44.36		
WATER AT STD.	SCF	4.6		
MOISTURE	Percent	9.4		
MOLE FRACTION DRY GAS	******	0.91		
MOLECULAR WT.DRY	lb/lb Mole	29.87		
EXCESS AIR	Percent	107		
MOLECULAR WT. WET	lb/lb Mole	28.75		
STACK GAS PRESSURE	Inches HG	29.09		
STACK VELOCITY	AFPM	569		
VOLUMETRIC FLOWRATE, DRY STD.	DSCFM	6358	3629	*
VOLUMETRIC FLOWRATE, ACTUAL	ACFM	28579		
ISOKINETIC RATIO	Percent	96		

CALCULATIONS FOR GRAIN LOADING AND EMISSION RATES

TOTAL PARTICULATE	mg	6.9	6.9
PARTICULATE CONCENTRATION	gr/dscf	0.0024	0.0024
PARTICULATE EMISSION RATE	lb/hr	0.131	0.075

*Denotes the use of calculated flowrate based on expansion factor of LFG.

Facility:	**GC Env./Hewitt Landfill**	**Run No.:**	**1**
Source:	**Flare**	**Fuel:**	**L.F.G.**
Job No.:	**G21-010**	**Std. O2:**	**3**
Date:	**08/23/06**		

	O2 %	CO2 %	NOx ppm	CO ppm
Range:	25	15	25	100
Span:	11.99	7.00	12.60	50.80
Low:				
High:	20.05	11.97	24.40	77.10

** POST-TEST DRIFT (DIRECT)**

Values Zero:	0.00	0.00	0.00	0.00
Span:	12.00	7.05	12.70	51.20

Percent Drift Zero:	0.00	0.00	0.00	0.00
Span:	0.04	0.33	0.40	0.40

** PRE-TEST BIAS **

Values Zero:	0.00	0.03	0.00	0.00
Span:	11.95	7.05	12.63	51.00

** POST-TEST BIAS **

Values Zero:	-0.10	0.00	0.38	0.00
Span:	11.73	6.98	13.00	50.30

** BIAS CORRECTION **

Zero Average	-0.05	0.02	0.19	0.00
Span Average	11.84	7.01	12.81	50.65

** POST-TEST DRIFT (BIAS)**

Percent Drift Zero:	0.40	0.20	-1.50	0.00
Span:	0.90	0.50	-1.50	0.70
Bias-Corrected Concentration	**11.07**	**8.93**	**6.80**	**-2.38**
Bias-Corrected Conc.(O2 adjusted)			**12.39**	**-4.33**

** RAW AVERAGE CONCENTRATION **

Average:		10.93	8.94	7.00	-2.37
O2 adjust:	3			12.57	-4.26
Date	Time	O2	CO2	NOx	CO
23-Aug-06	1342	10.35	9.59	8.35	-2.36
23-Aug-06	1343	11.05	8.85	6.42	-2.37
23-Aug-06	1344	10.93	9.01	6.45	-2.37
23-Aug-06	1345	10.84	9.09	6.36	-2.37
23-Aug-06	1346	10.79	9.12	6.61	-2.37
23-Aug-06	1347	10.95	8.98	6.41	-2.37
23-Aug-06	1348	10.81	9.17	6.80	-2.37
23-Aug-06	1349	10.87	9.06	6.37	-2.37
23-Aug-06	1350	10.97	8.84	7.54	-2.37

Method 100.1 Performance Data

Facility: GC Env./Hewitt Landfill
Source: Flare
Job No.: G21-010
Date: 08/24/06

PRETEST CALIBRATION ERROR				
LEAK CHECK	Good			
RANGE :	25	15	100	25
	O2	CO2	CO	NOx
ZERO				
Instrument	0.00	0.00	-0.20	0.00
Cylinder	0.00	0.00	0.00	0.00
Difference (%)	0.00	0.00	-0.20	0.00
LOW LEVEL				
Instrument				
Cylinder				
Difference (%)				
MID LEVEL				
Instrument	12.00	6.96	51.00	12.70
Cylinder	11.99	7.00	50.80	12.60
Difference (%)	0.04	-0.27	0.20	0.40
HIGH LEVEL				
Instrument	20.25	12.15	78.50	24.25
Cylinder	20.05	11.97	77.10	24.40
Difference (%)	0.80	1.20	1.40	-0.80

PRETEST LINEARITY	Cylinder	Instrument
	O2	
Zero	0.00	0.00
High Level	20.05	20.25
Slope	0.99	
Intercept	0.00	Status
Predicted Value	12.11	<1
Linearity (%)	-0.44	PASS
	CO2	
Zero	0.00	0.00
High Level	11.97	12.15
Slope	0.99	
Intercept	0.00	Status
Predicted Value	7.11	<1
Linearity (%)	-0.97	PASS
	CO	
Zero	0.00	-0.20
High Level	77.10	78.50
Slope	0.98	
Intercept	0.20	Status
Predicted Value	51.65	<1
Linearity (%)	-0.85	PASS
	NOX	
Zero	0.00	0.00
High Level	24.40	24.25
Slope	1.01	
Intercept	0.00	Status
Predicted Value	12.52	<1
Linearity (%)	0.71	PASS

SYSTEM RESPONSE TIME	#1	#2
Upscale		
NOx	23	23
CO	54	53
O2	22	22
CO2	24	23
Downscale		
NOx	22	25
CO	52	50
O2	20	21
CO2	21	21

NO2 CONVERTER EFFICIENCY	ppm	%	status
Cylinder(Co)	17.90		
NO Mode(C1)	0.73		
NOx Mode(C2)	17.60		
D1	17.18		
D2	16.78		
D3	0.40		
CE		97.67	
CE > 90 %			PASS
D3 < 1.0 ppm	0.40		PASS

POST TEST CALIBRATION ERROR				
LEAK CHECK	Good			
	O2	CO2	CO	NOx
ZERO				
Instrument	0.00	0.00	0.00	0.00
Cylinder	0.00	0.00	0.00	0.00
Difference (%)	0.00	0.00	0.00	0.00
LOW LEVEL				
Instrument				
Cylinder				
Difference (%)				
MID LEVEL				
Instrument	12.00	7.05	51.20	12.70
Cylinder	11.99	7.00	50.80	12.60
Difference (%)	0.04	0.33	0.40	0.40
HIGH LEVEL				
Instrument	20.35	12.12	78.00	24.38
Cylinder	20.05	11.97	77.10	24.40
Difference (%)	1.20	1.00	0.90	-0.10

POST TEST LINEARITY	Cylinder	Instrument
	O2	
Zero	0.00	0.00
High Level	20.05	20.35
Slope	0.99	
Intercept	0.00	Status
Predicted Value	12.17	<1
Linearity (%)	-0.68	PASS
	CO2	
Zero	0.00	0.00
High Level	11.97	12.12
Slope	0.99	
Intercept	0.00	Status
Predicted Value	7.09	<1
Linearity (%)	-0.25	PASS
	CO	
Zero	0.00	0.00
High Level	77.10	78.00
Slope	0.99	
Intercept	0.00	Status
Predicted Value	51.39	<1
Linearity (%)	-0.19	PASS
	NOX	
Zero	0.00	0.00
High Level	24.40	24.38
Slope	1.00	
Intercept	0.00	Status
Predicted Value	12.59	<1
Linearity (%)	0.45	PASS

APPENDIX C - Laboratory Data

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)

Client Project No.: G21-008
Date Received: August 23, & 30, 2006
Date Analyzed: August 29, & 30, 2006

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppmv)			
CO	TK P	6.31	6.45	6.38	1.1
CH_4	TK P	227000	228000	228000	0.22
CO_2	TK P	224000	225000	224000	0.22
Ethane	TK P	<5	<5	---	---
TGNMO	TK P	174	174	174	0.06
CO_2 in ICV (in trap, transfer tanks)	ICV Q	1540	1530	1540	0.33
		(Concentration in %v)			
Oxygen	TK P	6.04	5.89	5.96	1.3

A set of 2 TCA samples, laboratory numbers 02356-(13-14), was analyzed for CO, CH_4, CO_2, and total gaseous non-methane organics (TGNMO). Agreement between repeat analyses is a measure of precision and is shown in the column "% Difference from Mean". The average % Difference from Mean for 6 repeat measurements from the sample set of 2 TCA samples is 0.53%.

Gas standards (containing CO, CH_4, CO_2 and isobutane) used for TCA analyses, were prepared and certified by Praxair.

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Source Location : GC Environmental / Hewitt Pit
Date Received: August 23, 2006
Date Analyzed: August 25, & 29, 2006

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppmv)			
Methane	S5	<1	<1	---	---
	S6	<1	<1	---	---
Ethane	S5	<1	<1	---	---
	S6	<1	<1	---	---
TGNMO	S5	3.84	3.68	3.76	2.1
	S6	6.22	6.13	6.18	0.73

		Repeat Analysis Run #1	Repeat Analysis Run #2	Repeat Analysis Run #3	Mean Conc.	% Diff. From Mean
		(Concentration in ppmv)				
Impinger TOC	Impinger H1	2.15	2.07	2.12	2.11	0.32
	Impinger H2	1.49	1.48	1.45	1.47	1.6

A set of 2 SUMMA canister/impinger samples, laboratory number 02356-(11 - 12), was analyzed for methane and total gaseous non-methane organics (TGNMO) & TOC. Agreement between repeat analysis is a measure of precision and is shown in the column "% Difference from Mean". The average % Difference from Mean for 4 repeat measurements from the sample set of 2 SUMMA canister/impinger samples is 1.2%.

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environmental consultants
laboratory services

LABORATORY ANALYSIS REPORT

Hydrogen Sulfide and Reduced Sulfur Compounds
Analysis in Inlet Tedlar Bag Sample

Report Date: August 29, 2006
Client: Horizon
Project Location: GC Environmental / Hewitt LF
Client Project No.: G21-008
Date Received: August 23, 2006
Date Analyzed: August 24, 2006

ANALYSIS DESCRIPTION

Hydrogen sulfide was analyzed by gas chromatography with a Hall electrolytic conductivity detector operated in the oxidative sulfur mode. All other components were measured by GC/ Mass Spec.

AtmAA Lab No.:	02356-15
Sample I.D.:	G21010
	TB-IN-A
Components	*(Concentration in ppmv)*
Hydrogen sulfide	16.7
Carbonyl sulfide	<0.2
Methyl mercaptan	<0.2
Ethyl mercaptan	<0.2
Dimethyl sulfide	<0.2
Carbon disulfide	<0.1
Isopropyl mercaptan	<0.2
n-propyl mercaptan	<0.2
Dimethyl disulfide	<0.1
TRS	16.7

TRS - total reduced sulfur

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)
(continued)

Sulfur Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppmv)			
Hydrogen sulfide	TB-IN-A	17.9	15.5	16.7	7.2
Carbonyl sulfide	TB-IN-A	<0.2	<0.2	---	---
Methyl mercaptan	TB-IN-A	<0.2	<0.2	---	---
Ethyl mercaptan	TB-IN-A	<0.2	<0.2	---	---
Dimethyl sulfide	TB-IN-A	<0.2	<0.2	---	---
Carbon disulfide	TB-IN-A	<0.1	<0.1	---	---
Iso-propyl mercaptan	TB-IN-A	<0.2	<0.2	---	---
n-propyl mercaptan	TB-IN-A	<0.2	<0.2	---	---
Dimethyl disulfide	TB-IN-A	<0.1	<0.1	---	---

One Tedlar bag sample, laboratory number 02356-15, was analyzed for SCAQMD Rule 1150.1 components, hydrogen sulfide, and total reduced sulfur compounds. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % Difference from Mean for 9 repeat measurements from one Tedlar bag sample is 2.1%.

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)

Client Project No.: G21-008
Date Received: August 23, 2006
Date Analyzed: August 24, 2006

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
Hydrogen sulfide	TB-OUT-A	<500	<500	---	---
Benzene	TB-OUT-A	0.37	0.38	0.38	1.3
Benzylchloride	TB-OUT-A	<0.8	<0.8	---	---
Chlorobenzene	TB-OUT-A	<0.4	<0.4	---	---
Dichlorobenzenes	TB-OUT-A	<1.1	<1.1	---	---
1,1-dichloroethane	TB-OUT-A	<0.4	<0.4	---	---
1,2-dichloroethane	TB-OUT-A	<0.3	<0.3	---	---
1,1-dichloroethylene	TB-OUT-A	<0.4	<0.4	---	---
Dichloromethane	TB-OUT-A	0.45	0.42	0.44	3.4
1,2-dibromoethane	TB-OUT-A	<0.4	<0.4	---	---
Perchloroethylene	TB-OUT-A	<0.3	<0.3	---	---
Carbon tetrachloride	TB-OUT-A	<0.3	<0.3	---	---
Toluene	TB-OUT-A	0.73	0.73	0.73	0.0
1,1,1-trichloroethane	TB-OUT-A	<0.3	<0.3	---	---
Trichloroethene	TB-OUT-A	<0.3	<0.3	---	---
Chloroform	TB-OUT-A	<0.3	<0.3	---	---
Vinyl chloride	TB-OUT-A	<0.4	<0.4	---	---
m+p-xylenes	TB-OUT-A	0.78	0.85	0.82	4.3
o-xylene	TB-OUT-A	<0.3	<0.3	---	---

One Tedlar bag sample, laboratory number 02356-16, was analyzed for SCAQMD Rule 1150.1 components. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % Difference from Mean for 4 repeat measurements from one Tedlar bag sample is 2.2%.

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
GC Environmental/Hewitt LF	North Hollywood, CA
Project No. G21-008	Field Logbook No.
Sampler: (Signature) [signature]	Chain of Custody Tape No.

ANALYSES

Sample No./ Identification	~~Date~~	Date ~~Time~~	Lab Sample Number	Type of Sample	SCAQMD 25.3	TCA Complete w/02	Imp # / Trap #	Rule 1150.1 List	SCAQMD 307.91	Hold as Back Up	Blank H3 REMARKS
Summa S5			02356-11	6L Summa	X		H1				Flare Outlet
S6			12	↓	X		H2				↓
Tank P			13	12L Tank		X	H				Flare Inlet
Q			14	↓		X	F				↓
G21010-TB-IN-A			15	5L Tedlar Bag				X	X		
G21010-TB-IN-B			~~16~~	↓						X	↓
G21010-TB-OUT-A			-16					X			Flare Outlet
G21010-TB-OUT-B				↓						X	↓

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	8/23/06	1630			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
			[signature]	8-23-06	4:30

Sample Disposal Method:	Disposed of by: (Signature)	Date	Time

SAMPLE COLLECTOR

HORIZON AIR MEASUREMENT SERVICES, INC
996 Lawrence Drive, Suite 108
Newbury Park, CA 91320
(805) 498-8781 Fax (805) 498-3173

ANALYTICAL LABORATORY

Atm AA
Calabasas, CA

№ 8831

DATA SHEET FOR PARTICULATE MATTER SCAQMD METHOD 5.1

DATE SAMPLED: 08/23/06
DATE EXTRACTED: 08/25/06

	SAMPLE ID	BEAKER/ FILTER ID	VOLUME	INITIAL	FINAL	NET WEIGHT(g)
A - FILTER CATCH						0.0000
FILTER ACID						0.0000
FILTER SULFATE						
						0.0000
B - PROBE CATCH						0.0000
PROBE ACID						
PROBE SULFATE						0.0000
C - IMP.CATCH(INSOL)	EF-BL	G6015	173	0.1148	0.1144	0.0000
INSOLUBLE ACID						0.0000
INSOLUBLE SULFATE						0.0000
D - IMP. CATCH (SOL)	DI-BL	6204	173	29.2046	29.2050	0.0004
SOLUBLE ACID						0.0000
SOLUBLE SULFATE						0.0000
E - ORGANIC EXTRACT						0.0000
TOTAL PARTICULATE	(A+B+C+D+E)					0.0004
SOLID PARTICULATE	(A+B+C+D)					0.0004

APPENDIX D - Field Data

TOTAL COMBUSTION ANALYSIS
SCAQMD METHOD 25
FIELD SAMPLING DATA SHEET

Job #: 621-010

Facility: Hewitt L.F

Location: N. Hollywood, CA

Date: 08/23/06

Operator: SB, TW

Control Device: FLARE

Sample Location: INLET

Ambient Temp.: 100 °F

Baro. Pressure: 29.09

SAMPLE A

Tank #: P **Trap #:** H

Initial Vacuum: 1.3 torr

Final Vacuum: 12" Hg

Start Time: 1342

TIME (min.)	VACUUM ("Hg)	FLOW (cc/min)
00	28.5	160
05	27	↓
10	26	↓
15	24.5	↓
20	23	↓
25	21.5	↓
30	20	↓
35	19	↓
40	17.5	↓
45	16	↓
50	15	↓
55	13.5	↓
60	12	↓

SAMPLE B

Tank #: Q **Trap #:** F

Initial Vacuum: 1.3 torr

Final Vacuum: 12" Hg

End Time: 1442

TIME (min.)	VACUUM ("Hg)	FLOW (cc/min)
00	29.5	160
05	28	↓
10	26.5	↓
15	25	↓
20	23.5	↓
25	22	↓
30	21	↓
35	19	↓
40	18	↓
45	16.5	↓
50	15	↓
55	13.5	↓
60	12	↓

LEAK RATE

Pre Test : JJ

Post Test: J/J SB

INTEGRATED BAG SAMPLING DATA FORM

Run Number: 1

Date: 8/23/08 Plant: Hewitt Landfill

Sampling Location: Flare Outlet

Barometric Pressure:

Ambient Temp. °F: 110 Stack Temp. °F: ~1400

Operator: TW, SB

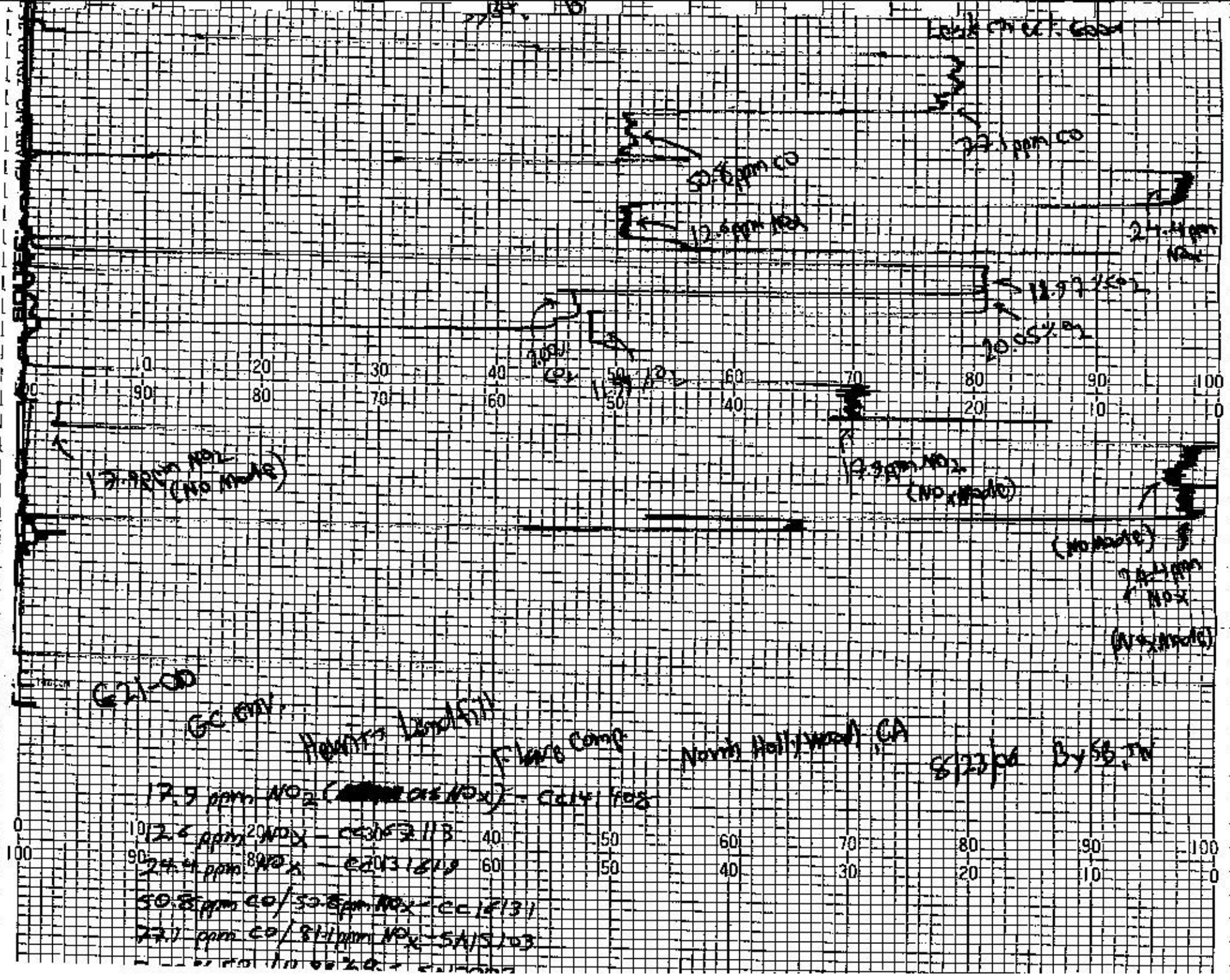
Time	Traverse Point	Rate Meter Flow Rate (Q), cm^3/min.		% Dev.[a]
00	Single	67	67	0
10		67	67	0
20		67	67	0
30		67	67	0
40		67	67	0
50		67	67	0
60		67	67	0
		Avg. =		

a

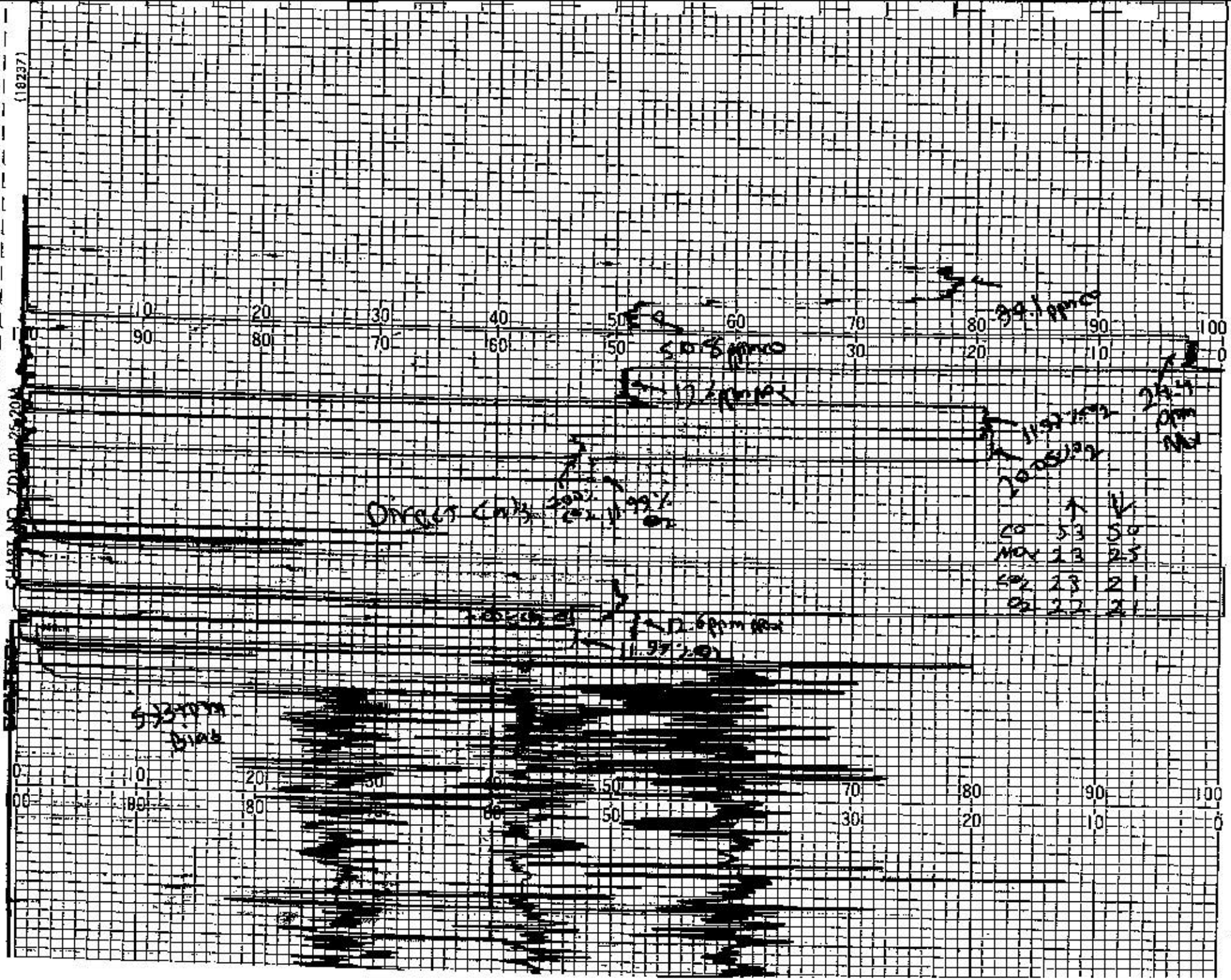
$$\% \ Dev. = \left(\frac{Q - Q_{avg}}{Q_{avg}}\right) 100; \ must \ be \leq 10\%$$

H:\WPDOCS\FORMS\Integrated Bag Sampling Form.wpd

APPENDIX E - CEM Strip Charts



Leak check: Good
77.1 ppm CO
50.8 ppm CO
12.6 ppm NOx
24.4 ppm NOx
11.97% CO2
20.05% O2
17.9 ppm NO2 (No Mode)
17.9 ppm NO2 (NOx Mode)
(No Mode)
24.4 ppm NOx
(NOx Mode)
G21-00
GC Env.
Hearst Landfill
Flare Comp
North Hollywood, CA
8/23/06 By SB, TN
17.9 ppm NO2 ([redacted] as NOx) - CC141408
12.6 ppm NOx - CC3062113
24.4 ppm NOx - CC131619
50.8 ppm CO / 50.8 ppm NOx - CC16131
77.1 ppm CO / 81.1 ppm NOx - SA15103



(18237)
CHART NO. 701 01 25 20M
Direct Calc
CO 53 50
NOx 23 25
CO2 23 21
O2 22 21

OPERATING DATA
FOR LANDFILL FLARES

Facility: Hewitt Landfill

Date: 8/23/06

Job No.: G21-010

Run #: 1

Source: Flare

Wet Bulb 103 °F
Dry Bulb 130 °F

Time	Landfill Gas Flow (CFM)	Condensate Injection (NA)	Flare Temerature (°F)	Fuel Pressure (" H_2O)	Fuel Temp (°F)
1345	671	NA	1565	14	130
1355	675		1572	14	130
1405	677		1537	14	132
1415	674		1567	14	132
1425	674		1558	14	132
1435	677		1540	14	131
1445	670		1568	14	130
Avc	674.0		1558.1	14.0	131.0

Horizon Air Measurement Services, Inc.
H:\WPDOCS\FORMS\Fuel Gas Flow Rate For Landfill Flares

Nozzle Calibration Data
Continuous Quartz

Date: 07/10/06
Calibrated by: Bill Jones

QUARTZ NOZZLES

NOZZLE ID	D1 ±.001	D2 ±.001	D3 ±.001	Delta D (.004 Max)	Avg. D
CQ-1 (10')	1.027	1.020	1.026		1.024
CQ-2 (10')	1.049	1.044	1.047		1.047
CQ-3 (10')	1.051	1.049	1.051		1.050
CQ-4 (10')	0.996	0.990	0.997		0.994
CQ-5 (10')	1.014	1.014	1.014		1.014
CQ-6 (10')	1.009	1.009	1.006		1.008
CQ-7 (6')	1.021	1.022	1.021		1.021
CQ-8 (6')	1.054	1.054	1.056		1.055
CQ-9 (6')	1.053	1.052	1.052		1.052

INCONEL 10-2

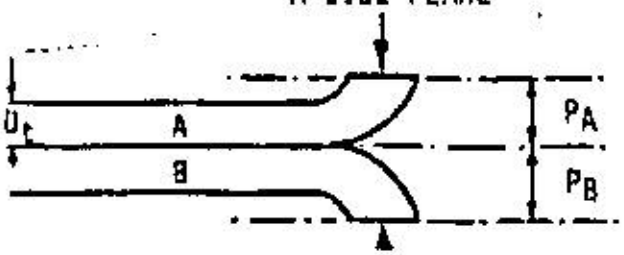
TYPE S PITOT TUBE INSPECTION DATA FORM

Tubing diameter, D_t 0.394 in.

Pitot Tube Assembly Level? Yes / No

Pitot Tube Openings Damaged? Yes / No

A-SIDE PLANE



NOTE: 0.848

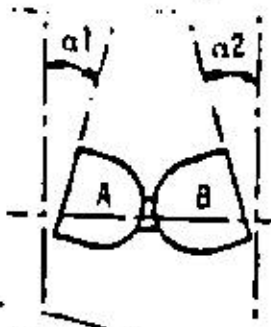
$1.05\ D_t < P < 1.50\ D_t$

$P_A = P_B$

0.4137 = 0.5910

P_A = 0.424 in.

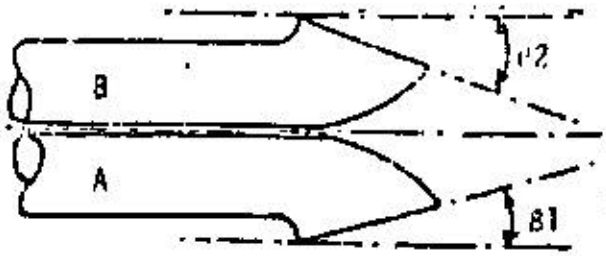
P_B = 0.424 in.



α_1 = 1.0°

α_2 = 1.5°

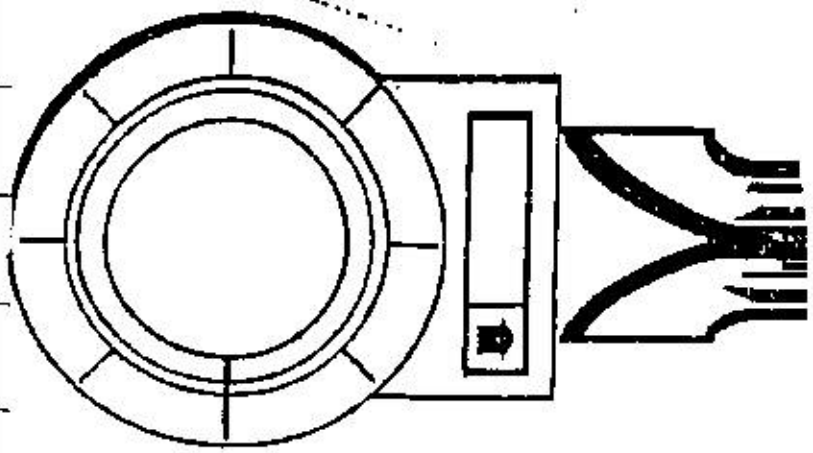
(< 10°)

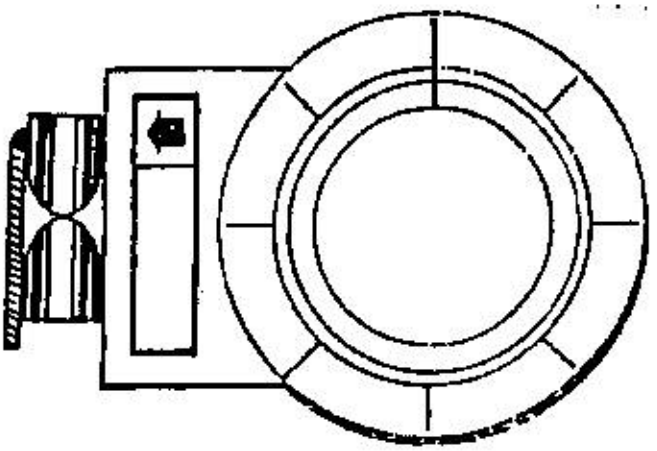


β_1 1.0

β_2 1.0

(< 5°)





Level Position to Find γ = 1.5

Z = A sin γ 0.022 in. (< 1/8 in.)

Level Position to find β 1.0

W = A sin β = 0.015 in. (< 1/32 i

Comments

Checked by: [signature]

Date: 07-07-06

Calibration Required? NO

069

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (714) 542-6689

HORIZON AIR
455 E WOOLEY RD
OXNARD, CA 93030
USA

6/2/2006

Praxair Order No. **410897-00**
Customer Reference No.
Intended End User: **Horizon Air**

Product Lot/Batch No. **109517305**
Praxair Part No. **EV NINX19MP-AS**

CERTIFICATE OF ANALYSIS
Primary Standard

Component	Requested Concentration	Certified Concentration	Analytical Principle	Analytical Accuracy
Nitrogen dioxide (as NOx)	**19 ppm**	**17.9 ppm**	**U**	**±1%**
Nitrogen	**balance**	**balance**		

Analytical Instruments: **Thermo Environmental~42H~S/N 44979-273 ~Chemiluminescence**
Cylinder Style: **AS**
Cylinder Pressure @70F: **2000 psig**
Cylinder Volume: **141 ft3**
Valve Outlet Connection: **CGA-660**
Cylinder No(s). **CC 141408**
Comments: **All values not valid below 150 psig.**
NO=0.9 ppm value for reference use only.

Filling Method: **Gravimetric**
Date of Fill: **6/22/2005**
Expiration Date: **6/5/2008**

Analyst: **Henry Koung**

QA Reviewer: **Phu Tien Nguyen**

The gas calibration cylinder standard prepared by Praxair Distribution is considered a certified standard. It is prepared by gravimetric, volumetric, or partial pressure techniques. The calibration standard provided is certified against Praxair Reference Materials which are either prepared by weights traceable to the National Institute of Standards and Technology (NIST) or by using NIST Standard Reference Materials where available.

Note: All expressions for concentration (e.g., % or ppm) are for gas phase by volume (e.g., ppmv) unless otherwise noted.

Key to Analytical Techniques:

A Flame Ionization with Methanizer	B Gas Chromatography with Discharge Ionization Detector	C Gas Chromatography with Electrolytic Conductivity Detector	D Gas Chromatography with Flame Ionization Detector
E Gas Chromatography with Flame Photometric Detector	F Gas Chromatography with Helium Ionization Detector	G Gas Chromatography with Methanizer Carbonizer	H Gas Chromatography with Photoionization Detector
I Gas Chromatography with Reduction Gas Analyzer	J Gas Chromatography with Thermal Conductivity Detector	K Gas Chromatography with Ultrasonic Detector	L Infrared - FTIR or NDIR
M Mass Spectrometry - MS or GC/MS	N Proprietary	O Paramagnetic	P Specific Water Analyzer
Q Total Hydrocarbon Analyzer	R Wet Chemical	S Detector Tube	T Odor
U Chemiluminescence	V Gravimetric	W Electrolytic Cell/Electrochemical	X Photoionization
Y Pulsed Fluorescence	Z UV Spectrometry		

IMPORTANT
The information contained herein has been prepared at your request by personnel within Praxair Distribution. While we believe the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall liability of Praxair Distribution, Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.

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PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (714) 542-6689

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER HORIZON AIR **P.O NUMBER** 8598

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE GMIS	2629a	CC 72761	24.81 ppm

ANALYZER READINGS

R = REFERENCE STANDARD *Z = ZERO GAS* *C = GAS CANDIDATE*

1. **COMPONENT** NITRIC OXIDE GMIS **ANALYZER MAKE-MODEL-S/N** Thermo Env. 42H S/N 42H-44979-273

ANALYTICAL PRINCIPLE CHEMILUMINESCENCE **LAST CALIBRATION DATE** 05/02/05

FIRST ANALYSIS DATE 04/26/05 **SECOND ANALYSIS DATE** 05/02/05

Z -0.3	R 24.2	C 23.5	CONC. 24.1	Z 0.0	R 24.9	C 23.9	CONC. 23.9
R 25.2	Z -0.7	C 24.1	CONC. 23.8	R 24.8	Z 0.0	C 23.8	CONC. 23.8
Z -0.8	C 24.3	R 25.5	CONC. 23.7	Z 0.0	C 23.8	R 24.8	CONC. 23.8
U/M ppm		MEAN TEST ASSAY	23.9	U/M ppm		MEAN TEST ASSAY	23.8

VALUE NOT VALID BELOW 150 PSIG.
NOX VALUE FOR REFERENCE USE ONLY.

THIS CYLINDER NO. CC 232619
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121
OF TRACEABILITY PROTOCOL NO. Rev. 9/97
PROCEDURE G1
CERTIFIED ACCURACY ± 1 **% NIST TRACEABLE**
CYLINDER PRESSURE 2000 **PSIG**
CERTIFICATION DATE 05/02/05
EXPIRATION DATE 15/02/07 **TERM** 24 MONTHS

CERTIFIED CONCENTRATION

NITRIC OXIDE	23.8 ppm
NITROGEN	BALANCE
NOx	24.4 ppm

ANALYZED BY PHIL KIM **CERTIFIED BY** JOSEPH CHARLES

IMPORTANT
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Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 583-2151
Facsimile: (714) 542-0889

~~EM~~ STOCK

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER HORIZON AIR MEASUREMENTS **P.O NUMBER** 8512

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE GMIS	vaSRM#1684b	CC 136077	99.1 ppm
CARBON MONOXIDE GMIS	va.SRM#1679	CC 160064	101.3 ppm

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. **COMPONENT** NITRIC OXIDE GMIS **ANALYZER MAKE-MODEL-S/N** BECKMAN 951A S/N801101354
   ANALYTICAL PRINCIPLE CHEMILUMINESCENCE **LAST CALIBRATION DATE** 01/03/05
   FIRST ANALYSIS DATE 01/07/05 **SECOND ANALYSIS DATE** 01/14/05

Z	0.0	R	991.3	C	799.1	CONC.	79.9	Z	0.0	R	965.0	C	780.9	CONC.	80.2
R	992.5	Z	0.0	C	801.6	CONC.	80.0	R	966.0	Z	0.0	C	779.8	CONC.	80.0
Z	0.0	C	802.6	R	993.2	CONC.	80.1	Z	0.0	C	781.0	R	966.3	CONC.	80.1

U/M mV **MEAN TEST ASSAY** 80.0 U/M mV **MEAN TEST ASSAY** 80.1

2. **COMPONENT** CARBON MONOXIDE GMIS **ANALYZER MAKE-MODEL-S/N** Siemens Ultramat 5E S/N A12-739
   ANALYTICAL PRINCIPLE NDIR **LAST CALIBRATION DATE** 01/03/05
   FIRST ANALYSIS DATE 01/07/05 **SECOND ANALYSIS DATE** 01/14/05

Z	0.0	R	101.3	C	77.2	CONC.	77.2	Z	0.0	R	101.3	C	77.2	CONC.	77.2
R	101.3	Z	0.0	C	77.2	CONC.	77.2	R	101.3	Z	0.0	C	77.1	CONC.	77.1
Z	0.0	C	77.2	R	101.5	CONC.	77.0	Z	0.0	C	77.2	R	101.4	CONC.	77.1

U/M ppm **MEAN TEST ASSAY** 77.1 U/M ppm **MEAN TEST ASSAY** 77.1

VALUES NOT VALID BELOW 150 PSIG
NOx VALUE FOR REFERENCE ONLY.

THIS CYLINDER NO. BA 15103
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121
OF TRACEABILITY PROTOCOL NO. REV 9/97
PROCEDURE G1
CERTIFIED ACCURACY ± 1 **% NIST TRACEABLE**
CYLINDER PRESSURE 2000 **PSIG**
CERTIFICATION DATE 01/14/05
EXPIRATION DATE 01/14/07 **TERM** 24 MONTHS

CERTIFIED CONCENTRATION

NITRIC OXIDE	80.0 ppm
CARBON MONOXIDE	77.1 ppm
NITROGEN	BALANCE
NOx	81.1 ppm

ANALYZED BY MICHAEL TSANG *CERTIFIED BY* CHRIS VU

IMPORTANT
Information contained in this document is provided by qualified experts within Praxair Distribution, Inc. based on information available at the time of preparation. The information is accurate to the extent of the specific analysis performed. No warranty or representation is made as to the accuracy or completeness of the information for any particular purpose. The information is offered with the understanding that any use of the information is the sole responsibility of the user. Praxair Distribution, Inc. shall not be liable for any loss or damage resulting from the use of the information contained herein. Praxair Distribution, Inc. makes no other warranty or representation.

PRAXAIR

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5700 South Alameda Stree
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (714) 542-6689

6/14/2006

Horizon Air
996 Lawrence Dr Ste 108
Newbury Park, CA 91320
USA

Attention: DRF

Praxair Order No. **558202-00**
Customer Reference No.
Intended End User: **HORIZON AIR MEASUREMENTS**

Product Lot/Batch No. **109612303**
Praxair Part No. **NI CDOXP80-AS**

CERTIFICATE OF ANALYSIS
Primary Standard

Component	Requested Concentration	Certified Concentration	Analytical Principle	Analytical Accuracy
Carbon dioxide	**12 %**	**11.97 %**	**V**	**±1 %**
Oxygen	**20 %**	**20.05 %**	**V**	**±1 %**
Nitrogen	**balance**	**balance**		

Analytical Instruments: **Mettler~ID5~Gravimetric~Gravimetric**
Cylinder Style: **AS**
Cylinder Pressure @70F: **2000 psig**
Cylinder Volume: **151 ft3**
Valve Outlet Connection: **CGA-590**
Cylinder No(s). **CC 181295**
Comments: **VALUES NOT VALID BELOW 150 PSIG.**

Filling Method: **Gravimetric**
Date of Fill: **5/3/2006**
Expiration Date: **12/31/2009**

Analyst: **Ben Chen**

QA Reviewer: **Phu Tien Nguyen**

The gas calibration cylinder standard prepared by Praxair Distribution is considered a certified standard. It is prepared by gravimetric, volumetric, or partial pressure techniques. The calibration standard provided is certified against Praxair Reference Materials which are either prepared by weights traceable to the National Institute of Standards and Technology (NIST) or by using NIST Standard Reference Materials where available.

Note: All expressions for concentration (e.g., % or ppm) are for gas phase, by volume (e.g., ppmv) unless otherwise noted.

Key to Analytical Techniques:

A Flame Ionization with Methanizer	B Gas Chromatography with Discharge Ionization Detector	C Gas Chromatography with Electrolytic Conductivity Detector	D Gas Chromatography with Flame Ionization Detector
E Gas Chromatography with Flame Photometric Detector	F Gas Chromatography with Helium Ionization Detector	G Gas Chromatography with Methanizer Carbonizer	H Gas Chromatography with Photoionization Detector
I Gas Chromatography with Reduction Gas Analyzer	J Gas Chromatography with Thermal Conductivity Detector	K Gas Chromatography with Ultrasonic Detector	L Infrared - FTIR or NDIR
M Mass Spectrometry - MS or GC/MS	N Proprietary	O Paramagnetic	P Specific Water Analyzer
Q Total Hydrocarbon Analyzer	R Wet Chemical	S Detector Tube	T Odor
U Chemiluminescence	V Gravimetric	W Electrolytic Cell/Electrochemical	X Photoionization
Y Pulsed Fluorescence	Z UV Spectrometry		

IMPORTANT
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Making Our Planet More Productive

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive, Diamond Bar, CA 91765

Permit No.
D96633
A/N 312135
Page 1

PERMIT TO CONSTRUCT/OPERATE

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership. If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner or Operator: CALMAT PROPERTIES CO (HEWITT PIT LANDFIL ID 003520
3200 SAN FERNANDO RD
LOS ANGELES, CA 90065-1415

Equipment Location: 7245 LAUREL CANYON BL, NORTH HOLLYWOOD, CA 91605-3709

Equipment Description:

LANDFILL GAS COLLECTION AND FLARING SYSTEM CONSISTING OF:

1. FLARE, JOHN ZINC, MODEL ZTOF, 8'-0" DIA. X 24'-0" H., 20,000,000 BTU/HR, WITH AN AUTOMATIC SHUTOFF VALVE FOR LANDFILL GAS INLET, FLAME ARRESTOR, UV SCANNER AND TWO AUTOMATIC TEMPERATURE CONTROLLED AIR DAMPERS.

2. EXHAUST SYSTEM WITH TWO 15 H.P. BLOWERS VENTING 40 COLLECTION WELLS.

3. FORTY FIVE COMBINATION PROBES/GAS MIGRATION CONTROL WELLS VENTED TO THE EXHAUST SYSTEM.

4. INLET SEPARATOR, V101, 1'-8" O.D. X 7'-6" H.

5. CONDENSATE WATER PUMP, P101, PNEUMATIC

6. CONDENSATE DESTRUCTION STATION WITH AN AIR COMPRESSOR, OIL-WATER SEPARATOR, TWO 1000 GALLONS CAPACITY STORAGE TANKS, PNEUMATIC PUMP AND SPRAY NOZZLE.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive, Diamond Bar, CA 91765

Permit No.
D96633
A/N 312135
Page 3

PERMIT TO CONSTRUCT/OPERATE

CONTINUATION OF PERMIT TO CONSTRUCT/OPERATE

PORTS SHALL BE LOCATED AT THE ELEVATION OF THE TEMPERATURE SENSOR LOCATIONS. SAFE AND ADEQUATE ACCESS SHALL BE PROVDED FOR ALL VIEW PORTS UPON REQUEST BY AQMD PERSONNEL.

17. THE MAXIMUM FLARE SKIN TEMPERATURE AT LOCATIONS 4 FEET BELOW AND ABOVE SAMPLE PORTS SHALL NOT EXCEED 250 DEGREES F, EXCEPT IN SMALL ISOLATED AREAS WHERE INTERNAL METAL INSULATION PORTS ARE IN CONTACT WITH THE FLARE WALL. THESE AREAS SHALL NOT EXCEED 300 DEGREES F.

18. THE FLAME IN THE FLARE SHALL REMAIN BELOW THE HEIGHT OF THE FLARE'S OPERATING THERMOCOUPLE AT ALL TIMES.

19. ANY BREAKDOWN OR MALFUNCTION OF THE LANDFILL GAS FLARE RESULTING IN THE EMISSION OF RAW LANDFILL GAS SHALL BE REPORTED TO THE AQMD PUBLIC FACILITIES MANAGER WITHIN ONE HOUR AFTER OCCURRENCE AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.

20. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST TWO (2) YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST. A RECORD OF THE HOURS OF OPERATION SHALL BE INCLUDED.

21. EMISSIONS OF AIR CONTAMINANTS FROM THE FLARE EXHAUST SHALL NOT EXCEED THE FOLLOWING LIMITS:

REACTIVE ORGANIC GASES	2.0 LBS/HR
OXIDES OF NITROGEN	1.2 LBS/HR
OXIDES OF SULFUR	0.15 LBS/HR
CARBON MONOXIDE	4.0 LBS/HR
PM10	3.6 LBS/HR

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive, Diamond Bar, CA 91765

Permit No.
D96633
A/N 312135
Page 4

PERMIT TO CONSTRUCT/OPERATE

CONTINUATION OF PERMIT TO CONSTRUCT/OPERATE

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 5 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

Dorris M. Bailey

By Dorris M. Bailey/tk
2/28/1996

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive, Diamond Bar CA 91765

Permit No.
D96633
A/N 312135
Page 3

PERMIT TO CONSTRUCT/OPERATE

CONTINUATION OF PERMIT TO CONSTRUCT/OPERATE

3. THIS EQUIPMENT SHALL BE OPERATED AND MAINTAINED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.

4. THE LANDFILL GAS COLLECTED SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION.

5. THE TEMPERATURE INDICATOR AND RECORDER FOR THE FLARE WHICH MEASURES AND RECORDS THE GAS TEMPERATURE IN THE FLARE STACK SHALL BE MAINTAINED IN GOOD OPERATING CONDITION AND SHALL BE OPERATED WHENEVER THE FLARE IS IN OPERATION.

6. WHENEVER THE FLARE IS IN OPERATION, A TEMPERATURE OF NOT LESS THAN 1400 DEGREES F, AS MEASURED BY THE TEMPERATURE INDICATOR AND RECORDER, SHALL BE MAINTAINED IN THE FLARE STACK.

7. THE FLARE FLAME SAFEGUARD SYSTEM WHICH INCLUDES AN AUTOMATIC BLOWER AND FLARE INLET VALVE SHUTOFF SYSTEM AND AN AUTOMATIC DIALER SHALL BE OPERATED WHENEVER THE FLARE IS IN OPERATION.

8. THE SAFETY SYSTEM SPECIFIED ABOVE SHALL BE MAINTAINED IN OPERATING CONDITION AND SHALL BE TESTED MONTHLY FOR PROPER OPERATION AND THE RESULTS RECORDED.

9. THE LANDFILL GAS SUPPLY LINE TO THE FLARE SHALL BE EQUIPPED WITH A FLOW INDICATING AND RECORDING DEVICE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED IN THE FLARE. THE FLOW INDICATING AND RECORDING DEVICE SHALL BE IN OPERATION WHENEVER THE FLARE IS IN OPERATION.

10. THE TOTAL VOLUME OF LANDFILL GAS BURNED IN THE FLARE SHALL NOT EXCEED 1,500 STANDARD CUBIC FEET PER MINUTE.

11. THE FLOW RATE OF CONDENSATE DIRECTED TO THE FLARE FOR COMBUSTION SHALL NOT EXCEED 2 GALLONS PER MINUTE.

12. A FLOW METER AND RECORDER SHALL BE MAINTAINED TO METER AND RECORD THE CONDENSATE FLOW RATE TO THE FLARE.

13. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF DAY.

14. ADEQUATE AND SAFE ACCESS TO ALL SOURCE TEST PORTS SHALL BE PROVIDED BY THE APPLICANT WITHIN 24 HOURS OF A REQUEST BY THE AQMD TO CONDUCT A TEST.

15. THE LANDFILL GAS HEADER SHALL BE EQUIPPED WITH A 3/4 INCH NPT SAMPLE PORT WITH PLUG, LOCATED BETWEEN THE BLOWER AND THE FLARE TO ALLOW THE COLLECTION OF A LANDFILL GAS SAMPLE AND TO ALLOW FOR FLOW MONITORING USING A PITOT TUBE.

16. THE FLARE SHALL BE EQUIPPED WITH A SUFFICIENT NUMBER OF VIEW PORTS TO ALLOW VISUAL INSPECTION OF THE FLAME HEIGHT WITHIN THE FLARE AT ALL TIMES. THE VIEW

ORIGINAL

APPENDIX H - Permit to Operate

PRAXAIR

5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (714) 542-6689

7/3/2006
CM

Horizon Air
996 Lawrence Dr Ste 108
Newbury Park, CA 91320
USA

Attention: DRF

Praxair Order No. **693063-00**
Customer Reference No.
Intended End User: **HORIZON AIR MEASUREMENTS**

Product Lot/Batch No. **109617306**
Praxair Part No. **EV NICDOXP1-AS**

CERTIFICATE OF ANALYSIS
Primary Standard

Component	Requested Concentration	Certified Concentration	Analytical Principle	Analytical Accuracy
Carbon dioxide	**7 %**	**7.00 %**	**V**	**±1 %**
Oxygen	**12 %**	**11.99 %**	**V**	**±1 %**
Nitrogen	**balance**	**balance**		

Analytical Instruments: **Mettler~ID5~Gravimetric~Gravimetric**
Cylinder Style: **AS**
Cylinder Pressure @70F: **2000 psig**
Cylinder Volume: **147 ft3**
Valve Outlet Connection: **CGA-590**
Cylinder No(s). **SA 10002**
Comments: **VALUES NOT VALID BELOW 150 PSIG.**

Filling Method: **Gravimetric**
Date of Fill: **6/22/2006**
Expiration Date: **7/3/2009**

Analyst: **Ben Chen**

QA Reviewer: **Phu Tien Nguyen**

The gas calibration cylinder standard prepared by Praxair Distribution is considered a certified standard. It is prepared by gravimetric, volumetric, or partial pressure techniques. The calibration standard provided is certified against Praxair Reference Materials which are either prepared by weights traceable to the National Institute of Standards and Technology (NIST) or by using NIST Standard Reference Materials where available.

Note: All expressions for concentration (e.g., % or ppm) are for gas phase by volume (e.g., ppmv) unless otherwise noted.

Key to Analytical Techniques:

A	Flame Ionization with Methanizer	B	Gas Chromatography with Discharge Ionization Detector	C	Gas Chromatography with Electrolytic Conductivity Detector	D	Gas Chromatography with Flame Ionization Detector
E	Gas Chromatography with Flame Photometric Detector	F	Gas Chromatography with Helium Ionization Detector	G	Gas Chromatography with Methanizer Carbonizer	H	Gas Chromatography with Photoionization Detector
I	Gas Chromatography with Reduction Gas Analyzer	J	Gas Chromatography with Thermal Conductivity Detector	K	Gas Chromatography with Ultrasonic Detector	L	Infrared - FTIR or NDIR
M	Mass Spectrometry - MS or GC/MS	N	Proprietary	O	Paramagnetic	P	Specific Water Analyzer
Q	Total Hydrocarbon Analyzer	R	Wet Chemical	S	Detector Tube	T	Odor
U	Chemiluminescence	V	Gravimetric	W	Electrolytic Cell/Electrochemical	X	Photoionization
Y	Pulsed Fluorescence	Z	UV Spectrometry				

IMPORTANT

The information contained herein has been prepared at your request by personnel within Praxair Distribution. While we believe the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any particular purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall liability of Praxair Distribution, Inc. arising out of the use of the information contained herein exceed the fee established for providing such information.

Making Our Planet More Productive

PRAXAIR

Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (714) 542-6689

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER HORIZON AIR

P.O NUMBER 8854

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON MONOXIDE GMIS	VS.SRM#1678	CC 160114	51.0 PPM
NITRIC OXIDE GMIS	SRM#1683b	CC 86223	49.5 ppm

ANALYZER READINGS

R=REFERENCE STANDARD *Z=ZERO GAS* *C=GAS CANDIDATE*

1. **COMPONENT** CARBON MONOXIDE GMIS **ANALYZER MAKE-MODEL-S/N** Siemens Ultramat 5E S/N A12-729

ANALYTICAL PRINCIPLE NDIR **LAST CALIBRATION DATE** 05/03/06

FIRST ANALYSIS DATE 05/12/06 **SECOND ANALYSIS DATE** 05/19/06

Z 0.0	R 51.0	C 50.8	CONC. 50.8	Z 0.0	R 51.0	C 50.8	CONC. 50.8
R 51.0	Z 0.0	C 50.6	CONC. 50.6	R 51.0	Z 0.0	C 50.8	CONC. 50.8
Z 0.0	C 50.8	R 51.1	CONC. 50.7	Z 0.0	C 50.8	R 51.0	CONC. 50.8

U/M ppm **MEAN TEST ASSAY** 50.7 U/M ppm **MEAN TEST ASSAY** 50.8

2. **COMPONENT** NITRIC OXIDE GMIS **ANALYZER MAKE-MODEL-S/N** BECKMAN 951A S/N#0101354

ANALYTICAL PRINCIPLE CHEMILUMINESCENCE **LAST CALIBRATION DATE** 05/01/06

FIRST ANALYSIS DATE 05/12/06 **SECOND ANALYSIS DATE** 05/19/06

Z 0	R 650	C 654	CONC. 49.8	Z 0	R 521	C 526	CONC. 50.0
R 651	Z 0	C 655	CONC. 49.8	R 522	Z 0	C 526	CONC. 49.9
Z 0	C 655	R 652	CONC. 49.8	Z 0	C 526	R 524	CONC. 49.7

U/M mV **MEAN TEST ASSAY** 49.8 U/M mV **MEAN TEST ASSAY** 49.9

VALUES NOT VALID BELOW 150 PSIG
NOX VALUE FOR REFERENCE ONLY

THIS CYLINDER NO. CC 16131
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121
OF TRACEABILITY PROTOCOL NO. REV 9/97
PROCEDURE G1
CERTIFIED ACCURACY ± 1 **% NIST TRACEABLE**
CYLINDER PRESSURE 2000 **PSIG**
CERTIFICATION DATE 05/19/06
EXPIRATION DATE 05/19/08 **TERM** 24 MONTHS

CERTIFIED CONCENTRATION

CARBON MONOXIDE	50.8 ppm
NITRIC OXIDE	49.8 ppm
NITROGEN	BALANCE
NOx	50.8 ppm

ANALYZED BY PHIL RIM

CERTIFIED BY PHU TIEN NGUYEN

IMPORTANT
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PRAXAIR

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CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER HORIZON AIR MEASUREMENTS **P.O NUMBER** 8769

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE GMIS	SRM#2629a	CC 137446	24.70 ppm

ANALYZER READINGS

R = REFERENCE STANDARD *Z = ZERO GAS* *C = GAS CANDIDATE*

1. **COMPONENT** NITRIC OXIDE GMIS **ANALYZER MAKE-MODEL-S/N** Thermo Env. 42C S/N 0518112467

ANALYTICAL PRINCIPLE Chemiluminosence **LAST CALIBRATION DATE** 12/01/05

FIRST ANALYSIS DATE 09/29/05 **SECOND ANALYSIS DATE** 12/14/05

Z 0.0	R 24.9	C 12.3	CONC. 12.3	Z 0.0	R 24.8	C 12.4	CONC. 12.3
R 24.8	Z 0.0	C 12.2	CONC. 12.2	R 24.7	Z 0.0	C 12.4	CONC. 12.4
Z 0.0	C 12.3	R 24.8	CONC. 12.3	Z 0.0	C 12.4	R 24.7	CONC. 12.4
U/M ppm		MEAN TEST ASSAY	12.3	U/M ppm		MEAN TEST ASSAY	12.4

VALUES NOT VALID BELOW 150 PSIG.
NOx VALUE FOR REFERENCE USE ONLY.
FIRST ANALYSIS WAS DONE AGAINST GMIS 24.83 ppm NO/N2.

THIS CYLINDER NO. CC 167113
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121
OF TRACEABILITY PROTOCOL NO. REV.9/97
PROCEDURE G1
CERTIFIED ACCURACY ± 1 **% NIST TRACEABLE**
CYLINDER PRESSURE 2000 **PSIG**
CERTIFICATION DATE 12/14/05
EXPIRATION DATE 12/14/07 **TERM** 24 MONTHS

CERTIFIED CONCENTRATION

NITRIC OXIDE	12.4 ppm
NITROGEN	BALANCE
NOx	12.6 ppm

ANALYZED BY Henry Koung ***CERTIFIED BY*** Jack Fu

IMPORTANT
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APEX INSTRUMENTS METHOD 5 PRE-TEST CONSOLE CALIBRATION
USING CALIBRATED CRITICAL ORIFICES
5-POINT ENGLISH UNITS

Meter Console Information	
Console Model Number	522/MB07
Console Serial Number	608193
DGM Model Number	S110
DGM Serial Number	1039620

Calibration Conditions			
Date	Time	15-Aug-06	7:35:00 AM
Barometric Pressure		29.2	in Hg
Theoretical Critical Vacuum[1]		13.8	in Hg
Calibration Technician		BJ - BI/MO	

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
X_v	17.647	cR/in Hg

[1]For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

[2]The Critical Orifice Coefficient, K', must be entered in English units, $(ft^3*R^{1/2})/(in.Hg*min)$.

Calibration Data

Run Time	Metering Console					Critical Orifice				
Elapsed	DGM Orifice ΔH	Volume Initial	Volume Final	Outlet Temp Initial	Outlet Temp Final	Serial Number	Coefficient	Amb Temp Initial	Amb Temp Final	Actual Vacuum
(θ)	(P_m)	(V_m)	(V_m)	(t_m)	(t_m)		K	(t_{amb})	(t_{amb})	
min	in H_2O	cubic feet	cubic feet	°F	°F		see above2	°F	°F	in Hg
40.0	0.3	124.850	137.135	72	73	RN-40	0.2351	75	75	23
26.0	0.8	137.135	149.034	73	74	RN-48	0.3487	75	76	21
20.0	1.1	149.034	160.760	74	76	RN-55	0.4462	75	75	20
15.0	1.9	160.760	172.785	74	77	RN-66	0.6087	75	76	17
13.0	3.3	172.785	186.355	75	79	RN-73	0.7903	76	76	16

Standardized Data

Dry Gas Meter		Critical Orifice	
($V_{m(std)}$)	($Q_{m(std)}$)	($Vcr_{(std)}$)	($Q_{cr(std)}$)
cubic feet	cfm	cubic feet	cfm
11.896	0.297	11.872	0.297
11.511	0.443	11.445	0.440
11.335	0.567	11.266	0.563
11.632	0.775	11.493	0.766
13.136	1.010	12.958	0.997

Results

Dry Gas Meter				
Calibration Factor		Flowrate	ΔH @	
Value	Variation	Std & Corr	0.75 SCFM	Variation
(Y)	(ΔY)	($Q_{m(std)corr}$)	(ΔH@)	(ΔΔH@)
		cfm	in H_2O	
0.998	0.006	0.297	1.672	-0.092
0.994	0.002	0.440	1.745	-0.019
0.994	0.002	0.563	1.805	0.041
0.987	-0.005	0.766	1.774	0.010
0.986	-0.006	0.997	1.825	0.061
0.992	Y Average		1.764	ΔH@ Average

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature [signature] Date 8-15-06

020

STACK TEMPERATURE SENSOR CALIBRATION DATA- APEX PROBE ASSEMBLIES

Date: 07/06/06
Calibrated by: B. Jones

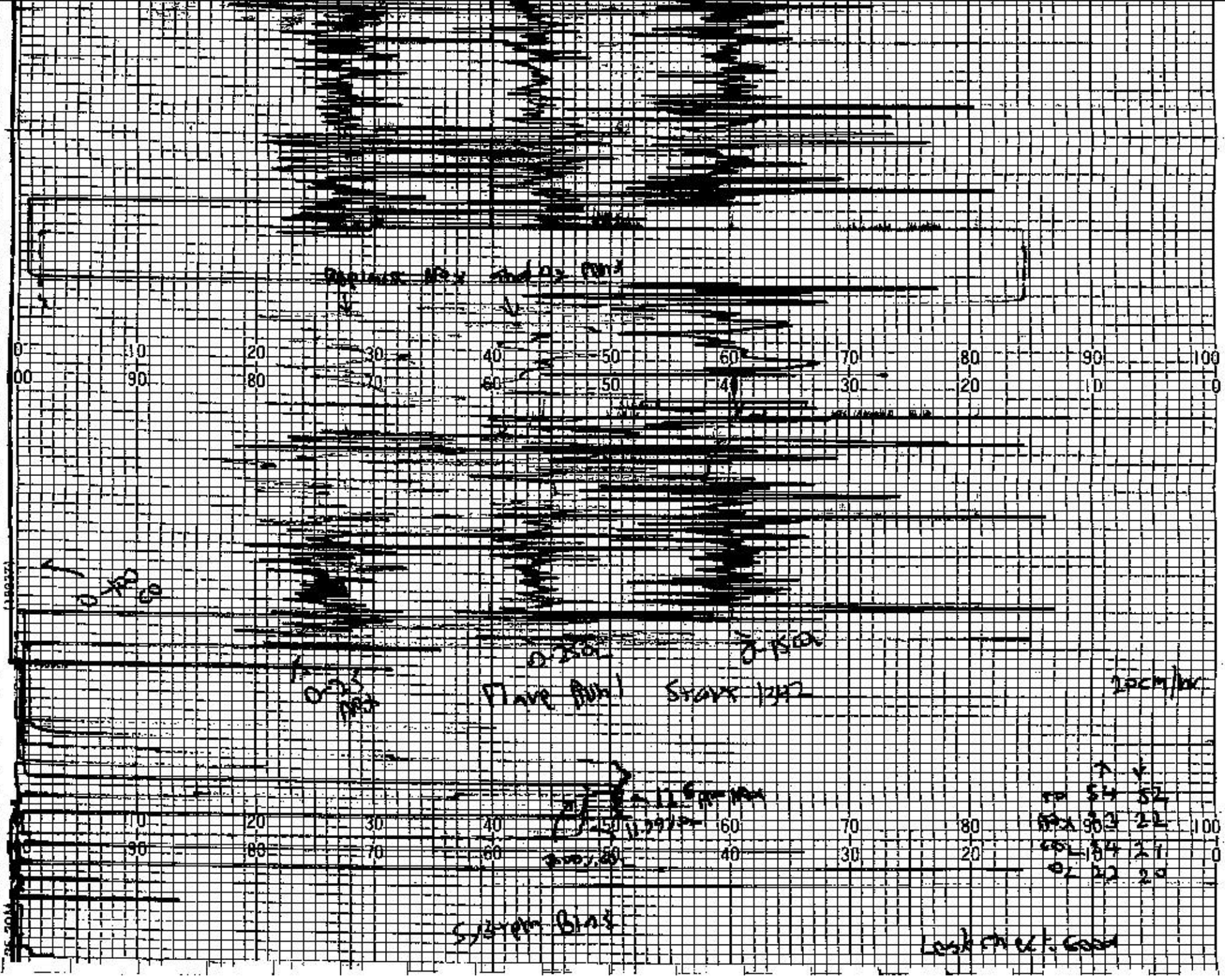
THERMOCOUPLE
ID:

	ICE WATER						ABSOLUTE T DIFF., %			BOILING WATER						ABSOLUTE T DIFF., %			BOILING OIL						ABSOLUTE T DIFF., %		
	REF			TC						REF			TC						REF			TC					
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Stainless Steel Probes																											
3-1	32	32	32	32	31	31	0.0	0.2	0.2	212	212	212	213	212	212	-0.1	0.0	0.0	538	538	536	532	535	534	0.6	0.3	0.2
4-2	32	32	32	30	32	32	0.4	0.0	0.0	212	212	212	210	210	210	0.3	0.3	0.3	534	536	534	531	531	531	0.3	0.5	0.3
4-3	32	32	32	32	30	31	0.0	0.4	0.2	212	212	212	209	209	210	0.6	0.4	0.3	546	545	544	540	542	542	0.6	0.3	0.2
6-2	32	32	32	30	28	30	0.4	0.6	0.4	212	212	212	208	209	209	0.8	0.4	0.4	540	540	543	536	537	544	0.4	0.3	-0.1
6-3	32	32	32	31	30	30	0.2	0.4	0.4	212	212	212	211	212	210	0.1	0.0	0.3	539	538	538	537	535	534	0.2	0.3	0.4
6-4	32	32	32	29	30	31	0.6	0.4	0.2	212	212	212	210	210	210	0.2	0.3	0.3	539	539	539	533	533	535	0.6	0.8	0.4
A6-5	32	32	32	30	31	31	0.4	0.2	0.2	212	212	212	213	213	212	-0.1	-0.1	0.0	538	539	530	535	535	535	0.3	0.4	0.4
A8-1	31	32	32	30	30	31	0.2	0.4	0.2	212	212	212	209	208	209	0.4	0.6	0.4	546	548	550	540	547	550	0.6	0.1	0.0
A8-2	32	32	32	31	31	31	0.2	0.2	0.2	212	212	212	211	212	210	0.1	0.0	0.3	540	530	540	538	536	536	0.4	0.3	0.4
A8-3	32	32	32	31	30	31	0.2	0.4	0.2	212	212	212	210	210	211	0.3	0.3	0.1	537	537	537	531	532	540	0.6	0.5	-0.3
10-1	32	32	32	32	31	31	0.0	0.2	0.2	212	212	212	211	212	209	0.1	0.0	0.4	537	535	538	534	535	534	0.3	0.0	0.2
M17-1	32	32	32	31	31	32	0.2	0.2	0.0	212	212	212	211	211	211	0.1	0.1	0.1	540	540	541	542	542	541	-0.2	-0.2	0.0
M17-2	32	32	32	32	33	33	0.0	-0.2	-0.2	212	212	212	212	211	210	0.0	0.1	0.3	541	539	539	539	539	540	0.2	0.0	-0.1
M17-3	32	32	32	31	32	31	0.2	0.0	0.2	212	212	212	211	211	212	0.1	0.1	0.0	543	545	545	544	546	547	-0.1	-0.1	-0.2
Inconel																											
10-2 Inc	32	32	32	34	34	34	-0.4	-0.4	-0.4	212	212	212	213	213	213	-0.1	-0.1	-0.1	540	539	538	539	537	538	0.1	0.2	0.0
6-1 Inc	32	32	32	36	36	36	-0.8	-0.8	-0.8	212	212	212	210	210	208	0.3	0.3	0.8	549	550	549	543	540	540	0.6	1.0	0.9
Loose Thermocouple																											
6-5	32	32	32	34	35	34	-0.4	-0.6	-0.4	212	212	212	210	211	211	0.3	0.1	0.1	537	540	538	537	538	537	0.0	0.2	-0.1
6-8	32	32	32	32	32	32	0.0	0.0	0.0	212	212	212	212	210	210	0.0	0.3	0.3	538	539	541	539	539	539	-0.1	0.0	0.2
7-1	32	32	32	34	35	35	-0.4	-0.6	-0.6	212	212	212	210	210	210	0.3	0.3	0.3	543	544	544	546	547	548	-0.3	-0.3	-0.4
8-3	32	32	32	32	33	32	0.0	-0.2	0.0	212	212	212	210	212	213	0.3	0.0	-0.1	546	546	545	543	544	543	0.5	0.2	0.2

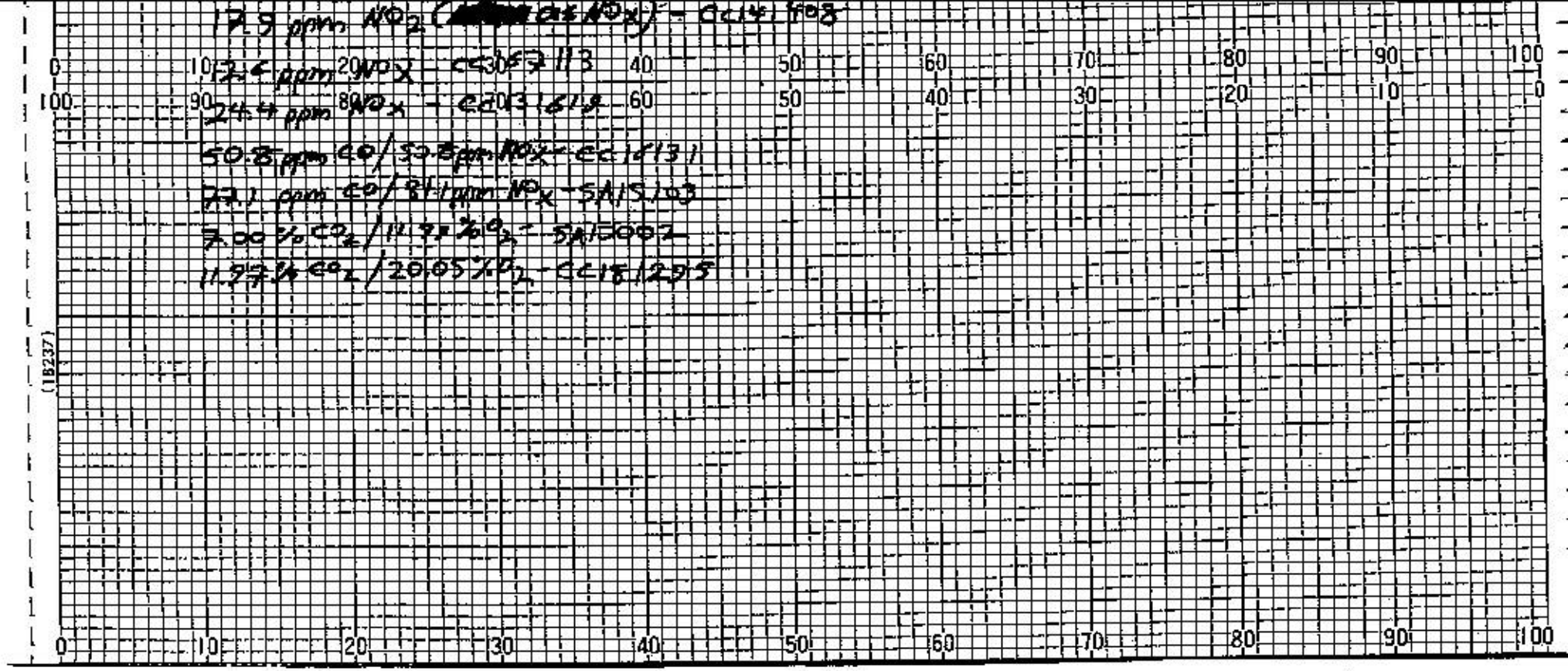
Note: If absolute temperature values of the reference thermometer being calibrated and the stack temperature sensors agree within 1.5 percent at each of the three calibration p
no correction is needed.

APPENDIX G - Calibration Data

APPENDIX F - Process Data



Replace NOx and O2 mix
0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0
Flare Run 1 Start 1342
20cm/hr
System Bias
Leak Check Good


12.9 ppm NO2 ([redacted] as NOx) - CC141103
12.4 ppm NOx - CC303113
24.4 ppm NOx - CC203159
50.8 ppm CO/50.8 ppm NOx - CC141311
77.1 ppm CO/81.1 ppm NOx - SA15103
7.00 % CO2/11.97 % O2 - SA15002
11.97 % CO2/20.05 % O2 - CC181295
(1B237)

090

CEM TEMPERATURE DATA

Facility: Kent Landfill

Date: 08/23/00

Job No.: 621 010

Run #: 1

Source: Flare Inlet

Probe Temp Settings: >250°F

Heated Line Temp Settings: ~250°F

		TEMPERATURES °F		
	Time	Condenser Outlet	Probe	Teflon Line
1	00	35	>250°F	268
2	10	35		270
3	20	35		274
4	30	35		272
5	40	34		270
6	50	34		274
7	60	34		273
8				
9				
10				
11				
12				
13				
14				
15				

TOTAL COMBUSTION ANALYSIS
SCAQMD METHOD 25
FIELD SAMPLING DATA SHEET

Job #: G21010

Facility: Heath L.F.

Location: N. Hollywood, CA

Date: 08/23/06

Operator: TW

Control Device: Flare

Sample Location: Outlet

Ambient Temp.: 110°F

Baro. Pressure: 29.09

SAMPLE A

Tank #: S5 **Trap #:** H1

Initial Vacuum: 30" 1.3 Bottle

Final Vacuum: 9"

Start Time: 1342

TIME (min.)	VACUUM ("Hg)	FLOW (cc/min)
00	30	
05	28.5	
10	27	
15	25.5	
20	24	
25	22	
30	20	
35	18.5	
40	17	
45	15	
50	13	
55	11	
60	9	

SAMPLE B

Tank #: S6 **Trap #:** H2

Initial Vacuum: 30" 1.3 Bottle

Final Vacuum: 8.5"

End Time: 1342

TIME (min.)	VACUUM ("Hg)	FLOW (cc/min)
00	30	
05	28	
10	26	
15	24.5	
20	23	
25	21.5	
30	20	
35	18	
40	16	
45	14	
50	12	
55	10	
60	8.5	

LEAK RATE

Pre Test : ✓ / ✓

Post Test: ✓ / ✓

PARTICULATE FIELD DATA

PLANT Hewitt L.F.
DATE 06-23-06
LOCATION N. Hollywood, CA
OPERATOR SB / TW
SOURCE Flare OUTLET
NO. B1 M5
SAMPLE BOX NO. C3
TIME START 1342

METER BOX NO. 7
METER ΔH @ 1.764
Y= 0.992
PROBE I.D. NO. 10' Inc / EQ-2
NOZZLE DIAMETER, in. 1.047
STACK DIAMETER, in. 8"
PROBE HEATER SETTING NA
HEATER BOX SETTING NA
Δ Cp FACTOR 0.84
FILTER NO. G-6020

ASSUMED MOISTURE, % 8
AMBIENT TEMPERATURE 100.4
BARO. PRESS. 29.09
STATIC PRESS. -0.005
NOMAGRAPH INDEX 300

PRE TEST LEAK CHECKS
METER 0.010 @ 12 in. Hg
PITOTS V/V @ 5/3 in. Hg
ORSAT NA

P#	TIME	T_s °F	ΔP in H_2O	√ΔP	ΔH in H_2O	Vm ft³	$T_{m\,IN}$ °F	T_m OUT °F	OVEN °F	IMP. OUT °F	VAC. (in Hg)
A 12	00	1610	0.005		1.5	283.106	104	103	NA	62	2
11	2.5	1623	0.005		1.5	284.9	105	103		60	2
10	5.0	1572	0.010		3.0	286.7	107	103		59	3
9	7.5	1598	0.010		3.0	289.1	110	104		59	3
8	10.0	1603	0.005		1.5	291.5	112	104		58	2
7	12.5	1596	0.005		1.5	293.4	112	104		57	2
6	15.0	1598	0.005		1.5	295.1	113	104		58	2
5	17.5	1683	0.005		1.5	296.9	113	105		58	2
4	20.0	1668	0.010		3.0	298.6	114	105		57	3
3	22.5	1603	0.010		3.0	301.2	117	106		58	3
2	25.0	1608	0.010		3.0	303.6	118	107		58	3
1	27.5	1602	0.005		1.5	306.0	118	107		59	2
B 12	30.0	1601	0.005		1.5	307.912	110	105		60	2
11	32.5	1598	0.005		1.5	309.8	118	107		59	2
10	35.0	1595	0.010		3.0	311.4	118	107		58	3
9	37.5	1600	0.010		3.0	313.8	120	108		57	3
8	40.0	1600	0.010		3.0	316.2	120	108		57	3
7	42.5	1582	0.005		1.5	318.7	120	108		57	2
6	45.0	1583	0.005		1.5	320.4	120	109		58	2
5	47.5	1592	0.005		1.5	322.4	121	109		58	2
4	50.0	1561	0.005		1.5	324.3	120	110		57	2
3	52.5	1591	0.010		3.0	325.8	121	110		57	3
2	55.0	1535	0.010		3.0	328.4	122	110		58	3
1	57.5	1554	0.010		3.0	330.9	122	110		58	3
END	60.0	—	—		—	333.342	—	—			
Avg.		1598.2		0.0841	2.19	50.236		111.1			

TIME END = 1448 SB SB SB SB SB

Volume of Liquid Water Collected	Impinger Volume 1	2	3	4	Silica Gel Wght. 5
Final	164	118	5		261
Initial	100	100	0		≈50
Liquid Collected	64	18	5		11
Total Vol. Collected					98

SB

POST TEST LEAK CHECKS
Meter 0.005 @ 10 in. Hg
Pitots V/V @ 5/3 in. Hg
Orsat

Orsat Meas.	Time	CO_2	O_2	CO	N_2
1					
2					
3					

Nozzle Cal	D_1	D_2	D_3	Average

HORIZON AIR MEASUREMENT SERVICES, INC

CHAIN OF CUSTODY RECORD

Client/Project Name: GC Env./Hewitt Landfill	Project Location: North Hollywood, CA
Project No.: G21-010	Field Logbook No.:
Sampler: (Signature) [signature]	Chain of Custody Tape No.:

ANALYSES: SCAQMD 5.1 W/OE FT Det RV No OE

Sample No./ Identification	~~Date~~	Date ~~Time~~	Lab Sample Number	Type of Sample	SCAQMD 5.1 W/OE FT Det RV No OE						REMARKS
G21010-MS-DI-1		8/23/06		Rinse	X						Run 1
G21010-MS-PF-1		↓		Filter	X						↓
G21010-MS-DI-BL		↓		Blank	X						Blank

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
[signature]	08.24.06	1400			
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature) [signature]	Date 08.24.06	Time 1400
Sample Disposal Method:	Disposed of by: (Signature)			~~Date~~	Time

SAMPLE COLLECTOR

HORIZON AIR MEASUREMENT SERVICES, INC
996 Lawrence Drive, Suite 108
Newbury Park, CA 91320
(805) 498-8781 Fax (805) 498-3173

ANALYTICAL LABORATORY

Horizon

№ 09123

052

Facility: GC HEWITT
Source: FLARE
Job No.: G21-010
Test Date: 08/23/06

SCAQMD Method 5.1

DATA SHEET FOR PARTICULATE MATTER SCAQMD METHOD 5.1

DATE SAMPLED: 08/23/06
DATE EXTRACTED: 08/25/06

RUN #1

	SAMPLE ID	BEAKER/ FILTER ID	VOLUME	INITIAL	FINAL	NET WEIGHT(g)
A - FILTER CATCH	G21021-M5-PF-1	G6020	NA	0.1138	0.1139	0.0001
FILTER ACID						0.0000
FILTER SULFATE						
B - PROBE CATCH						0.0000
PROBE ACID						0.0000
PROBE SULFATE						0.0000
C - IMP.CATCH(INSOL)	G21021-M5-EF-1	G6019	661	0.1134	0.1135	0.0000
INSOLUBLE ACID						0.0000
INSOLUBLE SULFATE						0.0000
D - IMP. CATCH (SOL)	G21021-M5-DI-1	6183	661	28.9441	28.9509	0.0068
SOLUBLE ACID						0.0000
SOLUBLE SULFATE						0.0000
E - ORGANIC EXTRACT						0.0000

TOTAL PARTICULATE	(A+B+C+D+E)	0.0069
SOLID PARTICULATE	(A+B+C+D)	0.0069

CHAIN OF CUSTODY RECORD

Client/Project Name: G.C. ENVIRONMENTAL / HEWITT L.F.	Project Location: NORTH HOLLYWOOD, CA
Project No.: G20-010	Field Logbook No.: 1
Sampler: (Signature)	Chain of Custody Tape No.

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	CO_2		Trap		Tank		REMARKS
KV#34	08-29-06			SCAQMD 25.1	✓		—		—		System Blank
Q	↓			↓	✓		H		P		
32					✓		F		Q		

	Date	Time		Date	Time
Relinquished by: (Signature)	08-30-06	11:05	Received by: (Signature)	8/30/06	11:05
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received for Laboratory: (Signature)		
Sample Disposal Method:			Disposed of by: (Signature)		

SAMPLE COLLECTOR

HORIZON AIR MEASUREMENT SERVICES, INC
996 Lawrence Drive, Suite 108
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ANALYTICAL LABORATORY

ATM.A.A.
Calabasas, CA

№ 09295

088

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LABORATORY ANALYSIS REPORT

SCAQMD Rule 1150.1 Components Analysis in Outlet Tedlar Bag Sample

Report Date: August 29, 2006
Client: Horizon
Project Location: GC Environmental / Hewitt LF
Client Project No.: G21-008
Date Received: August 23, 2006
Date Analyzed: August 24, 2006

AtmAA Lab No.:	02356-16
Sample I.D.:	G21010
	TB-OUT-A
Components	*(Concentration in ppbv)*
Hydrogen sulfide	<500
Benzene	0.38
Benzylchloride	<0.8
Chlorobenzene	<0.4
Dichlorobenzenes*	<1.1
1,1-dichloroethane	<0.4
1,2-dichloroethane	<0.3
1,1-dichloroethylene	<0.4
Dichloromethane	0.44
1,2-dibromoethane	<0.4
Perchloroethylene	<0.3
Carbon tetrachloride	<0.3
Toluene	0.73
1,1,1-trichloroethane	<0.3
Trichloroethene	<0.3
Chloroform	<0.3
Vinyl chloride	<0.4
m+p-xylenes	0.82
o-xylene	<0.3

** total amount containing meta, para, and ortho isomers*

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analyses)

Client Project No.: G21-008
Date Received: August 23, 2006
Date Analyzed: August 24 & 25, 2006

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
Benzene	TB-IN-A	227	224	226	0.66
Benzylchloride	TB-IN-A	<40	<40	---	---
Chlorobenzene	TB-IN-A	71.0	69.8	70.4	0.85
Dichlorobenzenes	TB-IN-A	167	152	160	4.7
1,1-dichloroethane	TB-IN-A	<30	<30	---	---
1,2-dichloroethane	TB-IN-A	<20	<20	---	---
1,1-dichloroethylene	TB-IN-A	<40	<40	---	---
Dichloromethane	TB-IN-A	<30	<30	---	---
1,2-dibromoethane	TB-IN-A	<30	<30	---	---
Perchloroethylene	TB-IN-A	22.2	21.5	21.8	1.6
Carbon tetrachloride	TB-IN-A	<30	<30	---	---
Toluene	TB-IN-A	281	278	280	0.54
1,1,1-trichloroethane	TB-IN-A	<20	<20	---	---
Trichloroethene	TB-IN-A	<20	<20	---	---
Chloroform	TB-IN-A	<20	<20	---	---
Vinyl chloride	TB-IN-A	460	454	457	0.66
m+p-xylenes	TB-IN-A	438	430	434	0.92
o-xylene	TB-IN-A	234	225	230	2.0

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LABORATORY ANALYSIS REPORT

SCAQMD Rule 1150.1 Components Analysis in Inlet Gas Tedlar Bag Sample

Report Date: August 29, 2006
Client: Horizon
Project Location: GC Environmental / Hewitt LF
Client Project No.: G21-008
Date Received: August 23, 2006
Date Analyzed: August 24 & 25, 2006

AtmAA Lab No.:	02356-15
Sample I.D.:	G21010 TB-IN-A
Components	*(Concentration in ppmv)*
Hydrogen sulfide	16.7
	(Concentration in ppbv)
Benzene	226
Benzylchloride	<40
Chlorobenzene	70.4
Dichlorobenzenes*	160
1,1-dichloroethane	<30
1,2-dichloroethane	<20
1,1-dichloroethylene	<40
Dichloromethane	<30
1,2-dibromoethane	<30
Perchloroethylene	21.8
Carbon tetrachloride	<30
Toluene	280
1,1,1-trichloroethane	<20
Trichloroethene	<20
Chloroform	<20
Vinyl chloride	457
m+p-xylenes	434
o-xylene	230

** total amount containing meta, para, and ortho isomers*

Michael L. Porter
Laboratory Director

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LABORATORY ANALYSIS REPORT

Organic Carbon Analysis in Water Impinger and Methane & TGNMO Analysis in SUMMA Canister Samples from Impinger/Canister Train Sample Collection

Report Date: September 5, 2006
Client: Horizon Air Measurement Services, Inc.
Client Project No.: G21-008
Source Location : GC Environmental / Hewitt Pit
Source ID: Flare outlet

Date Received: August 23, 2006
Date Analyzed: August 25, & 29, 2006

Methane and total gaseous non-methane organics were measured by flame ionization detection/total combustion analysis (FID/TCA). Organic carbon in water vial samples were measured by Dohrman total organic carbon analyzer, water FID/TCA.

Lab No.	ID	Canister Methane	Canister Ethane	Canister TGNMO	Impinger Carbon	Impinger Volume	P_1	P2
			(concentration, ppmv)			(ml)		
02356-11	S5	<1	<1	3.76	---	---	450	820
	Impinger H1	---	---	---	2.11	2.84	--	--
02356-12	S6	<1	<1	6.18	---	---	475	820
	Impinger H2	---	---	---	1.47	2.17	--	--

TGNMO is total gaseous non-methane organics (excluding ethane), reported as ppmv carbon. Ethane is reported as ppmv carbon.
** Note - Impinger sample results are not field blank corrected. The field blank (impinger H3) contained 1.40 ug carbon, corresponding to 0.77 ppm carbon for a 3.71 liter sample.*
P_1 and P_2 are initial and final pressures measured in mm Hg.

Michael L. Porter
Laboratory Director

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LABORATORY ANALYSIS REPORT

CO, CH_4, CO_2, and TGNMO Analysis in Tanks and Traps by SCAQMD Method 25 (FID/TCA)

Report Date: September 5, 2006
Client: Horizon Air Measurement Services, Inc.
Client Project No.: G21-008
Source Location : GC Environmental / Hewitt Pit
Source ID: Flare inlet

Date Received: August 23, & 30, 2006
Date Analyzed: August 29, & 30, 2006

AtmAA Lab No.	Sample ID			tank CO	tank CH_4	tank CO_2	tank Ethane	tank TGNMO	trap CO2 in ICV	tank Oxygen (%v)	P_1	P_2
	Tank	Trap	ICV	(Concentrations in ppmv)								
02358-13	P	H	Q	6.38	228000	224000	<5	174	1540	5.96	405	820
02358-14	Q	F	32	6.31	232000	230000	<5	126	1490	7.33	422	820
trap burn system blank			34						7.37			

TGNMO is total gaseous non-methane (excluding ethane) organics reported as ppmv carbon. Ethane is reported as ppmv carbon.

P_1 - Initial Pressure, mm Hg
P_2 - Final Pressure, mm Hg

Michael L. Porter
Laboratory Director

Table 5-2
Trace Organic Species
Destruction Efficiency Results
Hewitt Landfill
Flare
August 23, 2006

	INLET				OUTLET			
		Flow rate	632	dscfm	Flow rate	3628.965	dscfm	
Species	Conc. (ppb)	Conc. (mg/dscf)	Em. Rate (lb/hr)	Conc. (ppb)	Conc. (mg/dscf)	Em. Rate (lb/hr)	Dest. Eff. (%)	
Hydrogen Sulfide	16700	6.81E-01	5.69E-02	< 500	< 2.04E-02	< 9.78E-03	> 82.81	
Benzene	226	2.11E-02	1.76E-03	0.38	3.54E-05	1.70E-05	99.03	
Benzylchloride	< 40	< 6.07E-03	< 5.08E-04	< 0.8	< 1.21E-04	< 5.83E-05	NA	
Chlorobenzene	70.4	9.51E-03	7.95E-04	< 0.4	< 5.40E-05	< 2.59E-05	> 96.74	
Dichlorobenzenes	160	2.81E-02	2.35E-03	< 1.1	< 1.93E-04	< 9.28E-05	> 96.05	
1,1-dichloroethane	< 30	< 3.55E-03	< 2.97E-04	< 0.4	< 4.73E-05	< 2.27E-05	NA	
1,2-dichloroethane	< 20	< 2.37E-03	< 1.98E-04	< 0.3	< 3.55E-05	< 1.70E-05	NA	
1,1-dichloroethylene	< 40	< 4.84E-03	< 3.88E-04	< 0.4	< 4.84E-05	< 2.23E-05	NA	
Dichloromethane	< 30	< 3.05E-03	< 2.55E-04	0.44	4.47E-05	2.15E-05	NA	
1,2-Dibromoethane	< 30	< 6.74E-03	< 5.63E-04	< 0.4	< 8.98E-05	< 4.31E-05	NA	
Perchloroethene	21.8	6.17E-03	5.16E-04	< 0.3	< 8.50E-05	< 4.08E-05	> 92.10	
Carbon tetrachloride	< 30	< 5.52E-03	< 4.62E-04	< 0.3	< 5.52E-05	< 2.65E-05	NA	
Toluene	280	3.08E-02	2.57E-03	0.73	8.03E-05	3.85E-05	98.50	
1,1,1-trichloroethane	< 20	< 3.18E-03	< 2.66E-04	< 0.3	< 4.77E-05	< 2.29E-05	NA	
Trichloroethene	< 20	< 3.13E-03	< 2.62E-04	< 0.3	< 4.70E-05	< 2.25E-05	NA	
Chloroform	< 20	< 2.84E-03	< 2.38E-04	< 0.3	< 4.27E-05	< 2.05E-05	NA	
Vinyl Chloride	457	3.41E-02	2.85E-03	< 0.4	< 2.99E-05	< 1.43E-05	> 99.50	
m+p-xylenes	434	5.50E-02	4.60E-03	0.82	1.04E-04	4.99E-05	98.92	
o-xylene	230	2.81E-02	2.44E-03	< 0.3	< 3.80E-05	< 1.82E-05	> 99.25	
TNMHC	658248	1.26E+01	1.05E+00	6760	1.29E-01	6.21E-02	94.11	

Note: All values preceded by "<" are below the detection limit. The reported values are the detection limit.
NA--Not Applicable. Destruction efficiency can not be calculated since both inlet and outlet values are below the detection limit.

23-Aug-06	1351	11.11	8.95	6.82	-2.37
23-Aug-06	1352	11.02	8.92	6.55	-2.37
23-Aug-06	1353	10.97	9.02	7.82	-2.37
23-Aug-06	1354	10.97	8.88	6.63	-2.37
23-Aug-06	1355	11.03	8.93	6.49	-2.37
23-Aug-06	1356	10.85	9.00	7.01	-2.37
23-Aug-06	1357	10.85	9.17	8.51	-2.37
23-Aug-06	1358	11.20	8.67	6.38	-2.37
23-Aug-06	1359	10.85	9.09	7.43	-2.37
23-Aug-06	1400	10.98	8.94	6.60	-2.37
23-Aug-06	1401	10.95	9.01	6.90	-2.37
23-Aug-06	1402	11.19	8.73	6.91	-2.37
23-Aug-06	1403	11.17	8.64	7.51	-2.37
23-Aug-06	1404	10.67	9.32	8.08	-2.37
23-Aug-06	1405	11.31	8.70	7.61	-2.37
23-Aug-06	1406	10.78	9.07	8.26	-2.37
23-Aug-06	1407	11.07	9.00	8.17	-2.37
23-Aug-06	1408	11.33	8.58	6.72	-2.37
23-Aug-06	1409	10.93	8.98	8.99	-2.37
23-Aug-06	1410	11.24	8.75	6.66	-2.37
23-Aug-06	1411	10.91	9.00	7.10	-2.37
23-Aug-06	1412	11.07	8.81	7.10	-2.37
23-Aug-06	1418	10.96	8.98	6.64	-2.38
23-Aug-06	1419	10.85	9.05	6.81	-2.38
23-Aug-06	1420	10.96	8.96	6.58	-2.38
23-Aug-06	1421	10.88	9.11	6.78	-2.38
23-Aug-06	1422	10.96	8.91	6.77	-2.38
23-Aug-06	1423	10.78	9.11	7.05	-2.38
23-Aug-06	1424	11.01	8.91	6.47	-2.38
23-Aug-06	1425	10.96	8.98	6.64	-2.38
23-Aug-06	1426	10.85	9.05	6.81	-2.38
23-Aug-06	1427	10.96	8.96	6.58	-2.38
23-Aug-06	1428	10.88	9.11	6.78	-2.38
23-Aug-06	1429	10.96	8.91	6.77	-2.38
23-Aug-06	1430	10.78	9.11	7.05	-2.38
23-Aug-06	1431	11.01	8.91	6.47	-2.38
23-Aug-06	1432	10.92	9.07	7.06	-2.38
23-Aug-06	1433	10.34	9.28	8.60	-2.38
23-Aug-06	1434	10.75	8.92	6.77	-2.38
23-Aug-06	1435	11.02	8.87	7.21	-2.38
23-Aug-06	1436	10.71	8.93	6.65	-2.37
23-Aug-06	1437	10.77	8.91	6.65	-2.37
23-Aug-06	1438	10.94	8.77	6.64	-2.37
23-Aug-06	1439	10.81	8.89	6.46	-2.37
23-Aug-06	1440	10.69	8.98	6.81	-2.37
23-Aug-06	1441	10.64	9.09	7.62	-2.37
23-Aug-06	1442	10.99	8.63	6.47	-2.37
23-Aug-06	1443	11.59	8.18	6.96	-2.37
23-Aug-06	1444	10.73	8.95	6.79	-2.37
23-Aug-06	1445	11.37	8.34	6.70	-2.37
23-Aug-06	1446	11.27	8.34	6.78	-2.37
23-Aug-06	1447	10.38	9.30	7.08	-2.37

Facility: GC Env./Hewitt Landfill
Source: Flare
Job No.: G21-010
Date: 08/24/06

Run Number	******		1
Load	******		as Found
EPA F-Factor	dscf/MMBtu		11800
Stack Flow Rate	dscfm		3629
Oxygen	%		10.93
Carbon Dioxide	%		8.93

Oxides of Nitrogen

Concentration	ppm		6.80
Concentration @ 3% O2	ppm		12.2
Concentration	lb/dscf		8.24E-07
Emission Rate	lb/MMBtu		2.04E-02
Emission Rate	lb/hr		0.179

Carbon Monoxide

Concentration	ppm	<	20.0
Concentration @ 3% O2	ppm	<	35.9
Concentration	lb/dscf	<	1.48E-06
Emission Rate	lb/MMBtu	<	3.65E-02
Emission Rate	lb/hr	<	0.321

SCAQMD Method 307.91

Facility: GC Env./Hewitt Landfill
Source: Flare
Job No.: G21-010
Date: 08/24/06

Sulfur Compounds

Speciated Compound		Concentration ppm, as H2S	No. of S molecules in Compound	Total S ppm, as H2S	SO2 Conc. mg/dscf	Avg. Inlet Flow Rate dscfm	SO2 Rate lb/hr
Hydrogen Sulfide		16.7	1	16.7	1.28	632	0.107
Carbonyl Sulfide	<	0.2	1	0.2	0.015	632	0.0013
Methyl mercaptan	<	0.2	1	0.2	0.015	632	0.0013
Ethyl mercaptan	<	0.2	1	0.2	0.015	632	0.0013
Dimethyl sulfide	<	0.2	1	0.2	0.015	632	0.0013
Carbon disulfide	<	0.1	2	0.2	0.015	632	0.0013
Dimethyl disulfide	<	0.1	2	0.2	0.015	632	0.0013
iso-propyl mercaptan	<	0.2	1	0.2	0.015	632	0.0013
n-propyl mercaptan	<	0.2	1	0.2	0.015	632	0.0013
Total				18.3			0.117

030

SCAQMD Methods 1-4 Flowrate Determination

Facility: GC Env./Hewitt Landfill
Source: Flare
Job No.: G21-010
Date: 08/24/06

STANDARD TEMPERATURE	Degrees F	60
RUN NUMBER	******	1
CLOCK TIME: INITIAL	******	1342
CLOCK TIME: FINAL	******	1447
AVG. STACK TEMPERATURE	Degrees F	NA
AVG. SQUARE DELTA P	Inches H20	NA
BAROMETRIC PRESSURE	Inches HG	29.09
SAMPLING TIME	Minutes	60
SAMPLE VOLUME	Cubic Feet	NA
AVG. METER TEMP.	Degrees F	NA
AVG. DELTA H	Inches H20	NA
DGM CALIB. FACTOR [Y]	******	NA
WATER COLLECTED	Milliliters	NA
CO 2	Percent	22.7
O 2	Percent	6.6
CO	Percent	0.0
CH4	Percent	23.0
N 2	Percent	47.7
STACK AREA	Square Inches	NA
STATIC PRESSURE	Inches WG	NA
PITOT COEFFICIENT	******	NA
SAMPLE VOLUME DRY	DSCF	NA
WATER AT STD.	SCF	NA
MOISTURE	Percent	6.2
MOLE FRACTION DRY GAS	******	0.94
MOLECULAR WT.DRY	lb/lb Mole	29.14
EXCESS AIR	Percent	112
MOLECULAR WT. WET	lb/lb Mole	28.45
STACK GAS PRESSURE	Inches HG	NA
STACK VELOCITY	AFPM	NA
VOLUMETRIC FLOWRATE, DRY STD.	DSCFM	632
VOLUMETRIC FLOWRATE, ACTUAL	ACFM	674

EMISSION RATES

SAMPLE A		
TNMHC Concentration, as CH4	ppm	702
TNMHC Concentration, as CH4	mg/dscf	13.41
TNMHC Emission Rate, as CH4	lb/hr	1.12
SAMPLE B		
TNMHC Concentration, as CH4	ppm	615
TNMHC Concentration, as CH4	mg/dscf	11.74
TNMHC Emission Rate, as CH4	lb/hr	0.98
AVERAGE		
TNMHC Concentration, as CH4	ppm	658
TNMHC Concentration, as CH4	mg/dscf	12.58
TNMHC Emission Rate, as CH4	lb/hr	1.05

APPENDIX B - Computer Printout of Results

A response factor for a standard component is calculated as:

rf = std. amt. / std. area

Sample concentration is calculated using the response factor:

conc. = rf x sample area

At least 10% of samples in a sample set, or minimum of one sample per set are analyzed twice to determine precision. A separate report showing repeat analyses results is included with an analytical report of sulfur component concentrations per each sample set. Repeat analyses must agree within +/- 10% except for component concentrations less than 1 ppmv. A nitrogen blank is analyzed between standards and samples to verify that there is no component carry-over. Samples are analyzed as soon after they are [illegible]zed as possible, preferably same day and within four hours of [illegible]ction. Data is being gathered to determine stability of sulfur compounds in Tedlar® bag containers in an effort to extend sample holding time. Samples are usually analyzed before standards to prevent carry-over, since most sulfur components measured in landfill gas samples are lower in concentration than those in the standards.

GC/MS Analysis Conditions:

GC conditions: a 30 M x 0.2 mm, 0.50 um film methyl silicon PONA column from Hewlett-Packard is temperature programmed as follows:

-65 degrees C, hold min.
15 degrees C min. to 220 degrees C, hold 5 min.

Valve oven Temp. 150 degrees C
GC/MS transfer line 180 degrees C
Carrier gas is helium, pressure regulated at 21 psi.

MS Conditions:

MS calibration is performed periodically prior to performing analyses using PFTBA (perfluoro-tributylamine) as supplied by Hewlett-Packard and as controlled by HP software under the mid-range auto tine program.
Solvent delay = 8 min.

Hall Detector/GC Analysis Conditions:

6' x 1/8" Teflon, Chromosil 310 analytical column
45 degrees C, isothermal
Valve oven & transfer line Temp. 105 degrees C.
Carrier gas is nitrogen, flow rate 18 cc/min.
Oxygen oxidation gas, flow rate 18 cc/min.
Quartz tube oxidation oven Temp. 650 degrees C.

Equipment:

A Hewlett-Packard 5890 series II gas chromatograph (GC), Hewlett-Packard 5971A Mass Selective Detector, 486 MS/DOS computer and HP operating software are used for all sulfur species except H_2S. The GC is fitted with a heated 6-port Valco 1/16" line, sample injection valve. All gas transfer lines to the sample loop are fused silica lined Restek tubing. The fixed volume (0.40 ml) sample loop is Teflon. The transfer line from the valve to the GC column is cleaned and treated blank 0.53 mm OD fused silica line with polyimide coating.

H_2S is measured using a Varian 1400 GC with the Hall oxidative quartz tube furnace and electrolytic cell attached. Nitrogen is used as carrier and oxygen is used as the combustion gas.

Multi-component gaseous standards are prepared by Scott Specialty Gas and are contained in two separate aluminum cylinders and a Scotty IV canister as follows:

Cylinder A (CAL12250)		Cylinder B (CAL3563)	
Carbonyl sulfide	15.2 ppmv	Hydrogen sulfide	12.3 ppmv
Ethyl mercaptan	13.4 ppmv	Methyl mercaptan	22.6 ppmv
Carbon disulfide	16.1 ppmv	Dimethyl sulfide	20.3 ppmv
		Dimethyl disulfide	

Scotty IV (mix 252)

Hydrogen Sulfide 93.8 ppmv

Gas tight clean glass volumetric syringes of 10, 20, & 50 ml capacity, with smooth glass barrel (not sintered glass) are used to make volumetric dilutions of sample or standard.

GC/MS SIM parameters:

	Dwell per ion	start time	Ions
Group 1:	75 msec.	8.0 min.	60
Group 2:	75 msec.	10.0 min.	47,48,64
Group 3:	75 msec.	14.5 min.	47,62,76,78,43,61
Group 4:	75 msec.	19.5 min.	79,94,122,142,156, 128

Components monitored:

Group 1: carbonyl sulfide
Group 2: methyl mercaptan
Group 3: ethyl mercaptan, dimethyl ~~di~~sulfide, carbon disulfide, isopropyl mercaptan, n-propyl mercaptan
Group 4: dimethyl sulfide

A response factor for a standard component is calculated as:

rf = std. amt. / std. area

Sample concentration is calculated using the response factor:

conc. = rf x sample area

At least 10% of samples in a sample set, or minimum of one sample per set are analyzed twice to determine precision. A separate report showing repeat analyses results is included with an analytical report of sulfur component concentrations per each sample set. Repeat analyses must agree within +/- 10% except for component concentrations less than 1 ppmv. A nitrogen blank is analyzed between standards and samples to verify that there is no component carry-over. Samples are analyzed as soon after they are ıved as possible, preferably same day and within four hours of ection. Data is being gathered to determine stability of sulfur compounds in Tedlar® bag containers in an effort to extend sample holding time. Samples are usually analyzed before standards to prevent carry-over, since most sulfur components measured in landfill gas samples are lower in concentration than those in the standards.

GC/MS Analysis Conditions:

GC conditions: a 30 M x 0.2 mm, 0.50 um film methyl silicon PONA column from Hewlett-Packard is temperature programmed as follows:

-65 degrees C, hold min.
15 degrees C min. to 220 degrees C, hold 5 min.

Valve oven Temp. 150 degrees C
GC/MS transfer line 180 degrees C
Carrier gas is helium, pressure regulated at 21 psi.

MS Conditions:

MS calibration is performed periodically prior to performing analyses using PFTBA (perfluoro-tributylamine) as supplied by Hewlett-Packard and as controlled by HP software under the mid-range auto tine program.
Solvent delay = 8 min.

Hall Detector/GC Analysis Conditions:

6' x 1/8" Teflon, Chromosil 310 analytical column
45 degrees C, isothermal
Valve oven & transfer line Temp. 105 degrees C.
Carrier gas is nitrogen, flow rate 18 cc/min.
Oxygen oxidation gas, flow rate 18 cc/min.
Quartz tube oxidation oven Temp. 650 degrees C.

Equipment:

A Hewlett-Packard 5890 series II gas chromatograph (GC), Hewlett-Packard 5971A Mass Selective Detector, 486 MS/DOS computer and HP operating software are used for all sulfur species except H_2S. The GC is fitted with a heated 6-port Valco 1/16" line, sample injection valve. All gas transfer lines to the sample loop are fused silica lined Restek tubing. The fixed volume (0.40 ml) sample loop is Teflon. The transfer line from the valve to the GC column is cleaned and treated blank 0.53 mm OD fused silica line with polyimide coating.

H_2S is measured using a Varian 1400 GC with the Hall oxidative quartz tube furnace and electrolytic cell attached. Nitrogen is used as carrier and oxygen is used as the combustion gas.

Multi-component gaseous standards are prepared by Scott Specialty Gas and are contained in two separate aluminum cylinders and a Scotty IV canister as follows:

Cylinder A (CAL12250)		Cylinder B (CAL3563)	
Carbonyl sulfide	15.2 ppmv	Hydrogen sulfide	12.3 ppmv
Ethyl mercaptan	13.4 ppmv	Methyl mercaptan	22.6 ppmv
Carbon disulfide	16.1 ppmv	Dimethyl sulfide	20.3 ppmv
		Dimethyl disulfide	

Scotty IV (mix 252)

Hydrogen Sulfide 93.8 ppmv

Gas tight clean glass volumetric syringes of 10, 20, & 50 ml capacity, with smooth glass barrel (not sintered glass) are used to make volumetric dilutions of sample or standard.

GC/MS SIM parameters:

	Dwell per ion	start time	Ions
Group 1:	75 msec.	8.0 min.	60
Group 2:	75 msec.	10.0 min.	47,48,64
Group 3:	75 msec.	14.5 min.	47,62,76,78,43,61
Group 4:	75 msec.	19.5 min.	79,94,122,142,156, 128

Components monitored:

Group 1: carbonyl sulfide
Group 2: methyl mercaptan
Group 3: ethyl mercaptan, dimethyl ~~di~~sulfide, carbon disulfide, isopropyl mercaptan, n-propyl mercaptan
Group 4: dimethyl sulfide

Method:	**Sulfur Dioxide (SO_2) by Pulsed Flourescent**
Applicable Reference Methods:	EPA 6C; CARB 1-100; BAAQMD ST-6, SCAQMD 100.1
Principle:	A sample is continuously drawn from the flue gas stream, conditioned and conveyed to the instrument for direct readout of SO_2 concentration.
Analyzer:	TECO, Model 43C-HL
Measurement Principle:	Pulsed flourescense SO_2 analyzer
Precision:	0.1% ppm
Ranges:	5, 10, 20, 50, 100, 200, 500, 1,000, 2,000, 5,000 ppm
Output:	0-10 V
Interferences:	Less than lower detectable limit except for the following: NO <3 ppb, m-xylene <2 ppm, H_2O <2% of reading.
Response Time:	80 seconds
Sampling Procedure:	A representative flue gas sample is collected and conditioned using the CEM system described previously. Sample point selection has been described previously.
Analytical Procedure:	The sample flows into the flourescent chamber, where pulsating UV light excites the SO_2 molecules. The condensing lens focuses the pulsating UV light into the mirror assembly. The mirror assembly contains four selecting mirrors that reflect only the wavelengths which excite SO_2 molecules. As excited SO_2 molecules decay to lower energy states they emit UV light that is proportional to the SO_2 concentration. The PMT (photomultiplier tube) detects UV light emission from decaying SO_2 molecules. The PMT continuously monitors pulsating UV light source and is connected to a circuit that compensates for fluctuating in the light.

Method:	**Carbon Dioxide (CO_2) by Continuous Analyzer**
Applicable Reference	EPA 3A, CARB 100, BAAQMD ST-5, SCAQMD 100.1
Principle:	A sample is continuously drawn from the flue gas stream, conditioned and conveyed to the instrument for direct readout of CO_2 concentration.
Analyzer:	PIR 2000
Measurement Principle:	Non-dispersive infrared (NDIR)
Accuracy:	1% of full scale
Ranges:	0-5, 0-15%
Output:	0-1 V
Interferences:	A possible interference includes water. Since the instrument receives dried sample gas, this interference is not significant.
Response Time:	5 seconds
Sampling Procedure:	A representative flue gas sample is collected and conditioned using the CEM system described previously.
Analytical Procedure:	Carbon dioxide concentrations are measured by short path length non-dispersive infrared analyzers. These instruments measure the differential in infrared energy absorbed from energy beams passed through a reference cell (containing a gas selected to have minimal absorption of infrared energy in the wavelength absorbed by the gas component of interest) and a sample cell through which the sample gas flows continuously. The differential absorption appears as a reading on a scale of 0-100%.

Method:	**NO/NO_X by Continuous Analyzer**
Applicable Reference Methods:	EPA 7E, EPA 20; CARB 100, BAAQMD ST-13A, SCAQMD 100.1
Principle:	A sample is continuously withdrawn from the flue gas stream, conditioned and conveyed to the instrument for direct readout of NO or NO_X.
Analyzer:	TECO Model 10AR
Measurement Principle:	Chemiluminescence
Accuracy:	1% of full scale
Ranges:	0-2.5, 0-10, 0-25, 0-100, 0-250, 0-1000, 0-2500, 0-10,000 ppm
Output:	0-10 V
Inferences:	Compounds containing nitrogen (other than ammonia) may cause interference.
Response Time:	90%, 1.5 seconds (NO mode) and 1.7 seconds (NO_X mode)
Sampling Procedure:	A representative flue gas sample is collected and conditioned using the CEM system described previously. If EPA Method 20 is used, that method's specific procedures for selecting sample points are used.
Analytical Procedure:	The oxides of nitrogen monitoring instrument is a chemiluminescent nitric oxide analyzer. the operational basis of the instrument is the chemiluminescent reaction of NO and ozone (O_3) to form NO_2 in an excited state. Light emission results chemiluminescence is monitored through an optical filter by a high sensitivity photomultiplier tube, the output of which is electronically processed so it is linearly proportional to the NO concentration. The output of the instrument is in ppmV. When NO_2 is expected to be present in the flue gas, a supercooled water dropout flask will be placed in the sample line to avoid loss of NO_2. Since NO_2 is highly soluble in water, "freezing out" the water will allow the NO_2 to reach the analyzers for analysis. The analyzer measures NO only. In the NO_X mode, the gas is passed through a moly converter which converts NO_2 to NO and a total NO_X measurement is obtained. NO_2 is determined as the difference between NO and NO_X. Use of a moly converter instead of a stainless steel converter eliminates NH_3 interference; NH_3 is converted to NO with a stainless converter, but not with a moly converter.

TABLE 1 (Cont.)

CO_2 INFRARED GAS ANALYZER -- HORIBA - MODEL PIR 2000

Response Time (0-90%)	5 seconds
Zero Drift	± 1% of full scale in 24 hours
Span Drift	± 1% of full scale in 24 hours
Linearity	± 2% of full scale
Resolution	Less than 1% of full scale
Operating Ranges (%)	0-5, 0-15, 0-25
Output	0-1 volt

SO_2 PULSED FLOURESCENT - TECO - MODEL 43C-HL

Response Time	80 seconds
Zero Drift	± 1%
Span Drift	± 1%
Linearity	± 1%
Resolution	± 1%
Operating Ranges	5, 10, 20, 50, 100, 200, 500, 1000, 2000, 5000
Output	0-10 volt

LINSEIS MODEL L2045 FOUR PEN STRIP CHART RECORDER

Pen Speed	up to 120 cm/min
Measuring Response	0-20 volts
Linearity Error	0.25%
Accuracy	0.3%
Zero Suppression	Manual (from 1 to 10X full scale)

to the probe and back through the moisture knockout and sample line to the analyzers. During this check the system is operated at the normal sampling rate with no adjustments. The system bias check is considered valid if the difference between the gas concentration exhibited by the measurement system which a known concentration gas is introduced at the sampling probe tip and when the sample gas is introduced directly to the analyzer, does not exceed ± 5% of the analyzer range.

Response Time:

Response time (upscale and downscale) for each analyzer is recorded during the system bias check. Upscale response time is defined as the time it takes the subject analyzer gas to reach 95% of the calibration gas value after introducing the upscale gas to the sample bias calibration system. Downscale response time is defined as the time it takes the subject analyzer to return to zero after the zero gas is introduced into the sample system bias calibration system.

NO_x Conversion Efficiency

The NO_x analyzer NO_2 conversion efficiency is determined by injecting a NO_2 gas standard directly into the NO_x analyzer (after initial calibration). The analyzer response must be a least 90% of the NO_2 standard gas value.

NO_x Converter Efficiency (alternate method)

The mid level NO gas standard is directly injected into a clean leak-free Tedlar bag. The bag is then diluted 1:1 with air (20.9 % O_2). The bag is immediately attached to the NO_x sample line. The initial NO_x concentration is recorded on the strip chart. After at least 30 minutes the Tedlar bag is reattached to the NO_x sample line. Analyzer response must be at 98% of the initial Tedlar bag NO_x value to be acceptable.

In between each sampling run the following procedures are conducted:

Zero and Calibration Drift Check:

Upon the completion of each test run, the zero and calibration drift check is performed by introducing zero and mid range calibration gases to the instruments, with no adjustments (with the exception of flow to instruments) after each test run. The analyzer response must be within ± 3% of the actual calibration gas value.

Analyzer Calibration:

Upon completion of the drift test, the analyzer calibration is performed by introducing the zero and mid range gases to each analyzer prior to the upcoming test run and adjusting the instrument calibration as necessary.

System Bias Check

(same as above)

A schematic of the sample system and specific information of the analytical equipment is provided in the following pages.

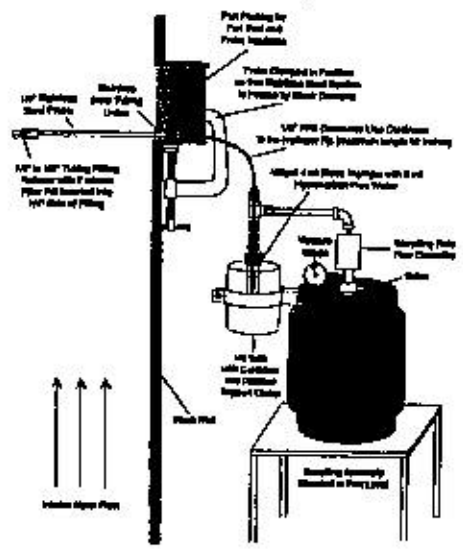
Method: **Determination of Total Gaseous Non-Methane Organic Emissions as Carbon**

Reference: SCAQMD Method 25.3

Principle: A sample of flue gas is drawn through a condensate trap (mini-impinger) and into an evacuated six liter SUMMA canister. Volatile organic compounds (VOC), as total gaseous non-methane organics (TGNMO), are determined by combining results from independent analysis of condensate in the traps and gases in the SUMMA canisters.

Sampling Procedure: Duplicate gas samples are withdrawn from a source at a constant rate through condensate traps immersed in an ice bath followed by evacuated six liter (nominal) SUMMA canisters. Heavy organic components condense as liquids and solids in the condensate traps. Lighter components pass as gases through the traps into the canisters. The combined results from canisters and mini-impinger analyses are used to determine a qualitative and quantitative expression of the effluent gas stream. Duplicate sampling is designed into the system to demonstrate precision.

The sampling apparatus is checked for leaks prior to the sampling program by capping the end of the sample probe. The sample flow valve is then opened and then closed to introduce vacuum to the system. The vacuum drop should then cease numerically above 10 in. Hg. A cease in movement of the vacuum gauge for a period of ten minutes indicates an acceptable leak check. When sampling is initiated, the vacuum gauge must indicate a canister vacuum of greater than 28 in. Hg. Immedintely after sampling a post-test leak check is performed, followed by a rinse of the PFA line into the condensate trap with 0.5 to 1.0 ml of hydrocarbon free water.



Analytical Procedure: Condensate traps are analyzed for total organic carbon by liquid injection into an infrared total organic carbon analyzer.

The organic content of the sample fraction collected in each canister is measured by injecting a portion into the FID/TCA analysis system which uses a two phase gas chromatography (GC) column to separate carbon monoxide (CO), methane (CH_4) and carbon dioxide (CO_2) from each other and from the total gaseous non-methane organics (TGNMO) which are eluted as backflush. All eluted components are first oxidized to CO_2 by a hopcalite catalyst and then reduced to methane by a nickel catalyst. The resulting methane is detected using the flame ionization detector. A gas standard containing CO, CH_4, CO_2 and propane, traceable to NBS, is used to calibrated the FID/TCA analysis system.

Method:	**Carbon Monoxide and Carbon Dioxide by Gas Chromatograph/Non-Dispersive Infrared Detector (GC/NDIR) - Oxygen by Gas Chromatography-Thermal Conductivity (GC/TCD)**
Reference:	SCAQMD Method 10.1 (From Evacuated Canisters)
Principle:	An evacuated canister is filled with sample gas according to SCAQMD Method 25.1 or 25.3. The canister contents are analyzed by total combustion analyses/flame ionization detection for carbon monoxide and carbon dioxide. Oxygen is measured by a gas chromatograph using a thermal conductivity detector.
Sampling Procedure:	Refer to SAQMD Method 25.1 or 25.3.
Analytical Procedure:	Carbon monoxide and carbon dioxide - gas chromatography/non dispersive infrared detector (GC/NDIR). Oxygen - gas chromatography/thermal conductivity detector (GC/TCD).