

AP-42 Test Data - Submission Checklist		
FACILITY INFORMATION		
Landfill Name: Altamont Landfill		
Location: 10840 Altamont Pass Rd., Livermore, CA 94550		
Owner: Waste Management of Alameda Cty.	LFG Operator: Waste Management of Alameda Cty.	
Contact Person: Michael O'Connor	Address: 3843 Brickway Blvd, Ste, 208, Santa Rosa, CA	
Email: moconnor@scsengineers.com	Phone: 707-546-9461	Fax:
Year Opened:	Year Gas Collection Started:	
Gas Collection Control Device Description: Enclosed LFG Flare		
Co disposal: ☐ Yes ☐ No ☒ Unknown		
ADMINISTRATIVE INFORMATION		
Complete test reports must be submitted (see footnote ¹)		
Sampling Date: 7/30/08	Analysis Date: 7/31/08	
Description of sampling site: LFG Flare		
Description of sampling method: Continuous emissions monitoring		
QA/QC data included: ☒ Yes ☐ No		
Chain of Custody included: ☒ Yes ☐ No		
DATA SUMMARY		
Type of Data: ☐ Header Draw ☐ Punch Probe (this data does not presently meet EPA requirements) ☒ Stack Test ☐ Other:		
Header Draw data:	Raw LFG Constituent data:	
NMOC data:	☐ Yes ☐ No	
☐ Yes	Sulfur Compound data:	
☐ No	☐ Yes ☐ No	
NMOC (ppm as hexane):		
NMOC Test Method:	LFG Test Methods:	
Stack Testing data:		
Device Tested (Flare , IC Engine, Turbine, Boiler):		
Concentration (ppm)		
NOx: 32.8 @ 3% O2	SOx: 11.6	
CO: 11.85 @ 3% O2	Dioxin/furans: NS	
PM: NA	Aldehydes/metals: NS	
Was sampling conducted after the control device? (Y/N): Y		
Test Methods: BAAQMD ST-6, ST-13A, ST-19A		

¹ According to USEPA, complete test reports should contain, at a minimum: Landfill name; physical description of the landfill, gas collection system and control device; description of sampling site and methods used to take samples; a sample matrix showing date of test and methods used for analysis; data results tables and discussion of results, identifying any data qualifiers or unusual circumstances affecting results; and QA/QC items such as field notes, laboratory notes, and a test QAPP or documentation of field and laboratory QA/QC procedures, including equipment calibrations and blank or spiked sample results.

Waste Management: Altamont Landfill

BAAQMD Facility # A2066

Annual Compliance Emissions Test Report #08097 Landfill Gas Flare- Source A-15

Located at:

10840 Altamont Pass Road
Livermore, CA 94550

Performed and Reported by:

Blue Sky Environmental, LLC
624 San Gabriel Avenue
Albany, CA 94706

Prepared For:

Cornerstone Environmental Group, LLC
7600 Dublin Boulevard, Suite 200
Dublin, CA 94568

For Submittal To:

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

Testing Performed On:

July 30th, 2008

Final Report Submitted On:

Draft 9/6/08

REVIEW AND CERTIFICATION

Team Leader:

The work performed herein was conducted under my supervision, and I certify that: a) the details and results contained within this report are to the best of my knowledge an authentic and accurate representation of the test program; b) that the sampling and analytical procedures and data presented in the report is authentic and accurate; c) that all testing details and conclusions are accurate and valid, and; d) that the production rate and/or heat input rate during the source test are reported accurately.

If this report is submitted for Compliance purposes it should only be reproduced in its entirety. If there are any questions concerning this report, please contact me at (510) 525 1261.

Guy Worthington
Principal Project Manager

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SECTION 1. INTRODUCTION

1.1. Summary

Blue Sky Environmental, LLC was contracted to perform the emissions testing on the A-15 Landfill Gas Flare at Waste Management of Alameda County, Altamont Landfill, 10840 Altamont Pass Road, Livermore, California. This report presents the results of the test program. Table 1 summarizes the source test information. Table 2 summarizes the results compared to the emission limits. The flare met all compliance emission criteria.

Table 1. Source Test Information

Test Location:	Altamont Landfill, 10840 Altamont Pass Road, Livermore, California
Source Contact:	Ken Lewis (925) 455-7350
Source Tested:	Enclosed Landfill Gas Flare (A-15)
Source Test Date:	July 30 th , 2008
Test Objective:	Determine Compliance with Regulation 8, Rule 34 and Permit 2066 Condition 19235
Test Performed By:	Blue Sky Environmental, LLC 624 San Gabriel Ave., Albany, CA 94706 Guy Worthington (510) 508 3469
Test Parameters:	<u>Landfill Gas</u> O ₂ , N ₂ , CO ₂ , BTU, THC, CH ₄ , NMOC, HHV, F-Factor, Sulfur & VOC Species, Volumetric Flow Rate <u>Flare Emissions</u> THC, CH ₄ , NMOC, NO _x , CO, O ₂ , SO ₂ , Volumetric Flow Rate.

Table 2. Compliance Summary

A <u>Condensate On</u>	Average Test Result	Permit Limit	Status
NO _x , lbs/MMBTU	0.04	0.06	In Compliance
NO _x ppm @ 3% O ₂	32.8	44	In Compliance
CO, lbs/MMBTU	<0.009	0.3	In Compliance
CO ppm @ 3% O ₂	11.85	361	In Compliance
SO ₂ , ppmvd	11.6	300	In Compliance
NMOC, (ppmvd @ 3% O ₂ as CH ₄)	<1.0	30	In Compliance
B <u>Condensate Off</u>			
NO _x , lbs/MMBTU	0.04	0.06	In Compliance
NO _x ppm @ 3% O ₂	28.8	44	In Compliance
CO, lbs/MMBTU	<0.002	0.3	In Compliance
CO ppm @ 3% O ₂	<2.1	361	In Compliance
SO ₂ , ppmvd	11.1	300	In Compliance
NMOC, (ppmvd @ 3% O ₂ as CH ₄)	<1.0	30	In Compliance

SECTION 2. SOURCE TEST PROGRAM

2.1. Overview

This annual source test was performed within 12 months of the previous test. It was conducted to demonstrate that the A-15 landfill gas flare is operating in accordance with the Bay Area Air Quality Management District (BAAQMD) Title V Permit and Regulation 8 Rule 34.

2.2. Pollutants Tested

The following BAAQMD, EPA and ASTM sampling and analytical methods were used:

BAAQMD ST-5	CO ₂
BAAQMD ST-6	CO
BAAQMD ST-7	NMOC
BAAQMD ST-13A	NO _x
BAAQMD ST-14	O ₂
BAAQMD ST-19A (calculated from TRS)	SO ₂ calculated from TRS
EPA 19	Flow Rate Calculation, DSCFM
EPA 25C	LFG Gas analysis for NMOC by GC
EPA TO-15	AP-42 Table 2.4-1 VOC Species
ASTM 1945/3588	LFG Gas analysis for BTU and F-Factor
ASTM D-5504	Sulfur Species, H ₂ S and TRS

2.3. Test Date(s)

Testing was conducted on July 30th, 2008.

2.4. Sampling and Observing Personnel

Guy Worthington and Jeff Mesloh representing Blue Sky Environmental, LLC, performed testing.

Mark McKeever, Patrick Switzer and Steve Thexton of Cornerstone Environmental Group, LLC were present to operate and oversee the Flare operation and assist in coordinating testing and the collection of process data during testing.

The BAAQMD was notified of the test in a plan submitted by Waste Management on July 5th, 2008. A Source Test Protocol acknowledgement was requested and received by Blue Sky Environmental (NST # 1461), but no agency observers were present to witness the testing. A copy of the source test protocol can be found in Appendix I.

2.5. Source/Process Description

The enclosed landfill gas flare consists of a 71 million British Thermal Units per hour (MMBtu/hr) multiple nozzle burner manufactured by LFG Specialties, Inc. The flare shell is approximately 45 feet high and approximately 102 inches inside diameter.

During the test period the flare was operated at about ~1230-1330 standard cubic feet per minute (scfm). The flare set-point was established at 1650 degrees Fahrenheit (°F), although the top thermocouple records approximately 1630°F. Methane quality is typically about 50-55 percent (%), and

the Oxygen content typically less than 1%. Landfill gas condensate is collected and periodically injected into the flare via one vertical nozzle positioned near the burner.

2.6. Source Operating Conditions

The flare operating temperature and the landfill gas flow rate records are contained in Appendix-F. The condensate injection rate was recorded in the field at approximately 1.0 gallon per minute (gpm).

The flare was operated at approximately 1630°F average. The average landfill gas flow rate ranged between 1230-1330 scfm.

The landfill gas methane content ranged between 53.9-54.6%, with an average of 54.3%.

SECTION 3. SAMPLING AND ANALYSIS PROCEDURES

3.1. Port location

The A-15 Flare sampling was conducted in the 8.5 feet diameter ID stack, via ports approximately 40' above grade, accessed by a 60' boom-lift. Two of the four, 4-inch flange ports are available ~4 stack diameters downstream from the burners and ~1 stack diameters upstream from the exit.

3.2. Point description/Labeling – ports/stack

Blue Sky Environmental conducted two perpendicular 8 pt traverses and found O₂ stratification less than 10%. Subsequent CEM sampling was conducted at a representative average point in the stack.

3.3. Sample train description

Sampling system diagrams are included in the appendix H. Additional descriptive information is included in the following section.

3.4. Sampling procedure description

Three, 30-minute test runs were performed with the Condensate Injection Off, and repeated with the Condensate Injection On.

Continuous Emission Monitoring by BAAQMD Methods ST-5, 6, 7, 13A and 14. These methods are all continuous monitoring techniques using instrumental analyzers to measure carbon dioxide (CO₂), carbon monoxide (CO), total non-methane hydrocarbons (THC & CH₄), nitrogen oxides (NO_x) and oxygen (O₂), respectively. Sampling is performed by extracting exhaust flue gas from the stack, conditioning the sample and analyzing it by continuous monitoring gas analyzers in a CEM test van. The sampling system consists of a stainless steel sample probe, Teflon sample line, glass-fiber particulate filter, glass moisture-knockout condensers in ice, Teflon sample transfer tubing, diaphragm pump and a stainless steel/Teflon manifold and flow control/delivery system. A constant sample and calibration gas supply pressure of 5 PSI was provided to each analyzer to avoid pressure variable response differences. The entire sampling system was leak checked prior to and at the end of the sampling program.

Methane in the exhaust was determined per BAAQMD Methods, using a charcoal scrubber to remove the non-methane organics, and determining the difference between the total hydrocarbon and non-methane hydrocarbon concentrations.

The sampling and analytical system (per BAAQMD Methods) was calibrated at the beginning and end of each test run. The calibration gases were selected to fall approximately within 80 to 90 percent of the instrument range. Zero and calibration drift values were determined for each test. All calibration gases are EPA Protocol #1. The analyzer data recording system consists of Omega 3 channel strip chart recorders.

System Performance Criteria

Instrument Linearity	≤2% Full Scale (checked routinely)
Instrument Bias	≤5% Full Scale (checked routinely)
System Response Time	≤± 2 minutes (checked routinely)
NO _x Converter Efficiency (EPA 20)	≥ 90% (checked routinely)
Instrument Zero Drift	≤± 3% Full Scale (complied)
Instrument Span Drift	≤± 3% Full Scale (complied)

Concurrent with the exhaust sampling, Blue Sky collected a total of six integrated 1-liter Tedlar Bag samples of the LFG for analysis. The samples were collected using Teflon tubing connections, and the tubing and the Tedlar bag were filled and purged prior to sampling. The gas sample was controlled with a rotameter to collect a 30-minute integrated sample. All the samples were analyzed for NMOC, HHV, F-Factor, Fixed Gases. Three samples were analyzed for EPA AP-42 Table 2.4-1 Compounds and Sulfur Species (including H₂S and TRS).

The inlet volumetric flow rate was continuously measured and recorded by the LFG Flowmeter.

3.5. Instrumentation and Analytical procedures

The following continuous emissions analyzers were used:

Instrumentation	Parameter	Principle
TECO 42i	NO _x	Chemiluminescence
TECO 48C	CO	GFC/IR
Ratfish, RS-55	THC	FID
Horiba PIR 2000	CO ₂	IR
Rosemount 755R	O ₂	Paramagnetic

All calibration gases are EPA Protocol #1. The analyzer data recording system consists of Omega 3 channel strip chart recorders, which can be supported by a Data Acquisition System (DAS).

The instrument response was recorded on strip charts and manually reduced. The averages were corrected for drift using BAAQMD & EPA Method 6C equations.

3.6. Comments: Limitations and Data Qualifications

Blue Sky Environmental has reviewed this report for accuracy, and concluded that the test procedures were followed and accurately described and documented. The review included the following items:

- Review of the general text
- Review of calculations
- Review of CEMS data
- Review of supporting documentation

The services described in this report were performed in a manner consistent with the generally accepted professional testing principles and practices. No other warranty, expressed or implied, is made. These services were performed in a manner consistent with our agreement with our client. The 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 pertain to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and operating parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations, subsequent to this, and do not warranty the accuracy of information supplied by others.

SECTION 4. APPENDICES

- A. Tabulated Results**
- B. Calculations**
- C. Laboratory Reports**
- D. Field Data Sheets**
- E. Strip Charts**
- F. Process Information**
- G. Calibration Certifications and Quality Assurance Records**
- H. Sample Train Configuration and Stack Diagrams**
- I. Related Correspondence (Source Test Plan)**
- J. BAAQMD ATC**

A
Tabulated Results

TABLE #1

Altamont Landfill
Flare A-15
1650°F - Condensate On

RUN	1A	2A	3A	AVERAGE	LIMITS
Test Date	7/30/08	7/30/08	7/30/08		
Test Time	0900-0930	0950-1020	1028-1058		
Standard Temp., °F	70	70	70		
Flare Temperature, °F Average	1,629	1,629	1,628	1,629	
Condensate Injection, gpm	1.1	1.0	0.9	1.0	
Fuel Flow Rate, DSCFM	1,234	1,278	1,271	1,261	
Fuel Heat Input, MMBTU/Hr	39.7	41.5	41.3	40.8	
Exhaust Flow Rate, DSCFM (Method 19)	13,749	15,681	15,780	15,070	
Oxygen, O ₂ , %	11.4	12.2	12.3	12.0	
Carbon Dioxide, CO ₂ , %	7.5	7.1	7.1	7.3	
NO _x , ppm	15.1	16.5	17.2	16.3	
NO_x, ppm @ 3% O₂	28.5	34.0	35.8	32.8	44
NO _x , lbs/hr	1.48	1.85	1.94	1.76	
NO _x , lbs/MMBTU	0.04	0.04	0.05	0.04	0.06
CO, ppm	2.0	7.8	7.5	5.8	
CO, ppm @ 3% O₂	3.85	16.02	15.67	11.85	361
CO, lbs/hr	0.12	0.53	0.52	0.39	
CO, lbs/MMBTU	<0.003	<0.013	<0.013	<0.009	0.3
Total Sulfurs as H₂S in fuel, ppm	136	143	138	139	
SO₂ calculated emission, ppm	12.2	11.6	11.1	11.6	300
THC, ppm	0.5	0.5	-0.2	0.2	
THC, lbs/hr as CH ₄	0.02	0.02	-0.01	0.01	
CH ₄ , ppm	<1.0	<1.0	<1.0	<1.0	
NMHC, ppm as CH ₄	<1.0	<1.0	<1.0	<1.0	
NMHC, lbs/hr as CH ₄	<0.03	<0.04	<0.04	<0.04	
NMHC, ppm @ 3% O₂ as CH₄	<1.88	<2.06	<2.08	<2.01	30
INLET NMHC ppm as CH ₄	4,799	4,485	5,073	4,786	
INLET NMHC lbs/hr as CH ₄	14.7	14.2	16.0	15.0	
NMHC Removal Efficiency	>99.8%	>99.7%	>99.8%	>99.7%	98
INLET CH ₄	539,000	543,000	544,000	542,000	
INLET THC (TOC) ppm as CH ₄	543,799	547,485	549,073	546,786	
INLET THC (TOC) lbs/hr as CH ₄	1,666	1,737	1,732	1,712	
THC (TOC) Removal Efficiency	100.00%	100.00%	100.00%	100.00%	98

WHERE,

ppm = Parts Per Million Concentration

Lbs/hr = Pound Per Hour Emission Rate

T_{std} = Standard Temp. (°R = °F+460)

MW = Molecular Weight

DSCFM = Dry Standard Cubic Feet Per Minute

NO_x = Oxides of Nitrogen as NO₂ (MW = 46)

CO = Carbon Monoxide (MW = 28)

TOC = THC = Total Organic Carbon as Methane including CH₄ (MW = 16)

THC = Total Hydrocarbons as Methane (MW = 16)

NMHC = Total Non-Methane Hydrocarbons as Methane (MW = 16)

SO₂ = Sulfur Dioxide as SO₂ (MW = 64.1)

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CALCULATIONS,PPM @ 15% O₂ = ppm * 5.9 / (20.9 - %O₂)PPM @ 3% O₂ = ppm * 17.9 / (20.9 - %O₂)Lbs/hr = ppm x 8.223 E-05 x DSCFM x MW / T_{std}. °R

Lbs/day = Lbs/hr * 24

THC (TOC) Removal Efficiency = (inlet lbs/hr- outlet lbs/hr) / inlet lbs/hr

NMHC Removal Efficiency = (inlet lbs/hr- outlet lbs/hr) / inlet lbs/hr

SO₂ emission ppm = H₂S in fuel * Fuel Flow/Stack Gas Flow

TABLE #2

**Altamont Landfill
Flare A-15
1650°F - Condensate Off**

RUN	1B	2B	3B	AVERAGE	LIMITS
Test Date	7/30/08	7/30/08	7/30/08		
Test Time	1110-1140	1150-1220	1232-1302		
Standard Temp., °F	70	70	70		
Flare Temperature, °F Average	1,629	1,629	1,628	1,629	
Condensate Injection, gpm	0.0	0.0	0.0	0.0	
Fuel Flow Rate, DSCFM	1,306	1,331	1,323	1,320	
Fuel Heat Input, MMBTU/Hr	42.5	43.3	43.2	43.0	
Exhaust Flow Rate, DSCFM (Method 19)	16,320	16,593	16,567	16,493	
Oxygen, O ₂ , %	12.3	12.3	12.3	12.3	
Carbon Dioxide, CO ₂ , %	7.1	6.9	6.8	7.0	
NO _x , ppm	12.9	13.0	15.5	13.8	
NO_x, ppm @ 3% O₂	26.9	27.1	32.5	28.8	44
NO _x , lbs/hr	1.50	1.54	1.84	1.62	
NO _x , lbs/MMBTU	0.04	0.04	0.04	0.04	0.06
CO, ppm	<1.0	<1.0	<1.0	<1.0	
CO, ppm @ 3% O₂	<2.1	<2.1	<2.1	<2.1	361
CO, lbs/hr	<0.07	<0.07	<0.07	<0.07	
CO, lbs/MMBTU	<0.002	<0.002	<0.002	<0.002	0.3
Total Sulfurs as H₂S in fuel, ppm	136	143	138	139	
SO₂ calculated emission, ppm	10.9	11.4	11.0	11.1	300
THC, ppm	0.3	0.2	0.2	0.2	
THC, lbs/hr as CH ₄	0.01	0.01	0.01	0.01	
CH ₄ , ppm	<1.0	<1.0	<1.0	<1.0	
NMHC, ppm as CH ₄	<1.0	<1.0	<1.0	<1.0	
NMHC, lbs/hr as CH ₄	<0.04	<0.04	<0.04	<0.04	
NMHC, ppm @ 3% O₂ as CH₄	<2.09	<2.09	<2.09	<2.09	30
INLET NMHC ppm as CH ₄	5,029	5,068	4,362	4,820	
INLET NMHC lbs/hr as CH ₄	16.3	16.7	14.3	15.8	
NMHC Removal Efficiency	>99.8%	>99.8%	>99.7%	>99.7%	98
INLET CH ₄	544,000	544,000	546,000	544,667	
INLET THC (TOC) ppm as CH ₄	549,029	549,068	550,362	549,486	
INLET THC (TOC) lbs/hr as CH ₄	1,780	1,814	1,808	1,801	
THC (TOC) Removal Efficiency	100.00%	100.00%	100.00%	100.00%	98

WHERE,

ppm = Parts Per Million Concentration

Lbs/hr = Pound Per Hour Emission Rate

Tstd. = Standard Temp. (°R = °F+460)

MW = Molecular Weight

DSCFM = Dry Standard Cubic Feet Per Minute

NO_x = Oxides of Nitrogen as NO₂ (MW = 46)

CO = Carbon Monoxide (MW = 28)

TOC = THC = Total Organic Carbon as Methane including CH₄ (MW = 16)

THC = Total Hydrocarbons as Methane (MW = 16)

NMHC = Total Non-Methane Hydrocarbons as Methane (MW = 16)

SO₂ = Sulfur Dioxide as SO₂ (MW = 64.1)

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CALCULATIONS,PPM @ 15% O₂ = ppm * 5.9 / (20.9 - %O₂)PPM @ 3% O₂ = ppm * 17.9 / (20.9 - %O₂)

Lbs/hr = ppm x 8.223 E-05 x DSCFM x MW / Tstd. °R

Lbs/day = Lbs/hr * 24

THC (TOC) Removal Efficiency = (inlet lbs/hr- outlet lbs/hr) / inlet lbs/hr

NMHC Removal Efficiency = (inlet lbs/hr- outlet lbs/hr) / inlet lbs/hr

SO₂ emission ppm = H₂S in fuel * Fuel Flow/Stack Gas Flow

TABLE # 3

Altamont Landfill

Flare A-15

AP42 2.4-1

Full List

Constituent	Method	Units	Detection Limit MDL/PQL	Landfill Gas Samples		
				7/30/08 AP42 Table 2.4-1 1A	7/30/08 AP42 Table 2.4-1 2A	7/30/08 AP42 Table 2.4-1 2B
1,1,1-Trichloroethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
1,1,2,2-Tetrachloroethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
1,1-Dichloroethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
1,1-Dichloroethene	EPA TO-15	ppb	1.0/250	ND	ND	ND
1,2-Dichloroethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
1,2-Dichloropropane	EPA TO-15	ppb	1.0/250	ND	ND	ND
2-Propanol (IPA)	EPA TO-15	ppb	2.0/5000	56100	56800	66600
Acrylonitrile	EPA TO-15	ppb	1.0/250	ND	ND	ND
Bromodichloromethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
Butane (C4)	EPA 18/ASTM 1945	ppm	0.3	31.8	32.4	33.5
Carbon Disulfide	EPA TO-15	ppb	1.0/250	ND	ND	ND
Carbon Monoxide	EPA 3C/ASTM 1945	%	NA	NA	NA	NA
Carbon Tetrachloride	EPA TO-15	ppb	1.0/250	ND	ND	ND
Carbonyl sulfide	ASTM D-5504	ppm	0.01	ND	ND	ND
Chlorobenzene	EPA TO-15	ppb	0.5/5	257	257	257
Chlorodifluoromethane	EPA TO-15	ppb	1.0/250	679	656	693
Chloroethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
Chloroform	EPA TO-15	ppb	1.0/250	ND	ND	ND
Chloromethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
1,3-Dichlorobenzene	EPA TO-15	ppb	1.0/250	ND	ND	ND
1,4-Dichlorobenzene	EPA TO-15	ppb	1.0/250	553	553	615
1,2-Dichlorobenzene	EPA TO-15	ppb	1.0/250	ND	ND	ND
Dichlorodifluoromethane	EPA TO-15	ppb	1.0/250	1720	1680	1760
Dichlorofluoromethane	EPA TO-15	ppb	1.0/250	482	448	500
Dichloromethane (Methylene Chloride)	EPA TO-15	ppb	1.0/250	362	333	367
Dimethyl sulfide	ASTM D-5504	ppm	0.01	5.38	5.74	5.95
Ethane (C2)	EPA 18/ASTM 1945	ppm	30	ND	ND	ND
Ethanol	EPA TO-15	ppb	2.0/100000	1010000	1030000	1110000
Ethyl Mercaptan	ASTM D-5504	ppm	0.01	ND	ND	ND
Ethyl Benzene	EPA TO-15	ppb	1.0/2500	5560	5630	6160
1,2 Dibromomethane (Ethylene Dibromide)	EPA TO-15	ppb	1.0/250	ND	ND	ND
Trichlorofluoromethane	EPA TO-15	ppb	1.0/250	ND	ND	ND
Hexane	EPA TO-15	ppb	1.0/250	992	979	1060
Hydrogen sulfide	ASTM D-5504	ppm	0.01	126.6	133.7	129.2
Mercury	NIOSH 6009	ug/m3	NA	NA	NA	NA
2-Butanone (MEK)	EPA TO-15	ppb	1.0/2500	43900	43900	46500
Methyl isoButyl Ketone (MiBK)	EPA TO-15	ppb	1.0/250	2500	2150	2610
Pentane (C5)	EPA 18/ASTM 1945	ppm	0.3	244	257	275
Tetrachloroethylene (Perchloroethylene)	EPA TO-15	ppb	1.0/250	503	499	537
Propane (C3)	EPA 18/ASTM 1945	ppm	0.3	29.6	21.6	22.1
trans-1,2-Dichloroethene	EPA TO-15	ppb	1.0/250	ND	ND	ND
Trichloroethylene	EPA TO-15	ppb	1.0/250	433	427	452
Vinyl Chloride	EPA TO-15	ppb	1.0/250	ND	ND	ND
m,p-Xylene	EPA TO-15	ppb	2.0/5000	10800	10800	12000
o-Xylene	EPA TO-15	ppb	1.0/250	3200	3240	3610
Benzene	EPA TO-15	ppb	1.0/250	1750	1760	1930
Toluene	EPA TO-15	ppb	1.0/2500	19100	19600	20600

ND = not detected

pql = not detected (practical quantitation limit)

B
Calculations

CEM BIAS CORRECTION SUMMARY

Facility: Altamont Landfill
 Unit: Flare A-15
 Condition: 1650°F - Condensate Off
 Date: 7/30/08

Barometric: _____
 Leak Check: OK
 Strat. Check: OK
 Personnel: gw, jm

	O ₂	CO ₂	NO _x	CO	THC	CH ₄	SO ₂		
Analyzer	755R	PIR 2000	42i	48C	RS-55	RS-55	721AT		
Range	25	15	50	50	100	100	100		r
Units, ppm or %	%	%	ppm	ppm	ppm	ppm	ppm		
Span Gas Value	20.45	12.43	45.8	45.8	84.6	84.6			Ccal

Run 1A	-0.25	0.00	0.0	0.8	1.5	1.5			zero (initial), Cib
Test Time:	20.13	13.05	44.3	44.3	85.0	85.0			cal (initial), Cib
1110-1140	12.09	7.46	12.4	0.0	2.0	<1			TEST AVG, Cavg
	0.00	0.15	0.0	0.0	2.0	2.0			zero (final), Cfb
	20.13	13.05	44.3	43.8	83.0	83.0			cal (final), Cfb
	1%	1%	0%	-2%	1%	1%			% zero drift
	0%	0%	0%	-1%	-2%	-2%			% cal drift
	12.33	7.07	12.9	-0.4	0.3	<1.0			Cgas

Run 2A	0.00	0.15	0.0	0.0	2.0	2.0			zero (initial), Cib
Test Time:	20.13	13.05	44.3	43.8	83.0	83.0			cal (initial), Cib
1150-1220	12.02	7.35	12.3	0.0	3.0	<1			TEST AVG, Cavg
	0.00	0.15	0.0	0.0	3.6	3.6			zero (final), Cfb
	19.75	13.05	42.3	43.5	84.0	84.0			cal (final), Cfb
	0%	0%	0%	0%	2%	2%			% zero drift
	-2%	0%	-1%	-1%	1%	1%			% cal drift
	12.33	6.94	13.0	0.0	0.2	<1.0			Cgas

Run 3A	0.00	0.15	0.0	0.0	3.6	3.6			zero (initial), Cib
Test Time:	19.75	13.05	42.3	43.5	84.0	84.0			cal (initial), Cib
1232-1302	11.91	7.29	14.1	0.0	4.5	<1			TEST AVG, Cavg
	0.00	0.15	0.0	0.0	5.0	5.0			zero (final), Cfb
	19.75	13.20	41.0	43.3	87.0	87.0			cal (final), Cfb
	0%	0%	0%	0%	1%	1%			% zero drift
	0%	1%	-3%	-1%	3%	3%			% cal drift
	12.33	6.84	15.5	0.0	0.2	<1.0			Cgas

Pollutant Concentration (Cgas) = (Cavg - Co) x Ccal / (Ccal - Co)

Zero and Calibration Drift = 100 x (Cfb - Cib) / r

Co = (Cib + Cfb) / 2 for zero gas

Ccal = (Cif + Cfb) / 2 for cal gas

Sample ID: Altamont Landfill
Date: 7/30/2008

‡ Obtained from Compressibility Factor Calculation.

0.944

0,9994

$$L = i - (\sum_{j=1}^n v_j^2)^{-1} + i(\sum_{j=1}^n v_j^2)^{-1} \text{ (approx)}$$

0.945

13.71 ft^3/lb 552.5 Btu/ft³ Gross544.1 Btu/ft³ Gross

7.577 Buu/bb

$$\text{Bun}(B) = \text{Bun}(B^+ \otimes B^{-1})$$

9,414 DSCF/MMBtu

$$DSC7/MIB6 = \{0^+ + (0.64^{+0.01})_1 + (1.13^{+0.02})_2 + (0.57^{+0.01})_3 + (0.14^{+0.01})_4 + (0.16^{+0.01})_5\} / Brd/b$$

9,272 DSCF/MMBtu

7/30/2008

† Omitted from Computation of Factor Calculations

0.9994

$$Z = 1 \cdot (\sum_{i=1}^n x_i \cdot \forall \theta_i) + (\sum_{i=1}^n x_i \cdot \forall \theta_i) \cdot \theta_i \cdot \theta_i$$

0.945

13.72 ft^3/lb 552.2 Bru/ft³ Gross543.8 Btu/ft³ Gross

7,576 Btu/lb

$$\text{Re}(\theta) = \text{Im}(\theta) + \pi/2$$

9,403 DSCF/MMBtu

$$DSCF/MA/BPr = 0.0^{\circ} + 0.64^{\circ} \alpha + 0.73^{\circ} \beta + 0.57^{\circ} \gamma + 0.14^{\circ} \delta + 0.46^{\circ} \epsilon \quad [r^2 = 0.99]$$

9,260 DSCF/MMBtu

FD-FACTOR CALCULATION

Landfill Gas - Run 3A

Sample ID: Alamont Landfill
Date: 7/30/2008

	Molecular Weight	Ideal Gas Specific Gravity, G _g	Ideal Gas Total Calorific Value, Btu	Compressibility Factor, Z	Specific Volume, ft ³ /lb	Compositional Mole Fraction, Y _i	Specific Gravity, G _g	Calorific Value Fraction, X _i	Compressibility Factor, Z _i	SG	Weight Fraction, W _i / ΣW _i	CARBON Weight Fraction	HYDROGEN Weight Fraction	OXYGEN Weight Fraction	NITROGEN Weight Fraction	SULFUR Weight Fraction	CHLORINE SUM	Specific Volume, ft ³ /lb
Helium‡	4.00	0.1382	0.0	0.0170		0.0000	0.0000	0.0	0.0000	0.0000	0.0000							
Hydrogen (H ₂) ‡	2.02	0.0696	324.9		187.723	0.0040	0.0003	1.3	0.0000	0.0081							0.0000	
Nitrogen	28.01	0.9672	0.0	0.0164	13.445	0.0690	0.0667	0.0	0.0011	1.9327	0.0707				0.0797		0.0707	0.7508
Oxygen	32.00	1.1053	0.0		11.819	0.0080	0.0068	0.0	0.0000	0.2560	0.0094			0.0094			0.0094	0.1107
Carbon Monoxide	28.01	0.9671	321.3	0.0217	13.506	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000
Carbon Dioxide‡	44.01	1.5194	0.0	0.0640	8.548	0.3720	0.5652	0.0	0.0258	16.3717	0.5094	0.1635	0.0000	0.1356			0.5094	5.4313
Methane	16.04	0.5839	1012.0	0.0436	23.565	0.5460	0.5024	55.26	0.0238	8.7578	0.3205	0.2401	0.0000				0.3205	7.5524
Ethane	30.04	1.0582	1772.0	0.0917	12.455	0.0000	0.0000	0.0		0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Propane	44.09	1.5224	2323.0	0.1342	8.365	0.0000	0.0000	0.0		0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isobutane	58.12	2.0067	3260.1	0.1744	6.321	0.0000	0.0000	0.0		0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Butane	58.12	2.0067	3269.6	0.1825	6.121	0.0000	0.0000	0.0		0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isopentane	72.14	2.4910	4009.4	0.2276	5.252	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Pentane	72.14	2.4910	4018.5	0.2377	5.152	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Hexanes	86.17	2.9755	4758.0	0.2856	4.308	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Total						0.9990	0.944 SG	553.9 Btu/ft ³	0.0249 ΣZ _i Y _i	27.3263 ΣXiMW _i	0.9997	0.4036 40.36%	0.0806 8.06%	0.4450 44.51%	0.0707 7.07%	0.0000 0.00%	0.5097 0.5097	13.74 ft ³ /lb

‡ Omitted from Compressibility Factor Calculation

Calculated Specific Gravity (SG) $(SG = 1.000 / G_{g, \text{ref}} @ 60^\circ\text{F})$

0.944

Compressibility Factor (Z)

0.9994

$$Z = 1 - (\sum_{i=1}^N A_i P_i^2) + (\sum_{i=1}^N B_i P_i) + (\sum_{i=1}^N C_i P_i^2)$$

Specific Gravity (corrected)

0.944

Specific Volume, (SV) ft³/lb13.74 ft³/lb

Gross Calorific Value (GCV) @ 60°F

554.2 Btu/ft³ Gross

Gross Calorific Value (GCV) @ 68°F

545.8 Btu/ft³ Gross

Gross Calorific Value (GCV)

7,612 Btu/lb

$$\text{Btu/lb} = \text{Btu/ft}^3 \times \text{ft}^3/\text{lb}$$

Gas Fd-Factor @ 68°F

9,405 DSCF/MMBtu

$$\text{DSCF/MMBtu} = 10^6 \times (0.504 \times H_2 + 0.173 \times O_2 + 0.57 \times N_2) \times (0.14 \times C + 0.16 \times H + 0.1 \times S) / \text{Btu/lb}$$

Gas Fd-Factor @ 60°F

9,263 DSCF/MMBtu

CEM BIAS CORRECTION SUMMARY

Facility: Altamont Landfill
 Unit: Flare A-15
 Condition: 1650°F - Condensate On
 Date: 07-30-08

Barometric: _____
 Leak Check: OK
 Strat. Check: OK
 Personnel: gw, jm

	O ₂	CO ₂	NO _x	CO	THC	CH ₄	SO ₂		
Analyzer	755R	PIR 2000	42i	48C	RS-55	RS-55	72LAT		
Range	25	15	50	50	100	100	100		r
Units, ppm or %	%	%	ppm	ppm	ppm	ppm	ppm		
Span Gas Value	20.45	12.43	45.8	45.8	84.6	84.6			Ccal

Run 1A	0.00	0.00	0.0	1.8	0.0	0.0			zero (initial), Cib
Test Time:	20.63	12.60	46.5	45.8	85.0	85.0			cal (initial), Cib
0900-0930	11.49	7.70	15.3	3.1	0.5	<1			TEST AVG, Cavg
	0.00	0.00	0.0	0.5	0.0	0.0			zero (final), Cfb
	20.63	12.90	46.3	45.0	85.5	85.5			cal (final), Cfb
	0%	0%	0%	-3%	0%	0%			% zero drift
	0%	2%	0%	-2%	1%	1%			% cal drift
	11.39	7.51	15.1	2.0	0.5	<1.0			Cgas

Run 2A	0.00	0.00	0.0	0.5	0.0	0.0			zero (initial), Cib
Test Time:	20.63	12.90	46.3	45.0	85.5	85.5			cal (initial), Cib
0950-1020	12.21	7.40	16.6	7.9	0.5	<1			TEST AVG, Cavg
	-0.13	0.00	0.0	0.0	0.0	0.0			zero (final), Cfb
	20.38	12.90	45.5	45.5	86.0	86.0			cal (final), Cfb
	-1%	0%	0%	-1%	0%	0%			% zero drift
	-1%	0%	-2%	1%	1%	1%			% cal drift
	12.20	7.13	16.5	7.8	0.5	<1.0			Cgas

Run 3A	-0.13	0.00	0.0	0.0	0.0	0.0			zero (initial), Cib
Test Time:	20.38	12.90	45.5	45.5	86.0	86.0			cal (initial), Cib
1028-1058	12.15	7.46	16.9	7.3	0.5	<1			TEST AVG, Cavg
	0.00	0.00	0.0	0.0	1.5	1.5			zero (final), Cfb
	20.13	13.05	44.3	43.3	85.0	85.0			cal (final), Cfb
	1%	0%	0%	0%	2%	2%			% zero drift
	-1%	1%	-3%	-5%	-1%	-1%			% cal drift
	12.29	7.15	17.2	7.5	-0.2	<1.0			Cgas

Pollutant Concentration (Cgas) = (Cavg - Co) x Ccal / (Cfbal - Co)
 Zero and Calibration Drift = 100 x (Cfb - Cib) / r

Co = (Cib + Cfb) / 2 for zero gas
 Cfbal = (Cif + Cfb) / 2 for cal gas

Sample ID: Altamont Landfill
Date: 7/30/2008

	Molecular Weight	Ideal Gas Specific Gravity, G_g	Ideal Gas Total Calorific Value, H_u	Compressibility Factor, z_b	Specific Volume, ft^3/lb	Composition Mole Fraction, y_i	Specific Gravity Fraction, SG_i	Calorific Value Fraction, M_i	Compressibility Fraction, z_{bi}	ΣM_i	Weight Fraction, $\Sigma M_i MW$	CARBON Weight fraction	HYDROGEN Weight Fraction	OXYGEN Weight Fraction	NITROGEN Weight Fraction	SULFUR Weight Fraction	CHLORS SUM	Specific Volume, ft^3/lb
Helium‡	4.00	0.1382	0.0	0.0170		0.0000	0.0000	0.0	0.0000	0.0000	0.0000							
Hydrogen (H ₂) ‡	2.02	0.0696	324.9		187.723	0.0040	0.0003	1.3	0.0000	0.0081							0.06391	
Nitrogen	28.02	0.9672	0.0	0.0164	13.443	0.0780	0.0054	0.0	0.0013	2.1848	0.0000				0.0800		0.0800	1.0759
Oxygen	32.00	1.1053	0.0		11.819	0.0110	0.0122	0.0	0.0000	0.3520	0.0129			0.0129			0.0129	0.1523
Carbon Monoxide	28.01	0.9671	321.3	0.0217	13.506	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000
Carbon Dioxide‡	44.01	1.5194	0.0	0.0640	8.348	0.3660	0.5561	0.0	0.0234	16.1077	0.5901	0.1610	0.0000	0.4290			0.5901	5.0439
Methane	16.04	0.5539	1012.0	0.0436	23.565	0.5390	0.2986	545.5	0.0235	8.6456	0.3167	0.2371	0.0706				0.4167	7.4633
Ethane	30.07	1.0382	1772.9	0.0917	12.455	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Propane	44.09	1.5224	2523.0	0.1342	8.365	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isobutane	58.12	2.0067	3260.4	0.1744	6.321	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Butane	58.12	2.0067	3269.6	0.1825	6.321	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isopentane	72.14	2.4910	4069.4	0.2276	5.252	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Pentane	72.14	2.4910	4018.5	0.2377	5.252	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Hexanes	86.17	2.9753	4758.0	0.2830	4.398	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Total						0.9980	0.943 SG	546.8 Btu/ft ³	0.0348 $\Sigma x_i v_i$	27.2981 $\Sigma x_i MW$	0.9907	0.3982	0.0796	0.4419	0.0800	0.0000	0.9997	13.74 ft ³ /lb

‡ Omitted from Compressibility Factor Calculation

Calculated Specific Gravity (SG) $(-lit = 1.000 @ 760mm (g, 69^{\circ}F))$

Compressibility Factor (Z)

$$Z = 1 + (\sum x_i \sqrt{q_i})^2 + (2x_{n+1} - x_{n+2})^2 \quad (0.4444)$$

Specific Gravity (corrected)

Specific Volume, (SV) ft^3/lb

Gross Calorific Value (GCV) @ 60°F

Gross Calorific Value (GCV) @ 68°F

Gross Calorific Value (GCV)

$$\text{Bis}(f, g) = \text{Bis}(f, h) \circ \nu^{-1}(h)$$

Gas Fd-Factor (@ 68°F)

$$DSCF/AlMBM = 10^{-6} \times (63.64^{+0.04} \text{ at } 1 + 1.53^{+0.04} \text{ at } 1 + 0.57^{+0.04} \text{ at } 1 + 0.14^{+0.04} \text{ at } 1 + 0.16^{+0.04} \text{ at } 1) \times 10^6 \text{ g/g}$$

Gas Fd-Factor @ 60°F

Fd-FACTOR CALCULATION

Landfill Gas - Run 2A

Sample ID: Mount Landfill

Date: 7/30/2008

	Molecular Weight	Local Gas Specific Gravity, G	Local Gas Total Calorific Value, Btu/lb	Compressibility Factor, Z	Specific Volume, ft ³ /lb	Compressibility Factor, Z	Specific Gravity, SG	Calorific Value Fraction, %H ₂	Compressibility Factor, Z	MMW	Weight Fraction, %MW / ΣMMW	CARBON Weight Fraction	HYDROGEN Weight Fraction	OXYGEN Weight Fraction	NITROGEN Weight Fraction	SULFUR Weight Fraction	CHLORINE SUM	Specific Volume, ft ³ /lb
Helium ‡	4.00	0.1382	0.0	0.0170						0.0000	0.0000							
Hydrogen (H ₂) ‡	2.02	0.0696	324.9		187.724	0.0050	0.0003	1.6	0.0000	0.0104							0.0000	
Nitrogen	28.01	0.9672	0.0	0.0160	13.143	0.0710	0.0687	0.0	0.0012	1.9887	0.9727				0.0727		0.0727	0.9748
Oxygen	32.00	1.1053	0.0		11.819	0.0090	0.0099	0.0	0.0000	0.2850	0.0105			0.0105			0.0103	0.1214
Carbon Monoxide	28.01	0.9671	321.3	0.0217	13.506	0.0000	0.0000	0.0	0.0000	0.0000	0.0000		0.0000	0.0000			0.0000	0.0000
Carbon Dioxide ‡	44.01	1.5194	0.0	0.0640	8.548	0.3720	0.5652	0.0	0.0238	16.3717	0.5982	0.1632	0.0000	0.4350			0.5982	5.1131
Methane	16.04	0.5539	1042.0	0.0436	23.563	0.5430	0.3068	549.5	0.0217	8.7097	0.3182	0.2383	0.0800				0.3183	7.4994
Ethane	30.07	1.0582	1772.9	0.0417	12.453	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Propane	44.09	1.5224	2323.0	0.1342	8.365	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isobutane	58.12	2.0067	3260.1	0.1744	6.321	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Butane	58.12	2.0067	3260.6	0.1823	6.321	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isopentane	72.14	2.4910	4009.4	0.2276	5.252	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Pentane	72.14	2.4910	4018.5	0.2377	5.252	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Hexanes	86.17	2.9753	4758.0	0.2830	4.398	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Total						1.0000	0.945 SG	551.1 Btu/ft ³	0.0248	27.3682	0.9996	0.4015	0.0800	0.4453	0.0727	0.0000	0.0007	13.71 ft ³ /lb

‡ Obtained from Compressibility Factor Calculation

Calculated Specific Gravity (SG) $\rho_{air} = 1.090 @ 7mmHg, 60°F$

0.945

Compressibility Factor (Z)

0.9994

$$Z = 1 - \left(\sum x_i V_{ci} \right)^2 + \left(\sum x_i V_{ci} \right) \left(\sum x_i V_{ci} \right) \left(\sum x_i V_{ci} \right)$$

Specific Gravity (corrected)

0.946

Specific Volume, (SV) ft³/lb13.71 ft³/lb

Gross Calorific Value (GCV) @ 60°F

551.5 Btu/ft³ Gross

Gross Calorific Value (GCV) @ 68°F

543.1 Btu/ft³ Gross

Gross Calorific Value (GCV)

7,563 Btu/lb

$$\text{Btu/lb} = \text{Btu/ft}^3 \times \text{ft}^3/\text{lb}$$

Gas Fd-Factor @ 68°F

9,401 DSCF/MMBtu

$$\text{DSCF/MMBtu} = 10^{-3} \times \left(\rho \times 3.6 \times 10^6 \times \left(1 - \left(\sum x_i V_{ci} \right)^2 + \left(\sum x_i V_{ci} \right) \left(\sum x_i V_{ci} \right) \left(\sum x_i V_{ci} \right) \right) \right) \left(\rho \times 1.4 \times 10^6 \times \left(1 - \left(\sum x_i V_{ci} \right)^2 + \left(\sum x_i V_{ci} \right) \left(\sum x_i V_{ci} \right) \left(\sum x_i V_{ci} \right) \right) \right) \left(\text{Btu/lb} \right)$$

Gas Fd-Factor @ 60°F

9,259 DSCF/MMBtu

Fd-FACTOR CALCULATION

Landfill Gas - Run 3A

Sample ID:

Altamont Landfill

Date:

7/30/2008

	Molecular Weight	Ideal Gas Specific Gravity, G _g	Ideal Gas Total Calorific Value, Btu/lb	Compressibility Factor, Z _g	Specific Volume, ft ³ /lb	Composition Mole Fraction, X _g	Specific Gravity Fraction, G _g /G _g	Calorific Value Fraction, X _g CV _g	Compressibility Fraction, Z _g Z _g	MMW	Weight Fraction, W _g /ΣW _g	CARBON Weight Fraction	HYDROGEN Weight Fraction	OXYGEN Weight Fraction	NITROGEN Weight Fraction	SULFUR Weight Fraction	CHLORINE SUM	Specific Volume, ft ³ /lb
Helium‡	4.00	0.1383	0.0	0.0170		0.0000	0.0000	0.0	0.0000	0.0000	0.0000							
Hydrogen (H ₂) ‡	2.02	0.0696	324.9		187.723	0.0040	0.0003	1.3	0.0000	0.0081	0.0000						0.0000	
Nitrogen	28.01	0.9672	0.0	0.0164	13.443	0.0700	0.0677	0.0	0.0011	1.2607	0.0717				0.9717		0.0717	0.9676
Oxygen	32.00	1.1053	0.0		11.819	0.0090	0.0089	0.0	0.0000	0.2880	0.0105			0.0105			0.0105	0.1214
Carbon Monoxide	28.01	0.9671	324.3	0.0217	13.506	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000
Carbon Dioxide‡	44.01	1.5194	0.0	0.0540	8.548	0.3720	0.3692	0.0	0.0238	16.3717	0.5985	0.1633	0.0000	0.4352			0.5985	5.1160
Methane	16.04	0.5539	1012.0	0.0436	23.565	0.5440	0.5612	550.5	0.0237	8.7258	0.3150	0.2368	0.0000				0.3150	7.5170
Ethane	30.07	1.0182	1372.9	0.0947	12.455	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Propane	44.09	1.5224	2523.0	0.1342	8.365	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isobutane	58.12	2.0907	3260.1	0.1744	6.321	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Butane	58.12	2.0907	3269.6	0.1825	6.321	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Isopentane	72.14	2.4910	4069.4	0.2276	5.252	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
n-Pentane	72.14	2.4910	4018.5	0.2377	5.252	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Hexanes	86.17	2.9751	4798.0	0.2830	4.398	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000				0.0000	0.0000
Total						0.9990	0.944	551.8	0.0249	27.3542	0.9997	0.4022	0.0802	0.4457	0.0717	0.0000	0.9997	13.72
							SG	Btu/ft³	ΣX_gW_g	ΣXiMMW		40.23%	8.02%	44.58%	7.17%	0.00%		ft³/lb

‡ Omitted from Compressibility Factor Calculation

Calculated Specific Gravity (SG) $(SG = 1.600 @ 760mm Hg, 60°F)$

0.944

Compressibility Factor (Z)

0.9994

$$Z = 1 - \left(\sum X_g V_{b,g} \right)^2 - \left(\sum X_g V_{b,g} \right) \left(\sum X_g V_{b,g} \right) + 0.0005$$

Specific Gravity (corrected)

0.945

Specific Volume, (SV) ft³/lb

13.72

ft³/lb

Gross Calorific Value (GCV) @ 60°F

552.2

Btu/ft³ Gross

Gross Calorific Value (GCV) @ 68°F

543.8

Btu/ft³ Gross

Gross Calorific Value (GCV)

7,576

Btu/lb

$$Btu/lb = Btu/ft^3 \times ft^3/lb$$

Gas Fd-Factor @ 68°F

9,403

DSCF/MMBtu

$$DSCF/MMBtu = 10^{-6} \times (3.61 \times 10^6 H_2 + 1.1 \times 10^6 CH_4 + 0.37 \times 10^6 C_2H_6 + 0.11 \times 10^6 C_3H_8 + 0.16 \times 10^6 C_4H_{10} + 0.16 \times 10^6 C_5H_{12} + 0.16 \times 10^6 C_6H_{14}) / Btu/lb$$

Gas Fd-Factor @ 60°F

9,260

DSCF/MMBtu

STACK GAS FLOW RATE DETERMINATION -- Method 19

Facility: Abramont Landfill
 Unit: Flare A-15
 Condition: 1650°F - Condensate On
 Date: 07/30/08

	Time: Run:	0900-0930	0950-1020	1028-1058	
		Run 1A	Run 2A	Run 3A	
# cubic feet/rev		1,234	1,278	1,271	ft ³
# of seconds/rev		60	60	60	seconds
Gas Line Pressure (PSIG)		0.0	0.0	0.0	PSI Gauge
Gas Line Pressure (PSIA)		14.7	14.7	14.7	PSI Absolute
Gross Calorific Value (@ 60°F)	avg	547.1	551.5	552.2	Btu / ft ³
Stack Oxygen		11.4	12.2	12.3	%
Gas Fd-Factor (@ 60°F)	avg	9,266.5	9,258.7	9,260.3	DSCF/MMBtu
Gas Temperature (°F)		70	70	70	°F
Standard Temperature (°F) Tstd		70	70	70	°F
Realtime Fuel Rate (CFM)		1234.0	1278.0	1271.0	CFM
Corrected Fuel Rate (SCFM) @ Tstd		1234.0	1278.0	1271.0	SCFM
Fuel Flowrate (SCFH)		74,040	76,680	76,260	SCFH
Million Btu per minute		0.662	0.691	0.689	MMBtu/min
Heat Input (MMBtu/hour)		39.7	41.5	41.3	MMBtu/Hr
Stack Gas Flow Rate @ Tstd		13,749	15,681	15,780	DSCFM

WHERE:

Gas Fd-Factor = Fuel conversion factor (ratio of combustion gas volumes to heat inputs)
 MMBtu = Million Btu

CALCULATIONS:

$$\text{SCFM} = \text{CFM} * (460 + \text{Tstd}) * (\text{PSIA}) / 14.7 / (460 + \text{Gas}^{\circ}\text{F})$$

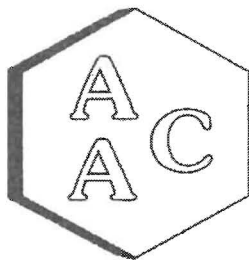
$$\text{SCFH} = \text{SCFM} * 60$$

$$\text{MMBtu/min} = \text{SCFM} * (\text{Btu/ft}^3) * (520 / (460 + \text{Tstd})) / 1,000,000$$

$$\text{MMBtu/hr Heat Input} = \text{MMBtu/min} * 60$$

$$\text{DSCFM} = \text{Gas Fd-Factor} * ((460 + \text{Tstd}) / 520) * \text{MMBtu/min} * 20.9 / (20.9 - \text{O}_2\%)$$

C
Laboratory Reports



Atmospheric Analysis & Consulting, Inc.

CLIENT : Blue Sky Environmental, LLC
PROJECT NAME : Altamont
AAC PROJECT NO. : 080498
REPORT DATE : 08/15/2008

On July 31, 2008, Atmospheric Analysis & Consulting, Inc. received six (6) Tedlar Bags for non-methane organic compounds analysis by EPA 25C, and ASTM D-1945 which includes: Fixed Gases analysis by EPA 3C and hydrocarbon analysis by EPA 18, additionally, three (3) of the bags were also analyzed for Total Reduced Sulfurs by ASTM D-5504. Upon receipt the samples were assigned unique Laboratory ID numbers as follows:

Client ID	Lab No.
LFG-1A	080498-34404
LFG-2A	080498-34405
LFG-3A	080498-34406
LFG-1B	080498-34407
LFG-2B	080498-34408
LFG-3B	080498-34409

EPA 3C - An aliquot of the gaseous sample is injected into the GC/TCD for analysis following EPA 3C 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.

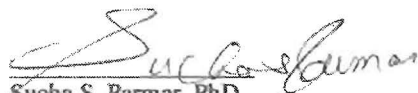
ASTM D-5504 - Up to a 1mL aliquot of sample is injected into the GC/SCD for analysis following ASTM D-5504 as specified in the SOW.

EPA 25C Analysis - Up to a 1 mL aliquot of samples is injected into the GC/FID/TCA for analysis following EPA 25C as specified in the SOW.

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

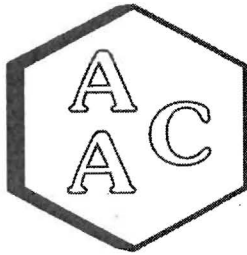
I certify that this data is technically accurate, complete, and in compliance with the terms and conditions of the contract. Release of the data contained in this hardcopy data package and its electronic data deliverable submitted on diskette has been authorized by the Laboratory Director or his designee,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

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


Sucha S. Parmar, PhD
Technical Director

This report consists of 18 pages.





Atmospheric Analysis & Consulting, Inc.

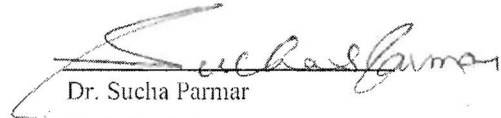
Laboratory Analysis Report

Client: Blue Sky Environmental
Project No. 080498
Matrix Air
Units %

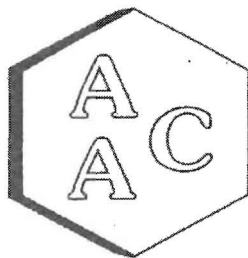
Sampling Date 07/30/2008
Receiving Date 07/31/2008
Analysis Date 07/31-08/04/2008
Report Date 08/15/2008

EPA Method 3C

Detection Limit: 0.1 %			Analyte				
Client ID	AAC ID	Hydrogen	Oxygen	Nitrogen	CO	Methane	CO2
LFG-1A	080498-34404	0.4	1.1	7.8	<PQL	53.9	36.6
LFG-2A	080498-34405	0.5	0.9	7.1	<PQL	54.3	37.2
LFG-3A	080498-34406	0.4	0.9	7.0	<PQL	54.4	37.2
LFG-1B	080498-34407	0.5	0.8	6.9	<PQL	54.4	37.3
LFG-2B	080498-34408	0.4	0.9	7.0	<PQL	54.4	37.2
LFG-3B	080498-34409	0.4	0.8	6.9	<PQL	54.6	37.2


Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

LABORATORY ANALYSIS REPORT

CLIENT	Blue Sky Environmental	SAMPLING DATE	07/30/2008
PROJECT NO.	080498	RECEIVING DATE	07/31/2008
MATRIX	AIR	ANALYSIS DATE	07/31-08/04/2008
UNITS	PPMV	REPORT DATE	08/15/2008

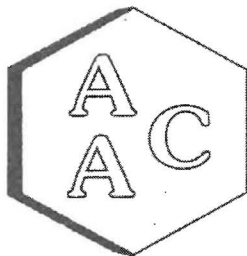
Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	LFG-1A		PQL (RLxDF's)	LFG-2A		PQL (RLxDF' s)	Reporting Limit
AAC ID	080498-34404			080498-34405			
Can Dilution Factor	1.0			1.0			
Analyte	Result	Dil. Fac.		Result	Dil. Fac.		
H ₂ S <i>200</i>	126.6	2000	20.00	133.7	2000	20.00	0.01
Carbonyl Sulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
SO2	<PQL	100	1.00	<PQL	100	1.00	0.01
Methyl Mercaptan	3.66	100	1.00	3.16	100	1.00	0.01
Ethyl Mercaptan	<PQL	100	1.00	<PQL	100	1.00	0.01
Dimethyl Sulfide	5.38	100	1.00	5.74	100	1.00	0.01
n-Butyl mercaptan	<PQL	100	1.00	<PQL	100	1.00	0.01
Carbon Disulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Allyl Sulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Propyl Sulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Allyl disulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Isopropyl Mercaptan	<PQL	100	1.00	<PQL	100	1.00	0.01
t-Butyl Mercaptan	<PQL	100	1.00	<PQL	100	1.00	0.01
Propyl Mercaptan	<PQL	100	1.00	<PQL	100	1.00	0.01
Butyl Sulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Ethyl Methyl Sulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Thiophene	<PQL	100	1.00	<PQL	100	1.00	0.01
Isobutyl Mercaptan	<PQL	100	1.00	<PQL	100	1.00	0.01
Dimethyl Disulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Allyl Mercaptan	<PQL	100	1.00	<PQL	100	1.00	0.01
3-Methylthiophene	<PQL	100	1.00	<PQL	100	1.00	0.01
Tetrahydrothiophene	<PQL	100	1.00	<PQL	100	1.00	0.01
Diethyl Sulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
2-Ethylthiophene	<PQL	100	1.00	<PQL	100	1.00	0.01
2,5-Dimethylthiophene	<PQL	100	1.00	<PQL	100	1.00	0.01
Diethyl disulfide	<PQL	100	1.00	<PQL	100	1.00	0.01
Total Unidentified Sulfurs as H ₂ S	<PQL		1.00	<PQL		1.00	0.01
Total Reduced Sulfurs as H ₂ S	135.6			142.6			0.01

All compound's concentrations expressed in terms of H₂S.

Dr. Sucha Parmar
Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

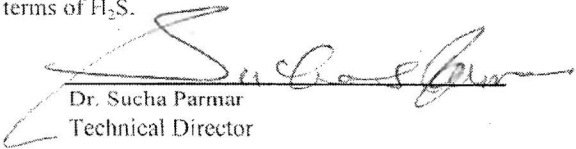
LABORATORY ANALYSIS REPORT

CLIENT	Blue Sky Environmental	SAMPLING DATE	07/30/2008
PROJECT NO.	080498	RECEIVING DATE	07/31/2008
MATRIX	AIR	ANALYSIS DATE	07/31-08/04/2008
UNITS	PPMV	REPORT DATE	08/15/2008

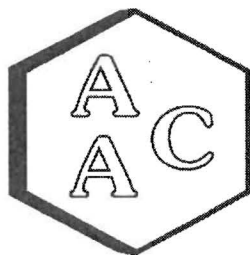
Total Reduced Sulfur Compounds Analysis by ASTM D-5504

Client ID	LFG-2B		PQL (RLxDF's)	Reporting Limit
AAC ID	080498-34408			
Can Dilution Factor	1.0			
Analyte	Result	Dil. Fac.		
H ₂ S <i>200</i>	129.2	2000	20.00	0.01
Carbonyl Sulfide	<PQL	100	1.00	0.01
SO2	<PQL	100	1.00	0.01
Methyl Mercaptan	3.01	100	1.00	0.01
Ethyl Mercaptan	<PQL	100	1.00	0.01
Dimethyl Sulfide	5.95	100	1.00	0.01
n-Butyl mercaptan	<PQL	100	1.00	0.01
Carbon Disulfide	<PQL	100	1.00	0.01
Allyl Sulfide	<PQL	100	1.00	0.01
Propyl Sulfide	<PQL	100	1.00	0.01
Allyl disulfide	<PQL	100	1.00	0.01
Isopropyl Mercaptan	<PQL	100	1.00	0.01
t-Butyl Mercaptan	<PQL	100	1.00	0.01
Propyl Mercaptan	<PQL	100	1.00	0.01
Butyl Sulfide	<PQL	100	1.00	0.01
Ethyl Methyl Sulfide	<PQL	100	1.00	0.01
Thiophene	<PQL	100	1.00	0.01
Isobutyl Mercaptan	<PQL	100	1.00	0.01
Dimethyl Disulfide	<PQL	100	1.00	0.01
Allyl Mercaptan	<PQL	100	1.00	0.01
3-Methylthiophene	<PQL	100	1.00	0.01
Tetrahydrothiophene	<PQL	100	1.00	0.01
Diethyl Sulfide	<PQL	100	1.00	0.01
2-Ethylthiophene	<PQL	100	1.00	0.01
2,5-Dimethylthiophene	<PQL	100	1.00	0.01
Diethyl disulfide	<PQL	100	1.00	0.01
Total Unidentified Sulfurs as H ₂ S	<PQL		1.00	0.01
Total Reduced Sulfurs as H ₂ S	138.2			0.01

All compound's concentrations expressed in terms of H₂S.


Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

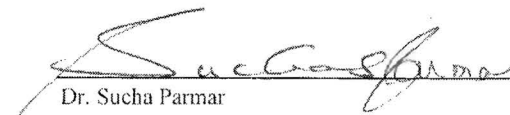
Client Blue Sky Environmental
Project No. 080498
Matrix AIR
Units ppmV

Sampling Date 07/30/2008
Receiving Date 07/31/2008
Analysis Date 07/31-08/04/2008
Report Date 08/15/2008

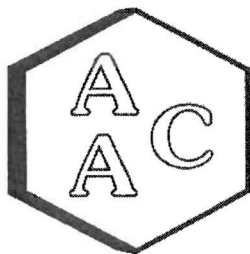
EPA Method 25C

Detection Limit:		1.0 ppmv
Client Sample ID	AAC ID	NMHC**
LFG-1A	080498-34404	4799
LFG-2A	080498-34405	4485
LFG-3A	080498-34406	5073
LFG-1B	080498-34407	5029
LFG-2B	080498-34408	5068
LFG-3B	080498-34409	4362

**Non-Methane Hydrocarbons as Methane


Dr. Sucha Parnar
Technical Director





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT: Blue Sky Environmental
PROJECT NO. 080498
MATRIX AIR
UNITS ppmV

Sampling Date 07/30/2008
Receiving Date 07/31/2008
Analysis Date 07/31-08/04/2008
Report Date 08/15/2008

C1 to C6+ Hydrocarbons by EPA Method 18

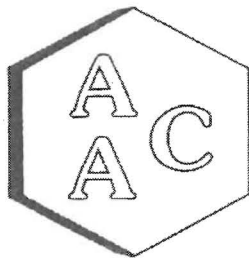
Client ID	AAC ID	ANALYSIS METHOD		EPA Method 18				
		Detection Limit		0.3 ppmv				
		C1 *	C2 **	C3	C4	C5	C6	C6+
LFG-1A	080498-34404	NA	<30	29.6	31.8	244	221	531
LFG-2A	080498-34405	NA	<30	21.6	32.4	257	239	510
LFG-3A	080498-34406	NA	<30	26.4	33.0	268	251	537
LFG-1B	080498-34407	NA	<30	29.3	33.6	272	251	570
LFG-2B	080498-34408	NA	<30	22.1	33.5	275	256	546
LFG-3B	080498-34409	NA	<30	32.0	33.3	273	251	575

*C1 reported off of the EPA 3C report

**Due to the extremely high C1 concentration, the C2 concentration could not be measured below this PQL due to matrix interference.


Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/1/2008

Instrument ID: TCD#1

Analyst: DN

Units: %

I - Method Blank-EPA Method 3C

AAC ID	Analyte	MB Concentration
Method Blank	Hydrogen	ND
	Oxygen	ND
	Nitrogen	ND
	CO	ND
	Methane	ND
	CO2	ND

II-Laboratory Control Spike & Duplicate - EPA Method 3C

AAC ID	Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec *	LCSD % Rec *	% RPD***
Lab. Control Standards	Hydrogen	20.0	20.9	20.8	105	104	0.6
	Nitrogen	20.0	20.0	20.1	100	100	0.2
	CO	20.0	20.2	20.1	101	101	0.2
	Methane	20.0	20.1	20.0	100	100	0.3
	CO2	20.0	20.1	20.1	101	100	0.3

	Analyte	Sample Concentration	Duplicate Concentration	Mean	% RPD***
080496-34376	Hydrogen	0.00	0.00	0.0	0.0
	Oxygen	0.40	0.40	0.4	0.8
	Nitrogen	1.71	1.71	1.7	0.2
	CO	0.00	0.00	0.0	0.0
	Methane	29.48	29.46	29.5	0.1
	CO2	22.63	22.65	22.6	0.1

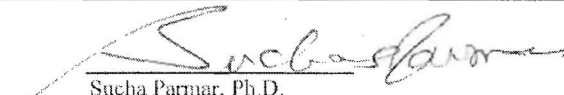
IV-Matrix Spike & Duplicate- EPA Method 3C

AAC ID	Analyte	Sample Concentration	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD***
080496-34376	Hydrogen	0.00	10.0	9.89	9.90	99	99	0.1
	Nitrogen	0.86	10.0	11.53	11.20	107	103	3.2
	CO	0.00	10.0	10.51	10.51	105	105	0.0
	Methane	14.74	10.0	24.51	24.65	98	99	1.4
	CO2	11.32	10.0	21.21	21.33	99	100	1.2

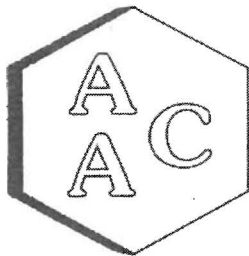
* Must be 85-115%

** Must be 75-125%

*** Must be < 25%


Sucha Parmar, Ph.D.
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/1/2008

Instrument ID: TCD#1

Analyst: DN

Calb Date: 04/03/08

Opening Calibration Verification Standard

Analyte	xLR**	LR	%RPD*
Hydrogen	1869	1991	6.4
Oxygen***	49346	50680	2.7
Nitrogen	59197	58915	0.5
Carbon Monoxide	57917	58736	1.4
Methane	48425	49028	1.2
Carbon Dioxide	77691	78817	1.4

Closing Calibration Verification Standard

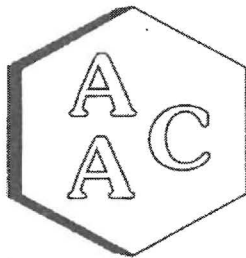
Analyte	xLR**	LR	%RPD*
Hydrogen	1869	1960	4.8
Nitrogen	59197	57950	2.1
Carbon Monoxide	57917	58323	0.7
Methane	48425	48533	0.2
Carbon Dioxide	77691	78639	1.2

* Must be <15%

** Linear Response Factor from Initial Calibration Curve

*** Oxygen from Lab Air





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/4/2008

Instrument ID: TCD#1

Analyst: DN

Units: %

I - Method Blank-EPA Method 3C

AAC ID	Analyte	MB Concentration
Method Blank	Hydrogen	ND
	Oxygen	ND
	Nitrogen	ND
	CO	ND
	Methane	ND
	CO2	ND

II-Laboratory Control Spike & Duplicate - EPA Method 3C

AAC ID	Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec *	LCSD % Rec *	% RPD***
Lab Control Standards	Hydrogen	20.0	20.8	20.7	104	104	0.4
	Nitrogen	20.0	20.0	20.0	100	100	0.2
	CO	20.0	20.1	20.1	101	100	0.1
	Methane	20.0	20.0	20.0	100	100	0.1
	CO2	20.0	20.0	20.0	100	100	0.2

	Analyte	Sample Concentration	Duplicate Concentration	Mean	% RPD***
080484-34221	Hydrogen	0.11	0.12	0.1	1.7
	Oxygen	7.87	7.80	7.8	0.9
	Nitrogen	28.61	28.50	28.6	0.4
	CO	0.04	0.05	0.0	4.5
	Methane	0.07	0.07	0.1	1.4
	CO2	2.70	2.70	2.7	0.0

IV-Matrix Spike & Duplicate- EPA Method 3C

AAC ID	Analyte	Sample Concentration	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD***
080484-34221	Hydrogen	0.06	10.0	9.88	9.82	98	98	0.6
	Nitrogen	14.31	10.0	25.84	25.65	115	113	1.7
	CO	0.02	10.0	10.51	10.43	105	104	0.8
	Methane	0.04	10.0	10.40	10.32	104	103	0.8
	CO2	1.35	10.0	11.61	11.56	103	102	0.5

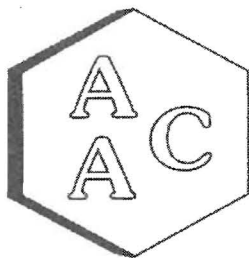
* Must be 85-115%

** Must be 75-125%

*** Must be < 25%

Sucha Parmar
Sucha Parmar, Ph.D.
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/4/2008

Instrument ID: TCD#1

Analyst: DN

Calb Date: 04/03/08

Opening Calibration Verification Standard

Analyte	xLR**	LR	%RPD*
Hydrogen	1869	1958	4.6
Oxygen***	49346	51009	3.3
Nitrogen	59197	58748	0.8
Carbon Monoxide	57917	58463	0.9
Methane	48425	48616	0.4
Carbon Dioxide	77691	78219	0.7

Closing Calibration Verification Standard

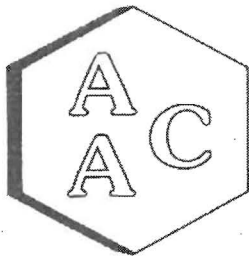
Analyte	xLR**	LR	%RPD*
Hydrogen	1869	1935	3.5
Nitrogen	59197	59060	0.2
Carbon Monoxide	57917	57703	0.4
Methane	48425	48299	0.3
Carbon Dioxide	77691	77106	0.8

* Must be <15%

** Linear Response Factor from Initial Calibration Curve

*** Oxygen from Lab Air





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 07/31/2008
Analyst: DN

Instrument ID: SCD#2
Units: PPMV

I - Method Blank - ASTM D-5504

AAC ID	Analyte	MB Conc.
Method Blank	H2S	ND

II-Laboratory Control Spike & Duplicate - ASTM D-5504

Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec *	LCSD % Rec *	% RPD***
H2S	0.050	0.050	0.049	100.0	98.0	2.0

III-Matrix Spike & Duplicate - ASTM D-5504

Sample ID Lab Air

Analyte	Sample Concentration	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD***
H2S	0.000	0.050	0.050	0.050	100	100	0.0

IV - Duplicate Analysis - ASTM D-5504

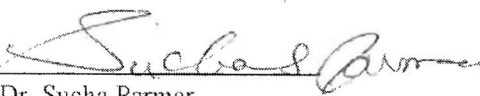
Sample ID 080498-334408

Analyte	Sample Concentration	Duplicate Concentration	Mean	% RPD***
H2S	0.067	0.062	0.065	7.0

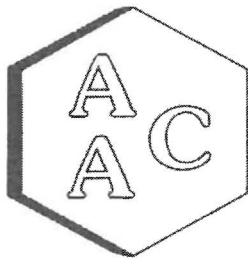
* Must be 90-110%

** Must be 85-115%

*** Must be < 10%


Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 7/31/2008
Analyst: DN
Calibration Date: 7/29/2008

Instrument ID: SCD#2
Units: PPMV

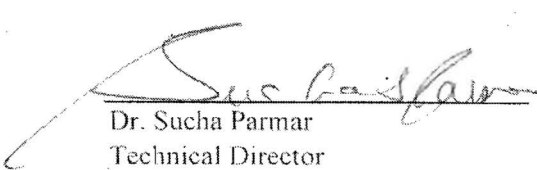
Opening Calibration Verification Standards

Analyte	Std. Conc.	Result	%Recovery*
H2S	0.050	0.050	100

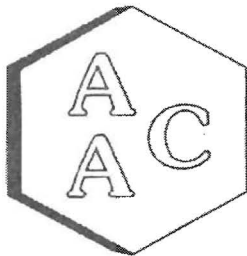
Closing Calibration Verification Standard

Analyte	Std. Conc.	Result	%Recovery*
H2S	0.050	0.050	100

* Must be 90-110%


Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/1/2008

Analyst: DN

Instrument ID: FID#3

Units: PPMV

I - Method Blank-EPA Method 18

AAC ID	Analyte	MB Concentration
Method Blank	Methane	ND
	Ethane	ND
	Propane	ND
	Butane	ND
	Pentane	ND
	Hexane	ND

II-Laboratory Control Spike & Duplicate - EPA Method 18

AAC ID	Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec *	LCSD % Rec *	% RPD***
Lab Control Standards	Methane	100.4	101.4	100.1	101.0	99.7	1.3
	Ethane	100.2	100.7	100.2	100.5	100.0	0.5
	Propane	100.2	100.3	100.0	100.1	99.8	0.2
	Butane	100.4	100.8	101.1	100.4	100.7	0.3
	Pentane	100.0	101.0	101.8	101.0	101.8	0.8
	Hexane	99.4	95.1	96.9	95.6	97.5	1.9

III - Duplicate Analysis - EPA Method 18

AAC ID	Analyte	Sample Concentration	Duplicate Concentration	Mean	% RPD***
080498-34404	Methane	N/A	N/A	N/A	N/A
	Ethane	0.00	0.00	0.0	0.0
	Propane	19.24	22.01	20.6	13.4
	Butane	8.59	8.72	8.7	1.4
	Pentane	4.18	4.18	4.2	0.2
	Hexane	9.93	9.78	9.9	1.5

IV-Matrix Spike & Duplicate- EPA Method 18

AAC ID	Analyte	Sample Concentration	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD***
080498-34404	Methane	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Ethane	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Propane	9.6	50.0	59.0	59.7	99	100	1.4
	Butane	4.3	50.0	57.5	56.4	106	104	2.2
	Pentane	2.1	50.0	56.6	55.9	109	108	1.3
	Hexane	5.0	50.0	59.7	56.3	109	103	6.4

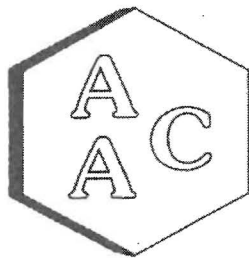
* Must be 85-115%

** Must be 75-125%

*** Must be < 25%

Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/1/2008

Instrument ID: FID#3

Analyst: DN

Calibration Date: 04/18/2008

Opening Calibration Verification Standard

Analyte	xCF**	CF	%RPD*
C1	671	669	0.4
C2	1308	1336	2.1
C3	2018	2023	0.3
C4	2610	2681	2.7
C5	3155	3281	3.9
C6	3632	3649	0.5

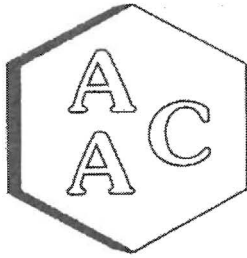
Closing Calibration Verification Standard

Analyte	xCF**	CF	%RPD*
C1	671	708	5.3
C2	1308	1387	5.9
C3	2018	2082	3.2
C4	2610	2713	3.9
C5	3155	3307	4.7
C6	3632	3663	0.9

* Must be <15%

** Average Calibration Factor from Initial Calibration Curve





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/4/2008
Analyst: DN

Instrument ID: FID#3
Units: PPMV

I - Method Blank-EPA Method 18

AAC ID	Analyte	MB Concentration
Method Blank	Methane	ND
	Ethane	ND
	Propane	ND
	Butane	ND
	Pentane	ND
	Hexane	ND

II-Laboratory Control Spike & Duplicate - EPA Method 18

AAC ID	Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec *	LCSD % Rec *	% RPD***
Lab Control Standards	Methane	100.4	100.0	102.0	99.6	101.6	1.9
	Ethane	100.2	102.5	103.5	102.3	103.3	1.0
	Propane	100.2	101.6	101.5	101.4	101.3	0.1
	Butane	100.4	103.2	103.0	102.8	102.6	0.2
	Pentane	100.0	104.2	102.8	104.2	102.8	1.4
	Hexane	99.4	99.5	97.3	100.1	97.9	2.3

III - Duplicate Analysis - EPA Method 18

AAC ID	Analyte	Sample Concentration	Duplicate Concentration	Mean	% RPD***
080498-34404 (100x)	Methane	N/A	N/A	N/A	N/A
	Ethane	0.00	0.00	0.0	0.0
	Propane	0.00	0.00	0.0	0.0
	Butane	0.00	0.00	0.0	0.0
	Pentane	0.00	0.00	0.0	0.0
	Hexane	0.00	0.00	0.0	0.0

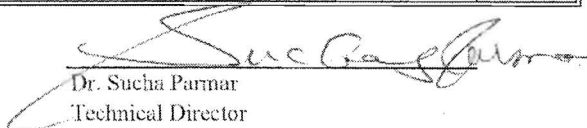
IV-Matrix Spike & Duplicate- EPA Method 18

AAC ID	Analyte	Sample Concentration	Spike Added	MS Result	MSD Result	MS % Rec **	MSD % Rec **	% RPD***
080498-34404 (100x)	Methane	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Ethane	0.0	50.0	51.1	49.9	102	100	2.3
	Propane	0.0	50.0	50.5	50.6	101	101	0.1
	Butane	0.0	50.0	50.8	50.8	102	102	0.1
	Pentane	0.0	50.0	50.6	50.9	101	102	0.5
	Hexane	0.0	50.0	46.3	47.4	93	95	2.5

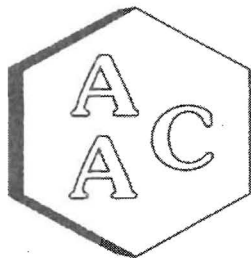
* Must be 85-115%

** Must be 75-125%

*** Must be < 25%


Dr. Sucha Parmar
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Date Analyzed: 8/4/2008

Instrument ID: FID#3

Analyst: DN

Calibration Date: 04/18/2008

Opening Calibration Verification Standard

Analyte	xCF**	CF	%RPD*
C1	671	688	2.5
C2	1308	1355	3.6
C3	2018	2019	0.0
C4	2610	2663	2.0
C5	3155	3262	3.4
C6	3632	3601	0.8

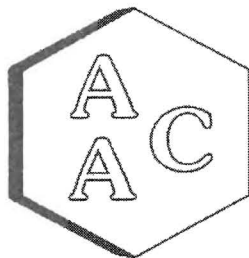
Closing Calibration Verification Standard

Analyte	xCF**	CF	%RPD*
C1	671	676	0.6
C2	1308	1329	1.6
C3	2018	2016	0.1
C4	2610	2653	1.7
C5	3155	3230	2.3
C6	3632	3523	3.0

* Must be <15%

** Average Calibration Factor from Initial Calibration Curve





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

Analysis Date: 8/1/2008

Analyst: DN

Units: ppmv

Instrument ID: FID#9

Calibration Date: 1/18/2008

I - Opening Calibration Verification Standard - Method 25C

Analyte	xCF	dCF	%RPD*
CO	11713	11129	5.1
CH4	11996	12021	0.2
CO2	11842	11303	4.7
Propane	33025	31130	5.9

II - Method Blank - Method 25C

AAC ID	Analyte	Sample Result
MB	NMEHC	ND

III - Laboratory Control Spike & Duplicate - Method 25C

AAC ID	Analyte	Spike Added	LCS Result	LCSD Result	LCS % Rec **	LCSD % Rec **	% RPD***
LCS/LCSD	NMEHC	50.0	46.2	48.0	92.4	96.0	3.8

IV - Closing Calibration Verification Standard - Method 25C

Analyte	xCF	dCF	%RPD*
CO	11713	9969	16.1
CH4	11996	12618	5.1
CO2	11842	12396	4.6
Propane	33025	33002	0.1

xCF - Average Calibration Factor from Initial Calibration Curve

dCF - Daily Calibration Factor

* Must be <15%

** Must be 90-110 %

*** Must be <20%


Dr. Sucha Parmar,

Technical Director





BLUE SKY ENVIRONMENTAL, LLC

624 San Gabriel Avenue

Albany, CA 94706

510.525.1261 ph/fax

Contact: Guy Worthington 510.528.3469

E-Mail: blueskyenvironmental@yahoo.com

LAB: AAC

ADDRESS: 5504 Eastman Ave Suite A

Ventura, CA 93003

ph/fax

Contact:

Page 1 of 1

AL # 080499

CHAIN OF CUSTODY RECORD

Analysis Requested

Project Name:

ALTAHCOIT

Project #:

SAMPLE
Date

SAMPLE
Time

Sample ID (Method-Run-Fraction)

Type/Size of container

25C

ASTM 1945

ASTM 5504

TO-15

LFG-1A

LFG-2A

LFG-3A

LFG-1B

LFG-2B

LFG-3B

✓

✓

✓

✓

✓

✓

344041

344055

344066

344077

344088

344099

All samples submitted to laboratories for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the sample. Samples should be held for 90+ days. The laboratory reserves the right to return unused sample portions.

COMMENTS:

Relinquished by:

Date:

Time:

Received by:

Date:

Time:

Relinquished by:

Date:

Time:

Received by:

Date:

Time:

Relinquished by:

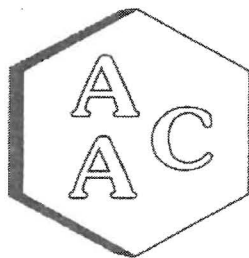
Date:

Time:

Received by:

Date:

Time:



Atmospheric Analysis & Consulting, Inc.

CLIENT : Blue Sky Environmental, LLC
PROJECT NAME : Altamont
AAC PROJECT NO. : 080498
REPORT DATE : 08/01/08

On July 31, 2008, Atmospheric Analysis & Consulting, Inc. received three (3) Tedlar Bags for AP-42 List Volatile Organic Compounds analysis by EPA method TO-15. Upon receipt each sample was assigned a unique Laboratory ID number as follows:

Client ID	Lab ID
LFG-1A	080498-34404
LFG-2A	080498-34405
LFG-2B	080498-34408

TO-15 Analysis - Up to a 500 ml aliquot of sample is concentrated, put through a water and CO₂ management system, cryofocused and injected into the GC/MS (full scan mode) for analysis following EPA Method TO-15 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-TO-15. Estimated uncertainty of the test results will be provided upon request.

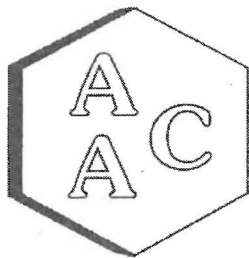
I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized the release of the data contained in this hardcopy data package.

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 11 pages.





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

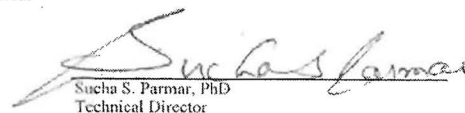
CLIENT : Blue Sky Environmental, LLC
PROJECT NO : 080498
MATRIX : AIR
UNITS : PPB (v/v)

DATE RECEIVED : 07/31/08
DATE REPORTED : 08/01/08

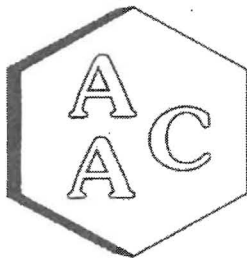
VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID		LFG-1A			Sample Reporting Limit (RLxDf's)	LFG-2A			Sample Reporting Limit (RLxDf's)	Method Reporting Limit
AAC ID		080498-34404				080498-34405				
Date Sampled		7/30/2008				7/30/2008				
Date Analyzed		7/31/2008				7/31/2008				
Conc Dilution Factor		1.00				1.00				
		Result	Qualifier	Dil. Fac.		Result	Qualifier	Dil. Fac.		
Chlorodifluoromethane	1	679		250	250	656		250	250	1.0
Dichlorodifluoromethane	2	1720		250	250	1680		250	250	1.0
Chloromethane	3	ND	U	250	250	ND	U	250	250	1.0
Vinyl Chloride	4	ND	U	250	250	ND	U	250	250	1.0
Chloroethane	5	ND	U	250	250	ND	U	250	250	1.0
Dichlorofluoromethane	6	482		250	250	448		250	250	1.0
Ethanol	7	1010000		50000	100000	1030000		50000	100000	2.0
Acetone	8	22200		2500	5000	22600		2500	5000	2.0
Trichlorofluoromethane	9	ND	U	250	250	ND	U	250	250	1.0
Isopropyl Alcohol	10	56100		2500	5000	56800		2500	5000	2.0
Acrylonitrile	11	ND	U	250	250	ND	U	250	250	1.0
1,1-Dichloroethylene	12	ND	U	250	250	ND	U	250	250	1.0
Methylene Chloride	13	362		250	250	333		250	250	1.0
Carbon Disulfide	14	ND	U	250	250	ND	U	250	250	1.0
1,2-Dichloroethylene	15	ND	U	250	250	ND	U	250	250	1.0
1,1-Dichloroethane	16	ND	U	250	250	ND	U	250	250	1.0
2-Butanone (MEK)	17	43900		2500	2500	43900		2500	2500	1.0
Hexane	18	992		250	250	979		250	250	1.0
Chloroform	19	ND	U	250	250	ND	U	250	250	1.0
1,2-Dichloroethane	20	ND	U	250	250	ND	U	250	250	1.0
1,1,1-Trichloroethane	21	ND	U	250	250	ND	U	250	250	1.0
Benzene	22	1750		250	250	1760		250	250	1.0
Carbon Tetrachloride	23	ND	U	250	250	ND	U	250	250	1.0
1,2-Dichloropropane	24	ND	U	250	250	ND	U	250	250	1.0
Bromodichloromethane	25	ND	U	250	250	ND	U	250	250	1.0
Trichloroethene	26	433		250	250	427		250	250	1.0
4-Methyl-2-Pentanone (MIBK)	27	2500		250	250	2150		250	250	1.0
Toluene	28	19100		2500	2500	19600		2500	2500	1.0
1,2-Dibromoethane	29	ND	U	250	250	ND	U	250	250	1.0
Tetrachloroethylene	30	503		250	250	499		250	250	1.0
Chlorobenzene	31	ND	U	250	250	ND	U	250	250	1.0
Ethylbenzene	32	5560		2500	2500	5630		2500	2500	1.0
m- & p-Xylenes	33	10800		2500	5000	10800		2500	5000	2.0
1,1,2,2-Tetrachloroethane	34	ND	U	250	250	ND	U	250	250	1.0
o-Xylene	35	3200		2500	2500	3240		2500	2500	1.0
1,3-Dichlorobenzene	36	ND	U	250	250	ND	U	250	250	1.0
1,4-Dichlorobenzene	37	553		250	250	553		250	250	1.0
1,2-Dichlorobenzene	38	ND	U	250	250	ND	U	250	250	1.0
BFB-Surrogate Std. % Recovery		101%			99%			70-130%		

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


Sucha S. Parmar, PhD
Technical Director





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

CLIENT : Blue Sky Environmental, LLC DATE RECEIVED : 07/31/08
PROJECT NO : 080498 DATE REPORTED : 08/01/08
MATRIX : AIR
UNITS : PPB (v/v)

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID	LFG-2B			Sample Reporting Limit (RLxDF's)	Method Reporting Limit
AAC ID	080498-34408				
Date Sampled	7/30/2008				
Date Analyzed	7/31/2008				
Can Dilution Factor	1.00				
	Result	Qualifier	Dil. Fac.		
Chlorodifluoromethane	693		250	250	1.0
Dichlorodifluoromethane	1760		250	250	1.0
Chloromethane	ND	U	250	250	1.0
Vinyl Chloride	ND	U	250	250	1.0
Chloroethane	ND	U	250	250	1.0
Dichlorofluoromethane	500		250	250	1.0
Ethanol	1110000		50000	100000	2.0
Acetone	24300		2500	5000	2.0
Trichlorofluoromethane	ND	U	250	250	1.0
Isopropyl Alcohol	66600		2500	5000	2.0
Acrylonitrile	ND	U	250	250	1.0
1,1-Dichloroethene	ND	U	250	250	1.0
Methylene Chloride	367		250	250	1.0
Carbon Disulfide	ND	U	250	250	1.0
1,1,2-Dichloroethene	ND	U	250	250	1.0
1,1-Dichloroethane	ND	U	250	250	1.0
2-Butanone (MEK)	46500		2500	2500	1.0
Hexane	1060		250	250	1.0
Chloroform	ND	U	250	250	1.0
1,2-Dichloroethane	ND	U	250	250	1.0
1,1,1-Trichloroethane	ND	U	250	250	1.0
Benzene	1930		250	250	1.0
Carbon Tetrachloride	ND	U	250	250	1.0
1,2-Dichloropropane	ND	U	250	250	1.0
Bromodichloromethane	ND	U	250	250	1.0
Trichloroethene	452		250	250	1.0
4-Methyl-2-Pentanone (MIBK)	2610		250	250	1.0
Toluene	20600		2500	2500	1.0
1,2-Dibromoethane	ND	U	250	250	1.0
Tetrachloroethene	537		250	250	1.0
Chlorobenzene	ND	U	250	250	1.0
Ethylbenzene	6160		2500	2500	1.0
m- & p-Xylenes	12000		2500	5000	2.0
1,1,2,2-Tetrachloroethane	ND	U	250	250	1.0
o-Xylene	3610		2500	2500	1.0
1,3-Dichlorobenzene	ND	U	250	250	1.0
1,4-Dichlorobenzene	615		250	250	1.0
1,2-Dichlorobenzene	ND	U	250	250	1.0
BFB-Surrogate Std. % Recovery	99%			70-130%	

J - Analyte was detected. However the analyte concentration is an estimated value, which is between the Method

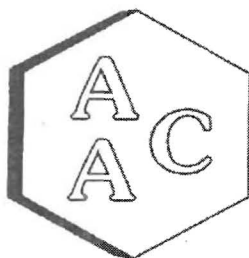
Detection Limit (MDL) and the Reporting Limit (RL)

E - Estimated value, result outside linear range of instrument.

U - Compound was analyzed for, but was not detected

Sucha S. Parinar
Sucha S. Parinar, PhD
Technical Director





Atmospheric Analysis & Consulting, Inc.

ANALYSIS DATE : 07/31/08

INSTRUMENT ID : GC/MS-03

ANALYST : JIG

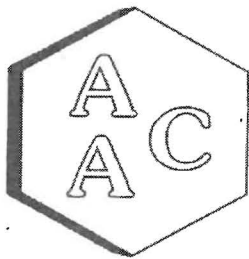
STD ID : PS060208-01

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 07/21/08 Calibration

Compounds	Conc	Daily Conc	%REC
4-BFB (surrogate standard)***	10	9.98	100
Chlorodifluoromethane*	10	9.59	96
Propylene*	10	10.57	106
DiCIDIFMethane*	10	9.82	98
CHLOROMETHANE*	10	8.60	86
1,2 DiCl-1,1,2,2-TetraFEthane*	10	9.06	91
VINYL CHLORIDE*	10	8.79	88
Methanol*	10	9.32	93
1,3-Butadiene*	10	8.75	88
BROMOMETHANE*	10	8.27	83
CHLOROETHANE*	10	8.59	86
Dichlorofluoromethane*	10	8.86	89
Ethanol*	10	9.74	97
Vinyl Bromide*	10	8.81	88
Acetone*	10	9.77	98
TRICHLOROFLUOROMETHANE*	10	9.26	93
Isopropanol*	10	9.08	91
Acrylonitrile*	10	9.63	96
1,1 DICHLOROETHENE*	10	9.36	94
METHYLENE CHLORIDE*	10	8.82	88
Allyl CHLORIDE*	10	8.96	90
Carbon disulfide*	10	9.19	92
1,1,2-TRICHLORO-1,2,2-TRIFLUO	10	9.40	94
trans-1,2- DICHLOROETHYLENE*	10	9.55	96
1,1- DICHLOROETHANE*	10	9.57	96
MTBE*	10	9.60	96
Vinyl Acetate*	10	10.00	100
MEK*	10	9.94	99
cis-1,2- DICHLOROETHYLENE*	10	9.44	94
Hexane*	10	9.44	94
CHLOROFORM*	10	9.57	96
Ethyl Acetate*	10	9.93	99
Tetrahydrofuran*	10	9.23	92
1,2-DICHLOROETHANE*	10	9.84	98
1,1,1-TRICHLOROETHANE*	10	9.68	97





Atmospheric Analysis & Consulting, Inc.

ANALYSIS DATE : 07/31/08

INSTRUMENT ID : GC/MS-03

ANALYST : JIG

STD ID : PS060208-01

VOLATILE ORGANIC COMPOUNDS BY EPA METHOD TO-15

Continuing Calibration Verification of the 07/21/08 Calibration

Compounds	Conc	Daily Conc	%REC
BENZENE**	10	9.25	93
CARBON TETRACHLORIDE**	10	9.30	93
Cyclohexane**	10	9.19	92
1,2-DICHLOROPROPANE**	10	9.29	93
Bromodichloromethane**	10	9.28	93
1,4-Dioxane**	10	9.16	92
TRICHLOROETHENE**	10	9.24	92
2,2,4-Trimethylpentane**	10	9.63	96
Heptane**	10	8.91	89
cis- 1,3 DICHLOROPROPENE**	10	9.48	95
MIBK**	10	8.74	87
trans 1,3 DICHLOROPROPENE**	10	9.64	96
1,1,2-TRICHLOROETHANE**	10	9.32	93
TOLUENE**	10	9.38	94
2-Hexanone**	10	8.95	90
Dibromochloromethane**	10	9.52	95
1,2 DIBROMOETHANE**	10	9.54	95
TETRACHLOROETHYLENE**	10	9.39	94
CHLOROBENZENE***	10	9.43	94
ETHYLBENZENE***	10	9.44	94
m- & p- XYLENES***	20	18.73	94
Bromoform***	10	9.54	95
STYRENE***	10	10.14	101
1,1, 2,2- TETRACHLOROETHANE**	10	9.09	91
o- XYLENE***	10	9.28	93
Ethyltoluene***	10	9.66	97
1,3,5- TRIMETHYLBENZENE***	10	9.58	96
1,2,4- TRIMETHYLBENZENE***	10	9.64	96
Benzyl Chloride***	10	10.03	100
1,3- DICHLOROBENZENE***	10	9.74	97
1,4- DICHLOROBENZENE***	10	9.60	96
1,2-DICHLOROBENZENE***	10	9.74	97
1,2,4-TRICHLOROBENZENE***	10	9.96	100
HEXACHLOROBUTADIENE***	10	9.40	94

* Internal std calculation IS1 : Bromochloromethane

** Internal std calculation IS2 : 1,4-Difluorobenzene

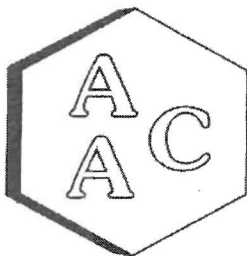
*** Internal std calculation IS3 : Chlorobenzene-d5

%REC should be 70-130%

Sueha S. Parmar, PhD

Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

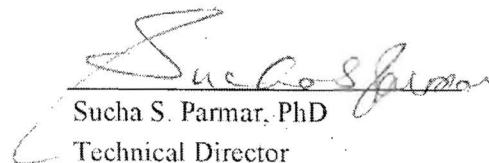
CLIENT ID : Laboratory Control Spike DATE ANALYZED : 07/31/08
AAC ID : LCS/LCSD DATE REPORTED : 07/31/08
MEDIA : Air UNITS : ppbv

TO-15 Laboratory Control Spike Recovery

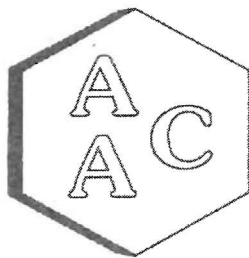
Compound	Sample Conc.	Spike Added	Spike Res	Dup Spike Res	Spike % Rec *	Spike Dup % Rec *	RPD**
I,1-DICHLOROETHYLENE	0.0	10.00	9.36	9.59	94	96	2.4
METHYLENE CHLORIDE	0.0	10.00	8.82	8.92	88	89	1.1
BENZENE	0.0	10.00	9.25	9.23	92	92	0.2
TRICHLOROETHENE	0.0	10.00	9.24	9.26	92	93	0.2
TOLUENE	0.0	10.00	9.38	9.38	94	94	0.0
TETRACHLOROETHYLENE	0.0	10.00	9.39	9.49	94	95	1.1
CHLOROBENZENE	0.0	10.00	9.43	9.46	94	95	0.3
ETHYLBENZENE	0.0	10.00	9.44	9.47	94	95	0.3
m-, & p- XYLENES	0.0	20.00	18.73	18.80	94	94	0.4
o- XYLENE	0.0	10.00	9.28	9.32	93	93	0.4

* Must be 70-130%

** Must be < 25%


Sucha S. Parmar, PhD
Technical Director





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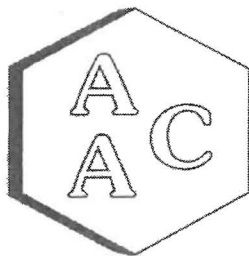
Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 07/31/08
UNITS : ppbv REPORT DATE : 07/31/08

VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Method Blank MB 073108	RL
Chlorodifluoromethane*	<RL	1.0
Propylene*	<RL	1.0
Dichloromethane*	<RL	1.0
CHLOROMETHANE*	<RL	1.0
1,2-Dichloro-1,1,2,2-Tetrafluoroethane*	<RL	1.0
VINYL CHLORIDE*	<RL	1.0
Methanol*	<RL	5.0
1,3-Butadiene*	<RL	1.0
BROMOMETHANE*	<RL	1.0
CHLOROETHANE*	<RL	1.0
Dichlorofluoromethane	<RL	1.0
Ethanol*	<RL	2.0
Vinyl Bromide*	<RL	1.0
Acetone*	<RL	2.0
TRICHLOROFLUOROMETHANE*	<RL	1.0
Isopropyl Alcohol*	<RL	2.0
Acrylonitrile*	<RL	1.0
1,1-DICHLOROETHENE*	<RL	1.0
METHYLENE CHLORIDE*	<RL	1.0
Allyl CHLORIDE*	<RL	1.0
Carbon disulfide*	<RL	1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE*	<RL	1.0
trans-1,2-DICHLOROETHYLENE*	<RL	1.0
1,1-DICHLOROETHANE*	<RL	1.0
MTBE*	<RL	1.0
Vinyl Acetate*	<RL	1.0
MEK*	<RL	1.0
cis-1,2-DICHLOROETHYLENE*	<RL	1.0
Hexane*	<RL	1.0
CHLOROFORM*	<RL	1.0
Ethyl Acetate*	<RL	1.0
Tetrahydrofuran*	<RL	1.0
1,2-DICHLOROETHANE*	<RL	1.0
1,1,1-TRICHLOROETHANE*	<RL	1.0
BENZENE**	<RL	1.0
CARBON TETRACHLORIDE**	<RL	1.0
Cyclohexane**	<RL	1.0
1,2-DICHLOROPROPANE**	<RL	1.0
Bromodichloromethane**	<RL	1.0
1,4-Dioxane**	<RL	1.0
TRICHLOROETHENE**	<RL	1.0
2,2,4-Trimethylpentane**	<RL	1.0
Heptane**	<RL	1.0





Atmospheric Analysis & Consulting, Inc.

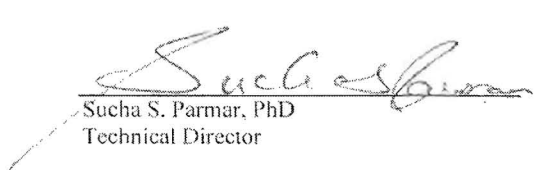
Method Blank Analysis Report

MATRIX : AIR ANALYSIS DATE : 07/31/08
UNITS : ppbv REPORT DATE : 07/31/08

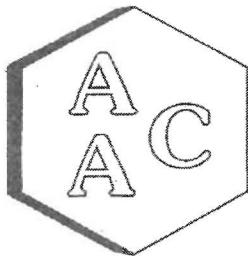
VOLATILE ORGANIC COMPOUNDS BY EPA TO-15

Client ID AAC ID	Method Blank MB 073108	RL
cis- 1,3 DICHLOROPROPENE**	<RL	1.0
MiBK**	<RL	1.0
trans 1,3 DICHLOROPROPENE**	<RL	1.0
1,1,2-TRICHLOROETHANE**	<RL	1.0
TOLUENE**	<RL	1.0
2-Hexanone**	<RL	1.0
Dibromochloromethane**	<RL	1.0
1,2 DIBROMOETHANE**	<RL	1.0
TETRACHLOROETHYLENE**	<RL	1.0
CHLOROBENZENE***	<RL	1.0
ETHYLBENZENE***	<RL	1.0
m-, & p- XYLENES***	<RL	2.0
Bromoform***	<RL	3.0
STYRENE***	<RL	1.0
1,1, 2,2- TETRACHLORETHANE***	<RL	1.0
o- XYLENE***	<RL	1.0
Ethyltoluene***	<RL	1.0
1,3,5- TRIMETHYLBENZENE***	<RL	1.0
1,2,4- TRIMETHYLBENZENE***	<RL	1.0
Benzyl Chloride***	<RL	5.0
1,3- DICHLOROBENZENE***	<RL	1.0
1,4- DICHLOROBENZENE***	<RL	1.0
1,2-DICHLOROBENZENE***	<RL	1.0
1,2,4 TRICHLOROBENZENE***	<RL	1.0
HEXACHLOROBUTADIENE***	<RL	1.0
System Monitoring Compounds		
BFB-Surrogate Std. % Recovery	96%	--

RL - Reporting Limit


Sucha S. Parmar, PhD
Technical Director





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

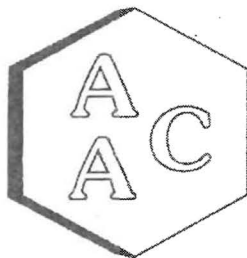
AAC ID : 080498-34404
MATRIX : Air

DATE ANALYZED : 07/31/08
DATE REPORTED : 07/31/08
UNITS : ppbv

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Chlorodifluoromethane*	<RL	<RL	0.0
Propylene*	28900	30000	3.7
Dichloromethane*	<RL	<RL	0.0
CHLOROMETHANE*	<RL	<RL	0.0
1,2-Dichloro-1,1,2,2-Tetrafluoroethane*	<RL	<RL	0.0
VINYL CHLORIDE*	<RL	<RL	0.0
Methanol*	98700	100000	1.3
1,3-Butadiene*	<RL	<RL	0.0
BROMOMETHANE*	<RL	<RL	0.0
CHLOROETHANE*	<RL	<RL	0.0
Dichlorofluoromethane	<RL	<RL	0.0
Ethanol* "E"	606000	621000	2.4
Vinyl Bromide*	<RL	<RL	0.0
Acetone*	22200	23100	4.0
TRICHLOROFLUOROMETHANE*	<RL	<RL	0.0
Isopropyl Alcohol*	56100	57500	2.5
Acrylonitrile*	<RL	<RL	0.0
1,1-DICHLOROETHENE*	<RL	<RL	0.0
METHYLENE CHLORIDE*	<RL	<RL	0.0
Allyl CHLORIDE*	<RL	<RL	0.0
Carbon disulfide*	<RL	<RL	0.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE*	<RL	<RL	0.0
trans-1,2-DICHLOROETHYLENE*	<RL	<RL	0.0
1,1-DICHLOROETHANE*	<RL	<RL	0.0
MTBE*	<RL	<RL	0.0
Vinyl Acetate*	<RL	<RL	0.0
MEK*	43900	44300	0.9
cis-1,2-DICHLOROETHYLENE*	<RL	<RL	0.0
Hexane*	<RL	<RL	0.0
CHLOROFORM*	<RL	<RL	0.0
Ethyl Acetate*	20600	20200	2.0
Tetrahydrofuran*	2780	2830	1.8
1,2-DICHLOROETHANE*	<RL	<RL	0.0
1,1,1-TRICHLOROETHANE*	<RL	<RL	0.0
BENZENE**	<RL	<RL	0.0
CARBON TETRACHLORIDE**	<RL	<RL	0.0





Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report

AAC ID : 080498-34404
MATRIX : Air

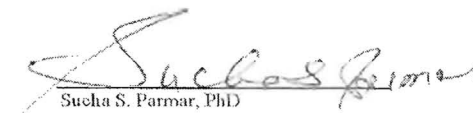
DATE ANALYZED : 07/31/08
DATE REPORTED : 07/31/08
UNITS : ppbv

TO-15 Duplicate Analysis

Compound	Sample Conc	Duplicate Conc	% RPD
Cyclohexane**	<RL	<RL	0.0
1,2-DICHLOROPROPANE**	<RL	<RL	0.0
Bromodichloromethane**	<RL	<RL	0.0
1,4-Dioxane**	<RL	<RL	0.0
TRICHLOROETHENE**	<RL	<RL	0.0
2,2,4-Trimethylpentane**	<RL	<RL	0.0
Heptane**	10800	10500	2.8
cis- 1,3 DICHLOROPROPENE**	<RL	<RL	0.0
MIBK**	2710	2640	2.6
trans 1,3 DICHLOROPROPENE**	<RL	<RL	0.0
1,1,2-TRICHLOROETHANE**	<RL	<RL	0.0
TOLUENE**	19100	19000	0.5
2-Hexanone**	<RL	<RL	0.0
Dibromochloromethane**	<RL	<RL	0.0
1,2 DIBROMOETHANE**	<RL	<RL	0.0
TETRACHLOROETHYLENE**	<RL	<RL	0.0
CHLOROBENZENE***	<RL	<RL	0.0
ETHYLBENZENE***	5560	5510	0.9
m-, & p- XYLENES***	10800	10700	0.9
Bromofom***	<RL	<RL	0.0
STYRENE***	<RL	<RL	0.0
1,1,2,2-TETRACHLOROETHANE***	<RL	<RL	0.0
o- XYLENE***	3200	3170	0.9
Ethyltoluene***	<RL	<RL	0.0
1,3,5- TRIMETHYLBENZENE***	<RL	<RL	0.0
1,2,4- TRIMETHYLBENZENE***	<RL	<RL	0.0
Benzyl Chloride***	<RL	<RL	0.0
1,3- DICHLOROBENZENE***	<RL	<RL	0.0
1,4- DICHLOROBENZENE***	<RL	<RL	0.0
1,2-DICHLOROBENZENE***	<RL	<RL	0.0
1,2,4 TRICHLOROBENZENE***	<RL	<RL	0.0
Hexachlorobutadiene***	<RL	<RL	0.0
System Monitoring Compounds			
BFB-Surrogate Std. % Recovery	97%	97%	0.3

RL - Reporting Limit

"E" - Estimated results are shown for duplicate purposes only.


Sucha S. Parmar, PhD
Technical Director



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LAB: AAC
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ph/fax
Contact:

Page 1 of 1

AAC # 080449

CHAIN OF CUSTODY RECORD

[illegible]

All samples submitted to laboratories for analysis are accepted on a custodial basis only. Ownership of the material remains with the client submitting the sample. Samples should be held for 90+ days. The laboratory reserves the right to return unused sample portions.

COMMENTS:

70-15 AP-42 2.4-1 excl. CO, Acetone, Hg

Relinquished by: <i>W. R. [Signature]</i>	Date:	Time:	Received by: <i>[Signature]</i>	Date: <i>07/31/08</i>	Time: <i>7:40 AM</i>
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

D
Field Data Sheets

CONTINUOUS EMISSION MONITORING SUMMARY DATA SHEET

Facility: Cornstien AltamontTest #: 1-2-3ADate: 7/30/08

Location:

Personnel:

Leak Check:

Stratification Check:

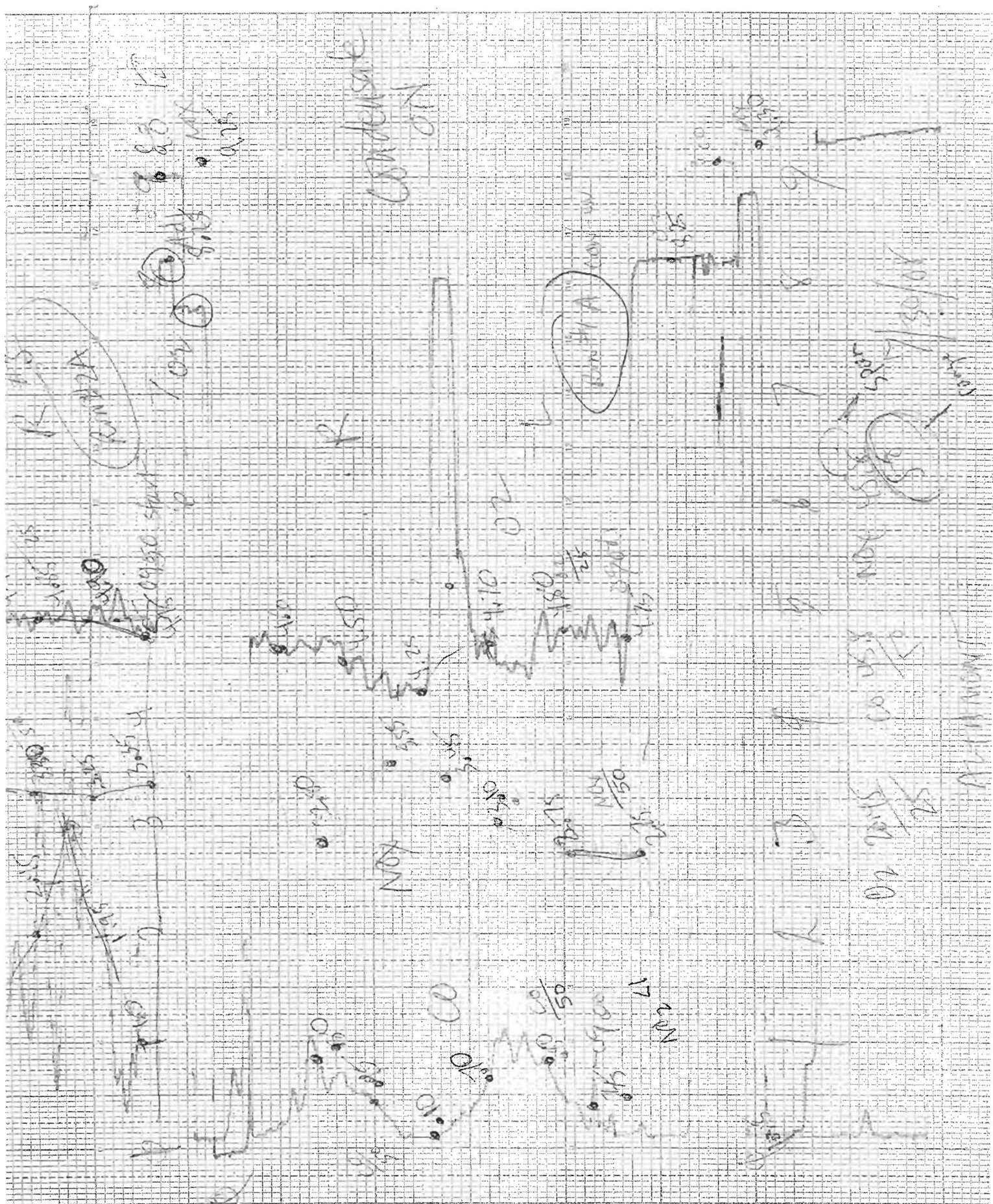
Parameter	O ₂	CO ₂	NOx	CO	THC	CH ₄	SO ₂		Unit Description/Serial #:
Analyzer	755R	PIR 2000	42	48C	RS-55	RS-55			
Range	25	15	50	50	100				Operating Conditions:
Span Value(s)	20.45	12.43	45.5	45.8	84.6				Condensate ON
Span Value(s)									Fuel: LFG
Span Value(s)									
zero	0	0	0	0	0				NOTES:
cal	20.63	12.6	46.5	45.75	85				
1 0900	11.85	7.5	13.75	6.75	0				
+5	17.00	7.35	13.75	4.0	0				
+10	11.75	7.8	15.2	3.5	3				
+15	10.63	8.4	17.25	5.0	0				
+20	11.75	7.65	17.75	7.75	0				
9:30	11.50	7.5	14.00	4.0	0				
AVG	11.49	7.7	15.33	3.8	0.5				
zero	0	0	0	0	0				
cal	20.63	12.9	46.3	45.0	85.5				
2 9:50	12.575	7.65	16.75	5.0	0				
+5	12.25	7.28	16.25	9.75	0				
+10	12.13	7.35	16.50	12.75	0.5				
+15	12.25	7.28	16.75	7.25	1.5				
+20	12.25	7.35	17.00	7.00	1				
10:20	12.00	7.5	16.25	6.25	1				
AVG	12.21	7.4	16.58	7.92	0.5				
zero	-0.125	0	0	0	0				
cal	20.32	12.9	45.5	45.5	86				
3 10:28	12.25	7.35	16.50	11.25	0.5				
+5	12.0	7.43	17.25	9.5	0.5				
+10	12.13	7.5	17.25	6.5	0.5				
+15	12.0	7.5	17.00	6.25	0.5				
+20	12.5	7.5	16.75	5.0	0.5				
10:58	12.0	7.5	16.50	5.25	0.5				
AVG	12.15	7.40	16.88	7.29	0.5				
zero	0	0	0	0	0				
cal	20.13	13.05	44.25	43.25	85.0				

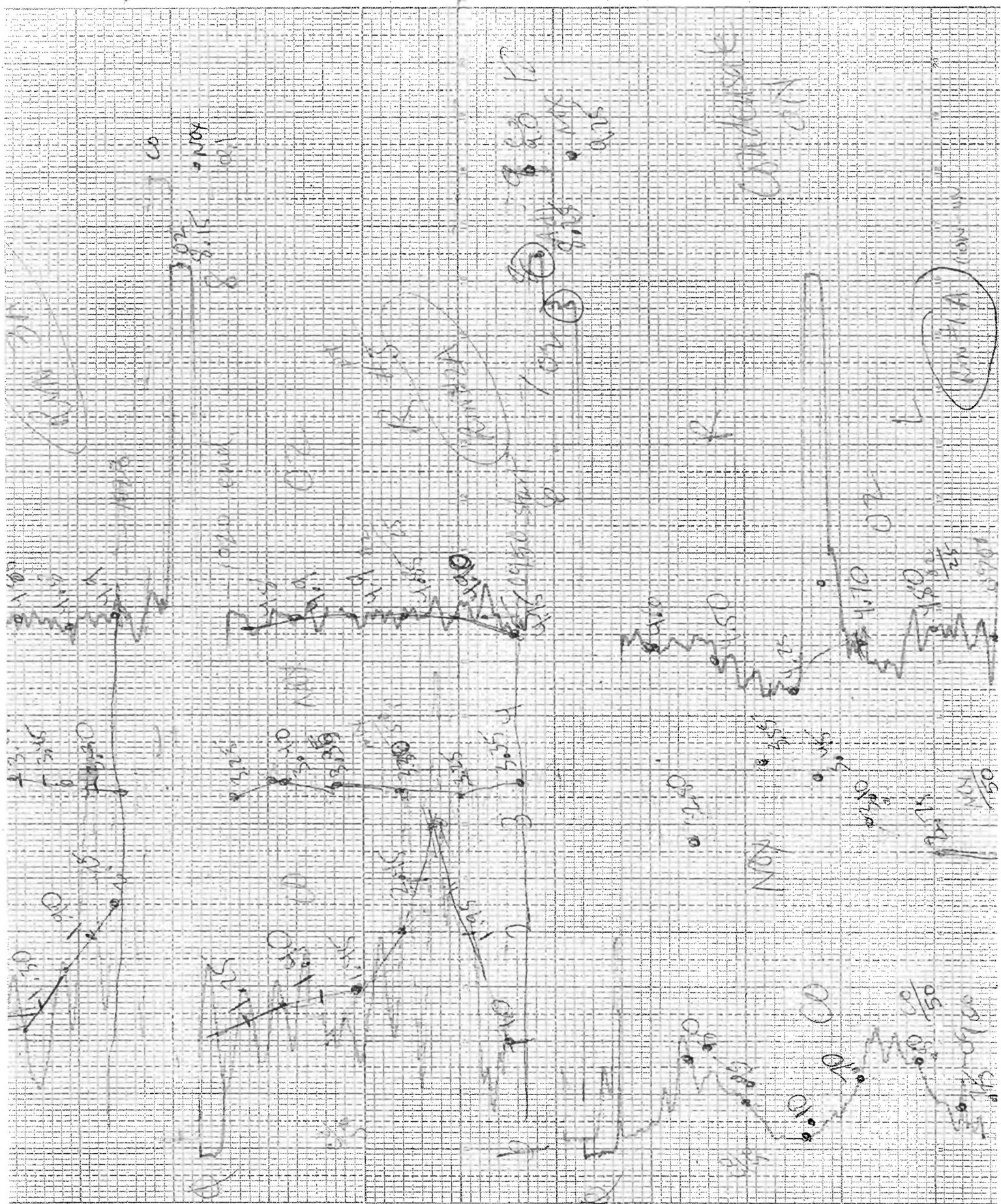
CONTINUOUS EMISSION MONITORING SUMMARY DATA SHEET

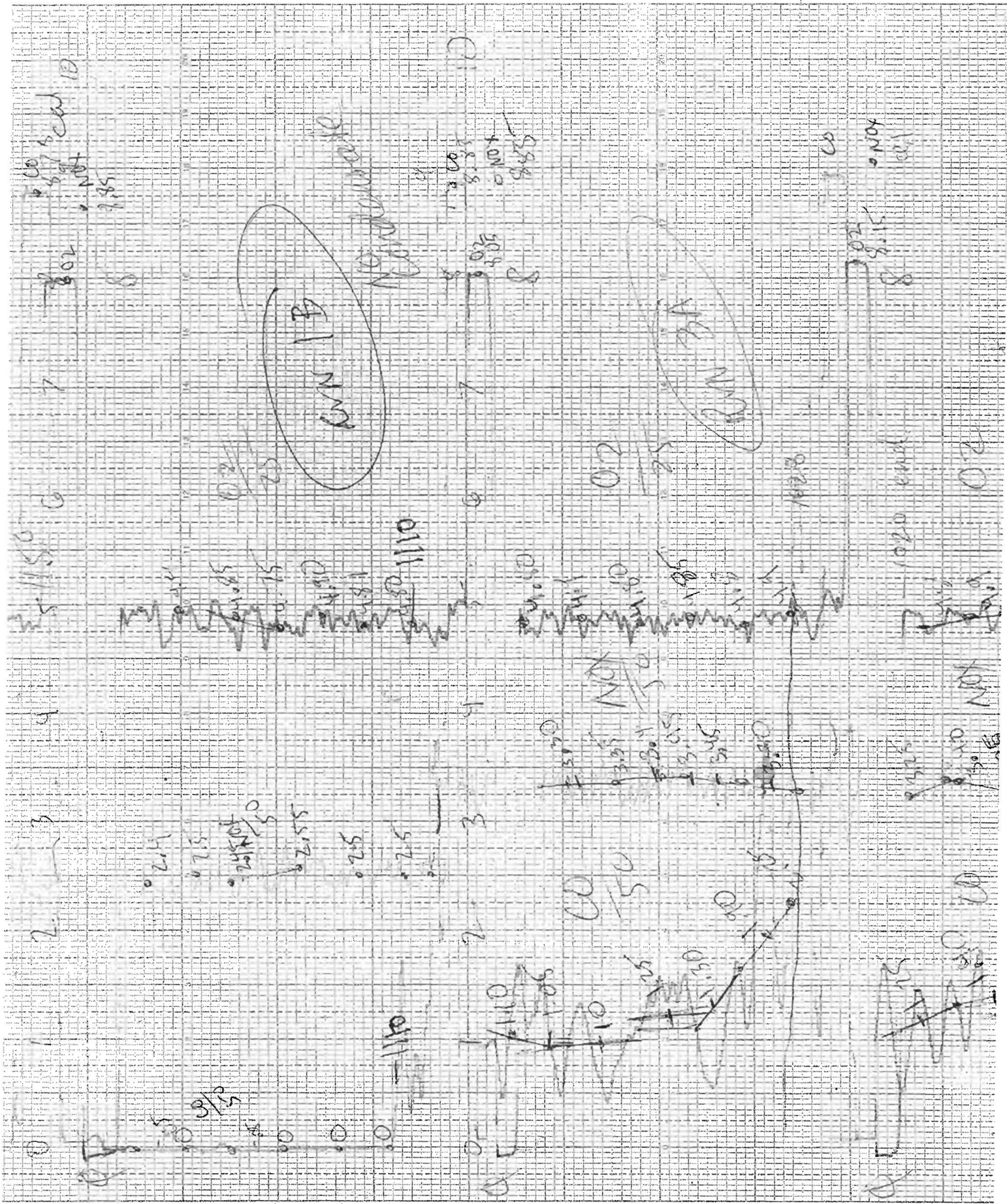
Facility: Corrusion Alkacut Test #: 1-23 B Date: 7/30/08
 Location: _____ Personnel: _____ Leak Check: _____
 Stratification Check: _____

Parameter	O ₂	CO ₂	NOx	CO	THC	CH ₄	SO ₂		Unit Description/Serial #:
Analyzer	755R	PIR 2000	42	48C	RS-55	RS-55			
Range	25	15	50	50	100				Operating Conditions:
Span Value(s)	20.45	12.43	45.8	45.8	84.6				condensate off
Span Value(s)									Fuel: LFG
Span Value(s)									
zero	-0.25	0	0	0	1.5				NOTES:
cal	20.13	13.05	44.25	44.25	85.0				
1	11:10	12.00	7.5	12.50	0	2			
	+5	12.03	7.35	12.50	0	2			
	+10	12.25	7.43	12.75	0	2			
	+15	11.86	7.65	12.25	-0.25	2			
	+20	12.13	7.5	12.50	0	2			
	11:40	12.25	7.35	12.00	-0.25	2			
AVG	12.09	7.46	12.12	-0.083	2				
zero	0	0	0	0	2				
cal	20.13	13.05	44.25	43.75	83.0				
2	11:50	11.63	7.35	12.25	0	3			
	+5	12.13	7.42	12.5	0	3			
	+10	12.13	7.35	12.25	-0.25	3			
	+15	12.00	7.35	11.75	0	3			
	+20	11.88	7.42	12.25	-0.25	3			
	12:20	12.38	7.2	12.5	0	3			
AVG	12.02	7.35	12.25	-0.125	3				
zero	0	0	0	0	3.6				
cal	14.75	13.05	42.25	43.50	84				
3	12:32	11.88	7.35	14.75	0	4			
	+5	12.00	7.2	14.25	0	4			
	+10	12.00	7.35	14.00	0.75	4.5			
	+15	12.25	7.2	13.75	0.75	4.5			
	+20	11.5	7.28	13.75	0	5			
	13:02	11.88	7.35	14.25	-0.5	5			
AVG	11.91	7.29	14.125	2.66	4.5				
zero	0	0	0	0	5				
cal	14.75	13.2	41.0	43.25	87				

E
Strip Charts







0.00
 8.02
 8.25
 8.25

0.5
 0.5
 0.5
 0.5
 0.5
 0.5

0.0
 5.0

0.25
 0.25
 0.25
 0.25
 0.25
 0.25

0.0
 5.0

0.75
 0.75
 0.75
 0.75
 0.75
 0.75

0.2
 2.5

RUN #38

0.0
 8.02
 8.25

cal

0.5
 0.5
 0.5
 0.5
 0.5
 0.5

0.0
 5.0

0.25
 0.25
 0.25
 0.25
 0.25
 0.25

0.0
 5.0

0.75
 0.75
 0.75
 0.75
 0.75
 0.75

0.2
 2.5

RUN #28

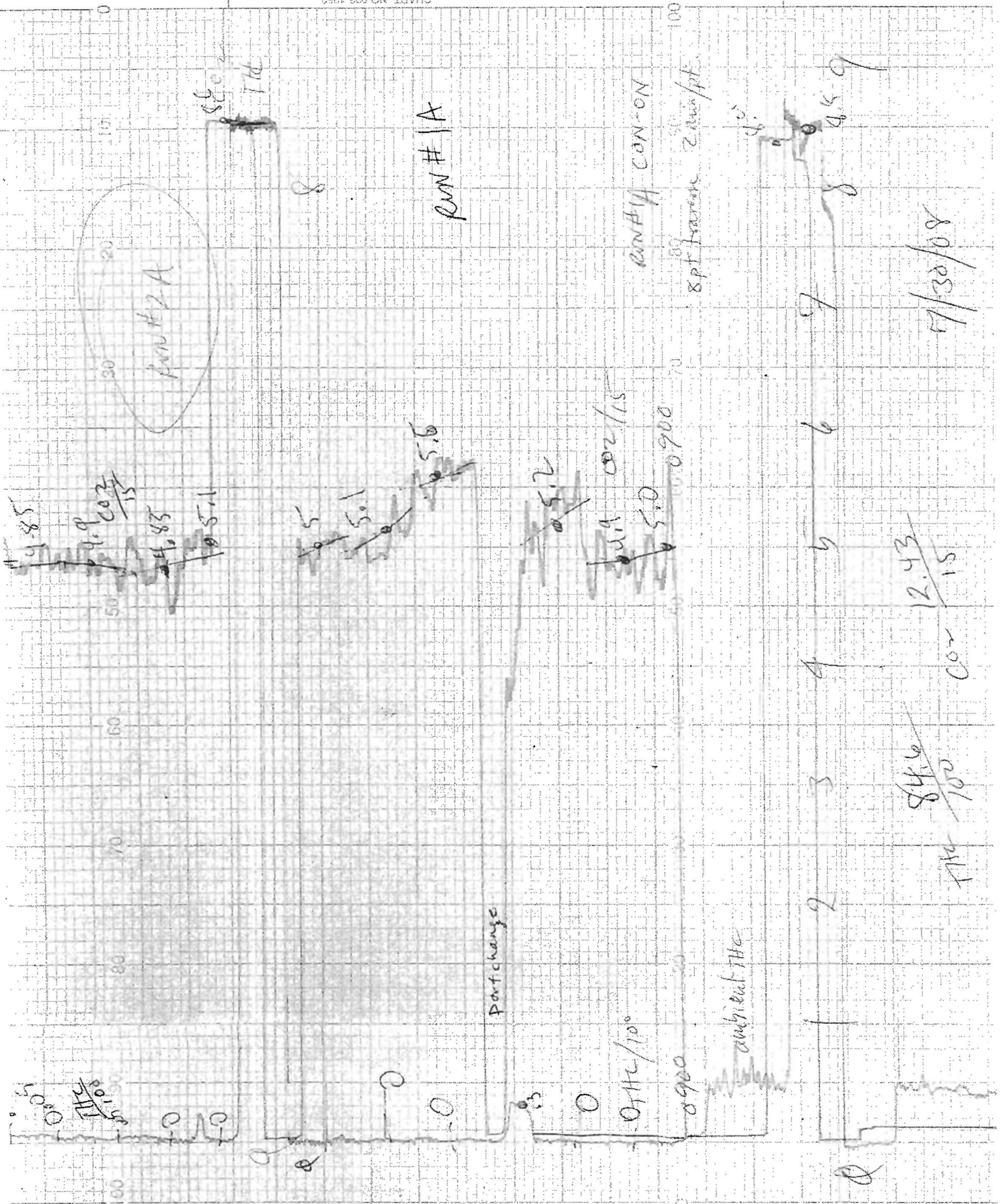
0.0
 8.02
 8.25

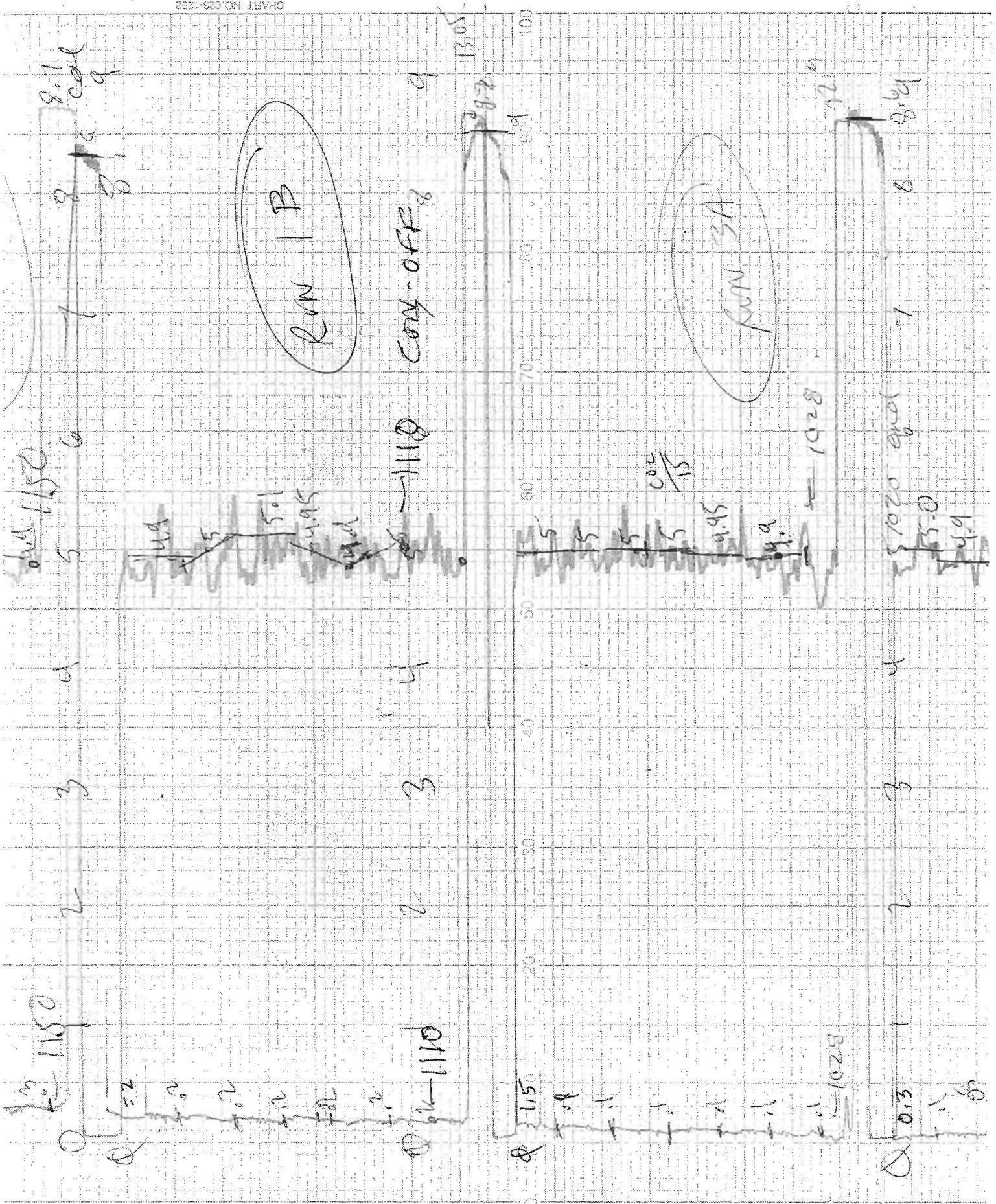
cal

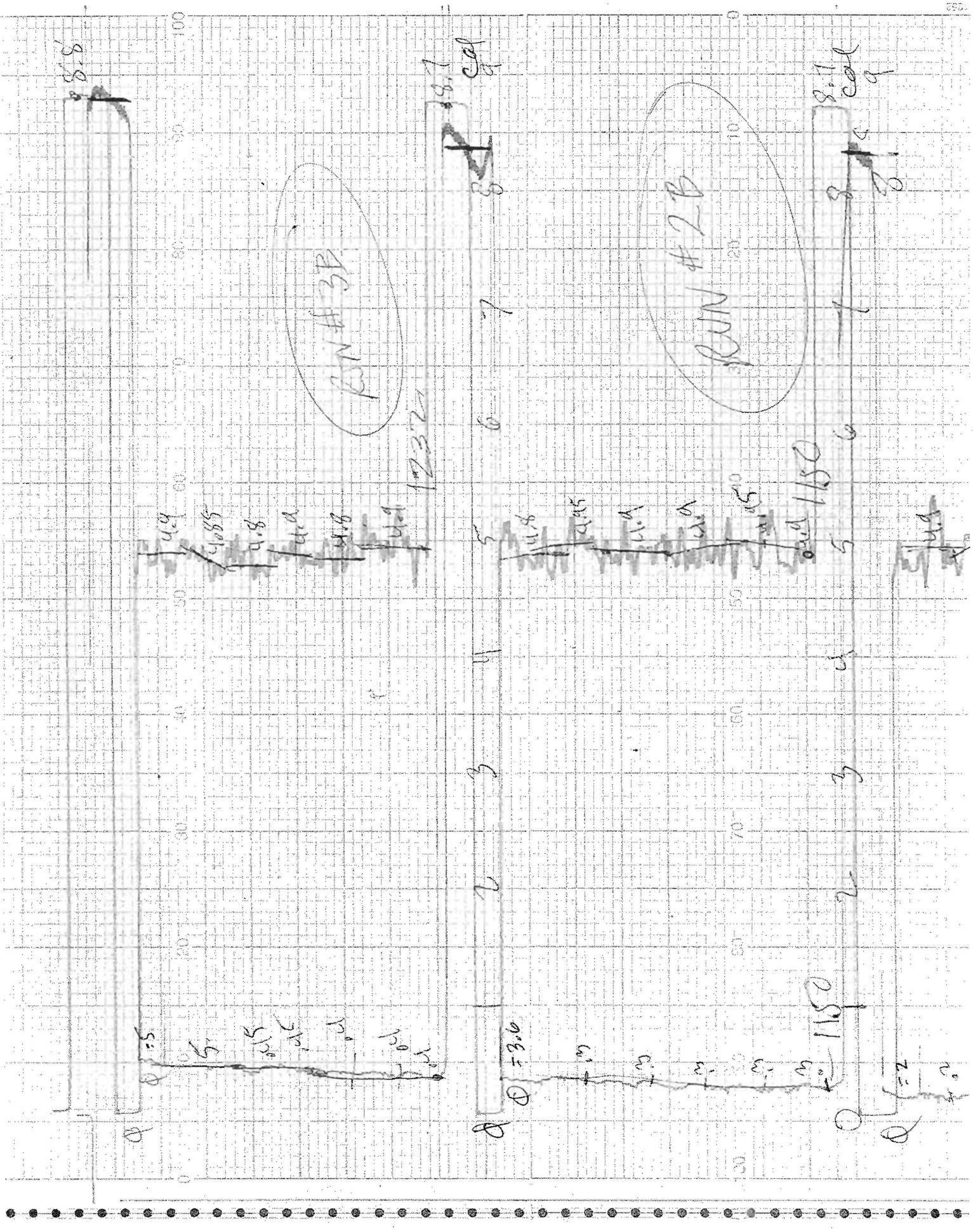
0.5
 0.5
 0.5
 0.5
 0.5
 0.5

0.25

0.75







F
Process Information

DAQSTANDARD

Data Viewer

Cornerstone Environmental Group, LLC

115-54683-0000

Date	Time	CH01		CH02		CH03	
		FLARE TEMP		FLOW		COND FLOW RATE	
		°F	°F	SCFM		GPM	GPM
		MIN	MAX	MIN	MAX	MIN	MAX
2008/07/30	09:00:00	1618	1638	1187	1306	0.53	1.43
2008/07/30	09:02:00	1619	1641	1187	1283	1.07	1.15
2008/07/30	09:04:00	1623	1639	1172	1321	1.06	1.12
2008/07/30	09:06:00	1624	1635	1185	1278	1.08	1.16
2008/07/30	09:08:00	1622	1639	1192	1289	1.09	1.15
2008/07/30	09:10:00	1618	1636	1208	1320	1.07	1.14
2008/07/30	09:12:00	1628	1636	1208	1296	1.07	1.14
2008/07/30	09:14:00	1623	1630	1199	1280	1.06	1.11
2008/07/30	09:16:00	1626	1630	1146	1264	1.07	1.14
2008/07/30	09:18:00	1630	1632	1197	1282	0.54	1.68
2008/07/30	09:20:00	1623	1632	1133	1256	0.76	1.68
2008/07/30	09:22:00	1625	1634	1195	1301	1.06	1.14
2008/07/30	09:24:00	1623	1631	1188	1298	1.05	1.11
2008/07/30	09:26:00	1622	1636	1145	1316	0.62	1.62
2008/07/30	09:28:00	1626	1635	1084	1300	0.53	1.15
2008/07/30	09:30:00	1624	1632	1193	1282	1.06	1.15

Run 1A

1623	1635	1176	1292	0.9	1.3
1629		1234		1.1	

2008/07/30	09:50:00	1626	1641	1176	1322	0.49	1.67
2008/07/30	09:52:00	1627	1638	1223	1328	0.48	1.20
2008/07/30	09:54:00	1613	1633	1220	1336	0.53	1.14
2008/07/30	09:56:00	1617	1638	1205	1320	1.03	1.09
2008/07/30	09:58:00	1617	1638	1116	1327	1.02	1.08
2008/07/30	10:00:00	1620	1638	1212	1308	1.03	1.10
2008/07/30	10:02:00	1625	1636	1235	1326	0.50	1.11
2008/07/30	10:04:00	1623	1634	1224	1594	1.03	1.08
2008/07/30	10:06:00	1622	1634	1230	1367	1.03	1.09
2008/07/30	10:08:00	1627	1636	1240	1315	1.03	1.10
2008/07/30	10:10:00	1623	1627	1233	1313	1.01	1.09
2008/07/30	10:12:00	1624	1638	1209	1320	1.02	1.09
2008/07/30	10:14:00	1620	1631	1242	1324	0.47	1.09
2008/07/30	10:16:00	1620	1634	1232	1312	0.69	1.53
2008/07/30	10:18:00	1619	1637	1221	1315	1.01	1.16
2008/07/30	10:20:00	1623	1638	1232	1314	0.75	1.57

Run 2A

1622	1636	1216	1340	0.8	1.2
1629		1278		1.0	

2008/07/30	10:28:00	1618	1638	1218	1318	0.47	1.07
2008/07/30	10:30:00	1617	1637	1234	1367	0.49	1.24
2008/07/30	10:32:00	1625	1637	1223	1425	0.99	1.08
2008/07/30	10:34:00	1622	1631	1225	1317	0.50	1.07
2008/07/30	10:36:00	1624	1634	1215	1329	1.01	1.06
2008/07/30	10:38:00	1622	1631	1218	1316	0.99	1.06
2008/07/30	10:40:00	1625	1635	1207	1323	0.50	1.07
2008/07/30	10:42:00	1626	1634	1133	1415	1.01	1.07
2008/07/30	10:44:00	1625	1628	1155	1311	0.46	1.07
2008/07/30	10:46:00	1625	1632	1210	1347	0.50	1.09
2008/07/30	10:48:00	1624	1629	1210	1297	0.98	1.06
2008/07/30	10:50:00	1625	1634	1219	1295	0.51	1.49
2008/07/30	10:52:00	1625	1628	1217	1298	1.01	1.08
2008/07/30	10:54:00	1625	1634	1216	1341	0.99	1.05
2008/07/30	10:56:00	1618	1636	1223	1341	0.99	1.06
2008/07/30	10:58:00	1618	1637	1190	1304	0.59	1.50

Run 3A

1623	1633	1207	1334	0.7	1.1
1628		1271		0.9	

DAQSTANDARD

Data Viewer

Cornerstone Environmental Group, LLC

115-54683-XXXX

Date	Time	CH01		CH02		CH03	
		FLARE TEMP		FLOW		COND FLOW RATE	
		°F	°F	SCFM		GPM	GPM
		MIN	MAX	MIN	MAX	MIN	MAX
2008/07/30	11:00:00	1619	1635	1195	1336	0.70	1.50
2008/07/30	11:02:00	1620	1635	1228	1327	0.49	1.06
2008/07/30	11:04:00	1622	1640	1238	1315	0.96	1.05
2008/07/30	11:06:00	1623	1635	1190	1299	0.62	1.63
2008/07/30	11:08:00	1623	1629	1220	1405	0.95	1.09
2008/07/30	11:10:00	1622	1636	1111	1370	0.00	0.00
2008/07/30	11:12:00	1621	1634	1227	1326	0.00	0.00
2008/07/30	11:14:00	1622	1638	1222	1467	0.00	0.00
2008/07/30	11:16:00	1624	1633	1227	1533	0.00	0.00
2008/07/30	11:18:00	1622	1633	1215	1348	0.00	0.00
2008/07/30	11:20:00	1622	1635	1240	1339	0.00	0.00
2008/07/30	11:22:00	1627	1635	1211	1297	0.00	0.00
2008/07/30	11:24:00	1620	1633	1218	1314	0.00	0.00
2008/07/30	11:26:00	1625	1635	1138	1723	0.00	0.00
2008/07/30	11:28:00	1620	1638	1223	1408	0.00	0.00
2008/07/30	11:30:00	1617	1638	1197	1328	0.00	0.00
2008/07/30	11:32:00	1624	1633	1207	1326	0.00	0.00
2008/07/30	11:34:00	1616	1634	1213	1287	0.00	0.00
2008/07/30	11:36:00	1627	1638	1203	1592	0.00	0.00
2008/07/30	11:38:00	1620	1634	1216	1315	0.00	0.00
2008/07/30	11:40:00	1622	1639	1233	1517	0.00	0.00
Run 1B		1622	1635	1206	1406	0.0	0.0
		1629		1306		0.0	
2008/07/30	11:50:00	1617	1630	1210	1395	0.00	0.00
2008/07/30	11:52:00	1630	1640	1290	1419	0.00	0.00
2008/07/30	11:54:00	1620	1633	1256	1354	0.00	0.00
2008/07/30	11:56:00	1620	1640	1220	1358	0.00	0.00
2008/07/30	11:58:00	1621	1634	1289	1366	0.00	0.00
2008/07/30	12:00:00	1626	1635	1270	1354	0.00	0.00
2008/07/30	12:02:00	1622	1626	1240	1357	0.00	0.00
2008/07/30	12:04:00	1624	1636	1258	1378	0.00	0.00
2008/07/30	12:06:00	1623	1632	1170	1355	0.00	0.00
2008/07/30	12:08:00	1622	1639	1238	1359	0.00	0.00
2008/07/30	12:10:00	1621	1637	1280	1364	0.00	0.00
2008/07/30	12:12:00	1626	1632	1266	1558	0.00	0.00
2008/07/30	12:14:00	1623	1634	1283	1549	0.00	0.00
2008/07/30	12:16:00	1622	1635	1268	1623	0.00	0.00
2008/07/30	12:18:00	1624	1632	1287	1356	0.00	0.00
2008/07/30	12:20:00	1629	1635	1252	1380	0.00	0.00
Run 2B		1623	1634	1255	1408	0.0	0.0
		1629		1331		0.0	
2008/07/30	12:32:00	1622	1629	1136	1419	0.00	0.00
2008/07/30	12:34:00	1626	1635	1257	1353	0.00	0.00
2008/07/30	12:36:00	1620	1633	1235	1511	0.00	0.00
2008/07/30	12:38:00	1627	1634	1276	1377	0.00	0.00
2008/07/30	12:40:00	1621	1628	1223	1437	0.00	0.00
2008/07/30	12:42:00	1627	1635	1260	1355	0.00	0.00
2008/07/30	12:44:00	1624	1631	1268	1401	0.00	0.00
2008/07/30	12:46:00	1626	1634	1270	1379	0.00	0.00
2008/07/30	12:48:00	1625	1628	1232	1443	0.00	0.00
2008/07/30	12:50:00	1627	1636	1259	1425	0.00	0.00
2008/07/30	12:52:00	1620	1636	1255	1396	0.00	0.00
2008/07/30	12:54:00	1619	1639	1248	1433	0.00	0.00
2008/07/30	12:56:00	1618	1640	1276	1366	0.00	0.00
2008/07/30	12:58:00	1618	1632	1236	1339	0.00	0.00
2008/07/30	13:00:00	1630	1632	1268	1365	0.00	0.00
2008/07/30	13:02:00	1618	1631	1264	1368	0.00	0.00
Run 3B		1623	1633	1248	1398	0.0	0.0
		1628		1323		0.0	

G
Calibration Certifications & QC Records

DocNumber: 00000003420

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS**Customer & Order Information:**

BLUE SKY

Praxair Order Number: 06183908-00

Customer P. O. Number: 01481281

Customer Reference Number: WA134

Fill Date:

Part Number: EV NIDDOXE18-AS

Lot Number: 109813603

Cylinder Style & Outlet: AS 580

Cylinder Pressure & Volume: 2000 psi 140 cu ft

Certified Concentration:

Expiration Date:	5/22/2011		
Cylinder Number:	CC 130483	Analytical Uncertainty:	
12.43 %	CARBON DIOXIDE	± 1 %	
20.45 %	OXYGEN	± 1 %	
Balance	NITROGEN		

NOx ppm = N/A

NOx Values for Reference Only

Certification Information: Certification Date: 5/22/2008 Term: 36 Months Expiration Date: 5/22/2011This cylinder was certified according to the 1997 EPA Traceability Protocol, Document #EPA-600/R-97/121, using Procedure G1
Do Not Use this Standard if Pressure is less than 150 PSIG**Analytical Data:**

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: CARBON DIOXIDE

Requested Concentration: 12.5 %
Certified Concentration: 12.43 %
Instrument Used: Siemens Ultramat SE S/N A12-730
Analytical Method: NDIR
Last Multipoint Calibration: 5/19/2008

First Analysis Data: Date: 5/20/2008
Z: 0 R: 15.02 C: 12.44 Conc: 12.43
R: 15.02 Z: 0 C: 12.44 Conc: 12.43
Z: 0 C: 12.44 R: 15.02 Conc: 12.43
UOM: % Mean Test Assay: 12.43 %

Reference Standard Type: GMS
Ref. Std. Cylinder #: CC 200179
Ref. Std. Conc: 15.01 %
Ref. Std. Traceable to SRM #: vs 2745
SRM Sample #: 9-B-09
SRM Cylinder #: CAL010768

Second Analysis Data: Date:
Z: 0 R: 0 C: 0 Conc: 0
R: 0 Z: 0 C: 0 Conc: 0
Z: 0 C: 0 R: 0 Conc: 0
UOM: % Mean Test Assay: 0 %

2. Component: OXYGEN

Requested Concentration: 20.5 %
Certified Concentration: 20.45 %
Instrument Used: Siemens Oxymat SE S/N A12-839
Analytical Method: Paramagnetic
Last Multipoint Calibration: 5/19/2008

First Analysis Data: Date: 5/20/2008
Z: 0 R: 20.98 C: 20.46 Conc: 20.45
R: 20.98 Z: 0 C: 20.46 Conc: 20.45
Z: 0 C: 20.46 R: 20.98 Conc: 20.45
UOM: % Mean Test Assay: 20.45 %

Reference Standard Type: GMS
Ref. Std. Cylinder #: CC 118118
Ref. Std. Conc: 20.97 %
Ref. Std. Traceable to SRM #: 2559A
SRM Sample #: 71-37-B
SRM Cylinder #: CLM 006734

Second Analysis Data: Date:
Z: 0 R: 0 C: 0 Conc: 0
R: 0 Z: 0 C: 0 Conc: 0
Z: 0 C: 0 R: 0 Conc: 0
UOM: % Mean Test Assay: 0 %

Analyzed by:

Peter Su

Certified by:

Helena Tran



Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (323) 585-0582

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

CUSTOMER BLUE SKY (MARK)

P.O NUMBER

REFERENCE STANDARD

COMPONENT	NIST SRM NO.	CYLINDER NO.	CONCENTRATION
CARBON MONOXIDE GMIS	vs. SRM#2435	SA 15590	24.35 ppm
NITRIC OXIDE GMIS	vs. SRM#1683	SA 11017	50.4 ppm

ANALYZER READINGS

R=REFERENCE STANDARD

Z=ZERO GAS

C=GAS CANDIDATE

1. COMPONENT	CARBON MONOXIDE GMIS	ANALYZER MAKE-MODEL-S/N	HORIBA, VIA-S10, S/N 576876015
ANALYTICAL PRINCIPLE	NDIR		LAST CALIBRATION DATE 02/04/08
FIRST ANALYSIS DATE	02/04/08		SECOND ANALYSIS DATE 02/13/08
Z 0	R 24.6	C 46.2	CONC. 45.7
R 24.6	Z 0	C 46.1	CONC. 45.6
Z 0	C 46.2	R 24.6	CONC. 45.7
U/M ppm	MEAN TEST ASSAY	45.7	U/M ppm
2. COMPONENT	NITRIC OXIDE GMIS	ANALYZER MAKE-MODEL-S/N	Thermo Env. 42C S/N 0518112467
ANALYTICAL PRINCIPLE	Chemiluminescence		LAST CALIBRATION DATE 02/04/08
FIRST ANALYSIS DATE	02/04/08		SECOND ANALYSIS DATE 02/13/08
Z 0	R 50.4	C 45.5	CONC. 45.5
R 50.4	Z 0	C 45.5	CONC. 45.6
Z 0	C 45.5	R 50.4	CONC. 45.5
U/M ppm	MEAN TEST ASSAY	45.5	U/M ppm

Values not valid below 150 psig.
NOx value for reference use only.

THIS CYLINDER NO.	CC 267455	CERTIFIED CONCENTRATION	
HAS BEEN CERTIFIED ACCORDING TO SECTION	EPA-600/R97/121	CARBON MONOXIDE	45.8 ppm
OF TRACEABILITY PROTOCOL NO.	Rev. 9/97	NITRIC OXIDE	45.6 ppm
PROCEDURE	G1	NITROGEN	BALANCE
CERTIFIED ACCURACY	± 1 % NIST TRACEABLE	NOx	45.8 ppm
CYLINDER PRESSURE	2000 PSIG		
CERTIFICATION DATE	02/13/08		
EXPIRATION DATE	02/13/10	TERM	24 MONTHS

ANALYZED BY

Henry Koung

CERTIFIED BY

Ben McCauley

IMPORTANT

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



Praxair
5700 South Alameda Street
Los Angeles, CA 90058
Telephone: (323) 585-2154
Facsimile: (323) 585-0582

DocNumber: 00000003251

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

BLUE SKY ENV

Praxair Order Number: 06138052-00
Customer P. O. Number: 01475072
Customer Reference Number: WA134

Fill Date:
Part Number: EV AIPR28ME-AS
Lot Number: 109812801
Cylinder Style & Outlet: AS 590
Cylinder Pressure & Volume: 2000 psi 140 cu ft

Certified Concentration:

Expiration Date:	5/13/2011	Analytical Uncertainty:
Cylinder Number:	CC 240794	
28.2 ppm PROPANE		± 1 %
Balance AIR		

NOx ppm = N/A

NOX Values for Reference Only

Certification Information: Certification Date: 5/13/2008 Term: 36 Months Expiration Date: 5/13/2011

This cylinder was certified according to the 1997 EPA Traceability Protocol, Document #EPA-600/R-97/121, using Procedure G1
Do Not Use this Standard if Pressure is less than 150 PSIG

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: PROPANE

Requested Concentration: 28 ppm
Certified Concentration: 28.2 ppm
Instrument Used: HORIBA, FIA-510, 851135122
Analytical Method: Flame Ionization
Last Multipoint Calibration: 4/19/2008

First Analysis Data: Date: 5/13/2008
Z: 0 R: 87.9 C: 77.6 Conc: 28.2
R: 87.9 Z: 0 C: 77.6 Conc: 28.2
Z: 0 C: 77.6 R: 87.9 Conc: 28.2
UOM: PPM Mean Test Assay: 28.2 PPM

Analyzed by:

Peter Su

Reference Standard Type: GMS
Ref. Std. Cylinder #: SA 9789
Ref. Std. Conc: 31.9 ppm
Ref. Std. Traceable to SRM #: vs. 1667b
SRM Sample #: 83-51-H
SRM Cylinder #: CAL-011857

Second Analysis Data: Date:
Z: 0 R: 0 C: 0 Conc: 0
R: 0 Z: 0 C: 0 Conc: 0
Z: 0 C: 0 R: 0 Conc: 0
UOM: PPM Mean Test Assay: 0 PPM

Certified by:

Keesuk Kim

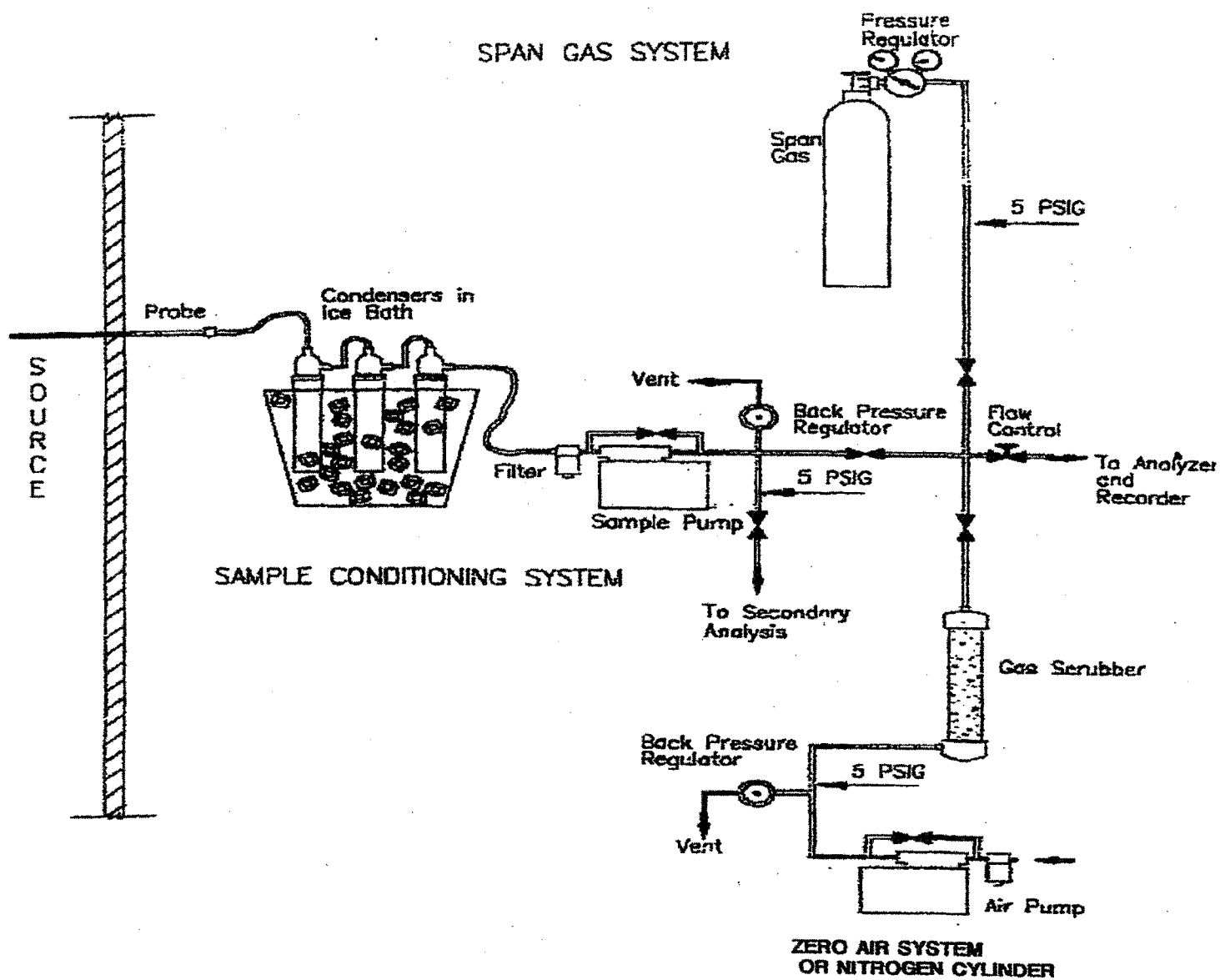
84.6

H

Sample Train Configuration and Stack Diagrams



Altamont Flare A-15



BAAQMD ST-5 (CO₂)
 BAAQMD ST-6 (CO)
 BAAQMD ST-7 (THC by FID)
 BAAQMD ST-13A (NO_x)
 BAAQMD ST-14 (O₂)
 BAAQMD ST-19A (SO₂)

I
Related Correspondence (Source Test Plan)



Blue Sky Environmental, LLC

624 San Gabriel Avenue

Albany, California 94706

Ph/Fax (510) 525 1261

Cell (510) 508 3469

blueskyenvironmental@yahoo.com

July 5, 2008

Attn: Tim Underwood
Source Test Division
Bay Area Air Quality Management District
Compliance and Enforcement Division
939 Ellis Street
San Francisco, CA 94109

Re: Source Test Protocol for compliance emissions testing of the Enclosed Landfill Gas Flare (A-15) at Altamont Landfill, located at 10840 Altamont Pass Road, Livermore, California. BAAQMD Facility #A2066.

Dear Mr. Underwood,

Blue Sky Environmental, LLC is pleased to present this Source Test Plan for the Enclosed Landfill Gas Flare (A-15) at the Altamont Landfill in Livermore. Blue Sky Environmental, LLC is approved by the California Air Resources Board as an independent contractor to conduct compliance emission testing. This Source Test Protocol will include the following:

BAAQMD Source # A-15 Flare Condition 19235	Test Parameters/Limits
Compliance Test	TIC, CH ₄ , NMOC, NO _x , CO, CO ₂ , O ₂ (Part 13d) NO _x (44 ppmv @3% O ₂) or 0.06 lbs/MMBtu CO (361 ppmv @3% O ₂) or 0.30 lbs/MMBtu
Condensate Off x 3	NMOC 98% DE or 30 ppm as CH ₄ @3% O ₂ (Part 13e) 6 LFG samples for CO ₂ , N ₂ , O ₂ , NMOC & CH ₄ (Part 13b)
Condensate On x 3	One LFG sample for landfill gas characterization (Part 12 & 14) One LFG sample for TRS (Part 11) LFG Flowrate (Part 13a) & Flare Temperature (Part 13f)

Testing is currently scheduled for July 30th, 2008, with a 7:00 am arrival time. If you have any questions, please contact Guy Worthington at 510 525 1261, or 510 508 3469.

- At the flare exhaust, triplicate thirty-minute tests will be performed with the Condensate Off and will be repeated with the Condensate On at or near the maximum rate of 2.5gpm. Testing will use BAAQMD methods to measure NO_x (ST-13A), CO (ST-6), TNMHC's (ST-7-FID), CO₂ (ST-5) and O₂ (ST-14). Testing is designed to determine compliance with the following BAAQMD Permit and Reg 8 Rule 34 conditions listed in the Table above.
- Integrated Tedlar bag samples of the Landfill Gas (LFG) will be collected during each test run, and will be analyzed for H₂, CO₂, N₂, O₂, NMOC and CH₄ using ASTM 1945 (EPA 18 & 30) & EPA 25C. A single sample of LFG will be analyzed for TRS by ASTM 5504, and by EPA TO-15 GCMS for AP42 Table 4.2-1 compounds excluding mercury, carbon monoxide and acetone. The samples will be analyzed within 72 hours.

- The facility fuel flow meter will be recorded and a fuel analysis will be performed to calculate outlet volumetric flow rate using EPA Method 19. The facility is required to have accurate, operating flare temperature recording and LFG gas flow monitors. If necessary, the fuel flow may be measured by BAAQMD Methods 17 & 18 and the fuel moisture content will be determined by wet-bulb/dry-bulb measurement.
- Three copies of the compliance test report will be submitted to the client upon completion of the test program and will include analytical test results. The report will include a test description and tables presenting concentrations (ppm), emission rates (lbs/hr) for all sampling parameters. All supporting documents (strip charts, field data sheets, calibrations, calculations, etc.) will also be included. The final report is due to the BAAQMD 60 days after testing has been completed.

J
Authority To Construct

Bay Area Air Quality Management District

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

Final

MAJOR FACILITY REVIEW PERMIT

Issued To:

**Waste Management of Alameda County
Facility #A2066**

Facility Address:

10840 Altamont Pass Road
Livermore, CA 94550

Mailing Address:

10840 Altamont Pass Road
Livermore, CA 94550

Responsible Official

Mr. Ken Lewis
District Manager
925-455-7350

Facility Contact

Mr. Ken Lewis
District Manager
925-455-7350

Type of Facility: Solid Waste Landfill

Primary SIC: 4953

Product: Waste Disposal and Electricity Generation

BAAQMD Permit Division Contact:

Carol S. Allen

ISSUED BY THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Signed by Jack P. Broadbent

Jack P. Broadbent, Executive Officer/Air Pollution Control Officer

December 11, 2007

Date

II. Equipment

Table II B – Abatement Devices

A-#	Description	Source(s) Controlled	Applicable Requirement	Operating Parameters	Limit or Efficiency
A-6	Fogging System, water injection upstream of compressors (operation of this unit is optional)	S-6	none	none	not applicable
A-7	Fogging System, water injection upstream of compressors (operation of this unit is optional)	S-7	none	none	not applicable
A-15	Landfill Gas Flare, LFG Specialties, EF945H12, 71 MM BTU/hour, burning LFG, LNG Plant Waste Gas, condensate, and propane.	S-2	BAAQMD 8-34-301.3, see also Table IV-A	Minimum Combustion Zone Temperature of 1400 °F, see also Table VII-A	98% destruction of NMOC or ≤ 30 ppmv of NMOC, as CH ₄ , at 3% O ₂ , dry

VI. Permit Conditions

Condition # 19235

FOR: S-2 ALTAMONT LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM, AND
A-15 LANDFILL GAS FLARE:

1. The S-2 Altamont Landfill shall be equipped with a landfill gas collection system, which shall be operated continuously as defined in Regulation 8-34-219. Wells, collectors, and adjustment valves shall not be disconnected, removed, or completely closed, without prior written authorization from the District, unless the Permit Holder complies with all applicable provisions of Regulation 8, Rule 34, Sections 113, 116, 117, and 118.
 - a. The Permit Holder has been issued a Permit to Operate for the landfill gas collection system components listed below as of November 29, 2004. Well and collector locations, depths, and lengths are as described in detail in Permit Application # 7363. The Permit Holder shall apply for and receive an Authority to Construct before modifying the landfill gas collection system described below. Increasing or decreasing the number of vertical wells, changing the length of horizontal collectors, or moving the locations of vertical wells or horizontal collectors are considered modifications that are subject to the Authority to Construct requirement. Adding or modifying risers, laterals, or header pipes are not subject to this Authority to Construct requirement. The authorized number of landfill gas collection system components is the baseline count listed below plus any components added and minus any components decommissioned pursuant to Part 1b as evidenced by start-up/shut-down notification letters submitted to the District.
 - 70 vertical wells
 - 13 horizontal trench collectors (shredded tires may be used as fill material)
 - 1 leachate collection system clean-out riser
 - b. The Permit Holder has been issued an Authority to Construct to allow for the landfill gas collection system modifications described below as of November 29, 2004. Well and collector locations, depths, and lengths are as described in detail in Permit Application #10004.
 - Install up to 49 vertical wells

VI. Permit Conditions

Condition # 19235

FOR: S-2 ALTAMONT LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM, AND
A-15 LANDFILL GAS FLARE:

- Decommission up to 20 vertical wells
- Install up to 27 horizontal trench collectors
- Decommission up to 13 horizontal trench collectors
- Install header valves, risers, and connections between existing horizontal collectors, as needed, to optimize gas collection and maintain compliance with Regulation 8, Rule 34.
- Modify wellhead monitoring locations, as needed, provided that each landfill gas collection system component identified in Part 1a and each new collection system component installed per Part 1b is adequately represented by a wellhead monitoring location. The Permit Holder shall maintain documentation on site that identifies all landfill gas collection system components that are represented by each wellhead monitoring location.

(Basis: Regulations 8-34-301.1, 8-34-303, 8-34-304, and 8-34-305)

2. All collected landfill gas shall be vented to properly operating landfill gas control equipment as described below in Part 2a. 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 inadvertent component or surface leaks that do not exceed the limits specified in 8-34-301.2 or 8-34-303.
 - a. The Permit Holder may operate any combination of landfill gas control devices, including: A-15 Landfill Gas Flare, S-6 Gas Turbine, S-7 Gas Turbine, S-23 Internal Combustion Engine, or S-24 Internal Combustion Engine; or may send landfill gas to another facility for additional processing and control; provided that adequate landfill gas control/removal capacity is available at all times to achieve the target landfill gas collection rate of 2381 scfm. Any time period that the total landfill gas flow rate to all control devices and off-site pipelines (measured pursuant to Regulation 8-34-508) is less than the target landfill gas collection rate shall be deemed a violation of 8-34-301.1, unless the Permit Holder is complying with the requirements of Regulations 8-34-113, 8-34-116, 8-34-117, or 8-34-118 during this time period.

VI. Permit Conditions

Condition # 19235

FOR: S-2 ALTAMONT LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM, AND
A-15 LANDFILL GAS FLARE:

- b. In order to determine the target landfill gas collection rate, the Permit Holder shall measure and record (in accordance with Regulation 8-34-508) the total landfill gas flow rate to all control devices and off-site pipelines during each landfill surface monitoring event (conducted in accordance with Regulation 8-34-506). The Permit Holder shall determine the average landfill gas flow rate (in scfm) for each surface monitoring event by dividing the total measured flow rate (in cubic feet) by the time required to conduct the surface monitoring test and correcting to a temperature of 68 degrees F and a pressure of 1 atmosphere. This average landfill gas flow rate shall become the target landfill gas collection rate, if the measured surface emission leaks comply with the limit in Regulation 8-34-303. A new target landfill gas collection rate may be established based on any complying surface monitoring event and shall be updated at least once per year until waste acceptance at the landfill ceases. After issuance of the MFR Permit, the target landfill gas collection rate shall be revised in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415.
(Basis: Regulations 8-34-301 and 8-34-303)
3. The A-15 Landfill Gas Flare shall be fired on landfill gas. Propane may be used as a start-up fuel only. Landfill gas condensate may be injected into A-15, provided that the condensate injection rate does not exceed 3600 gallons during any day and A-15 complies with all limits in Parts 4-10 and any other applicable emission limits during all times that condensate is being injected into A-15.
(Basis: Regulation 2-1-301)
4. The Heat Input to the A-15 Landfill Gas Flare shall not exceed 1704 million BTU per day and shall not exceed 621,785 million BTU per year.
(Basis: Offsets and Cumulative Increase)
5. The Landfill Gas Flare (A-15) shall be equipped with both local and remote alarm systems. The local and remote alarms shall be activated whenever the total landfill gas collection for the site is less than the target landfill gas collection rate in Part 2a. When operation of A-15 is necessary to meet the target landfill gas collection rate, the local and remote alarms shall be activated if the flare shuts down unexpectedly or if the combustion zone temperature is less than the minimum temperature required by Part 10 below. (Basis: Regulation 8-34-301)

VI. Permit Conditions

Condition # 19235

FOR: S-2 ALTAMONT LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM, AND
A-15 LANDFILL GAS FLARE:

6. The Landfill Gas Flare (A-15) shall be equipped with one flow meter and one recorder meeting the requirements of Regulation 8-34-508.
(Basis: Offsets, Cumulative Increase, and Regulations 2-1-301, 8-34-301, 8-34-501.10, and 8-34-508)
7. Nitrogen oxide (NO_x) emissions from the A-15 Landfill Gas Flare shall not exceed either:
 - a. an exhaust concentration of 44 ppmv of NO_x , corrected to 3% oxygen, dry basis; or
 - b. an emission rate of 0.06 pounds of NO_x (calculated as NO_2) per million BTU.(Basis: RACT and Offsets)
8. Carbon monoxide (CO) emissions from the A-15 Landfill Gas Flare shall not exceed either:
 - a. an exhaust concentration of 361 ppmv of CO, corrected to 3% oxygen, dry basis; or
 - b. an emission rate of 0.30 pounds of CO per million BTU.(Basis: RACT and Cumulative Increase)
9. The Landfill Gas Flare (A-15) shall comply with either the destruction efficiency or outlet concentration limit specified in Regulation 8-34-301.3.
(Basis: Offsets, Cumulative Increase, and Regulation 8-34-301.3)
10. The combustion zone temperature of the Landfill Gas Flare (A-15) shall be maintained at a minimum of 1400 degrees Fahrenheit, averaged over any 3-hour period. If a source test demonstrates compliance with all applicable requirements at a different temperature the APCO will revise the minimum combustion zone temperature limit in accordance with the procedures identified in Regulations 2-6-414 or 2-6-415 and the following criteria. The minimum combustion zone temperature for a flare ($T_{\min}$) shall be equal to the average combustion zone temperature determined during the most recent complying source test (T_{avg}) minus 50 degrees F, provided that the minimum combustion zone temperature is not less than 1400 degrees F:
$$T_{\min} = T_{\text{avg}} - 50, \text{ for } T_{\text{avg}} \geq 1450 \text{ degrees F}$$
$$T_{\min} = 1400, \text{ for } T_{\text{avg}} < 1450 \text{ degrees F}$$

VI. Permit Conditions

Condition # 19235

FOR: S-2 ALTAMONT LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM, AND
A-15 LANDFILL GAS FLARE:

(Basis: RACT, Offsets, Cumulative Increase, Toxic Risk Management Policy,
and Regulation 8-34-301.3)

11. The concentration of total reduced sulfur compounds in the collected landfill gas shall not exceed 200 ppmv (dry) expressed as hydrogen sulfide (H₂S). In order to demonstrate compliance with this part, the Permit Holder shall measure the total sulfur content in collected landfill gas in accordance with the monitoring schedule identified in Condition # 18773, Part 10. The landfill gas sample shall be taken from the main landfill gas header.

(Basis: Regulation 9-1-302 and Cumulative Increase)

- *12. The Permit Holder shall submit a permit application for a Change of Permit Conditions, if any site-specific landfill gas characterization test indicates that the landfill gas at this site contains any of the following compounds at a level greater than the concentration listed below. The Permit Application shall be submitted to the Permit Services Division, within 45 days of receipt of test results indicating a concentration above the levels listed below.

<u>Compound</u>	<u>Concentration (ppbv)</u>
Acrylonitrile	500
Benzene	3300
Benzylchloride	600
1,4 Dichlorobenzene	1100
Ethylene Dibromide	300
Ethylene Dichloride	250
Ethylidene Dichloride	1200
Methylene Chloride	2500
Perchloroethylene	2400
1,1,2,2 Tetrachloroethane	550
Trichloroethylene	1400
Vinyl Chloride	1100

(Basis: Toxic Risk Management Policy)

VI. Permit Conditions

Condition # 19235

FOR: S-2 ALTAMONT LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM, AND
A-15 LANDFILL GAS FLARE:

13. In order to demonstrate compliance with Regulation 8, Rule 34, Sections 301.3 and 412 and Parts 7 through 12 above, the Permit Holder shall ensure that a District approved source test is conducted annually on the A-15 Landfill Gas Flare. The annual source tests shall be conducted while the flare is operating at or near maximum operating rates and for each of the following operating conditions: (a) while the flare is burning landfill gas without any condensate injection and (b) while the flare is burning landfill gas and condensate is being injected into the flare at or near the maximum injection rate of 2.5 gallons/minute. Each source test shall determine the following:
 - a. landfill gas flow rate to the flare (dry basis);
 - b. concentrations (dry basis) of carbon dioxide (CO₂), nitrogen (N₂), oxygen (O₂), total hydrocarbons (THC), methane (CH₄), 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 NO_x, CO, NMOC, and O₂ in the flare stack gas;
 - e. NMOC destruction efficiency achieved by the flare; and
 - f. average combustion zone temperature of the flare during the test period.The first annual source test for the A-15 Landfill Gas Flare shall be conducted within 120 days of the initial start up date for A-15. Testing of A-15 while condensate is being injected is not required until the first annual source test that is scheduled to occur after the date that condensate injection commences. Subsequent annual source tests shall be conducted no sooner than 9 months and no later than 12 months after the previous source test. Testing of A-15 while condensate is being injected is not required, if condensate was not injected into the flare during any of the 12 consecutive months prior to the source test date. 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 the Source Test Section within 60 days of the test date. (Basis: RACT, Offsets, Cumulative Increase, Toxic Risk Management Policy, and Regulations 8-34-301.3 and 8-34-412)

VI. Permit Conditions

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FOR: S-2 ALTAMONT LANDFILL WITH LANDFILL GAS COLLECTION SYSTEM, AND
A-15 LANDFILL GAS FLARE:

14. The Permit Holder shall conduct a characterization of the landfill gas concurrent with the annual source test required by Part 13 above. The landfill gas sample shall be drawn from the main landfill gas header. In addition to the compounds listed in Part 13b, the landfill gas shall be analyzed for the organic compounds listed below, except that acrylonitrile testing shall be conducted once every four years instead of annually. All concentrations shall be reported on a dry basis. The test report shall be submitted to the Compliance and Enforcement Division and the Source Test Section within 60 days of the test date. (Basis: Toxic Risk Management Policy, Cumulative Increase, and Regulation 8-34-412)

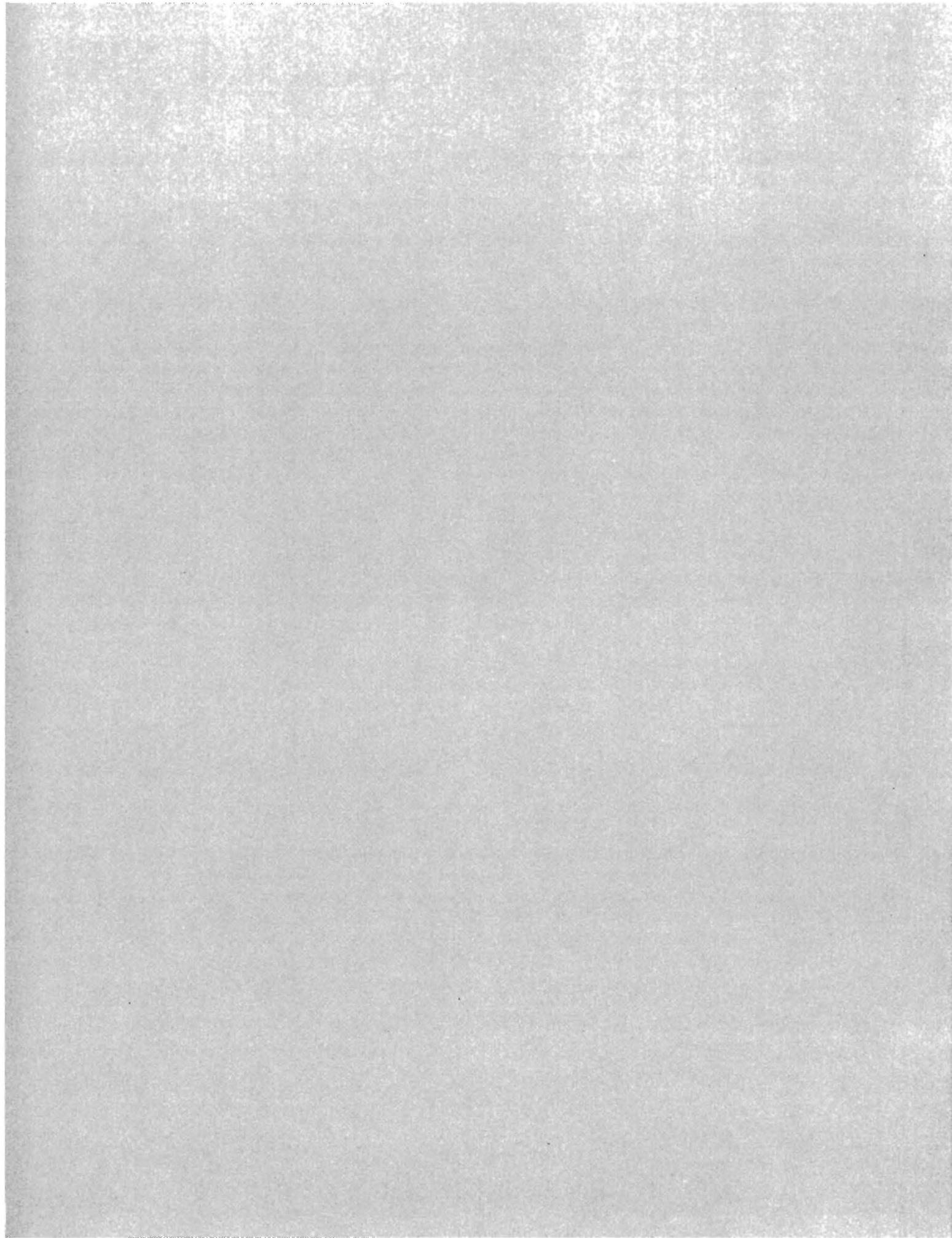
Organic Compounds

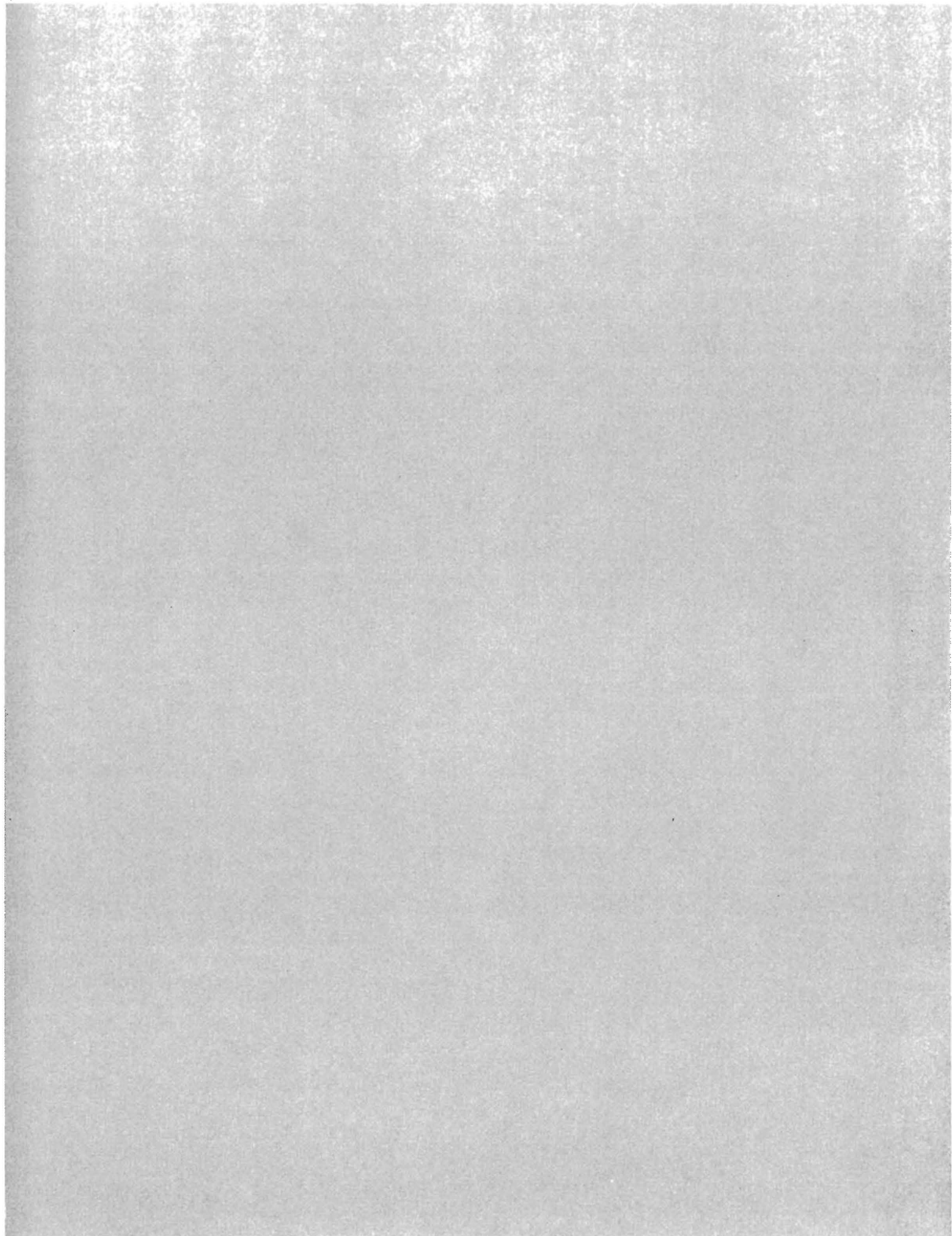
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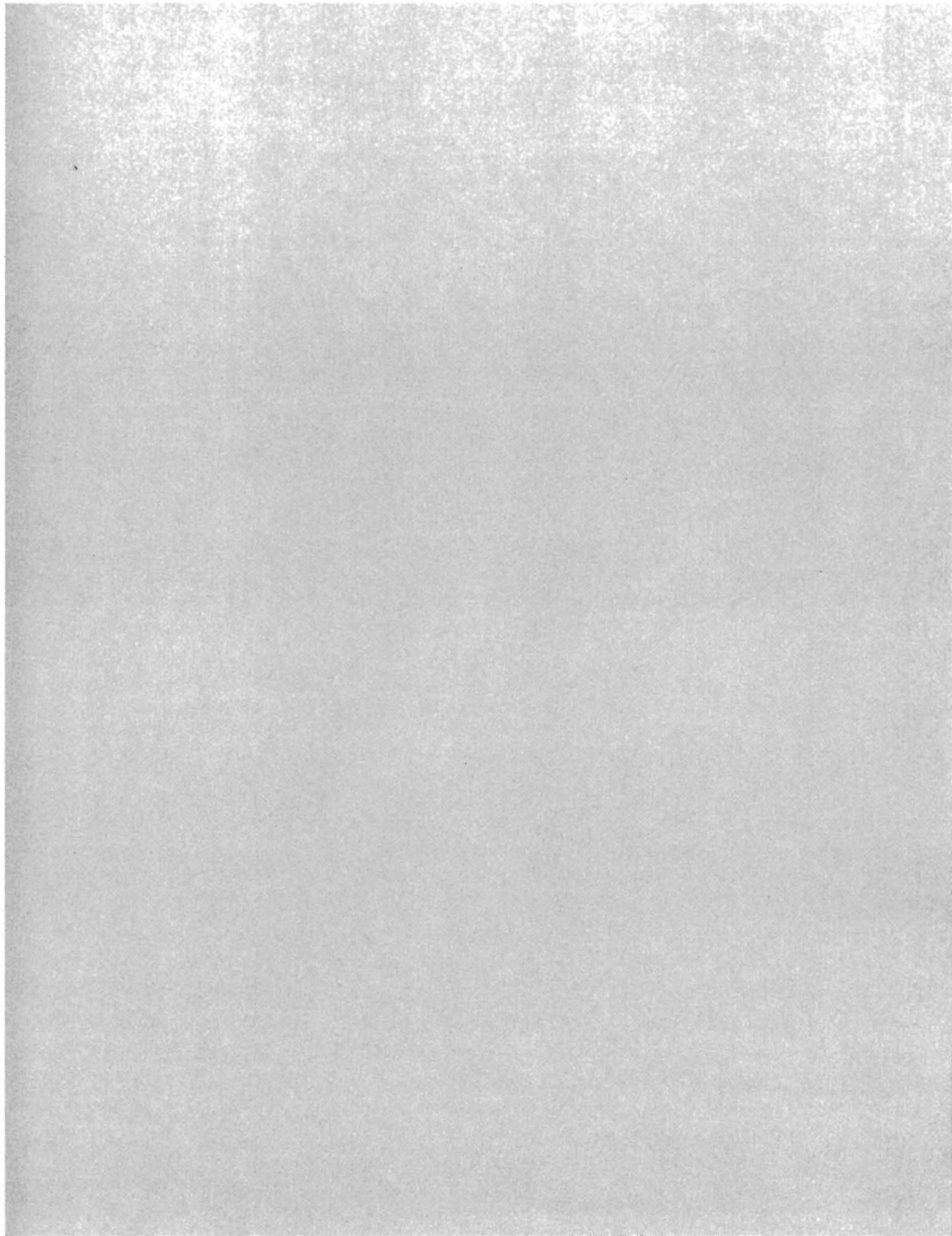
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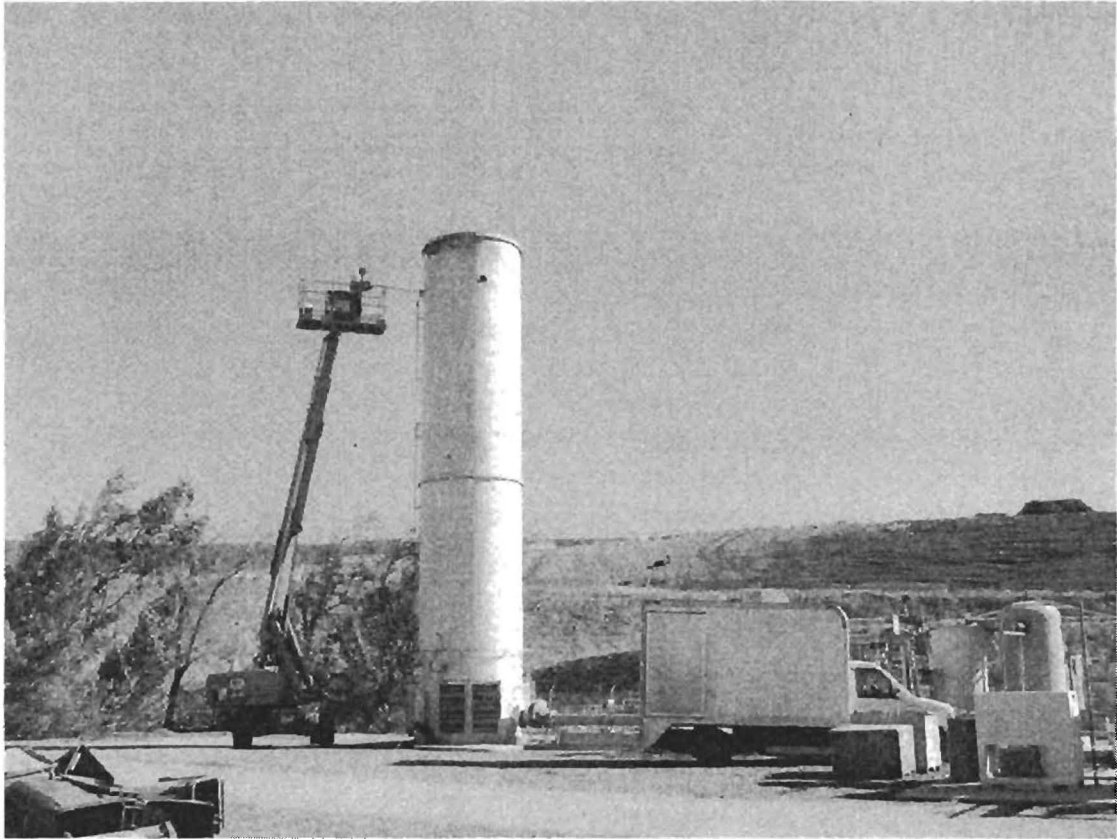
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toluene
1,1,1 trichloroethane
1,1,2,2 tetrachloroethane
trichloroethylene
vinyl chloride
xylenes

15. In order to demonstrate compliance with the above conditions, the Permit Holder shall maintain the following records in a District approved logbook.
- For the Landfill Gas Flare (A-15), record the date and time for each start-up and shut-down of the flare and the reason for each shut-down.
 - Summarize the operating hours for the Landfill Gas Flare (A-15), on a daily basis.









Altamont Flare A-15



Altamont Flare A-15



Altamont Flare A-15

