2005 ANNUAL SOURCE TEST REPORT

Kirby Canyon Recycling and Disposal Facility
Landfill Gas Control - Flare - Source A-11
Facility Number A1812

Test Date: December 15, 2005

Submittal Date: February 13, 2006

Prepared for:

Waste Management, Inc.
Kirby Canyon Recycling and Disposal Facility.
910 Coyote Creek Golf Road
Morgan Hill, CA 95198

For submittal to:

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

Prepared by:

Shaw™ Shaw Environmental, Inc.
2360 Bering Drive
San Jose, California 95131-1121

Project 119104.01000000

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The material and data in this report were reviewed by the undersigned.

Shaw™ Shaw Environmental, Inc.

William Johnston
Manager, Source Testing

Richard Merrill
Senior Air Quality Engineer

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1.0 Summary and Overview

1.1 Summary

Shaw Environmental, Inc. (Shaw) performed the source testing of the landfill gas flare designated as A-11, at the Kirby Canyon Recycling and Disposal Facility (KCRDF) located in Morgan Hill, California. This report presents the results of the test program. Table 1 summarizes the source test information. Table 2 summarizes the test results compared to the emission limits. The flare met all compliance criteria.

Table 1. Source Test Information

Test Location:	Kirby Canyon Recycling and Disposal Facility 910 Coyote Creek Golf Road Morgan Hill, CA 95198	Contact: Edward Pettit Waste Management, Inc. Tel: (408) 779-2206
Source Tested:	Enclosed Gas Flare (A-11)	
Source Test Date:	December 15, 2005	
Test Objective:	Determine compliance with Regulation 8, Rule 34, Permit Condition Number 1437 as specified in Major Facility Review Permit A1812	Emission Limits: NO_x: 0.06 lb/MMBtu CO: 0.3 lb/MMBtu SO_2: 300 ppmv NMOC: Destructive Efficiency greater than 98 % or 30 ppmv at 3% O_2, as CH_4
Test Performed By:	Shaw Environmental, Inc. 2360 Bering Drive San Jose, CA 95131	Contact: William R. Johnston Tel: (408) 382-5822 Fax: (408) 433-1912
Test Parameters:	**Inlet—Landfill Gas** O_2, N_2, CO_2, BTU, THC, HHV, F-Factor CH_4, NMOC, Sulfur Species, VOCs, Landfill gas volumetric flow rate	**Outlet—Flare** NMOC, NO_x, CO, O_2, SO_2, THC, CH_4, Volumetric flow rate

Notes:
NO_x = oxides of nitrogen *ppmv = parts per million by volume* *% = percent*
CO = carbon monoxide *O_2 = oxygen* *F-Factor = fuel factor*
N_2 = nitrogen *CO_2 = carbon dioxide* *CH_4 = methane*
HHV= Higher Heating Value *NMOC = non-methane organic compounds* *THC= Total Hydrocarbons*
lb/MMBtu= pounds per million British thermal units (BTU) *VOC = Volatile organic compounds*

Table 2. Compliance Summary
Test date: December 15, 2005

Condition	Average Result	Emission Limit	Compliance Status
NO_x (lb/MMBtu)	0.031	0.06	In Compliance
CO (lb/MMBtu)	0.011	0.3	In Compliance
SO_2 (ppmv)	3.2	300	In Compliance
NMOC (ppmv @ 3% O_2, dry as methane)	< 2	30	In Compliance

1.2 Overview

Shaw, an approved California Air Resources Board (ARB) source test contractor, performed the source test program. The test program was designed to demonstrate compliance with Bay Area Air Quality Management District (BAAQMD) Regulation 8, Rule 34, and with Major Facility Review (MFR) Permit Condition Number 1437 (See Appendix A). The source test was performed on the flare exhaust to assess the emissions of SO_2, NMOC, NO_x, O_2, and CO. Additionally, three landfill gas (LFG) samples were collected. One sample was analyzed for fixed gases, F-factor, HHV, NMOC, and CH_4, while all three were analyzed for total reduced sulfur (TRS), which was used as a surrogate for SO_2 analysis (all TRS is assumed to be oxidized to SO_2 in the flare.)

The source test was conducted on December 15, 2005. Sampling was performed by Mr. Bill Johnston and Mr. Scott Borderieux of Shaw. The BAAQMD was notified of the test via a letter dated December 2, 2005 that included the Source Test Protocol. The BAAQMD did not have a representative present for the test.

A copy of the Source Test Protocol is presented in Appendix B. Source test data are located in Appendix C. A copy of Shaw's ARB Independent Contractor Program certification is included in Appendix D. Process data documenting the operation of the flare are contained in Appendix E. A picture of the flare is presented in Appendix F. Continuous emission monitoring system (CEMS) data are presented in Appendix G, and analytical laboratory results are contained in Appendix H.

The source test program is discussed in Section 2 for collecting the required performance data; the source testing results are presented in Section 3; the source test procedures are presented in Section 4; and data review is discussed in Section 5.

1.3 Source Operating Conditions

The flare is a LFG Specialties Model EF84018 enclosed gas flare with a maximum capacity of 45 million Btu per hour heat input and includes a 5-gallon per minute condensate injection system. The flare is operated as a primary landfill gas control device. The flare was fired continuously with LFG and operated steadily throughout the test program.

Three thermocouples are located at the top, middle, and bottom of the flare exhaust stack to provide temperature indication for control of the combustion temperature. The LFG volumetric flow rate is measured with a mass flow meter connected to a digital readout. The LFG landfill gas flow rate and flare operating temperature are continuously recorded on a data acquisition system. The flare operated at an average temperature of 1,497 degrees Fahrenheit (°F) as measured from the top thermocouple. The average gas flow rate to the flare during the test was

recorded at 1,233 scfm at 42 percent methane, which represents approximately 70 percent of the rated heat input.

2.0 Source Test Program

The objective of the flare source test was to demonstrate compliance with requirements of MFR Permit Condition Number 1437 for LFG parameters, NO_x, CO, NMOC, and other gaseous constituents. In addition, an analysis of the LFG was performed for daily heat input for comparison to permit condition requirements. The gaseous constituents were reported to the BAAQMD under separate cover to meet the requirements of MFR Permit Condition Number 1437, Part 13.

Measurements of the flare's emissions were conducted at the flare exhaust. LFG was sampled at the inlet header. Table 3 provides a test matrix of the parameters tested at each sample location. U.S. Environmental Protection Agency (EPA), American Society for Testing and Materials (ASTM) and BAAQMD test methods were used. The source test program consisted of three 30-minute runs to measure gaseous emissions in the flare exhaust and three 30-minute runs for the inlet header. The CEMS equipment was leak-checked before sampling began. Each instrument was calibrated before and after each sampling run with EPA protocol gas standards.

Concurrent with the exhaust sampling, Shaw collected three integrated 1-liter Tedlar® bag samples of the inlet LFG for analysis. One sample was analyzed for NMOC, HHV, F-Factor, and additional fixed gases while all three were analyzed for TRS, which was used to calculate the outlet SO_2.

The inlet volumetric flow rate was measured with the LFG mass flow meter and continuously recorded by the data acquisition system. The outlet volumetric flow rate was calculated using the fuel flow rate, BTU, exhaust gas O_2 content, and the F-Factor according to EPA Method 19.

Results of the tests for the LFG and flare exhaust are summarized in Section 3. Compliance with the NMOC limit was demonstrated by verifying that the concentrations of NMOC were less than 30 ppmv at 3 percent O_2 as methane. The source test demonstrated that the flare operates with criteria pollutant emissions below the BAAQMD emission limits.

One LFG sample was analyzed for the toxic compounds listed in EPA document AP-42, Table 2.4-1, excluding acetone, CO, and mercury. Results are summarized in Section 3.

Table 3. Source Test Methods and Instrumentation

Method	Inlet (fuel) Analyte	Exhaust Analyte	Instrumentation/ Laboratory	Principle
EPA Method 3C, ASTM D-1945	Fixed Gases, Btu, F-Factor	—	Atmospheric Analysis & Consulting, Inc.	GC/TCD, GC/FID
EPA Method 25 C	NMOC	—		GC
ASTM D-5504	Sulfur Compounds	—		GC/SCD
EPA Method TO-15	VOC	—		GC
BAAQMD Method ST-6	—	CO	Horiba VIA 510	IR
BAAQMD Method ST-7		THC/CH_4/NMOC	TECO Model 51	FID
BAAQMD Method ST-13A		NO_x	Ecophysics Model 70E	Chemiluminescence
BAAQMD Method ST-14		O_2	Teledyne	Fuel Cell
EPA Method 19		Flow rate, dscfm	—	Algorithm

Notes:
dscfm = dry standard cubic feet per minute
FID = flame ionization detection
GC = gas chromatography
TCD = thermal conductivity detector
IR = infrared
SCD = sulfur chemiluminescence detector

3.0 Source Test Results

The source test was performed on the LFG fuel and at the flare exhaust. Table 4 presents the results of the LFG fuel analysis and flare operating parameters, and Table 5 presents the results of the flare exhaust test. Triplicate 30-minute runs were performed on the flare exhaust to assess the NMOC, NO_x, and CO emissions. Concurrent with each run, the O_2 content of the exhaust gas was also measured. NMOC concentrations were calculated by subtracting methane concentrations collected in integrated Tedlar® bag samples from the total hydrocarbon concentration measurement. Because THC concentrations were measured at the THC analyzer reporting limit of 1 ppmv, the methane concentration was not measured. SO_2 was calculated from results of the landfill gas analysis for TRS, assuming all TRS is oxidized into SO_2 in the flare. Concentrations of CO and NO_x are reported in units of lb/MMBtu. Concentrations of SO_2 are reported in units of ppmv, and NMOC are reported in units of ppmv corrected to 3 percent O_2.

To comply with Condition Number 1437, Part 13, an LFG gas characterization was performed concurrently with the annual source test. The LFG sample was drawn from the main header to the flare. The Run 2 LFG sample was analyzed for the toxic compounds listed in EPA document AP-42, Table 2.4-1, excluding acetone, CO, and mercury. Analytical results are summarized in Table 6 and presented in Appendix H.

Table 4. KCRDF
Flare Operating Conditions and LFG Analysis
Test date: December 15, 2005

	Run 1	Run 2	Run 3	Average
Time	0909-0939	0954-1024	1036-1106	—
Flare Temperature (°F)	1,497	1,497	1,498	1,497
Recorded Fuel Flow Rate (scfm)	1,251	1,236	1,213	1,233
Heat Input (MMBtu/day)	771.0	761.8	747.6	760.1
O_2 (%)[1]	—	3.5	—	—
CO_2 (%)[1]	—	31	—	—
N_2 (%)[1]	—	23	—	—
Methane (%)[1]	—	42	—	—
NMOC (ppmv)[1]		1,316		
THC (%)[2]	—	42	—	—

[1] Only one sample of landfill gas was analyzed for this value.
[2] Calculated

Table 5. KCRDF
Source Test Results — Landfill Flare Exhaust A-11
Test date: December 15, 2005

	Run 1	Run 2	Run 3	Average	Emission Limit
Time	0909-0939	0954-1024	1036-1106	—	—
Fuel Factor	9,390	9,390	9,390	9,390	—
Flare Temperature (°F)	1,497	1,497	1,498	1,497	—
Landfill Gas Fuel Flow Rate (scfm)	1,251	1,236	1,213	1,233	—
Exhaust Flow Rate (dscfm)	12,240	12,165	11,675	12,027	—
O_2 (%)	12.3	12.4	12.2	12.3	—
NO_x					
NO_x (ppmv)	11.6	11.3	11.7	11.5	—
NO_x (lb/MMBtu)	0.032	0.031	0.031	0.031	0.06
CO					
CO (ppmv)	6.2	7.0	6.4	6.5	—
CO (lb/MMBtu)	0.010	0.012	0.010	0.011	0.3
Hydrocarbons as Methane					
THC	<1	<1	<1	<1	—
CH_4	<1	<1	<1	<1	—
NMOC (ppmv)	< 1	< 1	< 1	< 1	—
NMOC (ppmv corrected to 3% O_2)	< 2	< 2	< 2	< 2	30
NMOC Removal Efficiency (%)[1]	—	99.3	—	—	≥ 98
Sulfurs					
SO_2 (ppmv)	3.1	3.3	3.1	3.2	300

[1] Only one sample of landfill gas was analyzed to calculate this value.

Table 6. Summary of Results, Landfill Gas Analysis
Test date: December 15, 2005

Organic Compound	Measured (ppmv)	PQL (ppmv)
1,1,1-Trichloroethane	ND	0.2
1,1,2,2-Tetrachloroethane	ND	0.2
1,1-Dichloroethane	ND	0.2
1,1-Dichloroethene	ND	0.2
1,2-Dichloroethane	ND	0.2
1,2-Dichloropropane	ND	0.2
Isopropanol	6.02	—
Acrylonitrile	ND	0.2
Bromodichloromethane	ND	0.2
Butane	3.9	—
Carbon Disulfide	ND	0.2
Carbon Tetrachloride	ND	0.2
Carbonyl Sulfide	ND	0.2
Chlorobenzene	ND	0.2
Chlorodifluoromethane	ND	0.2
Chloroethane	ND	0.2
Chloroform	ND	0.2
Chloromethane	ND	0.2
Dichlorobenzene	ND	0.2
Dichlorodifluoromethane	0.302	—
Dichlorofluoromethane	ND	0.2
Dichloromethane	ND	0.2
Dimethyl Sulfide	ND	0.2
Ethane	ND	0.3
Ethanol	23.4 (E)	—
Ethyl Mercaptan	2.9	—
Ethylbenzene	0.265	—
Ethylene Dibromide	ND	0.2
Fluorotrichloromethane	ND	0.2
Hexane	0.241	—
Hydrogen Sulfide	28	—
Methyl Ethyl Ketone	2.59	—
Methyl Isobutyl Ketone	ND	0.2
Methyl Mercaptan	1.2	—
Pentane	3.9	—
Perchloroethylene	ND	0.2
Propane	16	—
Trans-1, 2-Dichloroethene	ND	0.2
Trichloroethylene	ND	0.2
Vinyl Chloride	0.2	—
Xylenes	0.419	—

Notes:
ND = not detected.
E = Estimated value, result outside linear range of instrument.
PQL = Practical Quantitation Limit

4.0 Test Procedures

Shaw conducted the source test according to ASTM, BAAQMD and EPA test methods as described below.

4.1 Continuous Emissions Monitoring

Shaw measured stack gas constituent concentrations, using its CEMS sampling van, according to BAAQMD methods for NMOC, NO_x, CO, and O_2. Figure 1 is a schematic diagram of the Shaw CEMS.

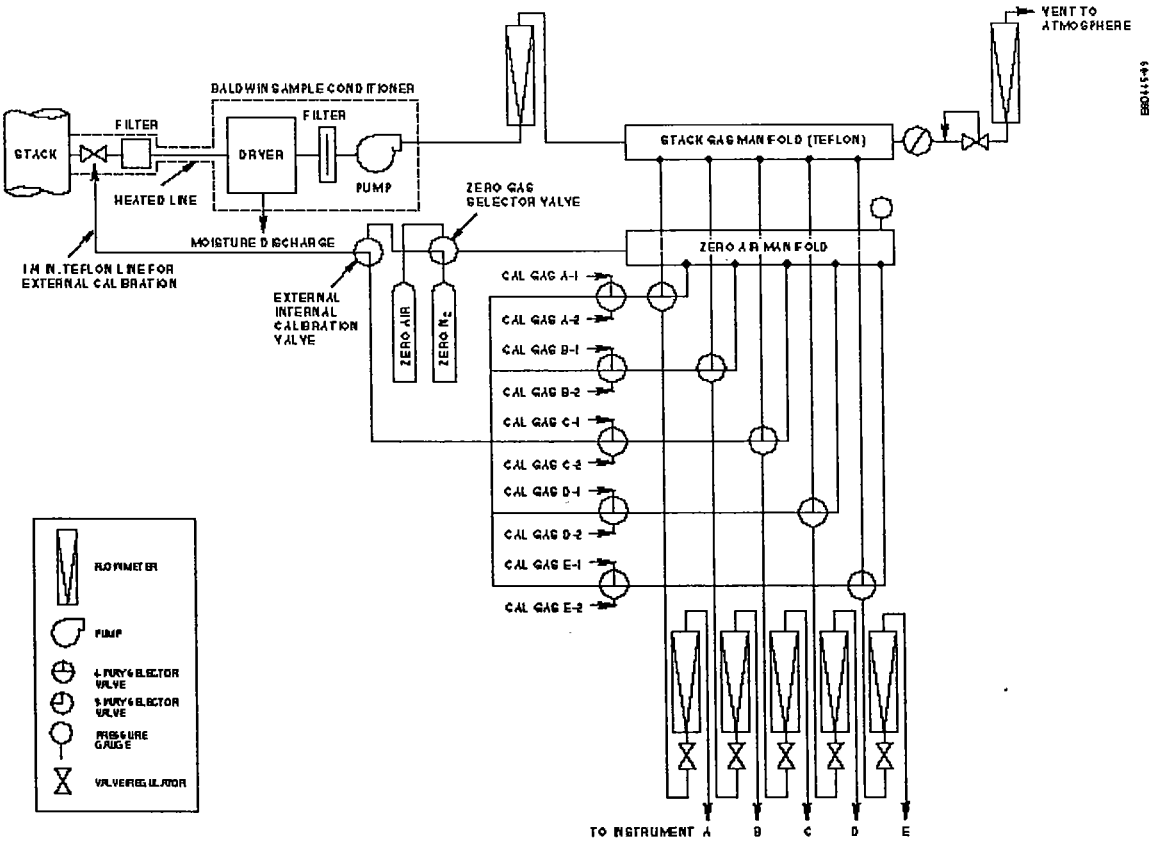

Figure 1. Schematic Diagram of the Shaw CEMS

In this source test, a sample pump was used to extract the sample gas continuously from each source through a stainless-steel sampling probe equipped with an in-stack filter, followed by a heated Teflon® sample line and a Baldwin sample conditioner. The sample line between the sample point and the sample conditioner was heated to 250°F to maintain the gas stream temperatures above the water dew point. Gas flow was controlled with a back-pressure regulator. The sample flow rate to each instrument was controlled with individual rotameters. Instrument output was recorded with a strip chart recorder and a digital data logger, the STRATA data acquisition system. Table 7 lists the specifications of the instruments used in the source test.

Table 7. CEMS Instrument Specifications

Gas	Analyzer/Manufacturer	Principle of Operation	Operating Range
O_2	Teledyne 326A	Fuel Cell	0-25%
THC	TECO Model 51	Flame Ionization	0-50 ppmv as CH_4
NO_x	Ecophysics 70E	Chemiluminescence	0-50 ppmv
CO	Horiba VIA 510	NDIR	0-250 ppmv

Note:
NDIR = nondispersive infrared

Before the start of testing, the sampling system was assembled at the site and leak-checked. Calibrations were performed on each of the instruments using certified calibration gases and a gas dilution system.

A span drift check was performed at the end of each run to measure analyzer drift. The drift check measurement uses a zero gas (N_2) and a high calibration gas. All of the instrument checks conducted for this source test were within the drift limit criterion of 3 percent, as specified in the test methods. Reported values include a correction for the recorded instrument drift, as specified in EPA Method 6C. Copies of data logger printouts, calibration data sheets, strip charts, and gas certificates of analysis are presented in Appendix G.

4.2 Landfill Gas

Shaw measured LFG constituent concentrations according to EPA and ASTM test methods. The samples were collected from a sample port located at the inlet header. The samples were collected in 1-liter Tedlar® bags through Teflon® tubing. The sample line was purged with sample gas prior to sampling. The sample flow rate was controlled with rotameters to collect 30-minute integrated samples. The samples were kept out of sunlight and analyzed within the method holding times. Analytical results are presented in Appendix H.

5.0 Data Review

The Air Quality Group within Shaw performed a quality assurance review of the source test data and report. The review included the following activities:

- Review of the general text
- Check of calculation algorithms for correctness
- Review of CEMS data extraction
- Determination that all supporting documentation is present

A detailed manual review of the data was completed. Based on our data review, Shaw concludes the following:

- The source test procedures were followed, and all data were reduced and entered into the reporting spreadsheets properly.
- The instrument drift and other measures of instrument performance were deemed acceptable.

As a result, the data are considered to be acceptable.

Limitations

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, expressed or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Opinions contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

Appendix A
Major Facility Review Permit

Bay Area Air Quality Management District

939 Ellis Street
San Francisco, CA 94109
(415) 771-6000

FINAL
MAJOR FACILITY REVIEW PERMIT

Issued To:
Kirby Canyon Landfill
Facility #A1812

Facility Address:
910 Coyote Creek Golf Drive
San Jose, CA 95198

Mailing Address:
P.O. Box 1870
Morgan Hill, CA 95038

Responsible Official
Joe Morse, Site Manager
(408) 779-2206

Facility Contact
Joe Morse

Type of Facility: Landfill
Primary SIC: 4953
Product: Non-hazardous Solid Waste

BAAQMD Permit Division Contact:
Ted Hull, Air Quality Engineer II

ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Signed by Jack P. Broadbent _____ January 12, 2005
Jack P. Broadbent, Executive Officer/Air Pollution Control Officer Date

VI. PERMIT CONDITIONS

Any condition that is preceded by an asterisk is not federally enforceable.

Condition #1437
For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

1. The Permit Holder shall comply with the following waste acceptance and disposal limits and shall obtain the appropriate New Source Review permit, if one of the following limits is exceeded:
   a. Except for temporary emergency situations approved by the Local Enforcement Agency, the total waste accepted and placed at the landfill shall not exceed 2600 tons in any day. (Basis: Regulation 2-1-301)
   b. The total cumulative amount of all waste placed in the landfill shall not exceed 19.84 million tons. Exceedance of the cumulative tonnage limit is not a violation of the permit and does not trigger the requirement to obtain a New Source review permit, if the operator can, within 30 days of the date of discovery of the exceedance, provide documentation to the District demonstrating, in accordance with BAAQMD Regulation 2-1-234.3, that the limit should be higher. (Basis: Regulation 2-1-234.3)
   c. The maximum design capacity of the landfill (total volume of all wastes placed in the landfill) shall not exceed 36.40 million cubic yards. (Basis: Regulation 2-1-301)

2. Handling Procedures for Soil Containing Volatile Organic Compounds
   a. The procedures listed below in subparts b-l do not apply if the following criteria are satisfied. However, the record keeping requirements in subpart m, below, are applicable.
      i. The Permit Holder has appropriate documentation demonstrating that either the organic content of the soil or the organic concentration above the soil is below the "contaminated" level (as defined in Regulation 8, Rule 40, Sections 205, 207, and 211). The handling of soil containing VOCs in concentrations below the "contaminated" level is subject to Part 3 below.
      ii. The Permit Holder has no documentation to prove that soil is not contaminated, but source of the soil is known and there is no reason to suspect that the soil might contain organic compounds.

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For:A-11, Landfill Gas Flare

b. The Permit Holder shall provide verbal notification to the Compliance and Enforcement Division of the Permit Holder's intention to accept contaminated soil at the facility at least 24 hours in advance of receiving the contaminated soil. The Permit Holder shall provide an estimate of the amount of contaminated soil to be received, the degree of contamination (range and average VOC Content), and the type or source of contamination.

c. Any soil received at the facility that is known or suspected to contain volatile organic compounds (VOCs) shall be handled as if the soil were contaminated, unless the Permit Holder receives test results proving that the soil is not contaminated. To prove that the soil is not contaminated, the Permit Holder shall collect soil samples in accordance with Regulation 8-40-601 within 24 hours of receipt of the soil by the facility. The organic content of the collected soil samples shall be determined in accordance with Regulation 8-40-602.
   i. If these test results indicate that the soil is still contaminated or if the soil was not sampled within 24 hours of receipt by the facility, the Permit Holder must continue to handle the soil in accordance with the procedures set forth in subparts e-1, below, until the soil has completed treatment or has been placed in a final disposal location and adequately covered. Storing soil in a temporary stockpile or pit is not considered treatment. Co-mingling, blending, or mixing of soil lots is not considered treatment.
   ii. If these test results indicate that the soil – as received at the facility – has an organic content of 50 ppmw or less, then the soil is no longer contaminated and shall be handled in accordance with the procedures in Part 3 instead of Part 2, subparts e-l.

d. Any contaminated soil received at the facility shall be clearly identified as contaminated soil, shall be handled in accordance with subparts e-l. below, and shall be segregated from non-contaminated soil. Contaminated soil lots may not be co-mingled, blended, or otherwise mixed with non-contaminated soil lots prior to treatment, reuse, or disposal. Mixing soil lots in an attempt to reduce the overall concentration of the contaminated soil or to circumvent any requirements or limits is strictly prohibited.

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e. On-site handling of contaminated soil shall be limited to no more than 2 on-site transfers per soil lot. For instance, unloading soil from off-site transport vehicles into a temporary storage pile is 1 transfer. Moving soil from a temporary storage to a staging area is 1 transfer. Moving soil from a temporary storage pile to a final disposal site is 1 transfer. Moving soil from a staging area to a final disposal site is 1 transfer. Therefore, unloading soil from off-site transport into a temporary storage pile and then moving the soil from that temporary storage pile to the final disposal site is allowed. Unloading soil from off-site transport into a staging area and then moving the soil from that staging area to the final disposal site is allowed. However, unloading soil from off-site transport to a temporary storage pile, moving this soil to a staging area, and then moving the soil again to a final disposal site is 3 on-site transfers and is not allowed.

f. If the contaminated soil has an organic content of less than 500 ppmw, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 90 days of receipt at the facility.

g. If the contaminated soil has an organic content 500 ppmw or more, the contaminated soil shall be treated, deposited in a final disposal site, or transported off-site for treatment within 45 days of receipt at the facility.

h. All active storage piles shall meet the requirements of Regulation 8-40-304 by using water sprays, vapor suppressants or approved coverings to minimize emissions. The exposed surface area of any active storage pile (including the active face at a landfill) shall be limited to 6000 ft^2. The types of storage piles that may become subject to these provisions include (but are not limited to) truck unloading areas, staging areas, temporary stockpiles, soil on conveyors, bulldozers or trucks, the active face of a landfill, or other permanent storage pile at the final disposal location.

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For:A-11, Landfill Gas Flare

i. All inactive storage piles shall meet the requirements of Regulation 8-40-305 including the requirement to cover contaminated soil during periods of inactivity longer than one hour. The types of storage piles that may become subject to these provisions include (but are not limited to) soil on trucks or other on-site equipment, staging areas, temporary stockpiles, and the permanent storage pile at the final disposal location. District approved coverings for inactive storage piles include continuous heavy-duty plastic sheeting (in good condition, joined at the seams, and securely anchored) or encapsulating vapor suppressants (with re-treatment as necessary to prevent emissions).

j. The Permit Holder must:
   i. Keep contaminated soil covered with continuous heavy-duty plastic sheeting (in good condition, joined at the seams, and securely anchored) whenever soil is to be stored in temporary stockpiles or during on-site transport in trucks. Soil in trucks shall not be left uncovered for more than 1 hour.
   ii. Establish a tipping area for contaminated soils near the active face that is isolated from the tipping area for other wastes.
   iii. Spray contaminated soil with water or vapor suppressant immediately after dumping the soil from a truck at the tipping area.
   iv. Ensure that all contaminated soil is transferred from the tipping area to the active face immediately after spraying with water or vapor suppressant.
   v. Ensure that contaminated soil in the tipping area is not disturbed by subsequent trucks. Trucks shall not drive over contaminated soil in the tipping area or track contaminated soil out of the tipping area on their wheels.
   vi. Spray contaminated soil on the active face with water or vapor suppressant (to keep the soil visibly moist) until the soil can be covered with an approved covering.
   vii. Limit the area of exposed soil on the active face to no more than 6000 ft^2.

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For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

viii. Ensure that contaminated soil spread on the active face is completely covered on all sides with one of the following approved coverings: at least 6 inches of clean compacted soil, at least 12 inches of compacted garbage, or at least 12 inches of compacted green waste.

ix. Ensure that covering of soil on the active face is completed within one hour of the time that the soil was first dumped from a truck at the tipping area.

k. Contaminated soil shall not be used as daily, intermediate, or final cover material for landfill waste operations unless the requirements of Regulation 8, Rule 40, Sections 116 or 117 have been satisfied.

l. Contaminated soil is considered to be a decomposable solid waste pursuant to Regulation 8, Rule 34. All contaminated soil disposed of at a site shall be included in any calculations of the amount of decomposable waste in place that are necessary for annual reporting requirements or for purposes of 8-34-111 or 8-34-304.

m. The Permit Holder shall keep the following records for each lot of soil received, in order to demonstrate on-going compliance with the applicable provisions of Regulation 8, Rule 40.

i. For all soil received by the facility (including soil with no known contamination), record the arrival date at the facility, the soil lot number, the amount of soil in the lot, the organic content or organic concentration of the lot (if known), the type of contamination (if any), and keep copies of any test data or other information that documents whether the soil is contaminated (as defined in 8-40-205) or not contaminated, with what, and by how much.

ii. If the soil is tested for organic content after receipt by the facility, record the sampling date, test results, and the date that these results were received.

iii. For all on-site handling of contaminated soil, use a checklist or other approved method to demonstrate that appropriate procedures were followed during all on-site handling activities. One checklist shall be completed for each day and for each soil lot (if multiple lots are handled per day).

VI. Permit Conditions

Condition #1437
For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

iv. For soil aerated in accordance with 8-40-116 or 117 record the soil lot number, the amount of soil in the lot, the organic content, the final placement date, the final placement location, and describe how the soil was handled or used on-site.

v. For final disposal at a landfill, record on a daily basis the soil lot number, the amount of soil placed in the landfill, the disposal date, and the disposal location.

All records shall be retained for at least 5 years from the date of entry and shall be made available for District inspection upon request.

(basis: Regulations 8-40-301, 8-40-304 and 8-40-305)

3. Low VOC soil (soil that contains 50 ppmw or less of VOC) is not considered to be "contaminated soil" and may be used as daily, intermediate, or final cover material for landfill waste operations if the organic concentration above the soil does not exceed 50 ppmv (expressed as methane, C1). To demonstrate compliance with this requirement, each lot of soil to be used as cover material shall be randomly screened for VOC surface emissions (in such a manner as to be representative of the entire lot) using the testing procedures outlined in Regulation 8-40-604. The Permit Holder shall keep the following records for each lot of soil subject to this requirement:
   a. The soil lot number as established in part 2m.i. (above).
   b. The time and date of the soil screening.
   c. The name and affiliation of the person performing the monitoring.
   d. The results of the screening and an acknowledgement that the procedures outlined in Regulation 8-40-604 were used.

   Soil presumed to be low VOC soil that is found to have a surface VOC concentration greater than 50 ppmv as described above shall be considered contaminated soil and will be subject to the requirements of part 2 of these conditions. (basis: Regulations 8-40-205, 8-40-604)

4. Water and/or dust suppressants shall be applied to all unpaved roadways, active soil removal, and fill areas as necessary to prevent visible particulate emissions. Paved roadways shall be kept sufficiently clear of dirt and debris to prevent visible particulate emissions from vehicle traffic or wind. (basis: Regulations 2-1-403, 6-301, and 6-305)

VI. Permit Conditions

Condition #1437
For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

5. All collected landfill gas shall be vented to properly operating abatement equipment including the Landfill Gas Flare (A-11) and/or the IC Engines (S-5, S-6, and S-7)). Raw landfill gas shall not be vented to the atmosphere, except for unavoidable landfill gas emissions that occur during collection system installation, maintenance, or repair that is performed in compliance with Regulation 8, Rule 34, Sections 113, 116, 117, or 118 and for component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303. (basis: Regulation 8-34-301)

6. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described in Parts 6a-b below. Increasing or decreasing the number of wells or collectors, changing the length of collectors, or changing the locations of wells or collectors are all considered to be modifications that are subject to the Authority to Construct requirement.
   a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below. Well and collector locations, depths, and lengths are as described in detail in Permit Applications #2232 and #7835.

	Current
Total Number of Gas Wells:	34

   b. The Permit Holder has been issued an Authority to Construct for the additional landfill gas collection system components listed below. Specific well locations, depths, and lengths of associated piping are as described in detail in Permit Application #7853. After receiving a written start-up notification for any wells or collectors that have been installed, the APCO will revise the number of wells listed in Parts 6a and 6b using the minor permit amendment procedures identified in Regulation 2-6-414.

	Proposed
Additional Number of Gas Wells:	2

(basis: Regulations 2-1-301, 8-34-301.1, 8-34-304, 8-34-305)

7. The landfill gas collection system described in Part 6a shall be operated continuously as defined in Regulation 8-34-219. Wells shall not be shut off, disconnected or removed from operation without written authorization from the APCO, unless the Permit Holder complies with all applicable requirements of Regulation 8, Rule 34, Sections 113, 116, 117, and 118. (basis: Regulation

VI. Permit Conditions

8-34-301.1)

Condition #1437
For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

8. The heat input to the A-11 Landfill Gas Flare shall not exceed 1,080 million BTU per day and shall not exceed 394,200 million BTU per year. In order to demonstrate compliance with this part, the Permit Holder shall calculate and record, on a monthly basis, the maximum daily and total monthly heat input to the flare based on: (a) the landfill gas flow rate recorded pursuant to part 14h, (b) the average methane concentration in the landfill gas measured in most recent source test, and (c) a high heating value for methane of 1013 BTU per cubic foot at 60 degrees F. (basis: Regulation 2-1-301)

9. The minimum combustion zone temperature of the Flare A-11 shall be determined by the results of the most recent source test in which compliance with all applicable requirements was demonstrated. The minimum combustion zone temperature shall be the average temperature measured during the complying source test minus 50 degrees F. Once the minimum temperature has been established, it shall be maintained during all periods of flare operation. Compliance with the temperature limit shall be based on a 3-hour averaging period. Under no circumstances shall the minimum flare temperature be less than 1,400 degrees F. Based on the results of required source testing of the flare, the APCO may add an explicit temperature limit to the conditions for the Flare A-11 in accordance with the procedures identified in Regulation 2-6-414 or 2-6-415. (Basis: Regulation 8-34-301.3)

10. Emissions of Nitrogen Oxides (NOx) from the Flare A-11 shall not exceed 0.06 pounds per million BTU (calculated as NO_2). (basis: RACT and Offsets)

11. Emissions of Carbon Monoxide (CO) from the Flare A-11 shall not exceed 0.3 pounds per million BTU. (basis: RACT and Offsets).

12. To demonstrate compliance with Regulation 8, Rule 34, Sections 301.3 and 412, and the above requirements, the Permit Holder shall ensure that a District approved source test is conducted annually on the Landfill Gas Flare (A-11). The annual source test shall determine the following:

VI. Permit Conditions

Condition #1437
For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

a. landfill gas flow rate to the flare (dry basis);
b. concentrations (dry basis) of carbon dioxide (CO_2), nitrogen (N_2), oxygen (O_2), total hydrocarbons (THC), methane (CH_4), and total non-methane organic compounds (NMOC) in the landfill gas;
c. stack gas flow rate from the flare (dry basis);
d. concentrations (dry basis) of nitrogen oxides (NOx), carbon monoxide (CO), THC, CH_4, NMOC, SO_2, and O_2 in the flare stack gas;
e. the NMOC destruction efficiency achieved by the flare; and
f. the average combustion temperature in the flare during the test period.

Annual source tests shall be conducted no earlier than 9 months and no later than 12 months after the previous source test. The Source Test Section of the District shall be contacted to obtain approval of the source test procedures at least 14 days in advance of each source test. The Source Test Section shall be notified of the scheduled test date at least 7 days in advance of each source test. The source test report shall be submitted to the Compliance and Enforcement Division and to the Source Test Section within 60 days of the test date. This testing shall also be used to determine compliance with the SO2 requirements of Regulation 9-1-302 for the IC Engine Generator Sets S-5, S-6, and S-7. For this purpose, the SO2 concentration shall be corrected to zero percent oxygen. (basis: RACT, Regulations 2-1-301, 8-34-301.3, 8-34-412, and 9-1-302)

13. The Permit Holder shall conduct a characterization of the landfill gas concurrent with the annual source test required by part 11 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in part 11b, the landfill gas shall be analyzed for all the compounds listed in the most recent version of EPA's AP-42 Table 2.4-1 excluding acetone, carbon monoxide, and mercury. All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division within 45 days of the test date. After conducting three annual landfill gas characterization tests, the Permit Holder may request to remove specific compounds from the list of compounds to be tested for if the compounds have not been detected, have no significant impact on the cancer risk determination for the site, and have no significant impact on the hazard index determination for the site. (basis: Toxic Risk Management Policy and Regulation 8-34-412)

VI. Permit Conditions

Condition #1437
For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

*14. The landfill gas condensate injection rate shall not exceed 5 gallons per minute. Total landfill gas condensate injection throughput shall not exceed 375,000 gallons during any consecutive twelve-month period. The Permit Holder for S-1 and A-11 may submit a written petition to the District to increase the landfill gas condensate injection rate subject to current District-approved source test results. (basis: Toxic Risk Management Policy)

15. To demonstrate compliance with the above conditions, the Permit Holder shall maintain the following records in a District approved logbook.
    a. The total amount of municipal solid waste received at S-1 recorded on a daily basis. A summary of the daily waste acceptance records for each calendar month.
    b. For each area or cell that is not controlled by a landfill gas collection system, a record of the date that waste was initially placed in the area or cell. The cumulative amount of waste placed in each uncontrolled area or cell recorded on a monthly basis.
    c. If the Permit Holder plans to exclude an uncontrolled area or cell from the collection system requirement, the Permit Holder shall also record the types and amounts of all non-decomposable waste placed in the area and the percentage (if any) of decomposable waste placed in the area.
    d. Low VOC soil screening data, pursuant to part 3.
    e. The dates, locations, and frequency per day of all watering activities on unpaved roads or active soil or fill areas. The dates, locations, and type of any dust suppressant applications. The dates and description of all paved roadway cleaning activities. All records shall be summarized monthly.
    f. The initial operation date for each new landfill gas well and collector.
    g. An accurate map of the landfill that indicates the locations of all refuse boundaries and the locations of all wells and collectors (using unique identifiers) that are required to be operating continuously pursuant to part 6a. Any areas containing only non-decomposable waste shall be clearly identified. This map shall be updated at least once a year to indicate changes in refuse boundaries and to include any newly installed wells and collectors.
    h. The operating times and the landfill gas flow rate to the A-11 Landfill Gas Flare recorded on a daily basis. A monthly summary of the heat input toA-11, pursuant to part 8 shall be calculated and recorded.
    i. Continuous records of the combustion zone temperature for the A-11 Landfill Gas Flare during all hours of operation.

VI. Permit Conditions

Condition #1437
For: S-1, Active Landfill with Landfill Gas Collection System;
For:A-11, Landfill Gas Flare

j. Records of all test dates and test results performed to maintain compliance with parts 12 and 13 above or any applicable rule or regulation.
k. Records of landfill gas condensate injection throughput and the duration of the injection recorded daily.

All records shall be maintained on site or shall be made readily available to District staff upon request for at least 5 years from the date of entry. These recordkeeping requirements do not replace the recordkeeping requirements contained in any applicable rules or regulations.
(basis: Cumulative Increase, 2-1-301, 2-6-501, 6-301, 6-305, 8-2-301, 8-34-301, 8-34-304, 8-34-501, and 9-1-302)

16. The annual report required by BAAQMD Regulation 8-34-411 shall be submitted in two semi-annual increments. The reporting period for the first increment of the Regulation 8-34-411 annual report that is submitted subsequent to the issuance of the MFR Permit for this site shall be from December 1, 2002 through August 31, 2003. This first increment report shall be submitted by September 30, 2003. The reporting periods and report submittal due dates for all subsequent increments of the Regulation 8-34-411 report shall be synchronized with the reporting periods and report submittal due dates for the semi-annual MFR Permit monitoring reports that are required by Section I.F. of the MFR Permit for this site. (basis: Regulation 8-34-411 and 40 CFR Part 63.1980(a))

Condition #21582
For: S-3, S-4; Diesel IC Engines for Flare Generator and Trash Pump

1. The Diesel Engines S-3 and S-4 shall each be limited to 3,120 hours per year of operation. (basis: Offsets)

2. Only low sulfur fuel (<0.5% sulfur by weight) shall be combusted at S-3 and S-4. The maximum sulfur content of the fuel shall be demonstrated by vendor certification. (basis: Regulation 9-1-304)

Appendix B
Source Test Protocol

Shaw Environmental, Inc.
2360 Bering Drive
San Jose, California 95131
408-382-5800
FAX: 408-433-1912

Shaw™ Shaw Environmental, Inc.

To: Ken Kunaniec, Tim Underwood, BAAQMD Date: December 2, 2005
Subject: Source Test Protocol & Test Notification

SOURCE TEST PROTOCOL
FOR
KIRBY CANYON RECYCLING AND DISPOSAL FACILITY
FLARE

Shaw Environmental, Inc. (Shaw) will perform compliance testing on one landfill gas flare (A-11) at the Kirby Canyon Recycling and Disposal Facility (KCRDF) in San Jose, California. The purpose of the test is to demonstrate the performance of the landfill gas flare as specified by the Bay Area Air Quality Management District (BAAQMD) Major Facility Review (MFR) Title V permits and Regulation 8, Rule 34. This protocol is to inform the BAAQMD of the planned test date and testing procedures. Shaw is approved by the California Air Resources Board (ARB) as an independent contractor to conduct compliance emission testing.

Source Test Information

Test Location:	Kirby Landfill 910 Coyote Creek Morgan Hill, CA 95198 BAAQMD MFR Number A1812	Contact: Mr. Eddie Petitte 408-779-2206 (Waste Management)
Source to be Tested:	Flare A-11	
Test Objective:	Determine compliance with Title V and Regulation 8, Rule 34 Flare: Permit Condition Number 1437	Emission Limits: NO_x: 0.06 lb/MMBtu CO: 0.3 lb/MMBtu SO_2: 300 ppmv NMOC: > 98% destruction efficiency or 30 ppm as methane at 3 % O_2
Test to be Performed By:	Shaw Environmental, Inc. 2360 Bering Drive San Jose, CA 95131	Contact: Bill Johnston Tel: (408) 382-5822
Test Parameters:	Inlet O_2, CO_2, N_2, BTU, HHV, Fuel factor THC, CH_4, NMOC, Sulfur Species, VOCs, landfill gas flow rate	Outlet THC, CH_4, NMOC, O_2, NO_x, CO, SO_2 Volumetric flow rate

SOURCE DESCRIPTION

The flare is an LFG Specialties Model EF8 4018, 1,480 scfm capacity enclosed gas flare with a 5 GPM condensate injection system. The flare is designated by the BAAQMD as abatement device A-11. A Yokogawa data acquisition system with local digital display and recorder provides the record of flare temperatures and inlet flow rates.

SCOPE OF WORK

A source test will be performed on one flare (A-11) located at KCRDF. The flare source test shall determine the following parameters as specified in the facility's Title V permit condition number 1437 and BAAQMD Regulation 8, Rule 34.

The following conditions, specified in the referenced Permit Condition, will be met.

- Condition 1437, items 10 and 12d: NO_x emissions from the flare shall not exceed 0.06 pounds per million Btu (lb/MMBtu);
- Condition 1437, items 11 and 12d: CO emissions from the flare shall not exceed 0.3 lb/MMBtu;
- Condition 1437, item 12: The source test will determine the following:
    - Landfill gas flow rate to the flare, item 12a
    - Landfill Gas fuel analysis: for Btu/cubic foot of gas, higher heating value (HHV), C_1 through C_6, total hydrocarbons (THC), methane, NMOC, sulfur species, O_2, CO_2, and N_2, item 12b
    - Stack gas flow rate, item 12c
    - Concentrations (dry basis) of NO_x, CO, THC, CH_4, NMOC, SO_2, and O_2 in the flare stack gas, item 12d
    - The flare destruction efficiency of total non-methane organic compounds (NMOC) shall not be less than 98 percent by weight, unless the outlet NMOC concentration is less than 30 ppmv, expressed as methane at 3 percent oxygen on a dry basis, item 12e
    - The average combustion temperature in the flare. As per Condition 1437, items 9 and 12f, temperature and fuel flow rate shall be recorded over the period of the source test. The source test should be conducted at the minimum combustion zone temperature allowed by the BAAQMD (1450 degrees Fahrenheit) or greater if necessary.
- Condition 1437, item 12 and Rule 9-1-302: SO_2 emissions from the flare shall not exceed 300 ppmv;
- Condition 1437, item 13: a characterization of the landfill gas for all the compounds listed in EPA AP-42, Table 2.4-1 excluding acetone, CO, and mercury.

TEST PROCEDURES

The following source test methods (each compliant with the requirements of the BAAQMD) will be utilized to determine the emissions from the flare:

- Triplicate landfill gas fuel analysis for H_2S and sulfur species by ASTM D-5504. One of the samples will be analyzed for O_2, CO_2, and N_2 by EPA Method 3C, C_1 through C_6

hydrocarbons, THC, NMOC, CH_4 by Method 18. HHV and fuel factor by ASTM 1945, and organic constituents by TO-15

- Three (3) thirty-minute test runs will be performed for NOx, CO, O_2, NMOC, and SO_2. Testing will be performed according to EPA test methods. SO_2 concentrations will not be measured but calculated from the analysis of sulfur species from the landfill gas.
- EPA Method 19: volumetric flow rate at the flare exhaust
- Triplicate integrated samples for the inlet concentration of NMOC by EPA Method 25C, if required

Landfill Gas Fuel Analysis

Integrated Tedlar bag samples will be collected at the inlet to the flare. Samples will be collected concurrently with the outlet sampling. Samples will be analyzed within 72 hours (48 hrs for sulfur). One sample will be collected and analyzed for speciated organics. The sulfur result will be used as a surrogate for monitoring sulfur dioxide in the exhaust gas.

Continuous Emission Monitoring

Single point sampling will be performed. All analyzers will be checked for calibration before and after each run. Emission monitoring data will be recorded on strip charts and a data logger. Methane concentrations will be determined by passing sample gas through an activated carbon scrubber prior to the hydrocarbon analyzer. Hydrocarbon emissions will be measured and reported as methane.

Process Parameters

Flare process parameters including the fuel gas flow rate and the flare operating temperature will be measured and recorded during each run using the flare gas measurement system.

REPORT

The final report is due to the BAAQMD 45 days after testing has occurred. The report will describe the tests that were conducted, the operating conditions of the source during the test, and the emission results reported in units of the appropriate standard. All raw data and sample calculations used to obtain the reported results will be included so that the accuracy of the reported results can be verified from the report. The flare process information will be submitted in the report.

TEST SCHEDULE

The BAAQMD will be notified at least seven days in advance. Unless advised the source test is scheduled for December 29, 2005.

Appendix C
Source Test Data

Emission Rate Calculations
Stack Gas Flow Rate and Fuel Usage, EPA Method 19

EMISSION RATE CALCULATION

Facility: Kirby
Source : Flare
Test date: 12/15/2005

Temperature Std: 70
Pressure Std: 29.92
O2% correction: 3

Time	0909-0939 Run 1		954-1024 Run 2		1036-1106 Run 3		Avg		Permit Limits
	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	
Flare Temp (F)	1,497		1,497		1,498		1,497		
Fuel factor	9,390		9,390		9,390		9,390		
Oxygen (%)		12.3		12.4		12.2		12.3	
Flowrate (dscfm)	1,251	12,240	1,236	12,165	1,213	11,675	1,233	12,027	
Oxides of Nitrogen									
MW = 46									
NOx, ppm		11.6		11.3		11.7		11.5	
NOx, lb/hr		1.0		1.0		1.0		1.0	
NOx, lb/MMBtu		0.032		0.031		0.031		**0.031**	**0.06**
Carbon Monoxide									
MW = 28									
CO, ppm		6.2		7.0		6.4		6.5	
CO, lb/hr		0.3		0.4		0.3		0.3	
CO, lb/MMBtu		0.010		0.012		0.010		**0.011**	**0.2**
Hydrocarbons as methane									
MW = 16									
THC, ppm		< 1	421316	< 1		< 1	421,316	< 1	
THC, lb/hr		0.03	1,293	0.03		0.03	1,293	0.03	
Methane, ppm		NM	420,000	NM		NM	420,000	NM	
Methane, lb/hr		NM	1,289	NM		NM	1,289	NM	
NMOC, ppm		< 1	1316	< 1		< 1	1,316	< 1	
NMOC, ppm corrected to 3% O2		< 2		< 2		< 2		**< 2**	**30**
NMOC, lb/hr		0.030	4.0	0.030		0.029	4.0	0.030	
SO_2 as H_2S, ppm		3.1		3.3		3.1		**3.2**	**300**
Efficiency %									
THC				100.0%				100.0%	**98**
NMOC				99.3%				99.3%	**98**

Calculations

lb/hr = ppm x MW x Qs x 8.223x10-5 / (Tstd + 460)
ppm corrected @ O2 = ppm measured x [(20.9 - O2% correction) / (20.9% O2 - O2 measured)]
lb/MMBtu = F-factor x MW x [1.3711x10-6 / (Tstd + 460)] x [(20.9 /20.9 -O2%)] x ppm
Efficiency (%) = in (lb/hr)-out (lb/hr)/in (lb/hr) x 100

NM = not measured

Stack Gas Flow Rate ---- Fuel Usage

EPA Method 19

Facility Kirby
Source Flare
Date 12/15/2005

		Run 1	Run 2	Run 3	Average
Gross Caloric Value (Btu/ft3)	Btu/ft3	428	428	428	428
Stack Oxygen	%	12.3	12.4	12.2	12.3
Fuel factor @ 70 F	DSCF/MMBtu	9,390.0	9,390.0	9,390.0	9,390.0
Corrected Fuel Rate (SCFM) @ Tstd	SCFM	1,251	1,236	1,213	1,233
Fuel Flowrate (SCFH) @ Tstd	SCFH	75,060	74,160	72,780	74,000
Million Btu per minute	MMBtu/min	0.535	0.529	0.519	0.528
Heat Input (MMBtu/hr)	MMBtu/hr	32.1	31.7	31.1	31.7
Heat Input (MMBtu/day)	MMBtu/day	771.0	761.8	747.6	760.1
Stack Gas Flow Rate (dscfm)	dscfm	12,240	12,165	11,675	12,027

Calculations

SCFM = CFM * (Tstd + 460) * gas PSIA) / 14.7 / (gas F + 460)
SCFH = SCFM * 60
MMBtu/min = SCFM * Btu/ft3 / 1,000,000
MMBtu/hr = MMBtu/min * 60
DSCFM = Fuel factor * MMBtu/min * (20.9 / (20.9-O2%)) * (Tstd + 460) / 528

Notes
Corrected Fuel Rate (SCFM) @ Tstd data is from the system data acquisition

Kirby Canyon Landfill
Flare Source Test
Calculations of SO_2 Emission

Parameters	Run 1	Run 2	Run 3	Average	Units
Fuel Input	1251	1236	1213	1233.3	scfm
Sulfur (as H_2S)	30	32	30	30.7	ppmv
R	0.7302	0.7302	0.7302	0.7302	atm*ft^3/lbmol*R
Fuel Input	3.2448	3.2058	3.1462	3.1989	lbmol/min
Sulfur Input	9.73E-05	0.000102587	9.44E-05	0.00010	lbmol/min
Sulfur Outlet	9.73E-05	0.000102587	9.44E-05	0.00010	lbmol/min
SO_2 MW	64.06	64.06	64.06	64.1	lb/lbmol
SO_2 Outlet	0.006236	0.006571729	0.006046	0.00628	lb/min
SO_2 Outlet	0.374146	0.394303727	0.362781	0.3771	lb/hr
Exhaust Flow rate (dscfm)	12240	12165	11675	12026.7	dscfm
SO_2 Outlet	3.08	3.26	3.13	3.16	ppmv

Appendix D
ARB Independent Contractor Program Certification

State of California

Air Resources Board

Approved Independent Contractor

Shaw Environmental, Inc.

This is to certify that the company listed above has been approved by the Air Resources Board to conduct compliance testing pursuant to section 91207, title 17, California Code of Regulations, until June 30, 2006 for those test methods listed below:

ARB Source Test Methods:
1, 2, 3, 4, 5, 8, 100 (CO, CO_2, NO_x, O_2, SO_2, THC)
Visible Emissions Evaluation

William V. Loscutoff, Chief
Monitoring and Laboratory Division

90 56165

Appendix E
Process Data

DAS Printouts
Field Data Sheet

Kirby Canyon 2005 Source Test Summary Process Data, Test Date : 12-15-05

Run	Time	Flare Temp degree F	LFG Flow SCFM
1	0909-0939	1497[a]	1251[a]
2	0954-1024	1497[a]	1236[a]
3	1036-1106	1498[a]	1213[a]

Note: [a] Average of minimum and maximum readings for the test duration.

DAQSTANDARD	R6.04
Data Viewer	R6.04
Shaw EMCON/OWT	Scott Borderieux 833-98024-****
Device Type	DX100
Serial No.	12C716532
File Message	
Time Correction	None
Starting Condition	Auto
Dividing Condition	Auto
Meas Ch.	6
Math Ch.	1
Data Count	3282
Sampling Interval	120.000 sec
Start Time	2005/12/1 20:06:00 0.000
Stop Time	2005/12/1(09:28:00 0.000
Trigger Time	2005/12/1; 04:04:00 0.000
Trigger No.	239
Damage Check	Not Damaged
Converted Group	1 - 1

		Ch.	CH01		CH02		CH03		CH04				
		Tag	FLARE TEMP		LFG FLOW		COND FLOW		LFG TEMP				
		Unit	F		SCFM		GPM		°F				
Date	Time	sec	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX			
2005/12/15	09:00:00	0.000	1494	1499	1253	1261	2.47	2.52	72.0	72.0			
2005/12/15	09:02:00	0.000	1494	1499	1253	1263	2.47	2.49	72.0	72.1			
2005/12/15	09:04:00	0.000	1494	1499	1248	1263	2.47	2.49	72.1	72.2			
2005/12/15	09:06:00	0.000	1491	1501	1243	1255	2.47	2.49	72.2	72.3			
2005/12/15	09:08:00	0.000	1497	1505	1250	1264	0.00	2.49	72.3	72.5			
2005/12/15	09:10:00	0.000	1493	1502	1247	1259	0.00	0.01	72.4	72.6		Temp	Flow
2005/12/15	09:12:00	0.000	1492	1501	1244	1257	0.00	0.00	72.6	72.7	Run 1	1497	1251
2005/12/15	09:14:00	0.000	1493	1504	1244	1253	0.00	0.00	72.7	72.8			
2005/12/15	09:16:00	0.000	1491	1501	1248	1261	0.00	0.00	72.8	72.9			
2005/12/15	09:18:00	0.000	1492	1502	1243	1257	0.00	0.00	72.9	73.0			
2005/12/15	09:20:00	0.000	1491	1501	1252	1262	0.00	0.00	73.0	73.1			
2005/12/15	09:22:00	0.000	1491	1502	1257	1267	0.00	0.00	73.1	73.1			
2005/12/15	09:24:00	0.000	1491	1500	1254	1264	0.00	0.00	73.1	73.3			
2005/12/15	09:26:00	0.000	1493	1498	1244	1256	0.00	0.00	73.3	73.5			
2005/12/15	09:28:00	0.000	1494	1503	1239	1252	0.00	0.00	73.5	73.7			
2005/12/15	09:30:00	0.000	1493	1501	1237	1249	0.00	0.00	73.7	74.0			
2005/12/15	09:32:00	0.000	1494	1501	1239	1253	0.00	0.00	74.0	74.3			
2005/12/15	09:34:00	0.000	1491	1500	1242	1255	0.00	0.00	74.3	74.6			
2005/12/15	09:36:00	0.000	1492	1501	1241	1252	0.00	0.00	74.6	74.9			
2005/12/15	09:38:00	0.000	1493	1501	1242	1250	0.00	0.00	74.9	75.2			
2005/12/15	09:40:00	0.000	1493	1499	1245	1256	0.00	0.00	75.2	75.4			
2005/12/15	09:42:00	0.000	1493	1505	1239	1256	0.00	0.00	75.4	75.7			
2005/12/15	09:44:00	0.000	1494	1499	1242	1255	0.00	0.00	75.7	75.9			
2005/12/15	09:46:00	0.000	1495	1499	1237	1253	0.00	0.00	75.9	76.2			
2005/12/15	09:48:00	0.000	1489	1499	1243	1255	0.00	0.00	76.2	76.5			
2005/12/15	09:50:00	0.000	1492	1498	1238	1250	0.00	0.00	76.5	76.8			
2005/12/15	09:52:00	0.000	1494	1500	1232	1244	0.00	0.00	76.7	77.1			
2005/12/15	09:54:00	0.000	1492	1501	1231	1247	0.00	0.00	77.1	77.4		Temp	Flow
2005/12/15	09:56:00	0.000	1494	1500	1244	1251	0.00	0.00	77.3	77.6	Run 2	1497	1236
2005/12/15	09:58:00	0.000	1491	1500	1234	1247	0.00	0.00	77.6	77.8			
2005/12/15	10:00:00	0.000	1491	1501	1238	1249	0.00	0.00	77.8	78.0			
2005/12/15	10:02:00	0.000	1495	1503	1239	1249	0.00	0.00	78.0	78.3			
2005/12/15	10:04:00	0.000	1492	1498	1236	1249	0.00	0.00	78.3	78.6			
2005/12/15	10:06:00	0.000	1496	1501	1237	1243	0.00	0.00	78.6	78.9			
2005/12/15	10:08:00	0.000	1493	1501	1229	1243	0.00	0.00	78.8	79.1			
2005/12/15	10:10:00	0.000	1491	1500	1229	1236	0.00	0.00	79.1	79.3			
2005/12/15	10:12:00	0.000	1491	1502	1221	1240	0.00	0.00	79.3	79.5			
2005/12/15	10:14:00	0.000	1494	1502	1227	1239	0.00	0.00	79.5	79.7			
2005/12/15	10:16:00	0.000	1492	1500	1219	1232	0.00	0.00	79.7	79.8			
2005/12/15	10:18:00	0.000	1494	1500	1221	1232	0.00	0.00	79.8	80.0			
2005/12/15	10:20:00	0.000	1494	1502	1219	1234	0.00	0.00	80.0	80.3			
2005/12/15	10:22:00	0.000	1494	1502	1227	1236	0.00	0.00	80.3	80.6			
2005/12/15	10:24:00	0.000	1495	1505	1226	1238	0.00	0.00	80.6	80.8			
2005/12/15	10:26:00	0.000	1489	1504	1217	1237	0.00	0.00	80.8	81.2			
2005/12/15	10:28:00	0.000	1494	1503	1226	1233	0.00	0.00	81.2	81.4			
2005/12/15	10:30:00	0.000	1495	1501	1226	1233	0.00	0.00	81.4	81.7			
2005/12/15	10:32:00	0.000	1493	1501	1222	1230	0.00	0.00	81.7	82.0			
2005/12/15	10:34:00	0.000	1493	1500	1215	1231	0.00	0.00	82.0	82.3			
2005/12/15	10:36:00	0.000	1493	1501	1210	1220	0.00	0.00	82.3	82.5		Temp	Flow
2005/12/15	10:38:00	0.000	1494	1502	1206	1216	0.00	0.00	82.5	82.8	Run 3	1498	1213
2005/12/15	10:40:00	0.000	1494	1502	1213	1225	0.00	0.00	82.8	83.1			
2005/12/15	10:42:00	0.000	1492	1501	1219	1227	0.00	0.00	83.1	83.4			
2005/12/15	10:44:00	0.000	1493	1504	1210	1224	0.00	0.00	83.4	83.7			
2005/12/15	10:46:00	0.000	1493	1500	1208	1224	0.00	0.00	83.7	84.0			
2005/12/15	10:48:00	0.000	1493	1504	1214	1224	0.00	0.00	84.0	84.3			
2005/12/15	10:50:00	0.000	1494	1501	1207	1226	0.00	0.00	84.3	84.5			
2005/12/15	10:52:00	0.000	1490	1500	1205	1214	0.00	0.00	84.5	84.8			
2005/12/15	10:54:00	0.000	1489	1501	1187	1209	0.00	0.00	84.8	85.0			
2005/12/15	10:56:00	0.000	1494	1509	1197	1216	0.00	0.00	85.0	85.1			
2005/12/15	10:58:00	0.000	1493	1504	1204	1213	0.00	0.00	85.1	85.3			
2005/12/15	11:00:00	0.000	1494	1505	1209	1218	0.00	0.00	85.3	85.4			
2005/12/15	11:02:00	0.000	1494	1504	1208	1219	0.00	0.00	85.4	85.7			
2005/12/15	11:04:00	0.000	1494	1504	1211	1218	0.00	0.00	85.7	85.9			
2005/12/15	11:06:00	0.000	1490	1501	1209	1219	0.00	0.00	85.9	86.2			
2005/12/15	11:08:00	0.000	1490	1502	1210	1218	0.00	0.00	86.2	86.6			
2005/12/15	11:10:00	0.000	1492	1500	1200	1221	0.00	0.00	86.5	86.9			
2005/12/15	11:12:00	0.000	1494	1502	1201	1216	0.00	0.00	86.9	87.3			

Landfill Process Data Sheet

Landfill: Kirby

Test date: 12-15-05

Source: (Flare) IC Engine, Turbine
circle one

Landfill Gas Data	Run 1		Run 2		Run 3	
Time	9:09	9:39	9:54	10:24	10:36	11:06
Methane (%)	52.3					
HHV based on methane						
F-factor based on methane						
O2 (%)	1.6					
Landfill Gas Rate (scfm)	1215		1206		1223	
Engine (KW)						
Condensate Rate (gpm)						
Flare Temp (F)	1494		1494		1500	

Thermocouple Measurement Location (Top) Middle Bottom
circle one

HHV for landfill gas only = methane (%) x 1013 (@60F)

Appendix F
Site Picture

Appendix G
Continuous Emission Monitoring Data

Data Acquisition
Strip Chart Records
Calibration Gas Certificates of Analysis

Run averages corrected for bias
Operator: B Johnston
Plant Nam Kirby
Location: Flare

Run	O2 %	CO ppm	THC ppm	NOx ppm
1	12.315	6.22	0.454	11.621
2	12.366	7	0.43	11.315
3	12.173	6.4	0.293	11.71

STRATA Configuration Page 1
12-15-2005 08:50:22
File Name: C:\STRATA\KIRBY.STR

Operator:	B Johnston
Plant Name:	Kirby
Location:	Flare
Run Length:	30 minutes
Sample Rate:	40 per minute
Average Calibration Results:	1 minutes
Automatic Sequence, Calibration Error:	No
Automatic Sequence, System Bias:	No
Max Response Time:	Manual
Max Response Time:	1 minutes
Traverse During Run:	No

Active	Chan.	Analyte Name	Units	Span Units	Span Volts	Offset Volts
Yes	1	O2	%	25	1	0
Yes	3	CO	ppm	250	.5	0
Yes	4	THC	ppm	50	10	0
Yes	5	NOx	ppm	50	10	0

Measurement System Preparation Table

Gas Name	Reference Cylinder Numbers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
O2	Z	H	M													
CO	Z			H	M											
THC	Z					H	M									
NOx	Z								H	M						

CEM leak check 0.1" for 1min at 19" vac.

R1 0909 —

Gas Name	Zero Reference Cylinder No.	Conc	ID Number	Low Reference Cylinder No.	Conc	ID Number
O2	1	0		99	999	
CO	1	0		99	999	
THC	1	0		99	999	
NOx	1	0		99	999	

Gas Name	Mid Reference Cylinder No.	Conc	ID Number	High Reference Cylinder No.	Conc	ID Number
O2	3	999	999	2	19.04	CC8445
CO	5	999	999	4	225	environics
THC	7	999	999	6	45	AAL4576
NOx	10	999	999	9	45.2	SA18044

Seq Num	Calibration Error Test Sequence O2	CO	THC	NOx
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Seq Num	Calibration Error Valve Sequence 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

Seq Num	System Bias Check Sequence O2	CO	THC	NOx
1	Zero	Zero	Zero	Zero
2	High	High	High	High
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

Seq Num	System Bias Valve Sequence 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	X															
2		X		X		X			X							
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

STRATA Configuration End

Initial System Bias Check, Run 1 STRATA Version 1.1

	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 08:53:54	-0.043	-1.13	-0.085	0.071
12-15-2005 08:54:53	-0.047	-0.75	-0.085	0.071
12-15-2005 08:55:54	-0.049	-0.42	-0.085	0.071
12-15-2005 08:56:55	2.527	-0.16	14.932	17.065
12-15-2005 08:57:54	17.760	46.20	41.656	46.318
12-15-2005 08:58:54	18.652	224.94	41.761	46.132
12-15-2005 08:59:55	18.690	224.84	42.787	45.213
12-15-2005 09:00:54	18.938	224.88	44.930	45.261
12-15-2005 09:01:55	19.040	224.64	44.944	45.255
12-15-2005 09:02:54	19.034	224.48	44.977	45.269
12-15-2005 09:03:54	19.044	224.54	44.977	45.261

Initial System Bias Check for Run 1
Operator: B Johnston
Plant Name: Kirby
Location: Flare

	Reference Cylinder Numbers	
	Zero	Span
O2		CC8445
CO		environics
THC		AAL4576
NOx		SA18044

Date/Time 12-15-2005 09:03:58 PASSED

Analyte	O2	CO	THC	NOx
Units	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.00	0.000	0.000
Zero Cal	0.000	0.00	0.000	0.000
Zero Avg	-0.050	-0.39	-0.085	0.071
Zero Bias%	0.2%	0.2%	0.2%	0.1%
Zero Drift%				
Span Ref Cyl	19.040	225.00	45.000	45.200
Span Cal	19.040	225.00	45.000	45.200
Span Avg	19.044	224.53	44.978	45.257
Span Bias%	0.0%	0.2%	0.0%	0.1%
Span Drift%				

System Bias Check End

Test Run 1 STRATA Version 1.1

	O2	CO	THC	NOx
	%	ppm	ppm	ppm
Begin calculating run averages				
12-15-2005 09:10:02	12.402	5.91	0.356	11.419
12-15-2005 09:11:03	12.345	5.71	0.367	11.579
12-15-2005 09:12:02	12.449	8.05	0.428	11.078
12-15-2005 09:13:02	12.443	11.75	0.406	11.533
12-15-2005 09:14:03	12.272	5.01	0.356	11.737
12-15-2005 09:15:02	12.410	9.95	0.386	11.321
12-15-2005 09:16:03	12.330	5.28	0.356	11.768
12-15-2005 09:17:02	12.318	5.54	0.356	11.566
12-15-2005 09:18:02	12.261	4.68	0.356	11.725
12-15-2005 09:19:03	12.360	5.87	0.356	11.572
12-15-2005 09:20:02	12.334	7.97	0.547	11.709
12-15-2005 09:21:02	12.290	5.11	0.356	11.849
12-15-2005 09:22:03	12.286	6.32	0.356	11.829
12-15-2005 09:23:02	12.208	8.13	0.356	11.892
12-15-2005 09:24:03	12.265	6.41	0.356	11.996
12-15-2005 09:25:02	12.259	7.10	0.376	11.753
12-15-2005 09:26:02	12.242	5.07	0.356	11.964
12-15-2005 09:27:03	12.272	5.12	0.356	11.947
12-15-2005 09:28:02	12.294	6.01	0.356	11.813
12-15-2005 09:29:02	12.255	5.33	0.356	11.790
12-15-2005 09:30:03	12.139	4.59	0.356	12.002
12-15-2005 09:31:02	12.363	10.00	0.409	11.557
12-15-2005 09:32:03	12.225	6.03	0.356	11.736
12-15-2005 09:33:02	12.273	5.15	0.356	11.840
12-15-2005 09:34:02	12.311	5.19	0.356	11.766
12-15-2005 09:35:03	12.084	4.75	0.353	12.163
12-15-2005 09:36:02	12.230	5.68	0.354	11.785
12-15-2005 09:37:02	12.187	5.22	0.351	11.931
12-15-2005 09:38:03	12.292	6.64	0.355	11.518
12-15-2005 09:39:02	12.471	8.13	0.356	11.438
Run Averages	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 09:39:26	12.293	6.37	0.370	11.729

Operator: B Johnston
Plant Name: Kirby
Location: Flare
Test Run 1 End

Final System Bias Check, Run 1 STRATA Version 1.1

	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 09:40:42	5.305	4.76	0.000	1.997
12-15-2005 09:41:41	0.063	3.91	-0.086	0.084
12-15-2005 09:42:42	-0.044	2.83	-0.086	0.076
12-15-2005 09:43:43	-0.060	1.33	-0.086	0.119
12-15-2005 09:44:42	-0.066	0.78	-0.086	0.119
12-15-2005 09:45:43	7.204	34.65	28.116	31.117
12-15-2005 09:46:42	18.730	224.77	44.867	45.323
12-15-2005 09:47:42	19.006	224.55	44.914	45.393
12-15-2005 09:48:41	19.029	224.46	44.980	45.421

Final System Bias Check for Run 1
Operator: B Johnston
Plant Name: Kirby
Location: Flare

	Reference Cylinder Numbers	
	Zero	Span
O2		CC8445
CO		environics
THC		AAL4576
NOx		SA18044

Date/Time 12-15-2005 09:49:22 PASSED

Analyte	O2	CO	THC	NOx
Units	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.00	0.000	0.000
Zero Cal	0.000	0.00	0.000	0.000
Zero Avg	-0.066	0.73	-0.086	0.119
Zero Bias%	0.3%	0.3%	0.2%	0.2%
Zero Drift%	-0.1%	0.4%	0.0%	0.1%
Span Ref Cyl	19.040	225.00	45.000	45.200
Span Cal	19.040	225.00	45.000	45.200
Span Avg	19.032	224.38	45.040	45.429
Span Bias%	0.0%	0.2%	0.1%	0.5%
Span Drift%	0.0%	-0.1%	0.1%	0.3%
Ini Zero Avg	-0.050	-0.39	-0.085	0.071
Ini Span Avg	19.044	224.53	44.978	45.257
Run Avg	12.293	6.37	0.370	11.729
Co	-0.058	0.17	-0.086	0.095
Cm	19.038	224.46	45.009	45.343
Correct Avg	12.315	6.22	0.454	11.621

System Bias Check End

Test Run 2 STRATA Version 1.1

	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 09:51:09	17.787	133.39	29.483	30.770
12-15-2005 09:52:10	12.683	4.41	0.356	11.995
12-15-2005 09:53:09	12.479	8.39	0.370	11.322
Begin calculating run averages				
12-15-2005 09:54:09	12.077	4.00	0.354	12.448
12-15-2005 09:55:10	12.230	5.81	0.344	11.504
12-15-2005 09:56:09	12.473	9.18	0.369	11.115
12-15-2005 09:57:09	12.271	5.52	0.355	11.513
12-15-2005 09:58:08	12.264	7.14	0.424	11.651
12-15-2005 09:59:09	12.343	5.82	0.355	11.401
12-15-2005 10:00:10	12.276	5.41	0.349	11.468
12-15-2005 10:01:09	12.346	6.80	0.355	11.245
12-15-2005 10:02:09	12.412	9.34	0.379	11.230
12-15-2005 10:03:10	12.204	5.76	0.331	11.577
12-15-2005 10:04:09	12.431	8.70	0.404	11.064
12-15-2005 10:05:09	12.370	7.46	0.308	11.325
12-15-2005 10:06:09	12.319	5.89	0.346	11.429
12-15-2005 10:07:09	12.172	5.98	0.336	11.753
12-15-2005 10:08:10	12.717	13.97	0.379	10.299
12-15-2005 10:09:09	12.366	5.36	0.349	11.450
12-15-2005 10:10:09	12.179	6.18	0.352	11.584
12-15-2005 10:11:10	12.171	5.05	0.342	11.723
12-15-2005 10:12:09	12.359	5.95	0.307	11.272
12-15-2005 10:13:10	12.448	8.23	0.347	10.979
12-15-2005 10:14:09	12.256	6.97	0.267	11.679
12-15-2005 10:15:09	12.111	4.96	0.296	11.747
12-15-2005 10:16:10	12.278	5.32	0.351	11.443
12-15-2005 10:17:09	12.212	5.37	0.347	11.551
12-15-2005 10:18:10	12.248	7.24	0.347	11.576
12-15-2005 10:19:09	12.461	10.29	0.449	11.319
12-15-2005 10:20:09	12.442	13.60	0.372	11.173
12-15-2005 10:21:10	12.307	8.23	0.291	11.585
12-15-2005 10:22:09	12.433	10.57	0.252	11.372
12-15-2005 10:23:09	12.446	22.07	0.421	11.081

Run Averages	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 10:24:05	12.327	7.80	0.344	11.402

Operator: B Johnston
Plant Name: Kirby
Location: Flare
Test Run 2 End

Final System Bias Check, Run 2 STRATA Version 1.1

	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 10:25:36	5.335	7.90	-0.014	1.886
12-15-2005 10:26:37	0.039	2.79	-0.088	0.089
12-15-2005 10:27:36	-0.052	1.77	-0.088	0.069
12-15-2005 10:28:37	-0.066	1.21	-0.088	0.069
12-15-2005 10:29:36	0.152	0.80	5.234	8.863
12-15-2005 10:30:37	16.319	158.86	44.867	45.090
12-15-2005 10:31:37	18.936	224.94	44.970	45.092
12-15-2005 10:32:36	18.992	224.82	45.101	45.079

Final System Bias Check for Run 2
Operator: B Johnston
Plant Name: Kirby
Location: Flare

Reference Cylinder Numbers

	Zero	Span
O2		CC8445
CO		environics
THC		AAL4576
NOx		SA18044

Date/Time	12-15-2005	10:33:18		PASSED
Analyte	O2	CO	THC	NOx
Units	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.00	0.000	0.000
Zero Cal	0.000	0.00	0.000	0.000
Zero Avg	-0.070	0.96	-0.089	0.069
Zero Bias%	0.3%	0.4%	0.2%	0.1%
Zero Drift%	0.0%	0.1%	0.0%	-0.1%
Span Ref Cyl	19.040	225.00	45.000	45.200
Span Cal	19.040	225.00	45.000	45.200
Span Avg	19.000	224.76	45.087	45.105
Span Bias%	0.2%	0.1%	0.2%	0.2%
Span Drift%	-0.1%	0.2%	0.1%	-0.6%
Ini Zero Avg	-0.066	0.73	-0.086	0.119
Ini Span Avg	19.032	224.38	45.040	45.429
Run Avg	12.327	7.80	0.344	11.402
Co	-0.068	0.84	-0.087	0.094
Cm	19.016	224.57	45.063	45.267
Correct Avg	12.366	7.00	0.430	11.315

System Bias Check End

Test Run 3 STRATA Version 1.1

	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 10:35:03	12.419	5.01	0.219	12.868
12-15-2005 10:36:03	12.215	7.18	0.262	11.926
Begin calculating run averages				
12-15-2005 10:37:02	12.210	10.05	0.161	11.789
12-15-2005 10:38:03	11.924	4.86	0.104	12.184
12-15-2005 10:39:02	12.043	6.03	0.137	11.965
12-15-2005 10:40:02	12.129	5.82	0.161	11.849
12-15-2005 10:41:03	12.141	5.56	0.142	11.837
12-15-2005 10:42:02	12.227	8.93	0.204	11.702
12-15-2005 10:43:03	12.168	8.57	0.200	11.862
12-15-2005 10:44:03	11.997	6.95	0.242	11.882
12-15-2005 10:45:02	12.017	5.88	0.133	12.094
12-15-2005 10:46:03	12.145	8.49	0.202	11.754
12-15-2005 10:47:02	12.102	8.74	0.138	11.657
12-15-2005 10:48:03	12.152	10.06	0.165	11.765
12-15-2005 10:49:03	12.158	8.22	0.134	11.841
12-15-2005 10:50:02	12.037	5.92	0.157	11.917
12-15-2005 10:51:03	12.282	8.59	0.165	11.520
12-15-2005 10:52:02	12.266	6.93	0.169	11.662
12-15-2005 10:53:02	12.115	6.43	0.127	11.880
12-15-2005 10:54:03	12.001	5.20	0.219	12.020
12-15-2005 10:55:02	12.088	7.35	0.237	11.752
12-15-2005 10:56:03	12.172	8.01	0.348	11.767
12-15-2005 10:57:03	12.319	9.45	0.336	11.634
12-15-2005 10:58:02	12.116	5.75	0.227	12.021
12-15-2005 10:59:03	11.981	5.30	0.236	12.324
12-15-2005 11:00:02	12.051	5.89	0.218	12.012
12-15-2005 11:01:02	12.235	9.68	0.315	11.654
12-15-2005 11:02:03	12.350	9.93	0.218	11.585
12-15-2005 11:03:02	12.192	6.00	0.176	11.924
12-15-2005 11:04:03	12.174	6.48	0.253	11.825
12-15-2005 11:05:03	12.330	12.24	0.345	11.499
12-15-2005 11:06:02	12.280	7.69	0.314	11.821

Run Averages	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 11:06:44	12.147	7.43	0.207	11.836

Operator: B Johnston
Plant Name: Kirby
Location: Flare
Test Run 3 End

Final System Bias Check, Run 3 STRATA Version 1.1

	O2	CO	THC	NOx
	%	ppm	ppm	ppm
12-15-2005 11:07:51	4.881	5.99	-0.016	1.719
12-15-2005 11:08:52	0.029	4.04	-0.087	0.103
12-15-2005 11:09:51	-0.051	2.86	-0.087	0.092
12-15-2005 11:10:52	-0.060	2.24	-0.087	0.070
12-15-2005 11:11:53	-0.063	1.82	-0.086	0.070
12-15-2005 11:12:52	-0.064	1.58	-0.086	0.070
12-15-2005 11:13:54	-0.065	1.32	-0.086	0.070
12-15-2005 11:14:52	-0.064	1.15	-0.086	0.070
12-15-2005 11:15:53	9.289	100.70	32.863	35.897
12-15-2005 11:16:52	18.874	226.99	44.748	45.819
12-15-2005 11:17:51	19.047	226.86	44.756	45.819
12-15-2005 11:18:52	19.071	226.73	44.802	45.852
12-15-2005 11:19:52	19.074	226.62	44.884	45.873

Final System Bias Check, Run 3 STRATA Version 1.1
Operator: B Johnston
Plant Name: Kirby
Location: Flare

	Reference Cylinder Numbers	
	Zero	Span
O2		CC8445
CO		environics
THC		AAL4576
NOx		SA18044

Date/Time 12-15-2005 11:20:19 PASSED

Analyte	O2	CO	THC	NOx
Units	%	ppm	ppm	ppm
Zero Ref Cyl	0.000	0.00	0.000	0.000
Zero Cal	0.000	0.00	0.000	0.000
Zero Avg	-0.063	1.13	-0.086	0.070
Zero Bias%	0.3%	0.5%	0.2%	0.1%
Zero Drift%	0.0%	0.1%	0.0%	0.0%
Span Ref Cyl	19.040	225.00	45.000	45.200
Span Cal	19.040	225.00	45.000	45.200
Span Avg	19.074	226.52	44.910	45.875
Span Bias%	0.1%	0.6%	0.2%	1.4%
Span Drift%	0.3%	0.7%	-0.4%	1.5%
Ini Zero Avg	-0.070	0.96	-0.089	0.069
Ini Span Avg	19.000	224.76	45.087	45.105
Run Avg	12.147	7.43	0.207	11.836
Co	-0.067	1.04	-0.087	0.069
Cm	19.037	225.64	44.999	45.490
Correct Avg	12.173	6.40	0.293	11.710

System Bias Check End

Test Run 1 STRATA Version 1.1

	CO ppm
Start Averaging	
12-15-2005 11:43:57	78.93
Average 50 samples	78.79
12-15-2005 11:44:56	78.36
Start Averaging	
12-15-2005 11:45:56	41.16
Average 40 samples	39.34
12-15-2005 11:46:57	39.26
12-15-2005 11:47:56	75.29
Start Averaging	
12-15-2005 11:48:56	81.92
Average 45 samples	81.84
12-15-2005 11:49:56	60.19
12-15-2005 11:50:56	34.75
12-15-2005 11:51:57	78.46
12-15-2005 11:52:57	79.25
Start Averaging	
12-15-2005 11:53:57	79.30
Average 54 samples	79.36
12-15-2005 11:54:56	79.13
Start Averaging	
12-15-2005 11:55:56	40.68
Average 42 samples	39.22
12-15-2005 11:56:56	39.22
Start Averaging	
12-15-2005 11:57:57	74.69
Average 55 samples	82.05
12-15-2005 11:58:57	82.02
Start Averaging	
12-15-2005 11:59:57	78.74
Average 42 samples	79.92
12-15-2005 12:00:56	79.92
Start Averaging	
12-15-2005 12:01:56	47.87
Average 42 samples	39.21
12-15-2005 12:02:56	45.09
Start Averaging	
12-15-2005 12:03:56	81.53
Average 43 samples	81.49
12-15-2005 12:04:56	81.47

Test Run 1 STRATA Version 1.1
Operator: B Johnston
Plant Name: Kirby
Location: Flare
Test Run 1 End

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 SHAW ENV. **P.O NUMBER**

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON DIOXIDE GMIS	vs.SRM#2745	CC 102004	19.73 %
OXYGEN GMIS	vs.SRM#2659	CC 95713	21.04 %

ANALYZER READINGS

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

1. **COMPONENT** CARBON DIOXIDE GMIS **ANALYZER MAKE-MODEL-S/N** Siemens Ultramat 5E S/N A12-730
   ANALYTICAL PRINCIPLE NDIR **LAST CALIBRATION DATE** 08/01/05
   FIRST ANALYSIS DATE 08/08/05 **SECOND ANALYSIS DATE**

Z	0.00	R	19.74	C	17.82	CONC. 17.81	Z	R	C	CONC.
R	19.74	Z	0.00	C	17.80	CONC. 17.81	R	Z	C	CONC.
Z	0.00	C	17.80	R	19.74	CONC. 17.81	Z	C	R	CONC.

   U/M % **MEAN TEST ASSAY** 17.81 **U/M** % **MEAN TEST ASSAY**

2. **COMPONENT** OXYGEN GMIS **ANALYZER MAKE-MODEL-S/N** Siemens Oxymat 5E S/N A12-839
   ANALYTICAL PRINCIPLE Paramagnetic **LAST CALIBRATION DATE** 08/01/05
   FIRST ANALYSIS DATE 08/08/05 **SECOND ANALYSIS DATE**

Z	0.00	R	21.04	C	19.04	CONC. 19.04	Z	R	C	CONC.
R	21.04	Z	0.00	C	19.04	CONC. 19.04	R	Z	C	CONC.
Z	0.00	C	19.04	R	21.04	CONC. 19.04	Z	C	R	CONC.

   U/M % **MEAN TEST ASSAY** 19.04 **U/M** % **MEAN TEST ASSAY**

VALUES NOT VALID BELOW 150 PSIG.

THIS CYLINDER NO. CC 8445
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 08/08/05
EXPIRATION DATE 08/08/08 **TERM** 36 MONTHS

CERTIFIED CONCENTRATION

CARBON DIOXIDE	17.81 %
OXYGEN	19.04 %
NITROGEN	BALANCE

ANALYZED BY ISMAEL RANGSIYAWONG ***CERTIFIED BY*** HELENA TRAN

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

Scott Specialty Gases
500 WEAVER PARK RD,LONGMONT,CO 80501 Phone: 888-253-1635 Fax: 303-772-7673

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information
Project No.: 08-24834-001
Item No.: 08022711 PAL
P.O. No.: SUSAN M. POWERS

Cylinder Number: AAL4576
Cylinder Size: AL
Certification Date: 25May2005
Expiration Date: 25May2008

Customer

SHAW ENVIRONMENTAL & INFRASTRUCTURE
2360 BERING DRIVE
SAN JOSE, CA 95131

CERTIFIED CONCENTRATION

Component Name	Concentration (Moles)		Accuracy (+/-%)
METHANE	45.0	PPM	2
AIR		BALANCE	

TRACEABILITY

Traceable To

NIST

APPROVED BY: _____ JON WITZAK

DATE: 5-25-05

SPECIFICATIONS

Component Name	Requested Concentration (Moles)	Certified Concentration (Moles)	Blend Tolerance Result (+/- %)	Certified Accuracy Result (+/- %)
METHANE	45. PPM	45.0 PPM	.0	2.00
AIR	BAL	BAL		

TRACEABILITY

Traceable To
NIST

PHYSICAL PROPERTIES

Cylinder Size: AL

Pressure: 1924 PSIG
Expiration Date: 25May2008

Valve Connection: 590

SPECIAL HANDLING INSTRUCTIONS

Do not use or store cylinder at or below the stated dew point temperature. Possible condensation of heavier components could result. In the event the cylinder has been exposed to temperatures at or below the dew point, place cylinder in heated area for 24 hours and then roll cylinder for 15 minutes to re-mix.

Use of calibration standards at or below dew point temperature may result in calibration error.

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 SHAW ENVIRONMENTAL **P.O NUMBER**

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
NITRIC OXIDE GMIS	1683b	SA 7757	49.7 ppm
CARBON MONOXIDE GMIS	VS.SRM#1678	CC 160092	51.1 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/N#0101354
   ANALYTICAL PRINCIPLE CHEMILUMINESCENCE **LAST CALIBRATION DATE** 05/01/05
   FIRST ANALYSIS DATE 05/02/05 **SECOND ANALYSIS DATE** 05/09/05

Z	0.0	R	420.5	C	370.6	CONC.	43.8	Z	0.0	R	402.9	C	353.3	CONC.	43.6
R	420.2	Z	0.0	C	369.7	CONC.	43.7	R	400.4	Z	0.0	C	350.9	CONC.	43.6
Z	0.0	C	368.6	R	420.3	CONC.	43.6	Z	0.0	C	351.3	R	400.8	CONC.	43.6
U/M	mV			MEAN TEST ASSAY			43.7	U/M	mV			MEAN TEST ASSAY			43.6

2. **COMPONENT** CARBON MONOXIDE GMIS **ANALYZER MAKE-MODEL-S/N** Siemens Ultramat 5E S/N A12-729
   ANALYTICAL PRINCIPLE NDIR **LAST CALIBRATION DATE** 04/23/05
   FIRST ANALYSIS DATE 05/02/05 **SECOND ANALYSIS DATE** 05/09/05

Z	0.0	R	51.1	C	44.2	CONC.	44.2	Z	0.0	R	51.1	C	44.2	CONC.	44.2
R	51.1	Z	0.0	C	44.2	CONC.	44.2	R	51.1	Z	0.0	C	44.4	CONC.	44.4
Z	0.0	C	44.3	R	51.2	CONC.	44.2	Z	0.0	C	44.3	R	51.1	CONC.	44.3
U/M	ppm			MEAN TEST ASSAY			44.2	U/M	ppm			MEAN TEST ASSAY			44.3

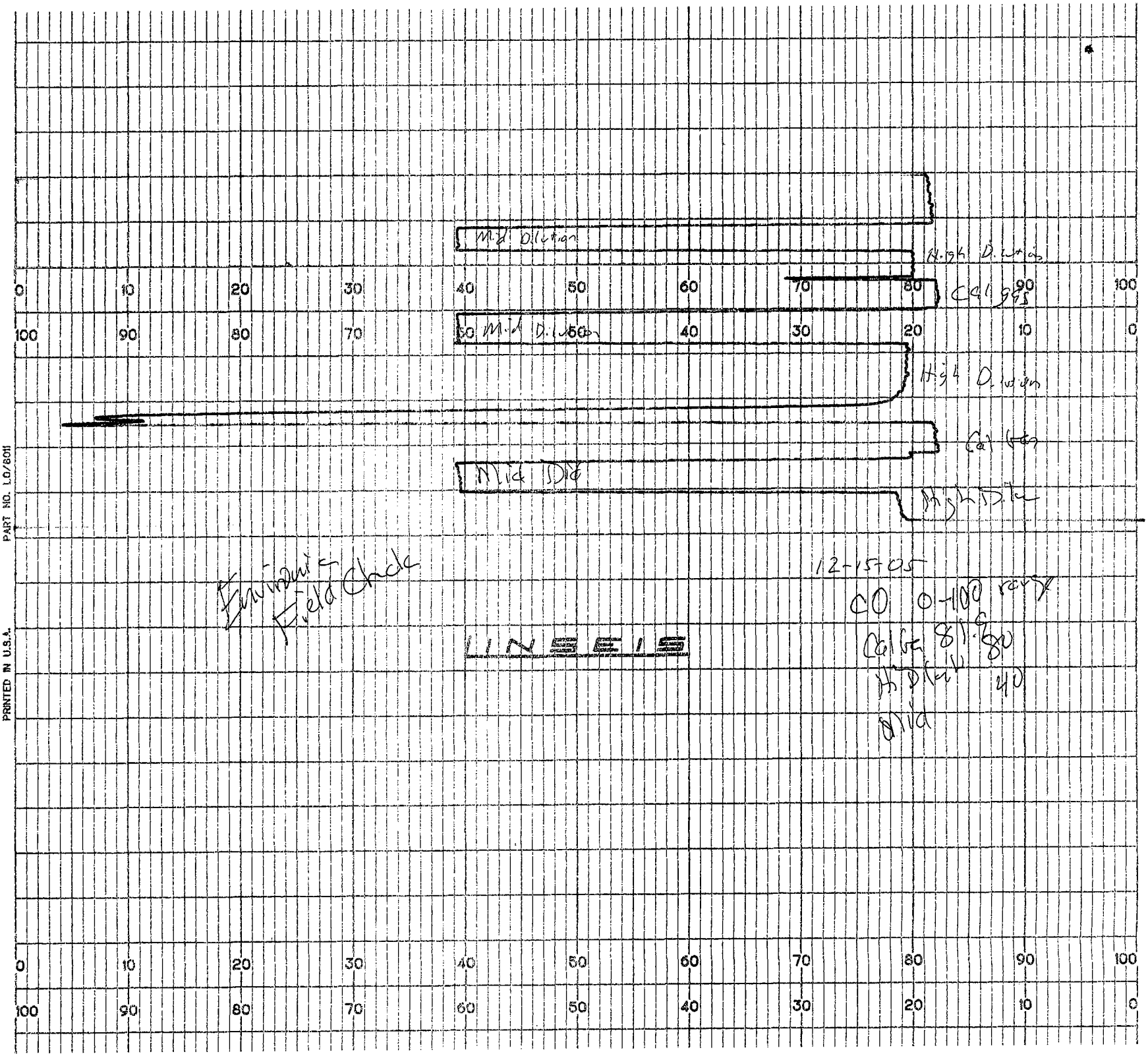
VALUES NOT VALID BELOW 150 PSIG
NOX VALUE FOR REFERENCE ONLY.

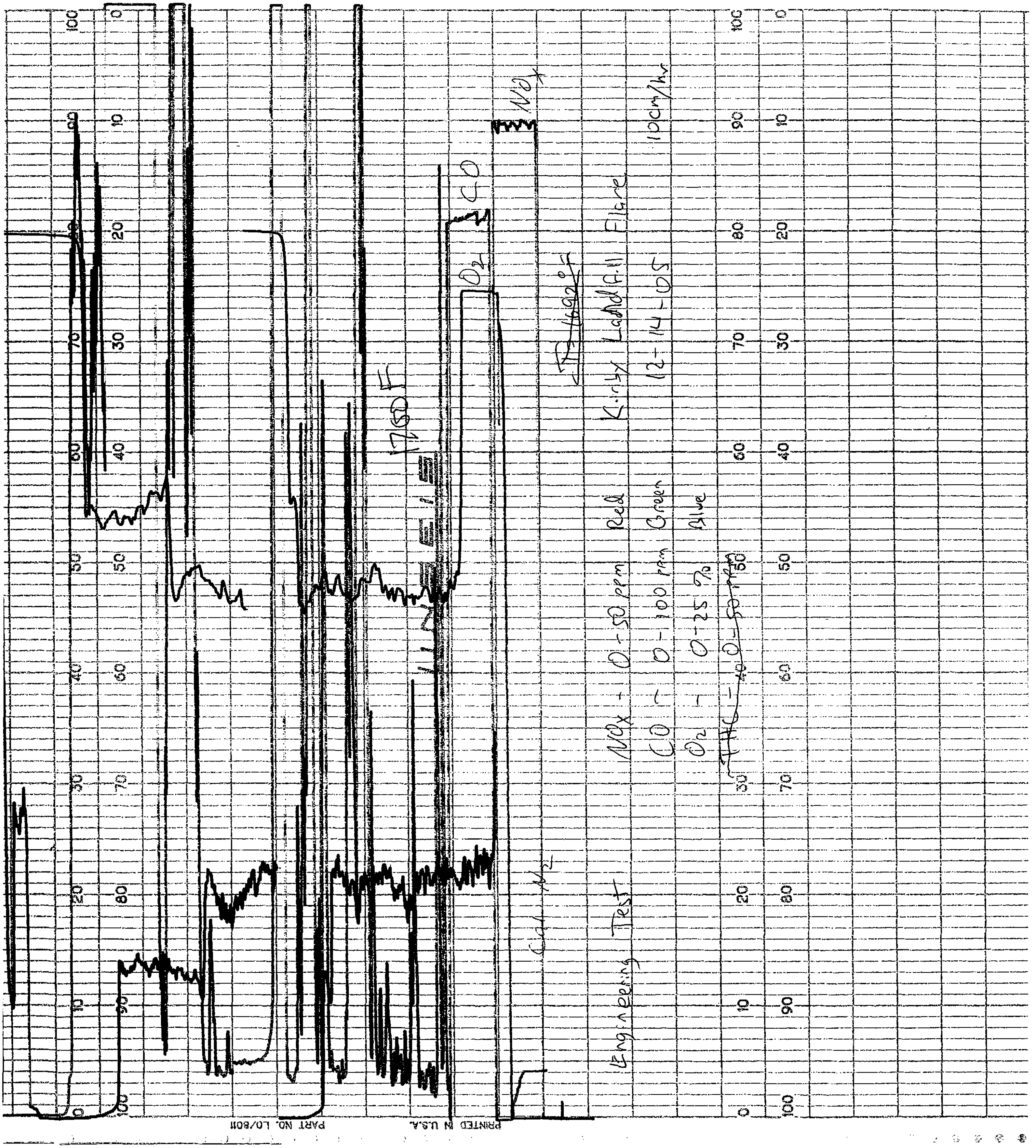
THIS CYLINDER NO. SA 18044
HAS BEEN CERTIFIED ACCORDING TO SECTION EPA-600/R97/121
OF TRACEABILITY PROTOCOL NO. REV 9/97
PROCEDURE G1
CERTIFIED ACCURACY ±1 **% NIST TRACEABLE**
CYLINDER PRESSURE 2000 **PSIG**
CERTIFICATION DATE 05/09/05
EXPIRATION DATE 05/09/07 **TERM** 24 MONTHS

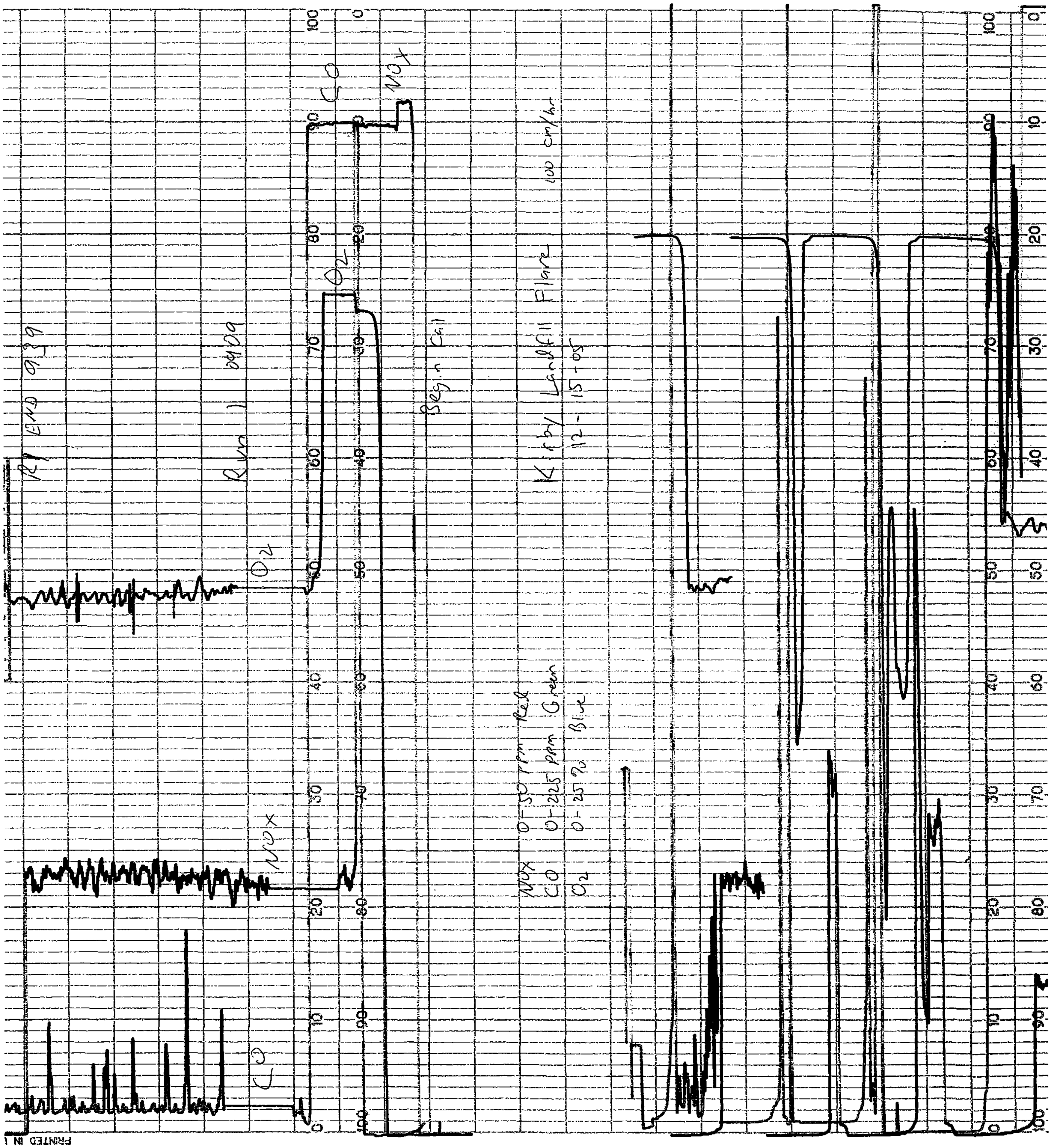
CERTIFIED CONCENTRATION

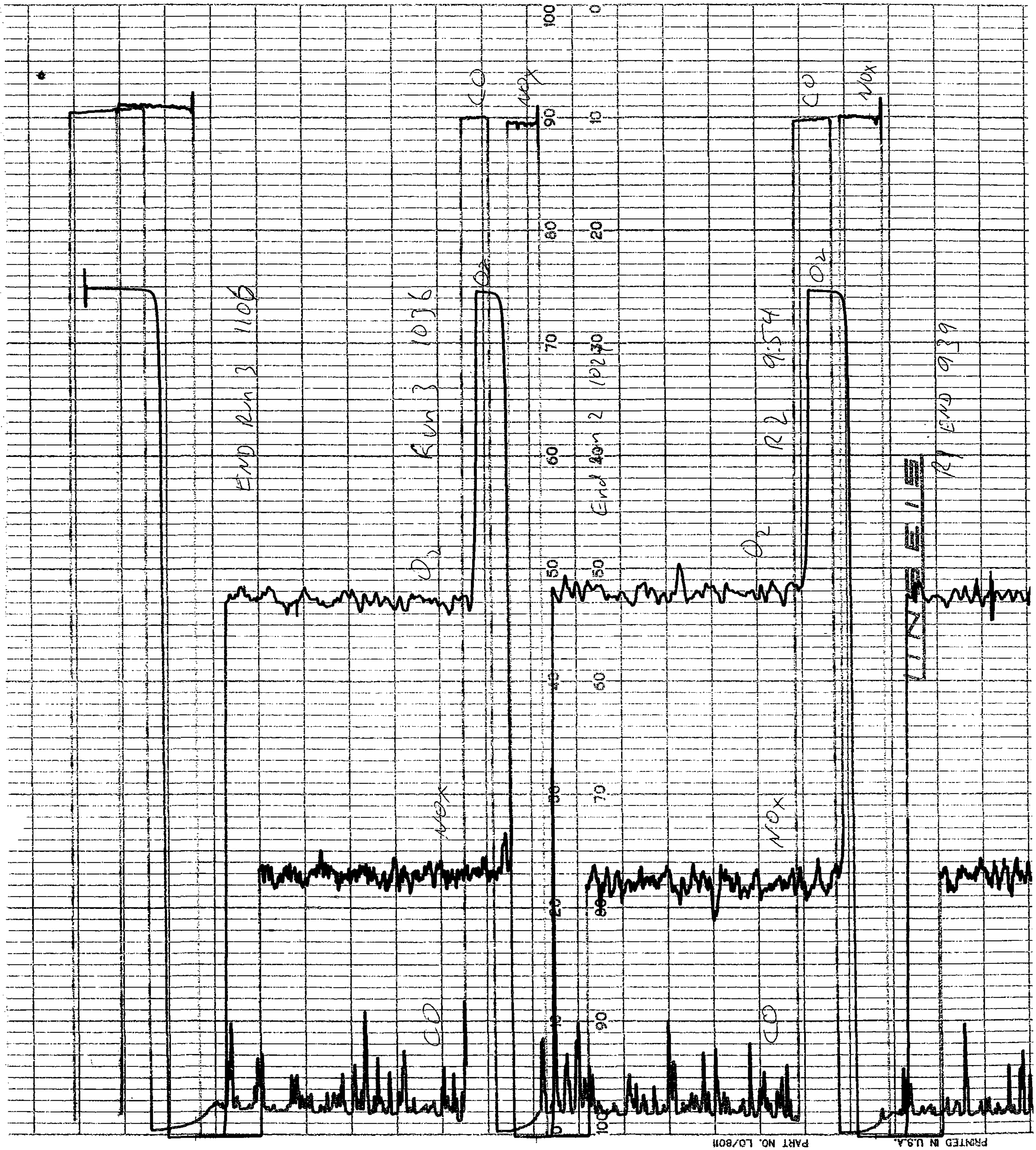
NITRIC OXIDE	43.6 ppm
CARBON MONOXIDE	44.2 ppm
NITROGEN	BALANCE
NOx	45.2 ppm

ANALYZED BY MICHAEL TSANG ***CERTIFIED BY*** CHRIS VU

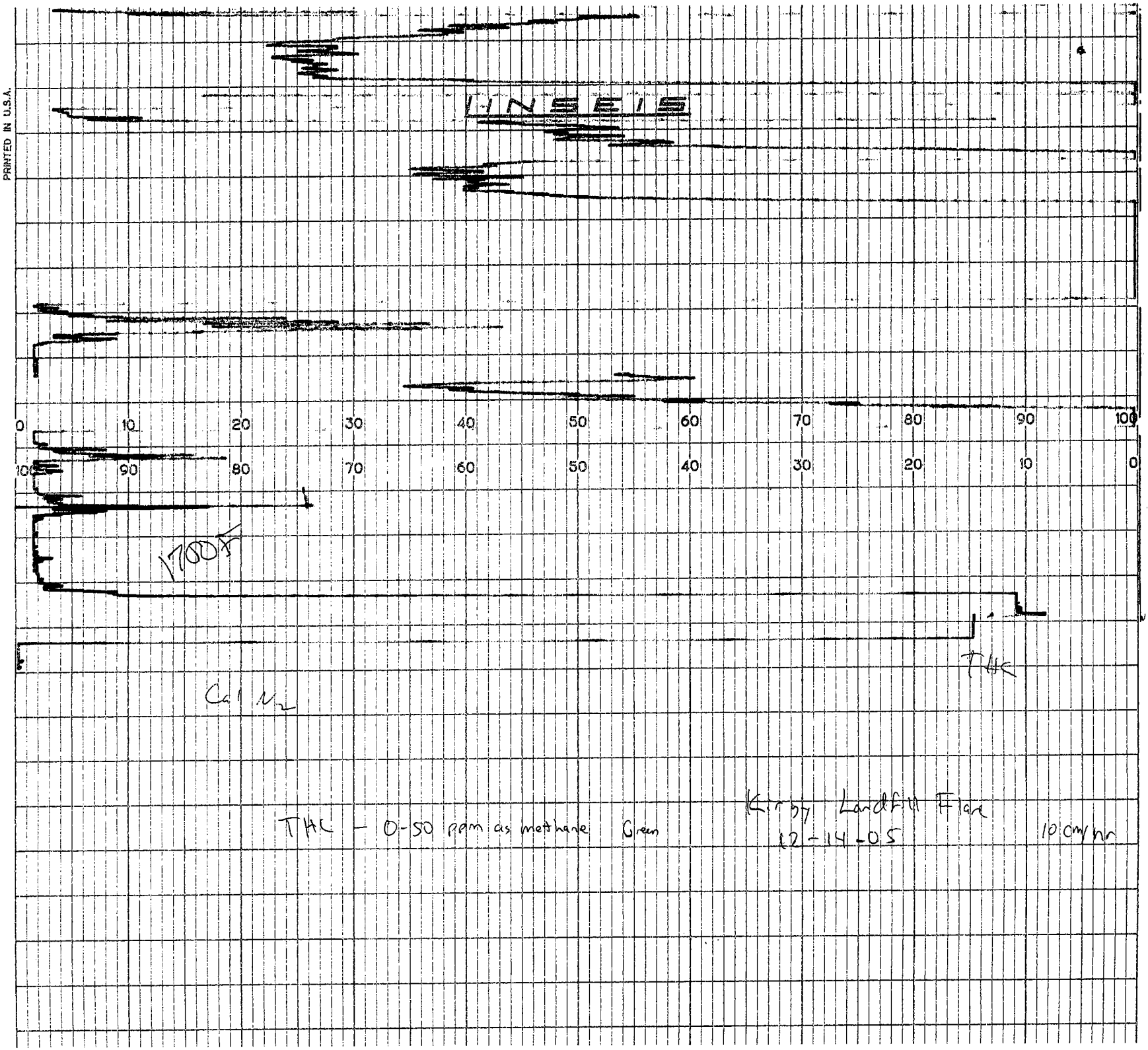



Engineering Test
Kirby Landfill Flare
12-14-05
10cm/hr
NOx - 0-50 ppm Red
CO - 0-100 ppm Green
O2 - 0-25 % Blue
THC - 0-50 ppm
1760 F
Cal N2
O2
CO
NOx
PART NO. L0/80II
PRINTED IN U.S.A.

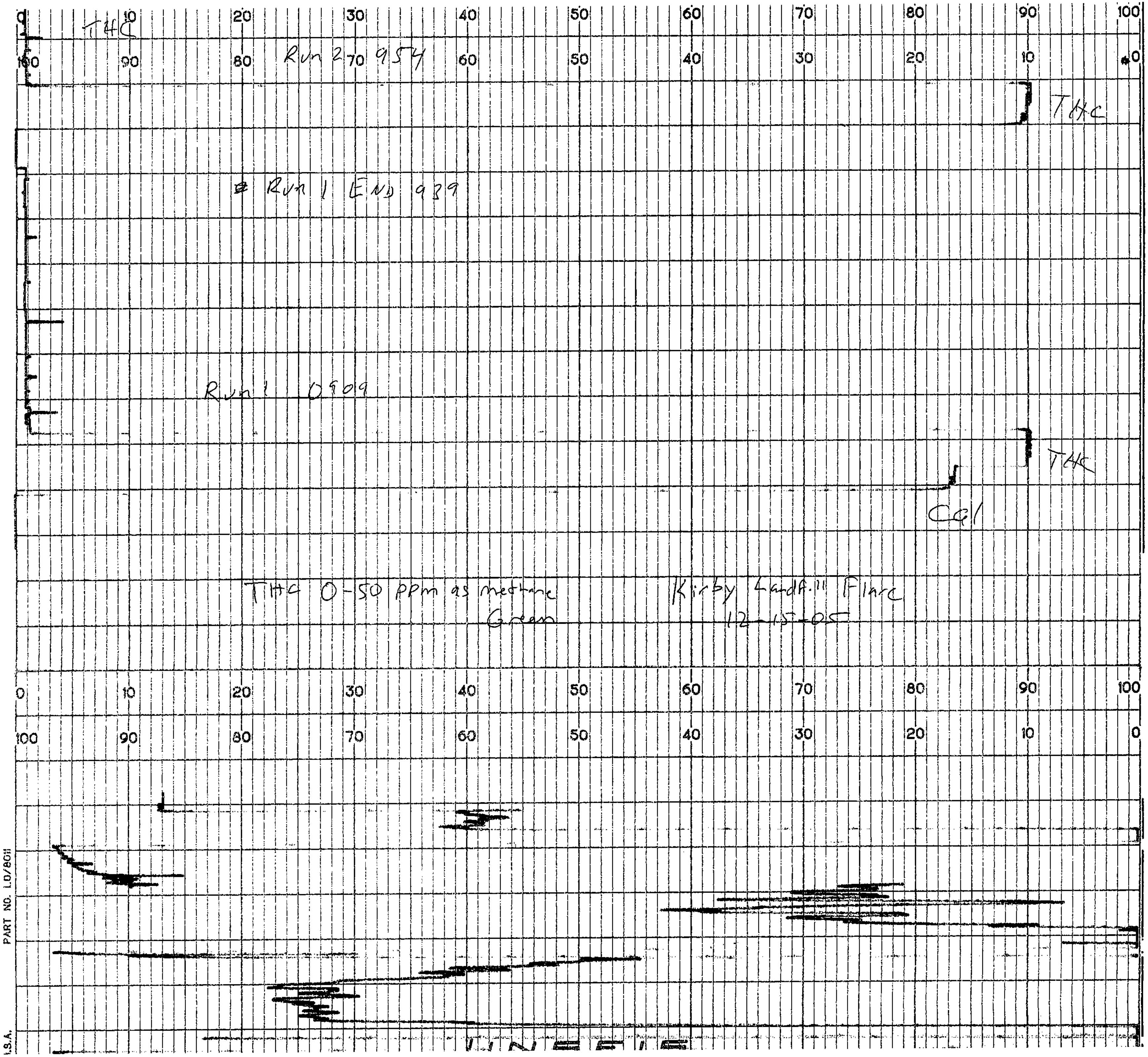

R1 END 0939
Run 1 0909
O2
NOx
CO
Begin Cal
Kirby Landfill Flare
100 cm/hr
12-15-05
NOx 0-50 ppm Red
CO 0-22.5 ppm Green
O2 0-25 % Blue
PRINTED IN


END Run 3 1106
Run 3 1036
End Run 2 1027
R2 9:54
R1 END 9:39
CO
NOx
O_2
PART NO. LO/8011
PRINTED IN U.S.A.

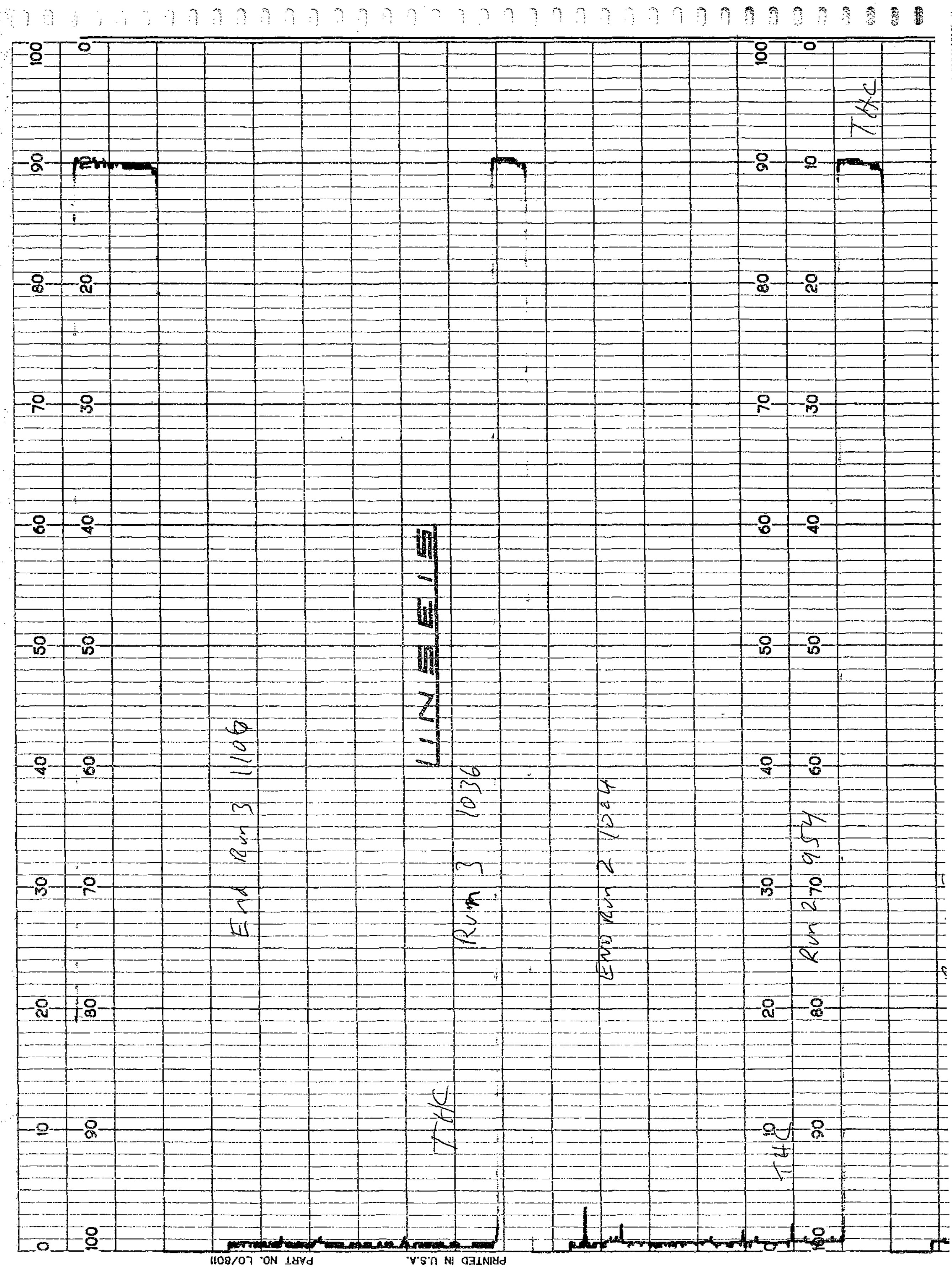
Page 3


PRINTED IN U.S.A.
LINSEIS
0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0
1700F
THC
Cal N2
THC - 0-50 ppm as methane Green
Kirby Landfill Flare
12-14-05
10 cm/hr

Page 1


THC
Run 2 954
THC
Run 1 END 939
Run 1 0909
THC
Cal
THC 0-50 ppm as methane
Green
Kirby Landfill Flare
12-15-05
PART NO. LD/8611

Page 2


THC
End Run 3 1106
LINSEIS
Run 3 1036
THC
END Run 2 1024
Run 2 954
THC
PART NO. LO/8011
PRINTED IN U.S.A.

Appendix H
Analytical Results

Atmospheric Analysis & Consulting, Inc.

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Shaw Environmental, Inc.
PROJECT NAME	: Kirby Landfill Flare
AAC PROJECT NO.	: 050616
REPORT DATE	: 12/20/2005

On December 16, 2005, Atmospheric Analysis & Consulting, Inc. received two (2) Tedlar bags for Sulfur Analysis by ASTM D-5504 and one (1) Tedlar Bag for Volatile Organic Compounds analysis by EPA Method 25 and BTU Analysis which include C1-C6+ analysis by EPA method 18, fixed gas analysis by EPA 3C and Sulfur Analysis by ASTM D-5504. Upon receipt the samples were assigned unique Laboratory ID numbers as follows:

Client ID	Lab No.
Run 1	050616-13673
Run 2	050616-13674
Run 3	050616-13675

EPA 25 Analysis - Up to a 1 ml aliquot of gaseous sample is injected into the GC/FID for analysis following EPA25C as specified in the SOW.

ASTM D-5504 – Up to a 1ml aliquot of sample is injected into the GC/SCD for analysis following ASTM D-5504 as specified in the SOW.

EPA 18 Analysis - Up to a 1 ml aliquot of samples is injected into the GC/FID for analysis following EPA 18 as specified in the SOW.

EPA 3C Analysis - Up to a 1 ml aliquot of samples is injected into the GC/TCD for analysis following EPA 3C as specified in the SOW.

No problems were encountered during receiving, preparation and/ or analysis of these samples. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# AACI-EPA 25C, ASTM D-5504, EPA 18 and EPA 3C.

I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. Release of the data contained in this hardcopy data package and its electronic data deliverable submitted on diskette has been authorized by the Laboratory Director or his designee, as verified by the following signature.

If you have any question or require further explanation of data results, please contact the undersigned.

Sucha S. Parmar, PhD
Technical Director

This report consists of 11 pages.

ACCREDITED IN ACCORDANCE WITH nelac Certificate #E87837

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

Client:	**: Shaw Environmental, Inc.**	**Sampling Date**	**: 12/15/2005**
Project No.	**: 050616**	**Receiving Date**	**: 12/16/2005**
Matrix	**: air**	**Analysis Date**	**: 12/16/2005**
Units	**: %**	**Report Date**	**: 12/20/2005**

EPA Method 3C

Detection Limit: 0.1 %			Analyte				
Client ID	**AAC ID**	**Hydrogen**	**Oxygen**	**Nitrogen**	**CO**	**Methane**	**CO2**
RUN 2	**050616-13674**	**ND**	**3.5**	**23**	**ND**	**42**	**31**

Dr. Sucha Parmar
Technical Director

1534 Eastman Avenue • Suite A • Ventura, California 93003 (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : **Shaw Environmental, Inc.**
PROJECT NO. : **050616**
MATRIX : GAS

SAMPLING DATE: **: 12/15/2005**
RECEIVING DATE: **: 12/16/2005**
ANALYSIS DATE: **: 12/16/2005**
REPORT DATE: **: 12/20/2005**

Client ID:	Run 2	Detection Limits
AAC ID:	0506161-13674	
Compounds, Units		
H_2S, ppmv	28	0.05ppmv
Carbonyl Sulfide, ppmv	ND	0.05ppmv
Methyl Mercaptan, ppmv	1.2	0.05ppmv
Ethyl Mercaptan, ppmv	2.9	0.05ppmv
Propyl Mercaptan, ppmv	ND	0.05ppmv
Carbon Disulfide, ppmv	ND	0.05ppmv
Dimethyl sulfide, ppmv	ND	0.05ppmv
Allyl Sulfide, ppmv	ND	0.05ppmv
Propyl Sulfide, ppmv	ND	0.05ppmv
Allyl Disulfide, ppmv	ND	0.05ppmv
Butyl Sulfide, ppmv	ND	0.05ppmv
Ethyl Methyl Sulfide, ppmv	ND	0.05ppmv
Thiophene, ppmv	ND	0.05ppmv
Dimethyl Disulfide, ppmv	ND	0.05ppmv
Butyl Mercaptan, ppmv	ND	0.05ppmv
Allyl mercaptan, ppmv	ND	0.05ppmv
C1 hydrocarbons, ppmv	422003	0.3 ppmv
C2 hydrocarbons, ppmv	ND	0.3 ppmv
C3 hydrocarbons, ppmv	23	0.3 ppmv
C4 hydrocarbons, ppmv	12	0.3 ppmv
C5 hydrocarbons, ppmv	45	0.3 ppmv
C6 hydrocarbons, ppmv	41	0.3 ppmv
C6 + hydrocarbons, ppmv	100	0.3 ppmv
CO_2, %	31	0.1 %
CO, %	ND	0.1 %
O_2, %	3.5	0.1 %
N_2, %	23	0.1 %
H_2, %	ND	0.1 %
F Factor(dscf Exhaust/MM Btu)	**9390**	
Total Wt.% Adjusted Sp. Gravity	**1.0**	
FUEL GAS BTU per LBM	**10082**	
FUEL GAS BTU per CU. FT	**428**	

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

Client	**: Shaw Environmental, Inc.**	**Sampling Date**	**: 12/15/2005**
Project No.	**: 050616**	**Receiving Date**	**: 12/16/2005**
Matrix	**: air**	**Analysis Date**	**: 12/16/2005**
Units	**: ppmv**	**Report Date**	**: 12/20/2005**

EPA Method 25C

Detection Limit:		**0.3 ppmv**
Client Sample ID	**AAC ID**	**NMHC****
Run 2	**050616-13674**	**1316**

****Non-Methane Hydrocarbons as methane**

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT : Shaw Environmental, Inc.
PROJECT NO. : 050616
UNITS : PPMV

SAMPLING DATE : 12/15/2005
RECEIVING DATE : 12/16/2005
ANALYSIS DATE : 12/16/2005
REPORT DATE : 12/20/2005

Total Reduced Sulfur Compounds Analysis by ASTM D-5504

	Client ID.	Run 1	Run 2	Run 3	MDL
Compounds	AAC ID	050616-13673	050616-13674	050616-13675	
Analysis Dilution Factor		**1.0**	**1.0**	**1.0**	
Can Dilution Factor		**1.0**	**1.0**	**1.0**	
H_2S		26	28	28	0.05
Carbonyl Sulfide		<PQL	<PQL	<PQL	0.05
SO2		<PQL	<PQL	<PQL	0.05
Methyl Mercaptan		1.3	1.2	1.2	0.05
Ethyl Mercaptan		2.3	2.9	2.8	0.05
Dimethyl Sulfide		<PQL	<PQL	<PQL	0.05
n-Butyl mercaptan		<PQL	<PQL	<PQL	0.05
Carbon Disulfide		<PQL	<PQL	<PQL	0.05
Allyl Sulfide		<PQL	<PQL	<PQL	0.05
Propyl Sulfide		<PQL	<PQL	<PQL	0.05
Allyl disulfide		<PQL	<PQL	<PQL	0.05
Isopropyl Mercaptan		<PQL	<PQL	<PQL	0.05
t-Butyl mercaptan		<PQL	<PQL	<PQL	0.05
Propyl Mercaptan		<PQL	<PQL	<PQL	0.05
Butyl Sulfide		<PQL	<PQL	<PQL	0.05
Ethyl methyl sulfide		<PQL	<PQL	<PQL	0.05
Thiophene		<PQL	<PQL	<PQL	0.05
Isobutyl mercaptan		<PQL	<PQL	<PQL	0.05
Dimethyl disulfide		<PQL	<PQL	<PQL	0.05
Allyl mercaptan		<PQL	<PQL	<PQL	0.05
3-Methylthiophene		<PQL	<PQL	<PQL	0.05
Tetrahydrothiophene		<PQL	<PQL	<PQL	0.05
Diethyl sulfide		<PQL	<PQL	<PQL	0.05
2-Ethylthiophene		<PQL	<PQL	<PQL	0.05
2,5-Dimethylthiophene		<PQL	<PQL	<PQL	0.05
Diethyl disulfide		<PQL	<PQL	<PQL	0.05
Total Unidentified Sulfurs as H_2S		0.3	0.6	<PQL	0.05
Total Reduced Sulfurs		30	32	32	0.05

PQL = Practical Quantitation Limit (MDL x Analysis Dilution factor)
All compounds concentrations expressed in terms of H_2S.

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT:	**: Shaw Environmental, Inc.**	**Sampling Date**	**: 12/15/2005**
PROJECT NO.	**: 050616**	**Receiving Date**	**: 12/16/2005**
MATRIX	**: AIR**	**Analysis Date**	**: 12/16/2005**
UNITS	**: PPMV**	**Report Date**	**: 01/10/2006**

Client ID	AAC ID	*ANALYSIS METHOD*	*EPA Method 18*			
		Detection Limit	*0.3 ppmv*			
		Ethane	Propane	Butane	Pentane	Hexane
Run 2	050616-13674	ND	16	3.9	3.9	3.0

*** C1 values form EPA 3C**

Dr. Sucha Parmar
Technical Director

1534 Eastman Avenue • Suite A • Ventura, California 93003 (805) 650-1642 • FAX (805) 650-1644

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 12/16/2005

I-Method Blank - EPA 3C

	Analyte	Units	Sample Analysis
Method Blank	Hydrogen	%	ND
	Oxygen	%	ND
	Nitrogen	%	ND
	CO	%	ND
	Methane	%	ND
	CO2	%	ND

II-LCS - EPA 3C

	Analyte	Spike Conc.	LCS Conc.	LCS Dup Conc.	% Rec	% RPD
LCS	Hydrogen	20	18	18	90	1.5
	Nitrogen	20	23	22	113	6.3
	CO	20	20	19	98	0.8
	Methane	20	21	21	107	0.3
	CO2	20	20	20	102	0.0

III-Duplicate Analysis -EPA 3C

AAC ID	Analyte	Sample Analysis	Duplicate Analysis	Mean	% RPD
050616-13674	Hydrogen	0.0	0.0	0.0	0.0
	Oxygen	3.5	3.5	3.5	0.3
	Nitrogen	23	23	23	0.3
	CO	0.0	0.0	0.0	0.0
	Methane	43	42	42	0.6
	CO2	31	31	31	0.1

IV-Matrix Spike Analysis -EPA 3C

AAC ID	Analyte	Sample Conc.	Spike Added	Sample Spike Conc.	Sample Spike Dupl. Conc.	Spike % Rec. *	Spike Dupl % Rec. *	% RPD **
050616-13674	Hydrogen	0.0	10	8.1	8.0	81	80	1.1
	Nitrogen	12	10	23	23	112	113	1.2
	CO	0.0	10	9.8	9.8	98	98	0.7
	Methane	21	10	31	31	99	95	4.3
	CO2	16	10	25	25	94	92	2.5

* Must be 70-130%

** Must be $\leq$ 25%

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 12/16/2005

EPA Method 25C

I - Method Blank

Analyte	Units	Sample Analysis
NMHC	ppm	ND

II - LCS

Analyte	True Conc.	LCS Conc.	LCS Conc. Dup	% Rec. *	% RPD **
NMHC	100	99	100	99	1.4

III - Duplicate Analysis

AAC ID	Analyte	Units	Sample Analysis	Duplicate Analysis	Mean	% RPD **
050615-13672	NMHC	ppm	1.5	1.6	1.5	4.5

IV - Matrix Spikes

AAC ID	Analyte	Units	Sample Conc.	Spike Added	Sample Spike Conc.	Sample Spike Dupl. Conc.	Spike % Rec.*	Spike Dupl % Rec.*	% RPD **
050616-13674 (500X)	NMHC	ppm	8721	25000	26880	26940	73	73	0.3

* Must be 70-130%

** Must be $\leq$ 25%

Dr. Sucha Parmar,
Technical Director

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

DATE ANALYZED : 12/16/2005 UNITS : ppmv

I - Method Blank

AAC ID	Analyte	Units	MB Conc.
Method Blank	H2S	ppmv	ND

II-LCS - ASTM D-5504

Analyte	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
H2S	50	49	49	99	98	**0.5**

III - Duplicate Analysis ASTM D-5504 - 050614-13667

Analyte	Sample Conc	Duplicate Conc	Mean	% RPD
H2S	33	32	32	**1.4**

IV-Matrix Spike - ASTM D-5504 - 050614-13667

Analyte	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
H2S	16	10	27	28	109	113	**3.6**

* Must be 70-130%

** Must be ≤ 25%

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed : 12/16/2005

I - Method Blank

AAC ID	Analyte	Units	MB Conc.
Method Blank	C1	ppmv	ND
	C2	ppmv	ND
	C3	ppmv	ND
	C4	ppmv	ND
	C5	ppmv	ND
	C6	ppmv	ND

II - LCS

AAC ID	Analyte	Theoretical Conc.	LCS Conc.	LCS Conc. Dup	% Rec	% RPD
Lab Control Standard	Methane	100	109	104	106	4.7
	Ethane	101	108	104	106	3.8
	Propane	100	107	107	107	0.3
	Butane	100	108	106	107	1.8
	Pentane	100	106	105	106	1.2
	Hexane	98	103	102	105	0.5

III - Duplicate Analysis

AAC ID	Analyte	Units	Sample Conc.	Duplicate Conc.	Mean	%RPD
050616-13674 (500x)	Methane	ppmv	488496	538364	513430	9.7
	Ethane	ppmv	0.0	0.0	0.0	0.0
	Propane	ppmv	0.0	0.0	0.0	0.0
	Butane	ppmv	0.0	0.0	0.0	0.0
	Pentane	ppmv	0.0	0.0	0.0	0.0
	Hexane	ppmv	0.0	0.0	0.0	0.0

IV-Spiked Sample

AAC ID	Analyte	Units	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
050616-13674 (500x)	Methane	ppmv	256715	25000	291463	300086	139	173	22
	Ethane	ppmv	0.0	25000	23073	23517	92	94	1.9
	Propane	ppmv	0.0	25000	23933	24570	96	98	2.6
	Butane	ppmv	0.0	25000	24136	24883	97	100	3.0
	Pentane	ppmv	0.0	25000	23916	24649	96	99	3.0
	Hexane	ppmv	0.0	25000	22886	23613	92	94	3.1

* Must be 70-130%

** Must be $\leq$ 25%

Dr. Sucha Parmar
Technical Director

Shaw Environmental Chain Of Custody Record

Laboratory

AAC
1534 Eastman Ave. Suite A
Ventura, A 93003
(805) 650-1642 (805) 650-1644 fax

CLIENT
Kirby Landfill Flare

050646

DATE: 12-15-05

PAGE: 1 of 1

SAMPLING COMPANY: Shaw Environmental, Inc.	LOG CODE:
ADDRESS: 2360 Bering San Jose, CA 95131	
PROJECT CONTACT (Hardcopy or PDF Report to): Scott Borderieux	
TELEPHONE: 408.382.5821	FAX: 408.433.1912
E-MAIL:	
SITE ADDRESS (Street and City):	
EDF DELIVERABLE TO (Responsible Party or Designee):	PHONE NO.:
E-MAIL:	CONSULTANT PROJECT NO.:
SAMPLER NAME(S) (Print):	

TURNAROUND TIME (BUSINESS DAYS):
☐ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

SPECIAL INSTRUCTIONS OR NOTES:

Report NMOC as Methane

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Fixed Gas, C_1-C_6, HHV, & F-Factor EPA 18, EPA 3C, EPA19	Landfill Gas AP-42, TO-15, Sulfurs, NMOC, F-Factor 18, EPA19	Sulfur Species, TRS ASTM D5504	EPA M25C, NMOC as Methane			F-factor	BTU, HHV		Extra Compounds:			FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	Run 1	12/15/05	9:09	Bag	1			X										13673 Landfill Gas
	Run 2	12/16/05	9:54	Bag	1		X	X				13674						Additionally, Run 2 to be analyzed for AP-42 List excluding acetone, mercury, and CO (List attached)
	Run 3	12/17/05	10:36	Bag	1			X				13675						

Relinquished by: (Signature) Scott Borderieux 12-15-05	Received by: (Signature)	Date: 12/16/05	Time: 830
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Atmospheric Analysis & Consulting, Inc.

CLIENT	: Shaw Environmental
PROJECT NAME	: Kirby Landfill Flare
AAC PROJECT NO.	: 050616
REPORT DATE	: 12/19/05

On December 16, 2005, Atmospheric Analysis & Consulting, Inc. received one (1) tedlar bag for VOC analysis by EPA method TO-15 for compounds in the AP-42 list. Upon receipt the sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab No.
Run 2	050616-13674

TO-14/15 Analysis - Up to a 500ml aliquot of the sample is concentrated, put through a water and CO2 management system, cryofocused, and injected in the GC/MS (full scan mode) for analysis following EPA Method TO-14/15 as specified in the SOW. Holding times for preparation and analysis were complied with.

No problems were encountered during receiving, preparation and/ or analysis of these samples. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP# AACI-TO-15. Estimated uncertainty of the test results will be provided upon request.

I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized release of the data contained in this hardcopy data package.

If you have any questions or require further explanation of data results, please contact the undersigned.

Sucha S. Parmar, PhD
Technical Director

This report consists of 8 pages.

ACCREDITED IN ACCORDANCE WITH nelac Certificate #E87837

Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT	**: Shaw Environmental**	**DATE RECEIVED**	**: 12/16/05**
PROJECT NO	**: 050616**	**DATE REPORTED**	**: 12/19/05**
MATRIX	**: AIR**		
UNITS	**: PPB (v/v)**		

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	Run 2			
AAC ID	050616-13674			
Date Sampled	12/15/2005		PQL	MDL
Date Analyzed	12/15/2005			
Can Dilution Factor	5.5			
Chlorodifluoromethane	ND	U	274	1.0
Dichlorodifluoromethane	302		137	0.5
Chloromethane	ND	U	137	0.5
Vinyl Chloride	ND	U	137	0.5
Chloroethane	ND	U	137	0.5
Dichlorofluoromethane	ND	U	137	0.5
Ethanol	23400	E	685	2.5
Trichlorofluoromethane	ND	U	137	0.5
Isopropanol	6020		274	1.0
Acrylonitrile	ND	U	274	1.0
1,1-Dichloroethylene	ND	U	137	0.5
Methylene Chloride	ND	U	274	1.0
Carbon Disulfide	ND	U	137	0.5
t-1,2-Dichloroethylene	ND	U	137	0.5
1,1-Dichloroethane	ND	U	137	0.5
2-Butanone (MEK)	2590		274	1.0
Hexane	241		137	0.5
Chloroform	ND	U	137	0.5
1,2-Dichloroethane	ND	U	137	0.5
1,1,1-Trichloroethane	ND	U	137	0.5
Benzene	ND	U	137	0.5
Carbon Tetrachloride	ND	U	137	0.5
1,2-Dichloropropane	ND	U	137	0.5
Bromodichloromethane	ND	U	137	0.5
Trichloroethene	ND	U	137	0.5
4-Methyl-2-Pentanone (MiBK)	ND	U	274	1.0
Toluene	1690		137	0.5
1,2-Dibromoethane	ND	U	137	0.5
Tetrachloroethylene	ND	U	137	0.5
Chlorobenzene	ND	U	137	0.5
Ethylbenzene	265		137	0.5
m- & p-Xylenes	419		274	1.0
1,1,2,2-Tetrachloroethane	ND	U	137	0.5
o-Xylene	ND	U	137	0.5
1,3-Dichlorobenzene	ND	U	137	0.5
1,4-Dichlorobenzene	ND	U	137	0.5
1,2-Dichlorobenzene	ND	U	137	0.5
BFB-Surrogate Std. % Recovery	106%			48-151

J- Analyte was detected. However the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Pratical Quantitation Limit (PQL).
E - Estimated value, result outside linear range of instrument.
U - Compound was analyzed for, but was not detected.

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 12/15/05**
UNITS	**: ppbv**	**REPORT DATE**	**: 12/16/05**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-14/TO-15

Client ID / *AAC ID*	Method Blank MB-121505	MDL
Chlorodifluoromethane*	<PQL	1.0
Propylene*	<PQL	1.0
DiClDIFMethane*	<PQL	0.5
CHLOROMETHANE*	<PQL	0.5
1,2 DiCl-1,1,2,2-TetraFEthane*	<PQL	0.5
VINYL CHLORIDE*	<PQL	0.5
Methanol*	<PQL	5.0
1,3-Butadiene*	<PQL	0.5
BROMOMETHANE*	<PQL	0.5
CHLOROETHANE*	<PQL	0.5
Dichlorofluoromethane	<PQL	0.5
Ethanol*	<PQL	2.5
Vinyl Bromide*	<PQL	0.5
Acetone*	<PQL	1.0
TRICHLOROFLUOROMETHANE*	<PQL	0.5
Isopropyl Alcohol*	<PQL	1.0
Acrylonitrile*	<PQL	1.0
1,1 DICHLOROETHENE*	<PQL	0.5
METHYLENE CHLORIDE*	<PQL	1.0
Allyl CHLORIDE*	<PQL	0.5
Carbon disulfide*	<PQL	0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE*	<PQL	0.5
trans-1,2- DICHLOROETHYLENE*	<PQL	0.5
1,1- DICHLOROETHANE*	<PQL	0.5
MTBE*	<PQL	0.5
Vinyl Acetate*	<PQL	0.5
MEK*	<PQL	1.0
cis-1,2- DICHLOROETHYLENE*	<PQL	0.5
Hexane*	<PQL	0.5
CHLOROFORM*	<PQL	0.5
Ethyl Acetate*	<PQL	0.5
Tetrahydrofuran*	<PQL	0.5
1,2-DICHLOROETHANE*	<PQL	0.5
1,1,1-TRICHLOROETHANE*	<PQL	0.5
BENZENE**	<PQL	0.5
CARBON TETRACHLORIDE**	<PQL	0.5
Cyclohexane**	<PQL	0.5
1,2-DICHLOROPROPANE**	<PQL	0.5
Bromodichloromethane**	<PQL	0.5
1,4-Dioxane**	<PQL	1.0
TRICHLOROETHENE**	<PQL	0.5
2,2,4-Trimethylpentane**	<PQL	0.5
Heptane**	<PQL	0.5
cis- 1,3 DICHLOROPROPENE**	<PQL	0.5
MiBK**	<PQL	1.0
trans 1,3 DICHLOROPROPENE**	<PQL	0.5

Atmospheric Analysis & Consulting, Inc.

Method Blank Analysis Report

MATRIX	**: AIR**	**ANALYSIS DATE**	**: 12/15/05**
UNITS	**: ppbv**	**REPORT DATE**	**: 12/16/05**

VOLATILE ORGANIC COMPOUNDS BY EPA TO-14/TO-15

Client ID / *AAC ID*	Method Blank MB-121505	MDL
1,1,2-TRICHLOROETHANE**	<PQL	0.5
TOLUENE**	<PQL	0.5
2-Hexanone**	<PQL	1.0
Dibromochloromethane**	<PQL	0.5
1,2 DIBROMOETHANE**	<PQL	0.5
TETRACHLOROETHYLENE**	<PQL	0.5
CHLOROBENZENE***	<PQL	0.5
ETHYLBENZENE***	<PQL	0.5
m-, & p- XYLENES***	<PQL	1.0
Bromoform***	<PQL	0.5
STYRENE***	<PQL	0.5
1,1, 2,2- TETRACHLORETHANE***	<PQL	0.5
o- XYLENE***	<PQL	0.5
Ethyltoluene***	<PQL	0.5
1,3,5- TRIMETHYLBENZENE***	<PQL	0.5
1,2,4- TRIMETHYLBENZENE***	<PQL	0.5
Benzyl Chloride***	<PQL	1.0
1,3- DICHLOROBENZENE***	<PQL	0.5
1,4- DICHLOROBENZENE***	<PQL	0.5
1,2-DICHLOROBENZENE***	<PQL	0.5
1,2,4 TRICHLOROBENZENE***	<PQL	1.0
HEXACHLOROBUTADIENE***	<PQL	1.0
System Monitoring Compounds		
BFB-Surrogate Std. % Recovery	104%	--

PQL - Practical Quantitation Limit

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

: 050606-13622		DATE ANALYZED	: 12/15/05
: Air		DATE REPORTED	: 12/16/05
		UNITS	: ppbv

TO-14/TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane*	<PQL	<PQL	0.0
Propylene*	6393	5953	7.1
DiClDIFMethane*	1032	979	5.3
CHLOROMETHANE*	<PQL	<PQL	0.0
1,2 DiCl-1,1,2,2-TetraFEthane*	<PQL	<PQL	0.0
VINYL CHLORIDE*	<PQL	<PQL	0.0
Methanol*	10047	9496	5.6
1,3-Butadiene*	<PQL	<PQL	0.0
BROMOMETHANE*	<PQL	<PQL	0.0
CHLOROETHANE*	<PQL	<PQL	0.0
Dichlorofluoromethane	<PQL	<PQL	0.0
Ethanol*	61504	58912	4.3
Vinyl Bromide*	<PQL	<PQL	0.0
Acetone*	7908	7903	0.1
TRICHLOROFLUOROMETHANE*	<PQL	<PQL	0.0
Isopropyl Alcohol*	15495	14631	5.7
Acrylonitrile*	<PQL	<PQL	0.0
1,1 DICHLOROETHENE*	<PQL	<PQL	0.0
METHYLENE CHLORIDE*	<PQL	<PQL	0.0
Allyl CHLORIDE*	<PQL	<PQL	0.0
Carbon disulfide*	<PQL	<PQL	0.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	<PQL	<PQL	0.0
trans-1,2- DICHLOROETHYLENE*	<PQL	<PQL	0.0
1,1- DICHLOROETHANE*	<PQL	<PQL	0.0
MTBE*	<PQL	<PQL	0.0
Vinyl Acetate*	<PQL	<PQL	0.0
MEK*	7924	7606	4.1
cis-1,2- DICHLOROETHYLENE*	<PQL	<PQL	0.0
Hexane*	1124	978	13.9
CHLOROFORM*	<PQL	<PQL	0.0
Ethyl Acetate*	6261	5797	7.7
Tetrahydrofuran*	3510	3444	1.9
1,2-DICHLOROETHANE*	<PQL	<PQL	0.0
1,1,1-TRICHLOROETHANE*	<PQL	<PQL	0.0
BENZENE**	<PQL	<PQL	0.0
CARBON TETRACHLORIDE**	<PQL	<PQL	0.0

Quality Control/Quality Assurance Report

: 050606-13622		DATE ANALYZED	: 12/15/05
: Air		DATE REPORTED	: 12/16/05
		UNITS	: ppbv

TO-14/TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Cyclohexane**	<PQL	<PQL	0.0
1,2-DICHLOROPROPANE**	<PQL	<PQL	0.0
Bromodichloromethane**	<PQL	<PQL	0.0
1,4-Dioxane**	<PQL	<PQL	0.0
TRICHLOROETHENE**	<PQL	<PQL	0.0
2,2,4-Trimethylpentane**	<PQL	<PQL	0.0
Heptane**	1736	1618	7.0
cis- 1,3 DICHLOROPROPENE**	<PQL	<PQL	0.0
MiBK**	<PQL	<PQL	0.0
trans 1,3 DICHLOROPROPENE**	<PQL	<PQL	0.0
1,1,2-TRICHLOROETHANE**	<PQL	<PQL	0.0
TOLUENE**	12275	11316	8.1
2-Hexanone**	<PQL	<PQL	0.0
Dibromochloromethane**	<PQL	<PQL	0.0
1,2 DIBROMOETHANE**	<PQL	<PQL	0.0
TETRACHLOROETHYLENE**	<PQL	<PQL	0.0
CHLOROBENZENE***	<PQL	<PQL	0.0
ETHYLBENZENE***	3707	3513	5.4
m-, & p- XYLENES***	8245	8046	2.4
Bromoform***	<PQL	<PQL	0.0
STYRENE***	<PQL	<PQL	0.0
1,1, 2,2- TETRACHLORETHANE***	<PQL	<PQL	0.0
o- XYLENE***	2562	2456	4.2
Ethyltoluene***	<PQL	<PQL	0.0
1,3,5- TRIMETHYLBENZENE***	<PQL	<PQL	0.0
1,2,4- TRIMETHYLBENZENE***	1449	1447	0.2
Benzyl Chloride***	<PQL	<PQL	0.0
1,3- DICHLOROBENZENE***	<PQL	<PQL	0.0
1,4- DICHLOROBENZENE***	<PQL	<PQL	0.0
1,2-DICHLOROBENZENE***	<PQL	<PQL	0.0
1,2,4 TRICHLOROBENZENE***	<PQL	<PQL	0.0
Hexachlorobutadiene	<PQL	<PQL	0.0
System Monitoring Compounds			
BFB-Surrogate Std. % Recover	89	90	1.2

Dr. Sucha Parmar
Technical Director

Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

CLIENT ID	**: Laboratory Control Spike**	**DATE ANALYZED**	**: 12/15/2005**
AAC ID	**: LCS**	**DATE REPORTED**	**: 12/16/2005**
MEDIA	**: Air**	**UNITS**	**: ppbv**

TO-14/15 Laboratory Control Spike Recovery

Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD** %
1,1-DICHLOROETHYLENE***	0.0	10	9.75	7.38	97	74	27.7
METHYLENECHLORIDE	0.0	10	9.14	7.41	91	74	20.9
BENZENE	0.0	10	8.41	7.60	84	76	10.1
TRICHLOROETHENE	0.0	10	9.04	8.65	90	86	4.4
TOLUENE	0.0	10	8.74	8.06	87	81	8.1
TETRACHLOROETHYLENE	0.0	10	8.16	8.20	82	82	0.5
CHLOROBENZENE	0.0	10	7.83	7.43	78	74	5.2
ETHYLBENZENE	0.0	10	7.49	7.25	75	72	3.3
m-, & p- XYLENES	0.0	20	15.89	15.12	79	76	5.0
o- XYLENE	0.0	10	8.61	8.10	86	81	6.1

* Must be 70-130%

** Must be < 25%

*** The RPD was greater than 25%, so the results for 1,1-DCE should be considered estimated values.

Dr. Sucha Parmar
President

Shaw Environmental Chain Of Custody Record

Laboratory

AAC
1534 Eastman Ave. Suite A
Ventura, A 93003
(805) 650-1642 (805) 650-1644 fax

CLIENT
Kirby Landfill Flare

050646

DATE: 12-15-05

PAGE: 1 of 1

SAMPLING COMPANY: Shaw Environmental, Inc.	LOG CODE:	SITE ADDRESS (Street and City):	
ADDRESS: 2360 Bering San Jose, CA 95131		EDF DELIVERABLE TO (Responsible Party or Designee):	PHONE NO.: / E-MAIL: / CONSULTANT PROJECT NO.:
PROJECT CONTACT (Hardcopy or PDF Report to): Scott Borderieux		SAMPLER NAME(S) (Print):	
TELEPHONE: 408.382.5821	FAX: 408.433.1912	E-MAIL:	

TURNAROUND TIME (BUSINESS DAYS):
☐ 10 DAYS ☐ 5 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS

SPECIAL INSTRUCTIONS OR NOTES:

Report NMOC as Methane

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Fixed Gas, C_1-C_6, HHV, & F-Factor EPA 18, EPA 3C, EPA19	Landfill Gas AP-42, TO-15, Sulfurs, NMOC, F-Factor 18, EPA19	Sulfur Species, TRS ASTM D5504	EPA M25C, NMOC as Methane			F-factor	BTU, HHV		Extra Compounds:			FIELD NOTES: Container/Preservative or PID Readings or Laboratory Notes
	Run 1 ~~Collected~~	12/15/05	9:09	Bag	1			X										13673 Landfill Gas
	Run 2	12/16/05	9:54	Bag	1		X	X				13674						Additionally, Run 2 to be analyzed for AP-42 List excluding acetone, mercury, and CO (List attached)
	Run 3	12/17/05	10:36	Bag	1			X				13675						

Relinquished by: (Signature) Scott Borderieux 12-15-05	Received by: (Signature)	Date: 12/16/05	Time: 830
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

02/06/02 Revision