AECOM Environment

Prepared for:

Prepared by:
AECOM
Westford, MA
60163411.400
April 2011

MACT Comprehensive Performance Test Report and Notification of Compliance for Lightweight Aggregate Kilns 1 and 2

Final Report

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Prepared By: Douglas R. Roeck

Reviewed By: Patrick J. Ford

Contents

List of Appendices

List of Tables

Glossary of Terms and Acronyms

acfm	actual cubic feet per minute
APCS	air pollution control system
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWFCO	automatic waste feed cut-off
Cd	cadmium
CEMS	continuous emission monitoring system
CFR	Code of Federal Regulations
Cl_2	chlorine (gas)
CMS	continuous monitoring system
CO	carbon monoxide
COA	certificate of analysis
CO_2	carbon dioxide
COC	chain of custody
CPT	comprehensive performance test
Cr	chromium
CVAAS	cold vapor atomic absorption spectroscopy
DCS/DAS	distributive control system / data acquisition system
DI	deionized (water)
DOC	documentation of compliance
DOT	Department of Transportation (U.S.)
DRE	destruction / removal efficiency
dscfm	dry standard cubic feet per minute
dscm	dry standard cubic meter
EDL	estimated detection limit
EPA	Environmental Protection Agency (U.S.)
EMPC	estimated maximum possible concentration
FRP	fiberglass-reinforced plastic
FSAP	Feed stream analysis plan
gpm	gallons per minute
g/hr	grams per hour
g/sec	grams per second
gr/dscf	grains per dry standard cubic foot
GC/MS	gas chromatography/mass spectrometry

HAPs	hazardous air pollutants
HCl	hydrogen chloride (gas) or hydrochloric acid
Hg	mercury
HOCs	hazardous organic constituents
HRA	hourly rolling average
HRGC/HRMS	high resolution gas chromatography / high resolution mass spectrometry
HWC	hazardous waste combustor
ICAP	inductively coupled argon plasma
ICP-MS	inductively coupled plasma mass spectrometry
ID	induced draft (fan)
IDL	instrument detection limit
in. w.c.	inches water column (pressure)
LCS/LCSD	laboratory control sample/ laboratory control sample duplicate
LLGF	liquid low-grade fuel
lb/hr	pounds per hour
LWAK	lightweight aggregate kiln
LVM	low volatile metals (arsenic, beryllium and chromium)
MACT	maximum achievable control technology
MCB	monochlorobenzene
MDL	method detection limit
µg	micrograms
mg	milligrams
mg/kg	milligrams per kilogram
MS/MSD	matrix spike / matrix spike duplicate
ND	non-detect or not detected
NDIR	non-dispersive infrared
NELAC	National Environmental Laboratory Accreditation
NESHAPs	National Emission Standards for Hazardous Air Pollutants
ng	nanograms
NIST	National Institute of Standards and Technology
NOC	Notification of Compliance
NO_x	oxides of nitrogen
NYSDEC	New York State Department of Environmental Conservation
O&M	operation and maintenance
OPL	operating parameter limit

OTC	operator training and certification
O_2	oxygen
Pb	lead
PCDDs	polychlorinated dibenzo-p-dioxins
PCDFs	polychlorinated dibenzofurans
pg	picograms
PET	performance evaluation test
PLC	programmable logic controller
P&ID	process and instrumentation diagram
PM	particulate matter
POHC	principal organic hazardous constituent
ppb(v)	parts per billion (volume basis)
ppm(v)	parts per million (volume basis)
QAO	quality assurance officer
QAPP	quality assurance project plan
QA/QC	quality assurance/quality control
RA	relative accuracy
RAVG	rolling average
RCRA	Resource Conservation and Recovery Act
RL	reporting limit
RPD	relative percent difference
RRF	relative response factor
RSD	relative standard deviation
RDL	reliable detection level
scfh	standard cubic feet per hour
scfm	standard cubic feet per minute
S/N	signal-to-noise ratio
SO_2	sulfur dioxide
SO_3	sulfur trioxide
H_2SO_4	sulfuric acid
SOP	standard operating procedure
SRE	system removal efficiency
SSMP	startup, shutdown and malfunction plan
SVM	semivolatile metals (cadmium and lead)
tph	tons per hour

TEF	toxic equivalency factor
TEQ	toxic equivalencies
THC	total hydrocarbons
WAP	waste analysis plan

1.0 Statement of Compliance

The hazardous waste combustor (HWC) identified as lightweight aggregate kiln (LWAK) No. 1 operated at the Norlite Corporation facility in Cohoes, New York was tested in October 2010 and January 2011 to assess the unit's performance relative to the emissions standards and related requirements set forth in 40 CFR 63 Subpart EEE. This Report documents that Norlite's LWAK systems fully comply with these standards.

Project Approvals

Prepared By: _____ Date: _____

Douglas R. Roeck
AECOM Project Manager

Approved By: _____ Date: _____

Patrick J. Ford
AECOM Technical Reviewer

2.0 Program Summary and Notification of Compliance

2.1 Summary of Test Results

Norlite conducted its Maximum Achievable Control Technology (MACT) Comprehensive Performance Test (CPT) on Kiln No. 1 over the following two time periods during 2010 and 2011:

- October 18-22, 2010; and
- January 10-14, 2011

Two separate testing campaigns were required due to the fact that higher than expected polychlorinated dibenzo-p-dioxins / polychlorinated dibenzofurans (PCDDs/PCDFs) emissions occurred during the original Condition 1 conducted in October 2010. Ultimately, results from these two separate CPT programs demonstrated full compliance with all MACT performance standards and/or performance criteria. The test program was conducted in accordance with an approved MACT CPT Plan and under full oversight of the New York State Department of Environmental Conservation (NYSDEC). As described in the Plan, test parameters included regulated emissions and/or performance standards.

An overall summary of emission results and/or performance criteria for all MACT-regulated parameters along with identification of the specific test phase from which the data were used to demonstrate compliance is provided in **Table 2-1**.

Table 2-1 Overall Summary of CPT Emission Results

Regulatory Citation / Emission Parameter	Units	CPT Test Codition				MACT Limit [(a)]
		1	2	1RT	1A	
40 CFR 63.1221(a)(1)(i) PCDDs/PCDFs (TEQ Basis)	ng/m³	0.3121	0.1374	0.0334	0.0237	0.20
40 CFR 63.1221(a)(2) Mercury	µg/m³	(b)	33.6	(b)	(b)	120
40 CFR 63.1221(a)(3) Semivolatile Metals	µg/m³	(b)	54.5	(b)	(b)	250
(Cd and Pb)	lb/10^6 Btu	(b)	5.7E-05	(b)	(b)	3.0E-04
40 CFR 63.1221(a)(4) Low Volatile Metals	µg/m³	(b)	36.6	(b)	(b)	110
(As, Be and Cr)	lb/10^6 Btu	(b)	3.9E-05	(b)	(b)	9.5E-05
40 CFR 63.1221(a)(5)(i) Carbon Monoxide	ppm	30.0	41.7	34.5	45.5	100
40 CFR 63.1221(a)(6) HCl and Cl_2	ppm	(b)	97.0	(b)	(b)	600
40 CFR 63.1221(c)(1) POHC DRE	%	(b)	(b)	(b)	99.9977	99.99
40 CFR 63.1221(a)(5)(i) Total Hydrocarbons	ppm	(b)	(b)	(b)	4.85	20
40 CFR 63.1221(a)(7) Particulate Matter	gr/dscf	(b)	0.0127	(b)	(b)	0.025

[(a)] Final MACT standards for lightweight aggregate kilns were published in the Federal Register on October 12, 2005. See 70 FR 59574, Section 63.1221.

[(b)] Parameter not measured during this condition.

Note 1: All emission data (except DRE) are corrected to 7% oxygen.

Note 2: Emission standards for LVM and SVM (thermal) are based on heat input from the hazardous waste (LLGF).

2.2 Notification of Compliance (NOC)

The requirements for a NOC under the HWC MACT rule are outlined under 40 CFR 63.1210(d). As required by the regulations, an NOC is required to be submitted within 90 days of test completion. This CPT report and NOC is being submitted prior to the **April 14, 2011** deadline, as specified by NYSDEC. The following sections provide the required information.

2.2.1 Facility Information

The Norlite LWAKs produce an expanded shale aggregate and in the process burn liquid low-grade fuel (LLGF) as an energy source. The process is monitored and controlled by a distributive control system (DCS) capable of continuously monitoring the process to assure operational parameters are within regulatory and permit limits while waste is being fed to the unit. In addition, both kilns are equipped with a continuous emissions monitoring system (CEMS) that continuously samples the exhaust gases for oxygen and carbon monoxide concentrations in the stack gas stream. The facility ID and mailing address is:

Norlite Corporation
628 South Saratoga Street
Cohoes, New York 12047

U.S. EPA ID # : NYD 080 469 935

The primary contact is:

Mr. William Morris
Vice President of Environmental Affairs
Phone: (203)-537-2322
E-mail: bmorris@norlitecorp.com

2.2.2 Source Information and Applicability

In accordance with the provisions of 40 CFR §63.1201(a), all hazardous waste combustion sources must be treated as if they are major sources under the Title V permitting program.

2.2.3 Emission Standards

The emissions standards that apply to the Norlite facility that were evaluated under this program are summarized in **Table 2-2**.

Table 2-2 Applicable Emission Standards for Lightweight Aggregate Kilns

Emissions Parameter	Limit	Citation
Destruction and Removal Efficiency (DRE)	≥99.99%	40 CFR 63.1221(c)(1)
PCDDs/PCDFs	≤0.20 ng/dscm TEQ	40 CFR 63.1221(a)(1)(i)
Total Chlorine (as HCl & Cl_2)	≤ 600 ppmv dry	40 CFR 63.1221(a)(6)
Mercury	≤ 120 μg/dscm or MTEC in excess of 120 μg/dscm	40 CFR 63.1221(a)(2)
Semivolatile Metals (SVM) (Cadmium and Lead)	≤ 250 μg/dscm and ≤ 3.0E-04 lb per MMBTU heat input*	40 CFR 63.1221(a)(3)
Low Volatile Metals (LVM) (Arsenic, Beryllium and Chromium)	≤ 110 μg/dscm and ≤ 9.5E-05 lb per MMBTU heat input*	40 CFR 63.1221(a)(4)
Carbon monoxide or	≤ 100 ppmv dry	40 CFR 63.1221(a)(5)(i)
Totals Hydrocarbons	≤ 20 ppmv	40 CFR 63.1221(a)(5)(ii)
Particulate Matter (PM)	≤ 0.025 gr/dscf	40 CFR 63.1221(a)(7)

* heat input from hazardous waste (e.g., LLGF)

70 FR 59574, October 12, 2005

Note: All emission parameters (except DRE) are measured on a dry basis and corrected to 7% O_2.

2.2.4 Operating Parameter Limits

Operating parameter limits (OPLs) are established during the CPT to ensure continued compliance with the MACT standards. The specific OPLs that must be set are delineated in the regulations under 40 CFR 63.1209. The final set of MACT OPLs resulting from the two testing events (the original Condition 2 testing in October 2010 and successful retesting of Condition 1 in January 2011) is provided in **Table 2-3**. Further discussion on the regulatory requirements associated with these OPLs and the logic pertaining to how these limits have been established is provided later in Section 4.5.

Table 2-3 Final OPLs Established to Ensure MACT Compliance

Kiln Operating Parameters	Units	CPT Test Results			How Set	MIN or MAX	Cond. Used	Final OPL
		C2	C1RT	C1A				
Process & CEM Parameters --								
Total (and Pumpable) LLGF Feed	gpm	10.3	10.3	10.5	(a)	MAX	C1A	10.5
Kiln Production Rate (Shale Feed)	tph	22.8	23.6	23.6	(a)	MAX	C2	22.8
LLGF Atomization Pressure	psi	60.7	37.7	35.9	(b)	MIN	C1A	35.9
Back End Temperature	°F	990	895	895	(c)	MIN	C1A	895
Heat Exchanger Exit Temperature	°F	450	434	436	(c)	MAX	C1A	436
Flue Gas Flowrate	wet scfm	35,691	34,425	45,625	(c)	MAX	C1A	45,625
CO Conc. @ 7% O_2	ppm	41.7	34.5	45.5	(d)	MAX	N/A	100
APCS Parameters --								
Baghouse Inlet Temperature	°F	400	386	383	(c)	MAX	C2	400
Venturi Pressure Drop	in. w.c.	6.1	6.2	8.6	(c)	MIN	C2	6.1
Scrubber Recirculation Rate	gpm	174.7	172.7	171.1	(c)	MIN	C2	174.7
Scrubber Blowdown Rate	gpm	14.6	13.9	14.1	(c)	MIN	C2	14.6
Scrubber Liquid Ph	pH	8.1	8.0	8.0	(c)	MIN	C2	8.1
Scrubber Tank Liquid Level	% Ht.	58.0	56.5	56.7	(c)	MIN	C2	58.0
Scrubber Liquid to Gas Ratio	gal / 10^3 ft^3	4.9	5.0	3.8	(c)	MIN	C2	4.9
Lime Feed Rate	lb/hr	250	270	270	(c)	MIN	C2	250
Lime Carrier Fluid Flow Rate	scfm	151.8	150.8	150.1	(c)	MIN	C2	151.8
Constituent Feed Rates --								
Total Chlorine	lb/hr	119.2	93.4	119.2	(c)	MAX	C2	119.2
Total SVM (Cd & Pb)	lb/hr	6.56	1.26	1.68	(c)	MAX	C2	29.3
Total LVM (As + Be + Cr)	lb/hr	6.46	4.74	5.03	(c)	MAX	C2	16.6
Total Pumpable LVM	lb/hr	2.86	0.85	1.17	(c)	MAX	C2	5.55
Total Mercury	lb/hr	0.0109	0.0018	0.0022	(c)	MAX	C2	0.036

(a) Average of the maximum hourly rolling average for each run
(b) Based on manufacturer recommendation and Norlite operating experience
(c) Average of the test run averages. For metals, also based on extrapolation; see Table 4-11 and associated text.
(d) Regulatory citation

2.2.5 Automatic Waste Feed Cutoff Limits

Norlite's LWAK systems continuously operate with an automatic waste feed cutoff (AWFCO) system to ensure compliance with all applicable operating and feed rate limits. The AWFCO system triggers a waste feed cutoff whenever any of the following conditions exist:

- when an OPL is exceeded;
- when an emission standard monitored by a CEMS (i.e., carbon monoxide) is exceeded;
- when the span value of any continuous monitoring system (CMS) detector (except a CEMS) is met or exceeded;
- upon malfunction of a CMS; and
- when any component of the AWFCO system fails (manual shutdown).

Table 2-4 lists the AWFCO limits and set points (representing a combination of RCRA and MACT limits) that will become operational upon submittal of this NOC. The waste feed will be automatically shut off whenever one of the set points is exceeded. Each of these operating parameters will

continue to be monitored during a cutoff event. The waste feed can be restarted only after each of the above AWFCO conditions is satisfied.

Testing of the automatic waste feed cutoff system is conducted in accordance with requirements delineated in 40 CFR 264.347(c) and as outlined in Permit Module VII, Section E (Monitoring and Inspection), paragraph (3). Briefly, this consists of monthly testing of the AWFCO system and all associated alarms. Permit requirements also include continuing testing performed on at least one system parameter on a random basis at least once every 7 days to verify proper operation of the control valves. Actual AWFCO events fulfill the weekly testing requirement.

Table 2-4 AWFCO Parameters and Operating Limits

Process Parameter	Units	Basis [a]	Current Alarm Set Point	Current AWFCO Limit
LLGF Feed Rate	gpm	HRA	9.0	> 10.3
Pumpable LLGF Feed Rate	gpm	HRA	9.0	> 10.3
Shale Feed Rate	tph	HRA	21	22
Minimum Back-end Temperature	°F	HRA	910	< 896
Maximum Back-end Temperature	°F	HRA	1,010	> 1,030
CO Concentration at the Baghouse Outlet Corrected to 7% O_2	ppm, dry basis	HRA	60	> 100
Stack Gas Flowrate	Wet scfm	HRA	44,500	> 45,000
Kiln Pressure	in. w.c.	INST	- 0.08	> - 0.05
Minimum Baghouse Pressure Drop	in. w.c.	HRA	5.6	< 5.1
Scrubber Water Recirculation Rate	gpm	HRA	194	< 180
Heat Exchanger Outlet Temperature	°F	HRA	448	> 453
Maximum Baghouse Inlet Temperature	°F	HRA	390	> 399
Minimum Lime Feed Rate	lb/hr	N/A	290	< 270
Minimum Recirculation Tank pH	pH	HRA	8.2	< 8.0
Minimum Venturi Pressure Drop	in. w.c.	HRA	3.5	< 2.9
Minimum Ducon Unit Pressure Drop	in. w.c.	HRA	2.0	< 1.5
Scrubber Water Blow Down	gpm	HRA	17	< 16.2
LLGF Line Pressure	psig	HRA	40	< 35
LLGF Atomization Pressure	psig	HRA	60	< 52

[a] HRA = Hourly Rolling Average; INST = Instantaneous

Note: Values in this table represent a combination of RCRA and MACT limits

2.2.6 HWC Residence Time

The HWC MACT rule defines hazardous waste residence time as *"the time elapsed from cutoff of the flow of waste into the combustor until solid, liquid and gaseous materials from the hazardous waste exit the combustion chamber."* This is a regulatory term used to define when a unit is operating under a hazardous waste combustion mode. For the purposes of the residence time calculation for Norlite's rotary kilns, this determination is based on the gas-phase residence time since only liquid hazardous waste is burned and since the LLGF would be instantly vaporized in the kiln burning zone where temperatures range from 2,200°F to 3,000°F. The calculation of residence time is based on the kiln dimensions and actual stack gas flowrate measurements. The longest residence time for each kiln would result from the lowest flue gas flowrate and lowest kiln temperature. These calculations have been based on the flowrate measured by the Method 23 (PCDD/PCDF) sampling train during Condition A of the April 1999 trial burn (41,900 acfm at 140°F). The resulting calculation yields residence times of 4.4 seconds and 4.6 seconds for Kilns 1 and 2, respectively. These computations were presented in more detail in Appendix A of the approved CPT Plan.

2.2.7 Fugitive Emissions

Norlite complies with the requirements of 40 CFR 63.1206(c)(5)(i)(B) for controlling combustion system leaks of hazardous air pollutants (HAPs) by maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor. In addition, Norlite has installed a double-walled fugitive emission containment system on the kilns. The emissions capturing system (interstitial chamber) pressure will be kept at or below -0.08 in. w.c. on an hourly rolling average basis with an AWFCO should the HRA exceed -0.08 in. w.c. The following additional operational conditions apply:

- The front end pressure shall remain at or below -0.05 in. w.c. If the front end instantaneous pressure continuously exceeds -0.05 in.w.c. for more than 3.0 seconds, an AWFCO shall occur immediately.
- If the front end instantaneous pressure continuously exceeds 0.00 in. w.c. for more than 1.0 second, then an AWFCO shall occur immediately.
- If the emissions capturing system (interstitial chamber) instantaneous pressure reaches or exceeds 0.00 in. w.c. continuously for more than 1.0 second, then an AWFCO shall occur immediately.
- If at any time the instantaneous front end pressure and the emissions capturing system pressure reach or exceed 0.00 in. w.c. at the same time, then an AWFCO shall occur immediately.

2.2.8 Other MACT Operating Requirements

2.2.8.1 Startup, Shutdown Malfunction Plan

Norlite has previously developed and placed in the operating record a Startup, Shutdown and Malfunction Plan (SSMP) in accordance with 63.6(e)(3) and 63.1206(c)(2)(ii)(B). The SSMP describes, in detail, procedures for operating and maintaining the source during periods of startup, shutdown, and malfunction; and a program of corrective action for malfunctioning process and monitoring equipment used to comply with the relevant standard.

2.2.8.2 Operation and Maintenance Plan

Norlite has previously developed and placed in the operating record an Operation and Maintenance Plan (O&M Plan) in accordance with 63.1206(c)(7). The O&M Plan describes in detail procedures for operation, inspection, maintenance, and corrective measures for all components of the combustion system that could affect emissions of regulated hazardous air pollutants. The plan prescribes how the facility operates and maintains the combustor in a manner consistent with good air pollution control practices for minimizing emissions at least to the levels achieved during the CPT. This plan ensures compliance with the operation and maintenance requirements of 63.6(e) and minimizes emissions of pollutants, automatic waste feed cutoffs, and malfunctions.

2.2.8.3 CMS QC Program Plan

Norlite has previously prepared and currently operates under a CMS quality control (QC) Program Plan as required by 40 CFR 63.8(c)(3), 63.8(d) and the Appendix to Subpart EEE. This document provides detailed instrument specifications and audit and calibration procedures for all of the continuous monitoring instrumentation (including the continuous emission monitors) associated with the LWAK systems.

2.2.8.4 Feed Stream Analysis Plan

Norlite has previously updated and revised the RCRA waste analysis plan (WAP) such that it now incorporates all required elements of a MACT Feed Stream Analysis Plan (FSAP). The FSAP specifies the following information relative to Norlite's LLGF hazardous waste stream:

- Parameters to be analyzed;
- How the data are obtained (i.e., direct sampling and analysis or from other sources);
- How the data will be used to document compliance with applicable feed rate limits;
- Test methods used;
- Sampling methods used to ensure collection of representative samples; and
- Frequency of analyses.

2.2.8.5 Operator Training and Certification

Norlite has previously developed and implemented an Operator Training and Certification (OTC) Program as required by 40 CFR 63.1206(c)(6). The OTC program is designed to provide training to all personnel whose activities may reasonably be expected to directly affect emissions of hazardous air pollutants from the combustion system. Control room operators are trained and certified in accordance with 40 CFR 63.1206(c)(6)(iii). At least one certified control room operator is on duty at the site at all times while the unit is in operation.

2.2.9 Certification

Norlite Corporation hereby certifies that:

(i) All required CEMS and CMS are installed, calibrated and continuously operating in compliance with the requirements of Subpart EEE;

(ii) Based on the results of comprehensive performance testing conducted in October 2010 and January 2011, the LWAKs are operating in compliance with the emission standards and operating requirements of 40 CFR Part 63 Subpart EEE; and

(iii) The OPLs required by 40 CFR 63.1209 and specified in this NOC ensure compliance with the emission standards.

Signature:
Name: Mr. William Morris
Title: Vice President of Environmental Affairs
Date:

3.0 Introduction and Process Description

3.1 Introduction and Project Background

The Norlite facility is subject to the HWC MACT rule promulgated by the U.S. EPA on September 30, 1999 in 40 CFR 63 Subpart EEE. Initial comprehensive performance testing to document compliance with the interim standards was performed in March, June and July 2004.

In preparation for this test program, Norlite submitted a series of plans and negotiated on a number of issues in order to result in an overall test protocol that was acceptable to all parties. The CPT was conducted in accordance with the final approved CPT Plan, Revision 2, dated August 6, 2010. Comprehensive performance testing to document compliance with the LWAK replacement standards was performed in October 2010 and January 2011.

3.2 Facility Overview

The Norlite facility produces an expanded shale aggregate in two dry process rotary kilns. Raw materials are quarried on-site and transported to the kiln via a conveyor system. The basic material (shale) is proportioned and stored in a silo. The raw product is introduced to the kiln at the feed (back) end from the silo, while fuels are fed from the opposite end. Calcination of the product occurs at a product temperature of 1,700°F to 2,000°F. The shale is then heated to the point of incipient fusion where it is in a semi-plastic state to expand internal gases, thereby creating voids. The cooled vitreous clinker is then discharged and stockpiled. In addition, a comprehensive air pollution control system is operated to comply with all emission standards.

3.3 Process Description

This section presents a summary description of the Norlite LWAK systems. Brief descriptions for each major section of the overall combustion system are provided below. Further details can be found in the aforementioned CPT Plan.

3.3.1 Rotary Kilns

Kiln No. 1, manufactured by Traylor, is 175 feet long. Kiln No. 2, manufactured by Allis-Chalmers, is 180 feet long. Both kilns have an outside diameter of 11 feet and consist of a steel shell lined with 6-inch refractory brick, for an effective inside diameter of 10 feet. The burn zone extends approximately 30 feet from the burner end of the kiln. The burning zone gas temperature is maintained at 2,200°F to 3,000°F.

The rated capacity of each kiln is approximately 25 tons per hour (tph) clinker. Typically, 2.5×10^6 Btu are required to produce one ton of clinker at maximum capacity. In order to achieve a quality lightweight aggregate product, the kiln is normally operated at approximately 8% to 10% oxygen at the back-end with carbon monoxide concentrations less than 100 parts per million (ppm).

3.3.2 Waste Feed Systems

3.3.2.1 Liquid Waste Feed

LLGF is maintained in nitrogen blanketed, storage tanks and is delivered to the kiln through a pumping station to maintain an approximate maximum feed rate of 10.3 gallon per minute (gpm) to each burner. The burner consists of a stainless steel outer pipe that supplies atomization air or steam and a $^{3}/_{8}$-inch diameter carbon steel inner pipe. This burner uses high-pressure air or steam atomization to inject the material directly into the combustion zone. The LLGF burner is rated at 10.3 gpm at 35 psi line pressure and is monitored continuously with a Micromotion doppler flow meter.

3.3.2.2 Solid Feed Materials

The basic feed material is shale, which is proportioned and stored in a covered silo and then fed directly to the kiln. The shale is introduced at the back end of the kiln (countercurrent to the waste fuels that are fed from the opposite end). No solid waste materials are fed to the kiln.

3.3.2.3 Process Vent Streams

There are two (2) process vent streams that are sent to the kiln for incineration. The first stream is the vent from the nitrogen blanketed LLGF storage tanks. During the filling cycles of the storage tanks, any excess gaseous vapors are vented through a closed loop system to the burner end of the kiln. The second stream consists of vented material from the drum handling operations. Drums are emptied via a vacuum system. The vacuum system vents to the kiln and also includes general drum area vapors under negative ventilation. This vent stream is mixed with ambient air and is used as primary combustion air for the burner.

3.3.2.4 Supplemental Fuels

Natural gas, fuel oils or used oil are used to preheat the kiln during start-up and may also be used as supplemental fuel while firing LLGF. Natural gas or fuel oil may also be used as a pilot when firing LLGF. Fuel oil or used oil may also be blended with LLGF when firing to increase heat content of the waste feed and improve combustion characteristics. In cases where fuel oil or used oil is fired with LLGF, the metals content of the fuel oil is taken into account in demonstrating compliance with condition 1E of Attachment C of the current Part 373 Permit.

3.3.3 Air Pollution Control Equipment

Both kilns have identical emission control systems that include both wet and dry emission control devices for the collection and removal of particulate matter, hydrogen chloride (HCl), metals and other gaseous emission products. The principal collection mechanisms are sedimentation, condensation, impaction, filtration and interception for particulate matter and metals and absorption for HCl and other gaseous species. The overall air pollution control system (APCS) also includes forced draft fans, an induced draft fan and exhaust stack, each of which is described below. It is also noted that neither kiln is equipped with any type of emergency safety vent.

3.3.3.1 Multiclone

Kiln emissions first pass through a mechanical collector to remove large particulate matter, a Barrons multiple cyclone unit (multiclone) incorporating relatively small diameter cyclones operating in parallel with a common inlet and outlet. The multiclone is provided to remove coarse particulate matter and is rated for 2-3 in. w.c. pressure drop. Dust collected in the multiclone accumulates in a hopper. It is air

conveyed and combines with the baghouse fines, which are added to the light weight aggregate becoming part of the product.

3.3.3.2 Heat Exchanger

The kiln flue gas then passes through an air to air heat exchanger rated at 65,000 actual cubic feet per minute (acfm). This unit was redesigned in late 1999 / early 2000 and now uses two (2) forced draft fans for providing ambient air as the cooling medium. Gases enter the heat exchanger at approximately 900°F to 1,100°F and exit at 400 - 460°F with a 2-3 inch water column (w.c.) pressure drop across the unit. The existing fan supplies air to the bottom exchanger shell and a second (newer) fan supplies ambient air directly to the top exchanger shell. A damper provides cooling air to control temperature if the inlet temperature to the baghouse is higher than desired. The damper is under negative pressure since it is upstream of the induced draft fan. The damper does not function as an emergency bypass to the air pollution control system. There is no such bypass or "dump stack" in the entire kiln process.

3.3.3.3 Fabric Filtration with Hydrated Lime Addition

Following the heat exchanger is an Aeropulse, Inc. Power Pulse Collector (fabric filter or baghouse) with three modules and 17,334 square feet of filter area. The unit is rated for 52,700 acfm at 450°F. The air cloth ratio is 3.04:1 with all three modules operating and 4.50:1 with one down for maintenance. Teflon impregnated woven fiberglass with a permeability of approximately 10 cfm per square foot at 0.5 in. w.c. is used as the filter media. The filter media is continuously pulsed one row at a time, controlled by a timer. A modulating air damper automatically adjusts inlet gas temperatures (if required) to less than 400°F by bleeding in ambient air directly into the flue gas before entering the baghouse. An automatic waste feed cutoff is activated if baghouse inlet temperature exceeds 400°F, since this is the Part 373 Permit limit. Pressure drop across the unit is rated between 2-10 in. w.c., with all three modules on-line.

Hydrated lime [$Ca(OH)_2$], stored in a 2,500 cubic foot silo, is injected into the APCS immediately prior to the baghouse. This is primarily to control sulfur dioxide (SO_2) and sulfuric acid (H_2SO_4) mist from the combustion of LLGF in the kiln and to protect the baghouse from resulting corrosion. The lime also neutralizes hydrogen chloride, providing approximately 80% of the removal prior to the wet scrubber. The baghouse is designed to control 60% of the SO_2 and sulfur trioxide (SO_3) introduced from the kiln. Lime feed varies from near zero to 1,200 pounds per hour, depending upon the fuel type and feed rate. Typical lime specifications are as follows:

- Calcium oxide – 73.6%
- Surface area – 19,500 cm^2/g
- Mean particle diameter – 1.37 μm
- Bulk density (loose / tamped) – 17.6 / 37.0 lb/ft^3

Fines collected in each cell of the baghouse are discharged via a rotary air lock. The fines are conveyed and combined with the multiclone fines to one of two storage silos. Fines from both silos are added to the light weight aggregate, becoming part of the product. The baghouse is also equipped with a bag leak detection system as required by 40 CFR 63.1206(c)(8)(ii). This system is a BHA Group, Inc. CPM-750 Particulate Detection System that is fully certified to comply with EPA bag leak detection system guidelines of responding to mass emissions at concentrations of 1.0 mg/m^3.

3.3.3.4 Venturi Scrubber

The ID fan carries exhaust gases to a BECO Venturi (MMV) high energy wet scrubber for acid gas removal. This unit is rated for 53,000 acfm at 450°F at the inlet and 38,600 acfm at 138°F at the outlet, with 2 to 6 in. w.c. pressure drop. The scrubber is a rod design that has tubular stainless steel rods and baffles installed in rows across the throat. The intent is to provide high turbulence like the effect of a small venturi throat without incurring the high pressure drop typically associated with conventional high efficiency venturi scrubbers. Additionally, the tubes and baffles provide additional impaction surfaces for enhanced particulate and HCl collection. The scrubber is designed for 99% HCl and 68% SO_2 removal efficiencies.

Clean water headers are located directly above the venturi to provide sensible cooling to the exhaust system. Caustic sodium carbonate (soda ash) or sodium hydroxide solution, comprised of a maximum of 10% dissolved solids (sodium carbonate, sodium chloride and/or sodium sulfate), is recycled through the unit at approximately 200 gpm. It is introduced through nozzles located below the water headers and directly above the MMV module. Scrubbing solution is also injected into the transition segment located between the venturi MMV and Ducon units. Excess water drains from the venturi exit elbow to the 1,000-gallon settling/recycle tank. The pH of the solution in the recycle tank is continuously monitored by a pH probe and automatically maintained at pH 7.9 or greater. The pH is adjusted by the introduction of 5% to 10% sodium carbonate or sodium hydroxide solution to the venturi feed at a typical rate of 3 to 25 gpm depending on actual pH readings. Blowdown is taken from the blowdown pump discharge to maintain a constant solids concentration in the solution. Blowdown is typically in the range of 4.4 to 30.0 gpm, depending on the quantity of fuel burned as well as the chloride and sulfur contents.

3.3.3.5 Ducon Mist Eliminator

Following the BECO MMV unit is a BECO/QUAD MMV mist eliminator installed in the bottom of the Ducon unit. The unit is designed to capture entrained droplets of caustic solution exiting the BECO scrubber. This unit is rated for a pressure drop of 1.5 to 4 in. w.c. This mist eliminator drains into the recycle tank.

A further modification of the Ducon unit consists of two plastic mesh yock mist eliminator pads (or the equivalent) segmented by a baffle controlling velocity across each pad face. This mist eliminator is located at the top of the unit immediately preceding the exhaust stack. Water sprays on the pad flush solids into the unit for capture in the bottom. The Ducon unit functions as an entrainment separator for the venturi scrubber.

3.3.3.6 Induced and Forced Draft Fans

The baghouse is followed by a Barron 400 horse power (HP) system fan which induces draft through the kiln, multiclone, heat exchanger and baghouse and provides forced draft on the exhaust gases through the venturi scrubber and Ducon mist elimination units. The ID fan is rated at 53,000 acfm at 450°F. Secondary combustion air is supplied by forced draft clinker cooler fans rated at a total of 25,000 scfm. The secondary combustion air is preheated by the clinker cooler at the front end of the kiln.

3.3.3.7 Exhaust Stack

Scrubbed kiln exhaust passes to the atmosphere via a 48 inch diameter fiberglass-reinforced plastic (FRP) stack 120 feet above grade at approximately 46,000 acfm at 130°F and 15% moisture (v/v). Two access platforms are provided for stack sampling.

3.4 Process Monitoring

Each kiln is manned on a 24-hr basis by the burner operator. Assisting the burner operator on each shift is one kiln field operator and one mechanic who are responsible for activities outside of the control room and away from the burner floor area. The facility has implemented an OTC Program in accordance with 40 CFR 63.1206(c)(6) and conducts operations in accordance with their O&M Plan as per 40 CFR 63.1206(c)(7). In the event of a power failure, all systems shutdown including, but not limited to, LLGF flow, fuel farm feed systems, raw shale feed, main flame, etc. All systems require a manual reset. In order to restart, the following must take place:

1. Pilot with virgin fuel such as natural gas.

2. Prove positive of flame.

3. Manual restart/reset of system at fuel pumping area at tank farm.

3.4.1 Burner Flame-Out

The kiln is manned around-the-clock by the burner operator who is constantly monitoring operations. Any flame-out is immediately detectable by loss of temperature on the kiln temperature recorder. The temperature within the kiln and the kiln refractory will provide sufficient heat to maintain a burn zone temperature in excess of 2,000°F for at least 5 minutes in the event of loss of flame. In order to restart after this occurrence, the same procedure previously described for a power failure must be utilized.

The main flame of the kiln is either self-sustaining or sustained by the presence of a virgin fuel pilot. Both the main flame and the pilot flame are monitored by an electronic eye to provide positive proof that a flame exists. In the event of a loss of signal by the electronic eye, the virgin fuel feed to the pilot, the main natural gas valve, the LLGF AWFCO valve, and the used oil feed valve are closed and a manual reset is required to re-establish a proof positive flame. Should operating parameters fall outside the operating window during a flame failure, a virgin fuel is fired to bring all operating parameters within the operating window prior to commencing LLGF feed.

3.4.2 Automatic Waste Feed Cutoff System

Kiln process operations are controlled from a central control room by an operator who oversees a computer-based control system. In addition to routine fail-safe features, a series of waste feed cut-offs are programmed into the control system to assure that LLGF is only fed to the kiln under prescribed conditions. This ensures that wastes are properly destroyed and exhaust gases suitably treated before discharge to the environment. Any deviation from prescribed conditions results in immediate interruption (i.e., cut-off) of hazardous waste feed to the kiln. For any other non AWFCO operational deviations, the standard operating procedure is to shutdown the LLGF feed, switch to natural gas or fuel oil, define the problem and initiate corrective action. Items such as scrubber or baghouse malfunction, loss of atomizing air/steam, ID fan loss, etc. would be covered by this operating procedure. The loss of the ID fan would warrant the shutdown of the entire process to avoid damage to the APC system. As long as the ID fan runs, however, the kiln is maintained under negative static pressure eliminating the possibility of fugitive emissions.

3.4.3 Continuous Monitoring Systems

A variety of process parameters are monitored to ensure ongoing compliance with applicable MACT standards. Continuous monitors are used to track all of the operating parameters summarized previously in Table 2-5.

3.4.4 Continuous Emissions Monitoring System

Oxygen and carbon monoxide are monitored continuously at the outlet from the baghouse and recorded digitally in the CEMS and in the kiln computers. In addition, there are flue gas flow monitors on the stack of each kiln. A brief description of each of the CEMS and flowrate instruments is provided in **Table 3-1**.

Table 3-1 Continuous Emission Monitoring Instrumentation

Instrument	Manufacturer	Range	Model No.	Serial No.
Kiln No. 1				
CO # 1	Siemens / CISCO	0-200 and 0-3,000 ppm	Ultramat 5E	B7-889
CO # 2	Siemens / CISCO	0-200 and 0-3,000 ppm	Ultramat 5E	B7-890
O_2 # 1	Siemens / CISCO	0-25%	Oxymat 5E	B7-066
O_2 # 2	Siemens / CISCO	0-25%	Oxymat 5E	B7-067
Gas Flow Meter	Fluid Components International, LLC	0 – 86,000 wet scfm	GF90	246163
Kiln No. 2				
CO # 1	Siemens / CISCO	0-200 and 0-3,000 ppm	Ultramat 5E	XO7-400
CO # 2	Siemens / CISCO	0-200 and 0-3,000 ppm	Ultramat 5E	F6-187
O_2 # 1	Siemens / CISCO	0-25%	Oxymat 5E	AO2-611
O_2 # 2	Siemens / CISCO	0-25%	Oxymat 5E	F6-279
Gas Flow Meter	Fluid Components International, LLC	0 – 86,000 wet scfm	GF90	247854

4.0 Process Operating Conditions

4.1 Overview of Planned Test Conditions

Norlite's 2010/2011 CPT was designed to demonstrate performance for the Norlite LWAK systems through implementation of a comprehensive emission measurement program using a combination of actual and surrogate feed materials. The CPT was originally planned to be conducted under two process operating conditions to enable demonstration of all required emission levels and process monitoring requirements. Following the first campaign in October 2010, two additional test conditions were planned for January 2011, one of which included a DRE demonstration. Three (3) sampling runs were conducted during each test condition. It is noted that the same basic LLGF waste feed material was used during each test. The four test conditions are described below followed by a chronological description of each test with more details provided.

Condition 1 served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1 included PCDDs/PCDFs only.

Condition 2 served to establish a maximum throughput of constituents (metals and chlorine) as well as total (pumpable) waste feed throughput. This condition included a maximum chlorine input level and maximum feed levels for inorganic (metals) constituents. Emission measurements during Condition 2 included metals, particulate matter, HCl/Cl_2 and PCDDs/PCDFs. Although it is not a MACT operating condition, this test was also performed at the maximum back end temperature in order to cause maximum volatilization of metals.

Condition 1RT (Condition 1 retest) was necessitated after determining that the PCDD/PCDF emissions measured during the original Condition 1 had exceeded the MACT standard. Condition 1RT duplicated the objectives established for Condition 1 and also served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1RT included PCDDs/PCDFs only.

Condition 1A was added to the program since the kiln would be operating at a minimum back-end temperature for Condition 1RT and also because Norlite desired to revise certain OPLs associated with DRE testing. Condition 1A also served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1 included PCDDs/PCDFs, DRE testing and continuous measurement of total hydrocarbons (THC). Monochlorobenzene (MCB) served as the principal organic hazardous constituent (POHC) that was fed to the system during this test.

A chronological discussion of each test condition is also provided below along with additional information on emission measurements and process operating conditions.

4.1.1 Test Condition 2

Condition 2 was designed to establish a maximum throughput of constituents (metals and chlorine) as well as total (pumpable) waste feed throughput. This condition included a maximum chlorine input level and maximum feed levels for inorganic (metals) constituents. Emission measurements during

Condition 2 included metals, particulate matter, HCl/Cl_2 and PCDDs/PCDFs. Although it is not a MACT operating condition, this test was performed at the maximum back end temperature in order to cause maximum volatilization of metals. Test Condition 2 was successfully completed on October 19, 2010. No process interruptions occurred during Condition 2 testing.

4.1.2 Test Condition 1

Condition 1 was designed to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1 included PCDDs/PCDFs only. Test Condition 1 was completed on October 20-21, 2010. Subsequent analytical results indicated a higher than expected PCDD/PCDF emission rate and Condition 1 was scheduled to be retested in January 2011. No process interruptions occurred during the original Condition 1 testing.

4.1.3 Test Condition 1RT

Due to the higher than expected PCDD/PCDF emission rate during the original Condition 1 test in October 2010, a retest was performed in January 2011. This retest was referred to as Condition 1RT and entailed emission measurements for PCDDs/PCDFs only. Condition 1RT was successfully completed on January 11-12, 2011. No process interruptions occurred during Condition 1RT.

4.1.4 Test Condition 1A

Condition 1A was added to the program since the kiln would be operating at a minimum back-end temperature for Condition 1RT and also because Norlite desired to revise certain OPLs associated with the original Condition 1 testing done during the 1999 RCRA trial burn. Condition 1A also served to establish a minimum kiln back-end temperature and a maximum total (pumpable) waste feed throughput. Emission measurements during Condition 1A included PCDDs/PCDFs, DRE testing and continuous measurement of THC. MCB served as the POHC for the DRE test and since this organic compound is not typically present in the LLGF stream, it was injected into the LLGF feed line by a third party contractor. Triad Chemicals LLC of Greensboro, NC was retained to perform the MCB spiking. Triad supplied all MCB material and spiking equipment for the test. The target feed rate of MCB was initially planned to be 60 lb/hr, but this was increased to around 75 lb/hr in the latter two runs to boost the chlorine loading to the kiln. Condition 1A was successfully completed on January 12-13, 2011. No process interruptions occurred during Condition 1A testing.

4.2 Facility Monitoring Data

Throughout this comprehensive test program, detailed process information was collected continuously by the facility's process control computers and DAS. **Tables 4-1 and 4-2** provide summaries of process data for both test conditions conducted in October 2010, including minimum, maximum and average values for key process variables recorded during all sampling run periods. **Tables 4-3 and 4-4** provide similar information for the Condition 1RT and 1A tests conducted in January 2011. Detailed one-minute process data summaries for all tests are included in **Appendix A**. Detailed information on the CMS performance evaluation conducted on all process instrumentation prior to both CPT test programs (in accordance with Section 6.0 of the approved CPT Plan) is included in **Appendix B**.

Table 4-1 Process Operating Data Summary – Condition 2

Kiln 1 Operating Parameters (a)	Units	C2-R1 AVG	C2-R1 MIN	C2-R1 MAX	C2-R2 AVG	C2-R2 MIN	C2-R2 MAX
	Date	19-Oct-10			19-Oct-10		
	Start		10:58			14:40	
	Stop		14:00			17:42	
Process & CEM Parameters --							
LLGF Feed Rate (HRA)	gpm	10.2	10.1	10.3	10.2	10.0	10.3
LLGF Atomization Pressure (HRA)	psi	55.2	52.4	68.2	71.0	65.8	76.1
Shale Feed Rate (HRA)	tph	22.1	21.7	22.8	22.8	22.8	22.8
Back End Temperature (HRA)	°F	1,003	996	1,009	995	980	1,014
Heat Exchanger Exit Temp. (HRA)	°F	450	447	452	450	448	452
Flue Gas Flow rate (HRA)	wet scfm	35,170	34,631	35,534	36,030	35,009	37,046
CO Conc. @ 7% O_2 (HRA)	ppm	44.1	41.0	49.0	40.3	40.0	41.0
O_2 Concentration (HRA)	%	15.4	15.4	15.5	15.3	15.3	15.4
APCS Parameters --							
Baghouse Inlet Temperature (HRA)	°F	400	398	403	400	399	402
Venturi Pressure Drop (HRA)	in. w.c.	6.1	6.0	6.2	6.1	6.0	6.1
Scrubber Recirculation Rate (HRA)	gpm	177.2	174.0	181.0	173.7	173.0	175.0
Scrubber Blowdown Rate (HRA)	gpm	16.0	13.3	22.2	14.6	12.8	17.2
Scrubber Liquid pH (HRA)	pH	8.1	7.8	8.4	8.1	8.0	8.2
Scrubber Tank Liquid Level (HRA)	% Ht.	60.1	55.8	71.5	57.5	56.3	59.0
Lime Feed Rate (HRA)	lb/hr	250.0	250.0	250.0	250.0	250.0	250.0
Lime Carrier Fluid Flow Rate (HRA)	scfm	151.7	151.6	152.6	151.9	151.8	152.2
Ducon Pressure Drop (HRA)	in. w.c.	3.5	3.5	3.6	3.5	3.5	3.5

Kiln 1 Operating Parameters (a)	Units	C2-R3 AVG	C2-R3 MIN	C2-R3 MAX	MACT CPT 2010 October 19, 2010 Condition 2 Averages AVG	MIN	MAX
	Date	19-Oct-10					
	Start		17:58				
	Stop		21:00				
Process & CEM Parameters --							
LLGF Feed Rate (HRA)	gpm	10.2	10.1	10.3	**10.2**	**10.1**	**10.3**
LLGF Atomization Pressure (HRA)	psi	55.9	51.8	65.5	**60.7**	**56.7**	**69.9**
Shale Feed Rate (HRA)	tph	22.8	22.8	22.9	**22.6**	**22.4**	**22.8**
Back End Temperature (HRA)	°F	972	966	978	**990**	**981**	**1,000**
Heat Exchanger Exit Temp. (HRA)	°F	450	448	451	**450**	**448**	**452**
Flue Gas Flow rate (HRA)	wet scfm	35,874	35,198	36,962	**35,691**	**34,946**	**36,514**
CO Conc. @ 7% O_2 (HRA)	ppm	40.8	39.0	41.0	**41.7**	**40.0**	**43.7**
O_2 Concentration (HRA)	%	15.3	15.3	15.4	**15.3**	**15.3**	**15.4**
APCS Parameters --							
Baghouse Inlet Temperature (HRA)	°F	400	399	401	**400**	**399**	**402**
Venturi Pressure Drop (HRA)	in. w.c.	6.1	6.1	6.1	**6.1**	**6.0**	**6.1**
Scrubber Recirculation Rate (HRA)	gpm	173.2	173.0	174.0	**174.7**	**173.3**	**176.7**
Scrubber Blowdown Rate (HRA)	gpm	13.2	12.9	13.4	**14.6**	**13.0**	**17.6**
Scrubber Liquid pH (HRA)	pH	8.1	7.8	8.4	**8.1**	**7.9**	**8.3**
Scrubber Tank Liquid Level (HRA)	% Ht.	56.3	55.2	57.7	**58.0**	**55.8**	**62.7**
Lime Feed Rate (HRA)	lb/hr	250.0	250.0	250.0	**250.0**	**250.0**	**250.0**
Lime Carrier Fluid Flow Rate (HRA)	scfm	151.9	151.7	152.2	**151.8**	**151.7**	**152.3**
Ducon Pressure Drop (HRA)	in. w.c.	3.5	3.5	3.5	**3.5**	**3.5**	**3.5**

(a) HRA = Hourly Rolling Average INST = Instantaneous

Table 4-2 Process Operating Data Summary – Condition 1

Kiln 1 Operating Parameters (a)	Units	C1-R1 AVG	C1-R1 MIN	C1-R1 MAX	C1-R2 AVG	C1-R2 MIN	C1-R2 MAX
Date		20-Oct-10			20-Oct-10		
Start			09:30			13:00	
Stop			12:32			16:02	
Process & CEM Parameters --							
LLGF Feed Rate (HRA)	gpm	10.1	10.0	10.3	10.3	10.2	10.3
LLGF Atomization Pressure (HRA)	psi	56.0	50.8	59.2	53.1	51.1	57.7
Shale Feed Rate (HRA)	tph	23.2	22.8	23.3	23.3	23.3	23.3
Back End Temperature (HRA)	°F	865	864	868	867	865	868
Heat Exchanger Exit Temp. (HRA)	°F	450	447	451	452	451	452
Flue Gas Flow rate (HRA)	wet scfm	33,857	33,539	34,337	33,844	33,245	34,379
CO Conc. @ 7% O_2 (HRA)	ppm	28.5	28.0	29.0	32.9	30.0	35.0
O_2 Concentration (HRA)	%	14.9	14.8	15.1	15.0	14.9	15.1
APCS Parameters --							
Baghouse Inlet Temperature (HRA)	°F	400	399	401	400	399	401
Venturi Pressure Drop (HRA)	in. w.c.	5.6	5.3	5.7	5.9	5.8	5.9
Scrubber Recirculation Rate (HRA)	gpm	174.3	173.0	175.0	173.0	173.0	173.0
Scrubber Blowdown Rate (HRA)	gpm	13.4	12.1	13.7	13.6	13.3	14.4
Scrubber Liquid pH (HRA)	pH	8.0	8.0	8.0	8.0	8.0	8.0
Scrubber Tank Liquid Level (HRA)	% Ht.	56.5	56.1	56.9	56.4	56.1	56.9
Lime Feed Rate (HRA)	lb/hr	250.0	250.0	250.0	250.0	250.0	250.0
Lime Carrier Fluid Flow Rate (HRA)	scfm	149.3	148.7	149.8	149.9	149.8	150.0
Ducon Pressure Drop (HRA)	in. w.c.	3.2	3.0	3.3	3.3	3.3	3.4

Kiln 1 Operating Parameters (a)	Units	C1-R3 AVG	C1-R3 MIN	C1-R3 MAX	MACT CPT 2010 October 20-21, 2010 Condition 1 Averages AVG	MIN	MAX
Date		21-Oct-10					
Start			09:04				
Stop			12:07				
Process & CEM Parameters --							
LLGF Feed Rate (HRA)	gpm	10.5	10.3	10.6	**10.3**	**10.2**	**10.4**
LLGF Atomization Pressure (HRA)	psi	34.0	33.7	35.1	**47.7**	**45.2**	**50.7**
Shale Feed Rate (HRA)	tph	24.8	24.8	24.8	**23.8**	**23.6**	**23.8**
Back End Temperature (HRA)	°F	866	865	867	**866**	**865**	**868**
Heat Exchanger Exit Temp. (HRA)	°F	450	448	451	**451**	**449**	**451**
Flue Gas Flow rate (HRA)	wet scfm	32,193	31,481	36,269	**33,298**	**32,755**	**34,995**
CO Conc. @ 7% O_2 (HRA)	ppm	28.6	28.0	30.0	**30.0**	**28.7**	**31.3**
O_2 Concentration (HRA)	%	14.5	14.4	14.7	**14.8**	**14.7**	**15.0**
APCS Parameters --							
Baghouse Inlet Temperature (HRA)	°F	400	399	401	**400**	**399**	**401**
Venturi Pressure Drop (HRA)	in. w.c.	5.1	5.0	5.5	**5.5**	**5.4**	**5.7**
Scrubber Recirculation Rate (HRA)	gpm	172.8	172.0	173.0	**173.4**	**172.7**	**173.7**
Scrubber Blowdown Rate (HRA)	gpm	13.1	12.9	13.2	**13.4**	**12.8**	**13.8**
Scrubber Liquid pH (HRA)	pH	8.0	8.0	8.0	**8.0**	**8.0**	**8.0**
Scrubber Tank Liquid Level (HRA)	% Ht.	55.9	55.2	56.6	**56.3**	**55.8**	**56.8**
Lime Feed Rate (HRA)	lb/hr	250.0	250.0	250.0	**250.0**	**250.0**	**250.0**
Lime Carrier Fluid Flow Rate (HRA)	scfm	145.5	145.4	145.7	**148.2**	**148.0**	**148.5**
Ducon Pressure Drop (HRA)	in. w.c.	2.9	2.9	3.2	**3.1**	**3.1**	**3.3**

(a) HRA = Hourly Rolling Average INST = Instantaneous

Table 4-3 Process Operating Data Summary – Condition 1RT

Kiln 1 Operating Parameters (a)	Units	C1RT-R1 Date	C1RT-R1 Start	C1RT-R1 Stop	C1RT-R1 AVG	C1RT-R1 MIN	C1RT-R1 MAX	C1RT-R2 Date	C1RT-R2 Start	C1RT-R2 Stop	C1RT-R2 AVG	C1RT-R2 MIN	C1RT-R2 MAX
		11-Jan-11	08:49	11:50				11-Jan-11	12:35	15:37			
Process & CEM Parameters --													
LLGF Feed Rate (HRA)	gpm				10.3	10.2	10.3				10.2	10.2	10.3
LLGF Atomization Pressure (HRA)	psi				37.1	36.3	40.2				40.1	37.7	41.6
Shale Feed Rate (HRA)	tph				23.9	23.7	24.6				23.7	23.6	23.8
Back End Temperature (HRA)	°F				895	895	896				895	894	896
Heat Exchanger Exit Temp. (HRA)	°F				431	425	433				438	435	440
Flue Gas Flow rate (HRA)	wet scfm				33,884	33,644	34,106				35,038	34,253	35,912
CO Conc. @ 7% O_2 (HRA)	ppm				33.3	32.0	34.0				33.5	33.0	35.0
O_2 Concentration (HRA)	%				15.0	15.0	15.0				15.0	15.0	15.0
APCS Parameters --													
Baghouse Inlet Temperature (HRA)	°F				385	383	386				391	386	396
Venturi Pressure Drop (HRA)	in. w.c.				6.4	6.4	6.5				6.1	5.9	6.3
Scrubber Recirculation Rate (HRA)	gpm				174.0	174.0	174.0				173.6	173.0	174.0
Scrubber Blowdown Rate (HRA)	gpm				14.0	13.4	14.9				13.8	13.4	14.2
Scrubber Liquid pH (HRA)	pH				8.0	8.0	8.0				8.0	8.0	8.0
Scrubber Tank Liquid Level (HRA)	% Ht.				56.5	56.1	56.8				56.5	56.3	56.8
Lime Feed Rate (HRA)	lb/hr				270.0	270.0	270.0				270.0	270.0	270.0
Lime Carrier Fluid Flow Rate (HRA)	scfm				150.2	150.0	150.5				150.8	150.3	151.7
Ducon Pressure Drop (HRA)	in. w.c.				2.4	2.3	2.4				2.5	2.4	2.6

Kiln 1 Operating Parameters (a)	Units	C1RT-R3 Date	C1RT-R3 Start	C1RT-R3 Stop	C1RT-R3 AVG	C1RT-R3 MIN	C1RT-R3 MAX	MACT CPT 2010/2011 January 11-12, 2011 Condition 1RT Averages AVG	MIN	MAX
		12-Jan-11	09:03	12:04						
Process & CEM Parameters --										
LLGF Feed Rate (HRA)	gpm				10.2	9.8	10.3	**10.2**	**10.1**	**10.3**
LLGF Atomization Pressure (HRA)	psi				35.8	35.2	38.2	**37.7**	**36.4**	**40.0**
Shale Feed Rate (HRA)	tph				22.4	22.1	22.5	**23.3**	**23.1**	**23.6**
Back End Temperature (HRA)	°F				895	894	903	**895**	**894**	**898**
Heat Exchanger Exit Temp. (HRA)	°F				432	429	433	**434**	**430**	**435**
Flue Gas Flow rate (HRA)	wet scfm				34,354	33,497	35,786	**34,425**	**33,798**	**35,268**
CO Conc. @ 7% O_2 (HRA)	ppm				36.6	35.0	38.0	**34.5**	**33.3**	**35.7**
O_2 Concentration (HRA)	%				15.6	15.0	16.0	**15.2**	**15.0**	**15.3**
APCS Parameters --										
Baghouse Inlet Temperature (HRA)	°F				381	380	382	**386**	**383**	**388**
Venturi Pressure Drop (HRA)	in. w.c.				6.0	5.8	6.3	**6.2**	**6.0**	**6.4**
Scrubber Recirculation Rate (HRA)	gpm				170.5	168.0	172.0	**172.7**	**171.7**	**173.3**
Scrubber Blowdown Rate (HRA)	gpm				13.9	13.7	14.7	**13.9**	**13.5**	**14.6**
Scrubber Liquid pH (HRA)	pH				8.0	8.0	8.0	**8.0**	**8.0**	**8.0**
Scrubber Tank Liquid Level (HRA)	% Ht.				56.5	56.2	56.8	**56.5**	**56.2**	**56.8**
Lime Feed Rate (HRA)	lb/hr				270.0	270.0	270.0	**270.0**	**270.0**	**270.0**
Lime Carrier Fluid Flow Rate (HRA)	scfm				151.4	150.0	151.6	**150.8**	**150.1**	**151.3**
Ducon Pressure Drop (HRA)	in. w.c.				2.5	2.4	2.6	**2.5**	**2.4**	**2.5**

(a) HRA = Hourly Rolling Average INST = Instantaneous

Table 4-4 Process Operating Data Summary – Condition 1A

Kiln 1 Operating Parameters (a)	Units	C1A-R1 AVG	C1A-R1 MIN	C1A-R1 MAX	C1A-R2 AVG	C1A-R2 MIN	C1A-R2 MAX
	Date	12-Jan-11			13-Jan-11		
	Start		13:33			08:33	
	Stop		16:35			11:35	
Process & CEM Parameters --							
LLGF Feed Rate (HRA)	gpm	10.4	9.7	10.6	10.4	10.3	10.4
LLGF Atomization Pressure (HRA)	psi	35.0	34.9	35.2	36.2	34.6	36.7
Shale Feed Rate (HRA)	tph	23.2	22.7	23.8	23.4	23.3	23.4
Back End Temperature (HRA)	°F	895	892	896	895	895	896
Heat Exchanger Exit Temp. (HRA)	°F	436	433	437	436	434	437
Flue Gas Flow rate (HRA)	w et scfm	46,051	45,006	46,602	45,151	43,956	47,526
CO Conc. @ 7% O_2 (HRA)	ppm	45.0	39.0	95.0	45.4	43.0	47.0
O_2 Concentration (HRA)	%	16.0	14.0	27.0	16.0	16.0	16.0
APCS Parameters --							
Baghouse Inlet Temperature (HRA)	°F	381	380	381	384	381	386
Venturi Pressure Drop (HRA)	in. w .c.	8.5	8.4	8.5	8.7	8.3	8.8
Scrubber Recirculation Rate (HRA)	gpm	173.9	169.0	176.0	170.3	170.0	172.0
Scrubber Blow dow n Rate (HRA)	gpm	14.3	13.8	14.4	14.0	13.9	14.0
Scrubber Liquid pH (HRA)	pH	8.0	8.0	8.0	8.0	8.0	8.0
Scrubber Tank Liquid Level (HRA)	% Ht.	56.8	56.2	57.5	56.7	56.2	57.1
Lime Feed Rate (HRA)	lb/hr	270.0	270.0	270.0	270.0	270.0	270.0
Lime Carrier Fluid Flow Rate (HRA)	scfm	152.6	152.5	152.9	149.0	148.8	149.1
Ducon Pressure Drop (HRA)	in. w .c.	3.6	3.6	3.7	3.7	3.6	3.8

Kiln 1 Operating Parameters (a)	Units	C1A-R3 AVG	C1A-R3 MIN	C1A-R3 MAX	MACT CPT 2010/2011 January 12-13, 2011 Condition 1A Averages AVG	MIN	MAX
	Date	13-Jan-11					
	Start		12:00				
	Stop		15:30				
Process & CEM Parameters --							
LLGF Feed Rate (HRA)	gpm	10.3	10.1	10.5	**10.4**	**10.0**	**10.5**
LLGF Atomization Pressure (HRA)	psi	36.6	35.3	36.9	**35.9**	**34.9**	**36.3**
Shale Feed Rate (HRA)	tph	23.4	23.4	23.5	**23.3**	**23.1**	**23.6**
Back End Temperature (HRA)	°F	894	894	895	**895**	**894**	**896**
Heat Exchanger Exit Temp. (HRA)	°F	435	434	436	**436**	**434**	**437**
Flue Gas Flow rate (HRA)	w et scfm	45,672	43,179	46,518	**45,625**	**44,047**	**46,882**
CO Conc. @ 7% O_2 (HRA)	ppm	46.2	44.0	48.0	**45.5**	**42.0**	**63.3**
O_2 Concentration (HRA)	%	16.2	16.0	17.0	**16.1**	**15.3**	**20.0**
APCS Parameters --							
Baghouse Inlet Temperature (HRA)	°F	384	384	385	**383**	**382**	**384**
Venturi Pressure Drop (HRA)	in. w .c.	8.6	8.0	8.8	**8.6**	**8.2**	**8.7**
Scrubber Recirculation Rate (HRA)	gpm	169.1	168.0	170.0	**171.1**	**169.0**	**172.7**
Scrubber Blow dow n Rate (HRA)	gpm	13.9	13.9	13.9	**14.1**	**13.9**	**14.1**
Scrubber Liquid pH (HRA)	pH	8.0	8.0	8.0	**8.0**	**8.0**	**8.0**
Scrubber Tank Liquid Level (HRA)	% Ht.	56.5	55.9	57.0	**56.7**	**56.1**	**57.2**
Lime Feed Rate (HRA)	lb/hr	270.0	270.0	270.0	**270.0**	**270.0**	**270.0**
Lime Carrier Fluid Flow Rate (HRA)	scfm	148.7	148.4	148.9	**150.1**	**149.9**	**150.3**
Ducon Pressure Drop (HRA)	in. w .c.	3.7	3.4	3.8	**3.7**	**3.5**	**3.8**

(a) HRA = Hourly Rolling Average INST = Instantaneous

4.3 Waste Feed Constituent Additions

In order to demonstrate the required performance criteria for metals control, it was necessary to fortify (augment) the hazardous waste fuel (LLGF) with organometallic constituents. The goal for the CPT was to establish feed rate limits for metals and total chlorides consistent with (or similar to) the current permit levels.

Current feed rate limits for metals were derived through extrapolation of the actual metal quantities fed during the previous CPT and a similar approach has been followed for the 2010 CPT data. The metals feed rate limits established by the 2010 CPT have been determined by using the system removal efficiencies (SREs) demonstrated during the CPT for mercury, chromium (representing the LVM group) and lead (representing the SVM group) to arrive at feed rate limits that meet the appropriate emission standard. Actual metal input loading calculations achieved for the four test conditions (Condition 1, Condition 2, Condition 1RT and Condition 1A) are shown in **Tables 4-5 through 4-8**. These calculations are based on the AES lab results and are used in the setting of feed rate limits and for calculating SREs associated with the three surrogate metals (chromium, lead and mercury).

In a similar fashion, an organic constituent (methylene chloride) was added to the LLGF feed tank(s) prior to each test to boost the concentration of total chlorides in the LLGF feed to result in an acceptable feed rate limit for chlorine. The target chlorine concentration in the LLGF after addition of the methylene chloride to the tank was 2% by weight. During Condition 1A, it was also necessary to add MCB to the LLGF feed stream since this organic compound is not present in the native waste at sufficient concentration to enable detection following high levels of destruction in the kiln. Triad Chemicals, LLC of Greensboro, NC was retained to supply the MCB material and to spike the material into the kiln. The target MCB injection rate was 60 lb/hr, although this was increased to 75 lb/hr during the second two test runs in order to boost the overall chlorine input loading. It is noted that the injection of MCB during Condition 1A also served to increase the total chlorine loading since MCB is 31.5% by weight chlorine. The full spiking report provided by Triad Chemicals can be found in **Appendix C**. Actual total chlorine input loadings achieved for the four test conditions are shown in **Tables 4-9 and 4-10**.

Table 4-5 Metals Input Loadings for Test Condition 2

Kiln Feed Materials -	Units	C2-R1	Units	C2-R2	Units	C2-R3	
LLGF Feed Rate	gpm	10.2	gpm	10.2	gpm	10.2	
LLGF Density	g/cc	1.0736	g/cc	1.0754	g/cc	1.0767	**Avg**
Shale Feed Rate	tph	22.1	tph	22.8	tph	22.8	**Feed**
Target Metals -	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	**Rate (lb/hr)**
Arsenic in LLGF	36.9	0.202	37.3	0.205	36.6	0.201	
Arsenic in Shale	12.0	0.529	12.0	0.545	12.0	0.545	
Total As Input		**0.73**		**0.75**		**0.75**	**0.74**
Beryllium in LLGF	0.51	0.003	0.56	0.003	0.34	0.002	
Beryllium in Shale	2.00	0.088	1.90	0.087	1.70	0.078	
Total Be Input		**0.091**		**0.090**		**0.079**	**0.087**
Chromium in LLGF	508	2.784	490	2.690	453	2.489	
Chromium in Shale	71.9	3.178	64.7	2.950	61.5	2.804	
Total Cr Input		**5.96**		**5.64**		**5.29**	**5.63**
Total LVM Feed		**6.78**		**6.48**		**6.12**	**6.46**
Total Pumpable LVM		**2.99**		**2.90**		**2.69**	**2.86**
Cadmium in LLGF	61.8	0.339	60.8	0.334	61.0	0.335	
Cadmium in Shale	0.31	0.014	0.35	0.016	0.80	0.036	
Total Cd Input		**0.35**		**0.35**		**0.37**	**0.36**
Lead in LLGF	1,020	5.59	1,010	5.54	1,040	5.72	
Lead in Shale	11.6	0.51	11.6	0.53	15.7	0.72	
Total Pb Input		**6.10**		**6.07**		**6.43**	**6.20**
Total SVM Feed		**6.45**		**6.42**		**6.80**	**6.56**
Mercury in LLGF	1.70	0.0093	1.70	0.0093	1.80	0.0099	
Mercury in Shale	0.05	0.0022	0.02	0.0009	0.02	0.0009	
Total Hg Input		**0.0115**		**0.0102**		**0.0108**	**0.0109**
Copper in LLGF	1,250	6.85	1,220	6.70	1,280	7.03	
Copper in Shale	50.5	2.232	51.1	2.33	76.6	3.49	
Total Cu Input		**9.08**		**9.03**		**10.5**	**9.55**
Nickel in LLGF	939	5.15	920	5.05	943	5.18	
Nickel in Shale	41.0	1.812	41.9	1.911	32.8	1.496	
Total Ni Input		**6.96**		**6.96**		**6.68**	**6.87**
Zinc in LLGF	1,330	7.29	1,320	7.25	1,300	7.14	
Zinc in Shale	136	6.01	72.1	3.3	516	23.53	
Total Zn Input		**13.3**		**10.5**		**30.7**	**18.2**

Table 4-6 Metals Input Loadings for Test Condition 1

Kiln Feed Materials -	Units	C1-R1	Units	C1-R2	Units	C1-R3	
LLGF Feed Rate	gpm	10.1	gpm	10.3	gpm	10.5	
LLGF Density	g/cc	0.9898	g/cc	1.0095	g/cc	0.9922	Avg Feed
Shale Feed Rate	tph	23.2	tph	23.3	tph	24.8	
Target Metals -	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	**Rate (lb/hr)**
Arsenic in LLGF	28.2	0.141	30.9	0.161	16.3	0.085	
Arsenic in Shale	12.0	0.555	12.0	0.557	12.0	0.593	
Total As Input		**0.70**		**0.72**		**0.68**	**0.70**
Beryllium in LLGF	0.22	0.001	0.22	0.001	0.22	0.001	
Beryllium in Shale	1.70	0.079	2.00	0.093	2.10	0.104	
Total Be Input		**0.080**		**0.094**		**0.105**	**0.093**
Chromium in LLGF	375	1.876	400	2.081	361	1.88	
Chromium in Shale	64.2	2.979	76.7	3.574	78.6	3.90	
Total Cr Input		**4.85**		**5.66**		**5.78**	**5.43**
Total LVM Feed		**5.63**		**6.47**		**6.56**	**6.22**
Total Pumpable LVM		**2.02**		**2.24**		**1.97**	**2.08**
Cadmium in LLGF	53.4	0.267	56.3	0.293	32.8	0.171	
Cadmium in Shale	0.31	0.014	0.31	0.014	0.31	0.015	
Total Cd Input		**0.28**		**0.31**		**0.19**	**0.26**
Lead in LLGF	1,050	5.25	1,080	5.62	741	3.86	
Lead in Shale	11.6	0.54	11.6	0.54	11.6	0.57	
Total Pb Input		**5.79**		**6.16**		**4.44**	**5.46**
Total SVM Feed		**6.07**		**6.47**		**4.62**	**5.72**
Mercury in LLGF	1.50	0.0075	1.50	0.0078	1.00	0.0052	
Mercury in Shale	0.02	0.0009	0.05	0.0023	0.06	0.0030	
Total Hg Input		**0.0084**		**0.0101**		**0.0082**	**0.0089**
Copper in LLGF	1,230	6.15	1,250	6.50	1,270	6.62	
Copper in Shale	48.6	2.255	75.0	3.50	47.3	2.35	
Total Cu Input		**8.41**		**10.0**		**8.97**	**9.12**
Nickel in LLGF	895	4.48	934	4.86	819	4.27	
Nickel in Shale	39.2	1.819	38.0	1.771	34.8	1.726	
Total Ni Input		**6.30**		**6.63**		**6.00**	**6.31**
Zinc in LLGF	1,230	6.15	1,270	6.61	1,280	6.67	
Zinc in Shale	68.3	3.17	109	5.1	65.0	3.22	
Total Zn Input		**9.32**		**11.7**		**9.9**	**10.3**

Table 4-7 Metals Input Loadings for Test Condition 1RT

Kiln Feed Materials -	Units	C1RT-R1	Units	C1RT-R2	Units	C1RT-R3	
LLGF Feed Rate	gpm	10.3	gpm	10.2	gpm	10.2	
LLGF Density	g/cc	0.9865	g/cc	0.9104	g/cc	0.9797	**Avg**
Shale Feed Rate	tph	23.9	tph	23.7	tph	22.4	**Feed**
Target Metals -	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	**Rate (lb/hr)**
Arsenic in LLGF	31.0	0.158	26.5	0.123	22.7	0.114	
Arsenic in Shale	12.0	0.572	12.0	0.567	12.0	0.536	
Total As Input		**0.73**		**0.69**		**0.65**	**0.69**
Beryllium in LLGF	0.22	0.001	0.22	0.001	0.22	0.001	
Beryllium in Shale	1.80	0.086	1.70	0.081	1.80	0.081	
Total Be Input		**0.087**		**0.082**		**0.082**	**0.084**
Chromium in LLGF	149	0.758	138	0.641	153	0.77	
Chromium in Shale	63.8	3.050	72.2	3.422	72.9	3.27	
Total Cr Input		**3.81**		**4.06**		**4.03**	**3.97**
Total LVM Feed		**4.62**		**4.84**		**4.76**	**4.74**
Total Pumpable LVM		**0.92**		**0.77**		**0.88**	**0.85**
Cadmium in LLGF	36.8	0.187	36.4	0.169	24.2	0.121	
Cadmium in Shale	0.31	0.015	0.31	0.015	0.31	0.014	
Total Cd Input		**0.20**		**0.18**		**0.13**	**0.17**
Lead in LLGF	107	0.54	111	0.52	115	0.58	
Lead in Shale	11.6	0.55	11.6	0.55	11.6	0.52	
Total Pb Input		**1.10**		**1.06**		**1.09**	**1.09**
Total SVM Feed		**1.30**		**1.25**		**1.23**	**1.26**
Mercury in LLGF	0.24	0.0012	0.22	0.0010	0.25	0.0013	
Mercury in Shale	0.01	0.0005	0.02	0.0009	0.01	0.0004	
Total Hg Input		**0.0017**		**0.0020**		**0.0017**	**0.0018**
Copper in LLGF	1,480	7.53	1,450	6.74	1,280	6.40	
Copper in Shale	38.4	1.836	43.4	2.06	40.2	1.80	
Total Cu Input		**9.36**		**8.79**		**8.20**	**8.79**
Nickel in LLGF	1,390	7.07	1,350	6.27	952	4.76	
Nickel in Shale	42.6	2.036	39.4	1.868	40.7	1.823	
Total Ni Input		**9.10**		**8.14**		**6.58**	**7.94**
Zinc in LLGF	2,070	10.52	2,040	9.48	1,780	8.90	
Zinc in Shale	71.1	3.40	87.1	4.1	141	6.32	
Total Zn Input		**13.9**		**13.6**		**15.2**	**14.2**

Table 4-8 Metals Input Loadings for Test Condition 1A

Kiln Feed Materials -	Units	C1A-R1	Units	C1A-R2	Units	C1A-R3	
LLGF Feed Rate	gpm	10.4	gpm	10.4	gpm	10.3	
LLGF Density	g/cc	0.9899	g/cc	0.9869	g/cc	0.9902	**Avg**
Shale Feed Rate	tph	23.2	tph	23.4	tph	23.4	**Feed**
Target Metals -	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	Conc. (mg/kg)	Feed Rate (lb/hr)	**Rate (lb/hr)**
Arsenic in LLGF	41.0	0.211	46.9	0.241	37.4	0.191	
Arsenic in Shale	12.0	0.555	12.0	0.560	12.0	0.560	
Total As Input		**0.77**		**0.80**		**0.75**	**0.77**
Beryllium in LLGF	0.22	0.001	0.22	0.001	0.22	0.001	
Beryllium in Shale	1.80	0.084	1.70	0.080	1.70	0.080	
Total Be Input		**0.085**		**0.081**		**0.081**	**0.082**
Chromium in LLGF	210	1.082	166	0.853	183	0.93	
Chromium in Shale	73.1	3.392	74.9	3.505	59.1	2.77	
Total Cr Input		**4.47**		**4.36**		**3.70**	**4.18**
Total LVM Feed		**5.32**		**5.24**		**4.53**	**5.03**
Total Pumpable LVM		**1.29**		**1.09**		**1.13**	**1.17**
Cadmium in LLGF	56.8	0.293	45.9	0.236	45.9	0.234	
Cadmium in Shale	0.31	0.014	0.31	0.015	0.31	0.015	
Total Cd Input		**0.31**		**0.25**		**0.25**	**0.27**
Lead in LLGF	161	0.83	181	0.93	168	0.86	
Lead in Shale	11.6	0.54	11.6	0.54	11.6	0.54	
Total Pb Input		**1.37**		**1.47**		**1.40**	**1.41**
Total SVM Feed		**1.67**		**1.72**		**1.65**	**1.68**
Mercury in LLGF	0.30	0.0015	0.38	0.0020	0.32	0.0016	
Mercury in Shale	0.01	0.0005	0.01	0.0005	0.01	0.0005	
Total Hg Input		**0.0020**		**0.0024**		**0.0021**	**0.0022**
Copper in LLGF	1,010	5.20	1,210	6.21	1,220	6.23	
Copper in Shale	68.6	3.183	43.9	2.05	42.3	1.98	
Total Cu Input		**8.39**		**8.27**		**8.21**	**8.29**
Nickel in LLGF	460	2.37	486	2.50	554	2.83	
Nickel in Shale	43.4	2.014	41.0	1.919	43.1	2.017	
Total Ni Input		**4.38**		**4.41**		**4.84**	**4.55**
Zinc in LLGF	1,610	8.29	1,630	8.37	1,660	8.47	
Zinc in Shale	134	6.22	100	4.7	64.4	3.01	
Total Zn Input		**14.5**		**13.1**		**11.5**	**13.0**

Table 4-9 Total Chlorine Input Loadings for Conditions 1 and 2 (October 2010)

	Test Condition 1 - Kiln 1 - October 2010						
Kiln Feed Materials -	**C1-R1**		**C1-R2**		**C1-R3**		
	Units		Units		Units		
LLGF Feed Rate	gpm	10.1	gpm	10.3	gpm	10.5	
LLGF Density	g/cc	0.9898	g/cc	1.0095	g/cc	0.9922	
Shale Feed Rate	tph	23.2	tph	23.3	tph	24.8	
Input Loadings	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	
Chlorides (Cl)							
- LLGF	1.25%	62.5	1.83%	95.2	1.92%	100.1	
- Shale	0.023%	10.86	0.023%	10.9	0.023%	11.6	**AVG**
Total Cl Input		**73.4**		**106.1**		**111.7**	**97.1**
	Test Condition 2 - Kiln 1 - October 2010						
Kiln Feed Materials -	**C2-R1**		**C2-R2**		**C2-R3**		
	Units		Units		Units		
LLGF Feed Rate	gpm	10.2	gpm	10.2	gpm	10.2	
LLGF Density	g/cc	1.0736	g/cc	1.0754	g/cc	1.0767	
Shale Feed Rate	tph	22.1	tph	22.8	tph	22.8	
Input Loadings	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	
Chlorides (Cl)							
- LLGF	1.87%	102.5	2.09%	114.7	1.98%	108.8	
- Shale	0.023%	10.3	0.023%	10.67	0.023%	10.7	**AVG**
Total Cl Input		**112.8**		**125.4**		**119.5**	**119.2**

Table 4-10 Total Chlorine Input Loadings for Conditions 1RT and 1A (January 2011)

	Test Condition 1RT - Kiln 1 - January 2011						
Kiln Feed Materials -	**C1RT-R1**		**C1RT-R2**		**C1RT-R3**		
	Units		Units		Units		
LLGF Feed Rate	gpm	10.3	gpm	10.2	gpm	10.2	
LLGF Density	g/cc	0.9865	g/cc	0.9104	g/cc	0.9797	
Shale Feed Rate	tph	23.9	tph	23.7	tph	22.4	
Input Loadings	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	
Chlorides (Cl)							
- LLGF	1.60%	81.4	1.67%	77.6	1.77%	88.5	
- Shale	0.023%	11.19	0.023%	11.1	0.023%	10.5	**AVG**
Total Cl Input		**92.5**		**88.7**		**99.0**	**93.4**
	Test Condition 1A - Kiln 1 - January 2011						
Kiln Feed Materials -	**C1A-R1**		**C1A-R2**		**C1A-R3**		
	Units		Units		Units		
LLGF Feed Rate	gpm	10.4	gpm	10.4	gpm	10.3	
LLGF Density	g/cc	0.9899	g/cc	0.9869	g/cc	0.9902	
MCB Spike	lb/hr	60.0	lb/hr	75.0	lb/hr	75.0	
Shale Feed Rate	tph	23.2	tph	23.4	tph	23.4	
Input Loadings	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	% wt.	Feed Rate (lb/hr)	
Chlorides (Cl)							
- LLGF	1.75%	90.2	1.61%	82.7	1.68%	85.7	
- MCB Spike	31.5%	18.9	31.5%	23.6	31.5%	23.6	
- Shale	0.023%	10.9	0.023%	11.0	0.023%	11.0	**AVG**
Total Cl Input		**119.9**		**117.3**		**120.3**	**119.2**

4.4 Metals Feed Limit Extrapolation Methodology

Norlite fortified the LLGF with metal constituents for the purposes of establishing desired metal feed rates and demonstrating satisfactory metals removal from the system. Norlite added solutions and/or metal acetate powders to the LLGF feed tanks to achieve the desired feed concentrations. Additionally, since copper, nickel and zinc are also believed to contribute to the formation of PCDDs/PCDFs in the air pollution control system, Norlite attempted to obtain fuel that already contained metals at or near the maximum feed rates expected in the renewed permit.

Norlite used beryllium acetate, cadmium acetate, chromic acetate, lead acetate and mercuric acetate to fortify the LLGF used in the test. These organometallic compounds were chosen due to their

solubility in alcohol which is a major component of the LLGF. Arsenic acid was used to fortify the LLGF with arsenic because it is also soluble in alcohol.

The goal for the CPT was to establish feed rate limits for metals consistent with the current permit levels. The ultimate objective was to use the SREs demonstrated during the CPT for mercury, chromium (representing the LVM group) and lead (representing the SVM group) to arrive at extrapolated feed rate limits that meet the appropriate emission standard.

Justification for the selection of surrogate metals comes from the MACT rule itself and has been supported in EPA Regions 4 and 5. In the MACT preamble (pg 52946), EPA provides discussion on the issue of metal surrogates and states in the 3rd column, 2nd paragraph that "For example, you may use chromium as a surrogate during the performance test for all low volatile metals. Similarly, you may use lead as a surrogate for cadmium, the other semivolatile metal. This is because the metals within a volatility group have generally the same volatility." (EPA also goes on to say that you could also use one SVM as a surrogate for any LVM because SVM will be more difficult to control.) Both EPA Regions 4 and 5 have agreed with this approach on the basis that chromium is the most toxic of the LVM category and lead is the most toxic of the SVM group.

As stated above, the metals added to the LLGF feed tank were in the form of metal acetates. Norlite has used the CPT results to extrapolate to higher feed rate limits than actually fed during the test using the CPT-established SREs. This is appropriate since it is generally agreed that SREs at higher feed rates would be at least as good as those observed at the lower level. Any extrapolation performed has taken into consideration the MACT standards to ensure full compliance. A summary of the metal extrapolation calculations is provided in **Table 4-11**.

Table 4-11 Metal Extrapolation Calculations

Parameter	Units	Volatile Metals **VM**	Low Volatile Metals **LVM**	Semivolatile Metals **SVM**
Surrogate Metal for the CPT	--	Hg	Cr	Pb
Test Condition Used	--	C2	C2	C2
Average CPT Feed Rate	lb/hr	0.0108	5.63	6.20
Average CPT Emission Rate	µg/m³	33.6	36.6	54.5
	lb/hr	1.91E-03	2.05E-03	3.03E-03
Test Average Surrogate SRE	%	82.37%	99.965%	99.955%
MACT standard for LWAKs	µg/m³	120	110	250
MACT standard equivalent	lb/hr	0.0164	0.0150	0.0342
90% of the MACT standard	µg/m³	108	99	225
Stack Gas Flowrate	dscfm	36,504	36,504	36,504
Stack Oxygen Concentration	%	14.99	14.99	14.99
Extrapolated Feed Rate Limit at 90% of the MACT Standard	lb/hr	0.036	16.603	29.349
Established Feed Rate Limit	**lb/hr**	**0.036**	**16.6**	**29.3**
Minimum Required SRE to meet the MACT Standard	%	34.781%	99.885%	99.763%

Note: The MACT standard and the average CPT emission rate (µg/m³) are corrected to 7% oxygen.

4.5 Proposed Permit Limits and Operating Parameter Limits

On the basis of a successful CPT, Norlite has determined operating limits for the LWAK systems as delineated in **Tables 4-12 and 4-13**. Table 4-12 provides a listing of those OPLs associated with the kiln and associated combustion system. Table 4-13 summarizes the OPLs established for the air pollution control system. All of these OPLs have been programmed into the DAS to ensure continuous ongoing compliance with the MACT standards.

Table 4-12 Operating Parameter Limits Established for the Combustion System

Process Parameter	Units	MACT OPL
Maximum total (and pumpable) hazardous waste feed rate	gpm	10.5
Minimum LLGF atomization pressure	psig	35.9
Minimum kiln back-end temperature	°F	895
Maximum kiln hood pressure	in. w.c.	**(a)**
Maximum heat exchanger exit temperature	°F	436
Maximum flue gas flow rate	wet scfm	45,625
Maximum kiln production (shale feed) rate	tph	22.8
Maximum total chlorine feed rate	lb/hr	119.2
Maximum total mercury feed rate	lb/hr	0.036
Maximum total LVM (As, Be & Cr) feed rate	lb/hr	16.6
Maximum total pumpable LVM (As, Be & Cr) feed rate	lb/hr	5.55
Maximum total SVM (Cd & Pb) feed rate	lb/hr	29.3
Maximum CO concentration corrected to 7% oxygen	ppm	100

(a) See text for discussion

Table 4-13 Operating Parameter Limits Established for the APCS

Process Parameter	Units	MACT OPL
Maximum baghouse inlet temperature	°F	400
Minimum venturi pressure drop	in. w.c.	6.1
Minimum scrubber blowdown rate	gpm	14.6
Minimum scrubber tank liquid level	% of tank height	58
Minimum scrubber recirculation rate	gpm	174.7
Minimum scrubber liquid to gas ratio	$gal/10^3\ ft^3$	4.9
Minimum scrubber liquid pH	pH units	8.1
Minimum dry sorbent feed rate	lb/hr	250
Minimum dry sorbent carrier fluid flow rate	cfm	151.8

The permit limits for each of the control parameters have been established as specified in the HWC MACT regulations given in 40 CFR 63.1209. The following sections provide further details on the regulatory requirements associated with each OPL and the logic pertaining to how the limit has been established to ensure compliance with the applicable standards.

4.5.1 Parameters Demonstrated by Testing During the CPT

4.5.1.1 Maximum Total Hazardous Waste Feed Rate [40 CFR 63.1209(j(3), (k)(4)]

The maximum total hazardous waste feed rate operating limit is established for maintaining compliance with the DRE and PCDD/PCDF emission standards. The total hazardous waste feed rate is the same as total pumpable hazardous waste feed rate and thus there is no need to establish a separate limit for pumpable waste. This limit is established as an HRA limit from the average of the maximum HRAs demonstrated during the CPT. Condition 1A was used to establish this limit.

4.5.1.2 Maximum Kiln Production Rate (Shale Feed Rate) [40 CFR 63.1209(j)(2), (k)(3), (m)(2), (n)(5), (o)(2)]

The maximum kiln production rate (shale feed rate) operating limit is established for maintaining compliance with the DRE, PCDD/PCDF, SVM, LVM, PM, and HCl/Cl_2 emission standards. Since Norlite conducted multiple test conditions demonstrating this parameter, the maximum value for this parameter has been established as the most conservative average value from the three valid test conditions (Condition 2). Maximum shale feed rate is established as an appropriate surrogate for kiln production rate and is monitored on an HRA basis. The maximum shale feed rate is established as the average of the maximum HRAs observed during the CPT.

4.5.1.3 Minimum Kiln Back-End Temperature [40 CFR 63.1209(j)(1), (k)(2)]

The minimum kiln back-end temperature operating limit is established for maintaining compliance with the DRE and PCDD/PCDF emission standards. This temperature is monitored on a continuous basis and the minimum temperature limit is established as an hourly rolling average (HRA) equal to the average of the test run average values. Condition 1A was used to establish this limit.

4.5.1.4 Maximum Heat Exchanger Exit Temperature [40 CFR 63.1209(k)(1)(ii)]

The maximum heat exchanger exit temperature operating limit is established for maintaining compliance with the PCDD/PCDF emission standard. This temperature is monitored on a continuous basis and the maximum temperature limit is established as an hourly rolling average (HRA) equal to the average of the test run average values. Condition 1A was used to establish this limit rather than Condition 2 as described in the CPT Plan. NYSDEC and EPA have determined that this operating parameter must be set in conjunction with the minimum kiln back-end temperature.

4.5.1.5 Maximum Flue Gas Flowrate [40 CFR 63.1209(j)(2), (k)(3), (m)(2), (n)(5), (o)(2)]

The maximum flue gas flowrate operating limit is established for maintaining compliance with the DRE and PCDD/PCDF emission standards. Maximum process gas flow rate is established as an appropriate surrogate for gas residence time in the combustion chamber and is monitored on an HRA basis. The maximum process gas flowrate is established as the average of the maximum HRAs observed during the CPT. Condition 1A was used to establish this limit.

4.5.1.6 Maximum Baghouse Inlet Temperature [40 CFR 63.1209(n)(1)]

The maximum baghouse inlet temperature operating limit is established for maintaining compliance with the SVM and LVM emission standards. The maximum baghouse inlet temperature is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.7 Minimum Venturi Pressure Drop [40 CFR 63.1209(m)(1)(i)(A), (n)(3), (o)(3)(i)]

The minimum venturi pressure drop operating limit is established for maintaining compliance with the PM, SVM, LVM and HCl/Cl_2 emission standards. The minimum venturi pressure drop is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.8 Minimum Scrubber Recirculation Rate [40 CFR 63.1209(m)(1)(C)]

The minimum scrubber recirculation flowrate is established for maintaining compliance with the PM, LVM, SVM and HCl/Cl_2 emission standards. The minimum scrubber recirculation flowrate is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.9 Minimum Scrubber Liquid to Gas Ratio [40 CFR 63.1209(l)(2), (m)(1)(i)(C), (n)((3), (o)(3)(v)]

The minimum scrubber liquid to gas ratio is established for maintaining compliance with the mercury, PM, LVM, SVM and HCl/Cl_2 emission standards. The minimum scrubber liquid to gas ratio is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.10 Minimum Scrubber Blowdown Rate [40 CFR 63.1209(m)(1)(i)(B), (n)(3)]

The minimum scrubber blowdown rate is established for maintaining compliance with the PM, SVM and LVM emission standards. The minimum scrubber blowdown rate is monitored on an HRA basis and is established as the average of the test run averages. Condition 2 was used to establish this limit.

4.5.1.11 Minimum Scrubber Liquid pH [40 CFR 63.1209(l)(2), (o)(3)(iv)]

The minimum scrubber liquid pH is established for maintaining compliance with the mercury and HCl/Cl_2 emission standards. The minimum scrubber liquid pH is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. The value for this parameter is established based on Condition 2.

4.5.1.12 Minimum Scrubber Tank Liquid Level [40 CFR 63.1209(m)(1)(i)(B), (l)(2)]

The minimum scrubber tank liquid level is established for maintaining compliance with the PM, SVM, LVM and mercury emission standards. The minimum scrubber tank liquid level is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.13 Minimum Dry Sorbent Feed Rate [40 CFR 63.1209(o)(4)(i)]

The minimum dry sorbent (hydrated lime) feed rate limit is established for maintaining compliance with the HCl/Cl_2 emission standard. The minimum dry sorbent feed rate is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.14 Minimum Dry Sorbent Carrier Fluid Flow Rate [40 CFR 63.1209(o)(4)(ii)]

The minimum dry sorbent carrier fluid (air) flow rate limit is established for maintaining compliance with the HCl/Cl_2 emission standard. The minimum dry sorbent carrier fluid flow rate is monitored on an HRA basis and is established as the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.15 Maximum Total Chlorine and Chloride Feed Rate [40 CFR 63.1209(n)(4), (o)(1)]

The maximum total chlorine/chloride feed rate operating limit is established to maintain compliance with the SVM, LVM, and HCl/Cl_2 emission standards. The total chlorine feed rate limit is expressed as a 12-hour RA, equal to the average of the test run averages observed during the CPT. Condition 2 was used to establish this limit.

4.5.1.16 Maximum Total LVM Feed Rate [40 CFR 63.1209(n)(2)(ii), (n)(2)(iv), (n)(2)(vii)]

The maximum low volatile metal (LVM) (arsenic, beryllium and chromium) feed rate operating limit is established for maintaining compliance with the LVM emission standard. The total LVM feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.1.17 Maximum Total Pumpable LVM Feed Rate [40 CFR 63.1209(n)(2)(vi)]

The maximum total pumpable LVM feed rate operating limit is established for maintaining compliance with the LVM emission standard. The total pumpable LVM feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.1.18 Maximum Total SVM Feed Rate [40 CFR 63.1209(n)(2)(ii), (n)(2)(iv), (n)(2)(vii)]

The maximum semivolatile metal (SVM) (lead and cadmium) feed rate operating limit is established for maintaining compliance with the SVM emission standard. The total SVM feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.1.19 Maximum Total Mercury Feed Rate [40 CFR 63.1209(l)(iv)(A), (l)(v)]

The maximum mercury feed rate operating limit is established to maintain compliance with the mercury emission standard. The total mercury feed rate limit is expressed as a 12-hour RA, and has been based on metals extrapolation up to a maximum value considering historical feed rates for the facility. Condition 2 was used to establish this limit.

4.5.2 Parameters Established by Regulatory Citation

4.5.2.1 Maximum Stack Gas CO Concentration [40 CFR 63.1221(a)(5)(i)]

The maximum hourly rolling average stack gas CO concentration is specified in the regulations as not to exceed 100 ppmv corrected to 7% oxygen, dry basis.

4.5.3 Parameters Established by Manufacturer's Recommendations and/or Good Operating Practice

4.5.3.1 Operation of Waste Firing System [40 CFR 63.1209(j)(4)]

This regulation stipulates that facilities should specify operating limits to ensure that good operation of the firing system is maintained to ensure compliance with the DRE standard. To satisfy this requirement, Norlite has established a minimum LLGF atomization pressure based on manufacturer's recommendations and Norlite's operating experience. Condition 1A was used to establish this limit.

4.5.3.2 Fugitive Emissions Control / Kiln Pressure [40 CFR 63.1206(c)(5)(i)(B) and 63.1209(p)]

Norlite complies with the requirements of 40 CFR 63.1206(c)(5)(i)(B) for controlling combustion system leaks of HAPs by maintaining the maximum combustion zone pressure lower than ambient pressure using an instantaneous monitor. In addition, Norlite has installed a double-walled fugitive emission containment system on the kilns. The emissions capturing system (interstitial chamber) pressure will be kept at or below -0.08 in. w.c. on an hourly rolling average basis with an AWFCO should the HRA exceed -0.08 in. w.c. The following additional operational conditions apply:

- The front end pressure shall remain at or below -0.05 in. w.c. If the front end instantaneous pressure continuously exceeds -0.05 in.w.c. for more than 3.0 seconds, an AWFCO shall occur immediately.
- If the front end instantaneous pressure continuously exceeds 0.00 in. w.c. for more than 1.0 second, then an AWFCO shall occur immediately.
- If the emissions capturing system (interstitial chamber) instantaneous pressure reaches or exceeds 0.00 in. w.c. continuously for more than 1.0 second, then an AWFCO shall occur immediately.
- If at any time the instantaneous front end pressure and the emissions capturing system pressure reach or exceed 0.00 in. w.c. at the same time, then an AWFCO shall occur immediately.

5.0 Feed Stream Sampling and Analysis

5.1 Feed Stream Sampling

Facility personnel performed all feed stream sampling under the guidance of the AECOM project manager. Mr. Prince Knight coordinated these activities for Norlite and assumed custody of the samples at the conclusion of each test series. The samples collected included LLGF and shale and each sample was assigned a unique sample code for identification. Sufficient quantity was collected to allow for sample splits, backup or archived samples and duplicates, as applicable. NYSDEC staff observing the test provided their own sample bottles for sample splits. The samples were collected using pre-cleaned sample bottles suitable for the type of sample being collected and the intended analysis. AECOM provided all sample containers and assumed custody of the samples at the end of each test day. Prior to initiating CPT testing activities, AECOM held a training session with facility staff responsible for sample collection to review grab sampling techniques, size of sample aliquots, compositing procedures and sample bottles to be used.

Grab samples of LLGF were collected at 15-minute intervals, resulting in a single composite sample at the end of each run. A data sheet was completed by the sampler denoting the time at which each grab sample was taken. The LLGF grab samples were collected from a tap in the feed line after the line had been flushed with the material being collected.

Raw shale feed was sampled three times – at the beginning, middle and end of each test run. The shale was sampled at the conveyor belt using a scoop with an appropriate aliquot being emptied into the final collection bottle. A data sheet was completed by the sampler denoting the time at which each shale sample was taken.

5.2 Feed Stream Analytical Results

The kiln feed materials were analyzed by both the Norlite onsite laboratory and by Adirondack Environmental Services (AES) in Albany, NY. These analyses were performed in accordance with the approved procedures outlined in the facility's FSAP. The "official" analytical results for the program are those provided by AES.

Analytical results for LLGF are summarized in **Tables 5-1 through 5-4**, representing data for each test condition. Similarly, analytical results for shale are provided in **Tables 5-5 through 5-8**. **Appendix D** provides a full summary of the analytical results as determined by AES.

Table 5-1 LLGF Analytical Results – Test Condition 2

Physical Parameters	**Units**	**C2-R1**	**C2-R2**	**C2-R3**	**Avg.**
Heat Content	Btu / lb	9,480	9,643	9,704	**9,609**
Specific Gravity	g / mL	1.0736	1.0754	1.0767	**1.0752**
Total Chlorine (IC)	mg / kg	17,860	19,220	18,760	**18,613**
	% wt	1.79	1.92	1.88	**1.86**
Total Chlorine (Titration)	mg / kg	18,710	20,860	19,840	**19,803**
	% wt	1.87	2.09	1.98	**1.98**
Ash Content	% wt	11.5	11.4	11.7	**11.5**
Sediment	% vol	30.0	25.0	20.0	**25.0**
Metals	**Units**	**C2-R1**	**C2-R2**	**C2-R3**	**Avg.**
Arsenic	mg / kg	36.9	37.3	36.6	**36.9**
Beryllium	mg / kg	0.51	0.56	0.34	**0.47**
Cadmium	mg / kg	61.8	60.8	61.0	**61.2**
Chromium	mg / kg	508	490	453	**484**
Copper	mg / kg	1,250	1,220	1,280	**1,250**
Lead	mg / kg	1,020	1,010	1,040	**1,023**
Nickel	mg / kg	939	920	943	**934**
Zinc	mg / kg	1,330	1,320	1,300	**1,317**
Mercury (M 7471A)	mg / kg	1.70	1.70	1.80	**1.73**
Mercury (M 3050 / 7470)	mg / kg	0.41	0.38	0.35	**0.38**

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Note 2: Mercury by Method 7471A values are being used for LLGF input calculations.

Table 5-2 LLGF Analytical Results – Test Condition 1

Physical Parameters	**Units**	**C1-R1**	**C1-R2**	**C1-R3**	**Avg.**
Heat Content	Btu / lb	14,605	10,125	9,755	**11,495**
Specific Gravity	g / mL	0.9898	1.0095	0.9922	**0.9972**
Total Chlorine (IC)	mg / kg	10,610	18,100	18,370	**15,693**
	% wt	1.06	1.81	1.84	**1.57**
Total Chlorine (Titration)	mg / kg	12,450	18,290	19,200	**16,647**
	% wt	1.25	1.83	1.92	**1.66**
Ash Content	% wt	12.1	11.8	12.4	**12.1**
Sediment	% vol	25.0	26.0	20.0	**23.7**
Metals	**Units**	**C1-R1**	**C1-R2**	**C1-R3**	**Avg.**
Arsenic	mg / kg	28.2	30.9	16.3	**25.1**
Beryllium	mg / kg	< 0.22	< 0.22	< 0.22	**< 0.22**
Cadmium	mg / kg	53.4	56.3	32.8	**47.5**
Chromium	mg / kg	375	400	361	**379**
Copper	mg / kg	1,230	1,250	1,270	**1,250**
Lead	mg / kg	1,050	1,080	741	**957**
Nickel	mg / kg	895	934	819	**883**
Zinc	mg / kg	1,230	1,270	1,280	**1,260**
Mercury (M 7471A)	mg / kg	1.50	1.50	1.00	**1.33**
Mercury (M 3050 / 7470)	mg / kg	0.31	0.31	0.27	**0.30**

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Note 2: Mercury by Method 7471A values are being used for LLGF input calculations.

Table 5-3 LLGF Analytical Results – Test Condition 1RT

Physical Parameters	**Units**	**C1RT-R1**	**C1RT-R2**	**C1RT-R3**	**Avg.**
Heat Content	Btu / lb	9,369	9,439	9,264	**9,357**
Specific Gravity	g / mL	0.9865	0.9104	0.9797	**0.9589**
Total Chlorine (IC)	mg / kg	16,240	16,700	17,130	**16,690**
	% wt	1.62	1.67	1.71	**1.67**
Total Chlorine (Titration)	mg / kg	16,030	16,730	17,680	**16,813**
	% wt	1.60	1.67	1.77	**1.68**
Ash Content	% wt	5.57	5.64	5.63	**5.61**
Sediment	% vol	14.0	16.0	18.0	**16.0**
Metals	**Units**	**C1RT-R1**	**C1RT-R2**	**C1RT-R3**	**Avg.**
Arsenic	mg / kg	31.0	26.5	22.7	**26.7**
Beryllium	mg / kg	< 0.22	< 0.22	< 0.22	**< 0.22**
Cadmium	mg / kg	36.8	36.4	24.2	**32.5**
Chromium	mg / kg	149	138	153	**147**
Copper	mg / kg	1,480	1,450	1,280	**1,403**
Lead	mg / kg	107	111	115	**111**
Nickel	mg / kg	1,390	1,350	952	**1,231**
Zinc	mg / kg	2,070	2,040	1,780	**1,963**
Mercury (M 7471A)	mg / kg	0.24	0.22	0.25	**0.24**
Mercury (M 3050 / 7470)	mg / kg	0.14	0.13	0.15	**0.14**

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Note 2: Mercury by Method 7471A values are being used for LLGF input calculations.

Table 5-4 LLGF Analytical Results – Test Condition 1A

Physical Parameters	**Units**	**C1A-R1**	**C1A-R2**	**C1A-R3**	**Avg.**
Heat Content	Btu / lb	9,605	9,268	9,228	**9,367**
Specific Gravity	g / mL	0.9899	0.9869	0.9902	**0.9890**
Total Chlorine (IC)	mg / kg	17,490	16,140	16,010	**16,547**
	% wt	1.75	1.61	1.60	**1.65**
Total Chlorine (Titration)	mg / kg	17,500	16,070	16,830	**16,800**
	% wt	1.75	1.61	1.68	**1.68**
Ash Content	% wt	7.38	7.71	7.71	**7.60**
Sediment	% vol	30.0	46.0	44.0	**40.0**
Metals	**Units**	**C1A-R1**	**C1A-R2**	**C1A-R3**	**Avg.**
Arsenic	mg / kg	41.0	46.9	37.4	**41.8**
Beryllium	mg / kg	< 0.22	< 0.22	< 0.22	**< 0.22**
Cadmium	mg / kg	56.8	45.9	45.9	**49.5**
Chromium	mg / kg	210	166	183	**186**
Copper	mg / kg	1,010	1,210	1,220	**1,147**
Lead	mg / kg	161	181	168	**170**
Nickel	mg / kg	460	486	554	**500**
Zinc	mg / kg	1,610	1,630	1,660	**1,633**
Mercury (M 7471A)	mg / kg	0.30	0.38	0.32	**0.33**
Mercury (M 3050 / 7470)	mg / kg	0.15	0.17	0.18	**0.17**

Note 1: Total Chlorine by titration values are being used for LLGF input calculations.

Note 2: Mercury by Method 7471A values are being used for LLGF input calculations.

Table 5-5 Shale Analytical Results – Test Condition 2

Physical Parameters	**Units**	**C2-R1**	**C2-R2**	**C2-R3**	**Avg.**
Total Chlorides	mg / kg	< 234	< 234	< 234	**< 234**
	% wt.	< 0.023	< 0.023	< 0.023	**< 0.023**
Metals	**Units**	**C2-R1**	**C2-R2**	**C2-R3**	**Avg.**
Arsenic	mg / kg	< 12.0	< 12.0	< 12.0	**< 12.0**
Beryllium	mg / kg	2.00	1.90	1.70	**1.87**
Cadmium	mg / kg	< 0.31	0.35	0.80	**< 0.49**
Chromium	mg / kg	71.9	64.7	61.5	**66.0**
Copper	mg / kg	50.5	51.1	76.6	**59.4**
Mercury	mg / kg	0.05	0.02	0.02	**0.03**
Lead	mg / kg	< 11.6	< 11.6	15.7	**< 13.0**
Nickel	mg / kg	41.0	41.9	32.8	**38.6**
Zinc	mg / kg	136	72.1	516	**241**

Table 5-6 Shale Analytical Results – Test Condition 1

Physical Parameters	**Units**	**C1-R1**	**C1-R2**	**C1-R3**	**Avg.**
Total Chlorine (IC)	mg / kg	< 234	< 234	< 234	**< 234**
	% wt.	< 0.023	< 0.023	< 0.023	**< 0.023**
Metals	**Units**	**C1-R1**	**C1-R2**	**C1-R3**	**Avg.**
Arsenic	mg / kg	< 12.0	< 12.0	< 12.0	**< 12.0**
Beryllium	mg / kg	1.70	2.00	2.10	**1.93**
Cadmium	mg / kg	< 0.31	< 0.31	< 0.31	**< 0.31**
Chromium	mg / kg	64.2	76.7	78.6	**73.2**
Copper	mg / kg	48.6	75.0	47.3	**57.0**
Mercury	mg / kg	0.02	0.05	0.06	**0.04**
Lead	mg / kg	< 11.6	< 11.6	< 11.6	**< 11.6**
Nickel	mg / kg	39.2	38.0	34.8	**37.3**
Zinc	mg / kg	68.3	109.0	65.0	**80.8**

Table 5-7 Shale Analytical Results – Test Condition 1RT

Physical Parameters	**Units**	**C1RT-R1**	**C1RT-R2**	**C1RT-R3**	**Avg.**
Total Chlorides	µg / g	< 234	< 234	< 234	**< 234**
	% wt.	< 0.023	< 0.023	< 0.023	**< 0.023**
Metals	**Units**	**C1RT-R1**	**C1RT-R2**	**C1RT-R3**	**Avg.**
Arsenic	mg / kg	< 12.0	< 12.0	< 12.0	**< 12.0**
Beryllium	mg / kg	1.80	1.70	1.80	**1.77**
Cadmium	mg / kg	< 0.31	< 0.31	< 0.31	**< 0.31**
Chromium	mg / kg	63.8	72.2	72.9	**69.6**
Copper	mg / kg	38.4	43.4	40.2	**40.7**
Mercury	mg / kg	< 0.01	< 0.02	< 0.01	**< 0.01**
Lead	mg / kg	< 11.6	< 11.6	< 11.6	**< 11.6**
Nickel	mg / kg	42.6	39.4	40.7	**40.9**
Zinc	mg / kg	71.1	87.1	141	**99.7**

Table 5-8 Shale Analytical Results – Test Condition 1A

Physical Parameters	**Units**	**C1A-R1**	**C1A-R2**	**C1A-R3**	**Avg.**
Total Chlorides	µg/g	< 234	< 234	< 234	**< 234**
	% wt.	< 0.023	< 0.023	< 0.023	**< 0.023**
Metals	**Units**	**C1A-R1**	**C1A-R2**	**C1A-R3**	**Avg.**
Arsenic	mg/kg	< 12.0	< 12.0	< 12.0	**< 12.0**
Beryllium	mg/kg	1.80	1.70	1.70	**1.73**
Cadmium	mg/kg	< 0.31	< 0.31	< 0.31	**< 0.31**
Chromium	mg/kg	73.1	74.9	59.1	**69.0**
Copper	mg/kg	68.6	43.9	42.3	**51.6**
Mercury	mg/kg	< 0.01	< 0.01	< 0.01	**< 0.01**
Lead	mg/kg	< 11.6	< 11.6	< 11.6	**< 11.6**
Nickel	mg/kg	43.4	41.0	43.1	**42.5**
Zinc	mg/kg	134	100	64.4	**99.5**

6.0 Performance Test Results

As stated earlier, the CPT was conducted over two separate time periods in October 2010 and January 2011. Sample train run times associated with these events are provided in **Table 6-1 and Table 6-2**.

Table 6-1 Sample Train Run Times for Test Conditions 1 and 2

Run #	Date	**M29 - Metals**		Run #	Date	**M26A - PM / HCl / Cl_2**	
		Start	Stop			Start	Stop
C2-R1	19-Oct-10	10:58	13:04	C2-R1	19-Oct-10	10:58	13:04
C2-R2	19-Oct-10	14:40	16:45	C2-R2	19-Oct-10	14:40	16:45
C2-R3	19-Oct-10	17:58	20:02	C2-R3	19-Oct-10	17:58	20:02
Run #	Date	**M23 - PCDDs / PCDFs**		Run #	Date	**M23 - PCDDs / PCDFs**	
		Start	Stop			Start	Stop
C2-R1	19-Oct-10	10:58	14:00	C1-R1	20-Oct-10	09:30	12:32
C2-R2	19-Oct-10	14:40	17:42	C1-R2	20-Oct-10	13:00	16:02
C2-R3	19-Oct-10	17:58	21:00	C1-R3	21-Oct-10	09:04	12:07

Table 6-2 Sample Train Run Times for Test Conditions 1RT and 1A

Run #	Date	PCDDs / PCDFs		Run #	Date	PCDDs / PCDFs	
		Start	Stop			Start	Stop
C1RT-R1	11-Jan-11	08:49	11:50	C1A-R1	12-Jan-11	13:33	16:35
C1RT-R2	11-Jan-11	12:35	15:37	C1A-R2	13-Jan-11	08:33	11:35
C1RT-R3	12-Jan-11	09:03	12:04	C1A-R3	13-Jan-11	12:00	15:30
Run #	Date	Method 0031 (VOST)		Run #	Date	Method 0031 (VOST)	
		Start	Stop			Start	Stop
C1A-R1A	12-Jan-11	14:03	14:23	C1A-R3A	13-Jan-11	12:30	12:50
C1A-R1B	12-Jan-11	14:33	14:53	C1A-R3B	13-Jan-11	12:59	13:19
C1A-R1C	12-Jan-11	15:04	15:24	C1A-R3C	13-Jan-11	13:32	13:52
C1A-R1D	12-Jan-11	15:37	15:57	C1A-R3D	13-Jan-11	14:26	14:46
C1A-R2A	13-Jan-11	09:00	09:20				
C1A-R2B	13-Jan-11	09:28	09:48				
C1A-R2C	13-Jan-11	10:14	10:34				
C1A-R2D	13-Jan-11	10:41	11:01				

6.1 Continuous Emission Monitoring

Norlite provided continuous measurement of carbon monoxide (CO) during all test conditions in accordance with permit requirements. In addition, AECOM provided data for carbon dioxide (CO_2) and oxygen (O_2) during all test runs to enable computation of the stack gas molecular weight. Also, during the DRE measurements conducted during Test Condition 1A, AECOM provided continuous data for total hydrocarbons (THC) as required by the MACT regulations. Results for all Norlite CEM data and all AECOM CEM data are presented below in **Table 6-3**.

Table 6-3 AECOM CEM Data for Carbon Dioxide, Oxygen and Total Hydrocarbons

		Norlite CEM Data		AECOM Data		
Run No.	Date	O_2 Conc. (% v)	CO at 7% O_2 (ppm)	O_2 Conc. (% v)	CO_2 Conc. (% v)	THC at 7% O_2 (ppm)
C2-R1	19-Oct-10	15.4	44.1	13.4	3.90	**(a)**
C2-R2	19-Oct-10	15.3	40.3	15.8	4.00	**(a)**
C2-R3	19-Oct-10	15.3	40.8	15.8	4.00	**(a)**
	AVG	**15.3**	**41.7**	**15.0**	**3.97**	
C1-R1	20-Oct-10	14.9	28.5	15.6	4.20	**(a)**
C1-R2	20-Oct-10	15.0	32.9	15.9	4.00	**(a)**
C1-R3	21-Oct-10	14.5	28.6	15.4	4.20	**(a)**
	AVG	**14.8**	**30.0**	**15.6**	**4.13**	
C1RT-R1	11-Jan-11	15.0	33.3	15.0	4.76	**(a)**
C1RT-R2	11-Jan-11	15.0	33.5	15.0	4.69	**(a)**
C1RT-R3	12-Jan-11	15.6	36.6	14.6	4.38	**(a)**
	AVG	**15.2**	**34.5**	**14.9**	**4.61**	
C1A-R1	12-Jan-11	16.0	45.0	15.6	3.87	4.41
C1A-R2	13-Jan-11	16.0	45.4	16.1	3.93	5.20
C1A-R3	13-Jan-11	16.2	46.2	16.1	3.98	4.93
	AVG	**16.1**	**45.5**	**15.9**	**3.93**	**4.85**

(a) Not measured during this condition.

6.2 PCDDs / PCDFs

EPA Method 0023A was used to sample for all target PCDD / PCDF congeners during all test conditions. The sampling runs involved isokinetic sampling at 12 points (6 points per traverse) with an overall net run length of 180 minutes. Sampling was conducted for 15 minutes per point with meter box readings taken every 7.5 minutes. The sampling train consisted of 5 glass impingers connected in series with leak-free ground glass and Teflon o-ring connections. The first impinger was left empty and the second and third impingers were filled with 100-mL of HPLC water. The fourth impinger was also left empty and the fifth impinger was loaded with ~ 200-400 g of silica gel. The sampling train used an untared glass fiber filter, an XAD resin trap and condensing module and was operated as specified in the method. The recovered sample train fractions (front-half rinse, particulate filter, XAD resin module and back-half rinse) were submitted to **Vista Analytical (El Dorado Hills, California)** for all laboratory analyses.

Test results for the program are summarized in Tables **6-4 through 6-7**. Emission results for Conditions 2, 1RT and 1A demonstrated full compliance with the MACT standard (0.20 ng/dscm TEQs corrected to 7% O_2). It should be noted that when demonstrating compliance with an emission

standard, any non-detects can be reported as zero (as allowed under 63.1208(b)(1)(iii)). It should also be noted that these tables represent the final calculations combining the front-half and back-half analytical fractions. Data associated with the individual sample train fractions (as well as additional risk-based emission calculations that are of interest to NYSDEC) can be found in front of the Vista analytical data report in **Appendix F**.

Table 6-4 PCDD/PCDF Emission Results for Condition 2

	Run No.		**C2-R1**		**C2-R2**		**C2-R3**	
	Date		19-Oct-10		19-Oct-10		19-Oct-10	
	Start Time		10:58		14:40		17:58	
	Stop Time		14:00		17:42		21:00	
	Units							
Sample Volume	dscf		118.515		122.108		118.610	
Sample Volume	m^3		3.36		3.46		3.36	
Moisture Content	% v/v		12.7		13.0		12.8	
O_2 Concentration	% v/v (dry)		13.37		15.80		15.80	
CO_2 Concentration	% v/v (dry)		3.90		4.00		4.00	
Isokinetics	%		93		94		93	
Stack Flowrate	dscfm		34,972		35,776		35,136	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	
2,3,7,8-TCDD	1.00	20.80	6.2E-03	16.80	4.9E-03	14.9	4.4E-03	
1,2,3,7,8-PeCDD	0.50	14.1	2.1E-03	10.80	1.6E-03	8.72	1.3E-03	
1,2,3,4,7,8-HxCDD	0.10	2.96	8.8E-05	(8.51)	0.0E+00	2.35	7.0E-05	
1,2,3,6,7,8-HxCDD	0.10	12.68	3.8E-04	5.00	1.4E-04	4.23	1.3E-04	
1,2,3,7,8,9-HxCDD	0.10	(12.34)	0.0E+00	(8.83)	0.0E+00	(9.10)	0.0E+00	
1,2,3,4,6,7,8-HpCDD	0.01	67.40	2.0E-04	28.7	8.3E-05	21.93	6.5E-05	
OCDD	0.001	124.7	3.7E-05	59.4	1.7E-05	26.5	7.9E-06	
2,3,7,8-TCDF	0.10	396	1.2E-02	298	8.6E-03	255	7.6E-03	
1,2,3,7,8-PeCDF	0.05	163	2.4E-03	127.6	1.8E-03	103	1.5E-03	
2,3,4,7,8-PeCDF	0.50	289	4.3E-02	230.4	3.3E-02	190	2.8E-02	
1,2,3,4,7,8-HxCDF	0.10	64.8	1.9E-03	58.9	1.7E-03	49.1	1.5E-03	
1,2,3,6,7,8-HxCDF	0.10	66.2	2.0E-03	56.1	1.6E-03	48.7	1.4E-03	
2,3,4,6,7,8-HxCDF	0.10	51.5	1.5E-03	51.4	1.5E-03	44.8	1.3E-03	
1,2,3,7,8,9-HxCDF	0.10	14.20	4.2E-04	17.98	5.2E-04	(5.16)	0.0E+00	
1,2,3,4,6,7,8-HpCDF	0.01	54.3	1.6E-04	58.7	1.7E-04	54.9	1.6E-04	
1,2,3,4,7,8,9-HpCDF	0.01	7.35	2.2E-05	7.04	2.0E-05	3.81	1.1E-05	
OCDF	0.001	13.70	4.1E-06	11.70	3.4E-06	7.96	2.4E-06	
TOTAL TEQs (ng/m^3)		=	0.0723		0.0560		0.0479	**AVG:**
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**0.1327**		**0.1507**		**0.1289**	**0.1374**
TOTAL TEQs (g/s)		=	1.2E-09		9.5E-10		7.9E-10	

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

Table 6-5 PCDD/PCDF Emission Results for Condition 1

	Run No.		C1-R1		C1-R2		C1-R3
	Date		20-Oct-10		20-Oct-10		21-Oct-10
	Start Time		09:30		13:00		09:04
	Stop Time		12:32		16:02		12:07
	Units						
Sample Volume	dscf		117.866		123.649		114.675
Sample Volume	m^3		3.34		3.50		3.25
Moisture Content	% v/v		13.9		13.8		14.0
O_2 Concentration	% v/v (dry)		15.60		15.90		15.40
CO_2 Concentration	% v/v (dry)		4.20		4.00		4.20
Isokinetics	%		97		97		97
Stack Flowrate	dscfm		33,283		34,813		32,531
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	51.60	1.5E-02	36.30	1.0E-02	37.4	1.2E-02
1,2,3,7,8-PeCDD	0.50	29.6	4.4E-03	19.40	2.8E-03	18.10	2.8E-03
1,2,3,4,7,8-HxCDD	0.10	5.80	1.7E-04	3.89	1.1E-04	(12.41)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	12.00	3.6E-04	7.09	2.0E-04	(11.57)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(10.60)	0.0E+00	3.29	9.4E-05	(10.65)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	41.20	1.2E-04	28.6	8.2E-05	19.21	5.9E-05
OCDD	0.001	38.3	1.1E-05	41.7	1.2E-05	28.3	8.7E-06
2,3,7,8-TCDF	0.10	1,013	3.0E-02	639	1.8E-02	611	1.9E-02
1,2,3,7,8-PeCDF	0.05	356	5.3E-03	224.7	3.2E-03	204	3.1E-03
2,3,4,7,8-PeCDF	0.50	606	9.1E-02	421.0	6.0E-02	347	5.3E-02
1,2,3,4,7,8-HxCDF	0.10	123.6	3.7E-03	93.8	2.7E-03	74.6	2.3E-03
1,2,3,6,7,8-HxCDF	0.10	123.4	3.7E-03	92.3	2.6E-03	71.7	2.2E-03
2,3,4,6,7,8-HxCDF	0.10	90.3	2.7E-03	80.1	2.3E-03	58.2	1.8E-03
1,2,3,7,8,9-HxCDF	0.10	23.90	7.2E-04	23.30	6.7E-04	14.40	4.4E-04
1,2,3,4,6,7,8-HpCDF	0.01	69.4	2.1E-04	77.3	2.2E-04	51.7	1.6E-04
1,2,3,4,7,8,9-HpCDF	0.01	5.24	1.6E-05	(11.63)	0.0E+00	3.64	1.1E-05
OCDF	0.001	8.63	2.6E-06	14.50	4.1E-06	9.26	2.9E-06
TOTAL TEQs (ng/m^3)		=	0.1581		0.1037		0.0967
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**0.4100**		**0.2847**		**0.2416**
TOTAL TEQs (g/s)		=	2.5E-09		1.7E-09		1.5E-09

AVG:
0.3121

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

Table 6-6 PCDD/PCDF Emission Results for Condition 1RT

	Run No.	C1RT-R1		C1RT-R2		C1RT-R3		
	Date	11-Jan-11		11-Jan-11		12-Jan-11		
	Start Time	08:49		12:35		09:03		
	Stop Time	11:50		15:37		12:04		
	Units							
Sample Volume	dscf	116.829		121.178		114.948		
Sample Volume	m^3	3.31		3.43		3.26		
Moisture Content	% v/v	13.1		13.0		12.6		
O_2 Concentration	% v/v (dry)	15.00		15.02		14.56		
CO_2 Concentration	% v/v (dry)	4.76		4.69		4.38		
Isokinetics	%	101		101		99		
Stack Flowrate	dscfm	29,857		30,910		29,979		
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	
2,3,7,8-TCDD	1.00	5.98	1.8E-03	6.08	1.8E-03	5.98	1.8E-03	
1,2,3,7,8-PeCDD	0.50	9.70	1.5E-03	9.80	1.4E-03	(8.24)	0.0E+00	
1,2,3,4,7,8-HxCDD	0.10	(10.3)	0.0E+00	(9.59)	0.0E+00	(12.2)	0.0E+00	
1,2,3,6,7,8-HxCDD	0.10	4.74	1.4E-04	5.13	1.5E-04	(11.4)	0.0E+00	
1,2,3,7,8,9-HxCDD	0.10	(9.39)	0.0E+00	(8.95)	0.0E+00	(11.1)	0.0E+00	
1,2,3,4,6,7,8-HpCDD	0.01	16.1	4.9E-05	13.3	3.9E-05	8.35	2.6E-05	
OCDD	0.001	11.5	3.5E-06	6.16	1.8E-06	(29.2)	0.0E+00	
2,3,7,8-TCDF	0.10	69.8	2.1E-03	88.2	2.6E-03	37.1	1.1E-03	
1,2,3,7,8-PeCDF	0.05	32.4	4.9E-04	41.2	6.0E-04	17.1	2.6E-04	
2,3,4,7,8-PeCDF	0.50	55.0	8.3E-03	71.4	1.0E-02	32.6	5.0E-03	
1,2,3,4,7,8-HxCDF	0.10	13.2	4.0E-04	18.2	5.3E-04	8.13	2.5E-04	
1,2,3,6,7,8-HxCDF	0.10	15.8	4.8E-04	19.0	5.5E-04	8.58	2.6E-04	
2,3,4,6,7,8-HxCDF	0.10	14.9	4.5E-04	16.9	4.9E-04	9.34	2.9E-04	
1,2,3,7,8,9-HxCDF	0.10	(5.93)	0.0E+00	3.08	9.0E-05	(5.44)	0.0E+00	
1,2,3,4,6,7,8-HpCDF	0.01	15.5	4.7E-05	13.5	3.9E-05	(10.4)	0.0E+00	
1,2,3,4,7,8,9-HpCDF	0.01	(7.12)	0.0E+00	(7.38)	0.0E+00	(4.35)	0.0E+00	
OCDF	0.001	(20.1)	0.0E+00	(15.6)	0.0E+00	(24.2)	0.0E+00	
TOTAL TEQs (ng/m^3)		=	0.0158		0.0187		0.0091	**AVG:**
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**0.0368**		**0.0437**		**0.0197**	**0.0334**
TOTAL TEQs (g/s)		=	2.2E-10		2.7E-10		1.3E-10	

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

Table 6-7 PCDD/PCDF Emission Results for Condition 1A

	Run No.	C1A-R1		C1A-R2		C1A-R3	
	Date	12-Jan-11		13-Jan-11		13-Jan-11	
	Start Time	13:33		08:33		12:00	
	Stop Time	16:35		11:35		15:30	
	Units						
Sample Volume	dscf	141.163		148.628		142.208	
Sample Volume	m^3	4.00		4.21		4.03	
Moisture Content	% v/v	12.6		12.5		12.0	
O_2 Concentration	% v/v (dry)	15.57		16.13		16.09	
CO_2 Concentration	% v/v (dry)	3.87		3.93		3.98	
Isokinetics	%	99		100		99	
Stack Flowrate	dscfm	36,658		38,197		36,831	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	5.64	1.4E-03	3.59	8.5E-04	7.50	1.9E-03
1,2,3,7,8-PeCDD	0.50	9.79	1.2E-03	6.79	8.1E-04	7.00	8.7E-04
1,2,3,4,7,8-HxCDD	0.10	(15.0)	0.0E+00	(11.2)	0.0E+00	(11.6)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(14.0)	0.0E+00	(10.5)	0.0E+00	(10.8)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(13.7)	0.0E+00	(10.2)	0.0E+00	(10.5)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	13.7	3.4E-05	13.4	3.2E-05	11.0	2.7E-05
OCDD	0.001	5.79	1.4E-06	13.0	3.1E-06	11.0	2.7E-06
2,3,7,8-TCDF	0.10	50.4	1.3E-03	38.6	9.2E-04	40.7	1.0E-03
1,2,3,7,8-PeCDF	0.05	26.5	3.3E-04	18.9	2.2E-04	18.8	2.3E-04
2,3,4,7,8-PeCDF	0.50	47.6	6.0E-03	27.7	3.3E-03	32.2	4.0E-03
1,2,3,4,7,8-HxCDF	0.10	(11.3)	0.0E+00	7.55	1.8E-04	8.75	2.2E-04
1,2,3,6,7,8-HxCDF	0.10	12.0	3.0E-04	(8.40)	0.0E+00	8.90	2.2E-04
2,3,4,6,7,8-HxCDF	0.10	9.54	2.4E-04	7.14	1.7E-04	7.64	1.9E-04
1,2,3,7,8,9-HxCDF	0.10	(7.19)	0.0E+00	(5.29)	0.0E+00	(5.02)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	10.5	2.6E-05	7.45	1.8E-05	6.92	1.7E-05
1,2,3,4,7,8,9-HpCDF	0.01	(10.9)	0.0E+00	(7.39)	0.0E+00	(6.29)	0.0E+00
OCDF	0.001	(22.4)	0.0E+00	(17.1)	0.0E+00	(14.9)	0.0E+00
TOTAL TEQs (ng/m^3)	=		0.0108		0.0065		0.0086
TOTAL TEQs (ng/m^3 @ 7 % O_2)	=		**0.0278**		**0.0187**		**0.0247**
TOTAL TEQs (g/s)	=		1.9E-10		1.2E-10		1.5E-10

AVG:
0.0237

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

6.3 Particulate Matter, Hydrogen Chloride and Chlorine

Sampling for PM / HCl / Cl_2 was performed during Condition 2 only in accordance with EPA Reference Method 26A and was followed as written without modification. The sampling runs involved isokinetic sampling at 12 points (6 points per traverse) with an overall net run length of 120 minutes. Sampling was conducted for 10 minutes per point with meter box readings taken every 5 minutes. PM sample train fractions (front-half rinse, particulate filter and field blanks) were submitted to **AECOM's laboratory in Harvard, MA** for gravimetric analysis. Sample train fractions (including field blanks) for

HCl and Cl_2 determination were submitted to **TestAmerica (West Sacramento, CA)** for analysis by ion chromatography. Prior to final packing of the recovered samples, the contents of impingers 5 and 6 (for total chlorine determination) were treated with 2-3 mL of sodium thiosulfate as specified in the method.

The Method 26A sampling train consisted of 7 glass impingers connected in series with leak-free ground glass and Teflon o-ring connections. The first impinger was filled with 50-mL of 0.1N H_2SO_4; each of the second and third impingers were filled with 100-mL of 0.1N H_2SO_4; the fourth impinger was left empty; the fifth and sixth impingers were each filled with 100-mL of 0.1N NaOH; and the seventh impinger was loaded with ~ 200-400 g of silica gel.

Particulate emissions for Condition 2 were well below the MACT standard (0.025 gr/dscf corrected to 7% O_2). Results are shown in **Table 6-8**.

Table 6-8 Particulate Emission Results for Condition 2

Run No.		**C2-R1**	**C2-R2**	**C2-R3**	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	**AVGS**
Sampling Parameters --					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	89.567	90.510	90.284	90.120
Volume of Gas Collected	dscf	92.271	91.981	91.896	92.049
Moisture	% v/v	12.4	11.9	13.7	12.6
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
CO_2 at Stack	% dry	3.90	4.00	4.00	3.97
Avg. Stack Temp.	°F	129	131	132	131
Stack Flowrate	dscfm	36,874	36,990	36,256	36,707
Isokinetics	%	101.1	100.5	102.4	101.3
Particulate Matter --					
Front Half Rinse	mg	5.9	10.0	4.1	6.7
Particulate Filter	mg	7.7	49.1	12.1	23.0
Total Particulate	mg	13.6	59.1	16.2	29.6
PM Loading @ 7% O_2	mg/dscm	9.5	61.1	16.8	29.1
Grain Loading	gr/dscf	0.0023	0.0099	0.0027	0.0050
Grain Loading @ 7% O_2	**gr/dscf**	**0.0042**	**0.0266**	**0.0073**	**0.0127**
Emission Rate	lb/hr	0.72	3.14	0.84	1.57

HCl and Cl_2 emissions for Condition 2 were well below the MACT standard (600 ppm(v) expressed as chloride equivalents corrected to 7% O_2). Results are shown in **Table 6-9**.

Table 6-9 Emission Results for Hydrogen Chloride and Chlorine for Condition 2

Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	**AVGS**
Sampling Parameters --					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	89.567	90.510	90.284	90.120
Volume of Gas Collected	dscf	92.271	91.981	91.896	92.049
Moisture	% v/v	12.4	11.9	13.7	12.6
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
CO_2 at Stack	% dry	3.90	4.00	4.00	3.97
Avg. Stack Temp.	°F	129	131	132	131
Stack Flowrate	dscfm	36,874	36,990	36,256	36,707
Isokinetics	%	101	100	102	101
HCl Emission Results --					
Total HCl Detected	µg	94,300	177,000	182,000	151,100
Total HCl Concentration	ppm	23.73	44.68	45.99	38.13
Conc. @ 7% O_2	ppm	43.52	120.30	123.81	95.88
HCl Emission Rate	lb/hr	4.985	9.415	9.498	7.966
Cl_2 Emission Results --					
Total Cl_2 Detected	µg	1,500	1,700	1,400	1,533
Total Cl_2 Concentration	ppm	0.20	0.22	0.18	0.20
Conc. @ 7% O_2	ppm	0.36	0.60	0.50	0.49
Cl_2 Emission Rate	lb/hr	0.079	0.090	0.073	0.081
HCl / Cl_2 Combined Results --					
Concentration @ 7% O_2 (HCl Equivalents)	**ppm**	**44.3**	**121.7**	**125.0**	**97.0**

6.4 Metals

Sampling for MACT metals (arsenic, beryllium, cadmium, chromium, lead and mercury) was performed during Condition 2 only in accordance with EPA Reference Method 29 and was followed as written without modification. The sampling runs involved isokinetic sampling at 12 points (6 points per traverse) with an overall net run length of 120 minutes. Sampling was conducted for 10 minutes per point with meter box readings taken every 5 minutes. The Method 29 sampling train consisted of 7 glass impingers connected in series with leak-free ground glass and Teflon o-ring connections. The first impinger was left empty and the second and third impingers were each filled with 100-mL of 5% HNO_3/10% H_2O_2; the fourth impinger was left empty; the fifth and sixth impingers were each filled with

100-mL of 10% H_2SO_4/4% $KMnO_4$; and the seventh impinger was loaded with ~ 200-400 g of silica gel.

All sample train fractions (including field blanks) were submitted to **TestAmerica (West Sacramento, CA)** for analysis. All metals except mercury were analyzed by inductively coupled plasma / mass spectrometry (ICP-MS) while mercury was analyzed by cold vapor atomic absorption spectrometry (CVAAS).

Emission results for all metals demonstrated full compliance with the respective MACT standards. The applicable MACT standards are 110 µg/dscm for low volatile metals (arsenic, beryllium and chromium); 250 µg/dscm for semivolatile metals (cadmium and lead); and 120 µg/dscm for mercury. All standards are corrected to 7% O_2. Results for all metals are shown in **Table 6-10**. The MACT rule for LWAKs also specifies emission standards for LVM and SVM based on thermal input of the hazardous waste fired (i.e., LLGF). These calculations are also shown in Table 6-10.

Table 6-10 Emission Results for Metals for Test Condition 2

Run No.		**C2-R1**	**C2-R2**	**C2-R3**	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	**AVGS**
Sampling Parameters --					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	92.568	94.763	94.637	93.989
Sample Volume	dscf	92.518	93.539	93.610	93.222
Moisture	% v/v	12.6	12.6	13.6	12.9
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
Avg. Stack Temp.	°F	130	133	133	132
Stack Flowrate	dscfm	36,551	36,641	36,321	36,504
Isokinetics	%	96	97	98	97
Arsenic (As) --	**LVM**				
Quantity Collected	µg	1.40	1.30	1.50	1.40
Stack Conc. @ 7% O_2	**µg/m³**	**0.98**	**1.32**	**1.52**	**1.27**
Stack Emission Rate	lb/hr	7.32E-05	6.74E-05	7.70E-05	7.25E-05
	g/sec	9.22E-06	8.49E-06	9.70E-06	9.14E-06
Beryllium (Be) --	**LVM**				
Quantity Collected	µg	0.06	0.05	0.05	0.05
Stack Conc. @ 7% O_2	**µg/m³**	**0.04**	**0.05**	**0.05**	**0.05**
Stack Emission Rate	lb/hr	3.14E-06	2.59E-06	2.57E-06	2.76E-06
	g/sec	3.95E-07	3.26E-07	3.23E-07	3.48E-07
Total Chromium (Cr) --	**LVM**				
Quantity Collected	µg	33.1	53.0	28.2	38.1
Stack Conc. @ 7% O_2	**µg/m³**	**23.2**	**53.9**	**28.6**	**35.2**
Stack Emission Rate	lb/hr	1.73E-03	2.75E-03	1.45E-03	1.97E-03
	g/sec	2.18E-04	3.46E-04	1.82E-04	2.49E-04
Feed Quantity	lb/hr	5.96	5.64	5.29	5.63
Removal Efficiency	%	99.971%	99.951%	99.973%	99.965%
LVM Total =	**µg/m³**	**24.2**	**55.2**	**30.2**	**36.6**
LVM Total =	lb/10^6 Btu	3.5E-05	5.3E-05	2.9E-05	**3.9E-05**

(continued)

Table 6-10 (continued)

Run No.		**C2-R1**	**C2-R2**	**C2-R3**	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	**AVGS**
Sampling Parameters --					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	92.568	94.763	94.637	93.989
Sample Volume	dscf	92.518	93.539	93.610	93.222
Moisture	% v/v	12.6	12.6	13.6	12.9
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
Avg. Stack Temp.	°F	130	133	133	132
Stack Flowrate	dscfm	36,551	36,641	36,321	36,504
Isokinetics	%	96	97	98	97
Cadmium (Cd) --	**SVM**				
Quantity Collected	µg	4.20	4.80	5.36	4.79
Stack Conc. @ 7% O_2	**µg/m³**	**2.94**	**4.88**	**5.44**	**4.42**
Stack Emission Rate	lb/hr	2.19E-04	2.49E-04	2.75E-04	2.48E-04
	g/sec	2.77E-05	3.13E-05	3.47E-05	3.12E-05
Lead (Pb) --	**SVM**				
Quantity Collected	µg	43.1	52.5	65.6	53.7
Stack Conc. @ 7% O_2	**µg/m³**	**30.2**	**53.4**	**66.6**	**50.1**
Stack Emission Rate	lb/hr	2.25E-03	2.72E-03	3.37E-03	2.78E-03
	g/sec	2.84E-04	3.43E-04	4.24E-04	3.50E-04
Feed Quantity	lb/hr	6.10	6.07	6.43	6.20
Removal Efficiency	%	99.963%	99.955%	99.948%	99.955%
SVM Total =	**µg/m³**	**33.1**	**58.2**	**72.1**	**54.5**
SVM Total =	lb/10^6 Btu	4.8E-05	5.6E-05	6.8E-05	**5.7E-05**

(continued)

Table 6-10 (continued)

Run No.		**C2-R1**	**C2-R2**	**C2-R3**	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	**AVGS**
Sampling Parameters --					
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Volume Metered	dcf	92.568	94.763	94.637	93.989
Sample Volume	dscf	92.518	93.539	93.610	93.222
Moisture	% v/v	12.6	12.6	13.6	12.9
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
Avg. Stack Temp.	°F	130	133	133	132
Stack Flowrate	dscfm	36,551	36,641	36,321	36,504
Isokinetics	%	96	97	98	97
Mercury (Hg) --	VM				
Quantity Collected	µg	36.2	40.1	34.1	36.8
Stack Conc. @ 7% O_2	**µg/m³**	**25.3**	**40.8**	**34.6**	**33.6**
Stack Emission Rate	lb/hr	1.89E-03	2.08E-03	1.75E-03	1.91E-03
	g/sec	2.38E-04	2.62E-04	2.21E-04	2.40E-04
Feed Quantity	lb/hr	0.0115	0.0102	0.0108	0.0109
Removal Efficiency	%	83.59%	79.71%	83.80%	82.37%

Pg 3 of 3

6.5 POHC DRE

The emission rate for the POHC, MCB was evaluated using EPA Method 0031, the volatile organic sampling train (VOST). Destruction/Removal Efficiency (DRE) testing was performed during Condition 1A only. Sample analyses were performed by **Air Toxics, Ltd. (Folsom, California)**. A summary of sampling parameters associated with all VOST runs is shown in **Table 6-11**. VOST runs were completed concurrently with the separately operated Method 0023A sampling train and, therefore, stack flow rates used in conjunction with the VOST DRE determinations represent the flow rates determined from the PCDD/PCDF sampling train. Emission results and computed DREs for MCB are shown in **Table 6-12.** All runs exhibited DREs well above the minimum (99.99%) required; the overall average was 99.9977%.

Table 6-11 VOST Sampling Parameters for Condition 1A

Date	Bar. Press. in Hg	Run ID No.	Sampling Times		Sample Volume aL	Meter Temp. °C	Sample Volume dsL
			Start	Stop			
12-Jan-11	29.60	1A	14:03	14:23	20.040	0.4	22.473
12-Jan-11	29.60	1B	14:33	14:53	19.540	1.75	21.805
12-Jan-11	29.60	1C	15:04	15:24	18.810	3.0	20.895
12-Jan-11	29.60	1D	15:37	15:57	19.960	3.0	22.172
13-Jan-11	30.05	2A	09:00	09:20	19.160	-3.5	22.128
13-Jan-11	30.05	2B	09:28	09:48	19.380	-1.75	22.238
13-Jan-11	30.05	2C	10:14	10:34	19.130	-2.0	21.971
13-Jan-11	30.05	2D	10:41	11:01	19.200	-0.5	21.930
13-Jan-11	30.10	3A	12:30	12:50	18.890	-1.5	21.692
13-Jan-11	30.10	3B	12:59	13:19	19.600	-1.0	22.466
13-Jan-11	30.10	3C	13:32	13:52	19.200	-1.5	22.048
13-Jan-11	30.10	3D	14:26	14:46	20.490	-1.5	23.529
DGM Y =	**1.0577**						

Table 6-12 DRE Calculations for Monochlorobenzene for Test Condition 1A

POHC Feed Parameters						Stack Gas Parameters					
Run No.	Run Date Start Time Stop Time	Waste Feed Rate (lb/hr)	Native MCB Conc. (% wt.)	Native MCB Feed Rate (lb/hr)	MCB Spike Rate (lb/hr)	VOST Run No.	Volume Sampled (dsL)	MCB Quantity Detected (µg)	(a) Stack Gas Flow rate (dscfm)	MCB Emission Rate (lb/hr)	Calculated DRE
C1A-R1	12-Jan-11 14:03 15:57					1-A	22.473				
						1-B	21.805				
						1-C	**HOLD**				
						1-D	22.172				
Overall C1A-R1:		**0.0**	**0.00%**	**0.00**	**60.03**		**66.450**	**0.805**	**36,658**	**1.66E-03**	**99.9972%**
C1A-R2	13-Jan-11 09:00 11:01					2-A	22.128				
						2-B	22.238				
						2-C	**HOLD**				
						2-D	21.930				
Overall C1A-R2:		**0.0**	**0.00%**	**0.00**	**75.01**		**66.297**	**0.745**	**38,197**	**1.61E-03**	**99.9979%**
C1A-R3	13-Jan-11 12:30 14:46					3-A	21.692				
						3-B	22.466				
						3-C	**HOLD**				
						3-D	23.529				
Overall C1A-R3:		**0.0**	**0.00%**	**0.00**	**75.06**		**67.687**	**0.775**	**36,831**	**1.58E-03**	**99.9979%**
								AVG DRE, CONDITION 1A :			**99.9977%**

(a) The stack gas flow rate used for the VOST runs is taken from the concurrently running Method 0023A sampling train.

7.0 Quality Assurance/Quality Control Documentation

This test program incorporated a variety of QA/QC measures to ensure the validity of the final results for documentation of the performance of Norlite's lightweight aggregate kilns. These measures were based upon routine field and laboratory practices as well as specific requirements delineated in the approved MACT CPT Plan (Revision 2 dated August 6, 2010) and the applicable sampling and analytical protocols. In addition, an addendum to the CPT Plan submitted to NYSDEC on December 23, 2010 was followed with respect to DRE testing and associated spiking of MCB.

This section presents the results of all QA/QC measures evaluated during both field sampling programs (October 2010 and January 2011) and during all phases of sample analysis. Data generated for the program are judged to be completely valid since overall accuracy and precision goals consistent with general program objectives were achieved. Analytical QA/QC data are presented to support all sample results used for determining compliance with performance criteria and/or emission standards.

7.1 Sample Collection QA/QC

7.1.1 Kiln Feed Materials

The LLGF and shale fed to the kiln during each test phase were sampled from appropriate locations, as done on all previous sampling programs. In the case of LLGF, the sample tap was located upstream of the MCB injection location used during test condition 1A. For shale, the samples were collected from the shale feed belt. The feed streams were sampled in accordance with the procedures and methodologies currently described in Norlite's FSAP. The feed materials were fully characterized and the analytical results are provided in **Appendix D** of this final report. No problems were encountered during the collection of the LLGF and shale feed streams.

7.1.2 Stack Gas

All samples were collected at the lower sampling platform on the Kiln 1 exhaust stack as planned. One (1) field blank of each isokinetic sampling train was also submitted for analysis during each individual sampling event. For the VOST methodology, two field blanks (one for each day of testing) and one trip blank were also submitted along with program samples. No audit samples were presented by the regulatory agency (NYSDEC) for either test program.

Sampling QA/QC measures for this program included the calibration of all applicable sampling equipment used as described below. Field equipment were calibrated according to EPA procedures specified in EPA/600/R-94/038e (September 1994) and 40 CFR 60, Methods 1-5, as well as manufacturer's specifications.

1) Dry Gas Meters and Orifice Meters (EPA Method 5 Type) -- Dry gas meters for all sampling trains are calibrated using critical orifices. The procedure entails four runs using four separate critical orifices running at an actual vacuum 1-2 in. greater than the theoretical critical vacuum. The minimum sample volume required per orifice is 5 ft^3. Meter boxes are calibrated annually and then verified by use of the alternative Method 5 post-test calibration procedure. This procedure is referenced as Approved Alternate Method ALT-009 (June 21, 1994) by EPA's Emission Measurement Center. The

average Y-value obtained by this method must be within 5% of the initial Y-value. The calculations provided with the data sheets in **Appendix E** show that this criterion was met for all of the isokinetic sampling trains used on both test programs. These results are summarized in the two tables below. All annual calibration forms for all meter boxes are also provided in **Appendix E**.

Isokinetic Meter Box Calculations for the October 2010 Test Program

Isokinetic Meter Box	Test Parameter	Total Number of Runs	Average Deviation from. Pre-Y
80612	Method 0023A	6	4.37%
0808028	Method 26A	3	4.43%
80102	Method 29	3	0.70%

(a) Tolerance: ± 5% of initial Y value

Isokinetic Meter Box Calculations for the January 2011 Test Program

Isokinetic Meter Box	Test Parameter	Total Number of Runs	Average Deviation from. Pre-Y
0808030	Method 0023A	6	0.97%

(a) Tolerance: ± 5% of initial Y value

Similarly, the post-test calibration of VOST Box # VO14 (performed as a full recalibration) was well within the acceptable criterion of ± 5%. These results (for the January 2011 test program) are shown in the table below.

VOST Box	Test Parameter	Pre-Test Y	Post-Test Y	Average Deviation from Pre-Y
VO14	Method 0031	1.0577	1.0614	0.35%

(a) Tolerance: ± 5% of initial Y value

2) Sampling Nozzles -- Each glass nozzle is calibrated with a micrometer prior to testing and identified with a unique ID number. These data are then checked onsite prior to use. Any stainless steel nozzles used during the program are calibrated onsite prior to testing. The internal diameter of each nozzle used is measured to 0.001 inches along three points of the circumference with a dial vernier caliper and the three measurements are then averaged. Nozzle calibration data are provided in **Appendix E**.

3) Balance -- The analytical balance used in the field to determine initial and final silica gel weights is calibrated against Class M weights provided by the Mettler Corporation.

4) Thermocouples -- The Type K thermocouples in each meter control box, heated sample box, impinger umbilical connector, XAD resin trap and sample probe are calibrated against ASTM mercury-in-glass thermometers at two or more points: an ice bath, ambient temperature and/or boiling water bath. Calibration data are provided in **Appendix E**.

5) Pitot Tubes -- Each S-type stainless steel pitot tube used is designed to meet geometric configurations as defined in EPA Method 2. Sample probe calibration data forms are provided in **Appendix E**.

Chain-of-custody (COC) procedures for all stack samples was initiated and maintained as follows:

- Samples were collected, sealed and labeled with preprinted sample labels. Each isokinetic train was setup and recovered in an office trailer set up in close proximity to the Kiln 1 exhaust stack.
- Preprinted sample lists were used to check that all samples were collected and each container was checked upon completion of recovery and labeling.
- All samples were packed in bubble wrap or other absorbent material and placed in either sample coolers or appropriate DOT shipping packages (dangerous goods items). All samples were subsequently shipped via Priority Overnight FedEx service to the designated laboratory. Sample shipment documentation is also provided in **Appendix E**.

7.2 Laboratory Analysis QA/QC

This section provides a detailed presentation of QA/QC results from sample analysis as reported by each analytical laboratory. Key QC data related to matrix spikes, surrogate spikes, duplicate analyses, laboratory control samples (blank spikes), method blanks and/or field blank results are presented in tabular format. Other routine QC procedures followed such as calibration checks and additional method-specific protocols are described in the case narratives and analytical data packages provided in **Appendix F**. Also, unless noted otherwise, all holding times and method-specific QC criteria were met and reported results met all applicable NELAC requirements.

7.2.1 Kiln Feed Streams

The kiln feed materials (LLGF and shale) were analyzed in accordance with the approved CPT Plan and consistent with-Norlite's FSAP pursuant to the MACT regulations. Analysis and QA/QC procedures followed the approved test methods contained in these documents.

Evaluation of the validity of the total chloride analyses was based on the following QA objectives:

- Results of analysis of laboratory control samples (LCS or blank spikes) and/or standard reference materials.
- Results of duplicate sample analyses and/or LCS / LCSD.
- Results of analysis of method blanks.

Results summarized in **Table 7-1** indicate that all parameters were generally within limits established for the program. Therefore, program quality objectives were met and completeness was determined to be 100% for the kiln feed total chlorine analyses.

Table 7-1 Overall QC Summary for Total Chlorine in Kiln Feed Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results
Accuracy - Spikes	80% – 120% of Expected Value	Matrix spikes exceeded target criteria, but the spike amount was only 25% of the background concentration. Results may be biased high.
Precision – Duplicate Preparation and Analysis of One Run's Sample (C1-R2 for LLGF and C2-R3 for Shale)	10% RPD	All results within limits
Method Blanks	Below Detection Limit	All results ND or below RL

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results
Accuracy - Spikes	80% – 120% of Expected Value	All results within limits
Precision – Duplicate Preparation and Analysis of One Run's Sample (C1A-R3)	10% RPD	All results within limits
Method Blanks	Below Detection Limit	All results ND or below RL

Evaluation of the validity of the LLGF and shale metals analyses was based on the following QA objectives:

- Results of analysis of laboratory control samples and matrix spikes;
- Results of analysis of a pre-digestion spike;
- Results of analysis of duplicate analyses, MS / MSD and/or LCS / LCSD; and
- Results of analysis of method blanks.

Results summarized in **Table 7-2** indicate that program quality objectives were met and that completeness was therefore determined to be 100% for all waste feed metals analyses.

Table 7-2 Overall QC Summary for Metals in Kiln Feed Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results
Accuracy – Post-Digestion Spikes	70% – 130% Recovery	All results within limits except for Pb in LLGF-C1-R1. The native level of Pb was too high compared to the spike amount to produce usable recovery data.
Accuracy – Spiked Samples	70% – 130% Recovery	LLGF: All results within limits except for Hg in LLGF-C1-R1B which recovered low and may indicate a low bias. Low level matrix spike results for all metals in LLGF-C2-R1 exceeded limits because the native concentration was too high compared to the spike level. The high level spike on this samples was in control for all elements except Cr, which may indicate a low bias in the Cr result. Shale: The Hg spike recovery in SHALE-C2-R1 exceeded criteria and may indicate a high bias in the reported result. Low level matrix spike results for all metals in SHALE-C1-R1 exceeded limits because the native concentration was too high compared to the spike level. The high level spike on this samples was in control for all elements except As, Cd, Pb, and Zn, which may indicate a low bias in the As and Zn results, whereas the Cd and Pb results may be biased high.
Precision – Duplicate Preparation and Analysis of One Sample from each Matrix	Range < 35% if Sample Result Above Lowest Standard	All results within limits
Method Blanks	Below Detection Limit	All results ND or below RL

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results
Accuracy – Post-Digestion Spikes	70% – 130% Recovery	All results within limits
Accuracy – Spiked Samples	70% – 130% Recovery	LLGF: All results within limits except Cd, Cu, Pb, Ni and Zn. The native levels of these 5 metals was too high to allow accurate recovery of the spike. Shale: All results within limits except As, Pb and Zn
Precision – Duplicate Preparation and Analysis of One Sample from each Matrix (C1RT-R1)	Range < 35% if Sample Result Above Lowest Standard	LLGF: All results within limits except As Shale: All results within limits
Method Blanks	Below Detection Limit	All results ND or below RL

All feed stream analysis results and associated QC data are provided in **Appendix D** of this document. All of the analyses met the QC requirements associated with each method.

7.2.2 Stack Gas Analyses

7.2.2.1 PCDDs/PCDFs

Evaluation of the validity of the PCDD/PCDF data resultant from the analysis of the Method 0023A sampling train samples was based on the following criteria:

- Recoveries of internal, pre-spike and alternate recovery standards added to the samples prior to sampling or sample extraction.
- Results of analysis of an ongoing precision and recovery (OPR) study for the 17 PCDD/PCDF isomers listed in EPA Method 0023A.
- Results of analyses of field and method blank samples.

Results for the CPT are presented separately for the two test programs. On the basis of the QC results summarized in **Table 7-3**, no sample analyses were rejected, and all data were determined to be valid.

Table 7-3 Overall QC Summary for PCDDs/PCDFs in Stack Gas Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results
Field Blank	Below detection limit	ND for all 17 congeners
Method Blank	Below detection limit	ND for all 17 congeners
Ongoing Precision and Recovery (OPR) Study	70 – 130% recovery	All congeners within limits
Accuracy for Internal Standards (IS) and alternate recovery standard (AS)	40 – 135% recovery	All labeled standards within limits
Accuracy for pre-spike recovery standards (PS)	70 – 130% recovery	All labeled standards within limits

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results
Field Blank	Below detection limit	ND for all 17 congeners
Method Blank	Below detection limit	ND for all 17 congeners
Ongoing Precision and Recovery (OPR) Study	70 – 130% recovery	All congeners within limits
Accuracy for Internal Standards (IS) and alternate recovery standard (AS)	40 – 135% recovery	All labeled standards within limits
Accuracy for pre-spike recovery standards (PS)	70 – 130% recovery	All labeled standards within limits

7.2.2.2 VOST Analyses

Evaluation of the validity of the data resultant from the analysis of the VOST samples for the CPT retest for the volatile POHC (monochlorobenzene) was based on the following indicators:

- Recovery of a surrogate compound (Toluene d-8) added to the VOST samples prior to analysis;
- Replicate analysis of two traps spiked with standards (LCS samples);
- Separate analysis of the Anasorb VOST tubes for each VOST tube set to determine whether compound breakthrough had occurred; and
- Results of analyses of field, trip and lab blank samples.

Results for the CPT are presented for the January 2011 test program. No MCB was detected in any condensate samples or in any Anasorb sorbent fraction. Low levels (220 – 270 ng) of MCB were detected in the Tenax sorbent fraction. Surrogate recoveries reported for the Anasorb fraction were consistently low (21 – 46%) versus a lower target limit of 50%. This has been an historical problem with Method 0031, but based on the levels observed in this program is not believed to have any negative impact on the final data reported and resulting DRE calculations. Based on the overall results summarized in **Table 7-4**, completeness was determined to be 100% for all VOST analyses.

Table 7-4 Overall QC Summary for Volatile Organics in Stack Gas Samples

QC Data Summary for the January 2011 Test Program

QC Parameter	Target Criteria	Program Results
Field and Trip Blanks	Below detection limit	No MCB detected
Method Blanks	Below detection limit	No MCB detected
Lab Control Samples	50%-150% recovery	All samples within limits
Breakthrough Determination	Anasorb trap should contain < 75 ng or < 30% of amount on two TX traps.	No breakthrough observed
Accuracy-Surrogate Recoveries	50%-150% recovery (Anasorb) 70%-130% recovery (Tenax)	Consistently low (21-46%) recoveries All samples within limits

7.2.2.3 Particulate Matter

Evaluation of results of gravimetric analysis of the Method 5 samples was based on routine laboratory practices and processing of lab blank and field blank samples. Results for the CPT are presented for the October 2010 test program. No contamination was noted in either the lab acetone blank or the field blank and thus no blank correction was required. The blank filter weights were also within acceptable tolerances and required no blank correction. Additional QC measures followed by the gravimetric lab, such as maintenance of proper ambient conditions and use of standard weights, ensured valid data.

7.2.2.4 Hydrogen Chloride and Chlorine

Evaluation of the validity of chloride analysis of Method 26A train samples was based on three sets of objectives. These were:

- Results of analysis of LCS and matrix spikes;
- Results from the duplicate analysis of all samples; and
- Results of analysis of field and method blank samples.

Results for the CPT are presented for the October 2010 test program. Target criteria and results are shown in **Table 7-5**. All results met data quality objectives and completeness was therefore determined to be 100% for these parameters.

Table 7-5 Overall QC Summary for HCl and Cl_2 in Stack Gas Samples

QC Data Summary for the October 2010 Test Program

QC Parameter	Target Criteria	Program Results
Field Blank	Below detection limit	All parameters ND
Method Blank	Below detection limit	All parameters ND
Accuracy - LCS Recoveries	90%-110% recovery	All samples within limits
Accuracy - MS Recoveries	75%-125% recovery	All samples within limits
Precision - LCS / LCSD	< 20 % RPD	All samples within limits
Precision - MS / MSD	< 20 % RPD	All samples within limits
Duplicate Analyses (All samples)	0-20% RPD	All samples within limits.

7.2.2.5 Metals

Evaluation of the validity of the metals data resultant from the analysis of the Method 29 sampling trains was based on the following data quality objectives:

- Results of analysis of matrix spikes and post-digestion spikes for all target metals;
- Results of analysis of samples analyzed in duplicate and blank spike recoveries; and
- Results of analyses of field and method blank samples.

Results for the CPT are presented for the October 2010 test programs. Data summarized in **Table 7-6** show that no problems were encountered during sample analysis and all metals train data were therefore judged to be completely acceptable. It is also noted that the Method 29 blank-correction spreadsheets can be found in front of the TestAmerica data report in Appendix F.

Table 7-6 Overall QC Summary for Metals in Stack Gas Samples

QC Data Summary for the October 2010 Test Program (All Target Metals)

QC Parameter	Target Criteria	Program Results
Field Blank	Below detection limit	Minor amounts of chromium and lead were reported above the reporting limit. Final results have been blank-corrected to the maximum extent allowed in accordance with method specific procedures.
Method Blank	Below Detection Limit	No metals detected above the reporting limit
Accuracy – LCS Recoveries	70%-130% Recovery	All recoveries within limits
Precision – LCS / LCSD	Less than 35% RPD	All metals within limits
Accuracy – Matrix Spike for Mercury (Back-Half)	70%-130% Recovery	All recoveries within limits
Precision – Matrix Spike for Mercury (Back-Half)	Less than 35% RPD	MS / MSD precision within limits
Duplicate Analyses	0-20% RPD (CPT Plan) 0-15% RPD (Lab Limit)	All results within limits Slightly high (16%) RPD for chromium

Appendix A

Facility Process Operating Data

Daily CEMS Calibration Sheets (January 2011)

Kiln 1/Train A Calibration Checks

Norlite Corporation

Cal Checks for 1/11/2011

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
1/11/2011 5:00 AM	CO ppm	Low	Zero	0.00 ppm	-0.01 ppm	-0.01 ppm	±8 ppm	200 ppm	Unit online; Passed
1/11/2011 5:00 AM	CO ppm	Low	Span	170.90 ppm	171.84 ppm	0.94 ppm	±8 ppm	200 ppm	Unit online; Passed
1/11/2011 5:00 AM	CO ppm	High	Zero	0.00 ppm	-4.70 ppm	-4.7 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/11/2011 5:00 AM	CO ppm	High	Span	1910.00 ppm	1915.10 ppm	5.1 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/11/2011 5:00 AM	O2%	Single	Zero	0.00%	-0.01%	-0.01%	±0.5%	25%	Unit online; Passed
1/11/2011 5:00 AM	O2%	Single	Span	16.07%	16.12%	0.05%	±0.5%	25%	Unit online; Passed

Kiln 1/Train B Calibration Checks

Norlite Corporation

Cal Checks for 1/11/2011

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
1/11/2011 5:30 AM	CO ppm	Low	Zero	0.00 ppm	1.33 ppm	1.33 ppm	±6 ppm	200 ppm	Unit online; Passed
1/11/2011 5:30 AM	CO ppm	Low	Span	170.50 ppm	167.55 ppm	-3.35 ppm	±8 ppm	200 ppm	Unit online; Passed
1/11/2011 5:30 AM	CO ppm	High	Zero	0.00 ppm	-2.60 ppm	-2.6 ppm	±60 ppm	3000 ppm	Unit online; Passed
1/11/2011 5:30 AM	CO ppm	High	Span	1910.00 ppm	1902.80 ppm	-7.2 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/11/2011 5:30 AM	O2%	Single	Zero	0.00%	0.01%	0.01%	±0.5%	25%	Unit online; Passed
1/11/2011 5:30 AM	O2%	Single	Span	16.07%	16.07%	0%	±0.5%	25%	Unit online; Passed

Kiln 1/Train A Calibration Checks

Norlite Corporation

Cal Checks for 1/12/2011

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
1/12/2011 5:05 AM	CO ppm	Low	Zero	0.00 ppm	-0.59 ppm	-0.59 ppm	±6 ppm	200 ppm	Unit online; Passed
1/12/2011 5:05 AM	CO ppm	Low	Span	170.90 ppm	169.07 ppm	-1.83 ppm	±6 ppm	200 ppm	Unit online; Passed
1/12/2011 5:05 AM	CO ppm	High	Zero	0.00 ppm	-5.90 ppm	-5.9 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/12/2011 5:06 AM	CO ppm	High	Span	1919.00 ppm	1924.70 ppm	14.7 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/12/2011 5:05 AM	O2%	Single	Zero	0.00%	-0.10%	-0.1%	±0.5%	25%	Unit online; Passed
1/12/2011 5:06 AM	O2%	Single	Span	16.07%	16.13%	0.06%	±0.5%	25%	Unit online; Passed

Kiln 1/Train B Calibration Checks

Norlite Corporation

Cal Checks for 1/12/2011

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
1/12/2011 5:30 AM	CO ppm	Low	Zero	0.00 ppm	2.46 ppm	2.46 ppm	±6 ppm	200 ppm	Unit online: Passed
1/12/2011 5:30 AM	CO ppm	Low	Span	170.90 ppm	169.52 ppm	-1.38 ppm	±6 ppm	200 ppm	Unit online: Passed
1/12/2011 5:30 AM	CO ppm	High	Zero	0.00 ppm	-2.80 ppm	-2.8 ppm	±60 ppm	3000 ppm	Unit online: Passed
1/12/2011 5:30 AM	CO ppm	High	Span	1910.00 ppm	1873.20 ppm	-36.8 ppm	±60 ppm	3000 ppm	Unit online: Passed
1/12/2011 5:30 AM	O2%	Single	Zero	0.00%	0.01%	0.01%	±0.5%	25%	Unit online: Passed
1/12/2011 5:30 AM	O2%	Single	Span	18.07%	17.90%	-0.17%	±0.5%	25%	Unit online: Passed

Kiln 1/Train A Calibration Checks

Norlite Corporation

Cal Checks for 1/13/2011

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
1/13/2011 5:00 AM	CO ppm	Low	Zero	0.00 ppm	0.12 ppm	0.12 ppm	±9 ppm	200 ppm	Unit online; Passed
1/13/2011 5:00 AM	CO ppm	Low	Span	170.90 ppm	167.54 ppm	-3.36 ppm	±9 ppm	200 ppm	Unit online; Passed
1/13/2011 5:00 AM	CO ppm	High	Zero	0.00 ppm	-6.00 ppm	-6 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/13/2011 5:00 AM	CO ppm	High	Span	1910.00 ppm	1901.20 ppm	-8.8 ppm	±90 ppm	3000 ppm	Unit online; Passed
1/13/2011 5:00 AM	O2%	Single	Zero	0.00%	0.06%	0.06%	±0.5%	25%	Unit online; Passed
1/13/2011 5:00 AM	O2%	Single	Span	18.37%	18.34%	-0.03%	±0.5%	25%	Unit online; Passed

Kiln 1/Train B Calibration Checks

Norlite Corporation

Cal Checks for 1/13/2011

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
1/13/2011 5:30 AM	CO ppm	Low	Zero	0.00 ppm	0.19 ppm	0.19 ppm	±8 ppm	200 ppm	Unit online; Passed
1/13/2011 5:30 AM	CO ppm	Low	Span	170.80 ppm	168.81 ppm	-1.80 ppm	±8 ppm	200 ppm	Unit online; Passed
1/13/2011 5:30 AM	CO ppm	High	Zero	0.00 ppm	-1.30 ppm	-1.3 ppm	±60 ppm	3000 ppm	Unit online; Passed
1/13/2011 5:30 AM	CO ppm	High	Span	1810.00 ppm	1801.20 ppm	-6.8 ppm	±60 ppm	3000 ppm	Unit online; Passed
1/13/2011 5:30 AM	O2%	Single	Zero	0.00%	0.05%	0.05%	±0.5%	25%	Unit online; Passed
1/13/2011 5:30 AM	O2%	Single	Span	16.07%	16.06%	-0.01%	±0.5%	25%	Unit online; Passed

Detailed Process Data Summaries (January 2011)

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 8:49	10.2	40.2	24.6	895	425	-0.2	33,644	33.0	15.0
1/11/2011 8:50	10.2	40.1	24.5	895	425	-0.2	33,686	33.0	15.0
1/11/2011 8:51	10.2	40.1	24.5	895	426	-0.2	33,728	32.0	15.0
1/11/2011 8:52	10.2	40.0	24.5	895	426	-0.2	33,749	33.0	15.0
1/11/2011 8:53	10.2	40.0	24.5	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:54	10.2	39.9	24.5	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:55	10.2	39.9	24.4	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:56	10.2	39.8	24.4	895	426	-0.2	33,791	33.0	15.0
1/11/2011 8:57	10.2	39.7	24.4	895	426	-0.2	33,854	33.0	15.0
1/11/2011 8:58	10.2	39.7	24.4	895	426	-0.2	33,875	33.0	15.0
1/11/2011 8:59	10.2	39.6	24.4	895	427	-0.2	33,875	33.0	15.0
1/11/2011 9:00	10.2	39.5	24.4	895	427	-0.2	33,875	33.0	15.0
1/11/2011 9:01	10.2	39.5	24.3	895	427	-0.2	33,896	33.0	15.0
1/11/2011 9:02	10.3	39.4	24.3	895	427	-0.2	33,875	33.0	15.0
1/11/2011 9:03	10.3	39.3	24.3	895	427	-0.2	33,896	33.0	15.0
1/11/2011 9:04	10.3	39.3	24.3	895	427	-0.2	33,896	33.0	15.0
1/11/2011 9:05	10.3	39.2	24.3	895	427	-0.2	33,917	33.0	15.0
1/11/2011 9:06	10.3	39.1	24.2	895	427	-0.2	33,938	33.0	15.0
1/11/2011 9:07	10.3	39.1	24.2	895	428	-0.2	33,938	33.0	15.0
1/11/2011 9:08	10.3	39.0	24.2	895	428	-0.2	33,959	33.0	15.0
1/11/2011 9:09	10.3	39.0	24.2	895	428	-0.2	33,980	33.0	15.0
1/11/2011 9:10	10.3	38.9	24.2	895	428	-0.2	34,001	33.0	15.0
1/11/2011 9:11	10.3	38.8	24.2	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:12	10.3	38.8	24.2	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:13	10.3	38.8	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:14	10.3	38.7	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:15	10.3	38.6	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:16	10.3	38.5	24.1	895	428	-0.2	34,022	33.0	15.0
1/11/2011 9:17	10.3	38.4	24.0	895	428	-0.2	34,001	33.0	15.0
1/11/2011 9:18	10.3	38.4	24.0	895	428	-0.2	34,001	33.0	15.0
1/11/2011 9:19	10.3	38.3	24.0	895	429	-0.2	34,022	33.0	15.0
1/11/2011 9:20	10.2	38.3	24.0	895	429	-0.2	34,043	33.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 9:21	10.2	38.2	24.0	895	429	-0.2	34,064	33.0	15.0
1/11/2011 9:22	10.2	38.1	24.0	895	429	-0.2	34,085	33.0	15.0
1/11/2011 9:23	10.2	38.1	24.0	895	429	-0.2	34,064	33.0	15.0
1/11/2011 9:24	10.2	38.0	23.9	895	429	-0.2	34,064	33.0	15.0
1/11/2011 9:25	10.2	37.9	23.9	895	429	-0.2	34,085	33.0	15.0
1/11/2011 9:26	10.2	37.9	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:27	10.2	37.8	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:28	10.2	37.8	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:29	10.3	37.7	23.9	895	429	-0.2	34,106	33.0	15.0
1/11/2011 9:30	10.3	37.7	23.9	895	429	-0.2	34,085	33.0	15.0
1/11/2011 9:31	10.2	37.6	23.8	895	430	-0.2	34,064	33.0	15.0
1/11/2011 9:32	10.2	37.5	23.8	895	430	-0.2	34,064	32.0	15.0
1/11/2011 9:33	10.2	37.5	23.8	896	430	-0.2	34,043	32.0	15.0
1/11/2011 9:34	10.2	37.4	23.8	895	430	-0.2	34,022	32.0	15.0
1/11/2011 9:35	10.3	37.3	23.8	895	430	-0.2	34,022	33.0	15.0
1/11/2011 9:36	10.3	37.3	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:37	10.3	37.2	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:38	10.3	37.1	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:39	10.3	37.1	23.7	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:40	10.3	37.0	23.7	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:41	10.3	37.0	23.7	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:42	10.3	36.9	23.8	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:43	10.3	36.9	23.7	895	430	-0.2	33,980	33.0	15.0
1/11/2011 9:44	10.3	36.8	23.7	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:45	10.3	36.8	23.8	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:46	10.3	36.7	23.8	895	430	-0.2	34,001	33.0	15.0
1/11/2011 9:47	10.3	36.7	23.8	896	430	-0.2	33,980	33.0	15.0
1/11/2011 9:48	10.3	36.6	23.8	896	430	-0.2	33,980	33.0	15.0
1/11/2011 9:49	10.3	36.6	23.8	896	430	-0.2	33,959	33.0	15.0
1/11/2011 9:50	10.3	36.6	23.8	896	430	-0.2	33,959	33.0	15.0
1/11/2011 9:51	10.3	36.6	23.8	896	430	-0.2	33,938	33.0	15.0
1/11/2011 9:52	10.3	36.6	23.8	896	430	-0.2	33,938	33.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 9:53	10.3	36.6	23.8	896	430	-0.2	33,917	33.0	15.0
1/11/2011 9:54	10.3	36.6	23.8	896	430	-0.2	33,896	33.0	15.0
1/11/2011 9:55	10.3	36.6	23.8	896	430	-0.2	33,896	33.0	15.0
1/11/2011 9:56	10.3	36.6	23.8	895	430	-0.2	33,896	33.0	15.0
1/11/2011 9:57	10.3	36.6	23.8	895	430	-0.2	33,854	33.0	15.0
1/11/2011 9:58	10.3	36.6	23.8	895	430	-0.2	33,854	33.0	15.0
1/11/2011 9:59	10.3	36.6	23.8	895	430	-0.2	33,854	33.0	15.0
1/11/2011 10:00	10.3	36.6	23.8	895	430	-0.2	33,854	33.0	15.0
1/11/2011 10:01	10.3	36.6	23.8	895	430	-0.2	33,833	33.0	15.0
1/11/2011 10:02	10.3	36.6	23.8	895	430	-0.2	33,833	33.0	15.0
1/11/2011 10:03	10.3	36.6	23.8	895	430	-0.2	33,812	33.0	15.0
1/11/2011 10:04	10.3	36.6	23.8	895	430	-0.2	33,812	33.0	15.0
1/11/2011 10:05	10.3	36.5	23.8	895	430	-0.2	33,791	33.0	15.0
1/11/2011 10:06	10.3	36.5	23.8	895	430	-0.2	33,791	33.0	15.0
1/11/2011 10:07	10.3	36.5	23.8	895	430	-0.2	33,791	33.0	15.0
1/11/2011 10:08	10.3	36.5	23.8	895	430	-0.2	33,791	33.0	15.0
1/11/2011 10:09	10.3	36.5	23.8	895	430	-0.2	33,791	33.0	15.0
1/11/2011 10:10	10.3	36.5	23.8	895	430	-0.2	33,791	33.0	15.0
1/11/2011 10:11	10.3	36.5	23.8	895	431	-0.2	33,770	33.0	15.0
1/11/2011 10:12	10.3	36.5	23.8	895	431	-0.2	33,770	33.0	15.0
1/11/2011 10:13	10.3	36.5	23.8	895	431	-0.2	33,770	33.0	15.0
1/11/2011 10:14	10.3	36.5	23.8	895	431	-0.2	33,791	33.0	15.0
1/11/2011 10:15	10.3	36.5	23.8	895	431	-0.2	33,791	33.0	15.0
1/11/2011 10:16	10.3	36.5	23.8	895	431	-0.2	33,770	33.0	15.0
1/11/2011 10:17	10.3	36.5	23.8	895	431	-0.2	33,770	33.0	15.0
1/11/2011 10:18	10.3	36.5	23.8	895	431	-0.2	33,770	33.0	15.0
1/11/2011 10:19	10.3	36.5	23.8	895	431	-0.2	33,749	33.0	15.0
1/11/2011 10:20	10.3	36.5	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:21	10.3	36.5	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:22	10.3	36.5	23.8	895	431	-0.2	33,707	33.0	15.0
1/11/2011 10:23	10.3	36.5	23.8	895	431	-0.2	33,707	33.0	15.0
1/11/2011 10:24	10.3	36.5	23.8	895	431	-0.2	33,707	33.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 10:25	10.3	36.5	23.8	895	431	-0.2	33,686	33.0	15.0
1/11/2011 10:26	10.3	36.4	23.8	895	431	-0.2	33,686	33.0	15.0
1/11/2011 10:27	10.3	36.4	23.8	895	431	-0.2	33,707	33.0	15.0
1/11/2011 10:28	10.3	36.4	23.8	895	431	-0.2	33,707	33.0	15.0
1/11/2011 10:29	10.3	36.4	23.8	895	431	-0.2	33,707	33.0	15.0
1/11/2011 10:30	10.3	36.4	23.8	895	431	-0.2	33,707	33.0	15.0
1/11/2011 10:31	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:32	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:33	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:34	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:35	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:36	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:37	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:38	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:39	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:40	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:41	10.3	36.4	23.8	895	431	-0.2	33,728	33.0	15.0
1/11/2011 10:42	10.3	36.4	23.8	895	431	-0.2	33,749	33.0	15.0
1/11/2011 10:43	10.3	36.4	23.8	895	431	-0.2	33,749	33.0	15.0
1/11/2011 10:44	10.3	36.4	23.8	895	432	-0.2	33,749	33.0	15.0
1/11/2011 10:45	10.3	36.4	23.8	895	432	-0.2	33,749	33.0	15.0
1/11/2011 10:46	10.3	36.4	23.8	895	432	-0.2	33,749	33.0	15.0
1/11/2011 10:47	10.3	36.4	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:48	10.3	36.4	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:49	10.3	36.4	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:50	10.3	36.3	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:51	10.3	36.3	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:52	10.3	36.3	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:53	10.3	36.3	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:54	10.3	36.3	23.8	895	432	-0.2	33,770	34.0	15.0
1/11/2011 10:55	10.3	36.3	23.8	895	432	-0.2	33,770	34.0	15.0
1/11/2011 10:56	10.3	36.3	23.8	895	432	-0.2	33,749	34.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 10:57	10.3	36.3	23.8	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:58	10.3	36.3	23.9	895	432	-0.2	33,749	34.0	15.0
1/11/2011 10:59	10.3	36.3	23.8	895	432	-0.2	33,770	34.0	15.0
1/11/2011 11:00	10.3	36.3	23.9	895	432	-0.2	33,770	34.0	15.0
1/11/2011 11:01	10.3	36.3	23.8	895	432	-0.2	33,770	34.0	15.0
1/11/2011 11:02	10.3	36.4	23.8	895	432	-0.2	33,791	34.0	15.0
1/11/2011 11:03	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:04	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:05	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:06	10.3	36.4	23.9	895	432	-0.2	33,812	34.0	15.0
1/11/2011 11:07	10.3	36.4	23.9	895	433	-0.2	33,812	34.0	15.0
1/11/2011 11:08	10.3	36.4	23.9	895	433	-0.2	33,812	34.0	15.0
1/11/2011 11:09	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:10	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:11	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:12	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:13	10.3	36.4	23.9	895	433	-0.2	33,833	34.0	15.0
1/11/2011 11:14	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:15	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:16	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:17	10.3	36.4	23.9	895	433	-0.2	33,854	34.0	15.0
1/11/2011 11:18	10.3	36.4	23.9	895	433	-0.2	33,875	34.0	15.0
1/11/2011 11:19	10.3	36.4	23.9	895	433	-0.2	33,896	34.0	15.0
1/11/2011 11:20	10.3	36.4	23.9	895	433	-0.2	33,896	34.0	15.0
1/11/2011 11:21	10.3	36.4	23.9	895	433	-0.2	33,917	34.0	15.0
1/11/2011 11:22	10.2	36.4	23.9	895	433	-0.2	33,917	34.0	15.0
1/11/2011 11:23	10.2	36.4	23.9	895	433	-0.2	33,917	34.0	15.0
1/11/2011 11:24	10.2	36.4	23.9	895	433	-0.2	33,938	34.0	15.0
1/11/2011 11:25	10.2	36.4	23.9	895	433	-0.2	33,959	34.0	15.0
1/11/2011 11:26	10.2	36.4	23.9	895	433	-0.2	33,980	34.0	15.0
1/11/2011 11:27	10.2	36.4	23.9	895	433	-0.2	33,980	34.0	15.0
1/11/2011 11:28	10.2	36.4	23.9	895	433	-0.2	33,980	34.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 11:29	10.2	36.4	23.9	895	433	-0.2	34,001	34.0	15.0
1/11/2011 11:30	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:31	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:32	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:33	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:34	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:35	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:36	10.2	36.4	24.0	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:37	10.2	36.4	24.0	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:38	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:39	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:40	10.2	36.4	23.9	895	433	-0.2	34,022	34.0	15.0
1/11/2011 11:41	10.2	36.4	23.9	895	433	-0.2	34,043	34.0	15.0
1/11/2011 11:42	10.2	36.4	23.9	895	433	-0.2	34,043	34.0	15.0
1/11/2011 11:43	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:44	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:45	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:46	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:47	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:48	10.3	36.4	23.9	895	433	-0.2	34,064	34.0	15.0
1/11/2011 11:49	10.3	36.4	23.9	895	433	-0.2	34,085	34.0	15.0
1/11/2011 11:50	10.3	36.4	23.9	895	433	-0.2	34,085	34.0	15.0
AVERAGE	**10.3**	**37.1**	**23.9**	**895**	**431**	**-0.2**	**33,884**	**33.3**	**15.0**
MINIMUM	**10.2**	**36.3**	**23.7**	**895**	**425**	**-0.2**	**33,644**	**32.0**	**15.0**
MAXIMUM	**10.3**	**40.2**	**24.6**	**896**	**433**	**-0.2**	**34,106**	**34.0**	**15.0**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 12:35	10.2	37.7	23.8	894	435	-0.2	34,253	33.0	15.0
1/11/2011 12:36	10.2	37.7	23.8	894	435	-0.3	34,253	33.0	15.0
1/11/2011 12:37	10.2	37.8	23.8	894	435	-0.2	34,274	33.0	15.0
1/11/2011 12:38	10.2	37.8	23.8	894	435	-0.2	34,295	33.0	15.0
1/11/2011 12:39	10.2	37.8	23.8	894	435	-0.2	34,316	33.0	15.0
1/11/2011 12:40	10.2	37.9	23.8	894	435	-0.2	34,316	33.0	15.0
1/11/2011 12:41	10.2	37.9	23.8	894	435	-0.2	34,337	33.0	15.0
1/11/2011 12:42	10.2	37.9	23.8	894	435	-0.2	34,337	33.0	15.0
1/11/2011 12:43	10.2	37.9	23.8	894	435	-0.2	34,337	33.0	15.0
1/11/2011 12:44	10.2	38.0	23.8	894	435	-0.2	34,358	33.0	15.0
1/11/2011 12:45	10.2	38.0	23.8	894	435	-0.2	34,379	33.0	15.0
1/11/2011 12:46	10.2	38.1	23.8	894	435	-0.2	34,400	33.0	15.0
1/11/2011 12:47	10.2	38.1	23.8	894	435	-0.2	34,421	33.0	15.0
1/11/2011 12:48	10.2	38.1	23.8	894	435	-0.3	34,421	33.0	15.0
1/11/2011 12:49	10.2	38.2	23.8	894	435	-0.2	34,442	33.0	15.0
1/11/2011 12:50	10.2	38.2	23.8	894	436	-0.3	34,463	33.0	15.0
1/11/2011 12:51	10.2	38.3	23.8	894	436	-0.2	34,484	33.0	15.0
1/11/2011 12:52	10.2	38.3	23.8	894	436	-0.2	34,484	33.0	15.0
1/11/2011 12:53	10.2	38.3	23.8	894	436	-0.3	34,484	33.0	15.0
1/11/2011 12:54	10.2	38.4	23.8	894	436	-0.2	34,505	33.0	15.0
1/11/2011 12:55	10.2	38.4	23.8	894	436	-0.2	34,526	33.0	15.0
1/11/2011 12:56	10.2	38.5	23.8	894	436	-0.2	34,547	33.0	15.0
1/11/2011 12:57	10.2	38.5	23.8	894	436	-0.2	34,568	33.0	15.0
1/11/2011 12:58	10.2	38.5	23.8	894	436	-0.2	34,589	33.0	15.0
1/11/2011 12:59	10.2	38.6	23.8	894	436	-0.2	34,631	33.0	15.0
1/11/2011 13:00	10.2	38.6	23.8	894	436	-0.2	34,652	33.0	15.0
1/11/2011 13:01	10.2	38.6	23.8	894	436	-0.2	34,694	33.0	15.0
1/11/2011 13:02	10.2	38.7	23.8	894	436	-0.2	34,694	33.0	15.0
1/11/2011 13:03	10.2	38.7	23.8	894	436	-0.2	34,715	33.0	15.0
1/11/2011 13:04	10.2	38.7	23.8	895	437	-0.2	34,736	33.0	15.0
1/11/2011 13:05	10.3	38.7	23.8	895	437	-0.2	34,757	33.0	15.0
1/11/2011 13:06	10.3	38.7	23.8	895	437	-0.2	34,778	33.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 13:07	10.3	38.7	23.8	895	437	-0.2	34,778	33.0	15.0
1/11/2011 13:08	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:09	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:10	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:11	10.3	38.7	23.8	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:12	10.3	38.7	23.7	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:13	10.3	38.7	23.7	895	437	-0.2	34,799	33.0	15.0
1/11/2011 13:14	10.3	38.7	23.7	895	437	-0.2	34,820	33.0	15.0
1/11/2011 13:15	10.3	38.7	23.7	895	437	-0.2	34,820	33.0	15.0
1/11/2011 13:16	10.3	38.7	23.7	895	437	-0.2	34,841	33.0	15.0
1/11/2011 13:17	10.2	38.7	23.7	895	438	-0.2	34,841	33.0	15.0
1/11/2011 13:18	10.2	38.7	23.7	895	438	-0.2	34,883	33.0	15.0
1/11/2011 13:19	10.2	38.7	23.7	895	438	-0.2	34,904	33.0	15.0
1/11/2011 13:20	10.2	38.7	23.8	895	438	-0.2	34,904	33.0	15.0
1/11/2011 13:21	10.2	38.7	23.8	895	438	-0.2	34,925	33.0	15.0
1/11/2011 13:22	10.2	38.7	23.8	895	438	-0.2	34,946	33.0	15.0
1/11/2011 13:23	10.2	38.7	23.8	895	438	-0.2	34,946	33.0	15.0
1/11/2011 13:24	10.2	38.7	23.8	895	438	-0.2	34,967	33.0	15.0
1/11/2011 13:25	10.2	38.7	23.8	895	438	-0.2	34,967	33.0	15.0
1/11/2011 13:26	10.2	38.7	23.8	895	438	-0.2	34,988	33.0	15.0
1/11/2011 13:27	10.2	38.7	23.8	895	438	-0.3	34,988	33.0	15.0
1/11/2011 13:28	10.2	38.7	23.8	895	438	-0.2	34,988	33.0	15.0
1/11/2011 13:29	10.2	38.7	23.7	895	438	-0.2	34,988	33.0	15.0
1/11/2011 13:30	10.2	38.7	23.7	895	438	-0.2	35,009	33.0	15.0
1/11/2011 13:31	10.2	38.8	23.7	895	438	-0.2	35,009	33.0	15.0
1/11/2011 13:32	10.2	38.8	23.7	895	438	-0.2	35,030	33.0	15.0
1/11/2011 13:33	10.2	38.9	23.7	895	438	-0.2	35,030	33.0	15.0
1/11/2011 13:34	10.2	38.9	23.7	895	438	-0.2	35,030	33.0	15.0
1/11/2011 13:35	10.2	39.0	23.7	895	438	-0.2	35,009	33.0	15.0
1/11/2011 13:36	10.2	39.0	23.8	896	438	-0.2	35,009	33.0	15.0
1/11/2011 13:37	10.2	39.1	23.8	896	439	-0.2	35,009	33.0	15.0
1/11/2011 13:38	10.2	39.1	23.7	896	439	-0.2	34,988	33.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 13:39	10.2	39.2	23.7	896	439	-0.2	34,988	33.0	15.0
1/11/2011 13:40	10.2	39.2	23.7	895	439	-0.2	34,967	33.0	15.0
1/11/2011 13:41	10.2	39.3	23.7	895	439	-0.2	34,967	33.0	15.0
1/11/2011 13:42	10.2	39.3	23.7	895	439	-0.2	34,967	33.0	15.0
1/11/2011 13:43	10.2	39.4	23.7	895	439	-0.2	34,946	33.0	15.0
1/11/2011 13:44	10.2	39.4	23.7	895	439	-0.2	34,946	33.0	15.0
1/11/2011 13:45	10.2	39.5	23.7	895	439	-0.2	34,946	33.0	15.0
1/11/2011 13:46	10.2	39.5	23.7	895	439	-0.3	34,925	33.0	15.0
1/11/2011 13:47	10.2	39.6	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:48	10.3	39.6	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:49	10.3	39.7	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:50	10.3	39.7	23.7	895	439	-0.2	34,925	33.0	15.0
1/11/2011 13:51	10.3	39.8	23.7	895	439	-0.2	34,904	33.0	15.0
1/11/2011 13:52	10.3	39.8	23.7	895	439	-0.2	34,904	33.0	15.0
1/11/2011 13:53	10.3	39.9	23.7	895	439	-0.2	34,904	33.0	15.0
1/11/2011 13:54	10.3	39.9	23.7	895	439	-0.2	34,883	33.0	15.0
1/11/2011 13:55	10.3	40.0	23.7	895	439	-0.2	34,883	33.0	15.0
1/11/2011 13:56	10.3	40.0	23.7	895	439	-0.2	34,862	33.0	15.0
1/11/2011 13:57	10.3	40.0	23.7	896	439	-0.2	34,862	33.0	15.0
1/11/2011 13:58	10.3	40.1	23.7	896	439	-0.2	34,862	33.0	15.0
1/11/2011 13:59	10.3	40.1	23.7	896	439	-0.2	34,841	33.0	15.0
1/11/2011 14:00	10.3	40.2	23.7	896	439	-0.2	34,820	33.0	15.0
1/11/2011 14:01	10.3	40.2	23.7	895	439	-0.2	34,799	33.0	15.0
1/11/2011 14:02	10.3	40.3	23.7	895	439	-0.2	34,799	33.0	15.0
1/11/2011 14:03	10.3	40.3	23.7	895	439	-0.2	34,778	33.0	15.0
1/11/2011 14:04	10.3	40.4	23.7	895	439	-0.2	34,778	33.0	15.0
1/11/2011 14:05	10.2	40.4	23.7	895	439	-0.2	34,778	33.0	15.0
1/11/2011 14:06	10.2	40.5	23.7	895	439	-0.3	34,757	33.0	15.0
1/11/2011 14:07	10.2	40.5	23.7	895	439	-0.2	34,757	33.0	15.0
1/11/2011 14:08	10.2	40.6	23.7	895	439	-0.3	34,757	33.0	15.0
1/11/2011 14:09	10.2	40.6	23.7	895	439	-0.2	34,757	33.0	15.0
1/11/2011 14:10	10.2	40.7	23.7	895	439	-0.2	34,736	33.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 14:11	10.2	40.7	23.7	895	439	-0.3	34,757	33.0	15.0
1/11/2011 14:12	10.2	40.8	23.7	895	439	-0.2	34,778	33.0	15.0
1/11/2011 14:13	10.2	40.8	23.7	895	439	-0.3	34,778	33.0	15.0
1/11/2011 14:14	10.2	40.9	23.7	895	439	-0.2	34,820	33.0	15.0
1/11/2011 14:15	10.2	40.9	23.7	895	440	-0.3	34,820	33.0	15.0
1/11/2011 14:16	10.2	40.9	23.7	895	440	-0.2	34,841	33.0	15.0
1/11/2011 14:17	10.2	41.0	23.7	895	440	-0.2	34,841	33.0	15.0
1/11/2011 14:18	10.2	41.0	23.7	895	440	-0.3	34,820	33.0	15.0
1/11/2011 14:19	10.2	41.1	23.6	895	440	-0.2	34,820	33.0	15.0
1/11/2011 14:20	10.2	41.1	23.6	895	440	-0.3	34,841	33.0	15.0
1/11/2011 14:21	10.2	41.2	23.6	895	440	-0.2	34,841	33.0	15.0
1/11/2011 14:22	10.2	41.2	23.6	895	440	-0.2	34,841	34.0	15.0
1/11/2011 14:23	10.2	41.3	23.6	895	440	-0.3	34,862	34.0	15.0
1/11/2011 14:24	10.2	41.3	23.6	895	440	-0.2	34,862	34.0	15.0
1/11/2011 14:25	10.2	41.4	23.6	895	440	-0.3	34,862	34.0	15.0
1/11/2011 14:26	10.2	41.4	23.6	895	440	-0.3	34,862	34.0	15.0
1/11/2011 14:27	10.2	41.5	23.6	895	440	-0.2	34,883	34.0	15.0
1/11/2011 14:28	10.2	41.5	23.6	895	440	-0.2	34,904	34.0	15.0
1/11/2011 14:29	10.2	41.6	23.6	895	440	-0.2	34,925	34.0	15.0
1/11/2011 14:30	10.2	41.6	23.7	895	440	-0.3	34,925	34.0	15.0
1/11/2011 14:31	10.2	41.6	23.6	895	440	-0.2	34,946	34.0	15.0
1/11/2011 14:32	10.2	41.6	23.6	895	439	-0.3	34,946	34.0	15.0
1/11/2011 14:33	10.3	41.6	23.6	895	439	-0.2	34,946	34.0	15.0
1/11/2011 14:34	10.3	41.6	23.6	895	439	-0.2	34,988	34.0	15.0
1/11/2011 14:35	10.3	41.6	23.6	895	439	-0.3	35,009	34.0	15.0
1/11/2011 14:36	10.3	41.6	23.6	895	439	-0.2	35,030	34.0	15.0
1/11/2011 14:37	10.3	41.5	23.6	895	439	-0.2	35,051	34.0	15.0
1/11/2011 14:38	10.3	41.5	23.6	895	439	-0.2	35,051	34.0	15.0
1/11/2011 14:39	10.3	41.5	23.6	895	439	-0.2	35,072	34.0	15.0
1/11/2011 14:40	10.3	41.5	23.6	895	439	-0.3	35,093	34.0	15.0
1/11/2011 14:41	10.3	41.5	23.6	895	439	-0.2	35,114	34.0	15.0
1/11/2011 14:42	10.3	41.5	23.7	895	439	-0.2	35,114	34.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 14:43	10.3	41.5	23.7	895	439	-0.2	35,135	34.0	15.0
1/11/2011 14:44	10.3	41.5	23.7	895	439	-0.2	35,156	34.0	15.0
1/11/2011 14:45	10.3	41.5	23.7	895	439	-0.3	35,177	34.0	15.0
1/11/2011 14:46	10.3	41.6	23.7	895	439	-0.2	35,198	34.0	15.0
1/11/2011 14:47	10.3	41.5	23.7	895	439	-0.3	35,198	34.0	15.0
1/11/2011 14:48	10.3	41.5	23.7	895	439	-0.2	35,198	34.0	15.0
1/11/2011 14:49	10.3	41.5	23.7	895	438	-0.2	35,219	34.0	15.0
1/11/2011 14:50	10.3	41.6	23.7	895	438	-0.2	35,219	34.0	15.0
1/11/2011 14:51	10.3	41.6	23.7	895	438	-0.2	35,240	34.0	15.0
1/11/2011 14:52	10.3	41.6	23.7	895	438	-0.3	35,261	34.0	15.0
1/11/2011 14:53	10.3	41.6	23.7	895	438	-0.2	35,282	34.0	15.0
1/11/2011 14:54	10.3	41.6	23.7	895	438	-0.3	35,303	34.0	15.0
1/11/2011 14:55	10.3	41.5	23.7	895	438	-0.3	35,324	34.0	15.0
1/11/2011 14:56	10.3	41.5	23.7	895	438	-0.2	35,345	34.0	15.0
1/11/2011 14:57	10.3	41.5	23.7	895	438	-0.3	35,345	34.0	15.0
1/11/2011 14:58	10.3	41.5	23.7	895	438	-0.2	35,366	34.0	15.0
1/11/2011 14:59	10.2	41.5	23.7	895	438	-0.3	35,408	34.0	15.0
1/11/2011 15:00	10.2	41.5	23.7	895	437	-0.3	35,450	34.0	15.0
1/11/2011 15:01	10.2	41.5	23.7	895	437	-0.3	35,492	34.0	15.0
1/11/2011 15:02	10.2	41.5	23.7	895	437	-0.2	35,513	34.0	15.0
1/11/2011 15:03	10.3	41.5	23.7	895	437	-0.2	35,534	34.0	15.0
1/11/2011 15:04	10.3	41.5	23.7	895	437	-0.2	35,555	34.0	15.0
1/11/2011 15:05	10.3	41.5	23.7	895	437	-0.2	35,597	34.0	15.0
1/11/2011 15:06	10.3	41.5	23.7	895	437	-0.2	35,597	34.0	15.0
1/11/2011 15:07	10.3	41.5	23.7	895	437	-0.2	35,660	34.0	15.0
1/11/2011 15:08	10.3	41.5	23.7	895	437	-0.2	35,702	34.0	15.0
1/11/2011 15:09	10.3	41.5	23.7	895	437	-0.2	35,723	34.0	15.0
1/11/2011 15:10	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0
1/11/2011 15:11	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0
1/11/2011 15:12	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0
1/11/2011 15:13	10.3	41.5	23.7	895	437	-0.2	35,765	34.0	15.0
1/11/2011 15:14	10.3	41.5	23.7	895	437	-0.2	35,744	34.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/11/2011 15:15	10.3	41.5	23.7	895	436	-0.2	35,744	34.0	15.0
1/11/2011 15:16	10.3	41.5	23.7	895	436	-0.2	35,744	34.0	15.0
1/11/2011 15:17	10.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
1/11/2011 15:18	10.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
1/11/2011 15:19	10.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
1/11/2011 15:20	10.3	41.5	23.7	895	436	-0.2	35,765	34.0	15.0
1/11/2011 15:21	10.3	41.4	23.7	895	436	-0.2	35,765	34.0	15.0
1/11/2011 15:22	10.3	41.3	23.7	895	436	-0.2	35,765	35.0	15.0
1/11/2011 15:23	10.3	41.3	23.7	895	436	-0.2	35,807	35.0	15.0
1/11/2011 15:24	10.3	41.2	23.7	895	436	-0.2	35,807	35.0	15.0
1/11/2011 15:25	10.2	41.1	23.7	895	436	-0.2	35,828	35.0	15.0
1/11/2011 15:26	10.2	41.1	23.7	895	436	-0.2	35,849	35.0	15.0
1/11/2011 15:27	10.2	41.0	23.7	895	436	-0.2	35,849	35.0	15.0
1/11/2011 15:28	10.3	40.9	23.7	895	436	-0.2	35,849	35.0	15.0
1/11/2011 15:29	10.3	40.9	23.7	895	436	-0.2	35,849	35.0	15.0
1/11/2011 15:30	10.3	40.8	23.7	895	436	-0.2	35,870	35.0	15.0
1/11/2011 15:31	10.3	40.8	23.7	895	436	-0.2	35,870	35.0	15.0
1/11/2011 15:32	10.2	40.7	23.7	895	436	-0.2	35,891	35.0	15.0
1/11/2011 15:33	10.2	40.6	23.7	895	436	-0.2	35,891	35.0	15.0
1/11/2011 15:34	10.2	40.6	23.7	895	436	-0.2	35,912	35.0	15.0
1/11/2011 15:35	10.2	40.5	23.7	895	436	-0.2	35,912	35.0	15.0
1/11/2011 15:36	10.2	40.4	23.8	895	436	-0.2	35,912	35.0	15.0
1/11/2011 15:37	10.2	40.4	23.8	895	437	-0.2	35,912	35.0	15.0
AVERAGE	**10.2**	**40.1**	**23.7**	**895**	**438**	**-0.2**	**35,038**	**33.5**	**15.0**
MINIMUM	**10.2**	**37.7**	**23.6**	**894**	**435**	**-0.3**	**34,253**	**33.0**	**15.0**
MAXIMUM	**10.3**	**41.6**	**23.8**	**896**	**440**	**-0.2**	**35,912**	**35.0**	**15.0**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 9:03	9.8	38.2	22.1	903	429	-0.2	35,786	38.0	16.0
1/12/2011 9:04	9.9	38.1	22.2	902	429	-0.2	35,723	38.0	16.0
1/12/2011 9:05	9.9	37.9	22.2	902	429	-0.2	35,681	38.0	16.0
1/12/2011 9:06	9.9	37.9	22.2	901	429	-0.2	35,618	38.0	16.0
1/12/2011 9:07	9.9	37.7	22.2	901	429	-0.2	35,555	38.0	16.0
1/12/2011 9:08	9.9	37.7	22.2	900	429	-0.2	35,492	38.0	16.0
1/12/2011 9:09	9.9	37.6	22.2	899	429	-0.2	35,408	38.0	16.0
1/12/2011 9:10	9.9	37.6	22.2	899	429	-0.2	35,282	38.0	16.0
1/12/2011 9:11	9.9	37.5	22.2	899	429	-0.2	35,135	38.0	16.0
1/12/2011 9:12	9.9	37.5	22.3	898	429	-0.2	34,988	38.0	16.0
1/12/2011 9:13	9.9	37.4	22.3	898	429	-0.2	34,862	38.0	16.0
1/12/2011 9:14	10.0	37.4	22.3	898	429	-0.2	34,778	38.0	16.0
1/12/2011 9:15	10.0	37.4	22.3	897	429	-0.2	34,631	38.0	16.0
1/12/2011 9:16	10.0	37.3	22.3	897	429	-0.2	34,505	38.0	16.0
1/12/2011 9:17	10.0	37.3	22.3	897	429	-0.2	34,358	38.0	16.0
1/12/2011 9:18	10.0	37.2	22.3	897	429	-0.2	34,274	38.0	16.0
1/12/2011 9:19	10.0	37.2	22.3	897	429	-0.2	34,148	38.0	16.0
1/12/2011 9:20	10.0	37.1	22.3	896	429	-0.2	34,064	38.0	16.0
1/12/2011 9:21	10.0	37.1	22.3	896	429	-0.2	34,001	38.0	16.0
1/12/2011 9:22	10.0	37.0	22.4	896	429	-0.2	33,917	38.0	16.0
1/12/2011 9:23	10.0	37.0	22.4	896	429	-0.2	33,854	38.0	16.0
1/12/2011 9:24	10.0	36.9	22.4	896	429	-0.2	33,791	38.0	16.0
1/12/2011 9:25	10.0	36.9	22.4	896	429	-0.2	33,728	38.0	16.0
1/12/2011 9:26	10.0	36.9	22.4	895	429	-0.2	33,707	38.0	16.0
1/12/2011 9:27	10.0	36.8	22.4	895	429	-0.2	33,686	38.0	16.0
1/12/2011 9:28	10.0	36.8	22.4	895	429	-0.2	33,665	38.0	16.0
1/12/2011 9:29	10.0	36.7	22.4	895	429	-0.2	33,623	38.0	16.0
1/12/2011 9:30	10.0	36.7	22.4	895	429	-0.2	33,602	38.0	16.0
1/12/2011 9:31	10.0	36.6	22.4	895	430	-0.2	33,581	38.0	16.0
1/12/2011 9:32	10.1	36.6	22.4	895	430	-0.2	33,560	38.0	16.0
1/12/2011 9:33	10.1	36.5	22.4	895	430	-0.2	33,560	37.0	16.0
1/12/2011 9:34	10.1	36.5	22.4	895	430	-0.2	33,518	37.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 9:35	10.1	36.5	22.4	895	430	-0.2	33,518	37.0	16.0
1/12/2011 9:36	10.1	36.4	22.4	895	430	-0.2	33,518	37.0	16.0
1/12/2011 9:37	10.1	36.4	22.4	895	430	-0.2	33,539	37.0	16.0
1/12/2011 9:38	10.1	36.3	22.4	895	430	-0.2	33,539	37.0	16.0
1/12/2011 9:39	10.1	36.3	22.4	895	430	-0.2	33,497	37.0	16.0
1/12/2011 9:40	10.1	36.2	22.4	895	430	-0.2	33,518	37.0	16.0
1/12/2011 9:41	10.1	36.2	22.4	895	431	-0.2	33,518	37.0	16.0
1/12/2011 9:42	10.1	36.2	22.4	895	431	-0.2	33,539	37.0	16.0
1/12/2011 9:43	10.1	36.1	22.4	895	431	-0.2	33,518	37.0	16.0
1/12/2011 9:44	10.1	36.1	22.4	895	431	-0.2	33,539	37.0	16.0
1/12/2011 9:45	10.1	36.0	22.4	895	431	-0.2	33,539	37.0	16.0
1/12/2011 9:46	10.1	36.0	22.4	895	431	-0.2	33,518	37.0	16.0
1/12/2011 9:47	10.2	35.9	22.4	895	431	-0.2	33,518	37.0	16.0
1/12/2011 9:48	10.2	35.9	22.4	895	431	-0.2	33,581	37.0	16.0
1/12/2011 9:49	10.2	35.9	22.4	895	431	-0.2	33,707	37.0	16.0
1/12/2011 9:50	10.2	35.8	22.4	895	431	-0.2	33,749	37.0	16.0
1/12/2011 9:51	10.2	35.8	22.4	895	431	-0.2	33,770	37.0	16.0
1/12/2011 9:52	10.2	35.8	22.4	895	431	-0.2	33,770	37.0	16.0
1/12/2011 9:53	10.2	35.8	22.4	895	431	-0.2	34,253	37.0	16.0
1/12/2011 9:54	10.2	35.7	22.4	895	431	-0.2	34,253	37.0	16.0
1/12/2011 9:55	10.2	35.7	22.4	895	432	-0.2	34,316	37.0	16.0
1/12/2011 9:56	10.2	35.7	22.4	895	432	-0.2	34,337	37.0	16.0
1/12/2011 9:57	10.2	35.7	22.4	895	432	-0.2	34,337	37.0	16.0
1/12/2011 9:58	10.2	35.7	22.4	895	432	-0.2	34,337	37.0	16.0
1/12/2011 9:59	10.2	35.7	22.4	895	432	-0.2	34,316	37.0	16.0
1/12/2011 10:00	10.2	35.7	22.4	895	432	-0.2	34,316	37.0	16.0
1/12/2011 10:01	10.2	35.7	22.4	895	432	-0.2	34,337	36.0	16.0
1/12/2011 10:02	10.2	35.7	22.4	895	432	-0.2	34,358	36.0	16.0
1/12/2011 10:03	10.2	35.7	22.4	895	432	-0.2	34,337	36.0	16.0
1/12/2011 10:04	10.2	35.7	22.4	895	432	-0.2	34,337	36.0	16.0
1/12/2011 10:05	10.2	35.7	22.4	895	432	-0.2	34,337	37.0	16.0
1/12/2011 10:06	10.2	35.7	22.4	895	432	-0.2	34,358	37.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 10:07	10.2	35.7	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:08	10.2	35.7	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:09	10.2	35.7	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:10	10.2	35.7	22.4	895	432	-0.2	34,358	37.0	16.0
1/12/2011 10:11	10.2	35.6	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:12	10.2	35.6	22.4	895	432	-0.2	34,379	37.0	16.0
1/12/2011 10:13	10.2	35.6	22.4	895	432	-0.2	34,400	37.0	16.0
1/12/2011 10:14	10.2	35.6	22.4	895	432	-0.2	34,316	37.0	16.0
1/12/2011 10:15	10.2	35.6	22.4	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:16	10.2	35.6	22.4	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:17	10.2	35.6	22.4	895	432	-0.2	34,295	36.0	16.0
1/12/2011 10:18	10.2	35.6	22.4	895	432	-0.2	34,274	36.0	16.0
1/12/2011 10:19	10.2	35.6	22.4	895	432	-0.2	34,274	36.0	16.0
1/12/2011 10:20	10.2	35.6	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:21	10.2	35.6	22.4	895	432	-0.2	34,232	36.0	16.0
1/12/2011 10:22	10.2	35.6	22.4	895	432	-0.2	34,232	36.0	16.0
1/12/2011 10:23	10.2	35.5	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:24	10.2	35.5	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:25	10.2	35.5	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:26	10.2	35.5	22.4	895	432	-0.2	34,253	37.0	16.0
1/12/2011 10:27	10.2	35.5	22.4	895	432	-0.2	34,253	37.0	16.0
1/12/2011 10:28	10.2	35.5	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:29	10.2	35.5	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:30	10.2	35.5	22.5	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:31	10.2	35.5	22.4	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:32	10.2	35.5	22.5	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:33	10.2	35.5	22.5	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:34	10.2	35.5	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:35	10.2	35.5	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:36	10.2	35.5	22.4	895	432	-0.2	34,295	37.0	16.0
1/12/2011 10:37	10.2	35.4	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:38	10.2	35.4	22.4	895	432	-0.2	34,274	37.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 10:39	10.2	35.4	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:40	10.2	35.4	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:41	10.2	35.4	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:42	10.2	35.4	22.4	895	432	-0.2	34,274	37.0	16.0
1/12/2011 10:43	10.2	35.4	22.4	895	432	-0.2	34,253	37.0	16.0
1/12/2011 10:44	10.2	35.4	22.4	895	432	-0.2	34,253	37.0	16.0
1/12/2011 10:45	10.2	35.4	22.4	895	432	-0.2	34,253	36.0	16.0
1/12/2011 10:46	10.3	35.4	22.4	895	432	-0.2	34,274	36.0	16.0
1/12/2011 10:47	10.3	35.4	22.4	895	432	-0.2	34,274	36.0	16.0
1/12/2011 10:48	10.2	35.4	22.4	895	432	-0.2	34,274	36.0	16.0
1/12/2011 10:49	10.3	35.4	22.4	895	432	-0.2	34,274	36.0	16.0
1/12/2011 10:50	10.3	35.4	22.4	895	432	-0.2	34,274	36.0	16.0
1/12/2011 10:51	10.3	35.3	22.4	895	432	-0.2	34,295	36.0	15.0
1/12/2011 10:52	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 10:53	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 10:54	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 10:55	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 10:56	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 10:57	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 10:58	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 10:59	10.3	35.3	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 11:00	10.3	35.3	22.4	895	432	-0.2	34,253	36.0	15.0
1/12/2011 11:01	10.3	35.2	22.4	895	432	-0.3	34,274	36.0	15.0
1/12/2011 11:02	10.3	35.2	22.4	895	432	-0.2	34,274	36.0	15.0
1/12/2011 11:03	10.3	35.2	22.4	895	432	-0.2	34,295	36.0	15.0
1/12/2011 11:04	10.2	35.2	22.4	894	432	-0.2	34,316	36.0	15.0
1/12/2011 11:05	10.2	35.3	22.4	894	432	-0.2	34,337	36.0	15.0
1/12/2011 11:06	10.2	35.3	22.4	894	432	-0.2	34,358	36.0	15.0
1/12/2011 11:07	10.3	35.3	22.4	894	432	-0.2	34,358	36.0	15.0
1/12/2011 11:08	10.3	35.3	22.4	894	432	-0.2	34,358	36.0	15.0
1/12/2011 11:09	10.3	35.3	22.4	894	432	-0.2	34,358	36.0	15.0
1/12/2011 11:10	10.3	35.3	22.4	894	432	-0.2	34,379	36.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 11:11	10.3	35.3	22.4	894	432	-0.2	34,379	36.0	15.0
1/12/2011 11:12	10.3	35.3	22.4	894	432	-0.2	34,379	36.0	15.0
1/12/2011 11:13	10.2	35.3	22.4	894	432	-0.2	34,379	36.0	15.0
1/12/2011 11:14	10.2	35.3	22.4	894	432	-0.2	34,379	36.0	15.0
1/12/2011 11:15	10.2	35.3	22.4	894	432	-0.2	34,358	36.0	15.0
1/12/2011 11:16	10.2	35.3	22.4	894	432	-0.2	34,379	36.0	15.0
1/12/2011 11:17	10.2	35.3	22.4	894	432	-0.2	34,379	36.0	15.0
1/12/2011 11:18	10.2	35.3	22.4	894	432	-0.2	34,379	36.0	15.0
1/12/2011 11:19	10.3	35.3	22.4	894	432	-0.2	34,400	36.0	15.0
1/12/2011 11:20	10.3	35.3	22.4	894	432	-0.2	34,400	36.0	15.0
1/12/2011 11:21	10.3	35.3	22.4	894	433	-0.2	34,421	36.0	15.0
1/12/2011 11:22	10.3	35.3	22.4	894	433	-0.2	34,442	36.0	15.0
1/12/2011 11:23	10.3	35.3	22.4	894	433	-0.2	34,442	36.0	15.0
1/12/2011 11:24	10.3	35.3	22.4	895	433	-0.2	34,442	36.0	15.0
1/12/2011 11:25	10.3	35.3	22.4	895	433	-0.2	34,463	36.0	15.0
1/12/2011 11:26	10.3	35.3	22.4	895	433	-0.2	34,463	36.0	15.0
1/12/2011 11:27	10.3	35.3	22.4	895	433	-0.2	34,484	36.0	15.0
1/12/2011 11:28	10.3	35.3	22.4	895	433	-0.2	34,463	36.0	15.0
1/12/2011 11:29	10.3	35.3	22.4	895	433	-0.2	34,463	36.0	15.0
1/12/2011 11:30	10.3	35.3	22.4	895	433	-0.2	34,463	36.0	15.0
1/12/2011 11:31	10.3	35.3	22.4	895	433	-0.2	34,463	36.0	15.0
1/12/2011 11:32	10.3	35.3	22.4	895	433	-0.2	34,463	36.0	15.0
1/12/2011 11:33	10.3	35.3	22.4	894	433	-0.2	34,484	36.0	15.0
1/12/2011 11:34	10.3	35.3	22.3	894	433	-0.2	34,484	36.0	15.0
1/12/2011 11:35	10.3	35.3	22.3	894	433	-0.2	34,505	36.0	15.0
1/12/2011 11:36	10.3	35.3	22.3	894	433	-0.2	34,526	36.0	15.0
1/12/2011 11:37	10.3	35.3	22.4	894	433	-0.2	34,526	36.0	15.0
1/12/2011 11:38	10.3	35.3	22.4	894	433	-0.2	34,547	36.0	15.0
1/12/2011 11:39	10.3	35.3	22.4	894	433	-0.2	34,568	36.0	15.0
1/12/2011 11:40	10.3	35.3	22.4	894	433	-0.3	34,589	36.0	15.0
1/12/2011 11:41	10.3	35.3	22.4	894	433	-0.2	34,589	36.0	15.0
1/12/2011 11:42	10.3	35.3	22.4	894	433	-0.2	34,631	36.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 11:43	10.3	35.3	22.4	894	433	-0.2	34,652	36.0	15.0
1/12/2011 11:44	10.3	35.3	22.4	894	433	-0.2	34,673	36.0	15.0
1/12/2011 11:45	10.3	35.3	22.4	894	433	-0.2	34,694	36.0	15.0
1/12/2011 11:46	10.2	35.3	22.4	894	433	-0.2	34,715	36.0	15.0
1/12/2011 11:47	10.2	35.3	22.4	894	433	-0.2	34,736	36.0	15.0
1/12/2011 11:48	10.2	35.3	22.4	894	433	-0.2	34,757	36.0	15.0
1/12/2011 11:49	10.2	35.3	22.4	894	433	-0.2	34,778	36.0	15.0
1/12/2011 11:50	10.2	35.3	22.4	894	433	-0.2	34,799	36.0	15.0
1/12/2011 11:51	10.2	35.3	22.4	894	433	-0.2	34,820	36.0	15.0
1/12/2011 11:52	10.2	35.3	22.4	894	433	-0.2	34,862	36.0	15.0
1/12/2011 11:53	10.2	35.3	22.4	894	433	-0.2	34,883	36.0	15.0
1/12/2011 11:54	10.2	35.3	22.4	894	433	-0.2	34,925	36.0	15.0
1/12/2011 11:55	10.2	35.3	22.4	894	433	-0.2	34,946	36.0	15.0
1/12/2011 11:56	10.2	35.3	22.4	894	433	-0.2	34,967	36.0	15.0
1/12/2011 11:57	10.2	35.3	22.4	894	433	-0.2	34,988	36.0	15.0
1/12/2011 11:58	10.3	35.3	22.4	894	433	-0.2	35,030	36.0	15.0
1/12/2011 11:59	10.3	35.3	22.4	894	433	-0.2	35,051	36.0	15.0
1/12/2011 12:00	10.3	35.3	22.4	894	433	-0.2	35,093	36.0	15.0
1/12/2011 12:01	10.3	35.3	22.4	894	433	-0.2	35,093	36.0	15.0
1/12/2011 12:02	10.3	35.3	22.4	894	433	-0.2	35,114	36.0	15.0
1/12/2011 12:03	10.3	35.3	22.4	894	433	-0.2	35,135	36.0	15.0
1/12/2011 12:04	10.3	35.3	22.4	894	433	-0.2	35,156	35.0	15.0
AVERAGE	**10.2**	**35.8**	**22.4**	**895**	**432**	**-0.2**	**34,354**	**36.6**	**15.6**
MINIMUM	**9.8**	**35.2**	**22.1**	**894**	**429**	**-0.3**	**33,497**	**35.0**	**15.0**
MAXIMUM	**10.3**	**38.2**	**22.5**	**903**	**433**	**-0.2**	**35,786**	**38.0**	**16.0**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 13:33	9.7	35.2	23.8	892	433	-0.4	45,006	95.0	27.0
1/12/2011 13:34	9.7	35.2	23.8	892	434	-0.4	45,069	95.0	27.0
1/12/2011 13:35	9.7	35.2	23.8	892	434	-0.4	45,111	95.0	27.0
1/12/2011 13:36	9.7	35.2	23.8	892	434	-0.4	45,153	95.0	27.0
1/12/2011 13:37	9.8	35.2	23.8	892	434	-0.4	45,258	95.0	27.0
1/12/2011 13:38	9.8	35.2	23.8	892	434	-0.4	45,300	95.0	27.0
1/12/2011 13:39	9.8	35.2	23.8	892	434	-0.4	45,342	95.0	27.0
1/12/2011 13:40	9.9	35.2	23.8	892	434	-0.4	45,405	95.0	27.0
1/12/2011 13:41	10.1	35.2	23.8	892	434	-0.4	45,426	94.0	27.0
1/12/2011 13:42	10.2	35.2	23.8	893	434	-0.4	45,426	79.0	23.0
1/12/2011 13:43	10.3	35.2	23.8	893	434	-0.4	45,447	57.0	18.0
1/12/2011 13:44	10.3	35.2	23.8	893	434	-0.4	45,468	43.0	16.0
1/12/2011 13:45	10.4	35.2	23.8	894	435	-0.4	45,468	39.0	15.0
1/12/2011 13:46	10.4	35.2	23.8	894	435	-0.4	45,489	39.0	15.0
1/12/2011 13:47	10.4	35.2	23.8	894	435	-0.4	45,510	39.0	14.0
1/12/2011 13:48	10.4	35.2	23.8	894	435	-0.4	45,594	39.0	14.0
1/12/2011 13:49	10.5	35.2	23.8	894	435	-0.4	45,720	39.0	14.0
1/12/2011 13:50	10.5	35.2	23.8	894	435	-0.4	45,783	39.0	15.0
1/12/2011 13:51	10.5	35.2	23.8	894	435	-0.4	45,804	40.0	15.0
1/12/2011 13:52	10.5	35.2	23.8	894	435	-0.4	45,846	40.0	15.0
1/12/2011 13:53	10.5	35.2	23.8	894	435	-0.4	45,825	40.0	15.0
1/12/2011 13:54	10.5	35.2	23.8	894	435	-0.4	45,846	40.0	15.0
1/12/2011 13:55	10.5	35.2	23.8	895	435	-0.4	45,867	40.0	15.0
1/12/2011 13:56	10.5	35.2	23.8	895	436	-0.4	45,846	40.0	15.0
1/12/2011 13:57	10.5	35.2	23.8	895	436	-0.4	45,867	40.0	15.0
1/12/2011 13:58	10.5	35.2	23.8	895	436	-0.4	45,846	40.0	15.0
1/12/2011 13:59	10.5	35.2	23.8	895	436	-0.4	45,867	40.0	15.0
1/12/2011 14:00	10.5	35.2	23.8	895	436	-0.4	45,888	40.0	15.0
1/12/2011 14:01	10.5	35.2	23.8	895	436	-0.5	45,909	40.0	15.0
1/12/2011 14:02	10.5	35.2	23.8	895	436	-0.4	45,930	40.0	15.0
1/12/2011 14:03	10.5	35.2	23.8	895	436	-0.4	45,993	40.0	15.0
1/12/2011 14:04	10.5	35.1	23.7	895	436	-0.4	45,972	40.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Process and CEM Operating Parameters

Tag No.	MM-2401	PT-2302	AR-2401	TT-2105	TT-2403	DPT-2104	FT-5555	XO7-400 / F6-187	AO2-611 / F6-279
Parameter	LLGF Feed Rate	LLGF Feed Line Pressure	Shale Feed Rate	Kiln Back-End Temp.	Heat Exchanger Exit	Kiln Hood Pressure	Flue Gas Flow Rate	CO Concentration corrected to 7% O_2	Oxygen Concentration
Units	gpm	psi	tph	°F	°F	in. H_2O	wet scfm	ppm	% vol.
Date / Time									
1/12/2011 14:05	10.5	35.1	23.7	895	436	-0.4	45,993	40.0	15.0
1/12/2011 14:06	10.5	35.1	23.8	895	436	-0.4	45,972	40.0	15.0
1/12/2011 14:07	10.5	35.1	23.8	895	436	-0.4	46,014	40.0	15.0
1/12/2011 14:08	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:09	10.5	35.1	23.8	895	436	-0.4	46,014	40.0	15.0
1/12/2011 14:10	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:11	10.5	35.1	23.8	895	436	-0.4	45,993	40.0	15.0
1/12/2011 14:12	10.5	35.1	23.8	895	436	-0.4	45,972	40.0	15.0
1/12/2011 14:13	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:14	10.5	35.1	23.8	895	436	-0.4	46,056	40.0	15.0
1/12/2011 14:15	10.5	35.1	23.8	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:16	10.5	35.1	23.7	895	436	-0.4	46,035	40.0	15.0
1/12/2011 14:17	10.5	35.1	23.7	895	436	-0.4	46,056	40.0	15.0
1/12/2011 14:18	10.5	35.1	23.7	895	436	-0.4	46,140	41.0	15.0
1/12/2011 14:19	10.5	35.1	23.7	895	436	-0.4	46,182	41.0	15.0
1/12/2011 14:20	10.5	35.1	23.7	894	436	-0.4	46,203	41.0	15.0
1/12/2011 14:21	10.5	35.1	23.6	894	436	-0.4	46,245	41.0	15.0
1/12/2011 14:22	10.5	35.1	23.6	894	436	-0.3	46,287	41.0	15.0
1/12/2011 14:23	10.5	35.1	23.6	894	436	-0.4	46,308	41.0	15.0
1/12/2011 14:24	10.5	35.1	23.6	894	436	-0.3	46,308	41.0	15.0
1/12/2011 14:25	10.5	35.1	23.5	894	436	-0.4	46,308	41.0	15.0
1/12/2011 14:26	10.5	35.1	23.5	894	436	-0.4	46,224	41.0	15.0
1/12/2011 14:27	10.5	35.1	23.5	894	436	-0.4	46,161	41.0	15.0
1/12/2011 14:28	10.5	35.1	23.5	894	436	-0.4	46,161	41.0	15.0
1/12/2011 14:29	10.4	35.1	23.5	894	436	-0.4	46,161	41.0	15.0
1/12/2011 14:30	10.4	35.1	23.5	894	436	-0.4	46,140	41.0	15.0
1/12/2011 14:31	10.4	35.1	23.5	894	436	-0.4	46,119	41.0	15.0
1/12/2011 14:32	10.4	35.1	23.5	894	436	-0.4	46,119	41.0	15.0
1/12/2011 14:33	10.4	35.1	23.4	894	436	-0.4	46,098	41.0	15.0
1/12/2011 14:34	10.4	35.1	23.4	894	436	-0.4	46,077	41.0	15.0
1/12/2011 14:35	10.4	35.1	23.4	894	436	-0.4	46,035	41.0	15.0
1/12/2011 14:36	10.4	35.1	23.4	894	436	-0.4	46,077	41.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 14:37	10.4	35.1	23.4	894	436	-0.4	46,056	41.0	15.0
1/12/2011 14:38	10.4	35.1	23.4	894	436	-0.4	46,035	41.0	15.0
1/12/2011 14:39	10.4	35.1	23.4	894	436	-0.4	46,035	41.0	15.0
1/12/2011 14:40	10.4	35.1	23.4	894	436	-0.4	45,993	41.0	15.0
1/12/2011 14:41	10.4	35.1	23.3	894	436	-0.4	46,014	42.0	15.0
1/12/2011 14:42	10.4	35.1	23.3	894	436	-0.4	46,035	42.0	15.0
1/12/2011 14:43	10.4	35.1	23.3	894	436	-0.4	46,098	42.0	15.0
1/12/2011 14:44	10.4	35.1	23.3	894	436	-0.4	46,140	42.0	15.0
1/12/2011 14:45	10.4	35.1	23.3	894	436	-0.4	46,203	42.0	15.0
1/12/2011 14:46	10.4	35.1	23.2	894	436	-0.4	46,266	42.0	15.0
1/12/2011 14:47	10.4	35.1	23.2	894	436	-0.5	46,308	42.0	15.0
1/12/2011 14:48	10.3	35.1	23.2	894	436	-0.5	46,266	42.0	15.0
1/12/2011 14:49	10.3	35.1	23.2	894	436	-0.5	46,140	42.0	15.0
1/12/2011 14:50	10.3	35.1	23.2	894	436	-0.4	46,098	43.0	15.0
1/12/2011 14:51	10.3	35.1	23.2	894	436	-0.4	46,077	43.0	15.0
1/12/2011 14:52	10.3	35.1	23.1	894	436	-0.4	46,077	43.0	15.0
1/12/2011 14:53	10.3	35.1	23.1	894	436	-0.4	46,140	43.0	15.0
1/12/2011 14:54	10.3	35.0	23.1	894	436	-0.4	46,203	43.0	15.0
1/12/2011 14:55	10.3	35.0	23.1	894	436	-0.4	46,203	43.0	15.0
1/12/2011 14:56	10.3	35.0	23.1	894	436	-0.4	46,287	43.0	15.0
1/12/2011 14:57	10.3	35.0	23.0	894	436	-0.4	46,329	43.0	15.0
1/12/2011 14:58	10.3	35.0	23.0	894	436	-0.4	46,392	43.0	15.0
1/12/2011 14:59	10.3	35.0	23.0	894	436	-0.4	46,392	43.0	15.0
1/12/2011 15:00	10.3	35.0	23.0	894	436	-0.4	46,392	43.0	15.0
1/12/2011 15:01	10.3	35.0	23.0	894	436	-0.4	46,392	43.0	15.0
1/12/2011 15:02	10.3	35.0	23.0	894	436	-0.4	46,371	43.0	15.0
1/12/2011 15:03	10.3	35.0	23.0	894	436	-0.4	46,329	43.0	15.0
1/12/2011 15:04	10.3	35.0	23.0	894	436	-0.4	46,392	43.0	15.0
1/12/2011 15:05	10.3	35.0	23.0	894	436	-0.4	46,371	43.0	15.0
1/12/2011 15:06	10.3	35.0	23.0	894	436	-0.4	46,371	43.0	15.0
1/12/2011 15:07	10.3	35.0	22.9	895	436	-0.4	46,350	43.0	15.0
1/12/2011 15:08	10.3	35.0	22.9	895	436	-0.4	46,350	43.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 15:09	10.4	35.0	22.9	895	436	-0.4	46,392	43.0	15.0
1/12/2011 15:10	10.4	35.0	22.9	895	436	-0.4	46,413	43.0	15.0
1/12/2011 15:11	10.4	35.0	22.8	895	437	-0.4	46,455	43.0	15.0
1/12/2011 15:12	10.4	35.0	22.8	895	437	-0.4	46,497	43.0	15.0
1/12/2011 15:13	10.4	35.0	22.8	895	437	-0.4	46,455	43.0	15.0
1/12/2011 15:14	10.4	35.0	22.8	895	437	-0.5	46,434	43.0	15.0
1/12/2011 15:15	10.4	35.0	22.8	895	437	-0.4	46,539	43.0	15.0
1/12/2011 15:16	10.4	35.0	22.8	895	437	-0.4	46,560	43.0	15.0
1/12/2011 15:17	10.4	35.0	22.8	895	437	-0.4	46,602	43.0	15.0
1/12/2011 15:18	10.4	35.0	22.8	895	437	-0.4	46,581	43.0	15.0
1/12/2011 15:19	10.4	35.0	22.8	895	437	-0.4	46,539	43.0	15.0
1/12/2011 15:20	10.4	35.0	22.8	895	437	-0.4	46,497	43.0	15.0
1/12/2011 15:21	10.4	35.0	22.8	895	437	-0.4	46,476	43.0	15.0
1/12/2011 15:22	10.4	35.0	22.8	895	437	-0.4	46,434	43.0	15.0
1/12/2011 15:23	10.4	35.0	22.8	895	437	-0.4	46,413	43.0	15.0
1/12/2011 15:24	10.4	35.0	22.8	895	436	-0.4	46,392	43.0	15.0
1/12/2011 15:25	10.4	35.0	22.8	895	436	-0.4	46,350	43.0	15.0
1/12/2011 15:26	10.3	35.0	22.8	895	436	-0.4	46,329	43.0	15.0
1/12/2011 15:27	10.3	35.0	22.8	895	436	-0.4	46,287	43.0	16.0
1/12/2011 15:28	10.3	35.0	22.8	895	436	-0.4	46,182	43.0	16.0
1/12/2011 15:29	10.3	35.0	22.8	895	436	-0.4	46,203	43.0	16.0
1/12/2011 15:30	10.3	35.0	22.8	895	436	-0.4	46,161	43.0	16.0
1/12/2011 15:31	10.3	35.0	22.8	895	436	-0.4	46,203	43.0	16.0
1/12/2011 15:32	10.3	35.0	22.8	895	436	-0.4	46,098	43.0	16.0
1/12/2011 15:33	10.3	35.0	22.8	895	436	-0.4	46,056	43.0	16.0
1/12/2011 15:34	10.3	35.0	22.8	895	436	-0.4	46,098	43.0	16.0
1/12/2011 15:35	10.3	35.0	22.8	895	436	-0.4	46,161	43.0	16.0
1/12/2011 15:36	10.4	35.0	22.8	895	436	-0.4	46,098	43.0	16.0
1/12/2011 15:37	10.4	35.0	22.8	895	436	-0.4	46,119	43.0	16.0
1/12/2011 15:38	10.4	35.0	22.7	896	436	-0.5	46,119	43.0	16.0
1/12/2011 15:39	10.4	35.0	22.7	896	436	-0.4	46,140	43.0	16.0
1/12/2011 15:40	10.4	35.0	22.7	896	436	-0.4	46,203	43.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 15:41	10.4	35.0	22.7	895	436	-0.5	46,245	43.0	16.0
1/12/2011 15:42	10.4	35.0	22.7	895	436	-0.4	46,308	43.0	16.0
1/12/2011 15:43	10.4	35.0	22.7	895	436	-0.5	46,329	43.0	16.0
1/12/2011 15:44	10.4	35.0	22.7	895	436	-0.4	46,350	43.0	16.0
1/12/2011 15:45	10.4	35.0	22.7	895	435	-0.4	46,308	43.0	16.0
1/12/2011 15:46	10.4	35.0	22.7	895	435	-0.4	46,287	43.0	16.0
1/12/2011 15:47	10.4	35.0	22.7	895	435	-0.3	46,266	43.0	16.0
1/12/2011 15:48	10.4	35.0	22.7	895	435	-0.4	46,266	43.0	16.0
1/12/2011 15:49	10.5	35.0	22.8	895	435	-0.4	46,266	43.0	16.0
1/12/2011 15:50	10.5	35.0	22.8	895	435	-0.4	46,287	43.0	16.0
1/12/2011 15:51	10.5	35.0	22.7	895	435	-0.4	46,287	43.0	16.0
1/12/2011 15:52	10.5	35.0	22.8	895	435	-0.4	46,266	43.0	16.0
1/12/2011 15:53	10.5	35.0	22.8	895	435	-0.4	46,203	43.0	16.0
1/12/2011 15:54	10.5	35.0	22.8	895	435	-0.4	46,161	43.0	16.0
1/12/2011 15:55	10.5	35.0	22.8	895	435	-0.4	46,119	43.0	16.0
1/12/2011 15:56	10.5	35.0	22.8	895	435	-0.4	46,035	43.0	16.0
1/12/2011 15:57	10.5	35.0	22.8	895	435	-0.4	46,014	43.0	16.0
1/12/2011 15:58	10.5	35.0	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 15:59	10.5	35.0	22.8	895	435	-0.4	45,930	43.0	16.0
1/12/2011 16:00	10.5	35.0	22.8	895	435	-0.4	46,035	43.0	16.0
1/12/2011 16:01	10.5	34.9	22.8	895	435	-0.4	46,035	43.0	16.0
1/12/2011 16:02	10.5	34.9	22.8	895	435	-0.4	46,014	43.0	16.0
1/12/2011 16:03	10.5	34.9	22.8	895	435	-0.4	46,014	43.0	16.0
1/12/2011 16:04	10.5	34.9	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 16:05	10.5	34.9	22.8	895	435	-0.4	45,930	43.0	16.0
1/12/2011 16:06	10.5	34.9	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 16:07	10.5	34.9	22.8	895	435	-0.5	45,909	43.0	16.0
1/12/2011 16:08	10.5	34.9	22.8	895	435	-0.4	45,951	43.0	16.0
1/12/2011 16:09	10.5	34.9	22.8	895	435	-0.4	46,077	43.0	16.0
1/12/2011 16:10	10.5	34.9	22.7	895	435	-0.5	46,056	43.0	16.0
1/12/2011 16:11	10.5	34.9	22.7	895	435	-0.4	46,035	43.0	16.0
1/12/2011 16:12	10.5	34.9	22.7	895	435	-0.4	45,993	43.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/12/2011 16:13	10.5	34.9	22.7	895	435	-0.4	45,951	43.0	16.0
1/12/2011 16:14	10.5	34.9	22.8	895	435	-0.4	45,972	43.0	16.0
1/12/2011 16:15	10.5	34.9	22.8	895	435	-0.4	45,867	43.0	16.0
1/12/2011 16:16	10.5	34.9	22.8	895	435	-0.3	45,909	43.0	16.0
1/12/2011 16:17	10.5	34.9	22.8	895	435	-0.4	45,867	43.0	16.0
1/12/2011 16:18	10.5	34.9	22.8	895	435	-0.4	45,846	43.0	16.0
1/12/2011 16:19	10.5	34.9	22.8	895	435	-0.4	45,825	43.0	16.0
1/12/2011 16:20	10.5	34.9	22.8	895	435	-0.4	45,825	43.0	16.0
1/12/2011 16:21	10.5	34.9	22.8	895	436	-0.4	45,846	43.0	16.0
1/12/2011 16:22	10.5	34.9	22.8	895	436	-0.4	45,846	43.0	16.0
1/12/2011 16:23	10.5	34.9	22.8	895	436	-0.4	45,867	43.0	16.0
1/12/2011 16:24	10.5	34.9	22.8	895	436	-0.5	45,867	43.0	16.0
1/12/2011 16:25	10.5	34.9	22.8	895	436	-0.5	45,867	43.0	16.0
1/12/2011 16:26	10.6	34.9	22.8	895	436	-0.4	45,888	43.0	16.0
1/12/2011 16:27	10.6	34.9	22.8	895	436	-0.4	45,909	43.0	16.0
1/12/2011 16:28	10.6	34.9	22.8	895	436	-0.4	45,930	43.0	16.0
1/12/2011 16:29	10.6	34.9	22.8	895	436	-0.4	45,909	43.0	16.0
1/12/2011 16:30	10.6	34.9	22.8	895	436	-0.4	45,888	43.0	16.0
1/12/2011 16:31	10.6	34.9	22.8	895	436	-0.4	45,825	43.0	16.0
1/12/2011 16:32	10.6	34.9	22.8	895	436	-0.4	45,888	43.0	16.0
1/12/2011 16:33	10.6	34.9	22.8	895	436	-0.4	45,888	43.0	16.0
1/12/2011 16:34	10.6	34.9	22.8	895	436	-0.4	45,825	43.0	16.0
1/12/2011 16:35	10.6	34.9	22.8	895	436	-0.4	45,762	43.0	16.0
AVERAGE	**10.4**	**35.0**	**23.2**	**895**	**436**	**-0.4**	**46,051**	**45.0**	**16.0**
MINIMUM	**9.7**	**34.9**	**22.7**	**892**	**433**	**-0.5**	**45,006**	**39.0**	**14.0**
MAXIMUM	**10.6**	**35.2**	**23.8**	**896**	**437**	**-0.3**	**46,602**	**95.0**	**27.0**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 8:33	10.4	36.7	23.3	896	434	-0.4	47,526	43.0	16.0
1/13/2011 8:34	10.4	36.7	23.3	896	434	-0.3	47,337	43.0	16.0
1/13/2011 8:35	10.4	36.7	23.3	896	434	-0.4	47,148	43.0	16.0
1/13/2011 8:36	10.4	36.7	23.3	896	434	-0.4	46,917	43.0	16.0
1/13/2011 8:37	10.4	36.7	23.3	895	434	-0.4	46,560	43.0	16.0
1/13/2011 8:38	10.4	36.7	23.3	895	434	-0.4	46,350	43.0	16.0
1/13/2011 8:39	10.4	36.7	23.3	895	434	-0.4	45,993	44.0	16.0
1/13/2011 8:40	10.4	36.7	23.3	895	434	-0.4	45,741	43.0	16.0
1/13/2011 8:41	10.4	36.7	23.3	895	434	-0.4	45,615	44.0	16.0
1/13/2011 8:42	10.4	36.7	23.4	895	435	-0.4	45,447	44.0	16.0
1/13/2011 8:43	10.4	36.7	23.3	895	435	-0.4	45,300	44.0	16.0
1/13/2011 8:44	10.4	36.7	23.4	895	435	-0.4	45,048	44.0	16.0
1/13/2011 8:45	10.4	36.6	23.4	895	435	-0.4	44,922	44.0	16.0
1/13/2011 8:46	10.4	36.6	23.4	895	435	-0.4	44,859	44.0	16.0
1/13/2011 8:47	10.4	36.6	23.3	895	435	-0.4	44,754	44.0	16.0
1/13/2011 8:48	10.4	36.6	23.4	895	435	-0.4	44,586	44.0	16.0
1/13/2011 8:49	10.4	36.6	23.3	895	435	-0.4	44,544	44.0	16.0
1/13/2011 8:50	10.4	36.6	23.3	895	435	-0.4	44,418	44.0	16.0
1/13/2011 8:51	10.4	36.6	23.4	895	435	-0.4	44,355	44.0	16.0
1/13/2011 8:52	10.4	36.6	23.3	895	435	-0.5	44,229	44.0	16.0
1/13/2011 8:53	10.4	36.6	23.3	895	435	-0.4	44,145	44.0	16.0
1/13/2011 8:54	10.4	36.6	23.3	895	435	-0.5	44,061	44.0	16.0
1/13/2011 8:55	10.4	36.6	23.3	895	436	-0.4	44,082	44.0	16.0
1/13/2011 8:56	10.4	36.6	23.3	895	436	-0.4	44,040	44.0	16.0
1/13/2011 8:57	10.4	36.6	23.4	895	436	-0.5	44,019	44.0	16.0
1/13/2011 8:58	10.4	36.6	23.4	895	436	-0.4	43,956	44.0	16.0
1/13/2011 8:59	10.4	36.6	23.4	895	436	-0.5	43,977	44.0	16.0
1/13/2011 9:00	10.4	36.6	23.4	895	436	-0.4	43,998	44.0	16.0
1/13/2011 9:01	10.4	36.6	23.4	895	436	-0.4	44,040	44.0	16.0
1/13/2011 9:02	10.4	36.6	23.4	895	436	-0.5	44,040	44.0	16.0
1/13/2011 9:03	10.4	36.6	23.4	895	436	-0.4	44,061	44.0	16.0
1/13/2011 9:04	10.4	36.6	23.4	895	436	-0.5	44,103	44.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 9:05	10.4	36.6	23.4	895	436	-0.4	44,124	44.0	16.0
1/13/2011 9:06	10.4	36.6	23.4	895	436	-0.4	44,103	44.0	16.0
1/13/2011 9:07	10.4	36.6	23.4	895	436	-0.5	44,124	44.0	16.0
1/13/2011 9:08	10.4	36.5	23.4	895	436	-0.4	44,061	44.0	16.0
1/13/2011 9:09	10.4	36.5	23.4	895	436	-0.5	44,082	44.0	16.0
1/13/2011 9:10	10.4	36.5	23.4	895	436	-0.4	44,082	44.0	16.0
1/13/2011 9:11	10.4	36.5	23.4	895	436	-0.4	44,082	44.0	16.0
1/13/2011 9:12	10.4	36.5	23.4	895	436	-0.4	44,103	44.0	16.0
1/13/2011 9:13	10.4	36.5	23.4	895	436	-0.4	44,082	44.0	16.0
1/13/2011 9:14	10.4	36.5	23.4	895	437	-0.5	44,061	44.0	16.0
1/13/2011 9:15	10.4	36.5	23.4	895	437	-0.4	44,082	44.0	16.0
1/13/2011 9:16	10.4	36.5	23.4	895	437	-0.4	44,082	45.0	16.0
1/13/2011 9:17	10.4	36.5	23.4	895	437	-0.5	44,103	45.0	16.0
1/13/2011 9:18	10.4	36.5	23.4	895	437	-0.5	44,124	45.0	16.0
1/13/2011 9:19	10.4	36.5	23.4	895	437	-0.5	44,145	45.0	16.0
1/13/2011 9:20	10.4	36.5	23.3	895	437	-0.4	44,082	45.0	16.0
1/13/2011 9:21	10.4	36.5	23.3	895	437	-0.5	44,103	45.0	16.0
1/13/2011 9:22	10.4	36.5	23.3	895	437	-0.4	44,124	45.0	16.0
1/13/2011 9:23	10.4	36.5	23.3	895	437	-0.4	44,103	45.0	16.0
1/13/2011 9:24	10.3	36.5	23.4	895	437	-0.4	44,145	45.0	16.0
1/13/2011 9:25	10.3	36.5	23.3	895	437	-0.4	44,166	45.0	16.0
1/13/2011 9:26	10.4	36.5	23.3	895	437	-0.5	44,208	45.0	16.0
1/13/2011 9:27	10.4	36.5	23.3	895	437	-0.4	44,229	45.0	16.0
1/13/2011 9:28	10.4	36.5	23.3	895	437	-0.4	44,229	45.0	16.0
1/13/2011 9:29	10.4	36.5	23.4	895	437	-0.4	44,250	45.0	16.0
1/13/2011 9:30	10.4	36.5	23.4	895	437	-0.4	44,250	45.0	16.0
1/13/2011 9:31	10.4	36.5	23.4	895	437	-0.4	44,292	45.0	16.0
1/13/2011 9:32	10.4	36.4	23.4	895	437	-0.4	44,334	45.0	16.0
1/13/2011 9:33	10.4	36.4	23.4	895	437	-0.5	44,397	45.0	16.0
1/13/2011 9:34	10.4	36.4	23.4	895	437	-0.4	44,439	45.0	16.0
1/13/2011 9:35	10.4	36.4	23.4	895	437	-0.4	44,397	45.0	16.0
1/13/2011 9:36	10.4	36.4	23.4	895	437	-0.5	44,355	45.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 9:37	10.4	36.4	23.4	895	437	-0.4	44,418	45.0	16.0
1/13/2011 9:38	10.4	36.4	23.4	895	437	-0.5	44,481	45.0	16.0
1/13/2011 9:39	10.4	36.4	23.4	895	437	-0.4	44,544	45.0	16.0
1/13/2011 9:40	10.4	36.4	23.4	895	437	-0.4	44,586	45.0	16.0
1/13/2011 9:41	10.4	36.4	23.4	895	437	-0.5	44,628	45.0	16.0
1/13/2011 9:42	10.4	36.4	23.4	895	437	-0.4	44,628	45.0	16.0
1/13/2011 9:43	10.4	36.4	23.4	895	437	-0.4	44,649	45.0	16.0
1/13/2011 9:44	10.4	36.4	23.4	895	437	-0.4	44,691	45.0	16.0
1/13/2011 9:45	10.4	36.4	23.4	895	437	-0.4	44,733	45.0	16.0
1/13/2011 9:46	10.4	36.4	23.4	895	437	-0.4	44,733	45.0	16.0
1/13/2011 9:47	10.4	36.4	23.4	895	437	-0.4	44,754	45.0	16.0
1/13/2011 9:48	10.4	36.4	23.4	895	437	-0.4	44,733	45.0	16.0
1/13/2011 9:49	10.4	36.4	23.4	895	437	-0.4	44,712	45.0	16.0
1/13/2011 9:50	10.4	36.4	23.4	895	437	-0.4	44,733	46.0	16.0
1/13/2011 9:51	10.4	36.4	23.4	895	437	-0.4	44,796	46.0	16.0
1/13/2011 9:52	10.4	36.4	23.4	895	437	-0.5	44,838	46.0	16.0
1/13/2011 9:53	10.4	36.4	23.4	895	437	-0.5	44,859	46.0	16.0
1/13/2011 9:54	10.4	36.4	23.4	895	437	-0.4	44,859	46.0	16.0
1/13/2011 9:55	10.4	36.4	23.4	895	437	-0.5	44,838	46.0	16.0
1/13/2011 9:56	10.4	36.4	23.4	895	437	-0.4	44,838	46.0	16.0
1/13/2011 9:57	10.4	36.4	23.4	895	437	-0.5	44,817	46.0	16.0
1/13/2011 9:58	10.3	36.4	23.4	895	437	-0.5	44,838	46.0	16.0
1/13/2011 9:59	10.3	36.4	23.4	895	437	-0.4	44,859	46.0	16.0
1/13/2011 10:00	10.3	36.4	23.4	895	437	-0.5	44,859	46.0	16.0
1/13/2011 10:01	10.3	36.4	23.4	895	437	-0.4	44,859	46.0	16.0
1/13/2011 10:02	10.3	36.4	23.4	895	437	-0.4	44,901	46.0	16.0
1/13/2011 10:03	10.3	36.4	23.4	895	437	-0.5	44,901	46.0	16.0
1/13/2011 10:04	10.3	36.4	23.4	895	437	-0.4	44,880	46.0	16.0
1/13/2011 10:05	10.3	36.4	23.4	895	437	-0.4	44,922	46.0	16.0
1/13/2011 10:06	10.3	36.4	23.4	895	437	-0.4	44,922	46.0	16.0
1/13/2011 10:07	10.3	36.4	23.4	895	436	-0.5	44,901	46.0	16.0
1/13/2011 10:08	10.3	36.4	23.4	895	436	-0.4	44,922	46.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 10:09	10.3	36.4	23.4	895	436	-0.4	45,006	46.0	16.0
1/13/2011 10:10	10.3	36.4	23.4	895	436	-0.5	45,027	46.0	16.0
1/13/2011 10:11	10.3	36.4	23.4	895	436	-0.4	45,027	47.0	16.0
1/13/2011 10:12	10.3	36.4	23.4	895	436	-0.4	45,006	47.0	16.0
1/13/2011 10:13	10.3	36.4	23.4	895	436	-0.4	45,027	47.0	16.0
1/13/2011 10:14	10.3	36.4	23.4	895	436	-0.4	45,111	47.0	16.0
1/13/2011 10:15	10.3	36.4	23.4	895	436	-0.4	45,174	47.0	16.0
1/13/2011 10:16	10.3	36.4	23.4	895	436	-0.4	45,174	47.0	16.0
1/13/2011 10:17	10.3	36.4	23.4	895	436	-0.5	45,258	47.0	16.0
1/13/2011 10:18	10.3	36.4	23.4	895	436	-0.4	45,279	47.0	16.0
1/13/2011 10:19	10.3	36.4	23.4	895	436	-0.4	45,300	47.0	16.0
1/13/2011 10:20	10.3	36.4	23.4	895	436	-0.5	45,321	47.0	16.0
1/13/2011 10:21	10.3	36.4	23.4	895	436	-0.4	45,342	47.0	16.0
1/13/2011 10:22	10.3	36.4	23.4	895	436	-0.4	45,384	47.0	16.0
1/13/2011 10:23	10.3	36.4	23.4	895	436	-0.4	45,405	47.0	16.0
1/13/2011 10:24	10.4	36.4	23.4	896	436	-0.5	45,426	47.0	16.0
1/13/2011 10:25	10.4	36.4	23.4	896	436	-0.4	45,468	46.0	16.0
1/13/2011 10:26	10.4	36.4	23.4	896	436	-0.5	45,573	46.0	16.0
1/13/2011 10:27	10.3	36.4	23.4	896	436	-0.5	45,615	46.0	16.0
1/13/2011 10:28	10.3	36.5	23.4	896	436	-0.4	45,636	46.0	16.0
1/13/2011 10:29	10.3	36.4	23.4	896	436	-0.5	45,636	46.0	16.0
1/13/2011 10:30	10.3	36.4	23.4	896	436	-0.4	45,657	47.0	16.0
1/13/2011 10:31	10.3	36.4	23.4	896	436	-0.5	45,699	47.0	16.0
1/13/2011 10:32	10.3	36.5	23.4	896	436	-0.4	45,678	47.0	16.0
1/13/2011 10:33	10.3	36.4	23.4	896	436	-0.4	45,636	47.0	16.0
1/13/2011 10:34	10.3	36.4	23.4	896	436	-0.4	45,615	47.0	16.0
1/13/2011 10:35	10.3	36.4	23.4	896	436	-0.4	45,615	47.0	16.0
1/13/2011 10:36	10.3	36.4	23.4	896	436	-0.4	45,636	47.0	16.0
1/13/2011 10:37	10.3	36.4	23.4	896	436	-0.4	45,636	47.0	16.0
1/13/2011 10:38	10.3	36.4	23.4	896	436	-0.4	45,636	47.0	16.0
1/13/2011 10:39	10.4	36.4	23.4	896	436	-0.5	45,615	47.0	16.0
1/13/2011 10:40	10.4	36.3	23.4	896	436	-0.4	45,636	47.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 10:41	10.4	36.3	23.4	896	436	-0.5	45,678	47.0	16.0
1/13/2011 10:42	10.4	36.3	23.4	896	436	-0.5	45,720	46.0	16.0
1/13/2011 10:43	10.4	36.3	23.4	896	436	-0.5	45,741	46.0	16.0
1/13/2011 10:44	10.4	36.3	23.4	896	436	-0.5	45,720	46.0	16.0
1/13/2011 10:45	10.4	36.3	23.4	896	436	-0.5	45,783	46.0	16.0
1/13/2011 10:46	10.4	36.2	23.4	896	436	-0.5	45,825	46.0	16.0
1/13/2011 10:47	10.4	36.2	23.4	896	436	-0.4	45,846	46.0	16.0
1/13/2011 10:48	10.4	36.2	23.4	896	436	-0.5	45,888	46.0	16.0
1/13/2011 10:49	10.4	36.2	23.4	896	436	-0.5	45,951	46.0	16.0
1/13/2011 10:50	10.4	36.2	23.4	896	436	-0.4	46,014	46.0	16.0
1/13/2011 10:51	10.4	36.2	23.4	896	436	-0.5	46,035	46.0	16.0
1/13/2011 10:52	10.4	36.2	23.4	896	436	-0.4	45,993	46.0	16.0
1/13/2011 10:53	10.4	36.1	23.4	896	436	-0.4	45,993	46.0	16.0
1/13/2011 10:54	10.4	36.1	23.4	896	436	-0.4	45,993	46.0	16.0
1/13/2011 10:55	10.4	36.1	23.4	896	436	-0.4	45,951	46.0	16.0
1/13/2011 10:56	10.4	36.1	23.4	896	436	-0.4	45,951	46.0	16.0
1/13/2011 10:57	10.4	36.1	23.4	896	436	-0.4	45,951	46.0	16.0
1/13/2011 10:58	10.4	36.0	23.4	896	436	-0.4	45,951	46.0	16.0
1/13/2011 10:59	10.4	36.0	23.4	896	436	-0.4	45,972	46.0	16.0
1/13/2011 11:00	10.4	35.9	23.4	896	436	-0.5	45,972	46.0	16.0
1/13/2011 11:01	10.4	35.9	23.4	896	436	-0.5	46,014	46.0	16.0
1/13/2011 11:02	10.4	35.8	23.4	896	436	-0.4	45,972	46.0	16.0
1/13/2011 11:03	10.4	35.8	23.4	896	436	-0.5	45,972	46.0	16.0
1/13/2011 11:04	10.4	35.8	23.4	896	436	-0.4	45,951	46.0	16.0
1/13/2011 11:05	10.4	35.8	23.4	896	436	-0.5	45,909	46.0	16.0
1/13/2011 11:06	10.4	35.7	23.4	896	436	-0.5	45,930	46.0	16.0
1/13/2011 11:07	10.4	35.7	23.4	896	436	-0.4	45,930	46.0	16.0
1/13/2011 11:08	10.4	35.6	23.4	895	436	-0.4	45,909	46.0	16.0
1/13/2011 11:09	10.4	35.6	23.4	895	436	-0.4	45,825	46.0	16.0
1/13/2011 11:10	10.4	35.5	23.4	895	436	-0.4	45,804	46.0	16.0
1/13/2011 11:11	10.4	35.5	23.3	895	436	-0.4	45,825	46.0	16.0
1/13/2011 11:12	10.4	35.5	23.3	895	436	-0.4	45,909	46.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 11:13	10.4	35.4	23.3	895	436	-0.4	45,909	46.0	16.0
1/13/2011 11:14	10.4	35.4	23.3	895	436	-0.4	45,867	46.0	16.0
1/13/2011 11:15	10.4	35.4	23.4	895	436	-0.4	45,804	46.0	16.0
1/13/2011 11:16	10.4	35.3	23.4	895	436	-0.4	45,825	46.0	16.0
1/13/2011 11:17	10.4	35.3	23.4	895	436	-0.5	45,783	46.0	16.0
1/13/2011 11:18	10.4	35.3	23.4	895	436	-0.5	45,825	46.0	16.0
1/13/2011 11:19	10.4	35.2	23.4	895	436	-0.4	45,951	46.0	16.0
1/13/2011 11:20	10.4	35.2	23.4	895	436	-0.5	45,972	46.0	16.0
1/13/2011 11:21	10.4	35.1	23.4	895	436	-0.4	45,972	46.0	16.0
1/13/2011 11:22	10.4	35.1	23.4	895	436	-0.4	45,951	46.0	16.0
1/13/2011 11:23	10.4	35.1	23.4	895	436	-0.5	45,909	46.0	16.0
1/13/2011 11:24	10.4	35.0	23.4	895	436	-0.4	45,888	46.0	16.0
1/13/2011 11:25	10.4	35.0	23.4	895	436	-0.4	45,867	46.0	16.0
1/13/2011 11:26	10.4	34.9	23.4	895	436	-0.4	45,783	46.0	16.0
1/13/2011 11:27	10.4	34.9	23.4	895	436	-0.5	45,762	46.0	16.0
1/13/2011 11:28	10.4	34.9	23.4	895	436	-0.4	45,783	46.0	16.0
1/13/2011 11:29	10.4	34.8	23.4	895	436	-0.4	45,762	46.0	16.0
1/13/2011 11:30	10.4	34.8	23.4	895	436	-0.4	45,741	46.0	16.0
1/13/2011 11:31	10.4	34.7	23.4	895	436	-0.4	45,678	46.0	16.0
1/13/2011 11:32	10.4	34.7	23.4	895	436	-0.4	45,720	46.0	16.0
1/13/2011 11:33	10.4	34.7	23.4	895	436	-0.4	45,783	46.0	16.0
1/13/2011 11:34	10.4	34.7	23.4	895	436	-0.4	45,762	46.0	16.0
1/13/2011 11:35	10.4	34.6	23.3	895	436	-0.4	45,783	46.0	16.0
AVERAGE	**10.4**	**36.2**	**23.4**	**895**	**436**	**-0.4**	**45,151**	**45.4**	**16.0**
MINIMUM	**10.3**	**34.6**	**23.3**	**895**	**434**	**-0.5**	**43,956**	**43.0**	**16.0**
MAXIMUM	**10.4**	**36.7**	**23.4**	**896**	**437**	**-0.3**	**47,526**	**47.0**	**16.0**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 12:00	10.3	35.3	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:01	10.3	35.4	23.4	894	435	-0.4	45,909	47.0	16.0
1/13/2011 12:02	10.3	35.4	23.4	894	435	-0.4	45,888	47.0	16.0
1/13/2011 12:03	10.3	35.5	23.4	894	435	-0.4	45,909	47.0	16.0
1/13/2011 12:04	10.3	35.5	23.4	894	435	-0.4	45,888	47.0	16.0
1/13/2011 12:05	10.3	35.6	23.4	894	435	-0.4	45,888	47.0	16.0
1/13/2011 12:06	10.3	35.6	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:07	10.3	35.7	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:08	10.3	35.7	23.4	894	435	-0.4	45,972	47.0	16.0
1/13/2011 12:09	10.3	35.8	23.4	894	435	-0.4	46,014	47.0	16.0
1/13/2011 12:10	10.3	35.8	23.4	894	435	-0.4	46,014	47.0	16.0
1/13/2011 12:11	10.2	35.8	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:12	10.2	35.9	23.4	894	435	-0.4	45,930	47.0	16.0
1/13/2011 12:13	10.2	35.9	23.4	894	435	-0.4	45,951	47.0	16.0
1/13/2011 12:14	10.2	36.0	23.4	894	435	-0.4	46,077	47.0	16.0
1/13/2011 12:15	10.2	36.0	23.4	894	435	-0.4	46,161	47.0	16.0
1/13/2011 12:16	10.2	36.0	23.4	894	435	-0.4	46,182	47.0	16.0
1/13/2011 12:17	10.2	36.1	23.4	894	435	-0.4	46,182	47.0	16.0
1/13/2011 12:18	10.2	36.1	23.4	894	435	-0.4	46,182	47.0	16.0
1/13/2011 12:19	10.2	36.1	23.4	894	435	-0.4	46,056	47.0	16.0
1/13/2011 12:20	10.2	36.2	23.4	894	435	-0.4	46,035	48.0	16.0
1/13/2011 12:21	10.2	36.2	23.4	894	435	-0.4	46,035	48.0	16.0
1/13/2011 12:22	10.2	36.3	23.4	894	435	-0.3	46,056	47.0	16.0
1/13/2011 12:23	10.2	36.3	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:24	10.2	36.4	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:25	10.2	36.4	23.4	894	435	-0.4	46,161	47.0	16.0
1/13/2011 12:26	10.2	36.5	23.4	894	435	-0.4	46,140	47.0	16.0
1/13/2011 12:27	10.1	36.5	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:28	10.2	36.6	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:29	10.2	36.6	23.4	894	435	-0.4	46,140	48.0	16.0
1/13/2011 12:30	10.2	36.6	23.4	894	435	-0.4	46,161	48.0	16.0
1/13/2011 12:31	10.2	36.7	23.4	894	435	-0.4	46,182	48.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 12:32	10.2	36.7	23.4	894	435	-0.4	46,098	47.0	16.0
1/13/2011 12:33	10.2	36.8	23.4	894	435	-0.4	46,077	47.0	16.0
1/13/2011 12:34	10.2	36.8	23.4	894	435	-0.4	46,098	47.0	16.0
1/13/2011 12:35	10.2	36.9	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:36	10.2	36.9	23.4	894	435	-0.4	46,056	47.0	16.0
1/13/2011 12:37	10.2	36.9	23.4	894	435	-0.4	46,077	47.0	16.0
1/13/2011 12:38	10.2	36.9	23.4	894	435	-0.4	46,098	47.0	16.0
1/13/2011 12:39	10.2	36.9	23.4	894	435	-0.4	46,119	47.0	16.0
1/13/2011 12:40	10.2	36.9	23.4	895	435	-0.5	46,077	47.0	16.0
1/13/2011 12:41	10.2	36.9	23.4	895	435	-0.4	46,098	47.0	16.0
1/13/2011 12:42	10.2	36.9	23.4	895	435	-0.4	46,035	47.0	16.0
1/13/2011 12:43	10.2	36.9	23.4	895	435	-0.4	46,056	47.0	16.0
1/13/2011 12:44	10.2	36.9	23.4	895	435	-0.4	46,035	47.0	16.0
1/13/2011 12:45	10.2	36.9	23.4	895	435	-0.4	45,993	47.0	16.0
1/13/2011 12:46	10.2	36.9	23.4	895	435	-0.4	46,077	47.0	16.0
1/13/2011 12:47	10.2	36.9	23.4	895	435	-0.4	46,098	47.0	16.0
1/13/2011 12:48	10.2	36.9	23.4	895	435	-0.4	46,224	47.0	16.0
1/13/2011 12:49	10.2	36.9	23.4	895	435	-0.4	46,308	47.0	16.0
1/13/2011 12:50	10.2	36.9	23.4	895	435	-0.4	46,392	47.0	16.0
1/13/2011 12:51	10.2	36.8	23.4	895	435	-0.4	46,434	47.0	16.0
1/13/2011 12:52	10.2	36.8	23.4	895	435	-0.4	46,476	47.0	16.0
1/13/2011 12:53	10.2	36.8	23.4	895	436	-0.4	46,392	47.0	16.0
1/13/2011 12:54	10.2	36.8	23.4	895	436	-0.4	46,266	47.0	16.0
1/13/2011 12:55	10.2	36.8	23.4	895	436	-0.5	46,287	47.0	16.0
1/13/2011 12:56	10.2	36.8	23.5	895	436	-0.4	46,266	47.0	16.0
1/13/2011 12:57	10.2	36.8	23.4	895	436	-0.4	46,287	47.0	16.0
1/13/2011 12:58	10.2	36.8	23.5	895	436	-0.4	46,287	46.0	16.0
1/13/2011 12:59	10.2	36.8	23.4	895	436	-0.4	46,287	46.0	16.0
1/13/2011 13:00	10.2	36.8	23.4	895	436	-0.4	46,308	46.0	16.0
1/13/2011 13:01	10.2	36.8	23.4	895	436	-0.4	46,308	46.0	16.0
1/13/2011 13:02	10.2	36.8	23.4	895	436	-0.4	46,329	46.0	16.0
1/13/2011 13:03	10.2	36.8	23.4	895	436	-0.4	46,350	46.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 13:04	10.2	36.8	23.4	895	436	-0.4	46,350	46.0	16.0
1/13/2011 13:05	10.2	36.8	23.4	895	436	-0.4	46,329	46.0	16.0
1/13/2011 13:06	10.2	36.8	23.4	895	436	-0.4	46,266	46.0	16.0
1/13/2011 13:07	10.2	36.8	23.4	895	436	-0.4	46,308	46.0	16.0
1/13/2011 13:08	10.2	36.8	23.4	895	436	-0.3	46,287	46.0	16.0
1/13/2011 13:09	10.2	36.8	23.4	895	436	-0.4	46,224	46.0	16.0
1/13/2011 13:10	10.2	36.8	23.4	895	436	-0.4	46,245	47.0	16.0
1/13/2011 13:11	10.2	36.8	23.4	895	436	-0.4	46,224	46.0	16.0
1/13/2011 13:12	10.2	36.8	23.4	895	436	-0.4	46,203	46.0	16.0
1/13/2011 13:13	10.2	36.8	23.4	894	436	-0.3	46,140	47.0	16.0
1/13/2011 13:14	10.3	36.8	23.4	895	436	-0.4	46,077	47.0	16.0
1/13/2011 13:15	10.3	36.8	23.4	895	436	-0.4	46,014	46.0	16.0
1/13/2011 13:16	10.3	36.8	23.4	895	436	-0.4	45,993	46.0	16.0
1/13/2011 13:17	10.3	36.8	23.4	895	436	-0.4	46,056	46.0	16.0
1/13/2011 13:18	10.3	36.8	23.4	895	436	-0.4	46,077	46.0	16.0
1/13/2011 13:19	10.3	36.8	23.4	895	436	-0.4	46,098	46.0	16.0
1/13/2011 13:20	10.3	36.8	23.5	895	436	-0.4	46,119	46.0	16.0
1/13/2011 13:21	10.3	36.8	23.5	895	436	-0.4	46,119	46.0	16.0
1/13/2011 13:22	10.3	36.8	23.5	895	436	-0.3	46,056	46.0	16.0
1/13/2011 13:23	10.3	36.8	23.5	895	436	-0.4	46,014	46.0	16.0
1/13/2011 13:24	10.3	36.8	23.5	895	436	-0.4	46,035	46.0	16.0
1/13/2011 13:25	10.3	36.8	23.5	895	436	-0.3	45,993	46.0	16.0
1/13/2011 13:26	10.3	36.8	23.5	895	436	-0.4	45,993	46.0	16.0
1/13/2011 13:27	10.3	36.8	23.5	895	436	-0.4	46,077	46.0	16.0
1/13/2011 13:28	10.3	36.8	23.5	894	436	-0.4	46,098	46.0	16.0
1/13/2011 13:29	10.3	36.8	23.5	894	436	-0.4	46,161	46.0	16.0
1/13/2011 13:30	10.4	36.8	23.5	894	436	-0.4	46,182	46.0	16.0
1/13/2011 13:31	10.4	36.8	23.5	894	436	-0.4	46,224	46.0	16.0
1/13/2011 13:32	10.4	36.8	23.5	894	436	-0.4	46,287	46.0	16.0
1/13/2011 13:33	10.4	36.8	23.5	894	436	-0.4	46,329	46.0	16.0
1/13/2011 13:34	10.4	36.8	23.5	894	436	-0.4	46,371	46.0	16.0
1/13/2011 13:35	10.4	36.8	23.5	894	436	-0.4	46,371	46.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 13:36	10.4	36.7	23.5	894	436	-0.4	46,413	46.0	16.0
1/13/2011 13:37	10.4	36.7	23.5	894	436	-0.4	46,455	46.0	16.0
1/13/2011 13:38	10.3	36.7	23.5	894	436	-0.4	46,434	46.0	16.0
1/13/2011 13:39	10.3	36.7	23.4	894	436	-0.4	46,392	46.0	16.0
1/13/2011 13:40	10.3	36.7	23.5	894	436	-0.4	46,518	46.0	16.0
1/13/2011 13:41	10.3	36.7	23.5	894	436	-0.4	46,497	46.0	16.0
1/13/2011 13:42	10.3	36.7	23.5	894	436	-0.3	46,497	46.0	16.0
1/13/2011 13:43	10.3	36.7	23.5	894	436	-0.4	46,434	46.0	16.0
1/13/2011 13:44	10.3	36.7	23.4	894	436	-0.4	46,434	46.0	16.0
1/13/2011 13:45	10.3	36.7	23.5	894	436	-0.4	46,413	46.0	16.0
1/13/2011 13:46	10.3	36.7	23.5	894	436	-0.4	46,329	46.0	16.0
1/13/2011 13:47	10.3	36.7	23.4	894	436	-0.3	46,371	46.0	16.0
1/13/2011 13:48	10.3	36.7	23.4	894	436	-0.4	46,287	47.0	16.0
1/13/2011 13:49	10.3	36.7	23.4	894	436	-0.4	46,161	47.0	16.0
1/13/2011 13:50	10.3	36.7	23.4	894	436	-0.4	46,014	46.0	16.0
1/13/2011 13:51	10.3	36.7	23.4	894	436	-0.4	45,972	46.0	16.0
1/13/2011 13:52	10.3	36.7	23.4	894	436	-0.4	45,888	46.0	16.0
1/13/2011 13:53	10.3	36.7	23.4	894	436	-0.4	45,867	46.0	16.0
1/13/2011 13:54	10.3	36.7	23.4	894	436	-0.4	45,972	46.0	16.0
1/13/2011 13:55	10.3	36.7	23.4	894	436	-0.4	45,930	46.0	16.0
1/13/2011 13:56	10.3	36.7	23.4	894	436	-0.4	45,930	46.0	16.0
1/13/2011 13:57	10.3	36.7	23.4	894	436	-0.4	45,972	46.0	16.0
1/13/2011 13:58	10.3	36.7	23.4	894	436	-0.4	45,993	46.0	16.0
1/13/2011 13:59	10.3	36.7	23.4	894	436	-0.3	45,993	46.0	16.0
1/13/2011 14:00	10.3	36.7	23.4	894	436	-0.4	46,077	46.0	16.0
1/13/2011 14:01	10.4	36.7	23.4	894	436	-0.4	46,140	46.0	16.0
1/13/2011 14:02	10.4	36.7	23.4	894	436	-0.4	46,119	46.0	16.0
1/13/2011 14:03	10.4	36.7	23.4	894	436	-0.4	46,077	46.0	16.0
1/13/2011 14:04	10.4	36.7	23.4	894	436	-0.4	46,098	46.0	16.0
1/13/2011 14:05	10.4	36.7	23.4	894	436	-0.4	46,119	46.0	16.0
1/13/2011 14:06	10.4	36.7	23.4	894	436	-0.4	46,119	46.0	16.0
1/13/2011 14:07	10.4	36.7	23.4	894	436	-0.4	46,098	46.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 14:08	10.4	36.7	23.4	894	436	-0.4	46,119	46.0	16.0
1/13/2011 14:09	10.4	36.7	23.4	894	436	-0.4	46,140	46.0	16.0
1/13/2011 14:10	10.4	36.7	23.4	894	436	-0.4	46,119	46.0	16.0
1/13/2011 14:11	10.4	36.7	23.4	894	436	-0.3	46,182	46.0	16.0
1/13/2011 14:12	10.4	36.7	23.4	894	436	-0.4	46,266	46.0	16.0
1/13/2011 14:13	10.4	36.7	23.4	894	436	-0.4	46,287	46.0	16.0
1/13/2011 14:14	10.4	36.7	23.4	894	436	-0.3	46,266	46.0	16.0
1/13/2011 14:15	10.4	36.7	23.4	894	436	-0.3	46,203	46.0	16.0
1/13/2011 14:16	10.4	36.7	23.4	894	436	-0.3	46,224	46.0	16.0
1/13/2011 14:17	10.4	36.7	23.4	894	436	-0.4	46,182	46.0	16.0
1/13/2011 14:18	10.4	36.7	23.4	894	436	-0.3	46,119	46.0	16.0
1/13/2011 14:19	10.4	36.7	23.4	894	436	-0.4	46,077	46.0	16.0
1/13/2011 14:20	10.4	36.7	23.4	894	436	-0.3	46,077	46.0	16.0
1/13/2011 14:21	10.4	36.7	23.4	894	436	-0.3	46,056	46.0	16.0
1/13/2011 14:22	10.4	36.7	23.4	894	436	-0.3	46,056	46.0	16.0
1/13/2011 14:23	10.4	36.7	23.4	894	436	-0.3	46,056	46.0	16.0
1/13/2011 14:24	10.4	36.7	23.4	894	436	-0.3	46,077	46.0	16.0
1/13/2011 14:25	10.4	36.7	23.4	894	436	-0.3	46,098	46.0	16.0
1/13/2011 14:26	10.4	36.7	23.4	894	436	-0.3	46,119	46.0	16.0
1/13/2011 14:27	10.4	36.7	23.4	894	436	-0.3	46,035	46.0	16.0
1/13/2011 14:28	10.4	36.7	23.4	894	436	-0.3	46,035	46.0	16.0
1/13/2011 14:29	10.3	36.7	23.4	894	436	-0.3	45,930	46.0	16.0
1/13/2011 14:30	10.3	36.7	23.4	894	436	-0.3	45,930	46.0	16.0
1/13/2011 14:31	10.3	36.7	23.4	894	436	-0.3	45,888	46.0	16.0
1/13/2011 14:32	10.3	36.7	23.4	894	436	-0.3	45,804	47.0	16.0
1/13/2011 14:33	10.3	36.7	23.4	894	435	-0.2	45,699	47.0	16.0
1/13/2011 14:34	10.3	36.7	23.4	894	435	-0.3	45,636	47.0	16.0
1/13/2011 14:35	10.3	36.7	23.4	894	435	-0.3	45,552	46.0	16.0
1/13/2011 14:36	10.3	36.7	23.4	894	435	-0.3	45,468	46.0	16.0
1/13/2011 14:37	10.3	36.7	23.4	894	435	-0.3	45,405	46.0	16.0
1/13/2011 14:38	10.3	36.7	23.4	894	435	-0.2	45,342	46.0	16.0
1/13/2011 14:39	10.3	36.7	23.4	894	435	-0.2	45,342	46.0	16.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 14:40	10.3	36.7	23.4	894	435	-0.2	45,216	46.0	16.0
1/13/2011 14:41	10.3	36.7	23.4	894	435	-0.2	45,174	46.0	16.0
1/13/2011 14:42	10.3	36.7	23.4	894	435	-0.2	45,195	46.0	16.0
1/13/2011 14:43	10.3	36.7	23.4	894	435	-0.2	45,195	46.0	17.0
1/13/2011 14:44	10.3	36.7	23.4	894	435	-0.2	45,174	46.0	17.0
1/13/2011 14:45	10.4	36.6	23.4	894	434	-0.2	45,132	46.0	17.0
1/13/2011 14:46	10.4	36.6	23.4	894	434	-0.3	45,216	46.0	17.0
1/13/2011 14:47	10.4	36.7	23.4	895	434	-0.3	45,195	46.0	16.0
1/13/2011 14:48	10.4	36.7	23.4	895	434	-0.2	45,153	46.0	16.0
1/13/2011 14:49	10.4	36.6	23.4	895	434	-0.3	45,132	46.0	16.0
1/13/2011 14:50	10.4	36.6	23.4	895	434	-0.2	45,111	46.0	16.0
1/13/2011 14:51	10.4	36.6	23.4	895	434	-0.3	45,111	46.0	16.0
1/13/2011 14:52	10.4	36.6	23.4	895	434	-0.2	45,069	46.0	17.0
1/13/2011 14:53	10.3	36.6	23.4	895	434	-0.3	45,048	46.0	17.0
1/13/2011 14:54	10.3	36.6	23.4	895	434	-0.3	44,901	46.0	17.0
1/13/2011 14:55	10.3	36.6	23.4	895	434	-0.2	44,838	46.0	17.0
1/13/2011 14:56	10.3	36.6	23.4	895	434	-0.3	44,775	46.0	17.0
1/13/2011 14:57	10.3	36.6	23.4	895	434	-0.2	44,649	46.0	17.0
1/13/2011 14:58	10.3	36.6	23.4	895	434	-0.3	44,607	46.0	17.0
1/13/2011 14:59	10.3	36.6	23.4	895	434	-0.3	44,523	46.0	17.0
1/13/2011 15:00	10.3	36.6	23.4	895	434	-0.2	44,376	46.0	17.0
1/13/2011 15:01	10.3	36.6	23.4	895	434	-0.3	44,250	46.0	17.0
1/13/2011 15:02	10.4	36.6	23.4	895	434	-0.2	44,250	46.0	17.0
1/13/2011 15:03	10.4	36.6	23.4	895	434	-0.3	44,250	46.0	17.0
1/13/2011 15:04	10.4	36.6	23.4	895	434	-0.3	44,292	45.0	17.0
1/13/2011 15:05	10.4	36.6	23.5	895	434	-0.3	44,313	45.0	17.0
1/13/2011 15:06	10.4	36.6	23.5	895	434	-0.3	44,292	45.0	17.0
1/13/2011 15:07	10.4	36.6	23.5	895	434	-0.3	44,250	45.0	17.0
1/13/2011 15:08	10.4	36.6	23.5	895	434	-0.3	44,250	45.0	17.0
1/13/2011 15:09	10.4	36.6	23.5	895	434	-0.4	44,166	45.0	17.0
1/13/2011 15:10	10.4	36.6	23.5	895	434	-0.3	44,124	45.0	17.0
1/13/2011 15:11	10.4	36.6	23.5	895	434	-0.3	44,061	45.0	17.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Feed Line Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
1/13/2011 15:12	10.4	36.6	23.5	895	434	-0.3	43,935	45.0	17.0
1/13/2011 15:13	10.4	36.6	23.5	895	434	-0.3	43,830	45.0	17.0
1/13/2011 15:14	10.4	36.6	23.5	895	434	-0.3	43,746	45.0	17.0
1/13/2011 15:15	10.4	36.6	23.5	895	434	-0.3	43,767	45.0	17.0
1/13/2011 15:16	10.4	36.6	23.5	895	434	-0.3	43,704	45.0	17.0
1/13/2011 15:17	10.4	36.6	23.5	895	434	-0.3	43,683	45.0	17.0
1/13/2011 15:18	10.4	36.6	23.5	895	434	-0.4	43,662	45.0	17.0
1/13/2011 15:19	10.4	36.6	23.5	895	434	-0.3	43,683	44.0	17.0
1/13/2011 15:20	10.5	36.6	23.5	895	434	-0.4	43,620	44.0	17.0
1/13/2011 15:21	10.5	36.6	23.5	895	434	-0.3	43,578	44.0	17.0
1/13/2011 15:22	10.5	36.6	23.5	895	435	-0.3	43,557	44.0	17.0
1/13/2011 15:23	10.5	36.6	23.5	895	435	-0.3	43,578	44.0	17.0
1/13/2011 15:24	10.5	36.6	23.5	895	435	-0.3	43,515	44.0	17.0
1/13/2011 15:25	10.5	36.6	23.5	895	435	-0.3	43,431	44.0	17.0
1/13/2011 15:26	10.5	36.6	23.5	895	435	-0.3	43,389	44.0	17.0
1/13/2011 15:27	10.5	36.6	23.5	895	435	-0.3	43,326	44.0	17.0
1/13/2011 15:28	10.5	36.6	23.5	895	435	-0.3	43,242	44.0	17.0
1/13/2011 15:29	10.5	36.6	23.5	895	435	-0.3	43,221	44.0	17.0
1/13/2011 15:30	10.5	36.6	23.5	895	435	-0.3	43,179	44.0	17.0
AVERAGE	**10.3**	**36.6**	**23.4**	**894**	**435**	**-0.3**	**45,672**	**46.2**	**16.2**
MINIMUM	**10.1**	**35.3**	**23.4**	**894**	**434**	**-0.5**	**43,179**	**44.0**	**16.0**
MAXIMUM	**10.5**	**36.9**	**23.5**	**895**	**436**	**-0.2**	**46,518**	**48.0**	**17.0**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 8:49	383	6.5	174.0	13.5	8.0	56.5	270.0	150.5	2.3
1/11/2011 8:50	383	6.4	174.0	13.5	8.0	56.5	270.0	150.5	2.3
1/11/2011 8:51	383	6.4	174.0	13.5	8.0	56.6	270.0	150.5	2.3
1/11/2011 8:52	383	6.4	174.0	13.5	8.0	56.6	270.0	150.5	2.3
1/11/2011 8:53	384	6.4	174.0	13.5	8.0	56.7	270.0	150.5	2.3
1/11/2011 8:54	384	6.5	174.0	13.5	8.0	56.7	270.0	150.4	2.3
1/11/2011 8:55	384	6.5	174.0	13.5	8.0	56.8	270.0	150.4	2.3
1/11/2011 8:56	384	6.4	174.0	13.4	8.0	56.8	270.0	150.4	2.3
1/11/2011 8:57	384	6.4	174.0	13.4	8.0	56.6	270.0	150.4	2.4
1/11/2011 8:58	384	6.4	174.0	13.4	8.0	56.5	270.0	150.4	2.4
1/11/2011 8:59	384	6.5	174.0	13.4	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:00	384	6.5	174.0	13.5	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:01	385	6.5	174.0	13.5	8.0	56.6	270.0	150.3	2.4
1/11/2011 9:02	385	6.5	174.0	13.5	8.0	56.6	270.0	150.3	2.4
1/11/2011 9:03	385	6.4	174.0	13.5	8.0	56.7	270.0	150.3	2.4
1/11/2011 9:04	385	6.4	174.0	13.6	8.0	56.7	270.0	150.3	2.4
1/11/2011 9:05	385	6.4	174.0	13.6	8.0	56.6	270.0	150.3	2.4
1/11/2011 9:06	385	6.5	174.0	13.6	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:07	385	6.5	174.0	13.6	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:08	385	6.4	174.0	13.6	8.0	56.6	270.0	150.4	2.4
1/11/2011 9:09	385	6.4	174.0	13.6	8.0	56.6	270.0	150.4	2.4
1/11/2011 9:10	385	6.4	174.0	13.7	8.0	56.6	270.0	150.4	2.4
1/11/2011 9:11	385	6.4	174.0	13.7	8.0	56.6	270.0	150.4	2.4
1/11/2011 9:12	385	6.4	174.0	13.7	8.0	56.6	270.0	150.4	2.4
1/11/2011 9:13	385	6.5	174.0	13.7	8.0	56.6	270.0	150.4	2.4
1/11/2011 9:14	385	6.4	174.0	13.7	8.0	56.6	270.0	150.4	2.4
1/11/2011 9:15	385	6.4	174.0	13.8	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:16	385	6.5	174.0	13.8	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:17	385	6.5	174.0	13.8	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:18	385	6.5	174.0	13.9	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:19	385	6.5	174.0	13.9	8.0	56.4	270.0	150.4	2.4
1/11/2011 9:20	385	6.4	174.0	13.9	8.0	56.4	270.0	150.4	2.4
1/11/2011 9:21	386	6.4	174.0	13.9	8.0	56.4	270.0	150.4	2.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 9:22	386	6.5	174.0	13.9	8.0	56.5	270.0	150.5	2.4
1/11/2011 9:23	386	6.5	174.0	14	8.0	56.5	270.0	150.5	2.4
1/11/2011 9:24	386	6.5	174.0	14	8.0	56.5	270.0	150.5	2.4
1/11/2011 9:25	386	6.5	174.0	14	8.0	56.4	270.0	150.5	2.4
1/11/2011 9:26	386	6.4	174.0	14.1	8.0	56.4	270.0	150.5	2.4
1/11/2011 9:27	386	6.4	174.0	14.1	8.0	56.3	270.0	150.5	2.4
1/11/2011 9:28	386	6.4	174.0	14.1	8.0	56.3	270.0	150.4	2.4
1/11/2011 9:29	386	6.4	174.0	14.2	8.0	56.3	270.0	150.4	2.4
1/11/2011 9:30	386	6.4	174.0	14.2	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:31	386	6.4	174.0	14.2	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:32	386	6.4	174.0	14.3	8.0	56.5	270.0	150.4	2.4
1/11/2011 9:33	386	6.4	174.0	14.3	8.0	56.4	270.0	150.3	2.4
1/11/2011 9:34	386	6.4	174.0	14.3	8.0	56.4	270.0	150.3	2.4
1/11/2011 9:35	386	6.4	174.0	14.4	8.0	56.3	270.0	150.3	2.4
1/11/2011 9:36	386	6.4	174.0	14.4	8.0	56.3	270.0	150.3	2.4
1/11/2011 9:37	386	6.4	174.0	14.4	8.0	56.3	270.0	150.3	2.4
1/11/2011 9:38	386	6.4	174.0	14.5	8.0	56.4	270.0	150.3	2.4
1/11/2011 9:39	386	6.4	174.0	14.5	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:40	386	6.4	174.0	14.5	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:41	386	6.4	174.0	14.6	8.0	56.4	270.0	150.3	2.4
1/11/2011 9:42	386	6.5	174.0	14.6	8.0	56.3	270.0	150.3	2.4
1/11/2011 9:43	386	6.4	174.0	14.6	8.0	56.2	270.0	150.3	2.4
1/11/2011 9:44	386	6.4	174.0	14.7	8.0	56.1	270.0	150.3	2.4
1/11/2011 9:45	386	6.4	174.0	14.7	8.0	56.1	270.0	150.3	2.4
1/11/2011 9:46	386	6.4	174.0	14.7	8.0	56.3	270.0	150.3	2.4
1/11/2011 9:47	386	6.4	174.0	14.8	8.0	56.4	270.0	150.3	2.4
1/11/2011 9:48	386	6.4	174.0	14.8	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:49	385	6.4	174.0	14.8	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:50	385	6.4	174.0	14.8	8.0	56.4	270.0	150.3	2.4
1/11/2011 9:51	385	6.4	174.0	14.9	8.0	56.3	270.0	150.3	2.4
1/11/2011 9:52	385	6.4	174.0	14.9	8.0	56.2	270.0	150.3	2.4
1/11/2011 9:53	385	6.4	174.0	14.9	8.0	56.2	270.0	150.3	2.4
1/11/2011 9:54	385	6.4	174.0	14.9	8.0	56.3	270.0	150.3	2.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 9:55	385	6.4	174.0	14.9	8.0	56.4	270.0	150.3	2.4
1/11/2011 9:56	385	6.4	174.0	14.9	8.0	56.5	270.0	150.3	2.4
1/11/2011 9:57	385	6.4	174.0	14.9	8.0	56.5	270.0	150.2	2.4
1/11/2011 9:58	385	6.4	174.0	14.9	8.0	56.6	270.0	150.2	2.4
1/11/2011 9:59	385	6.4	174.0	14.9	8.0	56.5	270.0	150.2	2.4
1/11/2011 10:00	385	6.4	174.0	14.9	8.0	56.3	270.0	150.2	2.4
1/11/2011 10:01	385	6.4	174.0	14.9	8.0	56.2	270.0	150.1	2.4
1/11/2011 10:02	385	6.4	174.0	14.8	8.0	56.3	270.0	150.1	2.4
1/11/2011 10:03	385	6.4	174.0	14.8	8.0	56.4	270.0	150.1	2.4
1/11/2011 10:04	385	6.4	174.0	14.8	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:05	385	6.4	174.0	14.8	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:06	385	6.4	174.0	14.7	8.0	56.7	270.0	150.1	2.4
1/11/2011 10:07	385	6.4	174.0	14.7	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:08	385	6.4	174.0	14.7	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:09	385	6.4	174.0	14.7	8.0	56.4	270.0	150.1	2.4
1/11/2011 10:10	385	6.4	174.0	14.6	8.0	56.3	270.0	150.1	2.4
1/11/2011 10:11	385	6.4	174.0	14.6	8.0	56.4	270.0	150.1	2.4
1/11/2011 10:12	385	6.4	174.0	14.6	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:13	385	6.4	174.0	14.6	8.0	56.7	270.0	150.1	2.4
1/11/2011 10:14	385	6.4	174.0	14.5	8.0	56.7	270.0	150.1	2.4
1/11/2011 10:15	385	6.4	174.0	14.5	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:16	385	6.4	174.0	14.5	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:17	385	6.4	174.0	14.5	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:18	385	6.4	174.0	14.4	8.0	56.4	270.0	150	2.4
1/11/2011 10:19	385	6.4	174.0	14.4	8.0	56.5	270.0	150	2.4
1/11/2011 10:20	385	6.4	174.0	14.4	8.0	56.5	270.0	150	2.4
1/11/2011 10:21	385	6.4	174.0	14.4	8.0	56.8	270.0	150	2.4
1/11/2011 10:22	385	6.4	174.0	14.4	8.0	56.7	270.0	150	2.4
1/11/2011 10:23	385	6.4	174.0	14.3	8.0	56.7	270.0	150	2.4
1/11/2011 10:24	385	6.4	174.0	14.3	8.0	56.6	270.0	150	2.4
1/11/2011 10:25	385	6.4	174.0	14.3	8.0	56.6	270.0	150	2.4
1/11/2011 10:26	385	6.4	174.0	14.3	8.0	56.6	270.0	150	2.4
1/11/2011 10:27	385	6.4	174.0	14.2	8.0	56.5	270.0	150	2.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 10:28	385	6.4	174.0	14.2	8.0	56.5	270.0	150	2.4
1/11/2011 10:29	385	6.4	174.0	14.2	8.0	56.7	270.0	150	2.4
1/11/2011 10:30	385	6.4	174.0	14.2	8.0	56.6	270.0	150	2.4
1/11/2011 10:31	385	6.4	174.0	14.1	8.0	56.6	270.0	150	2.4
1/11/2011 10:32	385	6.4	174.0	14.1	8.0	56.6	270.0	150	2.4
1/11/2011 10:33	385	6.4	174.0	14.1	8.0	56.5	270.0	150	2.4
1/11/2011 10:34	385	6.4	174.0	14.1	8.0	56.5	270.0	150	2.4
1/11/2011 10:35	385	6.4	174.0	14	8.0	56.5	270.0	150	2.4
1/11/2011 10:36	385	6.4	174.0	14	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:37	385	6.4	174.0	14	8.0	56.6	270.0	150	2.4
1/11/2011 10:38	385	6.4	174.0	14	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:39	385	6.4	174.0	13.9	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:40	385	6.4	174.0	13.9	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:41	385	6.4	174.0	13.9	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:42	385	6.4	174.0	13.9	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:43	385	6.4	174.0	13.9	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:44	385	6.4	174.0	13.8	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:45	385	6.5	174.0	13.8	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:46	385	6.4	174.0	13.8	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:47	385	6.4	174.0	13.8	8.0	56.5	270.0	150.1	2.4
1/11/2011 10:48	385	6.4	174.0	13.7	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:49	385	6.4	174.0	13.7	8.0	56.6	270.0	150.1	2.4
1/11/2011 10:50	385	6.5	174.0	13.7	8.0	56.6	270.0	150.2	2.4
1/11/2011 10:51	385	6.5	174.0	13.7	8.0	56.6	270.0	150.2	2.4
1/11/2011 10:52	385	6.4	174.0	13.7	8.0	56.7	270.0	150.2	2.4
1/11/2011 10:53	385	6.4	174.0	13.7	8.0	56.5	270.0	150.2	2.4
1/11/2011 10:54	385	6.4	174.0	13.7	8.0	56.5	270.0	150.2	2.4
1/11/2011 10:55	385	6.4	174.0	13.7	8.0	56.5	270.0	150.2	2.4
1/11/2011 10:56	385	6.5	174.0	13.6	8.0	56.6	270.0	150.2	2.4
1/11/2011 10:57	385	6.5	174.0	13.6	8.0	56.6	270.0	150.2	2.4
1/11/2011 10:58	386	6.4	174.0	13.6	8.0	56.7	270.0	150.2	2.4
1/11/2011 10:59	386	6.4	174.0	13.6	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:00	386	6.4	174.0	13.6	8.0	56.7	270.0	150.2	2.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 11:01	386	6.5	174.0	13.7	8.0	56.8	270.0	150.2	2.4
1/11/2011 11:02	386	6.4	174.0	13.7	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:03	386	6.5	174.0	13.7	8.0	56.5	270.0	150.3	2.4
1/11/2011 11:04	386	6.5	174.0	13.7	8.0	56.5	270.0	150.3	2.4
1/11/2011 11:05	386	6.5	174.0	13.7	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:06	386	6.5	174.0	13.7	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:07	386	6.5	174.0	13.7	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:08	386	6.5	174.0	13.7	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:09	386	6.5	174.0	13.7	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:10	386	6.5	174.0	13.7	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:11	386	6.5	174.0	13.7	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:12	386	6.5	174.0	13.8	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:13	386	6.5	174.0	13.8	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:14	386	6.5	174.0	13.8	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:15	386	6.5	174.0	13.8	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:16	386	6.5	174.0	13.8	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:17	386	6.5	174.0	13.8	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:18	386	6.4	174.0	13.8	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:19	386	6.4	174.0	13.8	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:20	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:21	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:22	386	6.5	174.0	13.8	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:23	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:24	386	6.4	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:25	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:26	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:27	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:28	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:29	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:30	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:31	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:32	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:33	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 1 - Start: 08:49 Stop: 11:50
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 11:34	386	6.5	174.0	13.8	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:35	386	6.5	174.0	13.8	8.0	56.6	270.0	150.2	2.4
1/11/2011 11:36	386	6.5	174.0	13.8	8.0	56.7	270.0	150.2	2.4
1/11/2011 11:37	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:38	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:39	386	6.5	174.0	13.8	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:40	386	6.4	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:41	386	6.5	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:42	386	6.5	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:43	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:44	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:45	386	6.5	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:46	386	6.5	174.0	13.9	8.0	56.7	270.0	150.3	2.4
1/11/2011 11:47	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:48	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:49	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
1/11/2011 11:50	386	6.5	174.0	13.9	8.0	56.6	270.0	150.3	2.4
AVERAGE	**385**	**6.4**	**174.0**	**14.0**	**8.0**	**56.5**	**270.0**	**150.2**	**2.4**
MINIMUM	**383**	**6.4**	**174.0**	**13.4**	**8.0**	**56.1**	**270.0**	**150.0**	**2.3**
MAXIMUM	**386**	**6.5**	**174.0**	**14.9**	**8.0**	**56.8**	**270.0**	**150.5**	**2.4**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 12:35	387	5.9	174.0	13.8	8.0	56.5	270.0	151.6	2.4
1/11/2011 12:36	387	5.9	174.0	13.8	8.0	56.6	270.0	151.6	2.4
1/11/2011 12:37	387	5.9	174.0	13.8	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:38	387	5.9	174.0	13.8	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:39	387	5.9	174.0	13.7	8.0	56.5	270.0	151.6	2.5
1/11/2011 12:40	387	5.9	174.0	13.7	8.0	56.5	270.0	151.7	2.5
1/11/2011 12:41	387	5.9	174.0	13.7	8.0	56.4	270.0	151.6	2.5
1/11/2011 12:42	387	5.9	174.0	13.7	8.0	56.4	270.0	151.6	2.5
1/11/2011 12:43	387	5.9	174.0	13.7	8.0	56.4	270.0	151.6	2.5
1/11/2011 12:44	387	5.9	174.0	13.7	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:45	387	5.9	174.0	13.7	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:46	387	5.9	174.0	13.7	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:47	387	6.0	174.0	13.7	8.0	56.5	270.0	151.6	2.5
1/11/2011 12:48	387	6.0	174.0	13.7	8.0	56.5	270.0	151.6	2.5
1/11/2011 12:49	387	6.0	174.0	13.7	8.0	56.5	270.0	151.6	2.5
1/11/2011 12:50	387	6.0	174.0	13.7	8.0	56.5	270.0	151.6	2.5
1/11/2011 12:51	386	6.0	174.0	13.7	8.0	56.4	270.0	151.6	2.5
1/11/2011 12:52	386	6.0	174.0	13.6	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:53	386	6.0	174.0	13.6	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:54	386	6.0	174.0	13.6	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:55	386	6.0	174.0	13.6	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:56	386	6.0	174.0	13.6	8.0	56.6	270.0	151.6	2.5
1/11/2011 12:57	386	6.0	174.0	13.5	8.0	56.5	270.0	151.6	2.5
1/11/2011 12:58	386	6.0	174.0	13.5	8.0	56.5	270.0	151.6	2.5
1/11/2011 12:59	386	6.0	174.0	13.5	8.0	56.5	270.0	151.6	2.5
1/11/2011 13:00	386	6.0	174.0	13.5	8.0	56.5	270.0	151.6	2.5
1/11/2011 13:01	386	6.0	174.0	13.5	8.0	56.5	270.0	151.6	2.5
1/11/2011 13:02	386	6.0	174.0	13.5	8.0	56.6	270.0	151.6	2.5
1/11/2011 13:03	386	6.0	174.0	13.4	8.0	56.5	270.0	151.6	2.5
1/11/2011 13:04	386	6.0	174.0	13.4	8.0	56.5	270.0	151.6	2.5
1/11/2011 13:05	386	6.0	174.0	13.4	8.0	56.5	270.0	151.6	2.5
1/11/2011 13:06	386	6.0	174.0	13.4	8.0	56.5	270.0	151.6	2.5
1/11/2011 13:07	386	6.0	174.0	13.4	8.0	56.5	270.0	151.5	2.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 13:08	386	6.0	174.0	13.4	8.0	56.5	270.0	151.4	2.5
1/11/2011 13:09	386	6.0	174.0	13.4	8.0	56.5	270.0	151.4	2.5
1/11/2011 13:10	386	6.0	174.0	13.4	8.0	56.5	270.0	151.4	2.5
1/11/2011 13:11	386	6.0	174.0	13.4	8.0	56.5	270.0	151.3	2.5
1/11/2011 13:12	386	6.0	174.0	13.4	8.0	56.5	270.0	151.2	2.5
1/11/2011 13:13	386	6.0	174.0	13.4	8.0	56.5	270.0	151.1	2.5
1/11/2011 13:14	386	6.1	174.0	13.4	8.0	56.5	270.0	151.1	2.5
1/11/2011 13:15	386	6.1	174.0	13.4	8.0	56.5	270.0	151.0	2.5
1/11/2011 13:16	386	6.1	174.0	13.4	8.0	56.5	270.0	150.9	2.5
1/11/2011 13:17	386	6.1	174.0	13.5	8.0	56.5	270.0	150.9	2.5
1/11/2011 13:18	386	6.1	174.0	13.5	8.0	56.6	270.0	150.8	2.5
1/11/2011 13:19	386	6.1	174.0	13.5	8.0	56.6	270.0	150.8	2.5
1/11/2011 13:20	386	6.1	174.0	13.5	8.0	56.5	270.0	150.7	2.5
1/11/2011 13:21	386	6.1	174.0	13.5	8.0	56.5	270.0	150.6	2.5
1/11/2011 13:22	386	6.1	174.0	13.5	8.0	56.5	270.0	150.5	2.5
1/11/2011 13:23	386	6.1	174.0	13.5	8.0	56.5	270.0	150.5	2.5
1/11/2011 13:24	386	6.1	174.0	13.5	8.0	56.5	270.0	150.4	2.5
1/11/2011 13:25	386	6.1	174.0	13.5	8.0	56.5	270.0	150.3	2.5
1/11/2011 13:26	386	6.1	174.0	13.5	8.0	56.5	270.0	150.3	2.5
1/11/2011 13:27	386	6.1	174.0	13.6	8.0	56.6	270.0	150.3	2.5
1/11/2011 13:28	386	6.1	174.0	13.6	8.0	56.6	270.0	150.3	2.5
1/11/2011 13:29	386	6.1	174.0	13.6	8.0	56.5	270.0	150.3	2.5
1/11/2011 13:30	386	6.1	174.0	13.6	8.0	56.5	270.0	150.3	2.5
1/11/2011 13:31	386	6.1	174.0	13.6	8.0	56.5	270.0	150.3	2.5
1/11/2011 13:32	386	6.1	174.0	13.6	8.0	56.5	270.0	150.3	2.5
1/11/2011 13:33	386	6.1	174.0	13.6	8.0	56.5	270.0	150.4	2.5
1/11/2011 13:34	386	6.1	174.0	13.6	8.0	56.6	270.0	150.4	2.5
1/11/2011 13:35	386	6.1	174.0	13.6	8.0	56.6	270.0	150.4	2.5
1/11/2011 13:36	387	6.1	174.0	13.6	8.0	56.6	270.0	150.4	2.5
1/11/2011 13:37	387	6.1	174.0	13.7	8.0	56.6	270.0	150.4	2.5
1/11/2011 13:38	387	6.1	174.0	13.7	8.0	56.6	270.0	150.4	2.5
1/11/2011 13:39	387	6.1	174.0	13.7	8.0	56.5	270.0	150.4	2.5
1/11/2011 13:40	387	6.1	174.0	13.7	8.0	56.5	270.0	150.4	2.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 13:41	387	6.1	174.0	13.7	8.0	56.5	270.0	150.4	2.5
1/11/2011 13:42	388	6.1	174.0	13.7	8.0	56.6	270.0	150.4	2.5
1/11/2011 13:43	388	6.0	174.0	13.7	8.0	56.7	270.0	150.4	2.5
1/11/2011 13:44	388	6.0	174.0	13.7	8.0	56.7	270.0	150.4	2.5
1/11/2011 13:45	388	6.0	174.0	13.7	8.0	56.7	270.0	150.4	2.5
1/11/2011 13:46	388	6.0	174.0	13.7	8.0	56.6	270.0	150.5	2.5
1/11/2011 13:47	388	6.0	174.0	13.7	8.0	56.6	270.0	150.5	2.5
1/11/2011 13:48	388	6.0	174.0	13.8	8.0	56.5	270.0	150.5	2.5
1/11/2011 13:49	389	6.0	174.0	13.8	8.0	56.5	270.0	150.5	2.5
1/11/2011 13:50	389	6.0	174.0	13.8	8.0	56.5	270.0	150.5	2.5
1/11/2011 13:51	389	6.0	174.0	13.9	8.0	56.7	270.0	150.5	2.5
1/11/2011 13:52	389	6.0	174.0	13.9	8.0	56.7	270.0	150.5	2.5
1/11/2011 13:53	389	6.0	174.0	13.9	8.0	56.6	270.0	150.5	2.5
1/11/2011 13:54	389	6.0	174.0	13.9	8.0	56.6	270.0	150.4	2.5
1/11/2011 13:55	390	6.0	174.0	14.0	8.0	56.5	270.0	150.4	2.5
1/11/2011 13:56	390	6.0	174.0	14.0	8.0	56.4	270.0	150.4	2.5
1/11/2011 13:57	390	6.0	174.0	14.0	8.0	56.4	270.0	150.4	2.5
1/11/2011 13:58	390	6.0	174.0	14.0	8.0	56.4	270.0	150.4	2.5
1/11/2011 13:59	390	6.0	174.0	14.1	8.0	56.5	270.0	150.5	2.5
1/11/2011 14:00	391	6.0	174.0	14.1	8.0	56.7	270.0	150.5	2.5
1/11/2011 14:01	391	6.0	174.0	14.1	8.0	56.8	270.0	150.5	2.5
1/11/2011 14:02	391	6.0	174.0	14.1	8.0	56.7	270.0	150.5	2.5
1/11/2011 14:03	391	6.0	174.0	14.2	8.0	56.6	270.0	150.5	2.5
1/11/2011 14:04	391	6.0	174.0	14.2	8.0	56.5	270.0	150.5	2.5
1/11/2011 14:05	391	6.0	174.0	14.2	8.0	56.4	270.0	150.5	2.5
1/11/2011 14:06	392	6.0	174.0	14.2	8.0	56.4	270.0	150.5	2.5
1/11/2011 14:07	392	6.0	174.0	14.2	8.0	56.5	270.0	150.5	2.5
1/11/2011 14:08	392	6.0	174.0	14.2	8.0	56.6	270.0	150.5	2.5
1/11/2011 14:09	392	6.0	174.0	14.2	8.0	56.8	270.0	150.5	2.5
1/11/2011 14:10	392	6.0	174.0	14.2	8.0	56.7	270.0	150.5	2.5
1/11/2011 14:11	392	6.0	174.0	14.2	8.0	56.6	270.0	150.5	2.5
1/11/2011 14:12	393	6.0	174.0	14.2	8.0	56.5	270.0	150.5	2.5
1/11/2011 14:13	393	6.0	174.0	14.2	8.0	56.4	270.0	150.5	2.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 14:14	393	6.0	174.0	14.2	8.0	56.4	270.0	150.6	2.5
1/11/2011 14:15	393	6.0	174.0	14.2	8.0	56.5	270.0	150.6	2.5
1/11/2011 14:16	394	6.0	174.0	14.2	8.0	56.6	270.0	150.6	2.5
1/11/2011 14:17	394	6.0	174.0	14.2	8.0	56.7	270.0	150.6	2.5
1/11/2011 14:18	394	6.0	174.0	14.2	8.0	56.7	270.0	150.6	2.5
1/11/2011 14:19	394	6.0	174.0	14.2	8.0	56.6	270.0	150.6	2.5
1/11/2011 14:20	394	6.0	174.0	14.2	8.0	56.5	270.0	150.6	2.5
1/11/2011 14:21	395	6.0	173.0	14.1	8.0	56.4	270.0	150.6	2.5
1/11/2011 14:22	395	6.0	173.0	14.1	8.0	56.3	270.0	150.6	2.5
1/11/2011 14:23	395	6.0	174.0	14.1	8.0	56.5	270.0	150.6	2.5
1/11/2011 14:24	395	6.0	174.0	14.1	8.0	56.6	270.0	150.6	2.5
1/11/2011 14:25	395	6.0	174.0	14.1	8.0	56.7	270.0	150.6	2.5
1/11/2011 14:26	395	6.0	174.0	14.1	8.0	56.7	270.0	150.6	2.5
1/11/2011 14:27	396	6.0	174.0	14.1	8.0	56.6	270.0	150.6	2.5
1/11/2011 14:28	396	6.0	173.0	14.1	8.0	56.5	270.0	150.6	2.5
1/11/2011 14:29	396	6.0	173.0	14.1	8.0	56.4	270.0	150.6	2.5
1/11/2011 14:30	396	6.0	173.0	14.1	8.0	56.4	270.0	150.6	2.5
1/11/2011 14:31	396	6.0	173.0	14.1	8.0	56.5	270.0	150.6	2.5
1/11/2011 14:32	396	6.0	174.0	14.0	8.0	56.6	270.0	150.6	2.5
1/11/2011 14:33	396	6.0	174.0	14.0	8.0	56.7	270.0	150.6	2.5
1/11/2011 14:34	396	6.0	174.0	14.0	8.0	56.8	270.0	150.6	2.5
1/11/2011 14:35	396	6.0	174.0	14.0	8.0	56.7	270.0	150.6	2.5
1/11/2011 14:36	396	6.0	173.0	14.0	8.0	56.6	270.0	150.6	2.5
1/11/2011 14:37	396	6.1	173.0	14.0	8.0	56.5	270.0	150.6	2.5
1/11/2011 14:38	396	6.1	173.0	14.0	8.0	56.4	270.0	150.7	2.5
1/11/2011 14:39	396	6.1	173.0	14.0	8.0	56.4	270.0	150.7	2.5
1/11/2011 14:40	396	6.1	173.0	14.0	8.0	56.6	270.0	150.7	2.5
1/11/2011 14:41	396	6.1	173.0	14.0	8.0	56.7	270.0	150.7	2.5
1/11/2011 14:42	396	6.1	173.0	14.0	8.0	56.7	270.0	150.7	2.5
1/11/2011 14:43	396	6.1	173.0	13.9	8.0	56.6	270.0	150.7	2.5
1/11/2011 14:44	396	6.1	173.0	13.9	8.0	56.5	270.0	150.7	2.5
1/11/2011 14:45	396	6.1	173.0	13.9	8.0	56.5	270.0	150.7	2.5
1/11/2011 14:46	395	6.1	173.0	13.9	8.0	56.4	270.0	150.7	2.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 14:47	395	6.1	173.0	13.9	8.0	56.4	270.0	150.7	2.5
1/11/2011 14:48	395	6.1	173.0	13.9	8.0	56.5	270.0	150.7	2.5
1/11/2011 14:49	395	6.1	173.0	13.9	8.0	56.7	270.0	150.8	2.5
1/11/2011 14:50	395	6.1	173.0	13.9	8.0	56.7	270.0	150.8	2.5
1/11/2011 14:51	395	6.1	173.0	13.9	8.0	56.7	270.0	150.8	2.5
1/11/2011 14:52	395	6.1	173.0	13.9	8.0	56.6	270.0	150.8	2.5
1/11/2011 14:53	395	6.1	173.0	13.9	8.0	56.5	270.0	150.8	2.6
1/11/2011 14:54	395	6.1	173.0	13.8	8.0	56.4	270.0	150.8	2.6
1/11/2011 14:55	395	6.1	173.0	13.8	8.0	56.4	270.0	150.8	2.6
1/11/2011 14:56	395	6.1	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 14:57	395	6.1	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 14:58	395	6.1	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 14:59	395	6.2	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 15:00	395	6.2	173.0	13.8	8.0	56.6	270.0	150.8	2.6
1/11/2011 15:01	395	6.2	173.0	13.8	8.0	56.4	270.0	150.8	2.6
1/11/2011 15:02	395	6.2	173.0	13.8	8.0	56.3	270.0	150.8	2.6
1/11/2011 15:03	395	6.2	173.0	13.8	8.0	56.4	270.0	150.8	2.6
1/11/2011 15:04	395	6.2	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 15:05	395	6.2	173.0	13.8	8.0	56.6	270.0	150.8	2.6
1/11/2011 15:06	394	6.2	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 15:07	394	6.2	173.0	13.8	8.0	56.6	270.0	150.8	2.6
1/11/2011 15:08	394	6.2	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 15:09	394	6.2	173.0	13.8	8.0	56.4	270.0	150.8	2.6
1/11/2011 15:10	394	6.2	173.0	13.8	8.0	56.4	270.0	150.9	2.6
1/11/2011 15:11	394	6.2	173.0	13.8	8.0	56.4	270.0	150.9	2.6
1/11/2011 15:12	394	6.2	173.0	13.8	8.0	56.5	270.0	150.9	2.6
1/11/2011 15:13	394	6.2	173.0	13.8	8.0	56.7	270.0	150.9	2.6
1/11/2011 15:14	394	6.2	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 15:15	394	6.2	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 15:16	394	6.2	173.0	13.8	8.0	56.6	270.0	150.8	2.6
1/11/2011 15:17	394	6.2	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 15:18	394	6.2	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 15:19	394	6.2	173.0	13.8	8.0	56.4	270.0	150.8	2.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 11, 2011 - Condition C1RT - Run 2 - Start: 12:35 Stop: 15:37
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/11/2011 15:20	394	6.2	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 15:21	394	6.2	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 15:22	394	6.2	173.0	13.8	8.0	56.7	270.0	150.8	2.6
1/11/2011 15:23	394	6.2	173.0	13.8	8.0	56.6	270.0	150.8	2.6
1/11/2011 15:24	394	6.2	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 15:25	394	6.2	173.0	13.8	8.0	56.5	270.0	150.8	2.6
1/11/2011 15:26	394	6.2	173.0	13.8	8.0	56.4	270.0	150.8	2.6
1/11/2011 15:27	394	6.2	173.0	13.8	8.0	56.3	270.0	150.8	2.6
1/11/2011 15:28	394	6.2	173.0	13.8	8.0	56.4	270.0	150.9	2.6
1/11/2011 15:29	394	6.2	173.0	13.8	8.0	56.6	270.0	150.9	2.6
1/11/2011 15:30	394	6.2	173.0	13.8	8.0	56.7	270.0	150.9	2.6
1/11/2011 15:31	394	6.2	173.0	13.8	8.0	56.6	270.0	150.9	2.6
1/11/2011 15:32	394	6.2	173.0	13.8	8.0	56.5	270.0	150.9	2.6
1/11/2011 15:33	394	6.2	173.0	13.8	8.0	56.4	270.0	150.9	2.6
1/11/2011 15:34	394	6.3	173.0	13.8	8.0	56.3	270.0	150.9	2.6
1/11/2011 15:35	394	6.3	173.0	13.8	8.0	56.3	270.0	150.9	2.6
1/11/2011 15:36	394	6.2	173.0	13.8	8.0	56.4	270.0	150.9	2.6
1/11/2011 15:37	394	6.3	173.0	13.8	8.0	56.5	270.0	150.9	2.6
AVERAGE	**391**	**6.1**	**173.6**	**13.8**	**8.0**	**56.5**	**270.0**	**150.8**	**2.5**
MINIMUM	**386**	**5.9**	**173.0**	**13.4**	**8.0**	**56.3**	**270.0**	**150.3**	**2.4**
MAXIMUM	**396**	**6.3**	**174.0**	**14.2**	**8.0**	**56.8**	**270.0**	**151.7**	**2.6**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 9:03	380	5.8	171.0	14.7	8.0	56.5	270.0	150.0	2.4
1/12/2011 9:04	380	5.8	171.0	14.6	8.0	56.5	270.0	150.1	2.4
1/12/2011 9:05	380	5.8	171.0	14.5	8.0	56.5	270.0	150.2	2.4
1/12/2011 9:06	380	5.8	170.0	14.4	8.0	56.4	270.0	150.3	2.4
1/12/2011 9:07	380	5.8	170.0	14.4	8.0	56.3	270.0	150.4	2.4
1/12/2011 9:08	380	5.8	170.0	14.3	8.0	56.2	270.0	150.5	2.4
1/12/2011 9:09	380	5.8	170.0	14.2	8.0	56.2	270.0	150.5	2.4
1/12/2011 9:10	380	5.8	170.0	14.2	8.0	56.3	270.0	150.6	2.4
1/12/2011 9:11	380	5.8	170.0	14.2	8.0	56.4	270.0	150.8	2.4
1/12/2011 9:12	380	5.8	170.0	14.2	8.0	56.6	270.0	150.8	2.4
1/12/2011 9:13	380	5.8	170.0	14.3	8.0	56.6	270.0	151.0	2.4
1/12/2011 9:14	380	5.8	170.0	14.3	8.0	56.5	270.0	151.1	2.4
1/12/2011 9:15	380	5.8	170.0	14.3	8.0	56.4	270.0	151.2	2.4
1/12/2011 9:16	380	5.8	170.0	14.3	8.0	56.3	270.0	151.3	2.4
1/12/2011 9:17	380	5.8	171.0	14.3	8.0	56.3	270.0	151.4	2.4
1/12/2011 9:18	381	5.8	171.0	14.3	8.0	56.4	270.0	151.4	2.4
1/12/2011 9:19	381	5.8	171.0	14.3	8.0	56.5	270.0	151.5	2.4
1/12/2011 9:20	381	5.8	171.0	14.3	8.0	56.6	270.0	151.5	2.4
1/12/2011 9:21	381	5.8	171.0	14.2	8.0	56.7	270.0	151.5	2.4
1/12/2011 9:22	381	5.8	171.0	14.2	8.0	56.7	270.0	151.5	2.4
1/12/2011 9:23	381	5.8	171.0	14.2	8.0	56.5	270.0	151.5	2.4
1/12/2011 9:24	381	5.8	171.0	14.2	8.0	56.4	270.0	151.5	2.4
1/12/2011 9:25	381	5.8	171.0	14.2	8.0	56.3	270.0	151.5	2.4
1/12/2011 9:26	382	5.8	171.0	14.2	8.0	56.3	270.0	151.6	2.4
1/12/2011 9:27	382	5.8	171.0	14.2	8.0	56.4	270.0	151.6	2.4
1/12/2011 9:28	382	5.8	171.0	14.2	8.0	56.5	270.0	151.6	2.4
1/12/2011 9:29	382	5.8	171.0	14.2	8.0	56.6	270.0	151.6	2.4
1/12/2011 9:30	382	5.9	171.0	14.2	8.0	56.6	270.0	151.6	2.4
1/12/2011 9:31	382	5.9	171.0	14.2	8.0	56.7	270.0	151.6	2.4
1/12/2011 9:32	382	5.9	171.0	14.2	8.0	56.5	270.0	151.6	2.4
1/12/2011 9:33	382	5.9	171.0	14.2	8.0	56.4	270.0	151.6	2.4
1/12/2011 9:34	382	5.9	171.0	14.1	8.0	56.2	270.0	151.6	2.4
1/12/2011 9:35	382	5.9	171.0	14.1	8.0	56.3	270.0	151.6	2.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 9:36	382	5.9	171.0	14.1	8.0	56.3	270.0	151.6	2.4
1/12/2011 9:37	382	5.9	171.0	14.1	8.0	56.4	270.0	151.6	2.4
1/12/2011 9:38	382	5.9	171.0	14.1	8.0	56.5	270.0	151.6	2.4
1/12/2011 9:39	382	5.9	171.0	14.1	8.0	56.6	270.0	151.6	2.4
1/12/2011 9:40	382	5.9	171.0	14.1	8.0	56.6	270.0	151.6	2.5
1/12/2011 9:41	382	5.9	171.0	14.1	8.0	56.5	270.0	151.6	2.5
1/12/2011 9:42	382	5.9	171.0	14.1	8.0	56.3	270.0	151.6	2.5
1/12/2011 9:43	382	5.9	171.0	14.1	8.0	56.2	270.0	151.6	2.5
1/12/2011 9:44	382	5.9	171.0	14.0	8.0	56.3	270.0	151.6	2.5
1/12/2011 9:45	382	5.9	171.0	14.0	8.0	56.3	270.0	151.6	2.5
1/12/2011 9:46	382	5.9	171.0	14.0	8.0	56.4	270.0	151.6	2.5
1/12/2011 9:47	382	5.9	171.0	14.0	8.0	56.5	270.0	151.6	2.5
1/12/2011 9:48	382	5.9	171.0	14.0	8.0	56.5	270.0	151.6	2.5
1/12/2011 9:49	382	5.9	172.0	14.0	8.0	56.6	270.0	151.6	2.5
1/12/2011 9:50	381	5.9	172.0	14.0	8.0	56.4	270.0	151.6	2.5
1/12/2011 9:51	381	5.9	172.0	14.0	8.0	56.3	270.0	151.6	2.5
1/12/2011 9:52	381	6.0	172.0	14.0	8.0	56.3	270.0	151.6	2.5
1/12/2011 9:53	381	6.0	172.0	14.0	8.0	56.3	270.0	151.5	2.5
1/12/2011 9:54	381	6.0	172.0	13.9	8.0	56.4	270.0	151.5	2.5
1/12/2011 9:55	381	6.0	172.0	13.9	8.0	56.4	270.0	151.5	2.5
1/12/2011 9:56	381	6.0	172.0	13.9	8.0	56.5	270.0	151.5	2.5
1/12/2011 9:57	381	6.0	172.0	13.9	8.0	56.5	270.0	151.5	2.5
1/12/2011 9:58	381	6.0	172.0	13.9	8.0	56.4	270.0	151.5	2.5
1/12/2011 9:59	381	6.0	172.0	13.9	8.0	56.2	270.0	151.5	2.5
1/12/2011 10:00	381	6.0	172.0	13.9	8.0	56.2	270.0	151.5	2.5
1/12/2011 10:01	381	6.0	172.0	13.9	8.0	56.3	270.0	151.4	2.5
1/12/2011 10:02	381	6.0	172.0	13.9	8.0	56.3	270.0	151.4	2.5
1/12/2011 10:03	381	6.0	172.0	13.9	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:04	381	6.0	172.0	13.9	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:05	381	6.0	172.0	13.8	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:06	381	6.0	172.0	13.8	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:07	381	6.0	172.0	13.8	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:08	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 10:09	381	6.0	172.0	13.8	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:10	381	6.0	172.0	13.8	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:11	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:12	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:13	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:14	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:15	381	6.0	172.0	13.8	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:16	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:17	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:18	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:19	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:20	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:21	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:22	380	6.0	172.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:23	380	6.0	172.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:24	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:25	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:26	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:27	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:28	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:29	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:30	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:31	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:32	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:33	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:34	380	6.0	171.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:35	380	6.0	171.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:36	380	6.0	171.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:37	380	6.0	171.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:38	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:39	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:40	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:41	380	6.0	171.0	13.7	8.0	56.4	270.0	151.4	2.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 10:42	380	6.0	171.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:43	381	6.0	171.0	13.7	8.0	56.7	270.0	151.4	2.5
1/12/2011 10:44	381	6.0	170.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:45	381	6.0	170.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:46	381	6.0	170.0	13.7	8.0	56.6	270.0	151.4	2.5
1/12/2011 10:47	381	6.0	170.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:48	381	6.0	170.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:49	381	6.0	170.0	13.7	8.0	56.4	270.0	151.4	2.5
1/12/2011 10:50	381	6.0	170.0	13.7	8.0	56.5	270.0	151.4	2.5
1/12/2011 10:51	381	6.0	170.0	13.7	8.0	56.7	270.0	151.5	2.5
1/12/2011 10:52	381	6.0	170.0	13.7	8.0	56.7	270.0	151.5	2.5
1/12/2011 10:53	381	6.0	170.0	13.7	8.0	56.7	270.0	151.5	2.5
1/12/2011 10:54	381	6.0	170.0	13.7	8.0	56.7	270.0	151.5	2.5
1/12/2011 10:55	381	6.0	170.0	13.7	8.0	56.6	270.0	151.5	2.5
1/12/2011 10:56	381	6.0	170.0	13.7	8.0	56.6	270.0	151.5	2.5
1/12/2011 10:57	381	6.0	169.0	13.7	8.0	56.6	270.0	151.5	2.5
1/12/2011 10:58	381	6.0	169.0	13.7	8.0	56.5	270.0	151.5	2.5
1/12/2011 10:59	381	6.0	169.0	13.7	8.0	56.7	270.0	151.6	2.5
1/12/2011 11:00	381	6.0	169.0	13.7	8.0	56.7	270.0	151.6	2.5
1/12/2011 11:01	381	6.0	169.0	13.7	8.0	56.7	270.0	151.6	2.5
1/12/2011 11:02	381	6.0	169.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:03	381	6.0	169.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:04	381	6.0	169.0	13.7	8.0	56.5	270.0	151.6	2.5
1/12/2011 11:05	381	6.0	169.0	13.7	8.0	56.5	270.0	151.6	2.5
1/12/2011 11:06	381	6.0	169.0	13.7	8.0	56.5	270.0	151.6	2.5
1/12/2011 11:07	381	6.1	169.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:08	381	6.1	169.0	13.7	8.0	56.7	270.0	151.6	2.5
1/12/2011 11:09	381	6.1	169.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:10	381	6.1	169.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:11	381	6.1	169.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:12	381	6.1	168.0	13.7	8.0	56.5	270.0	151.6	2.5
1/12/2011 11:13	381	6.1	168.0	13.7	8.0	56.5	270.0	151.6	2.5
1/12/2011 11:14	381	6.0	168.0	13.7	8.0	56.5	270.0	151.6	2.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 11:15	381	6.1	168.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:16	381	6.1	168.0	13.7	8.0	56.8	270.0	151.6	2.5
1/12/2011 11:17	381	6.1	168.0	13.7	8.0	56.7	270.0	151.6	2.5
1/12/2011 11:18	381	6.1	168.0	13.7	8.0	56.7	270.0	151.6	2.5
1/12/2011 11:19	381	6.1	168.0	13.7	8.0	56.6	270.0	151.6	2.5
1/12/2011 11:20	381	6.1	168.0	13.7	8.0	56.5	270.0	151.6	2.5
1/12/2011 11:21	381	6.1	168.0	13.7	8.0	56.5	270.0	151.6	2.6
1/12/2011 11:22	381	6.1	168.0	13.7	8.0	56.4	270.0	151.6	2.6
1/12/2011 11:23	381	6.1	168.0	13.7	8.0	56.6	270.0	151.6	2.6
1/12/2011 11:24	381	6.1	169.0	13.7	8.0	56.7	270.0	151.6	2.6
1/12/2011 11:25	381	6.1	169.0	13.7	8.0	56.8	270.0	151.6	2.6
1/12/2011 11:26	381	6.1	169.0	13.7	8.0	56.7	270.0	151.6	2.6
1/12/2011 11:27	381	6.1	169.0	13.7	8.0	56.7	270.0	151.6	2.6
1/12/2011 11:28	381	6.1	169.0	13.7	8.0	56.6	270.0	151.6	2.6
1/12/2011 11:29	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:30	381	6.1	169.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 11:31	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:32	381	6.1	169.0	13.7	8.0	56.7	270.0	151.5	2.6
1/12/2011 11:33	381	6.1	169.0	13.7	8.0	56.8	270.0	151.5	2.6
1/12/2011 11:34	381	6.1	169.0	13.7	8.0	56.7	270.0	151.5	2.6
1/12/2011 11:35	381	6.1	169.0	13.7	8.0	56.7	270.0	151.5	2.6
1/12/2011 11:36	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:37	381	6.1	169.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:38	381	6.1	170.0	13.7	8.0	56.5	270.0	151.4	2.6
1/12/2011 11:39	381	6.1	170.0	13.7	8.0	56.4	270.0	151.4	2.6
1/12/2011 11:40	381	6.1	170.0	13.7	8.0	56.6	270.0	151.4	2.6
1/12/2011 11:41	381	6.1	170.0	13.7	8.0	56.7	270.0	151.4	2.6
1/12/2011 11:42	381	6.1	170.0	13.7	8.0	56.7	270.0	151.4	2.6
1/12/2011 11:43	381	6.2	170.0	13.7	8.0	56.6	270.0	151.4	2.6
1/12/2011 11:44	380	6.2	170.0	13.7	8.0	56.6	270.0	151.4	2.6
1/12/2011 11:45	380	6.2	170.0	13.7	8.0	56.5	270.0	151.4	2.6
1/12/2011 11:46	380	6.2	170.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:47	380	6.2	171.0	13.7	8.0	56.4	270.0	151.5	2.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1RT - Run 3 - Start: 09:03 Stop: 12:04
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 11:48	380	6.2	171.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 11:49	380	6.2	171.0	13.7	8.0	56.7	270.0	151.5	2.6
1/12/2011 11:50	380	6.2	171.0	13.7	8.0	56.7	270.0	151.4	2.6
1/12/2011 11:51	380	6.2	171.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:52	380	6.2	171.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 11:53	380	6.2	171.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:54	380	6.3	171.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:55	380	6.3	171.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 11:56	380	6.3	171.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 11:57	380	6.3	172.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 11:58	380	6.3	172.0	13.7	8.0	56.7	270.0	151.5	2.6
1/12/2011 11:59	380	6.3	172.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 12:00	380	6.3	172.0	13.7	8.0	56.6	270.0	151.5	2.6
1/12/2011 12:01	380	6.3	172.0	13.7	8.0	56.5	270.0	151.5	2.6
1/12/2011 12:02	380	6.3	172.0	13.7	8.0	56.3	270.0	151.5	2.6
1/12/2011 12:03	380	6.3	172.0	13.7	8.0	56.4	270.0	151.5	2.6
1/12/2011 12:04	380	6.3	172.0	13.7	8.0	56.5	270.0	151.5	2.6
AVERAGE	**381**	**6.0**	**170.5**	**13.9**	**8.0**	**56.5**	**270.0**	**151.4**	**2.5**
MINIMUM	**380**	**5.8**	**168.0**	**13.7**	**8.0**	**56.2**	**270.0**	**150.0**	**2.4**
MAXIMUM	**382**	**6.3**	**172.0**	**14.7**	**8.0**	**56.8**	**270.0**	**151.6**	**2.6**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 13:33	380	8.4	169.0	13.8	8.0	56.8	270.0	152.9	3.7
1/12/2011 13:34	380	8.4	169.0	13.8	8.0	56.8	270.0	152.9	3.7
1/12/2011 13:35	380	8.4	169.0	13.9	8.0	56.9	270.0	152.9	3.7
1/12/2011 13:36	380	8.4	169.0	13.9	8.0	56.9	270.0	152.9	3.7
1/12/2011 13:37	380	8.4	169.0	13.9	8.0	57.0	270.0	152.9	3.7
1/12/2011 13:38	380	8.4	169.0	13.9	8.0	57.1	270.0	152.9	3.7
1/12/2011 13:39	380	8.4	169.0	13.9	8.0	57.2	270.0	152.9	3.7
1/12/2011 13:40	380	8.4	169.0	13.9	8.0	57.2	270.0	152.9	3.7
1/12/2011 13:41	380	8.4	169.0	13.9	8.0	57.1	270.0	152.8	3.7
1/12/2011 13:42	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.7
1/12/2011 13:43	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.7
1/12/2011 13:44	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.6
1/12/2011 13:45	381	8.4	169.0	13.9	8.0	57.0	270.0	152.8	3.6
1/12/2011 13:46	381	8.4	169.0	13.9	8.0	57.0	270.0	152.7	3.6
1/12/2011 13:47	381	8.4	169.0	13.9	8.0	56.8	270.0	152.7	3.6
1/12/2011 13:48	381	8.4	169.0	14.0	8.0	56.8	270.0	152.7	3.6
1/12/2011 13:49	381	8.4	169.0	14.0	8.0	56.9	270.0	152.7	3.6
1/12/2011 13:50	381	8.4	169.0	14.0	8.0	56.9	270.0	152.7	3.6
1/12/2011 13:51	381	8.4	169.0	14.0	8.0	57.0	270.0	152.7	3.6
1/12/2011 13:52	381	8.4	170.0	14.0	8.0	57.0	270.0	152.7	3.6
1/12/2011 13:53	381	8.4	170.0	14.0	8.0	57.1	270.0	152.7	3.6
1/12/2011 13:54	381	8.4	170.0	14.0	8.0	57.1	270.0	152.7	3.6
1/12/2011 13:55	381	8.4	170.0	14.0	8.0	57.2	270.0	152.7	3.6
1/12/2011 13:56	381	8.4	170.0	14.0	8.0	57.3	270.0	152.7	3.6
1/12/2011 13:57	381	8.4	170.0	14.0	8.0	57.3	270.0	152.7	3.6
1/12/2011 13:58	381	8.4	170.0	14.1	8.0	57.3	270.0	152.7	3.6
1/12/2011 13:59	381	8.4	170.0	14.1	8.0	57.4	270.0	152.7	3.6
1/12/2011 14:00	381	8.4	171.0	14.1	8.0	57.4	270.0	152.7	3.6
1/12/2011 14:01	381	8.4	171.0	14.1	8.0	57.2	270.0	152.6	3.6
1/12/2011 14:02	381	8.4	171.0	14.1	8.0	57.1	270.0	152.6	3.6
1/12/2011 14:03	381	8.4	171.0	14.1	8.0	57.1	270.0	152.6	3.6
1/12/2011 14:04	381	8.4	171.0	14.1	8.0	57.1	270.0	152.6	3.6
1/12/2011 14:05	381	8.4	171.0	14.1	8.0	57.2	270.0	152.6	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 14:06	381	8.4	171.0	14.1	8.0	57.2	270.0	152.6	3.6
1/12/2011 14:07	381	8.4	171.0	14.1	8.0	57.2	270.0	152.6	3.6
1/12/2011 14:08	381	8.4	171.0	14.2	8.0	57.2	270.0	152.6	3.6
1/12/2011 14:09	381	8.4	172.0	14.2	8.0	57.3	270.0	152.6	3.6
1/12/2011 14:10	381	8.4	172.0	14.2	8.0	57.3	270.0	152.6	3.6
1/12/2011 14:11	381	8.4	172.0	14.2	8.0	57.3	270.0	152.5	3.6
1/12/2011 14:12	381	8.4	172.0	14.2	8.0	57.4	270.0	152.5	3.6
1/12/2011 14:13	381	8.4	172.0	14.2	8.0	57.4	270.0	152.5	3.6
1/12/2011 14:14	381	8.4	172.0	14.2	8.0	57.4	270.0	152.5	3.6
1/12/2011 14:15	381	8.4	172.0	14.2	8.0	57.5	270.0	152.5	3.6
1/12/2011 14:16	381	8.4	172.0	14.2	8.0	57.4	270.0	152.5	3.6
1/12/2011 14:17	381	8.4	173.0	14.2	8.0	57.2	270.0	152.5	3.6
1/12/2011 14:18	381	8.4	173.0	14.2	8.0	57.2	270.0	152.5	3.6
1/12/2011 14:19	381	8.4	173.0	14.2	8.0	57.2	270.0	152.5	3.6
1/12/2011 14:20	381	8.5	173.0	14.2	8.0	57.2	270.0	152.5	3.6
1/12/2011 14:21	381	8.5	173.0	14.2	8.0	57.2	270.0	152.5	3.6
1/12/2011 14:22	381	8.5	173.0	14.2	8.0	57.2	270.0	152.5	3.6
1/12/2011 14:23	381	8.5	173.0	14.2	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:24	381	8.5	173.0	14.2	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:25	381	8.5	174.0	14.2	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:26	381	8.5	174.0	14.2	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:27	381	8.5	174.0	14.2	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:28	381	8.5	174.0	14.2	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:29	381	8.5	174.0	14.3	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:30	381	8.5	174.0	14.3	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:31	381	8.5	174.0	14.3	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:32	381	8.5	174.0	14.3	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:33	381	8.5	175.0	14.3	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:34	381	8.5	175.0	14.3	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:35	381	8.5	175.0	14.3	8.0	57.1	270.0	152.5	3.6
1/12/2011 14:36	381	8.5	175.0	14.3	8.0	57.0	270.0	152.5	3.6
1/12/2011 14:37	381	8.5	175.0	14.3	8.0	57.0	270.0	152.5	3.6
1/12/2011 14:38	381	8.5	175.0	14.3	8.0	57.0	270.0	152.5	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 14:39	381	8.5	175.0	14.3	8.0	57.0	270.0	152.5	3.6
1/12/2011 14:40	381	8.5	175.0	14.3	8.0	57.0	270.0	152.5	3.6
1/12/2011 14:41	381	8.5	175.0	14.3	8.0	56.9	270.0	152.5	3.6
1/12/2011 14:42	381	8.5	176.0	14.3	8.0	56.9	270.0	152.5	3.6
1/12/2011 14:43	381	8.5	176.0	14.3	8.0	56.9	270.0	152.5	3.6
1/12/2011 14:44	381	8.5	176.0	14.3	8.0	56.9	270.0	152.5	3.6
1/12/2011 14:45	381	8.5	176.0	14.3	8.0	56.8	270.0	152.5	3.6
1/12/2011 14:46	381	8.5	176.0	14.3	8.0	56.8	270.0	152.5	3.6
1/12/2011 14:47	381	8.5	176.0	14.3	8.0	57.0	270.0	152.5	3.6
1/12/2011 14:48	381	8.5	176.0	14.3	8.0	57.0	270.0	152.5	3.6
1/12/2011 14:49	381	8.5	176.0	14.3	8.0	57.0	270.0	152.5	3.6
1/12/2011 14:50	381	8.5	176.0	14.3	8.0	56.9	270.0	152.5	3.6
1/12/2011 14:51	381	8.5	176.0	14.3	8.0	56.9	270.0	152.5	3.6
1/12/2011 14:52	381	8.5	176.0	14.3	8.0	56.9	270.0	152.5	3.6
1/12/2011 14:53	381	8.5	176.0	14.3	8.0	56.8	270.0	152.5	3.6
1/12/2011 14:54	381	8.5	176.0	14.3	8.0	56.8	270.0	152.5	3.6
1/12/2011 14:55	381	8.5	176.0	14.3	8.0	56.8	270.0	152.5	3.6
1/12/2011 14:56	381	8.5	176.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 14:57	381	8.5	176.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 14:58	381	8.5	176.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 14:59	381	8.5	176.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:00	381	8.5	176.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:01	381	8.5	176.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:02	381	8.5	176.0	14.3	8.0	56.9	270.0	152.6	3.6
1/12/2011 15:03	381	8.5	176.0	14.3	8.0	56.9	270.0	152.6	3.6
1/12/2011 15:04	381	8.5	176.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:05	381	8.5	176.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:06	381	8.5	176.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:07	381	8.5	176.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:08	381	8.5	176.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:09	381	8.5	176.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:10	381	8.5	176.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:11	381	8.5	176.0	14.3	8.0	56.5	270.0	152.6	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 15:12	381	8.5	176.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:13	381	8.5	176.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:14	381	8.5	176.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:15	381	8.5	176.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:16	381	8.5	176.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:17	381	8.5	176.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:18	381	8.5	175.0	14.3	8.0	56.8	270.0	152.7	3.6
1/12/2011 15:19	381	8.5	175.0	14.3	8.0	56.8	270.0	152.7	3.6
1/12/2011 15:20	381	8.5	175.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:21	381	8.5	175.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:22	381	8.5	175.0	14.3	8.0	56.7	270.0	152.7	3.6
1/12/2011 15:23	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:24	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:25	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:26	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:27	381	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:28	381	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:29	381	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:30	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:31	381	8.5	175.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:32	381	8.5	175.0	14.3	8.0	56.8	270.0	152.6	3.6
1/12/2011 15:33	381	8.5	175.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:34	381	8.5	175.0	14.3	8.0	56.7	270.0	152.6	3.6
1/12/2011 15:35	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:36	381	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:37	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:38	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:39	381	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:40	380	8.5	175.0	14.3	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:41	380	8.5	175.0	14.3	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:42	380	8.5	175.0	14.3	8.0	56.3	270.0	152.7	3.6
1/12/2011 15:43	380	8.5	175.0	14.3	8.0	56.3	270.0	152.7	3.6
1/12/2011 15:44	380	8.5	175.0	14.3	8.0	56.3	270.0	152.7	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 15:45	380	8.5	175.0	14.3	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:46	380	8.5	175.0	14.3	8.0	56.6	270.0	152.6	3.6
1/12/2011 15:47	380	8.5	175.0	14.3	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:48	380	8.5	175.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:49	380	8.5	175.0	14.3	8.0	56.5	270.0	152.7	3.6
1/12/2011 15:50	380	8.5	175.0	14.4	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:51	380	8.5	175.0	14.4	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:52	380	8.5	175.0	14.4	8.0	56.5	270.0	152.6	3.6
1/12/2011 15:53	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:54	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:55	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:56	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 15:57	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:58	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 15:59	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:00	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:01	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:02	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:03	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:04	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:05	380	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:06	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:07	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:08	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:09	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:10	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:11	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:12	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:13	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:14	380	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:15	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:16	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:17	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 12, 2011 - Condition C1A - Run 1 - Start: 13:33 Stop: 16:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/12/2011 16:18	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:19	380	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:20	381	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:21	381	8.5	175.0	14.4	8.0	56.3	270.0	152.7	3.6
1/12/2011 16:22	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:23	381	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:24	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:25	381	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:26	381	8.5	175.0	14.4	8.0	56.4	270.0	152.6	3.6
1/12/2011 16:27	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:28	381	8.5	175.0	14.4	8.0	56.5	270.0	152.7	3.6
1/12/2011 16:29	381	8.5	175.0	14.4	8.0	56.4	270.0	152.7	3.6
1/12/2011 16:30	381	8.5	175.0	14.4	8.0	56.2	270.0	152.7	3.6
1/12/2011 16:31	381	8.5	175.0	14.4	8.0	56.2	270.0	152.7	3.6
1/12/2011 16:32	381	8.5	175.0	14.4	8.0	56.2	270.0	152.6	3.6
1/12/2011 16:33	381	8.5	175.0	14.4	8.0	56.3	270.0	152.6	3.6
1/12/2011 16:34	381	8.5	175.0	14.4	8.0	56.3	270.0	152.6	3.6
1/12/2011 16:35	381	8.5	175.0	14.4	8.0	56.3	270.0	152.6	3.6
AVERAGE	**381**	**8.5**	**173.9**	**14.3**	**8.0**	**56.8**	**270.0**	**152.6**	**3.6**
MINIMUM	**380**	**8.4**	**169.0**	**13.8**	**8.0**	**56.2**	**270.0**	**152.5**	**3.6**
MAXIMUM	**381**	**8.5**	**176.0**	**14.4**	**8.0**	**57.5**	**270.0**	**152.9**	**3.7**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 8:33	381	8.3	172.0	14.0	8.0	56.4	270.0	149.1	3.6
1/13/2011 8:34	382	8.3	172.0	14.0	8.0	56.4	270.0	149.1	3.6
1/13/2011 8:35	382	8.3	171.0	14.0	8.0	56.4	270.0	149.0	3.6
1/13/2011 8:36	382	8.3	171.0	14.0	8.0	56.4	270.0	149.0	3.6
1/13/2011 8:37	382	8.3	171.0	14.0	8.0	56.4	270.0	149.0	3.6
1/13/2011 8:38	382	8.3	171.0	14.0	8.0	56.4	270.0	149.0	3.6
1/13/2011 8:39	382	8.3	171.0	14.0	8.0	56.3	270.0	149.0	3.6
1/13/2011 8:40	382	8.3	171.0	14.0	8.0	56.3	270.0	149.0	3.6
1/13/2011 8:41	382	8.3	171.0	14.0	8.0	56.3	270.0	149.0	3.6
1/13/2011 8:42	382	8.3	171.0	14.0	8.0	56.3	270.0	149.0	3.6
1/13/2011 8:43	382	8.3	171.0	14.0	8.0	56.3	270.0	149.0	3.6
1/13/2011 8:44	382	8.3	171.0	14.0	8.0	56.4	270.0	149.0	3.6
1/13/2011 8:45	382	8.4	171.0	14.0	8.0	56.5	270.0	149.0	3.6
1/13/2011 8:46	382	8.4	171.0	14.0	8.0	56.5	270.0	149.0	3.6
1/13/2011 8:47	382	8.4	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 8:48	382	8.4	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 8:49	383	8.4	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 8:50	383	8.4	171.0	14.0	8.0	56.6	270.0	148.9	3.6
1/13/2011 8:51	383	8.4	171.0	14.0	8.0	56.6	270.0	148.9	3.6
1/13/2011 8:52	383	8.4	171.0	14.0	8.0	56.6	270.0	148.9	3.6
1/13/2011 8:53	383	8.4	171.0	14.0	8.0	56.4	270.0	148.9	3.6
1/13/2011 8:54	383	8.4	171.0	14.0	8.0	56.3	270.0	148.9	3.6
1/13/2011 8:55	383	8.4	171.0	14.0	8.0	56.2	270.0	148.9	3.6
1/13/2011 8:56	383	8.4	171.0	14.0	8.0	56.2	270.0	148.9	3.6
1/13/2011 8:57	383	8.4	171.0	14.0	8.0	56.2	270.0	148.9	3.6
1/13/2011 8:58	383	8.4	171.0	14.0	8.0	56.3	270.0	148.9	3.6
1/13/2011 8:59	383	8.4	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 9:00	383	8.4	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 9:01	384	8.4	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 9:02	384	8.4	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 9:03	384	8.4	171.0	14.0	8.0	56.6	270.0	148.9	3.6
1/13/2011 9:04	384	8.5	171.0	14.0	8.0	56.6	270.0	148.9	3.6
1/13/2011 9:05	384	8.5	171.0	14.0	8.0	56.7	270.0	148.9	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 9:06	384	8.5	171.0	14.0	8.0	56.8	270.0	148.9	3.6
1/13/2011 9:07	384	8.5	171.0	14.0	8.0	56.7	270.0	148.9	3.6
1/13/2011 9:08	384	8.5	171.0	14.0	8.0	56.6	270.0	148.9	3.6
1/13/2011 9:09	384	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.6
1/13/2011 9:10	385	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:11	385	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:12	385	8.5	171.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:13	385	8.5	171.0	14.0	8.0	56.6	270.0	148.9	3.7
1/13/2011 9:14	385	8.5	171.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:15	385	8.5	171.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:16	385	8.5	171.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:17	385	8.5	171.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:18	385	8.5	171.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:19	385	8.5	171.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:20	385	8.6	171.0	14.0	8.0	57.0	270.0	148.9	3.7
1/13/2011 9:21	385	8.6	171.0	14.0	8.0	57.1	270.0	148.9	3.7
1/13/2011 9:22	385	8.6	171.0	14.0	8.0	57.0	270.0	148.9	3.7
1/13/2011 9:23	385	8.6	171.0	14.0	8.0	57.0	270.0	148.9	3.7
1/13/2011 9:24	385	8.6	171.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:25	385	8.6	171.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:26	385	8.6	171.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:27	385	8.6	171.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:28	385	8.6	171.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:29	385	8.6	171.0	14.0	8.0	56.6	270.0	148.9	3.7
1/13/2011 9:30	385	8.6	171.0	14.0	8.0	56.6	270.0	148.9	3.7
1/13/2011 9:31	385	8.7	171.0	14.0	8.0	56.6	270.0	148.9	3.7
1/13/2011 9:32	385	8.7	170.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:33	385	8.7	170.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:34	385	8.7	170.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:35	385	8.7	170.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:36	385	8.7	170.0	14.0	8.0	57.0	270.0	148.9	3.7
1/13/2011 9:37	385	8.7	170.0	14.0	8.0	56.9	270.0	148.9	3.7
1/13/2011 9:38	385	8.7	170.0	14.0	8.0	56.8	270.0	148.9	3.7

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 9:39	385	8.7	170.0	14.0	8.0	56.8	270.0	148.9	3.7
1/13/2011 9:40	385	8.7	170.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:41	385	8.7	170.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:42	385	8.7	170.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:43	385	8.7	170.0	14.0	8.0	56.7	270.0	148.9	3.7
1/13/2011 9:44	385	8.7	170.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:45	385	8.7	170.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:46	385	8.7	170.0	14.0	8.0	56.5	270.0	148.9	3.7
1/13/2011 9:47	385	8.8	170.0	14.0	8.0	56.5	270.0	149.0	3.7
1/13/2011 9:48	385	8.8	170.0	14.0	8.0	56.6	270.0	149.0	3.7
1/13/2011 9:49	385	8.8	170.0	14.0	8.0	56.7	270.0	149.0	3.8
1/13/2011 9:50	385	8.8	170.0	14.0	8.0	56.7	270.0	149.0	3.8
1/13/2011 9:51	385	8.8	170.0	14.0	8.0	56.7	270.0	149.0	3.8
1/13/2011 9:52	385	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 9:53	385	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 9:54	385	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 9:55	385	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 9:56	385	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 9:57	385	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 9:58	385	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 9:59	385	8.8	170.0	14.0	8.0	56.6	270.0	149.1	3.8
1/13/2011 10:00	385	8.8	170.0	14.0	8.0	56.5	270.0	149.1	3.8
1/13/2011 10:01	385	8.8	170.0	14.0	8.0	56.5	270.0	149.1	3.8
1/13/2011 10:02	385	8.8	170.0	14.0	8.0	56.6	270.0	149.1	3.8
1/13/2011 10:03	385	8.8	170.0	14.0	8.0	56.6	270.0	149.1	3.8
1/13/2011 10:04	385	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:05	385	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:06	385	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:07	385	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:08	385	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:09	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:10	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:11	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 10:12	384	8.8	170.0	14.0	8.0	56.9	270.0	149.1	3.8
1/13/2011 10:13	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:14	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:15	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:16	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:17	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:18	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:19	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:20	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:21	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:22	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:23	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:24	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:25	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:26	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:27	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:28	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:29	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:30	384	8.8	170.0	14.0	8.0	56.7	270.0	149.0	3.8
1/13/2011 10:31	384	8.8	170.0	14.0	8.0	56.7	270.0	149.1	3.8
1/13/2011 10:32	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:33	384	8.8	170.0	14.0	8.0	56.8	270.0	149.1	3.8
1/13/2011 10:34	384	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 10:35	384	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 10:36	384	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 10:37	384	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 10:38	384	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 10:39	384	8.8	170.0	14.0	8.0	56.8	270.0	149.0	3.8
1/13/2011 10:40	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:41	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:42	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:43	384	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8
1/13/2011 10:44	385	8.8	170.0	14.0	8.0	56.9	270.0	149.0	3.8

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 10:45	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:46	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:47	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:48	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:49	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:50	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:51	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:52	385	8.8	170.0	14.0	8.0	57.0	270.0	149.0	3.8
1/13/2011 10:53	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
1/13/2011 10:54	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
1/13/2011 10:55	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
1/13/2011 10:56	385	8.8	170.0	14.0	8.0	57.0	270.0	148.9	3.8
1/13/2011 10:57	385	8.8	170.0	14.0	8.0	56.9	270.0	148.9	3.8
1/13/2011 10:58	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 10:59	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:00	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:01	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:02	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:03	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:04	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:05	385	8.8	170.0	13.9	8.0	57.0	270.0	148.9	3.8
1/13/2011 11:06	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:07	385	8.7	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:08	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:09	385	8.8	170.0	13.9	8.0	56.9	270.0	148.9	3.8
1/13/2011 11:10	385	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.8
1/13/2011 11:11	385	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.8
1/13/2011 11:12	385	8.8	170.0	13.9	8.0	56.8	270.0	148.9	3.8
1/13/2011 11:13	385	8.8	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:14	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:15	386	8.8	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:16	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:17	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 2 - Start: 08:33 Stop: 11:35
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 11:18	386	8.8	170.0	13.9	8.0	56.7	270.0	148.9	3.8
1/13/2011 11:19	386	8.7	170.0	13.9	8.0	56.7	270.0	148.9	3.7
1/13/2011 11:20	386	8.7	170.0	13.9	8.0	56.7	270.0	148.9	3.7
1/13/2011 11:21	386	8.7	170.0	13.9	8.0	56.7	270.0	148.9	3.7
1/13/2011 11:22	386	8.7	170.0	13.9	8.0	56.6	270.0	148.9	3.7
1/13/2011 11:23	386	8.7	170.0	13.9	8.0	56.6	270.0	148.9	3.7
1/13/2011 11:24	386	8.7	170.0	13.9	8.0	56.6	270.0	148.9	3.7
1/13/2011 11:25	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
1/13/2011 11:26	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
1/13/2011 11:27	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
1/13/2011 11:28	386	8.8	170.0	13.9	8.0	56.5	270.0	148.9	3.7
1/13/2011 11:29	386	8.7	170.0	13.9	8.0	56.7	270.0	148.9	3.7
1/13/2011 11:30	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:31	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
1/13/2011 11:32	386	8.7	170.0	13.9	8.0	56.8	270.0	148.8	3.7
1/13/2011 11:33	386	8.7	170.0	13.9	8.0	56.8	270.0	148.8	3.7
1/13/2011 11:34	386	8.7	170.0	13.9	8.0	56.8	270.0	148.8	3.7
1/13/2011 11:35	386	8.7	170.0	13.9	8.0	56.8	270.0	148.9	3.7
AVERAGE	**384**	**8.7**	**170.3**	**14.0**	**8.0**	**56.7**	**270.0**	**149.0**	**3.7**
MINIMUM	**381**	**8.3**	**170.0**	**13.9**	**8.0**	**56.2**	**270.0**	**148.8**	**3.6**
MAXIMUM	**386**	**8.8**	**172.0**	**14.0**	**8.0**	**57.1**	**270.0**	**149.1**	**3.8**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 12:00	385	8.8	170.0	13.9	8.0	56.9	270.0	148.7	3.7
1/13/2011 12:01	385	8.8	170.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 12:02	384	8.8	170.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 12:03	384	8.8	170.0	13.9	8.0	56.7	270.0	148.7	3.7
1/13/2011 12:04	384	8.8	170.0	13.9	8.0	56.7	270.0	148.7	3.7
1/13/2011 12:05	384	8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.7
1/13/2011 12:06	384	8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.7
1/13/2011 12:07	384	8.8	170.0	13.9	8.0	56.5	270.0	148.8	3.7
1/13/2011 12:08	384	8.8	170.0	13.9	8.0	56.4	270.0	148.8	3.7
1/13/2011 12:09	384	8.8	170.0	13.9	8.0	56.3	270.0	148.8	3.7
1/13/2011 12:10	384	8.8	170.0	13.9	8.0	56.3	270.0	148.8	3.8
1/13/2011 12:11	384	8.8	170.0	13.9	8.0	56.5	270.0	148.8	3.8
1/13/2011 12:12	384	8.8	170.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 12:13	384	8.8	170.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 12:14	384	8.8	170.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 12:15	384	8.8	170.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 12:16	384	8.8	170.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 12:17	384	8.8	170.0	13.9	8.0	56.5	270.0	148.8	3.8
1/13/2011 12:18	384	8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:19	384	8.8	170.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 12:20	384	8.8	170.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 12:21	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:22	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:23	384	8.8	170.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 12:24	384	8.8	170.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 12:25	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:26	384	8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:27	384	8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.8
1/13/2011 12:28	384	8.8	170.0	13.9	8.0	56.7	270.0	148.7	3.7
1/13/2011 12:29	384	8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.8
1/13/2011 12:30	384	8.8	170.0	13.9	8.0	56.6	270.0	148.7	3.8
1/13/2011 12:31	384	8.8	170.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:32	384	8.8	170.0	13.9	8.0	56.4	270.0	148.7	3.8

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 12:33	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:34	384	8.8	170.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:35	384	8.8	170.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 12:36	384	8.8	169.0	13.9	8.0	56.1	270.0	148.7	3.8
1/13/2011 12:37	384	8.8	169.0	13.9	8.0	56.0	270.0	148.7	3.8
1/13/2011 12:38	384	8.8	169.0	13.9	8.0	56.1	270.0	148.7	3.8
1/13/2011 12:39	384	8.8	169.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:40	384	8.8	169.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 12:41	384	8.8	169.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:42	384	8.8	169.0	13.9	8.0	56.6	270.0	148.7	3.8
1/13/2011 12:43	384	8.8	169.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:44	384	8.8	169.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:45	384	8.8	169.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 12:46	384	8.8	169.0	13.9	8.0	56.3	270.0	148.6	3.8
1/13/2011 12:47	384	8.8	169.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 12:48	384	8.8	169.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 12:49	384	8.8	169.0	13.9	8.0	56.1	270.0	148.7	3.8
1/13/2011 12:50	384	8.8	169.0	13.9	8.0	56.0	270.0	148.6	3.8
1/13/2011 12:51	384	8.8	169.0	13.9	8.0	56.0	270.0	148.6	3.8
1/13/2011 12:52	384	8.8	169.0	13.9	8.0	56.1	270.0	148.7	3.8
1/13/2011 12:53	384	8.8	169.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 12:54	384	8.8	169.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:55	384	8.8	169.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:56	384	8.8	169.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 12:57	384	8.8	169.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 12:58	384	8.8	169.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 12:59	384	8.8	169.0	13.9	8.0	56.2	270.0	148.6	3.8
1/13/2011 13:00	384	8.8	169.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 13:01	384	8.8	169.0	13.9	8.0	56.1	270.0	148.7	3.8
1/13/2011 13:02	384	8.8	169.0	13.9	8.0	56.0	270.0	148.7	3.8
1/13/2011 13:03	384	8.8	169.0	13.9	8.0	55.9	270.0	148.6	3.8
1/13/2011 13:04	384	8.8	169.0	13.9	8.0	55.9	270.0	148.6	3.8
1/13/2011 13:05	384	8.8	169.0	13.9	8.0	56.0	270.0	148.6	3.8

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 13:06	384	8.8	169.0	13.9	8.0	56.1	270.0	148.6	3.8
1/13/2011 13:07	384	8.8	169.0	13.9	8.0	56.2	270.0	148.6	3.8
1/13/2011 13:08	384	8.8	169.0	13.9	8.0	56.3	270.0	148.6	3.8
1/13/2011 13:09	384	8.8	169.0	13.9	8.0	56.4	270.0	148.6	3.8
1/13/2011 13:10	384	8.8	169.0	13.9	8.0	56.5	270.0	148.6	3.8
1/13/2011 13:11	384	8.8	169.0	13.9	8.0	56.4	270.0	148.6	3.8
1/13/2011 13:12	385	8.8	169.0	13.9	8.0	56.4	270.0	148.6	3.8
1/13/2011 13:13	385	8.8	169.0	13.9	8.0	56.3	270.0	148.6	3.8
1/13/2011 13:14	385	8.8	169.0	13.9	8.0	56.2	270.0	148.6	3.8
1/13/2011 13:15	385	8.8	169.0	13.9	8.0	56.1	270.0	148.6	3.8
1/13/2011 13:16	385	8.7	169.0	13.9	8.0	56.1	270.0	148.6	3.8
1/13/2011 13:17	385	8.7	169.0	13.9	8.0	56.0	270.0	148.6	3.8
1/13/2011 13:18	385	8.7	169.0	13.9	8.0	56.0	270.0	148.6	3.8
1/13/2011 13:19	385	8.7	169.0	13.9	8.0	56.2	270.0	148.6	3.8
1/13/2011 13:20	385	8.7	169.0	13.9	8.0	56.3	270.0	148.6	3.8
1/13/2011 13:21	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 13:22	385	8.7	169.0	13.9	8.0	56.5	270.0	148.6	3.8
1/13/2011 13:23	385	8.7	169.0	13.9	8.0	56.7	270.0	148.7	3.8
1/13/2011 13:24	385	8.7	169.0	13.9	8.0	56.7	270.0	148.6	3.8
1/13/2011 13:25	385	8.7	169.0	13.9	8.0	56.6	270.0	148.6	3.8
1/13/2011 13:26	385	8.7	169.0	13.9	8.0	56.5	270.0	148.6	3.7
1/13/2011 13:27	385	8.7	169.0	13.9	8.0	56.5	270.0	148.6	3.7
1/13/2011 13:28	385	8.7	169.0	13.9	8.0	56.3	270.0	148.6	3.8
1/13/2011 13:29	385	8.7	169.0	13.9	8.0	56.2	270.0	148.6	3.8
1/13/2011 13:30	385	8.7	169.0	13.9	8.0	56.1	270.0	148.7	3.8
1/13/2011 13:31	385	8.7	169.0	13.9	8.0	56.0	270.0	148.7	3.8
1/13/2011 13:32	385	8.7	169.0	13.9	8.0	56.1	270.0	148.7	3.8
1/13/2011 13:33	385	8.7	169.0	13.9	8.0	56.2	270.0	148.7	3.8
1/13/2011 13:34	385	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.7
1/13/2011 13:35	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.7
1/13/2011 13:36	385	8.7	169.0	13.9	8.0	56.5	270.0	148.7	3.7
1/13/2011 13:37	385	8.7	169.0	13.9	8.0	56.6	270.0	148.7	3.7
1/13/2011 13:38	385	8.7	169.0	13.9	8.0	56.6	270.0	148.7	3.7

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 13:39	385	8.7	169.0	13.9	8.0	56.5	270.0	148.7	3.7
1/13/2011 13:40	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.7
1/13/2011 13:41	385	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.7
1/13/2011 13:42	385	8.7	169.0	13.9	8.0	56.2	270.0	148.7	3.7
1/13/2011 13:43	385	8.7	169.0	13.9	8.0	56.1	270.0	148.7	3.7
1/13/2011 13:44	385	8.7	169.0	13.9	8.0	56.0	270.0	148.7	3.7
1/13/2011 13:45	385	8.7	169.0	13.9	8.0	56.1	270.0	148.7	3.7
1/13/2011 13:46	385	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.7
1/13/2011 13:47	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.7
1/13/2011 13:48	385	8.7	169.0	13.9	8.0	56.5	270.0	148.7	3.7
1/13/2011 13:49	385	8.7	169.0	13.9	8.0	56.6	270.0	148.7	3.7
1/13/2011 13:50	385	8.7	169.0	13.9	8.0	56.7	270.0	148.7	3.8
1/13/2011 13:51	385	8.7	169.0	13.9	8.0	56.7	270.0	148.7	3.8
1/13/2011 13:52	385	8.7	169.0	13.9	8.0	56.6	270.0	148.7	3.8
1/13/2011 13:53	385	8.7	169.0	13.9	8.0	56.5	270.0	148.7	3.8
1/13/2011 13:54	385	8.7	169.0	13.9	8.0	56.4	270.0	148.7	3.8
1/13/2011 13:55	385	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 13:56	385	8.7	169.0	13.9	8.0	56.3	270.0	148.7	3.8
1/13/2011 13:57	385	8.7	169.0	13.9	8.0	56.2	270.0	148.8	3.8
1/13/2011 13:58	385	8.7	169.0	13.9	8.0	56.2	270.0	148.8	3.8
1/13/2011 13:59	385	8.7	169.0	13.9	8.0	56.3	270.0	148.8	3.8
1/13/2011 14:00	385	8.7	169.0	13.9	8.0	56.4	270.0	148.8	3.8
1/13/2011 14:01	385	8.7	169.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 14:02	385	8.7	169.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 14:03	385	8.7	169.0	13.9	8.0	56.8	270.0	148.8	3.8
1/13/2011 14:04	385	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.8
1/13/2011 14:05	385	8.7	169.0	13.9	8.0	56.8	270.0	148.8	3.8
1/13/2011 14:06	384	8.7	169.0	13.9	8.0	56.8	270.0	148.8	3.8
1/13/2011 14:07	384	8.7	169.0	13.9	8.0	56.7	270.0	148.8	3.8
1/13/2011 14:08	384	8.7	169.0	13.9	8.0	56.6	270.0	148.8	3.8
1/13/2011 14:09	384	8.7	169.0	13.9	8.0	56.5	270.0	148.9	3.8
1/13/2011 14:10	384	8.7	169.0	13.9	8.0	56.4	270.0	148.8	3.8
1/13/2011 14:11	384	8.8	169.0	13.9	8.0	56.3	270.0	148.9	3.8

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 14:12	384	8.8	169.0	13.9	8.0	56.3	270.0	148.9	3.8
1/13/2011 14:13	384	8.8	169.0	13.9	8.0	56.4	270.0	148.9	3.8
1/13/2011 14:14	384	8.8	169.0	13.9	8.0	56.5	270.0	148.9	3.8
1/13/2011 14:15	384	8.8	169.0	13.9	8.0	56.6	270.0	148.9	3.8
1/13/2011 14:16	384	8.8	169.0	13.9	8.0	56.7	270.0	148.9	3.8
1/13/2011 14:17	384	8.8	169.0	13.9	8.0	56.8	270.0	148.9	3.8
1/13/2011 14:18	384	8.8	169.0	13.9	8.0	56.8	270.0	148.8	3.8
1/13/2011 14:19	384	8.8	169.0	13.9	8.0	56.7	270.0	148.9	3.8
1/13/2011 14:20	384	8.8	169.0	13.9	8.0	56.6	270.0	148.9	3.8
1/13/2011 14:21	384	8.8	169.0	13.9	8.0	56.6	270.0	148.9	3.8
1/13/2011 14:22	384	8.8	169.0	13.9	8.0	56.5	270.0	148.9	3.8
1/13/2011 14:23	384	8.8	169.0	13.9	8.0	56.4	270.0	148.8	3.8
1/13/2011 14:24	384	8.7	169.0	13.9	8.0	56.3	270.0	148.8	3.8
1/13/2011 14:25	384	8.7	169.0	13.9	8.0	56.3	270.0	148.9	3.7
1/13/2011 14:26	384	8.7	169.0	13.9	8.0	56.2	270.0	148.9	3.7
1/13/2011 14:27	384	8.7	169.0	13.9	8.0	56.2	270.0	148.8	3.7
1/13/2011 14:28	384	8.7	169.0	13.9	8.0	56.4	270.0	148.8	3.7
1/13/2011 14:29	384	8.7	169.0	13.9	8.0	56.5	270.0	148.8	3.7
1/13/2011 14:30	384	8.7	169.0	13.9	8.0	56.7	270.0	148.8	3.7
1/13/2011 14:31	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7
1/13/2011 14:32	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7
1/13/2011 14:33	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7
1/13/2011 14:34	384	8.7	169.0	13.9	8.0	56.9	270.0	148.8	3.7
1/13/2011 14:35	384	8.6	169.0	13.9	8.0	56.8	270.0	148.8	3.7
1/13/2011 14:36	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:37	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:38	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:39	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:40	384	8.6	169.0	13.9	8.0	56.8	270.0	148.7	3.7
1/13/2011 14:41	384	8.6	169.0	13.9	8.0	56.9	270.0	148.7	3.7
1/13/2011 14:42	384	8.5	169.0	13.9	8.0	56.9	270.0	148.6	3.7
1/13/2011 14:43	384	8.5	169.0	13.9	8.0	56.9	270.0	148.7	3.6
1/13/2011 14:44	384	8.5	169.0	13.9	8.0	56.9	270.0	148.6	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 14:45	384	8.5	169.0	13.9	8.0	56.7	270.0	148.6	3.6
1/13/2011 14:46	384	8.5	169.0	13.9	8.0	56.5	270.0	148.6	3.6
1/13/2011 14:47	384	8.5	169.0	13.9	8.0	56.5	270.0	148.6	3.6
1/13/2011 14:48	384	8.5	169.0	13.9	8.0	56.5	270.0	148.6	3.6
1/13/2011 14:49	384	8.4	169.0	13.9	8.0	56.6	270.0	148.6	3.6
1/13/2011 14:50	384	8.4	169.0	13.9	8.0	56.6	270.0	148.6	3.6
1/13/2011 14:51	384	8.4	169.0	13.9	8.0	56.7	270.0	148.6	3.6
1/13/2011 14:52	384	8.4	169.0	13.9	8.0	56.7	270.0	148.6	3.6
1/13/2011 14:53	384	8.4	169.0	13.9	8.0	56.8	270.0	148.6	3.6
1/13/2011 14:54	384	8.4	169.0	13.9	8.0	56.8	270.0	148.6	3.6
1/13/2011 14:55	384	8.3	169.0	13.9	8.0	56.9	270.0	148.6	3.6
1/13/2011 14:56	384	8.3	169.0	13.9	8.0	56.9	270.0	148.6	3.6
1/13/2011 14:57	384	8.3	169.0	13.9	8.0	57.0	270.0	148.6	3.5
1/13/2011 14:58	385	8.3	169.0	13.9	8.0	57.0	270.0	148.6	3.5
1/13/2011 14:59	385	8.3	169.0	13.9	8.0	56.8	270.0	148.5	3.5
1/13/2011 15:00	385	8.3	169.0	13.9	8.0	56.7	270.0	148.5	3.5
1/13/2011 15:01	385	8.3	169.0	13.9	8.0	56.6	270.0	148.5	3.5
1/13/2011 15:02	385	8.2	169.0	13.9	8.0	56.4	270.0	148.5	3.5
1/13/2011 15:03	385	8.2	169.0	13.9	8.0	56.3	270.0	148.5	3.5
1/13/2011 15:04	385	8.2	169.0	13.9	8.0	56.2	270.0	148.5	3.5
1/13/2011 15:05	385	8.2	169.0	13.9	8.0	56.2	270.0	148.4	3.5
1/13/2011 15:06	385	8.2	169.0	13.9	8.0	56.3	270.0	148.4	3.5
1/13/2011 15:07	385	8.2	169.0	13.9	8.0	56.4	270.0	148.4	3.5
1/13/2011 15:08	385	8.2	169.0	13.9	8.0	56.5	270.0	148.4	3.5
1/13/2011 15:09	385	8.2	169.0	13.9	8.0	56.6	270.0	148.4	3.5
1/13/2011 15:10	385	8.2	169.0	13.9	8.0	56.7	270.0	148.4	3.5
1/13/2011 15:11	385	8.1	169.0	13.9	8.0	56.8	270.0	148.4	3.5
1/13/2011 15:12	385	8.1	169.0	13.9	8.0	56.8	270.0	148.4	3.5
1/13/2011 15:13	385	8.1	168.0	13.9	8.0	56.7	270.0	148.4	3.5
1/13/2011 15:14	385	8.1	168.0	13.9	8.0	56.6	270.0	148.4	3.5
1/13/2011 15:15	385	8.1	168.0	13.9	8.0	56.5	270.0	148.4	3.5
1/13/2011 15:16	385	8.1	168.0	13.9	8.0	56.4	270.0	148.4	3.5
1/13/2011 15:17	385	8.1	168.0	13.9	8.0	56.3	270.0	148.4	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
January 13, 2011 - Condition C1A - Run 3 - Start: 12:00 Stop: 15:30
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
1/13/2011 15:18	385	8.1	168.0	13.9	8.0	56.1	270.0	148.4	3.5
1/13/2011 15:19	385	8.1	168.0	13.9	8.0	56.1	270.0	148.4	3.5
1/13/2011 15:20	385	8.1	168.0	13.9	8.0	56.0	270.0	148.4	3.4
1/13/2011 15:21	385	8.1	168.0	13.9	8.0	56.1	270.0	148.4	3.4
1/13/2011 15:22	385	8.1	168.0	13.9	8.0	56.2	270.0	148.4	3.4
1/13/2011 15:23	385	8.1	168.0	13.9	8.0	56.3	270.0	148.4	3.4
1/13/2011 15:24	385	8.1	168.0	13.9	8.0	56.4	270.0	148.4	3.4
1/13/2011 15:25	385	8.0	168.0	13.9	8.0	56.5	270.0	148.4	3.4
1/13/2011 15:26	385	8.0	168.0	13.9	8.0	56.6	270.0	148.4	3.4
1/13/2011 15:27	385	8.0	168.0	13.9	8.0	56.7	270.0	148.4	3.4
1/13/2011 15:28	385	8.0	168.0	13.9	8.0	56.6	270.0	148.4	3.4
1/13/2011 15:29	385	8.0	168.0	13.9	8.0	56.5	270.0	148.4	3.4
1/13/2011 15:30	385	8.0	168.0	13.9	8.0	56.4	270.0	148.4	3.4
AVERAGE	**384**	**8.6**	**169.1**	**13.9**	**8.0**	**56.5**	**270.0**	**148.7**	**3.7**
MINIMUM	**384**	**8.0**	**168.0**	**13.9**	**8.0**	**55.9**	**270.0**	**148.4**	**3.4**
MAXIMUM	**385**	**8.8**	**170.0**	**13.9**	**8.0**	**57.0**	**270.0**	**148.9**	**3.8**

Daily CEMS Calibration Sheets (October 2010)

Kiln 1/Train A Calibration Checks

Norlite Corporation

Cal Checks for 10/19/2010

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
10/19/2010 5:00 AM	CO ppm	Low	Zero	0.00 ppm	0.07 ppm	0.07 ppm	±6 ppm	200 ppm	Unit online; Passed
10/19/2010 5:00 AM	CO ppm	Low	Span	170.10 ppm	167.50 ppm	-2.6 ppm	±6 ppm	200 ppm	Unit online; Passed
10/19/2010 5:00 AM	CO ppm	High	Zero	0.00 ppm	-3.40 ppm	-3.4 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/19/2010 5:00 AM	CO ppm	High	Span	2047.00 ppm	2010.20 ppm	-36.8 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/19/2010 5:00 AM	O2%	Single	Zero	0.00%	0.17%	0.17%	±0.5%	25%	Unit online; Passed
10/19/2010 5:00 AM	O2%	Single	Span	18.03%	18.07%	0.04%	±0.5%	25%	Unit online; Passed

Kiln 1/Train B Calibration Checks

Norlite Corporation

Cal Checks for 10/19/2010

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
10/19/2010 5:30 AM	CO ppm	Low	Zero	0.00 ppm	0.07 ppm	0.07 ppm	±6 ppm	200 ppm	Unit online; Passed
10/19/2010 5:30 AM	CO ppm	Low	Span	170.10 ppm	170.98 ppm	0.88 ppm	±6 ppm	200 ppm	Unit online; Passed
10/19/2010 5:30 AM	CO ppm	High	Zero	0.00 ppm	0.40 ppm	0.4 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/19/2010 5:30 AM	CO ppm	High	Span	2047.00 ppm	2031.00 ppm	-16 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/19/2010 5:30 AM	O2%	Single	Zero	0.00%	-0.06%	-0.06%	±0.5%	25%	Unit online; Passed
10/19/2010 5:30 AM	O2%	Single	Span	18.03%	18.02%	-0.01%	±0.5%	25%	Unit online; Passed

Kiln 1/Train A Calibration Checks

Norlite Corporation

Cal Checks for 10/20/2010

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
10/20/2010 5:00 AM	CO ppm	Low	Zero	0.00 ppm	0.30 ppm	0.3 ppm	±6 ppm	200 ppm	Unit online; Passed
10/20/2010 5:00 AM	CO ppm	Low	Span	170.10 ppm	167.08 ppm	-3.02 ppm	±6 ppm	200 ppm	Unit online; Passed
10/20/2010 5:00 AM	CO ppm	High	Zero	0.00 ppm	-2.60 ppm	-2.6 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/20/2010 5:00 AM	CO ppm	High	Span	2047.00 ppm	2001.20 ppm	-45.8 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/20/2010 5:00 AM	O2%	Single	Zero	0.00%	0.20%	0.2%	±0.5%	25%	Unit online; Passed
10/20/2010 5:00 AM	O2%	Single	Span	18.03%	18.07%	0.04%	±0.5%	25%	Unit online; Passed

Kiln 1/Train B Calibration Checks

Norlite Corporation

Cal Checks for 10/20/2010

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
10/20/2010 5:30 AM	CO ppm	Low	Zero	0.00 ppm	-0.12 ppm	-0.12 ppm	±6 ppm	200 ppm	Unit online; Passed
10/20/2010 5:30 AM	CO ppm	Low	Span	170.10 ppm	169.65 ppm	-0.45 ppm	±6 ppm	200 ppm	Unit online; Passed
10/20/2010 5:30 AM	CO ppm	High	Zero	0.00 ppm	-0.20 ppm	-0.2 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/20/2010 5:30 AM	CO ppm	High	Span	2047.00 ppm	2021.90 ppm	-25.1 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/20/2010 5:30 AM	O2%	Single	Zero	0.00%	-0.06%	-0.06%	±0.5%	25%	Unit online; Passed
10/20/2010 5:30 AM	O2%	Single	Span	18.03%	18.04%	0.01%	±0.5%	25%	Unit online; Passed

Kiln 1/Train A Calibration Checks

Norlite Corporation

Cal Checks for 10/21/2010

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
10/21/2010 5:00 AM	CO ppm	Low	Zero	0.00 ppm	-0.05 ppm	-0.05 ppm	±6 ppm	200 ppm	Unit online; Passed
10/21/2010 5:00 AM	CO ppm	Low	Span	170.10 ppm	165.74 ppm	-4.36 ppm	±6 ppm	200 ppm	Unit online; Passed
10/21/2010 5:00 AM	CO ppm	High	Zero	0.00 ppm	-3.20 ppm	-3.2 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/21/2010 5:00 AM	CO ppm	High	Span	2047.00 ppm	1989.70 ppm	-57.3 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/21/2010 5:00 AM	O2%	Single	Zero	0.00%	0.18%	0.18%	±0.5%	25%	Unit online; Passed
10/21/2010 5:00 AM	O2%	Single	Span	18.03%	17.99%	-0.04%	±0.5%	25%	Unit online; Passed

Kiln 1/Train B Calibration Checks

Norlite Corporation

Cal Checks for 10/21/2010

Date/Time	Parameter	Analyzer Scale	Test Level	Reference Value	Measured Value	Actual Drift	Allowable Drift	Instrument Span	Results
10/21/2010 5:30 AM	CO ppm	Low	Zero	0.00 ppm	-0.06 ppm	-0.06 ppm	±6 ppm	200 ppm	Unit online; Passed
10/21/2010 5:30 AM	CO ppm	Low	Span	170.10 ppm	171.63 ppm	1.53 ppm	±6 ppm	200 ppm	Unit online; Passed
10/21/2010 5:30 AM	CO ppm	High	Zero	0.00 ppm	0.10 ppm	0.1 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/21/2010 5:30 AM	CO ppm	High	Span	2047.00 ppm	2030.60 ppm	-16.4 ppm	±90 ppm	3000 ppm	Unit online; Passed
10/21/2010 5:30 AM	O2%	Single	Zero	0.00%	-0.06%	-0.06%	±0.5%	25%	Unit online; Passed
10/21/2010 5:30 AM	O2%	Single	Span	16.03%	16.02%	-0.01%	±0.5%	25%	Unit online; Passed

Detailed Process Data Summaries (October 2010)

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 10:58	10.2	54.1	21.8	999	450	-0.1	34,904	49.0	15.5
10/19/2010 10:59	10.2	54.0	21.8	999	450	-0.1	34,946	49.0	15.5
10/19/2010 11:00	10.2	53.8	21.8	998	449	-0.1	34,967	49.0	15.5
10/19/2010 11:01	10.2	53.7	21.8	998	449	-0.1	34,988	49.0	15.5
10/19/2010 11:02	10.2	53.6	21.8	998	449	-0.1	35,009	49.0	15.5
10/19/2010 11:03	10.3	53.4	21.8	998	449	-0.1	35,051	49.0	15.5
10/19/2010 11:04	10.3	53.3	21.8	997	449	-0.1	35,093	49.0	15.5
10/19/2010 11:05	10.3	53.2	21.8	997	449	-0.1	35,135	49.0	15.5
10/19/2010 11:06	10.3	53.1	21.8	997	449	-0.1	35,156	49.0	15.5
10/19/2010 11:07	10.3	53.0	21.8	997	449	-0.1	35,177	49.0	15.5
10/19/2010 11:08	10.3	52.9	21.8	997	449	-0.1	35,219	49.0	15.5
10/19/2010 11:09	10.3	52.7	21.8	997	449	-0.1	35,261	49.0	15.5
10/19/2010 11:10	10.3	52.7	21.8	997	449	-0.1	35,282	48.0	15.5
10/19/2010 11:11	10.3	52.7	21.8	997	449	-0.1	35,282	48.0	15.5
10/19/2010 11:12	10.3	52.7	21.8	997	448	-0.1	35,303	48.0	15.5
10/19/2010 11:13	10.3	52.7	21.8	997	448	-0.1	35,303	48.0	15.5
10/19/2010 11:14	10.3	52.6	21.8	996	448	-0.1	35,303	48.0	15.5
10/19/2010 11:15	10.3	52.6	21.8	996	448	-0.1	35,303	48.0	15.5
10/19/2010 11:16	10.3	52.6	21.8	996	448	-0.1	35,282	48.0	15.5
10/19/2010 11:17	10.3	52.6	21.8	996	448	-0.1	35,282	48.0	15.5
10/19/2010 11:18	10.3	52.5	21.8	996	448	-0.1	35,282	48.0	15.5
10/19/2010 11:19	10.3	52.5	21.8	996	448	-0.1	35,282	48.0	15.5
10/19/2010 11:20	10.3	52.4	21.8	996	448	-0.1	35,282	48.0	15.5
10/19/2010 11:21	10.3	52.4	21.8	996	448	-0.1	35,282	48.0	15.5
10/19/2010 11:22	10.3	52.4	21.8	996	449	-0.1	35,282	48.0	15.5
10/19/2010 11:23	10.3	52.4	21.8	996	449	-0.1	35,303	48.0	15.5
10/19/2010 11:24	10.3	52.4	21.8	996	449	-0.1	35,324	48.0	15.5
10/19/2010 11:25	10.3	52.4	21.8	996	449	-0.1	35,324	47.0	15.5
10/19/2010 11:26	10.3	52.4	21.8	996	449	-0.1	35,324	47.0	15.5
10/19/2010 11:27	10.3	52.4	21.8	996	449	-0.1	35,324	47.0	15.5
10/19/2010 11:28	10.3	52.4	21.8	996	449	-0.1	35,345	47.0	15.5
10/19/2010 11:29	10.3	52.4	21.7	996	449	-0.1	35,345	47.0	15.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 11:30	10.3	52.4	21.7	996	449	-0.1	35,366	47.0	15.5
10/19/2010 11:31	10.3	52.4	21.7	996	449	-0.1	35,366	47.0	15.5
10/19/2010 11:32	10.3	52.4	21.7	996	449	-0.1	35,366	47.0	15.5
10/19/2010 11:33	10.3	52.4	21.7	996	449	-0.1	35,387	47.0	15.5
10/19/2010 11:34	10.3	52.4	21.7	996	449	-0.1	35,387	47.0	15.5
10/19/2010 11:35	10.3	52.4	21.7	996	449	-0.1	35,408	46.0	15.4
10/19/2010 11:36	10.3	52.4	21.7	996	450	-0.1	35,408	46.0	15.4
10/19/2010 11:37	10.3	52.4	21.7	996	450	-0.1	35,429	46.0	15.4
10/19/2010 11:38	10.3	52.4	21.7	996	450	-0.1	35,429	46.0	15.4
10/19/2010 11:39	10.3	52.4	21.7	996	450	-0.1	35,429	46.0	15.4
10/19/2010 11:40	10.3	52.4	21.8	996	450	-0.1	35,429	46.0	15.4
10/19/2010 11:41	10.3	52.4	21.8	996	450	-0.1	35,429	46.0	15.4
10/19/2010 11:42	10.3	52.4	21.8	996	450	-0.1	35,450	46.0	15.4
10/19/2010 11:43	10.3	52.4	21.8	997	450	-0.1	35,450	46.0	15.4
10/19/2010 11:44	10.3	52.4	21.8	997	450	-0.1	35,450	46.0	15.4
10/19/2010 11:45	10.3	52.4	21.8	997	450	-0.1	35,471	45.0	15.4
10/19/2010 11:46	10.3	52.4	21.8	997	450	-0.1	35,450	45.0	15.4
10/19/2010 11:47	10.3	52.4	21.8	997	450	-0.1	35,471	45.0	15.4
10/19/2010 11:48	10.3	52.4	21.8	998	450	-0.1	35,471	45.0	15.4
10/19/2010 11:49	10.3	52.4	21.8	998	450	-0.1	35,471	45.0	15.4
10/19/2010 11:50	10.3	52.4	21.8	998	450	-0.1	35,492	45.0	15.4
10/19/2010 11:51	10.3	52.4	21.8	999	450	-0.1	35,492	45.0	15.4
10/19/2010 11:52	10.3	52.4	21.8	999	451	-0.1	35,492	45.0	15.4
10/19/2010 11:53	10.3	52.4	21.8	999	451	-0.1	35,513	45.0	15.4
10/19/2010 11:54	10.3	52.4	21.8	999	451	-0.1	35,513	45.0	15.4
10/19/2010 11:55	10.3	52.4	21.9	1,000	451	-0.1	35,513	45.0	15.4
10/19/2010 11:56	10.3	52.4	21.9	1,000	451	-0.1	35,513	45.0	15.4
10/19/2010 11:57	10.3	52.4	21.9	1,000	451	-0.1	35,513	45.0	15.4
10/19/2010 11:58	10.3	52.4	21.9	1,001	451	-0.1	35,513	45.0	15.4
10/19/2010 11:59	10.3	52.4	21.9	1,001	451	-0.1	35,513	44.0	15.4
10/19/2010 12:00	10.3	52.4	21.9	1,001	451	-0.1	35,534	44.0	15.4
10/19/2010 12:01	10.3	52.4	21.9	1,001	451	-0.1	35,513	44.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 12:02	10.3	52.4	21.9	1,002	451	-0.1	35,534	44.0	15.4
10/19/2010 12:03	10.3	52.4	21.9	1,002	451	-0.1	35,534	44.0	15.4
10/19/2010 12:04	10.3	52.5	21.9	1,002	451	-0.1	35,513	44.0	15.4
10/19/2010 12:05	10.3	52.5	21.9	1,002	451	-0.1	35,513	44.0	15.4
10/19/2010 12:06	10.3	52.5	21.9	1,003	451	-0.1	35,513	44.0	15.4
10/19/2010 12:07	10.3	52.5	21.9	1,003	451	-0.1	35,513	44.0	15.4
10/19/2010 12:08	10.3	52.5	21.9	1,003	451	-0.1	35,513	44.0	15.4
10/19/2010 12:09	10.3	52.5	21.9	1,003	451	-0.1	35,492	44.0	15.4
10/19/2010 12:10	10.3	52.5	21.9	1,004	451	-0.1	35,471	44.0	15.4
10/19/2010 12:11	10.3	52.5	21.9	1,004	451	-0.1	35,471	44.0	15.4
10/19/2010 12:12	10.3	52.5	21.9	1,004	451	-0.1	35,450	44.0	15.4
10/19/2010 12:13	10.3	52.5	21.9	1,004	452	-0.1	35,450	44.0	15.4
10/19/2010 12:14	10.2	52.5	21.9	1,004	452	-0.1	35,429	43.0	15.4
10/19/2010 12:15	10.2	52.5	21.9	1,005	452	-0.1	35,429	43.0	15.4
10/19/2010 12:16	10.2	52.5	21.9	1,005	452	-0.1	35,408	44.0	15.4
10/19/2010 12:17	10.2	52.5	21.9	1,005	452	-0.1	35,429	44.0	15.4
10/19/2010 12:18	10.2	52.5	21.9	1,005	452	-0.1	35,429	44.0	15.4
10/19/2010 12:19	10.2	52.5	22.0	1,005	452	-0.1	35,408	44.0	15.4
10/19/2010 12:20	10.2	52.5	22.0	1,005	452	-0.1	35,408	44.0	15.4
10/19/2010 12:21	10.2	52.5	22.0	1,006	452	-0.1	35,408	44.0	15.4
10/19/2010 12:22	10.2	52.5	22.0	1,006	452	-0.1	35,408	44.0	15.4
10/19/2010 12:23	10.2	52.5	21.9	1,006	452	-0.1	35,408	43.0	15.4
10/19/2010 12:24	10.2	52.5	21.9	1,006	452	-0.1	35,387	43.0	15.4
10/19/2010 12:25	10.2	52.5	22.0	1,006	452	-0.1	35,387	43.0	15.4
10/19/2010 12:26	10.2	52.5	22.0	1,006	452	-0.1	35,387	43.0	15.4
10/19/2010 12:27	10.2	52.5	22.0	1,006	451	-0.1	35,366	43.0	15.4
10/19/2010 12:28	10.2	52.5	22.0	1,007	451	-0.1	35,366	43.0	15.4
10/19/2010 12:29	10.2	52.5	22.0	1,007	451	-0.1	35,345	43.0	15.4
10/19/2010 12:30	10.2	52.5	22.0	1,007	451	-0.1	35,345	43.0	15.4
10/19/2010 12:31	10.2	52.5	22.0	1,007	451	-0.1	35,345	43.0	15.4
10/19/2010 12:32	10.2	52.5	22.0	1,007	451	-0.1	35,345	43.0	15.4
10/19/2010 12:33	10.2	52.5	22.0	1,008	451	-0.1	35,324	43.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 12:34	10.2	52.5	22.0	1,008	451	-0.1	35,324	43.0	15.4
10/19/2010 12:35	10.2	52.5	22.0	1,008	451	-0.1	35,303	43.0	15.4
10/19/2010 12:36	10.2	52.5	22.0	1,008	451	-0.1	35,303	43.0	15.4
10/19/2010 12:37	10.2	52.5	22.0	1,008	451	-0.1	35,282	43.0	15.4
10/19/2010 12:38	10.2	52.5	22.0	1,008	451	-0.1	35,282	43.0	15.4
10/19/2010 12:39	10.2	52.5	22.0	1,008	451	-0.1	35,282	43.0	15.4
10/19/2010 12:40	10.2	52.5	22.1	1,008	451	-0.1	35,261	43.0	15.4
10/19/2010 12:41	10.2	52.5	22.1	1,009	451	-0.1	35,261	43.0	15.4
10/19/2010 12:42	10.2	52.5	22.1	1,009	451	-0.1	35,261	43.0	15.4
10/19/2010 12:43	10.1	52.5	22.1	1,009	451	-0.2	35,240	43.0	15.4
10/19/2010 12:44	10.1	52.5	22.1	1,009	451	-0.2	35,240	43.0	15.4
10/19/2010 12:45	10.1	52.5	22.1	1,009	451	-0.2	35,219	43.0	15.4
10/19/2010 12:46	10.1	52.5	22.1	1,009	451	-0.2	35,240	43.0	15.4
10/19/2010 12:47	10.1	52.5	22.1	1,009	451	-0.2	35,219	43.0	15.4
10/19/2010 12:48	10.1	52.5	22.1	1,009	451	-0.2	35,219	43.0	15.4
10/19/2010 12:49	10.1	52.5	22.1	1,009	451	-0.2	35,198	43.0	15.4
10/19/2010 12:50	10.1	52.5	22.2	1,008	451	-0.2	35,198	43.0	15.4
10/19/2010 12:51	10.2	52.5	22.2	1,008	451	-0.1	35,177	43.0	15.4
10/19/2010 12:52	10.2	52.5	22.2	1,008	451	-0.1	35,177	43.0	15.4
10/19/2010 12:53	10.2	52.5	22.2	1,008	451	-0.1	35,156	43.0	15.4
10/19/2010 12:54	10.2	52.5	22.2	1,008	451	-0.1	35,135	42.0	15.4
10/19/2010 12:55	10.1	52.5	22.2	1,008	451	-0.1	35,135	42.0	15.4
10/19/2010 12:56	10.1	52.5	22.2	1,008	451	-0.1	35,114	42.0	15.4
10/19/2010 12:57	10.1	52.6	22.3	1,008	451	-0.1	35,114	42.0	15.4
10/19/2010 12:58	10.1	52.9	22.3	1,008	451	-0.1	35,093	42.0	15.4
10/19/2010 12:59	10.1	53.2	22.3	1,008	451	-0.1	35,093	42.0	15.4
10/19/2010 13:00	10.1	53.6	22.3	1,008	451	-0.1	35,093	42.0	15.4
10/19/2010 13:01	10.1	53.9	22.3	1,007	450	-0.1	35,093	43.0	15.4
10/19/2010 13:02	10.1	54.3	22.3	1,007	450	-0.1	35,093	43.0	15.4
10/19/2010 13:03	10.1	54.7	22.3	1,007	450	-0.1	35,072	42.0	15.4
10/19/2010 13:04	10.1	55.0	22.3	1,007	450	-0.1	35,072	42.0	15.4
10/19/2010 13:05	10.1	55.3	22.3	1,007	450	-0.1	35,072	42.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 13:06	10.1	55.6	22.3	1,007	450	-0.1	35,051	42.0	15.4
10/19/2010 13:07	10.1	55.8	22.4	1,007	450	-0.1	35,051	42.0	15.4
10/19/2010 13:08	10.1	56.0	22.4	1,007	450	-0.1	35,030	42.0	15.4
10/19/2010 13:09	10.1	56.3	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:10	10.1	56.5	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:11	10.1	56.7	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:12	10.1	56.9	22.4	1,007	450	-0.1	35,009	42.0	15.4
10/19/2010 13:13	10.1	57.1	22.4	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:14	10.1	57.3	22.4	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:15	10.2	57.5	22.5	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:16	10.1	57.7	22.5	1,007	450	-0.1	34,988	42.0	15.4
10/19/2010 13:17	10.1	57.9	22.5	1,007	449	-0.1	34,988	42.0	15.4
10/19/2010 13:18	10.1	58.1	22.5	1,007	449	-0.3	34,967	42.0	15.4
10/19/2010 13:19	10.2	58.2	22.5	1,007	449	-0.1	34,967	42.0	15.4
10/19/2010 13:20	10.2	58.3	22.5	1,007	449	-0.1	34,946	42.0	15.4
10/19/2010 13:21	10.1	58.4	22.6	1,007	449	-0.1	34,925	42.0	15.4
10/19/2010 13:22	10.1	58.4	22.6	1,007	449	-0.1	34,904	42.0	15.4
10/19/2010 13:23	10.1	58.5	22.6	1,007	449	-0.1	34,883	42.0	15.4
10/19/2010 13:24	10.1	58.5	22.6	1,007	449	-0.1	34,883	42.0	15.4
10/19/2010 13:25	10.1	58.6	22.6	1,007	449	-0.1	34,862	42.0	15.4
10/19/2010 13:26	10.1	58.6	22.6	1,007	449	-0.1	34,841	42.0	15.4
10/19/2010 13:27	10.1	58.7	22.6	1,007	449	-0.1	34,841	42.0	15.4
10/19/2010 13:28	10.1	58.7	22.7	1,007	449	-0.1	34,841	42.0	15.4
10/19/2010 13:29	10.1	58.8	22.7	1,007	449	-0.1	34,820	42.0	15.4
10/19/2010 13:30	10.1	58.8	22.7	1,007	449	-0.1	34,820	42.0	15.4
10/19/2010 13:31	10.1	59.1	22.7	1,007	449	-0.1	34,799	42.0	15.4
10/19/2010 13:32	10.1	59.4	22.7	1,007	449	-0.1	34,778	42.0	15.4
10/19/2010 13:33	10.1	59.8	22.7	1,007	448	-0.1	34,778	42.0	15.4
10/19/2010 13:34	10.1	60.1	22.7	1,007	448	-0.1	34,757	42.0	15.4
10/19/2010 13:35	10.1	60.5	22.7	1,006	448	-0.1	34,757	42.0	15.4
10/19/2010 13:36	10.1	60.8	22.7	1,006	448	-0.1	34,757	42.0	15.4
10/19/2010 13:37	10.1	61.1	22.8	1,006	448	-0.1	34,757	42.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 13:38	10.1	61.5	22.8	1,006	448	-0.1	34,757	42.0	15.4
10/19/2010 13:39	10.1	61.8	22.8	1,006	448	-0.1	34,757	42.0	15.4
10/19/2010 13:40	10.1	62.2	22.8	1,006	448	-0.1	34,736	42.0	15.4
10/19/2010 13:41	10.1	62.6	22.8	1,006	448	-0.1	34,736	42.0	15.4
10/19/2010 13:42	10.1	62.9	22.8	1,006	448	-0.1	34,715	42.0	15.4
10/19/2010 13:43	10.1	63.2	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:44	10.1	63.6	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:45	10.1	63.9	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:46	10.1	64.3	22.8	1,006	447	-0.1	34,715	42.0	15.4
10/19/2010 13:47	10.1	64.7	22.8	1,006	447	-0.1	34,694	42.0	15.4
10/19/2010 13:48	10.1	65.0	22.8	1,006	447	-0.1	34,694	42.0	15.4
10/19/2010 13:49	10.1	65.3	22.8	1,007	447	-0.1	34,673	42.0	15.4
10/19/2010 13:50	10.1	65.7	22.8	1,007	447	-0.1	34,673	42.0	15.4
10/19/2010 13:51	10.1	66.0	22.8	1,007	447	-0.1	34,652	42.0	15.4
10/19/2010 13:52	10.1	66.4	22.8	1,007	447	-0.1	34,652	41.0	15.4
10/19/2010 13:53	10.1	66.7	22.8	1,008	447	-0.1	34,652	41.0	15.4
10/19/2010 13:54	10.1	67.1	22.8	1,008	447	-0.2	34,652	41.0	15.4
10/19/2010 13:55	10.1	67.4	22.8	1,008	447	-0.2	34,652	41.0	15.4
10/19/2010 13:56	10.1	67.7	22.8	1,008	447	-0.1	34,673	41.0	15.4
10/19/2010 13:57	10.1	68.0	22.8	1,008	447	-0.1	34,673	41.0	15.4
10/19/2010 13:58	10.1	68.0	22.8	1,008	447	-0.1	34,673	41.0	15.4
10/19/2010 13:59	10.1	68.0	22.8	1,008	447	-0.1	34,652	41.0	15.4
10/19/2010 14:00	10.1	68.2	22.8	1,008	447	-0.1	34,631	41.0	15.4
AVERAGE	**10.2**	**55.2**	**22.1**	**1,003**	**450**	**-0.1**	**35,170**	**44.1**	**15.4**
MINIMUM	**10.1**	**52.4**	**21.7**	**996**	**447**	**-0.3**	**34,631**	**41.0**	**15.4**
MAXIMUM	**10.3**	**68.2**	**22.8**	**1,009**	**452**	**-0.1**	**35,534**	**49.0**	**15.5**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 14:40	10.0	76.1	22.8	1,014	451	-0.1	35,135	41.0	15.4
10/19/2010 14:41	10.0	76.0	22.8	1,014	451	-0.1	35,135	41.0	15.4
10/19/2010 14:42	10.0	76.0	22.8	1,014	451	-0.1	35,156	41.0	15.4
10/19/2010 14:43	10.0	75.9	22.8	1,014	451	-0.1	35,156	41.0	15.4
10/19/2010 14:44	10.0	75.9	22.8	1,014	451	-0.1	35,177	41.0	15.4
10/19/2010 14:45	10.0	75.9	22.8	1,014	451	-0.1	35,156	41.0	15.4
10/19/2010 14:46	10.0	75.8	22.8	1,014	451	-0.1	35,156	41.0	15.4
10/19/2010 14:47	10.0	75.8	22.8	1,013	451	-0.1	35,177	41.0	15.4
10/19/2010 14:48	10.0	75.8	22.8	1,013	452	-0.1	35,177	41.0	15.4
10/19/2010 14:49	10.0	75.8	22.8	1,013	452	-0.1	35,198	41.0	15.4
10/19/2010 14:50	10.0	75.7	22.8	1,013	452	-0.1	35,219	41.0	15.4
10/19/2010 14:51	10.0	75.7	22.8	1,013	452	-0.1	35,240	41.0	15.4
10/19/2010 14:52	10.0	75.7	22.8	1,013	452	-0.1	35,240	41.0	15.4
10/19/2010 14:53	10.0	75.6	22.8	1,013	452	-0.1	35,282	41.0	15.4
10/19/2010 14:54	10.0	75.6	22.8	1,013	452	-0.1	35,282	41.0	15.4
10/19/2010 14:55	10.0	75.6	22.8	1,012	452	-0.1	35,282	41.0	15.4
10/19/2010 14:56	10.0	75.5	22.8	1,012	452	-0.1	35,261	41.0	15.4
10/19/2010 14:57	10.0	75.5	22.8	1,012	452	-0.1	35,261	41.0	15.4
10/19/2010 14:58	10.0	75.5	22.8	1,012	452	-0.1	35,282	41.0	15.4
10/19/2010 14:59	10.0	75.5	22.8	1,012	452	-0.1	35,282	41.0	15.4
10/19/2010 15:00	10.0	75.2	22.8	1,012	452	-0.1	35,282	41.0	15.4
10/19/2010 15:01	10.0	75.0	22.8	1,011	452	-0.1	35,303	41.0	15.4
10/19/2010 15:02	10.0	74.7	22.8	1,011	452	-0.1	35,282	41.0	15.4
10/19/2010 15:03	10.0	74.5	22.8	1,011	452	-0.1	35,303	41.0	15.4
10/19/2010 15:04	10.0	74.2	22.8	1,011	452	-0.1	35,303	41.0	15.4
10/19/2010 15:05	10.0	74.0	22.8	1,010	452	-0.1	35,324	41.0	15.4
10/19/2010 15:06	10.0	73.7	22.8	1,010	452	-0.1	35,345	41.0	15.4
10/19/2010 15:07	10.0	73.5	22.8	1,010	452	-0.1	35,366	41.0	15.4
10/19/2010 15:08	10.0	73.3	22.8	1,009	452	-0.1	35,387	41.0	15.4
10/19/2010 15:09	10.1	73.0	22.8	1,009	452	-0.1	35,408	41.0	15.4
10/19/2010 15:10	10.1	72.8	22.8	1,009	452	-0.1	35,429	41.0	15.4
10/19/2010 15:11	10.1	72.7	22.8	1,008	452	-0.1	35,429	41.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 15:12	10.1	72.6	22.8	1,008	452	-0.1	35,429	41.0	15.4
10/19/2010 15:13	10.1	72.5	22.8	1,007	452	-0.1	35,450	41.0	15.4
10/19/2010 15:14	10.1	72.3	22.8	1,007	452	-0.1	35,450	41.0	15.4
10/19/2010 15:15	10.1	72.2	22.8	1,006	452	-0.1	35,450	41.0	15.4
10/19/2010 15:16	10.1	72.1	22.8	1,006	452	-0.1	35,450	41.0	15.4
10/19/2010 15:17	10.1	72.0	22.8	1,006	452	-0.1	35,450	41.0	15.4
10/19/2010 15:18	10.1	71.8	22.8	1,005	452	-0.1	35,450	41.0	15.4
10/19/2010 15:19	10.1	71.7	22.8	1,005	452	-0.1	35,408	41.0	15.4
10/19/2010 15:20	10.1	71.6	22.8	1,004	452	-0.1	35,345	41.0	15.4
10/19/2010 15:21	10.1	71.5	22.8	1,004	451	-0.1	35,324	41.0	15.4
10/19/2010 15:22	10.1	71.4	22.8	1,004	451	-0.1	35,282	41.0	15.4
10/19/2010 15:23	10.1	71.3	22.8	1,003	451	-0.1	35,261	40.0	15.4
10/19/2010 15:24	10.1	71.2	22.8	1,003	451	-0.1	35,240	40.0	15.4
10/19/2010 15:25	10.1	71.1	22.8	1,002	451	-0.1	35,240	40.0	15.4
10/19/2010 15:26	10.1	71.1	22.8	1,002	451	-0.1	35,219	40.0	15.4
10/19/2010 15:27	10.1	71.1	22.8	1,001	451	-0.1	35,219	40.0	15.4
10/19/2010 15:28	10.1	71.1	22.8	1,001	451	-0.1	35,219	40.0	15.4
10/19/2010 15:29	10.1	71.1	22.8	1,001	451	-0.1	35,198	40.0	15.4
10/19/2010 15:30	10.1	71.1	22.8	1,000	450	-0.1	35,156	40.0	15.4
10/19/2010 15:31	10.1	71.1	22.8	1,000	450	-0.1	35,156	40.0	15.4
10/19/2010 15:32	10.1	71.2	22.8	999	450	-0.1	35,135	40.0	15.4
10/19/2010 15:33	10.1	71.2	22.8	999	450	-0.1	35,114	40.0	15.4
10/19/2010 15:34	10.1	71.2	22.8	998	450	-0.1	35,114	40.0	15.4
10/19/2010 15:35	10.1	71.2	22.8	998	450	-0.1	35,093	40.0	15.4
10/19/2010 15:36	10.1	71.2	22.8	998	450	-0.1	35,093	40.0	15.4
10/19/2010 15:37	10.2	71.2	22.8	997	450	-0.1	35,072	40.0	15.4
10/19/2010 15:38	10.2	71.2	22.8	997	450	-0.1	35,051	40.0	15.4
10/19/2010 15:39	10.2	71.2	22.8	997	450	-0.1	35,030	40.0	15.4
10/19/2010 15:40	10.2	71.2	22.8	996	450	-0.1	35,009	40.0	15.4
10/19/2010 15:41	10.2	71.2	22.8	996	449	-0.1	35,009	40.0	15.3
10/19/2010 15:42	10.2	71.2	22.8	996	449	-0.1	35,009	40.0	15.3
10/19/2010 15:43	10.2	71.2	22.8	996	449	-0.1	35,030	40.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 15:44	10.2	71.2	22.8	995	449	-0.1	35,030	40.0	15.3
10/19/2010 15:45	10.2	71.2	22.8	995	449	-0.1	35,051	40.0	15.3
10/19/2010 15:46	10.2	71.2	22.8	995	449	-0.1	35,072	40.0	15.3
10/19/2010 15:47	10.2	71.2	22.8	995	449	-0.1	35,093	40.0	15.3
10/19/2010 15:48	10.2	71.2	22.8	994	449	-0.1	35,114	40.0	15.3
10/19/2010 15:49	10.2	71.2	22.8	994	449	-0.1	35,135	40.0	15.3
10/19/2010 15:50	10.2	71.2	22.8	994	449	-0.1	35,156	40.0	15.3
10/19/2010 15:51	10.2	71.2	22.8	994	449	-0.1	35,156	40.0	15.3
10/19/2010 15:52	10.2	71.2	22.8	994	449	-0.1	35,177	40.0	15.3
10/19/2010 15:53	10.2	71.2	22.8	993	449	-0.1	35,177	40.0	15.3
10/19/2010 15:54	10.2	71.2	22.8	993	449	-0.1	35,198	40.0	15.3
10/19/2010 15:55	10.2	71.2	22.8	993	449	-0.1	35,219	40.0	15.3
10/19/2010 15:56	10.2	71.2	22.8	993	449	-0.1	35,240	40.0	15.3
10/19/2010 15:57	10.2	71.2	22.8	993	449	-0.1	35,261	40.0	15.3
10/19/2010 15:58	10.2	71.2	22.8	992	449	-0.1	35,303	40.0	15.3
10/19/2010 15:59	10.2	71.2	22.8	992	449	-0.1	35,324	40.0	15.3
10/19/2010 16:00	10.2	71.2	22.8	992	449	-0.1	35,366	40.0	15.3
10/19/2010 16:01	10.2	71.2	22.8	992	449	-0.1	35,429	40.0	15.3
10/19/2010 16:02	10.2	71.2	22.8	992	449	-0.1	35,471	40.0	15.3
10/19/2010 16:03	10.2	71.2	22.8	992	449	-0.1	35,534	40.0	15.3
10/19/2010 16:04	10.2	71.2	22.8	992	449	-0.1	35,576	40.0	15.3
10/19/2010 16:05	10.2	71.2	22.8	992	449	-0.1	35,618	40.0	15.3
10/19/2010 16:06	10.2	71.2	22.8	992	449	-0.1	35,660	40.0	15.3
10/19/2010 16:07	10.2	71.2	22.8	992	449	-0.1	35,681	40.0	15.3
10/19/2010 16:08	10.2	71.2	22.8	991	449	-0.1	35,723	40.0	15.3
10/19/2010 16:09	10.2	71.2	22.8	991	449	-0.1	35,744	40.0	15.3
10/19/2010 16:10	10.2	71.2	22.8	991	449	-0.1	35,786	40.0	15.3
10/19/2010 16:11	10.2	71.2	22.8	991	449	-0.1	35,828	40.0	15.3
10/19/2010 16:12	10.2	71.2	22.8	991	450	-0.1	35,870	40.0	15.3
10/19/2010 16:13	10.2	71.2	22.8	991	450	-0.1	35,912	40.0	15.3
10/19/2010 16:14	10.2	71.2	22.8	991	450	-0.1	35,975	40.0	15.3
10/19/2010 16:15	10.2	71.2	22.8	991	450	-0.1	36,017	40.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 16:16	10.2	71.2	22.8	991	450	-0.1	36,059	40.0	15.3
10/19/2010 16:17	10.2	71.2	22.8	991	450	-0.1	36,122	40.0	15.3
10/19/2010 16:18	10.2	71.2	22.8	991	450	-0.1	36,164	40.0	15.3
10/19/2010 16:19	10.2	71.2	22.8	991	450	-0.1	36,206	40.0	15.3
10/19/2010 16:20	10.2	71.2	22.8	991	450	-0.1	36,248	40.0	15.3
10/19/2010 16:21	10.2	71.2	22.8	991	450	-0.1	36,290	40.0	15.3
10/19/2010 16:22	10.2	71.2	22.8	990	450	-0.1	36,311	40.0	15.3
10/19/2010 16:23	10.2	71.2	22.8	990	450	-0.1	36,332	40.0	15.3
10/19/2010 16:24	10.2	71.2	22.8	990	450	-0.1	36,332	40.0	15.3
10/19/2010 16:25	10.2	71.2	22.8	990	450	-0.1	36,353	40.0	15.3
10/19/2010 16:26	10.2	71.2	22.8	990	450	-0.1	36,374	40.0	15.3
10/19/2010 16:27	10.2	71.2	22.8	990	450	-0.1	36,395	40.0	15.3
10/19/2010 16:28	10.2	71.1	22.8	990	450	-0.1	36,416	40.0	15.3
10/19/2010 16:29	10.2	71.1	22.8	990	450	-0.1	36,437	40.0	15.3
10/19/2010 16:30	10.2	71.1	22.8	990	450	-0.1	36,458	40.0	15.3
10/19/2010 16:31	10.2	71.1	22.8	990	450	-0.1	36,479	41.0	15.3
10/19/2010 16:32	10.2	71.1	22.8	990	450	-0.1	36,500	41.0	15.3
10/19/2010 16:33	10.2	71.1	22.8	990	450	-0.1	36,521	41.0	15.3
10/19/2010 16:34	10.2	71.1	22.8	990	450	-0.1	36,563	40.0	15.3
10/19/2010 16:35	10.2	71.1	22.8	990	450	-0.1	36,584	40.0	15.3
10/19/2010 16:36	10.2	71.1	22.8	990	450	-0.1	36,605	40.0	15.3
10/19/2010 16:37	10.2	71.1	22.8	990	450	-0.1	36,647	40.0	15.3
10/19/2010 16:38	10.2	71.1	22.8	990	450	-0.1	36,668	40.0	15.3
10/19/2010 16:39	10.2	71.1	22.8	989	450	-0.1	36,710	40.0	15.3
10/19/2010 16:40	10.2	71.1	22.8	989	450	-0.1	36,752	40.0	15.3
10/19/2010 16:41	10.2	71.1	22.8	989	450	-0.1	36,794	40.0	15.3
10/19/2010 16:42	10.2	71.1	22.8	989	450	-0.1	36,815	40.0	15.3
10/19/2010 16:43	10.2	71.1	22.8	989	450	-0.1	36,836	40.0	15.3
10/19/2010 16:44	10.2	71.1	22.8	989	450	-0.1	36,857	40.0	15.3
10/19/2010 16:45	10.2	71.1	22.8	989	450	-0.1	36,878	40.0	15.3
10/19/2010 16:46	10.2	71.1	22.8	989	450	-0.1	36,899	40.0	15.3
10/19/2010 16:47	10.2	71.1	22.8	989	450	-0.1	36,920	40.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 16:48	10.2	71.1	22.8	989	450	-0.1	36,941	40.0	15.3
10/19/2010 16:49	10.2	71.0	22.8	988	450	-0.1	36,941	40.0	15.3
10/19/2010 16:50	10.2	70.8	22.8	988	450	-0.1	36,962	40.0	15.3
10/19/2010 16:51	10.2	70.6	22.8	988	450	-0.1	36,962	40.0	15.3
10/19/2010 16:52	10.2	70.4	22.8	988	450	-0.1	36,962	40.0	15.3
10/19/2010 16:53	10.2	70.2	22.8	988	450	-0.1	36,983	40.0	15.3
10/19/2010 16:54	10.2	70.0	22.8	988	450	-0.1	36,983	40.0	15.3
10/19/2010 16:55	10.2	70.1	22.8	988	450	-0.1	37,004	40.0	15.3
10/19/2010 16:56	10.2	70.0	22.8	988	450	-0.1	37,025	40.0	15.3
10/19/2010 16:57	10.2	70.0	22.8	988	450	-0.1	37,025	40.0	15.3
10/19/2010 16:58	10.2	69.9	22.8	988	450	-0.1	37,025	41.0	15.3
10/19/2010 16:59	10.2	69.8	22.8	987	450	-0.1	37,025	41.0	15.3
10/19/2010 17:00	10.2	69.7	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:01	10.2	69.6	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:02	10.2	69.5	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:03	10.2	69.4	22.8	987	450	-0.1	37,046	41.0	15.3
10/19/2010 17:04	10.2	69.3	22.8	987	450	-0.2	37,046	41.0	15.3
10/19/2010 17:05	10.2	69.2	22.8	987	450	-0.2	37,025	41.0	15.3
10/19/2010 17:06	10.2	69.1	22.8	987	450	-0.2	37,025	41.0	15.3
10/19/2010 17:07	10.2	69.0	22.8	986	450	-0.1	37,004	41.0	15.3
10/19/2010 17:08	10.2	68.9	22.8	986	450	-0.1	37,004	40.0	15.3
10/19/2010 17:09	10.2	68.8	22.8	986	450	-0.1	36,983	40.0	15.3
10/19/2010 17:10	10.2	68.8	22.8	985	450	-0.1	36,983	40.0	15.3
10/19/2010 17:11	10.2	68.7	22.8	985	450	-0.1	36,983	40.0	15.3
10/19/2010 17:12	10.2	68.6	22.8	985	450	-0.1	37,004	40.0	15.3
10/19/2010 17:13	10.2	68.5	22.8	985	450	-0.1	37,004	40.0	15.3
10/19/2010 17:14	10.2	68.4	22.8	984	450	-0.1	37,004	40.0	15.3
10/19/2010 17:15	10.2	68.3	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:16	10.2	68.2	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:17	10.2	68.1	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:18	10.2	68.0	22.8	984	450	-0.1	37,025	40.0	15.3
10/19/2010 17:19	10.2	67.9	22.8	983	450	-0.1	37,046	40.0	15.3

A-101

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 17:20	10.2	67.8	22.8	983	450	-0.1	37,046	40.0	15.3
10/19/2010 17:21	10.2	67.7	22.8	983	450	-0.1	37,046	40.0	15.3
10/19/2010 17:22	10.2	67.6	22.8	983	450	-0.1	37,046	40.0	15.3
10/19/2010 17:23	10.2	67.5	22.8	983	449	-0.1	37,046	40.0	15.3
10/19/2010 17:24	10.2	67.4	22.8	983	449	-0.1	37,046	40.0	15.3
10/19/2010 17:25	10.2	67.4	22.8	982	449	-0.1	37,046	40.0	15.3
10/19/2010 17:26	10.2	67.3	22.8	982	449	-0.1	37,025	40.0	15.3
10/19/2010 17:27	10.2	67.2	22.8	982	449	-0.1	37,025	40.0	15.3
10/19/2010 17:28	10.2	67.1	22.8	982	449	-0.1	37,025	40.0	15.3
10/19/2010 17:29	10.2	67.0	22.8	982	449	-0.1	37,004	40.0	15.3
10/19/2010 17:30	10.2	66.9	22.8	982	449	-0.1	37,004	40.0	15.3
10/19/2010 17:31	10.2	66.8	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:32	10.2	66.7	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:33	10.2	66.6	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:34	10.3	66.6	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:35	10.3	66.5	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:36	10.3	66.4	22.8	981	449	-0.1	37,004	40.0	15.3
10/19/2010 17:37	10.3	66.3	22.8	981	449	-0.1	36,983	40.0	15.3
10/19/2010 17:38	10.3	66.2	22.8	981	449	-0.1	36,983	40.0	15.3
10/19/2010 17:39	10.3	66.1	22.8	981	449	-0.1	36,983	40.0	15.3
10/19/2010 17:40	10.3	66.0	22.8	981	448	-0.1	36,983	40.0	15.3
10/19/2010 17:41	10.3	65.9	22.8	980	448	-0.1	36,983	40.0	15.3
10/19/2010 17:42	10.3	65.8	22.8	980	448	-0.1	36,983	40.0	15.3
AVERAGE	**10.2**	**71.0**	**22.8**	**995**	**450**	**-0.1**	**36,030**	**40.3**	**15.3**
MINIMUM	**10.0**	**65.8**	**22.8**	**980**	**448**	**-0.2**	**35,009**	**40.0**	**15.3**
MAXIMUM	**10.3**	**76.1**	**22.8**	**1,014**	**452**	**-0.1**	**37,046**	**41.0**	**15.4**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 17:58	10.2	65.5	22.8	978	448	-0.1	36,941	41.0	15.3
10/19/2010 17:59	10.2	65.5	22.8	978	448	-0.1	36,962	41.0	15.3
10/19/2010 18:00	10.2	65.5	22.8	978	448	-0.1	36,920	41.0	15.3
10/19/2010 18:01	10.2	65.5	22.8	978	448	-0.1	36,899	41.0	15.3
10/19/2010 18:02	10.2	65.5	22.8	977	448	-0.1	36,878	41.0	15.3
10/19/2010 18:03	10.2	65.5	22.8	977	448	-0.1	36,878	41.0	15.4
10/19/2010 18:04	10.2	65.5	22.9	977	448	-0.1	36,857	41.0	15.4
10/19/2010 18:05	10.2	65.5	22.9	977	448	-0.1	36,836	41.0	15.4
10/19/2010 18:06	10.2	65.5	22.9	977	448	-0.1	36,815	41.0	15.4
10/19/2010 18:07	10.2	65.5	22.9	977	448	-0.1	36,794	41.0	15.4
10/19/2010 18:08	10.2	65.4	22.9	977	448	-0.1	36,794	41.0	15.4
10/19/2010 18:09	10.2	65.3	22.9	977	448	-0.1	36,773	41.0	15.4
10/19/2010 18:10	10.2	65.2	22.9	977	448	-0.1	36,731	41.0	15.4
10/19/2010 18:11	10.2	65.0	22.9	977	448	-0.1	36,710	41.0	15.4
10/19/2010 18:12	10.2	64.9	22.9	977	448	-0.1	36,647	41.0	15.4
10/19/2010 18:13	10.2	64.7	22.9	977	448	-0.1	36,605	41.0	15.4
10/19/2010 18:14	10.2	64.6	22.9	977	448	-0.1	36,563	41.0	15.4
10/19/2010 18:15	10.2	64.4	22.9	977	448	-0.1	36,521	41.0	15.4
10/19/2010 18:16	10.2	64.3	22.9	977	448	-0.1	36,479	41.0	15.4
10/19/2010 18:17	10.2	64.1	22.9	977	448	-0.1	36,437	41.0	15.4
10/19/2010 18:18	10.2	64.0	22.9	976	448	-0.1	36,416	41.0	15.4
10/19/2010 18:19	10.2	63.8	22.9	976	448	-0.1	36,374	41.0	15.4
10/19/2010 18:20	10.2	63.7	22.9	976	448	-0.1	36,353	41.0	15.4
10/19/2010 18:21	10.2	63.5	22.9	976	448	-0.1	36,311	41.0	15.4
10/19/2010 18:22	10.2	63.4	22.9	976	448	-0.1	36,290	41.0	15.4
10/19/2010 18:23	10.2	63.2	22.9	976	448	-0.1	36,269	41.0	15.4
10/19/2010 18:24	10.2	63.1	22.9	976	448	-0.1	36,269	41.0	15.4
10/19/2010 18:25	10.2	63.0	22.9	976	448	-0.1	36,248	41.0	15.4
10/19/2010 18:26	10.2	62.8	22.9	976	448	-0.1	36,227	41.0	15.4
10/19/2010 18:27	10.2	62.7	22.9	976	448	-0.1	36,227	41.0	15.4
10/19/2010 18:28	10.2	62.5	22.9	976	448	-0.1	36,206	41.0	15.4
10/19/2010 18:29	10.2	62.4	22.9	976	448	-0.1	36,206	41.0	15.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 18:30	10.2	62.2	22.9	975	448	-0.1	36,185	41.0	15.4
10/19/2010 18:31	10.2	62.0	22.9	975	449	-0.1	36,164	41.0	15.4
10/19/2010 18:32	10.2	61.8	22.9	975	449	-0.1	36,143	41.0	15.4
10/19/2010 18:33	10.2	61.7	22.9	975	449	-0.1	36,122	41.0	15.4
10/19/2010 18:34	10.2	61.5	22.9	975	449	-0.1	36,101	41.0	15.4
10/19/2010 18:35	10.2	61.3	22.9	975	449	-0.1	36,080	41.0	15.4
10/19/2010 18:36	10.2	61.1	22.9	975	449	-0.1	36,080	41.0	15.4
10/19/2010 18:37	10.2	61.0	22.8	975	449	-0.1	36,059	41.0	15.4
10/19/2010 18:38	10.2	60.8	22.8	975	449	-0.1	36,038	41.0	15.4
10/19/2010 18:39	10.2	60.6	22.8	974	449	-0.2	36,017	41.0	15.4
10/19/2010 18:40	10.2	60.7	22.8	974	449	-0.1	36,017	41.0	15.4
10/19/2010 18:41	10.2	60.6	22.8	974	449	-0.1	36,017	41.0	15.4
10/19/2010 18:42	10.2	60.4	22.8	974	449	-0.1	35,996	41.0	15.4
10/19/2010 18:43	10.2	60.2	22.8	974	449	-0.1	35,996	41.0	15.4
10/19/2010 18:44	10.1	59.9	22.8	974	449	-0.1	35,975	41.0	15.4
10/19/2010 18:45	10.1	59.7	22.8	974	449	-0.1	35,975	41.0	15.4
10/19/2010 18:46	10.1	59.5	22.8	974	449	-0.1	35,975	41.0	15.4
10/19/2010 18:47	10.1	59.3	22.8	973	449	-0.1	35,975	41.0	15.4
10/19/2010 18:48	10.1	59.1	22.8	973	449	-0.1	35,954	41.0	15.4
10/19/2010 18:49	10.1	58.9	22.8	973	449	-0.1	35,933	41.0	15.4
10/19/2010 18:50	10.1	58.7	22.8	973	449	-0.1	35,933	41.0	15.4
10/19/2010 18:51	10.1	58.4	22.8	973	449	-0.1	35,912	41.0	15.4
10/19/2010 18:52	10.1	58.2	22.8	973	449	-0.1	35,891	41.0	15.4
10/19/2010 18:53	10.1	58.0	22.8	973	449	-0.1	35,870	41.0	15.4
10/19/2010 18:54	10.1	57.8	22.8	973	449	-0.1	35,828	41.0	15.4
10/19/2010 18:55	10.1	57.6	22.8	973	449	-0.1	35,807	41.0	15.4
10/19/2010 18:56	10.2	57.4	22.8	973	449	-0.1	35,765	41.0	15.3
10/19/2010 18:57	10.2	57.1	22.8	973	449	-0.1	35,744	41.0	15.3
10/19/2010 18:58	10.2	56.9	22.8	973	449	-0.1	35,723	41.0	15.3
10/19/2010 18:59	10.2	56.7	22.8	973	449	-0.1	35,702	41.0	15.3
10/19/2010 19:00	10.2	56.5	22.8	973	449	-0.1	35,681	41.0	15.3
10/19/2010 19:01	10.2	56.3	22.8	973	449	-0.1	35,660	41.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 19:02	10.2	56.1	22.8	973	449	-0.1	35,660	41.0	15.3
10/19/2010 19:03	10.2	55.8	22.8	973	449	-0.1	35,639	41.0	15.3
10/19/2010 19:04	10.2	55.6	22.8	973	449	-0.1	35,639	41.0	15.3
10/19/2010 19:05	10.2	55.4	22.8	973	449	-0.3	35,618	41.0	15.3
10/19/2010 19:06	10.2	55.2	22.8	973	449	-0.1	35,618	41.0	15.3
10/19/2010 19:07	10.2	54.9	22.8	973	449	-0.1	35,597	41.0	15.3
10/19/2010 19:08	10.2	54.8	22.8	973	449	-0.1	35,597	41.0	15.3
10/19/2010 19:09	10.2	54.7	22.8	973	449	-0.1	35,597	41.0	15.3
10/19/2010 19:10	10.2	54.7	22.8	973	449	-0.1	35,597	41.0	15.3
10/19/2010 19:11	10.2	54.6	22.8	973	449	-0.1	35,618	41.0	15.3
10/19/2010 19:12	10.2	54.5	22.8	973	449	-0.1	35,660	41.0	15.3
10/19/2010 19:13	10.2	54.4	22.8	973	449	-0.2	35,702	41.0	15.3
10/19/2010 19:14	10.2	54.4	22.8	973	449	-0.1	35,744	41.0	15.3
10/19/2010 19:15	10.2	54.3	22.8	973	449	-0.1	35,786	41.0	15.3
10/19/2010 19:16	10.2	54.2	22.8	973	449	-0.1	35,807	41.0	15.3
10/19/2010 19:17	10.2	54.1	22.8	973	449	-0.1	35,849	41.0	15.3
10/19/2010 19:18	10.2	54.1	22.8	973	449	-0.1	35,870	41.0	15.3
10/19/2010 19:19	10.2	54.0	22.8	973	449	-0.2	35,891	41.0	15.3
10/19/2010 19:20	10.2	54.0	22.8	973	449	-0.1	35,891	41.0	15.3
10/19/2010 19:21	10.2	53.9	22.8	972	449	-0.1	35,912	41.0	15.3
10/19/2010 19:22	10.2	53.8	22.8	972	449	-0.1	35,912	41.0	15.3
10/19/2010 19:23	10.2	53.7	22.8	972	449	-0.1	35,912	41.0	15.3
10/19/2010 19:24	10.2	53.7	22.8	972	449	-0.1	35,912	41.0	15.3
10/19/2010 19:25	10.2	53.6	22.8	972	449	-0.1	35,912	41.0	15.3
10/19/2010 19:26	10.2	53.5	22.8	972	449	-0.1	35,912	41.0	15.3
10/19/2010 19:27	10.2	53.4	22.8	972	449	-0.1	35,891	41.0	15.3
10/19/2010 19:28	10.2	53.3	22.8	972	449	-0.1	35,891	41.0	15.3
10/19/2010 19:29	10.2	53.2	22.8	972	449	-0.1	35,891	41.0	15.3
10/19/2010 19:30	10.2	53.2	22.8	972	449	-0.1	35,891	41.0	15.3
10/19/2010 19:31	10.2	53.1	22.8	972	449	-0.1	35,912	41.0	15.3
10/19/2010 19:32	10.2	53.1	22.8	972	449	-0.1	35,933	41.0	15.3
10/19/2010 19:33	10.2	53.0	22.8	972	449	-0.1	35,954	41.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Process and CEM Operating Parameters

Tag No. Parameter Units Date / Time	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 19:34	10.2	52.9	22.8	972	449	-0.1	35,975	41.0	15.3
10/19/2010 19:35	10.1	52.8	22.8	972	449	-0.1	35,996	41.0	15.3
10/19/2010 19:36	10.1	52.8	22.8	972	449	-0.2	36,017	41.0	15.3
10/19/2010 19:37	10.1	52.7	22.8	972	449	-0.1	36,017	41.0	15.3
10/19/2010 19:38	10.1	52.6	22.8	972	449	-0.1	36,017	41.0	15.3
10/19/2010 19:39	10.1	52.6	22.8	972	449	-0.1	36,017	41.0	15.3
10/19/2010 19:40	10.2	52.3	22.8	972	450	-0.1	35,996	41.0	15.3
10/19/2010 19:41	10.2	52.2	22.8	972	450	-0.1	35,996	41.0	15.3
10/19/2010 19:42	10.2	52.1	22.8	972	450	-0.1	35,975	41.0	15.3
10/19/2010 19:43	10.2	52.1	22.8	971	450	-0.2	35,975	41.0	15.3
10/19/2010 19:44	10.2	52.1	22.8	971	450	-0.1	35,975	41.0	15.3
10/19/2010 19:45	10.2	52.1	22.8	971	450	-0.2	35,954	41.0	15.3
10/19/2010 19:46	10.2	52.0	22.8	971	450	-0.1	35,954	41.0	15.3
10/19/2010 19:47	10.2	52.0	22.8	971	450	-0.1	35,954	41.0	15.3
10/19/2010 19:48	10.2	52.0	22.8	971	450	-0.1	35,954	41.0	15.3
10/19/2010 19:49	10.2	52.0	22.8	971	450	-0.1	35,954	41.0	15.3
10/19/2010 19:50	10.1	52.0	22.8	971	450	-0.1	35,933	41.0	15.3
10/19/2010 19:51	10.1	52.0	22.8	971	450	-0.1	35,933	41.0	15.3
10/19/2010 19:52	10.1	51.9	22.8	971	450	-0.1	35,933	41.0	15.3
10/19/2010 19:53	10.1	51.9	22.8	970	450	-0.1	35,933	41.0	15.3
10/19/2010 19:54	10.2	51.9	22.8	970	450	-0.1	35,933	41.0	15.3
10/19/2010 19:55	10.2	51.9	22.8	970	451	-0.1	35,933	41.0	15.3
10/19/2010 19:56	10.2	51.9	22.8	970	451	-0.1	35,912	41.0	15.3
10/19/2010 19:57	10.2	51.8	22.8	970	451	-0.1	35,912	41.0	15.3
10/19/2010 19:58	10.2	51.8	22.8	970	451	-0.3	35,891	41.0	15.3
10/19/2010 19:59	10.1	51.8	22.8	969	451	-0.1	35,870	41.0	15.3
10/19/2010 20:00	10.1	51.8	22.8	969	451	-0.1	35,870	41.0	15.3
10/19/2010 20:01	10.1	51.8	22.8	969	451	-0.1	35,870	41.0	15.3
10/19/2010 20:02	10.1	51.8	22.8	969	451	-0.1	35,849	41.0	15.3
10/19/2010 20:03	10.2	51.8	22.8	969	451	-0.1	35,849	41.0	15.3
10/19/2010 20:04	10.2	51.8	22.8	969	451	-0.1	35,828	41.0	15.3
10/19/2010 20:05	10.2	51.8	22.8	968	451	-0.1	35,828	41.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 20:06	10.2	51.9	22.8	968	451	-0.1	35,828	41.0	15.3
10/19/2010 20:07	10.2	51.8	22.8	968	451	-0.1	35,807	41.0	15.3
10/19/2010 20:08	10.2	51.8	22.8	968	451	-0.1	35,807	41.0	15.3
10/19/2010 20:09	10.2	51.9	22.8	968	451	-0.1	35,807	41.0	15.3
10/19/2010 20:10	10.2	51.9	22.8	968	451	-0.1	35,807	41.0	15.3
10/19/2010 20:11	10.2	51.9	22.8	968	451	-0.1	35,786	41.0	15.3
10/19/2010 20:12	10.2	51.9	22.8	968	451	-0.1	35,744	41.0	15.3
10/19/2010 20:13	10.2	51.9	22.8	968	451	-0.1	35,723	41.0	15.3
10/19/2010 20:14	10.2	51.9	22.8	968	451	-0.1	35,681	41.0	15.3
10/19/2010 20:15	10.2	51.9	22.8	968	451	-0.1	35,639	41.0	15.3
10/19/2010 20:16	10.2	51.9	22.8	968	451	-0.1	35,597	41.0	15.3
10/19/2010 20:17	10.2	51.9	22.8	968	451	-0.1	35,576	41.0	15.3
10/19/2010 20:18	10.2	51.9	22.8	968	451	-0.1	35,534	41.0	15.3
10/19/2010 20:19	10.2	51.9	22.8	968	451	-0.1	35,513	41.0	15.3
10/19/2010 20:20	10.2	51.9	22.8	968	451	-0.1	35,492	41.0	15.3
10/19/2010 20:21	10.2	51.9	22.8	968	451	-0.1	35,492	41.0	15.3
10/19/2010 20:22	10.2	51.9	22.8	968	451	-0.1	35,471	41.0	15.3
10/19/2010 20:23	10.2	51.9	22.8	968	451	-0.2	35,471	41.0	15.3
10/19/2010 20:24	10.2	51.9	22.8	968	451	-0.1	35,471	41.0	15.3
10/19/2010 20:25	10.2	51.9	22.8	968	451	-0.1	35,471	41.0	15.3
10/19/2010 20:26	10.2	51.9	22.8	968	451	-0.1	35,450	41.0	15.3
10/19/2010 20:27	10.2	51.9	22.8	968	451	-0.1	35,450	41.0	15.3
10/19/2010 20:28	10.2	51.9	22.8	967	451	-0.1	35,471	41.0	15.3
10/19/2010 20:29	10.2	52.0	22.8	967	451	-0.1	35,492	41.0	15.3
10/19/2010 20:30	10.2	52.0	22.8	967	451	-0.1	35,492	41.0	15.3
10/19/2010 20:31	10.2	52.0	22.8	967	451	-0.1	35,492	40.0	15.3
10/19/2010 20:32	10.2	52.0	22.8	967	451	-0.1	35,492	40.0	15.3
10/19/2010 20:33	10.2	52.1	22.8	966	451	-0.1	35,471	40.0	15.3
10/19/2010 20:34	10.2	52.1	22.8	966	451	-0.1	35,450	40.0	15.3
10/19/2010 20:35	10.2	52.1	22.8	967	451	-0.1	35,429	40.0	15.3
10/19/2010 20:36	10.2	52.1	22.8	967	451	-0.1	35,408	40.0	15.3
10/19/2010 20:37	10.2	52.2	22.8	967	451	-0.1	35,387	40.0	15.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/19/2010 20:38	10.3	52.2	22.8	967	451	-0.1	35,366	40.0	15.3
10/19/2010 20:39	10.3	52.2	22.8	967	451	-0.1	35,345	40.0	15.3
10/19/2010 20:40	10.3	52.2	22.8	967	451	-0.1	35,324	40.0	15.3
10/19/2010 20:41	10.3	52.3	22.8	968	451	-0.1	35,303	40.0	15.3
10/19/2010 20:42	10.3	52.3	22.8	968	451	-0.1	35,303	40.0	15.3
10/19/2010 20:43	10.3	52.3	22.8	968	451	-0.1	35,282	40.0	15.3
10/19/2010 20:44	10.3	52.3	22.8	968	451	-0.1	35,282	40.0	15.3
10/19/2010 20:45	10.3	52.4	22.8	968	451	-0.1	35,261	40.0	15.3
10/19/2010 20:46	10.3	52.4	22.8	968	451	-0.1	35,261	40.0	15.3
10/19/2010 20:47	10.3	52.4	22.8	968	451	-0.1	35,240	40.0	15.3
10/19/2010 20:48	10.3	52.4	22.8	968	451	-0.1	35,219	40.0	15.3
10/19/2010 20:49	10.3	52.4	22.8	969	451	-0.1	35,219	40.0	15.3
10/19/2010 20:50	10.3	52.5	22.8	969	451	-0.1	35,219	40.0	15.3
10/19/2010 20:51	10.3	52.5	22.8	969	451	-0.1	35,198	40.0	15.3
10/19/2010 20:52	10.3	52.5	22.8	969	451	-0.1	35,198	39.0	15.3
10/19/2010 20:53	10.3	52.5	22.8	969	451	-0.1	35,219	39.0	15.3
10/19/2010 20:54	10.3	52.5	22.8	969	451	-0.1	35,219	39.0	15.3
10/19/2010 20:55	10.3	52.6	22.8	969	451	-0.1	35,219	39.0	15.3
10/19/2010 20:56	10.3	52.6	22.8	969	450	-0.3	35,219	39.0	15.3
10/19/2010 20:57	10.3	52.6	22.8	969	450	-0.1	35,240	39.0	15.3
10/19/2010 20:58	10.3	52.6	22.8	969	450	-0.1	35,240	39.0	15.3
10/19/2010 20:59	10.3	52.6	22.8	969	450	-0.1	35,240	39.0	15.3
10/19/2010 21:00	10.3	52.6	22.8	969	450	-0.1	35,240	39.0	15.3
AVERAGE	**10.2**	**55.9**	**22.8**	**972**	**450**	**-0.1**	**35,874**	**40.8**	**15.3**
MINIMUM	**10.1**	**51.8**	**22.8**	**966**	**448**	**-0.3**	**35,198**	**39.0**	**15.3**
MAXIMUM	**10.3**	**65.5**	**22.9**	**978**	**451**	**-0.1**	**36,962**	**41.0**	**15.4**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 09:30	10.1	50.9	22.8	864	449	-0.4	33,707	29.0	14.9
10/20/2010 09:31	10.1	50.9	22.8	864	449	-0.4	33,686	29.0	14.9
10/20/2010 09:32	10.1	50.9	22.8	865	449	-0.4	33,686	29.0	14.9
10/20/2010 09:33	10.1	50.9	22.8	865	449	-0.4	33,665	29.0	14.8
10/20/2010 09:34	10.1	50.9	22.8	865	448	-0.4	33,665	29.0	14.8
10/20/2010 09:35	10.1	50.9	22.8	865	448	-0.3	33,665	29.0	14.9
10/20/2010 09:36	10.1	50.9	22.8	865	448	-0.3	33,665	29.0	14.9
10/20/2010 09:37	10.1	50.9	22.8	865	448	-0.3	33,665	29.0	14.9
10/20/2010 09:38	10.1	50.9	22.8	865	448	-0.2	33,686	29.0	14.9
10/20/2010 09:39	10.1	50.9	22.8	865	448	-0.4	33,686	29.0	14.8
10/20/2010 09:40	10.1	50.9	22.8	865	447	-0.3	33,686	29.0	14.8
10/20/2010 09:41	10.1	50.9	22.8	865	447	-0.3	33,686	29.0	14.8
10/20/2010 09:42	10.1	50.8	22.8	865	447	-0.4	33,686	29.0	14.8
10/20/2010 09:43	10.1	50.8	22.8	865	447	-0.4	33,707	29.0	14.8
10/20/2010 09:44	10.1	50.8	22.9	865	448	-0.4	33,707	29.0	14.8
10/20/2010 09:45	10.1	50.8	22.9	865	448	-0.4	33,707	29.0	14.8
10/20/2010 09:46	10.1	50.8	22.9	865	448	-0.4	33,707	29.0	14.8
10/20/2010 09:47	10.1	50.8	22.9	865	448	-0.4	33,707	29.0	14.8
10/20/2010 09:48	10.1	50.8	22.9	865	448	-0.4	33,707	29.0	14.8
10/20/2010 09:49	10.1	50.8	22.9	865	448	-0.3	33,728	29.0	14.8
10/20/2010 09:50	10.1	51.2	22.9	865	448	-0.4	33,728	29.0	14.8
10/20/2010 09:51	10.1	51.6	22.9	865	448	-0.4	33,728	29.0	14.8
10/20/2010 09:52	10.1	51.9	22.9	865	448	-0.4	33,728	29.0	14.8
10/20/2010 09:53	10.1	52.3	22.9	865	449	-0.4	33,749	29.0	14.8
10/20/2010 09:54	10.1	52.6	22.9	865	449	-0.4	33,749	29.0	14.8
10/20/2010 09:55	10.1	52.8	23.0	865	449	-0.5	33,770	29.0	14.8
10/20/2010 09:56	10.0	53.1	23.0	865	449	-0.3	33,791	29.0	14.8
10/20/2010 09:57	10.0	53.2	23.0	865	449	-0.4	33,791	29.0	14.8
10/20/2010 09:58	10.0	53.3	23.0	865	449	-0.4	33,812	29.0	14.8
10/20/2010 09:59	10.0	53.4	23.0	865	449	-0.3	33,812	29.0	14.8
10/20/2010 10:00	10.0	53.5	23.0	864	450	-0.4	33,833	29.0	14.9
10/20/2010 10:01	10.1	53.6	23.0	864	450	-0.4	33,833	29.0	14.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 10:02	10.1	53.7	23.0	864	450	-0.4	33,875	29.0	14.9
10/20/2010 10:03	10.1	53.8	23.0	864	450	-0.4	33,875	29.0	14.8
10/20/2010 10:04	10.1	53.9	23.0	864	450	-0.4	33,896	29.0	14.8
10/20/2010 10:05	10.1	54.0	23.0	864	450	-0.4	33,896	29.0	14.8
10/20/2010 10:06	10.1	54.2	23.0	864	450	-0.4	33,896	28.0	14.8
10/20/2010 10:07	10.1	54.3	23.1	864	450	-0.4	33,917	28.0	14.8
10/20/2010 10:08	10.1	54.4	23.1	864	450	-0.4	33,938	28.0	14.8
10/20/2010 10:09	10.1	54.5	23.1	864	450	-0.3	33,938	28.0	14.8
10/20/2010 10:10	10.1	54.6	23.1	864	450	-0.4	33,959	28.0	14.8
10/20/2010 10:11	10.1	54.7	23.1	864	450	-0.4	33,980	28.0	14.8
10/20/2010 10:12	10.1	54.9	23.1	864	451	-0.4	33,980	28.0	14.8
10/20/2010 10:13	10.0	55.1	23.1	864	451	-0.4	33,980	28.0	14.8
10/20/2010 10:14	10.1	55.2	23.1	864	451	-0.4	33,980	28.0	14.9
10/20/2010 10:15	10.1	55.3	23.1	864	451	-0.4	34,001	28.0	14.9
10/20/2010 10:16	10.1	55.3	23.1	864	451	-0.4	34,001	28.0	14.9
10/20/2010 10:17	10.1	55.5	23.1	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:18	10.1	55.7	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:19	10.1	56.0	23.2	864	450	-0.3	34,022	28.0	14.9
10/20/2010 10:20	10.1	56.2	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:21	10.1	56.3	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:22	10.0	56.4	23.2	864	450	-0.4	34,022	28.0	14.9
10/20/2010 10:23	10.0	56.5	23.2	864	450	-0.5	34,022	28.0	14.9
10/20/2010 10:24	10.0	56.6	23.2	864	450	-0.4	34,043	28.0	14.9
10/20/2010 10:25	10.1	56.7	23.2	864	450	-0.5	34,043	28.0	14.9
10/20/2010 10:26	10.1	56.8	23.2	864	450	-0.4	34,043	28.0	14.9
10/20/2010 10:27	10.1	56.9	23.2	864	450	-0.4	34,043	28.0	14.9
10/20/2010 10:28	10.1	57.0	23.2	864	450	-0.3	34,064	28.0	14.9
10/20/2010 10:29	10.1	57.1	23.2	864	450	-0.3	34,064	28.0	14.9
10/20/2010 10:30	10.1	57.2	23.3	864	450	-0.4	34,064	28.0	14.9
10/20/2010 10:31	10.1	57.3	23.3	864	450	-0.3	34,064	28.0	14.9
10/20/2010 10:32	10.1	57.4	23.3	864	450	-0.4	34,064	28.0	14.9
10/20/2010 10:33	10.1	57.5	23.3	864	450	-0.3	34,064	28.0	14.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 10:34	10.1	57.6	23.3	864	450	-0.4	34,085	28.0	14.9
10/20/2010 10:35	10.1	57.7	23.3	864	450	-0.4	34,064	28.0	14.9
10/20/2010 10:36	10.1	57.8	23.3	864	450	-0.3	34,064	28.0	14.9
10/20/2010 10:37	10.1	57.9	23.3	865	450	-0.4	34,064	28.0	14.9
10/20/2010 10:38	10.1	58.0	23.3	865	450	-0.3	34,064	28.0	14.9
10/20/2010 10:39	10.1	58.2	23.3	865	450	-0.3	34,043	28.0	14.9
10/20/2010 10:40	10.1	58.3	23.3	865	450	-0.3	34,043	28.0	14.9
10/20/2010 10:41	10.1	58.4	23.3	865	450	-0.2	34,043	28.0	14.9
10/20/2010 10:42	10.1	58.5	23.3	865	450	-0.5	34,043	28.0	14.9
10/20/2010 10:43	10.1	58.6	23.3	865	451	-0.3	34,022	28.0	14.9
10/20/2010 10:44	10.1	58.7	23.3	865	451	-0.4	34,022	28.0	14.9
10/20/2010 10:45	10.1	58.8	23.3	865	451	-0.4	34,022	28.0	14.9
10/20/2010 10:46	10.1	58.9	23.3	865	451	-0.4	34,022	28.0	14.9
10/20/2010 10:47	10.1	59.0	23.3	865	451	-0.4	34,022	28.0	14.9
10/20/2010 10:48	10.1	59.1	23.3	865	451	-0.4	34,022	28.0	14.9
10/20/2010 10:49	10.1	59.2	23.3	865	451	-0.4	34,022	28.0	14.9
10/20/2010 10:50	10.2	58.9	23.3	865	451	-0.4	34,001	28.0	14.9
10/20/2010 10:51	10.2	58.7	23.3	865	451	-0.4	34,001	28.0	14.9
10/20/2010 10:52	10.2	58.4	23.3	865	451	-0.4	33,980	28.0	14.9
10/20/2010 10:53	10.2	58.2	23.3	865	451	-0.4	33,959	28.0	14.9
10/20/2010 10:54	10.2	58.0	23.3	865	451	-0.4	33,959	28.0	14.9
10/20/2010 10:55	10.2	57.8	23.3	865	451	-0.4	33,917	28.0	14.9
10/20/2010 10:56	10.2	57.6	23.3	865	450	-0.4	33,896	28.0	14.9
10/20/2010 10:57	10.2	57.6	23.3	865	450	-0.4	33,896	28.0	14.9
10/20/2010 10:58	10.2	57.6	23.3	865	450	-0.4	33,875	28.0	14.9
10/20/2010 10:59	10.2	57.6	23.3	865	450	-0.4	33,854	28.0	14.9
10/20/2010 11:00	10.2	57.6	23.3	865	450	-0.4	33,854	28.0	14.9
10/20/2010 11:01	10.2	57.6	23.3	865	450	-0.4	33,833	28.0	14.9
10/20/2010 11:02	10.1	57.6	23.3	865	450	-0.4	33,812	28.0	14.9
10/20/2010 11:03	10.1	57.6	23.3	865	450	-0.4	33,812	28.0	14.9
10/20/2010 11:04	10.1	57.6	23.3	865	450	-0.3	33,812	28.0	14.9
10/20/2010 11:05	10.1	57.6	23.3	865	450	-0.4	33,812	28.0	14.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 11:06	10.1	57.6	23.3	865	450	-0.4	33,791	28.0	14.9
10/20/2010 11:07	10.1	57.6	23.3	865	450	-0.4	33,791	28.0	14.9
10/20/2010 11:08	10.1	57.6	23.3	865	450	-0.4	33,770	28.0	14.9
10/20/2010 11:09	10.1	57.6	23.3	865	450	-0.4	33,749	28.0	14.9
10/20/2010 11:10	10.1	57.6	23.3	865	450	-0.4	33,749	28.0	14.9
10/20/2010 11:11	10.1	57.6	23.3	865	450	-0.5	33,728	28.0	14.9
10/20/2010 11:12	10.1	57.4	23.3	865	450	-0.5	33,707	28.0	14.9
10/20/2010 11:13	10.1	57.3	23.3	865	450	-0.5	33,707	28.0	14.9
10/20/2010 11:14	10.1	57.4	23.3	864	450	-0.5	33,707	28.0	14.9
10/20/2010 11:15	10.1	57.4	23.3	864	450	-0.2	33,707	28.0	14.9
10/20/2010 11:16	10.1	57.4	23.3	864	450	-0.2	33,686	28.0	14.9
10/20/2010 11:17	10.1	57.4	23.3	864	450	-0.2	33,686	28.0	14.9
10/20/2010 11:18	10.2	57.2	23.3	864	450	-0.3	33,707	28.0	14.9
10/20/2010 11:19	10.2	57.1	23.3	865	450	-0.4	33,686	28.0	15.0
10/20/2010 11:20	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:21	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:22	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:23	10.2	57.0	23.3	865	451	-0.4	33,686	28.0	14.9
10/20/2010 11:24	10.2	57.0	23.3	865	451	-0.5	33,686	28.0	14.9
10/20/2010 11:25	10.1	56.9	23.3	865	451	-0.4	33,665	28.0	14.9
10/20/2010 11:26	10.1	56.9	23.3	865	451	-0.4	33,665	28.0	15.0
10/20/2010 11:27	10.1	56.9	23.3	865	451	-0.4	33,665	28.0	15.0
10/20/2010 11:28	10.1	56.9	23.3	865	451	-0.4	33,644	28.0	15.0
10/20/2010 11:29	10.1	56.9	23.3	865	451	-0.4	33,644	28.0	15.0
10/20/2010 11:30	10.2	56.9	23.3	865	451	-0.3	33,644	28.0	15.0
10/20/2010 11:31	10.2	56.9	23.3	865	451	-0.4	33,644	28.0	15.0
10/20/2010 11:32	10.2	56.9	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:33	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:34	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:35	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:36	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:37	10.2	57.0	23.3	865	451	-0.4	33,623	28.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 11:38	10.2	56.9	23.3	865	451	-0.4	33,623	28.0	15.0
10/20/2010 11:39	10.2	57.0	23.3	866	451	-0.5	33,602	28.0	15.0
10/20/2010 11:40	10.2	57.0	23.3	866	451	-0.4	33,602	28.0	15.0
10/20/2010 11:41	10.2	57.0	23.3	866	451	-0.4	33,581	28.0	15.0
10/20/2010 11:42	10.2	57.0	23.3	866	451	-0.4	33,581	28.0	15.0
10/20/2010 11:43	10.1	57.0	23.3	866	451	-0.4	33,560	28.0	15.0
10/20/2010 11:44	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:45	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:46	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:47	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:48	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:49	10.2	57.0	23.3	866	451	-0.4	33,539	29.0	15.0
10/20/2010 11:50	10.2	57.0	23.3	866	451	-0.3	33,560	29.0	15.0
10/20/2010 11:51	10.2	57.0	23.3	866	451	-0.4	33,581	29.0	15.0
10/20/2010 11:52	10.2	57.0	23.3	866	451	-0.3	33,602	29.0	15.0
10/20/2010 11:53	10.2	57.0	23.3	866	451	-0.4	33,623	29.0	15.1
10/20/2010 11:54	10.2	57.0	23.3	867	451	-0.3	33,644	29.0	15.0
10/20/2010 11:55	10.2	57.0	23.3	867	451	-0.4	33,665	29.0	15.0
10/20/2010 11:56	10.2	57.0	23.3	867	450	-0.4	33,686	29.0	15.0
10/20/2010 11:57	10.2	57.0	23.3	867	450	-0.3	33,707	29.0	15.0
10/20/2010 11:58	10.2	56.9	23.3	867	450	-0.4	33,728	29.0	15.0
10/20/2010 11:59	10.2	56.9	23.3	867	450	-0.4	33,749	29.0	15.0
10/20/2010 12:00	10.2	56.9	23.3	867	450	-0.4	33,770	29.0	15.0
10/20/2010 12:01	10.2	57.0	23.3	867	450	-0.4	33,791	29.0	15.0
10/20/2010 12:02	10.2	56.9	23.3	867	450	-0.4	33,812	29.0	15.0
10/20/2010 12:03	10.2	56.9	23.3	867	450	-0.5	33,812	29.0	15.0
10/20/2010 12:04	10.2	56.9	23.3	867	450	-0.4	33,833	29.0	15.0
10/20/2010 12:05	10.2	56.9	23.3	867	450	-0.5	33,854	29.0	15.0
10/20/2010 12:06	10.2	56.9	23.3	867	450	-0.5	33,875	29.0	15.0
10/20/2010 12:07	10.2	56.9	23.3	867	450	-0.4	33,917	29.0	15.0
10/20/2010 12:08	10.2	56.9	23.3	867	450	-0.5	33,917	29.0	15.0
10/20/2010 12:09	10.2	56.9	23.3	867	450	-0.4	33,959	29.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 12:10	10.2	56.9	23.3	867	450	-0.2	33,980	29.0	15.0
10/20/2010 12:11	10.2	56.9	23.3	867	449	-0.2	34,001	29.0	15.0
10/20/2010 12:12	10.2	56.9	23.3	867	449	-0.3	34,022	29.0	15.0
10/20/2010 12:13	10.2	56.9	23.3	867	449	-0.4	34,064	29.0	15.0
10/20/2010 12:14	10.2	56.9	23.3	867	449	-0.3	34,064	29.0	15.0
10/20/2010 12:15	10.2	56.9	23.3	868	450	-0.4	34,085	29.0	15.0
10/20/2010 12:16	10.2	56.9	23.3	868	450	-0.4	34,106	29.0	15.0
10/20/2010 12:17	10.2	56.9	23.3	868	450	-0.4	34,127	29.0	15.0
10/20/2010 12:18	10.2	56.9	23.3	868	450	-0.4	34,127	29.0	15.0
10/20/2010 12:19	10.2	56.9	23.3	868	450	-0.4	34,148	29.0	15.0
10/20/2010 12:20	10.2	56.9	23.3	867	449	-0.4	34,169	29.0	15.0
10/20/2010 12:21	10.2	56.9	23.3	867	449	-0.4	34,190	29.0	15.0
10/20/2010 12:22	10.2	56.9	23.3	867	449	-0.4	34,190	29.0	15.0
10/20/2010 12:23	10.2	56.9	23.3	867	449	-0.4	34,211	29.0	15.0
10/20/2010 12:24	10.2	56.9	23.3	867	449	-0.4	34,232	29.0	15.0
10/20/2010 12:25	10.2	56.9	23.3	867	449	-0.5	34,253	29.0	15.0
10/20/2010 12:26	10.3	56.9	23.3	867	449	-0.4	34,274	29.0	15.0
10/20/2010 12:27	10.3	56.9	23.3	867	449	-0.5	34,295	29.0	15.0
10/20/2010 12:28	10.2	56.9	23.3	867	449	-0.4	34,316	29.0	15.0
10/20/2010 12:29	10.2	56.9	23.3	867	449	-0.5	34,316	29.0	15.0
10/20/2010 12:30	10.3	56.9	23.3	867	449	-0.5	34,337	29.0	15.0
10/20/2010 12:31	10.3	56.9	23.3	867	449	-0.4	34,337	29.0	15.0
10/20/2010 12:32	10.3	56.9	23.3	867	449	-0.4	34,337	29.0	15.0
AVERAGE	**10.1**	**56.0**	**23.2**	**865**	**450**	**-0.4**	**33,857**	**28.5**	**14.9**
MINIMUM	**10.0**	**50.8**	**22.8**	**864**	**447**	**-0.5**	**33,539**	**28.0**	**14.8**
MAXIMUM	**10.3**	**59.2**	**23.3**	**868**	**451**	**-0.2**	**34,337**	**29.0**	**15.1**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 13:00	10.3	57.7	23.3	865	451	-0.4	34,379	30.0	15.0
10/20/2010 13:01	10.3	57.7	23.3	865	451	-0.3	34,379	30.0	15.0
10/20/2010 13:02	10.3	57.7	23.3	865	451	-0.5	34,358	30.0	15.0
10/20/2010 13:03	10.3	57.7	23.3	865	451	-0.4	34,337	30.0	15.0
10/20/2010 13:04	10.3	57.7	23.3	865	452	-0.4	34,337	30.0	15.0
10/20/2010 13:05	10.3	57.7	23.3	865	452	-0.4	34,316	30.0	15.0
10/20/2010 13:06	10.3	57.7	23.3	866	452	-0.4	34,295	30.0	15.0
10/20/2010 13:07	10.3	57.7	23.3	866	452	-0.4	34,274	30.0	15.0
10/20/2010 13:08	10.3	57.7	23.3	866	452	-0.4	34,274	30.0	15.0
10/20/2010 13:09	10.3	57.7	23.3	866	452	-0.4	34,253	30.0	15.0
10/20/2010 13:10	10.3	57.7	23.3	866	452	-0.4	34,232	31.0	15.0
10/20/2010 13:11	10.3	57.7	23.3	866	452	-0.4	34,211	31.0	15.0
10/20/2010 13:12	10.3	57.7	23.3	866	452	-0.4	34,190	31.0	15.0
10/20/2010 13:13	10.3	57.7	23.3	866	452	-0.4	34,169	31.0	15.0
10/20/2010 13:14	10.3	57.7	23.3	866	452	-0.5	34,148	31.0	15.0
10/20/2010 13:15	10.3	57.6	23.3	866	452	-0.4	34,148	31.0	15.0
10/20/2010 13:16	10.3	57.6	23.3	866	452	-0.4	34,127	31.0	15.0
10/20/2010 13:17	10.3	57.5	23.3	866	452	-0.4	34,127	31.0	15.0
10/20/2010 13:18	10.3	57.5	23.3	866	452	-0.4	34,106	31.0	15.0
10/20/2010 13:19	10.3	57.4	23.3	866	452	-0.5	34,085	31.0	15.0
10/20/2010 13:20	10.3	57.4	23.3	866	452	-0.4	34,064	31.0	15.0
10/20/2010 13:21	10.3	57.4	23.3	866	452	-0.4	34,043	31.0	15.0
10/20/2010 13:22	10.3	57.3	23.3	866	452	-0.4	34,043	31.0	15.0
10/20/2010 13:23	10.3	57.3	23.3	866	452	-0.5	34,022	31.0	15.0
10/20/2010 13:24	10.3	57.2	23.3	866	452	-0.5	34,001	31.0	15.0
10/20/2010 13:25	10.3	57.2	23.3	866	452	-0.4	33,980	31.0	15.0
10/20/2010 13:26	10.3	57.2	23.3	866	452	-0.4	33,980	31.0	15.1
10/20/2010 13:27	10.3	57.1	23.3	866	452	-0.5	33,959	31.0	15.1
10/20/2010 13:28	10.3	57.1	23.3	866	452	-0.4	33,959	31.0	15.1
10/20/2010 13:29	10.2	57.0	23.3	866	452	-0.4	33,938	31.0	15.1
10/20/2010 13:30	10.2	56.9	23.3	866	452	-0.4	33,938	31.0	15.1
10/20/2010 13:31	10.2	56.9	23.3	866	452	-0.5	33,917	31.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 13:32	10.2	56.8	23.3	866	452	-0.4	33,917	31.0	15.0
10/20/2010 13:33	10.2	56.7	23.3	866	452	-0.4	33,917	31.0	15.0
10/20/2010 13:34	10.3	56.8	23.3	866	452	-0.4	33,917	32.0	15.1
10/20/2010 13:35	10.3	56.6	23.3	866	452	-0.5	33,917	32.0	15.1
10/20/2010 13:36	10.3	56.5	23.3	866	452	-0.4	33,896	32.0	15.0
10/20/2010 13:37	10.3	56.4	23.3	866	452	-0.4	33,917	32.0	15.0
10/20/2010 13:38	10.2	56.3	23.3	866	452	-0.4	33,917	32.0	15.0
10/20/2010 13:39	10.2	56.1	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:40	10.2	56.0	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:41	10.2	55.9	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:42	10.3	55.7	23.3	867	452	-0.5	33,917	32.0	15.0
10/20/2010 13:43	10.3	55.5	23.3	867	452	-0.5	33,917	32.0	15.0
10/20/2010 13:44	10.3	55.3	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:45	10.3	55.1	23.3	867	452	-0.4	33,917	32.0	15.0
10/20/2010 13:46	10.2	55.0	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:47	10.2	54.9	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:48	10.2	54.8	23.3	867	452	-0.5	33,896	32.0	15.0
10/20/2010 13:49	10.2	54.7	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:50	10.2	54.6	23.3	867	452	-0.4	33,896	32.0	15.0
10/20/2010 13:51	10.2	54.5	23.3	867	452	-0.4	33,875	32.0	15.0
10/20/2010 13:52	10.2	54.4	23.3	867	452	-0.4	33,875	32.0	15.0
10/20/2010 13:53	10.2	54.3	23.3	867	452	-0.4	33,854	32.0	15.0
10/20/2010 13:54	10.2	54.2	23.3	867	452	-0.4	33,854	32.0	15.0
10/20/2010 13:55	10.2	54.1	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 13:56	10.2	54.0	23.3	867	451	-0.4	33,812	32.0	15.0
10/20/2010 13:57	10.2	53.9	23.3	867	451	-0.4	33,812	32.0	15.0
10/20/2010 13:58	10.2	53.8	23.3	867	451	-0.5	33,812	32.0	15.0
10/20/2010 13:59	10.2	53.7	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 14:00	10.2	53.6	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 14:01	10.2	53.5	23.3	867	451	-0.4	33,833	32.0	15.0
10/20/2010 14:02	10.2	53.4	23.3	867	451	-0.4	33,854	32.0	15.0
10/20/2010 14:03	10.2	53.3	23.3	867	451	-0.4	33,854	32.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 14:04	10.2	53.2	23.3	867	451	-0.4	33,854	32.0	15.0
10/20/2010 14:05	10.2	53.1	23.3	867	451	-0.5	33,875	33.0	15.0
10/20/2010 14:06	10.2	53.0	23.3	867	451	-0.5	33,875	33.0	15.0
10/20/2010 14:07	10.2	52.9	23.3	867	451	-0.5	33,875	33.0	15.0
10/20/2010 14:08	10.2	52.8	23.3	867	451	-0.6	33,896	33.0	15.0
10/20/2010 14:09	10.2	52.7	23.3	867	451	-0.5	33,896	33.0	15.0
10/20/2010 14:10	10.2	52.6	23.3	867	451	-0.5	33,896	33.0	15.0
10/20/2010 14:11	10.2	52.6	23.3	867	451	-0.3	33,917	33.0	15.0
10/20/2010 14:12	10.2	52.5	23.3	867	451	-0.3	33,917	33.0	15.0
10/20/2010 14:13	10.3	52.4	23.3	867	451	-0.4	33,938	33.0	15.0
10/20/2010 14:14	10.3	52.3	23.3	867	451	-0.4	33,938	33.0	15.0
10/20/2010 14:15	10.3	52.3	23.3	867	451	-0.4	33,938	33.0	15.0
10/20/2010 14:16	10.3	52.2	23.3	867	451	-0.4	33,959	33.0	15.0
10/20/2010 14:17	10.3	52.2	23.3	867	451	-0.5	33,938	33.0	15.0
10/20/2010 14:18	10.3	52.1	23.3	867	451	-0.5	33,959	33.0	15.0
10/20/2010 14:19	10.3	52.1	23.3	867	451	-0.4	33,959	33.0	15.0
10/20/2010 14:20	10.3	52.0	23.3	867	451	-0.5	33,980	33.0	15.0
10/20/2010 14:21	10.3	52.0	23.3	867	451	-0.4	33,980	33.0	15.0
10/20/2010 14:22	10.3	51.9	23.3	867	451	-0.4	33,980	33.0	15.0
10/20/2010 14:23	10.3	51.8	23.3	867	451	-0.4	34,001	33.0	15.0
10/20/2010 14:24	10.3	51.8	23.3	867	451	-0.4	34,001	33.0	15.0
10/20/2010 14:25	10.3	51.7	23.3	867	451	-0.5	34,001	33.0	15.0
10/20/2010 14:26	10.3	51.7	23.3	867	451	-0.4	34,001	33.0	15.0
10/20/2010 14:27	10.3	51.6	23.3	867	451	-0.5	34,001	33.0	15.0
10/20/2010 14:28	10.3	51.6	23.3	867	451	-0.4	34,022	33.0	15.0
10/20/2010 14:29	10.3	51.5	23.3	867	451	-0.5	34,022	33.0	15.0
10/20/2010 14:30	10.3	51.5	23.3	868	451	-0.5	34,022	33.0	15.0
10/20/2010 14:31	10.3	51.5	23.3	868	451	-0.4	34,043	33.0	15.0
10/20/2010 14:32	10.3	51.4	23.3	868	451	-0.5	34,043	33.0	15.0
10/20/2010 14:33	10.3	51.4	23.3	868	451	-0.4	34,043	33.0	15.0
10/20/2010 14:34	10.3	51.4	23.3	868	451	-0.5	34,043	33.0	15.0
10/20/2010 14:35	10.3	51.3	23.3	868	451	-0.5	34,043	33.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 14:36	10.3	51.3	23.3	868	451	-0.5	34,043	33.0	15.0
10/20/2010 14:37	10.3	51.3	23.3	868	451	-0.5	34,043	33.0	15.0
10/20/2010 14:38	10.3	51.2	23.3	868	451	-0.4	34,043	33.0	15.0
10/20/2010 14:39	10.3	51.2	23.3	868	451	-0.5	34,043	34.0	15.0
10/20/2010 14:40	10.3	51.1	23.3	868	451	-0.4	34,022	34.0	15.0
10/20/2010 14:41	10.3	51.1	23.3	868	451	-0.4	34,022	34.0	15.0
10/20/2010 14:42	10.3	51.1	23.3	868	451	-0.5	34,043	34.0	15.0
10/20/2010 14:43	10.3	51.1	23.3	867	451	-0.4	34,043	34.0	15.0
10/20/2010 14:44	10.3	51.1	23.3	867	451	-0.4	34,043	34.0	15.1
10/20/2010 14:45	10.3	51.1	23.3	867	451	-0.4	34,043	34.0	15.1
10/20/2010 14:46	10.3	51.1	23.3	867	451	-0.4	34,043	34.0	15.1
10/20/2010 14:47	10.3	51.1	23.3	867	451	-0.5	34,043	34.0	15.1
10/20/2010 14:48	10.3	51.1	23.3	867	452	-0.5	34,043	34.0	15.1
10/20/2010 14:49	10.3	51.1	23.3	867	452	-0.5	34,022	34.0	15.1
10/20/2010 14:50	10.3	51.1	23.3	867	452	-0.5	34,022	34.0	15.1
10/20/2010 14:51	10.3	51.1	23.3	867	452	-0.5	34,043	34.0	15.1
10/20/2010 14:52	10.3	51.1	23.3	867	452	-0.4	34,043	34.0	15.1
10/20/2010 14:53	10.3	51.1	23.3	867	452	-0.3	34,064	34.0	15.1
10/20/2010 14:54	10.3	51.1	23.3	867	452	-0.5	34,064	34.0	15.1
10/20/2010 14:55	10.3	51.1	23.3	867	452	-0.4	34,064	34.0	15.1
10/20/2010 14:56	10.3	51.1	23.3	867	452	-0.4	34,064	34.0	15.1
10/20/2010 14:57	10.3	51.1	23.3	867	452	-0.5	34,064	34.0	15.1
10/20/2010 14:58	10.3	51.1	23.3	867	452	-0.5	34,043	34.0	15.1
10/20/2010 14:59	10.3	51.1	23.3	867	452	-0.5	34,001	34.0	15.1
10/20/2010 15:00	10.3	51.1	23.3	867	452	-0.4	34,001	34.0	15.1
10/20/2010 15:01	10.3	51.1	23.3	867	452	-0.5	33,980	34.0	15.1
10/20/2010 15:02	10.3	51.2	23.3	867	452	-0.5	33,959	34.0	15.1
10/20/2010 15:03	10.3	51.2	23.3	867	452	-0.5	33,917	34.0	15.1
10/20/2010 15:04	10.3	51.2	23.3	867	452	-0.5	33,896	34.0	15.1
10/20/2010 15:05	10.3	51.2	23.3	867	452	-0.4	33,875	34.0	15.1
10/20/2010 15:06	10.3	51.2	23.3	867	452	-0.5	33,854	34.0	15.1
10/20/2010 15:07	10.3	51.2	23.3	867	452	-0.4	33,833	34.0	15.1

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 15:08	10.3	51.2	23.3	867	452	-0.5	33,812	34.0	15.1
10/20/2010 15:09	10.3	51.2	23.3	868	452	-0.5	33,812	34.0	15.1
10/20/2010 15:10	10.3	51.2	23.3	868	452	-0.4	33,791	34.0	15.1
10/20/2010 15:11	10.3	51.2	23.3	868	452	-0.5	33,770	34.0	15.1
10/20/2010 15:12	10.3	51.2	23.3	868	452	-0.4	33,749	34.0	15.1
10/20/2010 15:13	10.3	51.2	23.3	868	452	-0.4	33,728	34.0	15.1
10/20/2010 15:14	10.3	51.1	23.3	868	452	-0.5	33,728	34.0	15.1
10/20/2010 15:15	10.3	51.1	23.3	868	452	-0.4	33,707	35.0	15.1
10/20/2010 15:16	10.3	51.1	23.3	868	452	-0.5	33,707	35.0	15.1
10/20/2010 15:17	10.3	51.2	23.3	867	452	-0.4	33,686	35.0	15.1
10/20/2010 15:18	10.3	51.2	23.3	867	452	-0.4	33,665	35.0	15.1
10/20/2010 15:19	10.3	51.2	23.3	867	452	-0.4	33,644	35.0	15.1
10/20/2010 15:20	10.3	51.2	23.3	867	452	-0.4	33,644	35.0	15.1
10/20/2010 15:21	10.3	51.2	23.3	867	452	-0.4	33,644	35.0	15.1
10/20/2010 15:22	10.3	51.2	23.3	867	452	-0.4	33,623	35.0	15.1
10/20/2010 15:23	10.3	51.2	23.3	867	452	-0.4	33,602	35.0	15.1
10/20/2010 15:24	10.3	51.2	23.3	867	452	-0.4	33,581	35.0	15.1
10/20/2010 15:25	10.3	51.2	23.3	867	452	-0.4	33,581	35.0	15.1
10/20/2010 15:26	10.3	51.2	23.3	867	452	-0.4	33,560	35.0	15.1
10/20/2010 15:27	10.3	51.1	23.3	867	452	-0.4	33,539	35.0	15.0
10/20/2010 15:28	10.3	51.1	23.3	867	452	-0.4	33,518	35.0	15.0
10/20/2010 15:29	10.3	51.2	23.3	867	452	-0.4	33,518	35.0	15.0
10/20/2010 15:30	10.3	51.2	23.3	867	452	-0.4	33,497	34.0	15.0
10/20/2010 15:31	10.3	51.2	23.3	867	452	-0.4	33,497	34.0	15.0
10/20/2010 15:32	10.3	51.2	23.3	867	452	-0.3	33,476	34.0	15.0
10/20/2010 15:33	10.3	51.2	23.3	867	452	-0.5	33,476	34.0	15.0
10/20/2010 15:34	10.3	51.2	23.3	867	452	-0.4	33,455	34.0	15.0
10/20/2010 15:35	10.3	51.2	23.3	867	452	-0.4	33,455	34.0	15.0
10/20/2010 15:36	10.3	51.2	23.3	867	452	-0.5	33,434	34.0	15.0
10/20/2010 15:37	10.3	51.2	23.3	867	452	-0.4	33,434	34.0	15.0
10/20/2010 15:38	10.3	51.2	23.3	867	452	-0.4	33,413	34.0	15.0
10/20/2010 15:39	10.3	51.2	23.3	867	452	-0.4	33,413	34.0	15.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/20/2010 15:40	10.3	51.2	23.3	867	452	-0.4	33,392	34.0	15.0
10/20/2010 15:41	10.3	51.2	23.3	867	452	-0.4	33,392	34.0	15.0
10/20/2010 15:42	10.3	51.2	23.3	867	452	-0.3	33,371	34.0	15.0
10/20/2010 15:43	10.3	51.2	23.3	867	452	-0.4	33,371	34.0	15.0
10/20/2010 15:44	10.3	51.2	23.3	867	452	-0.4	33,350	34.0	15.0
10/20/2010 15:45	10.3	51.2	23.3	867	452	-0.4	33,350	34.0	15.0
10/20/2010 15:46	10.3	51.2	23.3	867	452	-0.5	33,350	34.0	15.0
10/20/2010 15:47	10.3	51.2	23.3	867	452	-0.5	33,350	34.0	14.9
10/20/2010 15:48	10.3	51.2	23.3	867	452	-0.5	33,329	34.0	14.9
10/20/2010 15:49	10.3	51.2	23.3	867	452	-0.5	33,329	34.0	14.9
10/20/2010 15:50	10.3	51.2	23.3	867	452	-0.5	33,329	34.0	14.9
10/20/2010 15:51	10.3	51.2	23.3	867	452	-0.5	33,308	34.0	14.9
10/20/2010 15:52	10.3	51.2	23.3	867	452	-0.5	33,308	34.0	14.9
10/20/2010 15:53	10.3	51.2	23.3	867	452	-0.4	33,287	34.0	14.9
10/20/2010 15:54	10.3	51.2	23.3	867	452	-0.3	33,287	34.0	14.9
10/20/2010 15:55	10.3	51.1	23.3	867	451	-0.5	33,287	34.0	14.9
10/20/2010 15:56	10.3	51.1	23.3	867	451	-0.4	33,287	34.0	14.9
10/20/2010 15:57	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 15:58	10.3	51.1	23.3	867	451	-0.5	33,266	34.0	14.9
10/20/2010 15:59	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 16:00	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 16:01	10.3	51.1	23.3	867	451	-0.4	33,266	34.0	14.9
10/20/2010 16:02	10.3	51.1	23.3	867	451	-0.5	33,245	34.0	14.9
AVERAGE	**10.3**	**53.1**	**23.3**	**867**	**452**	**-0.4**	**33,844**	**32.9**	**15.0**
MINIMUM	**10.2**	**51.1**	**23.3**	**865**	**451**	**-0.6**	**33,245**	**30.0**	**14.9**
MAXIMUM	**10.3**	**57.7**	**23.3**	**868**	**452**	**-0.3**	**34,379**	**35.0**	**15.1**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/21/2010 09:04	10.3	35.1	24.8	867	449	-0.2	32,153	29.0	14.6
10/21/2010 09:05	10.3	35.0	24.8	867	449	-0.2	32,132	29.0	14.6
10/21/2010 09:06	10.3	34.9	24.8	867	449	-0.3	32,132	29.0	14.6
10/21/2010 09:07	10.3	34.9	24.8	867	449	-0.3	32,132	29.0	14.6
10/21/2010 09:08	10.3	34.8	24.8	867	449	-0.3	32,153	29.0	14.6
10/21/2010 09:09	10.3	34.8	24.8	866	449	-0.3	32,153	29.0	14.6
10/21/2010 09:10	10.3	34.7	24.8	866	449	-0.3	32,174	29.0	14.6
10/21/2010 09:11	10.3	34.7	24.8	866	449	-0.3	32,195	29.0	14.6
10/21/2010 09:12	10.3	34.6	24.8	866	449	-0.3	32,237	29.0	14.6
10/21/2010 09:13	10.3	34.6	24.8	867	449	-0.3	32,258	29.0	14.6
10/21/2010 09:14	10.3	34.5	24.8	867	449	-0.3	32,258	29.0	14.6
10/21/2010 09:15	10.3	34.5	24.8	867	449	-0.2	32,279	29.0	14.6
10/21/2010 09:16	10.3	34.4	24.8	867	449	-0.3	32,258	29.0	14.6
10/21/2010 09:17	10.3	34.3	24.8	867	450	-0.2	32,258	29.0	14.6
10/21/2010 09:18	10.3	34.3	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:19	10.3	34.2	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:20	10.3	34.1	24.8	867	450	-0.3	32,237	29.0	14.6
10/21/2010 09:21	10.3	34.1	24.8	867	450	-0.3	32,237	29.0	14.6
10/21/2010 09:22	10.3	34.0	24.8	867	450	-0.2	32,237	29.0	14.6
10/21/2010 09:23	10.3	33.9	24.8	867	450	-0.2	32,258	29.0	14.6
10/21/2010 09:24	10.3	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:25	10.3	33.7	24.8	867	450	-0.2	32,279	29.0	14.6
10/21/2010 09:26	10.3	33.7	24.8	867	450	-0.2	32,279	29.0	14.6
10/21/2010 09:27	10.3	33.7	24.8	867	450	-0.2	32,279	29.0	14.6
10/21/2010 09:28	10.3	33.7	24.8	867	450	-0.3	32,279	29.0	14.6
10/21/2010 09:29	10.4	33.7	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:30	10.4	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:31	10.4	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:32	10.4	33.8	24.8	867	450	-0.3	32,258	29.0	14.6
10/21/2010 09:33	10.4	33.8	24.8	867	451	-0.3	32,258	29.0	14.6
10/21/2010 09:34	10.4	33.8	24.8	867	451	-0.3	32,237	29.0	14.6
10/21/2010 09:35	10.4	33.8	24.8	867	451	-0.2	32,237	29.0	14.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/21/2010 09:36	10.4	33.8	24.8	867	451	-0.3	32,237	29.0	14.6
10/21/2010 09:37	10.4	33.8	24.8	867	451	-0.3	32,258	29.0	14.6
10/21/2010 09:38	10.4	33.8	24.8	867	451	-0.2	32,258	29.0	14.6
10/21/2010 09:39	10.4	33.8	24.8	867	451	-0.2	32,279	29.0	14.6
10/21/2010 09:40	10.4	33.8	24.8	867	451	-0.3	32,279	29.0	14.6
10/21/2010 09:41	10.4	33.8	24.8	867	451	-0.3	32,279	29.0	14.6
10/21/2010 09:42	10.4	33.9	24.8	867	451	-0.2	32,279	29.0	14.6
10/21/2010 09:43	10.4	33.9	24.8	867	451	-0.3	32,258	29.0	14.6
10/21/2010 09:44	10.4	33.9	24.8	867	451	-0.2	32,237	29.0	14.5
10/21/2010 09:45	10.4	33.9	24.8	867	451	-0.2	32,237	28.0	14.5
10/21/2010 09:46	10.4	33.9	24.8	867	451	-0.2	32,237	28.0	14.5
10/21/2010 09:47	10.4	33.9	24.8	867	451	-0.2	32,237	28.0	14.5
10/21/2010 09:48	10.4	33.9	24.8	867	451	-0.3	32,216	28.0	14.5
10/21/2010 09:49	10.4	33.9	24.8	867	451	-0.3	32,216	28.0	14.5
10/21/2010 09:50	10.4	33.9	24.8	867	451	-0.3	32,216	28.0	14.5
10/21/2010 09:51	10.4	33.9	24.8	867	451	-0.3	32,216	28.0	14.5
10/21/2010 09:52	10.4	33.9	24.8	867	451	-0.3	32,237	28.0	14.5
10/21/2010 09:53	10.4	33.9	24.8	867	451	-0.3	32,237	28.0	14.5
10/21/2010 09:54	10.4	33.9	24.8	867	451	-0.3	32,237	28.0	14.5
10/21/2010 09:55	10.4	33.9	24.8	867	451	-0.3	32,216	28.0	14.5
10/21/2010 09:56	10.4	33.9	24.8	867	451	-0.2	32,195	28.0	14.5
10/21/2010 09:57	10.4	33.9	24.8	867	451	-0.3	32,195	28.0	14.5
10/21/2010 09:58	10.4	33.9	24.8	867	451	-0.3	32,174	28.0	14.5
10/21/2010 09:59	10.4	33.9	24.8	867	451	-0.2	32,174	28.0	14.5
10/21/2010 10:00	10.4	33.9	24.8	867	451	-0.3	32,174	28.0	14.5
10/21/2010 10:01	10.4	33.9	24.8	867	451	-0.3	32,174	28.0	14.5
10/21/2010 10:02	10.4	33.9	24.8	867	451	-0.2	32,153	28.0	14.5
10/21/2010 10:03	10.5	33.9	24.8	867	451	-0.3	32,153	28.0	14.5
10/21/2010 10:04	10.5	33.9	24.8	867	450	-0.2	32,153	28.0	14.5
10/21/2010 10:05	10.5	33.9	24.8	867	450	-0.3	32,153	28.0	14.5
10/21/2010 10:06	10.5	33.9	24.8	867	450	-0.3	32,153	28.0	14.5
10/21/2010 10:07	10.5	33.9	24.8	867	450	-0.3	32,132	28.0	14.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/21/2010 10:08	10.5	33.9	24.8	867	450	-0.2	32,132	28.0	14.5
10/21/2010 10:09	10.5	33.9	24.8	867	450	-0.2	32,132	28.0	14.5
10/21/2010 10:10	10.5	33.9	24.8	867	450	-0.3	32,132	28.0	14.5
10/21/2010 10:11	10.5	33.9	24.8	867	450	-0.3	32,132	28.0	14.5
10/21/2010 10:12	10.5	33.9	24.8	867	450	-0.3	32,111	28.0	14.5
10/21/2010 10:13	10.5	33.9	24.8	867	450	-0.3	32,111	28.0	14.5
10/21/2010 10:14	10.5	33.9	24.8	867	450	-0.3	32,111	28.0	14.5
10/21/2010 10:15	10.5	33.8	24.8	867	449	-0.3	32,090	28.0	14.5
10/21/2010 10:16	10.5	33.8	24.8	867	449	-0.2	32,090	28.0	14.5
10/21/2010 10:17	10.5	33.8	24.8	867	449	-0.2	32,069	28.0	14.5
10/21/2010 10:18	10.5	33.8	24.8	867	449	-0.2	32,048	28.0	14.5
10/21/2010 10:19	10.5	33.8	24.8	867	449	-0.3	32,048	28.0	14.5
10/21/2010 10:20	10.5	33.8	24.8	867	449	-0.3	32,027	28.0	14.5
10/21/2010 10:21	10.5	33.8	24.8	867	449	-0.2	32,027	28.0	14.4
10/21/2010 10:22	10.5	33.8	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:23	10.5	33.9	24.8	867	449	-0.2	32,006	28.0	14.4
10/21/2010 10:24	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:25	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:26	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:27	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:28	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:29	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:30	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:31	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:32	10.5	33.9	24.8	867	449	-0.3	32,006	28.0	14.4
10/21/2010 10:33	10.5	33.9	24.8	866	449	-0.3	32,027	28.0	14.4
10/21/2010 10:34	10.5	33.9	24.8	866	449	-0.2	32,027	28.0	14.4
10/21/2010 10:35	10.5	33.9	24.8	866	450	-0.3	32,027	28.0	14.4
10/21/2010 10:36	10.5	33.9	24.8	867	450	-0.3	32,027	28.0	14.4
10/21/2010 10:37	10.5	33.9	24.8	867	450	-0.3	32,027	28.0	14.4
10/21/2010 10:38	10.5	33.9	24.8	867	450	-0.3	32,006	28.0	14.4
10/21/2010 10:39	10.5	33.9	24.8	867	450	-0.3	32,006	28.0	14.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/21/2010 10:40	10.5	33.9	24.8	866	450	-0.3	32,006	28.0	14.4
10/21/2010 10:41	10.5	33.9	24.8	866	450	-0.3	32,006	28.0	14.4
10/21/2010 10:42	10.5	33.9	24.8	866	450	-0.3	31,985	28.0	14.4
10/21/2010 10:43	10.5	33.8	24.8	866	450	-0.2	32,006	28.0	14.4
10/21/2010 10:44	10.5	33.8	24.8	866	450	-0.3	32,006	28.0	14.4
10/21/2010 10:45	10.5	33.8	24.8	866	450	-0.2	32,006	28.0	14.4
10/21/2010 10:46	10.5	33.8	24.8	866	450	-0.2	32,006	28.0	14.4
10/21/2010 10:47	10.5	33.8	24.8	866	450	-0.2	32,006	28.0	14.4
10/21/2010 10:48	10.5	33.8	24.8	866	450	-0.2	32,027	28.0	14.4
10/21/2010 10:49	10.5	33.8	24.8	866	450	-0.3	32,027	28.0	14.4
10/21/2010 10:50	10.5	33.8	24.8	866	450	-0.3	32,006	28.0	14.4
10/21/2010 10:51	10.5	33.8	24.8	866	450	-0.2	31,985	28.0	14.4
10/21/2010 10:52	10.5	33.8	24.8	866	450	-0.2	31,964	28.0	14.4
10/21/2010 10:53	10.5	33.8	24.8	866	450	-0.2	31,964	28.0	14.4
10/21/2010 10:54	10.5	33.8	24.8	866	450	-0.3	31,943	28.0	14.4
10/21/2010 10:55	10.5	33.8	24.8	866	450	-0.2	31,943	28.0	14.4
10/21/2010 10:56	10.5	33.8	24.8	866	450	-0.3	31,943	28.0	14.4
10/21/2010 10:57	10.5	33.9	24.8	866	450	-0.3	31,943	28.0	14.4
10/21/2010 10:58	10.5	33.8	24.8	866	450	-0.3	31,922	28.0	14.4
10/21/2010 10:59	10.5	33.8	24.8	866	450	-0.3	31,901	28.0	14.4
10/21/2010 11:00	10.5	33.8	24.8	866	450	-0.2	31,901	28.0	14.4
10/21/2010 11:01	10.5	33.8	24.8	866	450	-0.3	31,880	28.0	14.4
10/21/2010 11:02	10.5	33.8	24.8	866	450	-0.3	31,901	28.0	14.4
10/21/2010 11:03	10.5	33.8	24.8	866	450	-0.3	31,880	28.0	14.4
10/21/2010 11:04	10.5	33.8	24.8	866	450	-0.3	31,880	28.0	14.4
10/21/2010 11:05	10.5	33.8	24.8	866	450	-0.3	31,901	29.0	14.4
10/21/2010 11:06	10.5	33.8	24.8	866	450	-0.3	31,901	29.0	14.4
10/21/2010 11:07	10.5	33.8	24.8	866	450	-0.3	31,901	29.0	14.4
10/21/2010 11:08	10.5	33.8	24.8	866	451	-0.2	31,901	29.0	14.4
10/21/2010 11:09	10.5	33.8	24.8	866	451	-0.3	31,901	29.0	14.4
10/21/2010 11:10	10.5	33.8	24.8	866	451	-0.2	31,880	29.0	14.5
10/21/2010 11:11	10.5	33.8	24.8	866	451	-0.3	31,880	29.0	14.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/21/2010 11:12	10.5	33.8	24.8	866	451	-0.2	31,880	29.0	14.5
10/21/2010 11:13	10.5	33.8	24.8	866	451	-0.3	31,859	29.0	14.5
10/21/2010 11:14	10.5	33.8	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:15	10.5	33.8	24.8	866	451	-0.3	31,838	29.0	14.5
10/21/2010 11:16	10.5	33.9	24.8	866	451	-0.3	31,838	29.0	14.5
10/21/2010 11:17	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:18	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:19	10.5	33.9	24.8	866	451	-0.3	31,838	29.0	14.5
10/21/2010 11:20	10.5	33.9	24.8	866	451	-0.3	31,838	29.0	14.5
10/21/2010 11:21	10.5	33.9	24.8	866	451	-0.3	31,838	29.0	14.5
10/21/2010 11:22	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:23	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:24	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:25	10.5	33.9	24.8	866	451	-0.2	31,838	29.0	14.5
10/21/2010 11:26	10.5	33.9	24.8	866	451	-0.3	31,838	29.0	14.5
10/21/2010 11:27	10.5	33.9	24.8	866	451	-0.3	31,817	29.0	14.5
10/21/2010 11:28	10.5	33.9	24.8	866	451	-0.3	31,817	29.0	14.5
10/21/2010 11:29	10.5	33.9	24.8	866	451	-0.3	31,817	29.0	14.5
10/21/2010 11:30	10.6	33.9	24.8	866	451	-0.3	31,796	29.0	14.5
10/21/2010 11:31	10.6	34.0	24.8	866	450	-0.3	31,796	29.0	14.5
10/21/2010 11:32	10.6	34.0	24.8	866	450	-0.3	31,775	29.0	14.5
10/21/2010 11:33	10.6	34.0	24.8	866	450	-0.3	31,754	29.0	14.5
10/21/2010 11:34	10.6	34.0	24.8	866	450	-0.3	31,754	29.0	14.5
10/21/2010 11:35	10.6	34.0	24.8	866	450	-0.3	31,733	29.0	14.5
10/21/2010 11:36	10.6	34.0	24.8	866	450	-0.3	31,733	29.0	14.5
10/21/2010 11:37	10.6	34.0	24.8	866	449	-0.3	31,733	29.0	14.5
10/21/2010 11:38	10.6	34.0	24.8	865	449	-0.3	31,733	29.0	14.5
10/21/2010 11:39	10.6	34.0	24.8	865	449	-0.3	31,712	29.0	14.5
10/21/2010 11:40	10.6	34.0	24.8	865	449	-0.4	31,733	29.0	14.5
10/21/2010 11:41	10.6	34.1	24.8	865	449	-0.4	31,586	29.0	14.5
10/21/2010 11:42	10.6	34.1	24.8	865	448	-0.3	31,481	29.0	14.5
10/21/2010 11:43	10.6	34.1	24.8	865	448	-0.4	31,481	29.0	14.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Process and CEM Operating Parameters

Tag No. Parameter Units **Date / Time**	MM-2401 LLGF Feed Rate gpm	PT-2302 LLGF Atomization Pressure psi	AR-2401 Shale Feed Rate tph	TT-2105 Kiln Back-End Temp. °F	TT-2403 Heat Exchanger Exit °F	DPT-2104 Kiln Hood Pressure in. H_2O	FT-5555 Flue Gas Flow Rate wet scfm	XO7-400 / F6-187 CO Concentration corrected to 7% O_2 ppm	AO2-611 / F6-279 Oxygen Concentration % vol.
10/21/2010 11:44	10.6	34.1	24.8	865	448	-0.2	31,481	29.0	14.6
10/21/2010 11:45	10.6	34.1	24.8	865	448	-0.2	31,502	29.0	14.6
10/21/2010 11:46	10.6	34.1	24.8	866	448	-0.2	31,523	29.0	14.6
10/21/2010 11:47	10.6	34.1	24.8	866	448	-0.2	31,481	29.0	14.6
10/21/2010 11:48	10.6	34.1	24.8	866	448	-0.2	31,481	29.0	14.6
10/21/2010 11:49	10.6	34.1	24.8	866	449	-0.3	31,502	29.0	14.6
10/21/2010 11:50	10.6	34.1	24.8	866	449	-0.3	31,544	29.0	14.6
10/21/2010 11:51	10.6	34.2	24.8	866	449	-0.3	31,649	29.0	14.6
10/21/2010 11:52	10.6	34.2	24.8	866	449	-0.3	31,796	29.0	14.6
10/21/2010 11:53	10.6	34.2	24.8	865	449	-0.3	31,922	29.0	14.6
10/21/2010 11:54	10.6	34.2	24.8	865	449	-0.3	32,111	30.0	14.6
10/21/2010 11:55	10.6	34.2	24.8	865	449	-0.3	32,384	30.0	14.6
10/21/2010 11:56	10.6	34.2	24.8	865	450	-0.3	32,657	30.0	14.6
10/21/2010 11:57	10.5	34.2	24.8	865	450	-0.3	32,993	30.0	14.6
10/21/2010 11:58	10.5	34.2	24.8	865	450	-0.3	33,455	30.0	14.6
10/21/2010 11:59	10.5	34.2	24.8	865	450	-0.3	33,938	30.0	14.6
10/21/2010 12:00	10.5	34.2	24.8	865	450	-0.3	34,358	30.0	14.7
10/21/2010 12:01	10.5	34.2	24.8	865	450	-0.3	34,736	30.0	14.7
10/21/2010 12:02	10.5	34.2	24.8	865	450	-0.3	35,051	30.0	14.7
10/21/2010 12:03	10.6	34.3	24.8	866	450	-0.3	35,345	30.0	14.7
10/21/2010 12:04	10.6	34.3	24.8	866	450	-0.3	35,576	30.0	14.7
10/21/2010 12:05	10.5	34.3	24.8	866	450	-0.4	35,807	30.0	14.7
10/21/2010 12:06	10.5	34.3	24.8	866	450	-0.3	36,038	30.0	14.7
10/21/2010 12:07	10.5	34.3	24.8	866	450	-0.4	36,269	30.0	14.7
AVERAGE	**10.5**	**34.0**	**24.8**	**866**	**450**	**-0.3**	**32,193**	**28.6**	**14.5**
MINIMUM	**10.3**	**33.7**	**24.8**	**865**	**448**	**-0.4**	**31,481**	**28.0**	**14.4**
MAXIMUM	**10.6**	**35.1**	**24.8**	**867**	**451**	**-0.2**	**36,269**	**30.0**	**14.7**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 10:58	403	6.1	181.0	17.3	7.8	68.9	250.0	152.6	3.5
10/19/2010 10:59	403	6.1	181.0	17.5	7.8	69.2	250.0	152.6	3.5
10/19/2010 11:00	403	6.1	181.0	17.7	7.8	69.5	250.0	152.5	3.5
10/19/2010 11:01	403	6.1	181.0	17.9	7.8	69.8	250.0	152.5	3.5
10/19/2010 11:02	403	6.1	181.0	18.0	7.8	70.0	250.0	152.5	3.5
10/19/2010 11:03	403	6.1	181.0	18.2	7.8	70.1	250.0	152.5	3.5
10/19/2010 11:04	403	6.2	181.0	18.4	7.8	70.3	250.0	152.5	3.5
10/19/2010 11:05	402	6.2	181.0	18.6	7.8	70.5	250.0	152.4	3.5
10/19/2010 11:06	402	6.2	181.0	18.8	7.8	70.7	250.0	152.4	3.5
10/19/2010 11:07	402	6.2	181.0	19.0	7.8	70.8	250.0	152.4	3.5
10/19/2010 11:08	402	6.2	181.0	19.2	7.8	71.0	250.0	152.3	3.5
10/19/2010 11:09	402	6.2	181.0	19.4	7.8	71.2	250.0	152.3	3.5
10/19/2010 11:10	402	6.2	181.0	19.6	7.8	71.3	250.0	152.3	3.5
10/19/2010 11:11	402	6.2	181.0	19.8	7.8	71.4	250.0	152.2	3.5
10/19/2010 11:12	401	6.2	181.0	19.9	7.8	71.4	250.0	152.2	3.5
10/19/2010 11:13	401	6.2	181.0	20.1	7.8	71.5	250.0	152.2	3.5
10/19/2010 11:14	401	6.2	181.0	20.3	7.8	71.5	250.0	152.2	3.5
10/19/2010 11:15	401	6.2	181.0	20.5	7.8	71.5	250.0	152.2	3.5
10/19/2010 11:16	401	6.2	181.0	20.7	7.8	71.4	250.0	152.2	3.5
10/19/2010 11:17	401	6.2	181.0	20.9	7.8	71.3	250.0	152.1	3.5
10/19/2010 11:18	401	6.2	181.0	21.1	7.8	71.2	250.0	152.1	3.5
10/19/2010 11:19	401	6.2	181.0	21.3	7.8	71.1	250.0	152.0	3.5
10/19/2010 11:20	401	6.2	181.0	21.5	7.8	71.0	250.0	152.0	3.5
10/19/2010 11:21	401	6.2	181.0	21.7	7.8	70.8	250.0	151.9	3.5
10/19/2010 11:22	401	6.2	181.0	21.9	7.8	70.5	250.0	151.9	3.5
10/19/2010 11:23	401	6.2	181.0	22.0	7.8	70.2	250.0	151.9	3.5
10/19/2010 11:24	401	6.2	181.0	22.1	7.9	69.9	250.0	151.9	3.5
10/19/2010 11:25	401	6.2	181.0	22.2	7.9	69.6	250.0	151.8	3.6
10/19/2010 11:26	401	6.2	181.0	22.1	7.9	69.4	250.0	151.8	3.6
10/19/2010 11:27	401	6.2	181.0	22.0	8.0	69.0	250.0	151.7	3.6
10/19/2010 11:28	401	6.2	181.0	21.9	8.0	68.7	250.0	151.7	3.6
10/19/2010 11:29	401	6.2	181.0	21.8	8.0	68.3	250.0	151.7	3.6
10/19/2010 11:30	401	6.2	181.0	21.7	8.0	68.0	250.0	151.6	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 11:31	401	6.2	181.0	21.6	8.1	67.7	250.0	151.6	3.6
10/19/2010 11:32	401	6.2	181.0	21.5	8.1	67.4	250.0	151.6	3.6
10/19/2010 11:33	401	6.2	181.0	21.4	8.1	67.0	250.0	151.6	3.6
10/19/2010 11:34	401	6.2	181.0	21.3	8.1	66.6	250.0	151.6	3.6
10/19/2010 11:35	401	6.2	181.0	21.1	8.1	66.3	250.0	151.6	3.6
10/19/2010 11:36	401	6.2	181.0	21.0	8.2	66.0	250.0	151.6	3.6
10/19/2010 11:37	401	6.2	181.0	20.9	8.2	65.7	250.0	151.6	3.6
10/19/2010 11:38	401	6.2	181.0	20.7	8.2	65.4	250.0	151.6	3.6
10/19/2010 11:39	401	6.2	181.0	20.6	8.2	65.0	250.0	151.6	3.6
10/19/2010 11:40	401	6.2	181.0	20.5	8.2	64.7	250.0	151.6	3.6
10/19/2010 11:41	401	6.2	181.0	20.4	8.2	64.4	250.0	151.6	3.6
10/19/2010 11:42	401	6.2	181.0	20.2	8.3	64.1	250.0	151.6	3.6
10/19/2010 11:43	401	6.2	181.0	20.1	8.3	63.8	250.0	151.6	3.6
10/19/2010 11:44	401	6.2	181.0	20.0	8.3	63.4	250.0	151.6	3.6
10/19/2010 11:45	401	6.2	181.0	19.8	8.3	63.1	250.0	151.6	3.6
10/19/2010 11:46	401	6.2	180.0	19.7	8.3	62.9	250.0	151.6	3.6
10/19/2010 11:47	401	6.2	180.0	19.5	8.3	62.6	250.0	151.6	3.6
10/19/2010 11:48	401	6.2	180.0	19.4	8.3	62.3	250.0	151.6	3.6
10/19/2010 11:49	401	6.2	180.0	19.2	8.3	62.0	250.0	151.6	3.6
10/19/2010 11:50	401	6.2	180.0	19.1	8.3	61.6	250.0	151.6	3.6
10/19/2010 11:51	401	6.2	180.0	18.9	8.3	61.4	250.0	151.6	3.6
10/19/2010 11:52	401	6.2	180.0	18.8	8.3	61.2	250.0	151.6	3.6
10/19/2010 11:53	401	6.2	180.0	18.6	8.3	60.9	250.0	151.6	3.6
10/19/2010 11:54	401	6.2	180.0	18.5	8.3	60.6	250.0	151.6	3.6
10/19/2010 11:55	401	6.2	180.0	18.3	8.3	60.3	250.0	151.6	3.6
10/19/2010 11:56	401	6.2	180.0	18.2	8.3	60.1	250.0	151.6	3.6
10/19/2010 11:57	400	6.2	179.0	18.0	8.3	59.9	250.0	151.6	3.6
10/19/2010 11:58	400	6.2	179.0	17.9	8.3	59.7	250.0	151.6	3.6
10/19/2010 11:59	400	6.2	179.0	17.7	8.3	59.4	250.0	151.6	3.6
10/19/2010 12:00	400	6.2	179.0	17.5	8.3	59.2	250.0	151.6	3.6
10/19/2010 12:01	400	6.2	179.0	17.4	8.4	58.9	250.0	151.6	3.6
10/19/2010 12:02	400	6.2	179.0	17.2	8.4	58.7	250.0	151.6	3.6
10/19/2010 12:03	400	6.2	179.0	17.1	8.4	58.6	250.0	151.6	3.6

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 12:04	400	6.2	179.0	16.9	8.4	58.4	250.0	151.6	3.6
10/19/2010 12:05	400	6.2	179.0	16.8	8.3	58.2	250.0	151.6	3.6
10/19/2010 12:06	400	6.2	179.0	16.6	8.4	58.0	250.0	151.6	3.6
10/19/2010 12:07	400	6.2	179.0	16.4	8.4	57.8	250.0	151.6	3.6
10/19/2010 12:08	400	6.2	179.0	16.3	8.4	57.6	250.0	151.6	3.6
10/19/2010 12:09	401	6.2	178.0	16.1	8.4	57.4	250.0	151.6	3.6
10/19/2010 12:10	401	6.2	178.0	16.0	8.4	57.4	250.0	151.6	3.6
10/19/2010 12:11	401	6.2	178.0	15.8	8.4	57.3	250.0	151.6	3.6
10/19/2010 12:12	401	6.2	178.0	15.6	8.4	57.2	250.0	151.6	3.6
10/19/2010 12:13	401	6.2	178.0	15.5	8.4	57.0	250.0	151.6	3.5
10/19/2010 12:14	401	6.2	178.0	15.3	8.4	56.9	250.0	151.6	3.5
10/19/2010 12:15	401	6.2	178.0	15.1	8.4	56.7	250.0	151.6	3.5
10/19/2010 12:16	401	6.2	178.0	15.0	8.4	56.7	250.0	151.6	3.5
10/19/2010 12:17	401	6.2	178.0	14.8	8.4	56.6	250.0	151.6	3.5
10/19/2010 12:18	401	6.2	178.0	14.7	8.4	56.6	250.0	151.6	3.5
10/19/2010 12:19	401	6.2	178.0	14.5	8.4	56.5	250.0	151.6	3.5
10/19/2010 12:20	401	6.2	177.0	14.3	8.4	56.4	250.0	151.6	3.5
10/19/2010 12:21	401	6.2	177.0	14.2	8.4	56.3	250.0	151.6	3.5
10/19/2010 12:22	401	6.2	177.0	14.0	8.4	56.2	250.0	151.6	3.5
10/19/2010 12:23	401	6.2	177.0	13.8	8.3	56.2	250.0	151.6	3.5
10/19/2010 12:24	401	6.2	177.0	13.7	8.3	56.3	250.0	151.6	3.5
10/19/2010 12:25	401	6.2	177.0	13.7	8.3	56.3	250.0	151.6	3.5
10/19/2010 12:26	401	6.2	177.0	13.7	8.3	56.2	250.0	151.6	3.5
10/19/2010 12:27	401	6.2	177.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:28	401	6.2	177.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:29	401	6.2	177.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:30	401	6.1	176.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:31	401	6.1	176.0	13.7	8.2	56.2	250.0	151.6	3.5
10/19/2010 12:32	401	6.1	176.0	13.7	8.1	56.2	250.0	151.6	3.5
10/19/2010 12:33	401	6.1	176.0	13.7	8.1	56.3	250.0	151.6	3.5
10/19/2010 12:34	401	6.1	176.0	13.7	8.1	56.3	250.0	151.6	3.5
10/19/2010 12:35	401	6.1	176.0	13.7	8.1	56.2	250.0	151.6	3.5
10/19/2010 12:36	401	6.1	176.0	13.7	8.1	56.2	250.0	151.6	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 12:37	401	6.1	176.0	13.7	8.1	56.2	250.0	151.6	3.5
10/19/2010 12:38	401	6.1	176.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:39	401	6.1	176.0	13.7	8.0	56.4	250.0	151.6	3.5
10/19/2010 12:40	401	6.1	175.0	13.7	8.0	56.4	250.0	151.6	3.5
10/19/2010 12:41	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:42	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:43	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 12:44	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:45	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:46	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:47	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:48	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:49	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:50	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:51	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:52	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:53	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:54	401	6.1	175.0	13.7	8.0	56.3	250.0	151.6	3.5
10/19/2010 12:55	401	6.1	175.0	13.7	8.0	56.4	250.0	151.6	3.5
10/19/2010 12:56	401	6.1	175.0	13.7	8.0	56.2	250.0	151.6	3.5
10/19/2010 12:57	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 12:58	401	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 12:59	401	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:00	401	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:01	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:02	401	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:03	401	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:04	401	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:05	401	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:06	400	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:07	400	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:08	400	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:09	400	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 13:10	400	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:11	400	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:12	400	6.1	175.0	13.7	8.0	55.8	250.0	151.6	3.5
10/19/2010 13:13	400	6.1	175.0	13.7	8.0	55.8	250.0	151.6	3.5
10/19/2010 13:14	400	6.1	175.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:15	400	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:16	399	6.1	175.0	13.7	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:17	399	6.1	175.0	13.7	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:18	399	6.1	174.0	13.7	8.0	55.9	250.0	151.6	3.5
10/19/2010 13:19	399	6.1	174.0	13.6	8.0	55.8	250.0	151.6	3.5
10/19/2010 13:20	399	6.1	174.0	13.6	8.0	56.0	250.0	151.6	3.5
10/19/2010 13:21	399	6.1	174.0	13.6	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:22	399	6.1	174.0	13.6	8.0	56.3	250.0	151.6	3.5
10/19/2010 13:23	399	6.1	174.0	13.6	8.0	56.3	250.0	151.6	3.5
10/19/2010 13:24	399	6.1	174.0	13.6	8.0	56.2	250.0	151.6	3.5
10/19/2010 13:25	399	6.1	174.0	13.6	8.0	56.1	250.0	151.6	3.5
10/19/2010 13:26	399	6.1	174.0	13.6	8.0	56.1	250.0	151.7	3.5
10/19/2010 13:27	399	6.1	174.0	13.6	8.0	56.2	250.0	151.7	3.5
10/19/2010 13:28	399	6.1	174.0	13.6	7.9	56.3	250.0	151.7	3.5
10/19/2010 13:29	399	6.1	174.0	13.6	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:30	399	6.1	174.0	13.6	7.9	56.5	250.0	151.7	3.5
10/19/2010 13:31	399	6.1	174.0	13.6	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:32	399	6.1	174.0	13.6	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:33	399	6.1	174.0	13.6	7.9	56.3	250.0	151.7	3.5
10/19/2010 13:34	399	6.1	174.0	13.6	7.9	56.3	250.0	151.7	3.5
10/19/2010 13:35	399	6.1	174.0	13.6	7.9	56.5	250.0	151.7	3.5
10/19/2010 13:36	399	6.1	174.0	13.5	7.9	56.6	250.0	151.7	3.5
10/19/2010 13:37	399	6.1	174.0	13.5	7.9	56.6	250.0	151.7	3.5
10/19/2010 13:38	399	6.1	174.0	13.5	7.9	56.5	250.0	151.7	3.5
10/19/2010 13:39	398	6.1	174.0	13.5	7.9	56.5	250.0	151.7	3.5
10/19/2010 13:40	398	6.1	174.0	13.5	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:41	398	6.1	174.0	13.5	7.9	56.4	250.0	151.7	3.5
10/19/2010 13:42	398	6.1	174.0	13.5	7.9	56.6	250.0	151.7	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 1 - Start: 10:58 Stop: 14:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 13:43	398	6.1	174.0	13.5	7.9	56.8	250.0	151.7	3.5
10/19/2010 13:44	398	6.1	174.0	13.5	7.9	56.8	250.0	151.7	3.5
10/19/2010 13:45	398	6.1	174.0	13.5	7.9	56.9	250.0	151.7	3.5
10/19/2010 13:46	398	6.1	174.0	13.5	7.9	56.9	250.0	151.7	3.5
10/19/2010 13:47	398	6.1	174.0	13.5	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:48	399	6.1	174.0	13.4	7.9	56.8	250.0	151.8	3.5
10/19/2010 13:49	399	6.1	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:50	399	6.0	174.0	13.4	7.9	57.0	250.0	151.8	3.5
10/19/2010 13:51	399	6.0	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:52	399	6.0	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:53	399	6.0	174.0	13.4	7.9	56.9	250.0	151.8	3.5
10/19/2010 13:54	399	6.0	174.0	13.4	7.9	57.0	250.0	151.8	3.5
10/19/2010 13:55	399	6.0	174.0	13.4	7.9	57.0	250.0	151.8	3.5
10/19/2010 13:56	399	6.0	174.0	13.4	7.9	57.1	250.0	151.8	3.5
10/19/2010 13:57	399	6.0	174.0	13.4	8.0	57.1	250.0	151.8	3.5
10/19/2010 13:58	399	6.0	174.0	13.3	8.0	57.2	250.0	151.8	3.5
10/19/2010 13:59	399	6.0	174.0	13.3	8.0	57.3	250.0	151.8	3.5
10/19/2010 14:00	399	6.0	174.0	13.3	7.9	57.3	250.0	151.8	3.5
AVERAGE	**400**	**6.1**	**177.2**	**16.0**	**8.1**	**60.1**	**250.0**	**151.7**	**3.5**
MINIMUM	**398**	**6.0**	**174.0**	**13.3**	**7.8**	**55.8**	**250.0**	**151.6**	**3.5**
MAXIMUM	**403**	**6.2**	**181.0**	**22.2**	**8.4**	**71.5**	**250.0**	**152.6**	**3.6**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 14:40	402	6.0	175.0	12.9	8.1	56.6	250.0	151.9	3.5
10/19/2010 14:41	402	6.0	175.0	12.9	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:42	402	6.0	175.0	12.9	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:43	402	6.0	175.0	12.9	8.1	56.6	250.0	151.9	3.5
10/19/2010 14:44	402	6.0	175.0	12.9	8.1	56.4	250.0	151.9	3.5
10/19/2010 14:45	402	6.0	175.0	12.9	8.1	56.3	250.0	151.9	3.5
10/19/2010 14:46	402	6.0	175.0	12.9	8.1	56.3	250.0	151.9	3.5
10/19/2010 14:47	401	6.0	175.0	12.9	8.0	56.4	250.0	151.9	3.5
10/19/2010 14:48	401	6.0	175.0	12.9	8.0	56.5	250.0	151.9	3.5
10/19/2010 14:49	401	6.0	175.0	12.9	8.0	56.6	250.0	151.9	3.5
10/19/2010 14:50	401	6.0	175.0	12.8	8.0	56.7	250.0	151.9	3.5
10/19/2010 14:51	401	6.0	175.0	12.8	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:52	401	6.0	175.0	12.9	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:53	401	6.0	175.0	13.0	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:54	401	6.0	175.0	13.1	8.1	56.6	250.0	151.9	3.5
10/19/2010 14:55	401	6.0	175.0	13.2	8.1	56.5	250.0	151.9	3.5
10/19/2010 14:56	401	6.0	175.0	13.2	8.1	56.6	250.0	151.9	3.5
10/19/2010 14:57	401	6.0	175.0	13.3	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:58	401	6.0	175.0	13.4	8.1	56.7	250.0	151.9	3.5
10/19/2010 14:59	401	6.0	175.0	13.5	8.1	56.5	250.0	151.9	3.5
10/19/2010 15:00	401	6.0	175.0	13.5	8.1	56.6	250.0	151.9	3.5
10/19/2010 15:01	401	6.0	175.0	13.6	8.1	56.6	250.0	151.9	3.5
10/19/2010 15:02	401	6.0	175.0	13.7	8.0	56.7	250.0	151.9	3.5
10/19/2010 15:03	401	6.0	175.0	13.8	8.1	56.8	250.0	151.9	3.5
10/19/2010 15:04	401	6.0	175.0	13.9	8.1	56.9	250.0	151.9	3.5
10/19/2010 15:05	401	6.0	175.0	13.9	8.1	57.0	250.0	151.9	3.5
10/19/2010 15:06	401	6.0	175.0	14.0	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:07	401	6.0	175.0	14.1	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:08	401	6.0	175.0	14.1	8.1	57.0	250.0	151.9	3.5
10/19/2010 15:09	401	6.0	175.0	14.2	8.1	56.9	250.0	151.9	3.5
10/19/2010 15:10	400	6.0	175.0	14.3	8.1	57.0	250.0	151.9	3.5
10/19/2010 15:11	400	6.0	175.0	14.3	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:12	400	6.0	175.0	14.4	8.1	57.2	250.0	151.9	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 15:13	400	6.0	175.0	14.5	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:14	400	6.0	175.0	14.6	8.1	57.2	250.0	151.9	3.5
10/19/2010 15:15	400	6.0	175.0	14.6	8.1	57.4	250.0	151.9	3.5
10/19/2010 15:16	400	6.0	175.0	14.7	8.1	57.3	250.0	151.9	3.5
10/19/2010 15:17	400	6.0	175.0	14.8	8.1	57.2	250.0	151.9	3.5
10/19/2010 15:18	400	6.0	175.0	14.8	8.1	57.1	250.0	151.9	3.5
10/19/2010 15:19	400	6.0	175.0	14.9	8.1	57.0	250.0	151.9	3.5
10/19/2010 15:20	400	6.0	175.0	15.0	8.0	57.0	250.0	151.9	3.5
10/19/2010 15:21	400	6.0	175.0	15.0	8.0	57.0	250.0	151.9	3.5
10/19/2010 15:22	400	6.0	175.0	15.1	8.1	56.8	250.0	151.9	3.5
10/19/2010 15:23	400	6.0	175.0	15.2	8.1	56.7	250.0	151.9	3.5
10/19/2010 15:24	400	6.0	175.0	15.3	8.1	56.5	250.0	151.9	3.5
10/19/2010 15:25	400	6.0	175.0	15.3	8.1	56.4	250.0	151.9	3.5
10/19/2010 15:26	400	6.0	175.0	15.4	8.1	56.4	250.0	151.9	3.5
10/19/2010 15:27	400	6.0	175.0	15.5	8.1	56.4	250.0	151.9	3.5
10/19/2010 15:28	400	6.0	175.0	15.5	8.1	56.3	250.0	151.9	3.5
10/19/2010 15:29	399	6.0	175.0	15.6	8.1	56.3	250.0	151.9	3.5
10/19/2010 15:30	399	6.0	175.0	15.7	8.1	56.5	250.0	151.9	3.5
10/19/2010 15:31	399	6.0	175.0	15.8	8.1	56.4	250.0	151.9	3.5
10/19/2010 15:32	399	6.0	175.0	15.8	8.1	56.4	250.0	151.9	3.5
10/19/2010 15:33	399	6.0	175.0	15.9	8.1	56.3	250.0	151.9	3.5
10/19/2010 15:34	399	6.0	174.0	16.0	8.2	56.3	250.0	151.9	3.5
10/19/2010 15:35	399	6.0	174.0	16.0	8.2	56.4	250.0	151.9	3.5
10/19/2010 15:36	399	6.0	174.0	16.1	8.2	56.4	250.0	151.8	3.5
10/19/2010 15:37	399	6.1	174.0	16.2	8.2	56.3	250.0	151.8	3.5
10/19/2010 15:38	399	6.1	174.0	16.3	8.1	56.3	250.0	151.8	3.5
10/19/2010 15:39	399	6.1	174.0	16.3	8.1	56.3	250.0	151.8	3.5
10/19/2010 15:40	399	6.1	174.0	16.4	8.1	56.5	250.0	151.8	3.5
10/19/2010 15:41	399	6.1	174.0	16.5	8.1	56.5	250.0	151.8	3.5
10/19/2010 15:42	399	6.1	174.0	16.5	8.0	56.6	250.0	151.8	3.5
10/19/2010 15:43	399	6.1	174.0	16.6	8.0	56.7	250.0	151.8	3.5
10/19/2010 15:44	399	6.1	174.0	16.7	8.0	56.8	250.0	151.8	3.5
10/19/2010 15:45	399	6.1	174.0	16.8	8.0	57.0	250.0	151.8	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 15:46	399	6.1	174.0	16.8	8.0	57.1	250.0	151.8	3.5
10/19/2010 15:47	399	6.1	174.0	16.9	8.1	57.2	250.0	151.8	3.5
10/19/2010 15:48	399	6.1	174.0	17.0	8.1	57.2	250.0	151.8	3.5
10/19/2010 15:49	400	6.1	174.0	17.1	8.1	57.2	250.0	151.8	3.5
10/19/2010 15:50	400	6.1	174.0	17.1	8.1	57.2	250.0	151.8	3.5
10/19/2010 15:51	400	6.1	174.0	17.2	8.1	57.1	250.0	151.8	3.5
10/19/2010 15:52	400	6.1	174.0	17.2	8.1	56.9	250.0	151.8	3.5
10/19/2010 15:53	400	6.1	174.0	17.1	8.1	56.9	250.0	151.8	3.5
10/19/2010 15:54	400	6.1	174.0	17.1	8.1	57.0	250.0	151.8	3.5
10/19/2010 15:55	400	6.1	174.0	17.0	8.1	57.1	250.0	151.8	3.5
10/19/2010 15:56	400	6.1	174.0	16.9	8.1	57.0	250.0	151.8	3.5
10/19/2010 15:57	400	6.1	174.0	16.9	8.1	56.9	250.0	151.8	3.5
10/19/2010 15:58	400	6.1	174.0	16.8	8.1	57.0	250.0	151.8	3.5
10/19/2010 15:59	400	6.1	173.0	16.7	8.1	57.1	250.0	151.8	3.5
10/19/2010 16:00	400	6.1	173.0	16.7	8.2	57.1	250.0	151.8	3.5
10/19/2010 16:01	400	6.1	173.0	16.6	8.2	57.0	250.0	151.8	3.5
10/19/2010 16:02	400	6.1	173.0	16.6	8.2	56.9	250.0	151.8	3.5
10/19/2010 16:03	400	6.1	173.0	16.5	8.2	56.8	250.0	151.8	3.5
10/19/2010 16:04	400	6.1	173.0	16.4	8.2	56.8	250.0	151.8	3.5
10/19/2010 16:05	400	6.1	173.0	16.3	8.2	56.8	250.0	151.8	3.5
10/19/2010 16:06	400	6.1	173.0	16.3	8.2	56.7	250.0	151.8	3.5
10/19/2010 16:07	400	6.1	173.0	16.2	8.1	56.7	250.0	151.8	3.5
10/19/2010 16:08	400	6.1	173.0	16.2	8.1	56.7	250.0	151.8	3.5
10/19/2010 16:09	400	6.1	173.0	16.1	8.1	56.7	250.0	151.8	3.5
10/19/2010 16:10	400	6.1	173.0	16.0	8.1	56.7	250.0	151.8	3.5
10/19/2010 16:11	400	6.1	173.0	16.0	8.1	56.7	250.0	151.8	3.5
10/19/2010 16:12	400	6.1	173.0	15.9	8.1	56.7	250.0	151.8	3.5
10/19/2010 16:13	400	6.1	173.0	15.8	8.1	56.8	250.0	151.8	3.5
10/19/2010 16:14	400	6.1	173.0	15.8	8.1	56.8	250.0	151.8	3.5
10/19/2010 16:15	400	6.1	173.0	15.7	8.1	56.8	250.0	151.8	3.5
10/19/2010 16:16	400	6.1	173.0	15.7	8.1	56.9	250.0	151.8	3.5
10/19/2010 16:17	400	6.1	173.0	15.6	8.1	56.9	250.0	151.8	3.5
10/19/2010 16:18	400	6.1	173.0	15.6	8.1	57.0	250.0	151.8	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 16:19	400	6.1	173.0	15.5	8.2	57.0	250.0	151.8	3.5
10/19/2010 16:20	400	6.1	173.0	15.4	8.2	57.1	250.0	151.8	3.5
10/19/2010 16:21	400	6.1	173.0	15.4	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:22	400	6.1	173.0	15.3	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:23	400	6.1	173.0	15.3	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:24	400	6.1	173.0	15.2	8.2	57.3	250.0	151.8	3.5
10/19/2010 16:25	400	6.1	173.0	15.2	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:26	400	6.1	173.0	15.1	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:27	400	6.1	173.0	15.0	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:28	401	6.1	173.0	15.0	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:29	401	6.1	173.0	14.9	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:30	401	6.1	173.0	14.9	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:31	401	6.1	173.0	14.8	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:32	401	6.1	173.0	14.7	8.2	57.4	250.0	151.8	3.5
10/19/2010 16:33	401	6.1	173.0	14.7	8.2	57.4	250.0	151.9	3.5
10/19/2010 16:34	401	6.1	173.0	14.6	8.2	57.4	250.0	151.9	3.5
10/19/2010 16:35	401	6.1	173.0	14.6	8.1	57.3	250.0	151.9	3.5
10/19/2010 16:36	401	6.1	173.0	14.5	8.1	57.4	250.0	151.9	3.5
10/19/2010 16:37	401	6.1	173.0	14.5	8.1	57.6	250.0	151.9	3.5
10/19/2010 16:38	401	6.1	173.0	14.4	8.1	57.8	250.0	151.9	3.5
10/19/2010 16:39	401	6.1	173.0	14.4	8.1	57.9	250.0	151.9	3.5
10/19/2010 16:40	401	6.1	173.0	14.3	8.1	58.0	250.0	151.9	3.5
10/19/2010 16:41	401	6.1	173.0	14.2	8.1	58.1	250.0	151.9	3.5
10/19/2010 16:42	401	6.1	173.0	14.2	8.2	58.2	250.0	151.9	3.5
10/19/2010 16:43	401	6.1	173.0	14.1	8.2	58.3	250.0	151.9	3.5
10/19/2010 16:44	401	6.1	173.0	14.1	8.2	58.4	250.0	151.9	3.5
10/19/2010 16:45	401	6.1	173.0	14.0	8.2	58.5	250.0	151.9	3.5
10/19/2010 16:46	401	6.1	173.0	13.9	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:47	401	6.1	173.0	13.9	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:48	401	6.1	173.0	13.8	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:49	401	6.1	173.0	13.7	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:50	401	6.1	173.0	13.7	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:51	401	6.1	173.0	13.6	8.2	58.6	250.0	151.9	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 16:52	401	6.1	173.0	13.6	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:53	401	6.1	173.0	13.6	8.2	58.5	250.0	151.9	3.5
10/19/2010 16:54	401	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
10/19/2010 16:55	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:56	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:57	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 16:58	401	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
10/19/2010 16:59	401	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
10/19/2010 17:00	401	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 17:01	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 17:02	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 17:03	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 17:04	400	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
10/19/2010 17:05	400	6.1	173.0	13.5	8.2	58.5	250.0	151.9	3.5
10/19/2010 17:06	400	6.1	173.0	13.5	8.2	58.6	250.0	151.9	3.5
10/19/2010 17:07	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:08	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:09	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:10	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:11	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:12	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:13	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:14	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:15	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:16	400	6.1	173.0	13.5	8.2	58.6	250.0	152.0	3.5
10/19/2010 17:17	400	6.1	173.0	13.5	8.2	58.7	250.0	152.0	3.5
10/19/2010 17:18	400	6.1	173.0	13.5	8.1	58.9	250.0	152.0	3.5
10/19/2010 17:19	400	6.1	173.0	13.5	8.1	59.0	250.0	152.0	3.5
10/19/2010 17:20	400	6.1	173.0	13.5	8.1	59.0	250.0	152.0	3.5
10/19/2010 17:21	399	6.1	173.0	13.5	8.1	59.0	250.0	152.0	3.5
10/19/2010 17:22	399	6.1	173.0	13.5	8.1	59.0	250.0	152.0	3.5
10/19/2010 17:23	399	6.1	173.0	13.4	8.1	59.0	250.0	152.0	3.5
10/19/2010 17:24	399	6.1	173.0	13.4	8.1	59.0	250.0	152.0	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 2 - Start: 14:40 Stop: 17:42
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 17:25	399	6.1	173.0	13.4	8.1	59.0	250.0	152.0	3.5
10/19/2010 17:26	399	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:27	399	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:28	399	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:29	399	6.1	173.0	13.4	8.1	59.0	250.0	152.1	3.5
10/19/2010 17:30	399	6.1	173.0	13.4	8.2	59.0	250.0	152.1	3.5
10/19/2010 17:31	399	6.1	173.0	13.4	8.2	59.0	250.0	152.1	3.5
10/19/2010 17:32	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:33	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:34	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:35	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:36	399	6.1	173.0	13.4	8.2	59.0	250.0	152.2	3.5
10/19/2010 17:37	399	6.1	173.0	13.4	8.2	58.9	250.0	152.2	3.5
10/19/2010 17:38	399	6.1	173.0	13.4	8.2	58.7	250.0	152.2	3.5
10/19/2010 17:39	399	6.1	173.0	13.4	8.2	58.5	250.0	152.2	3.5
10/19/2010 17:40	399	6.1	173.0	13.4	8.2	58.3	250.0	152.2	3.5
10/19/2010 17:41	399	6.1	173.0	13.4	8.2	58.2	250.0	152.2	3.5
10/19/2010 17:42	399	6.1	173.0	13.4	8.2	58.0	250.0	152.2	3.5
AVERAGE	**400**	**6.1**	**173.7**	**14.6**	**8.1**	**57.5**	**250.0**	**151.9**	**3.5**
MINIMUM	**399**	**6.0**	**173.0**	**12.8**	**8.0**	**56.3**	**250.0**	**151.8**	**3.5**
MAXIMUM	**402**	**6.1**	**175.0**	**17.2**	**8.2**	**59.0**	**250.0**	**152.2**	**3.5**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 17:58	400	6.1	173.0	13.4	8.1	57.6	250.0	152.2	3.5
10/19/2010 17:59	400	6.1	173.0	13.4	8.2	57.5	250.0	152.2	3.5
10/19/2010 18:00	400	6.1	173.0	13.4	8.2	57.4	250.0	152.2	3.5
10/19/2010 18:01	400	6.1	173.0	13.4	8.2	57.5	250.0	152.2	3.5
10/19/2010 18:02	400	6.1	173.0	13.4	8.2	57.6	250.0	152.2	3.5
10/19/2010 18:03	400	6.1	173.0	13.4	8.3	57.7	250.0	152.2	3.5
10/19/2010 18:04	400	6.1	173.0	13.4	8.3	57.6	250.0	152.2	3.5
10/19/2010 18:05	400	6.1	173.0	13.4	8.3	57.4	250.0	152.2	3.5
10/19/2010 18:06	400	6.1	173.0	13.3	8.3	57.5	250.0	152.2	3.5
10/19/2010 18:07	400	6.1	173.0	13.3	8.3	57.6	250.0	152.2	3.5
10/19/2010 18:08	400	6.1	173.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:09	401	6.1	173.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:10	401	6.1	173.0	13.3	8.4	57.5	250.0	152.2	3.5
10/19/2010 18:11	401	6.1	173.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:12	401	6.1	174.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:13	401	6.1	174.0	13.3	8.4	57.6	250.0	152.2	3.5
10/19/2010 18:14	401	6.1	174.0	13.3	8.4	57.5	250.0	152.2	3.5
10/19/2010 18:15	401	6.1	173.0	13.3	8.4	57.4	250.0	152.2	3.5
10/19/2010 18:16	401	6.1	173.0	13.3	8.4	57.3	250.0	152.2	3.5
10/19/2010 18:17	401	6.1	173.0	13.3	8.4	57.3	250.0	152.2	3.5
10/19/2010 18:18	401	6.1	173.0	13.3	8.4	57.2	250.0	152.2	3.5
10/19/2010 18:19	401	6.1	173.0	13.3	8.4	57.1	250.0	152.2	3.5
10/19/2010 18:20	401	6.1	173.0	13.3	8.4	56.9	250.0	152.2	3.5
10/19/2010 18:21	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:22	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:23	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:24	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:25	401	6.1	173.0	13.3	8.3	56.8	250.0	152.2	3.5
10/19/2010 18:26	401	6.1	173.0	13.3	8.3	56.8	250.0	152.2	3.5
10/19/2010 18:27	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:28	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:29	401	6.1	173.0	13.3	8.3	56.9	250.0	152.2	3.5
10/19/2010 18:30	401	6.1	173.0	13.3	8.3	56.8	250.0	152.2	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 18:31	401	6.1	173.0	13.3	8.3	56.8	250.0	152.1	3.5
10/19/2010 18:32	401	6.1	173.0	13.3	8.3	56.8	250.0	152.1	3.5
10/19/2010 18:33	401	6.1	173.0	13.3	8.3	56.9	250.0	152.1	3.5
10/19/2010 18:34	401	6.1	173.0	13.3	8.3	57.0	250.0	152.1	3.5
10/19/2010 18:35	401	6.1	173.0	13.3	8.2	57.0	250.0	152.1	3.5
10/19/2010 18:36	401	6.1	173.0	13.3	8.2	57.0	250.0	152.1	3.5
10/19/2010 18:37	401	6.1	173.0	13.3	8.2	57.0	250.0	152.1	3.5
10/19/2010 18:38	401	6.1	173.0	13.3	8.2	57.1	250.0	152.1	3.5
10/19/2010 18:39	401	6.1	173.0	13.3	8.2	57.2	250.0	152.1	3.5
10/19/2010 18:40	401	6.1	173.0	13.3	8.2	57.2	250.0	152.1	3.5
10/19/2010 18:41	401	6.1	173.0	13.3	8.3	57.1	250.0	152.1	3.5
10/19/2010 18:42	401	6.1	173.0	13.2	8.3	57.0	250.0	152.1	3.5
10/19/2010 18:43	401	6.1	173.0	13.2	8.3	57.0	250.0	152.1	3.5
10/19/2010 18:44	400	6.1	173.0	13.2	8.3	57.1	250.0	152.1	3.5
10/19/2010 18:45	400	6.1	173.0	13.2	8.3	57.2	250.0	152.1	3.5
10/19/2010 18:46	400	6.1	173.0	13.2	8.4	57.2	250.0	152.0	3.5
10/19/2010 18:47	400	6.1	173.0	13.2	8.4	57.1	250.0	152.0	3.5
10/19/2010 18:48	400	6.1	173.0	13.2	8.4	57.0	250.0	152.0	3.5
10/19/2010 18:49	400	6.1	173.0	13.2	8.4	57.0	250.0	152.0	3.5
10/19/2010 18:50	401	6.1	173.0	13.2	8.4	57.0	250.0	152.0	3.5
10/19/2010 18:51	401	6.1	173.0	13.2	8.4	56.9	250.0	152.0	3.5
10/19/2010 18:52	401	6.1	173.0	13.2	8.4	56.8	250.0	152.0	3.5
10/19/2010 18:53	401	6.1	173.0	13.2	8.4	56.6	250.0	152.0	3.5
10/19/2010 18:54	401	6.1	173.0	13.2	8.4	56.5	250.0	152.0	3.5
10/19/2010 18:55	401	6.1	173.0	13.2	8.3	56.3	250.0	152.0	3.5
10/19/2010 18:56	401	6.1	173.0	13.2	8.3	56.2	250.0	152.0	3.5
10/19/2010 18:57	401	6.1	173.0	13.2	8.3	56.2	250.0	152.0	3.5
10/19/2010 18:58	400	6.1	173.0	13.2	8.3	56.1	250.0	152.0	3.5
10/19/2010 18:59	400	6.1	173.0	13.2	8.2	56.1	250.0	152.0	3.5
10/19/2010 19:00	400	6.1	173.0	13.2	8.2	56.2	250.0	152.0	3.5
10/19/2010 19:01	400	6.1	173.0	13.2	8.2	56.2	250.0	152.0	3.5
10/19/2010 19:02	400	6.1	173.0	13.2	8.2	56.2	250.0	152.0	3.5
10/19/2010 19:03	400	6.1	173.0	13.2	8.2	56.1	250.0	151.9	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 19:04	400	6.1	173.0	13.2	8.2	56.1	250.0	151.9	3.5
10/19/2010 19:05	400	6.1	173.0	13.2	8.2	56.2	250.0	151.9	3.5
10/19/2010 19:06	400	6.1	173.0	13.2	8.2	56.2	250.0	151.9	3.5
10/19/2010 19:07	400	6.1	173.0	13.2	8.2	56.2	250.0	151.9	3.5
10/19/2010 19:08	400	6.1	173.0	13.2	8.2	56.1	250.0	151.9	3.5
10/19/2010 19:09	400	6.1	173.0	13.2	8.2	56.1	250.0	151.9	3.5
10/19/2010 19:10	400	6.1	173.0	13.2	8.1	56.1	250.0	151.9	3.5
10/19/2010 19:11	400	6.1	173.0	13.2	8.1	56.0	250.0	151.9	3.5
10/19/2010 19:12	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:13	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:14	400	6.1	173.0	13.2	8.1	55.8	250.0	151.9	3.5
10/19/2010 19:15	400	6.1	173.0	13.2	8.1	55.8	250.0	151.9	3.5
10/19/2010 19:16	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:17	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:18	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:19	400	6.1	173.0	13.2	8.1	55.9	250.0	151.9	3.5
10/19/2010 19:20	400	6.1	173.0	13.2	8.2	55.8	250.0	151.9	3.5
10/19/2010 19:21	400	6.1	173.0	13.2	8.2	55.8	250.0	151.9	3.5
10/19/2010 19:22	400	6.1	173.0	13.2	8.2	55.9	250.0	151.9	3.5
10/19/2010 19:23	400	6.1	173.0	13.2	8.2	55.9	250.0	151.9	3.5
10/19/2010 19:24	400	6.1	173.0	13.2	8.2	56.0	250.0	151.9	3.5
10/19/2010 19:25	400	6.1	173.0	13.2	8.2	56.0	250.0	151.9	3.5
10/19/2010 19:26	400	6.1	173.0	13.2	8.2	55.8	250.0	151.9	3.5
10/19/2010 19:27	400	6.1	173.0	13.2	8.1	55.7	250.0	151.9	3.5
10/19/2010 19:28	400	6.1	173.0	13.2	8.1	55.7	250.0	151.9	3.5
10/19/2010 19:29	400	6.1	173.0	13.2	8.0	55.6	250.0	151.9	3.5
10/19/2010 19:30	400	6.1	173.0	13.2	8.0	55.7	250.0	151.9	3.5
10/19/2010 19:31	400	6.1	173.0	13.2	8.0	55.6	250.0	151.9	3.5
10/19/2010 19:32	401	6.1	173.0	13.2	8.1	55.5	250.0	151.9	3.5
10/19/2010 19:33	401	6.1	173.0	13.2	8.1	55.5	250.0	151.9	3.5
10/19/2010 19:34	401	6.1	173.0	13.2	8.1	55.5	250.0	151.9	3.5
10/19/2010 19:35	401	6.1	174.0	13.2	8.2	55.5	250.0	151.9	3.5
10/19/2010 19:36	401	6.1	174.0	13.2	8.2	55.5	250.0	151.9	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 19:37	401	6.1	174.0	13.2	8.2	55.4	250.0	151.9	3.5
10/19/2010 19:38	401	6.1	174.0	13.2	8.2	55.2	250.0	151.9	3.5
10/19/2010 19:39	401	6.1	174.0	13.2	8.2	55.3	250.0	151.9	3.5
10/19/2010 19:40	401	6.1	174.0	13.2	8.2	55.3	250.0	151.9	3.5
10/19/2010 19:41	401	6.1	174.0	13.2	8.2	55.3	250.0	151.9	3.5
10/19/2010 19:42	401	6.1	174.0	13.2	8.1	55.4	250.0	151.9	3.5
10/19/2010 19:43	401	6.1	174.0	13.1	8.1	55.4	250.0	151.9	3.5
10/19/2010 19:44	401	6.1	174.0	13.1	8.1	55.2	250.0	151.9	3.5
10/19/2010 19:45	401	6.1	174.0	13.1	8.1	55.2	250.0	151.9	3.5
10/19/2010 19:46	401	6.1	174.0	13.1	8.1	55.3	250.0	151.9	3.5
10/19/2010 19:47	401	6.1	174.0	13.1	8.1	55.4	250.0	151.9	3.5
10/19/2010 19:48	401	6.1	174.0	13.1	8.1	55.5	250.0	151.9	3.5
10/19/2010 19:49	400	6.1	174.0	13.1	8.0	55.4	250.0	151.9	3.5
10/19/2010 19:50	400	6.1	174.0	13.1	8.0	55.3	250.0	151.9	3.5
10/19/2010 19:51	400	6.1	174.0	13.1	8.0	55.2	250.0	151.9	3.5
10/19/2010 19:52	400	6.1	174.0	13.1	8.1	55.2	250.0	151.9	3.5
10/19/2010 19:53	400	6.1	174.0	13.1	8.1	55.4	250.0	151.8	3.5
10/19/2010 19:54	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 19:55	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 19:56	400	6.1	174.0	13.1	8.1	55.6	250.0	151.8	3.5
10/19/2010 19:57	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 19:58	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 19:59	400	6.1	174.0	13.1	8.1	55.5	250.0	151.8	3.5
10/19/2010 20:00	400	6.1	174.0	13.1	8.0	55.5	250.0	151.8	3.5
10/19/2010 20:01	400	6.1	174.0	13.1	8.0	55.5	250.0	151.8	3.5
10/19/2010 20:02	400	6.1	173.0	13.1	8.0	55.5	250.0	151.8	3.5
10/19/2010 20:03	400	6.1	173.0	13.1	8.0	55.6	250.0	151.8	3.5
10/19/2010 20:04	400	6.1	173.0	13.1	8.0	55.7	250.0	151.8	3.5
10/19/2010 20:05	400	6.1	173.0	13.1	8.0	55.6	250.0	151.9	3.5
10/19/2010 20:06	400	6.1	173.0	13.1	7.9	55.5	250.0	151.9	3.5
10/19/2010 20:07	400	6.1	173.0	13.1	7.9	55.5	250.0	151.9	3.5
10/19/2010 20:08	400	6.1	173.0	13.1	7.9	55.6	250.0	151.9	3.5
10/19/2010 20:09	400	6.1	173.0	13.1	7.9	55.7	250.0	151.9	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 20:10	400	6.1	173.0	13.1	8.0	55.8	250.0	151.9	3.5
10/19/2010 20:11	400	6.1	174.0	13.1	8.0	55.9	250.0	151.9	3.5
10/19/2010 20:12	400	6.1	174.0	13.1	8.0	55.9	250.0	151.9	3.5
10/19/2010 20:13	400	6.1	173.0	13.1	8.0	55.9	250.0	151.9	3.5
10/19/2010 20:14	400	6.1	173.0	13.0	8.0	55.8	250.0	151.9	3.5
10/19/2010 20:15	400	6.1	173.0	13.0	7.9	56.0	250.0	151.8	3.5
10/19/2010 20:16	400	6.1	173.0	13.0	7.9	56.1	250.0	151.8	3.5
10/19/2010 20:17	400	6.1	173.0	13.0	7.9	56.0	250.0	151.8	3.5
10/19/2010 20:18	400	6.1	173.0	13.0	7.9	56.0	250.0	151.8	3.5
10/19/2010 20:19	400	6.1	173.0	13.0	7.9	56.0	250.0	151.8	3.5
10/19/2010 20:20	400	6.1	173.0	13.0	7.8	56.0	250.0	151.8	3.5
10/19/2010 20:21	400	6.1	173.0	13.0	7.8	56.0	250.0	151.8	3.5
10/19/2010 20:22	400	6.1	173.0	13.0	7.8	55.9	250.0	151.8	3.5
10/19/2010 20:23	400	6.1	173.0	13.0	7.8	55.9	250.0	151.8	3.5
10/19/2010 20:24	400	6.1	173.0	13.0	7.8	56.0	250.0	151.8	3.5
10/19/2010 20:25	400	6.1	173.0	13.0	7.8	56.0	250.0	151.8	3.5
10/19/2010 20:26	400	6.1	173.0	13.0	7.8	56.1	250.0	151.8	3.5
10/19/2010 20:27	400	6.1	173.0	13.0	7.9	56.2	250.0	151.8	3.5
10/19/2010 20:28	399	6.1	173.0	13.0	7.9	56.2	250.0	151.7	3.5
10/19/2010 20:29	399	6.1	173.0	13.0	7.9	56.2	250.0	151.7	3.5
10/19/2010 20:30	399	6.1	173.0	13.0	7.9	56.3	250.0	151.8	3.5
10/19/2010 20:31	399	6.1	173.0	13.0	7.9	56.4	250.0	151.7	3.5
10/19/2010 20:32	399	6.1	173.0	13.0	7.9	56.6	250.0	151.8	3.5
10/19/2010 20:33	399	6.1	173.0	13.0	7.9	56.6	250.0	151.8	3.5
10/19/2010 20:34	399	6.1	173.0	13.0	7.9	56.5	250.0	151.8	3.5
10/19/2010 20:35	399	6.1	173.0	13.0	7.8	56.5	250.0	151.7	3.5
10/19/2010 20:36	399	6.1	173.0	13.0	7.8	56.4	250.0	151.8	3.5
10/19/2010 20:37	399	6.1	173.0	13.0	7.8	56.4	250.0	151.7	3.5
10/19/2010 20:38	399	6.1	173.0	13.0	7.8	56.5	250.0	151.8	3.5
10/19/2010 20:39	400	6.1	173.0	13.0	7.8	56.5	250.0	151.8	3.5
10/19/2010 20:40	400	6.1	173.0	13.0	7.8	56.5	250.0	151.8	3.5
10/19/2010 20:41	400	6.1	173.0	13.0	7.8	56.5	250.0	151.8	3.5
10/19/2010 20:42	400	6.1	173.0	13.0	7.9	56.5	250.0	151.8	3.5

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 19, 2010 - Condition 2 - Run 3 - Start: 17:58 Stop: 21:00
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/19/2010 20:43	400	6.1	173.0	13.0	7.9	56.5	250.0	151.7	3.5
10/19/2010 20:44	400	6.1	173.0	13.0	7.8	56.5	250.0	151.7	3.5
10/19/2010 20:45	400	6.1	173.0	13.0	7.8	56.5	250.0	151.7	3.5
10/19/2010 20:46	400	6.1	173.0	13.0	7.9	56.5	250.0	151.7	3.5
10/19/2010 20:47	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:48	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:49	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:50	400	6.1	173.0	13.0	7.9	56.6	250.0	151.7	3.5
10/19/2010 20:51	400	6.1	173.0	12.9	7.9	56.6	250.0	151.8	3.5
10/19/2010 20:52	400	6.1	173.0	12.9	7.9	56.6	250.0	151.8	3.5
10/19/2010 20:53	400	6.1	173.0	12.9	7.9	56.4	250.0	151.8	3.5
10/19/2010 20:54	400	6.1	173.0	12.9	7.9	56.4	250.0	151.8	3.5
10/19/2010 20:55	400	6.1	173.0	12.9	7.9	56.4	250.0	151.8	3.5
10/19/2010 20:56	400	6.1	173.0	12.9	7.9	56.5	250.0	151.8	3.5
10/19/2010 20:57	400	6.1	173.0	12.9	7.9	56.5	250.0	151.7	3.5
10/19/2010 20:58	400	6.1	173.0	12.9	7.9	56.5	250.0	151.7	3.5
10/19/2010 20:59	400	6.1	173.0	12.9	7.9	56.5	250.0	151.7	3.5
10/19/2010 21:00	400	6.1	173.0	12.9	7.9	56.4	250.0	151.7	3.5
AVERAGE	**400**	**6.1**	**173.2**	**13.2**	**8.1**	**56.3**	**250.0**	**151.9**	**3.5**
MINIMUM	**399**	**6.1**	**173.0**	**12.9**	**7.8**	**55.2**	**250.0**	**151.7**	**3.5**
MAXIMUM	**401**	**6.1**	**174.0**	**13.4**	**8.4**	**57.7**	**250.0**	**152.2**	**3.5**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 09:30	401	5.3	175.0	13.7	8.0	56.4	250.0	148.7	3.0
10/20/2010 09:31	400	5.3	175.0	13.7	8.0	56.4	250.0	148.7	3.0
10/20/2010 09:32	400	5.3	175.0	13.7	8.0	56.4	250.0	148.7	3.0
10/20/2010 09:33	400	5.3	175.0	13.7	8.0	56.4	250.0	148.7	3.0
10/20/2010 09:34	400	5.3	175.0	13.7	8.0	56.4	250.0	148.7	3.0
10/20/2010 09:35	400	5.3	175.0	13.7	8.0	56.4	250.0	148.7	3.0
10/20/2010 09:36	400	5.3	175.0	13.7	8.0	56.4	250.0	148.7	3.0
10/20/2010 09:37	400	5.3	175.0	13.7	8.0	56.3	250.0	148.7	3.0
10/20/2010 09:38	400	5.3	175.0	13.7	8.0	56.3	250.0	148.7	3.0
10/20/2010 09:39	400	5.3	175.0	13.7	8.0	56.3	250.0	148.8	3.0
10/20/2010 09:40	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:41	400	5.3	175.0	13.7	8.0	56.5	250.0	148.8	3.0
10/20/2010 09:42	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:43	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:44	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:45	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:46	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:47	400	5.3	175.0	13.7	8.0	56.3	250.0	148.8	3.0
10/20/2010 09:48	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:49	400	5.3	175.0	13.7	8.0	56.5	250.0	148.8	3.0
10/20/2010 09:50	400	5.3	175.0	13.7	8.0	56.5	250.0	148.8	3.0
10/20/2010 09:51	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:52	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:53	400	5.3	175.0	13.7	8.0	56.4	250.0	148.8	3.0
10/20/2010 09:54	400	5.3	175.0	13.7	8.0	56.3	250.0	148.8	3.1
10/20/2010 09:55	400	5.3	175.0	13.7	8.0	56.3	250.0	148.8	3.1
10/20/2010 09:56	400	5.3	175.0	13.7	8.0	56.3	250.0	148.8	3.1
10/20/2010 09:57	400	5.3	175.0	13.7	8.0	56.5	250.0	148.8	3.1
10/20/2010 09:58	400	5.3	175.0	13.7	8.0	56.5	250.0	148.8	3.1
10/20/2010 09:59	400	5.3	175.0	13.7	8.0	56.4	250.0	148.9	3.1
10/20/2010 10:00	400	5.4	175.0	13.7	8.0	56.4	250.0	148.9	3.1
10/20/2010 10:01	400	5.4	175.0	13.7	8.0	56.4	250.0	148.9	3.1
10/20/2010 10:02	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 10:03	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:04	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:05	400	5.4	175.0	13.7	8.0	56.4	250.0	148.9	3.1
10/20/2010 10:06	400	5.4	175.0	13.7	8.0	56.5	250.0	148.9	3.1
10/20/2010 10:07	400	5.4	175.0	13.7	8.0	56.5	250.0	148.9	3.1
10/20/2010 10:08	400	5.4	175.0	13.7	8.0	56.4	250.0	148.9	3.1
10/20/2010 10:09	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:10	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:11	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:12	400	5.4	175.0	13.7	8.0	56.3	250.0	148.9	3.1
10/20/2010 10:13	400	5.4	175.0	13.7	8.0	56.3	250.0	149.0	3.1
10/20/2010 10:14	400	5.4	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:15	400	5.4	175.0	13.7	8.0	56.6	250.0	149.0	3.1
10/20/2010 10:16	400	5.4	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:17	400	5.5	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:18	400	5.5	175.0	13.7	8.0	56.5	250.0	149.0	3.1
10/20/2010 10:19	400	5.5	175.0	13.7	8.0	56.4	250.0	149.1	3.1
10/20/2010 10:20	400	5.5	175.0	13.7	8.0	56.4	250.0	149.1	3.1
10/20/2010 10:21	400	5.5	175.0	13.7	8.0	56.4	250.0	149.1	3.1
10/20/2010 10:22	400	5.5	175.0	13.7	8.0	56.5	250.0	149.1	3.1
10/20/2010 10:23	400	5.5	175.0	13.7	8.0	56.7	250.0	149.1	3.1
10/20/2010 10:24	400	5.5	175.0	13.7	8.0	56.7	250.0	149.1	3.1
10/20/2010 10:25	400	5.5	175.0	13.7	8.0	56.7	250.0	149.1	3.1
10/20/2010 10:26	400	5.5	175.0	13.7	8.0	56.6	250.0	149.2	3.1
10/20/2010 10:27	400	5.5	175.0	13.7	8.0	56.6	250.0	149.2	3.1
10/20/2010 10:28	400	5.5	175.0	13.7	8.0	56.6	250.0	149.2	3.2
10/20/2010 10:29	400	5.5	175.0	13.7	8.0	56.5	250.0	149.2	3.2
10/20/2010 10:30	400	5.5	175.0	13.7	8.0	56.6	250.0	149.2	3.2
10/20/2010 10:31	400	5.5	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:32	400	5.5	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:33	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:34	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:35	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 10:36	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:37	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:38	400	5.6	175.0	13.7	8.0	56.7	250.0	149.2	3.2
10/20/2010 10:39	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:40	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:41	400	5.6	175.0	13.7	8.0	56.9	250.0	149.2	3.2
10/20/2010 10:42	401	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:43	401	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:44	401	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:45	400	5.6	175.0	13.7	8.0	56.8	250.0	149.2	3.2
10/20/2010 10:46	400	5.6	175.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:47	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:48	400	5.6	175.0	13.7	8.0	56.9	250.0	149.3	3.2
10/20/2010 10:49	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:50	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:51	400	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:52	401	5.6	175.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:53	401	5.6	175.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:54	401	5.6	174.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:55	401	5.6	174.0	13.7	8.0	56.7	250.0	149.3	3.2
10/20/2010 10:56	401	5.6	174.0	13.7	8.0	56.8	250.0	149.3	3.2
10/20/2010 10:57	401	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 10:58	401	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 10:59	401	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 11:00	401	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:01	401	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:02	401	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:03	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:04	400	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 11:05	400	5.6	174.0	13.7	8.0	56.8	250.0	149.4	3.2
10/20/2010 11:06	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:07	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2
10/20/2010 11:08	400	5.6	174.0	13.7	8.0	56.7	250.0	149.4	3.2

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 11:09	401	5.6	174.0	13.7	8.0	56.6	250.0	149.4	3.2
10/20/2010 11:10	401	5.6	174.0	13.7	8.0	56.6	250.0	149.4	3.2
10/20/2010 11:11	401	5.6	174.0	13.7	8.0	56.5	250.0	149.4	3.2
10/20/2010 11:12	401	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:13	401	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:14	400	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:15	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:16	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:17	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:18	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:19	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:20	401	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:21	401	5.7	174.0	13.7	8.0	56.7	250.0	149.5	3.2
10/20/2010 11:22	401	5.7	174.0	13.7	8.0	56.7	250.0	149.5	3.2
10/20/2010 11:23	401	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:24	401	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:25	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:26	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.2
10/20/2010 11:27	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:28	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.2
10/20/2010 11:29	400	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:30	400	5.7	174.0	13.7	8.0	56.6	250.0	149.5	3.2
10/20/2010 11:31	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.3
10/20/2010 11:32	400	5.7	174.0	13.7	8.0	56.5	250.0	149.5	3.3
10/20/2010 11:33	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.3
10/20/2010 11:34	400	5.7	174.0	13.7	8.0	56.4	250.0	149.5	3.3
10/20/2010 11:35	400	5.7	174.0	13.7	8.0	56.3	250.0	149.5	3.3
10/20/2010 11:36	400	5.7	174.0	13.7	8.0	56.2	250.0	149.5	3.3
10/20/2010 11:37	400	5.7	174.0	13.7	8.0	56.4	250.0	149.6	3.3
10/20/2010 11:38	400	5.7	174.0	13.7	8.0	56.5	250.0	149.6	3.3
10/20/2010 11:39	400	5.7	174.0	13.7	8.0	56.4	250.0	149.6	3.3
10/20/2010 11:40	400	5.7	174.0	13.7	8.0	56.3	250.0	149.6	3.2
10/20/2010 11:41	400	5.7	174.0	13.7	8.0	56.3	250.0	149.6	3.2

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 11:42	400	5.7	174.0	13.7	8.0	56.2	250.0	149.6	3.2
10/20/2010 11:43	400	5.7	174.0	13.6	8.0	56.1	250.0	149.6	3.2
10/20/2010 11:44	400	5.7	174.0	13.5	8.0	56.1	250.0	149.6	3.2
10/20/2010 11:45	400	5.7	174.0	13.4	8.0	56.3	250.0	149.6	3.2
10/20/2010 11:46	400	5.7	174.0	13.3	8.0	56.5	250.0	149.6	3.2
10/20/2010 11:47	400	5.7	174.0	13.3	8.0	56.5	250.0	149.6	3.2
10/20/2010 11:48	400	5.7	174.0	13.2	8.0	56.5	250.0	149.6	3.2
10/20/2010 11:49	400	5.7	174.0	13.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:50	400	5.7	174.0	13.0	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:51	400	5.7	174.0	12.9	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:52	400	5.7	174.0	12.8	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:53	400	5.7	174.0	12.8	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:54	399	5.7	174.0	12.7	8.0	56.5	250.0	149.7	3.2
10/20/2010 11:55	399	5.7	174.0	12.6	8.0	56.6	250.0	149.7	3.2
10/20/2010 11:56	399	5.7	174.0	12.5	8.0	56.4	250.0	149.7	3.2
10/20/2010 11:57	399	5.7	174.0	12.4	8.0	56.3	250.0	149.7	3.2
10/20/2010 11:58	399	5.7	174.0	12.3	8.0	56.2	250.0	149.7	3.2
10/20/2010 11:59	399	5.7	174.0	12.2	8.0	56.3	250.0	149.7	3.2
10/20/2010 12:00	399	5.7	174.0	12.2	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:01	399	5.7	174.0	12.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:02	399	5.7	174.0	12.1	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:03	399	5.7	173.0	12.1	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:04	399	5.7	173.0	12.1	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:05	399	5.7	173.0	12.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:06	399	5.7	173.0	12.1	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:07	400	5.7	173.0	12.1	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:08	400	5.7	173.0	12.1	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:09	400	5.7	173.0	12.2	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:10	400	5.7	173.0	12.2	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:11	400	5.7	173.0	12.2	8.0	56.8	250.0	149.7	3.2
10/20/2010 12:12	400	5.7	173.0	12.2	8.0	56.8	250.0	149.7	3.2
10/20/2010 12:13	400	5.7	173.0	12.2	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:14	400	5.7	173.0	12.2	8.0	56.5	250.0	149.7	3.2

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 1 - Start: 09:30 Stop: 12:32
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 12:15	400	5.7	173.0	12.2	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:16	400	5.6	173.0	12.3	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:17	400	5.6	173.0	12.3	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:18	400	5.6	173.0	12.3	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:19	400	5.6	173.0	12.3	8.0	56.8	250.0	149.7	3.2
10/20/2010 12:20	400	5.6	173.0	12.3	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:21	400	5.6	173.0	12.3	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:22	399	5.6	173.0	12.3	8.0	56.4	250.0	149.7	3.2
10/20/2010 12:23	399	5.6	173.0	12.3	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:24	399	5.6	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:25	400	5.6	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:26	400	5.6	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:27	400	5.7	173.0	12.4	8.0	56.7	250.0	149.7	3.2
10/20/2010 12:28	400	5.7	173.0	12.4	8.0	56.6	250.0	149.7	3.2
10/20/2010 12:29	400	5.7	173.0	12.4	8.0	56.5	250.0	149.7	3.2
10/20/2010 12:30	400	5.7	173.0	12.4	8.0	56.5	250.0	149.8	3.2
10/20/2010 12:31	400	5.7	173.0	12.4	8.0	56.5	250.0	149.8	3.2
10/20/2010 12:32	400	5.7	173.0	12.4	8.0	56.5	250.0	149.8	3.2
AVERAGE	**400**	**5.6**	**174.3**	**13.4**	**8.0**	**56.5**	**250.0**	**149.3**	**3.2**
MINIMUM	**399**	**5.3**	**173.0**	**12.1**	**8.0**	**56.1**	**250.0**	**148.7**	**3.0**
MAXIMUM	**401**	**5.7**	**175.0**	**13.7**	**8.0**	**56.9**	**250.0**	**149.8**	**3.3**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 13:00	400	5.9	173.0	14.3	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:01	400	5.9	173.0	14.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:02	400	5.9	173.0	14.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:03	400	5.9	173.0	14.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:04	400	5.9	173.0	14.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:05	400	5.9	173.0	14.4	8.0	56.2	250.0	149.9	3.4
10/20/2010 13:06	400	5.9	173.0	14.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:07	400	5.9	173.0	14.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:08	400	5.9	173.0	14.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:09	400	5.9	173.0	14.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:10	400	5.9	173.0	14.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:11	400	5.9	173.0	14.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:12	400	5.9	173.0	14.3	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:13	400	5.9	173.0	14.3	8.0	56.2	250.0	149.9	3.4
10/20/2010 13:14	400	5.9	173.0	14.3	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:15	400	5.9	173.0	14.3	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:16	400	5.9	173.0	14.3	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:17	400	5.9	173.0	14.3	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:18	400	5.9	173.0	14.3	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:19	400	5.9	173.0	14.3	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:20	400	5.9	173.0	14.3	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:21	400	5.9	173.0	14.2	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:22	400	5.9	173.0	14.2	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:23	399	5.9	173.0	14.2	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:24	399	5.9	173.0	14.2	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:25	399	5.9	173.0	14.2	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:26	399	5.9	173.0	14.2	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:27	399	5.9	173.0	14.2	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:28	399	5.9	173.0	14.1	8.0	56.3	250.0	149.9	3.4
10/20/2010 13:29	399	5.9	173.0	14.1	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:30	399	5.9	173.0	14.1	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:31	399	5.9	173.0	14.1	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:32	399	5.9	173.0	14.1	8.0	56.4	250.0	149.9	3.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 13:33	399	5.9	173.0	14.1	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:34	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:35	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:36	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:37	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:38	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:39	399	5.9	173.0	14.0	8.0	56.4	250.0	149.9	3.4
10/20/2010 13:40	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:41	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:42	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:43	399	5.9	173.0	13.9	8.0	56.5	250.0	150.0	3.4
10/20/2010 13:44	399	5.9	173.0	13.9	8.0	56.4	250.0	150.0	3.4
10/20/2010 13:45	399	5.9	173.0	13.9	8.0	56.3	250.0	150.0	3.4
10/20/2010 13:46	399	5.9	173.0	13.8	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:47	399	5.9	173.0	13.8	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:48	399	5.9	173.0	13.8	8.0	56.4	250.0	150.0	3.3
10/20/2010 13:49	399	5.9	173.0	13.8	8.0	56.5	250.0	149.9	3.3
10/20/2010 13:50	399	5.9	173.0	13.8	8.0	56.5	250.0	149.9	3.3
10/20/2010 13:51	399	5.9	173.0	13.8	8.0	56.5	250.0	150.0	3.3
10/20/2010 13:52	399	5.9	173.0	13.7	8.0	56.4	250.0	150.0	3.3
10/20/2010 13:53	399	5.9	173.0	13.7	8.0	56.2	250.0	150.0	3.3
10/20/2010 13:54	399	5.9	173.0	13.7	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:55	399	5.9	173.0	13.7	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:56	399	5.9	173.0	13.7	8.0	56.3	250.0	150.0	3.3
10/20/2010 13:57	399	5.9	173.0	13.7	8.0	56.4	250.0	150.0	3.3
10/20/2010 13:58	399	5.9	173.0	13.7	8.0	56.5	250.0	150.0	3.3
10/20/2010 13:59	399	5.9	173.0	13.6	8.0	56.4	250.0	150.0	3.3
10/20/2010 14:00	399	5.9	173.0	13.6	8.0	56.3	250.0	150.0	3.3
10/20/2010 14:01	399	5.9	173.0	13.6	8.0	56.3	250.0	150.0	3.3
10/20/2010 14:02	399	5.9	173.0	13.6	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:03	399	5.9	173.0	13.6	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:04	399	5.9	173.0	13.6	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:05	399	5.9	173.0	13.5	8.0	56.5	250.0	149.9	3.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 14:06	399	5.9	173.0	13.5	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:07	399	5.9	173.0	13.5	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:08	399	5.9	173.0	13.5	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:09	399	5.9	173.0	13.5	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:10	399	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:11	399	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:12	399	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 14:13	400	5.9	173.0	13.4	8.0	56.6	250.0	150.0	3.3
10/20/2010 14:14	400	5.9	173.0	13.4	8.0	56.5	250.0	150.0	3.3
10/20/2010 14:15	400	5.9	173.0	13.4	8.0	56.4	250.0	150.0	3.3
10/20/2010 14:16	400	5.9	173.0	13.4	8.0	56.2	250.0	150.0	3.3
10/20/2010 14:17	400	5.9	173.0	13.4	8.0	56.3	250.0	150.0	3.3
10/20/2010 14:18	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:19	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:20	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:21	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:22	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:23	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:24	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:25	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:26	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:27	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:28	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:29	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:30	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:31	400	5.9	173.0	13.4	8.0	56.1	250.0	149.9	3.3
10/20/2010 14:32	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:33	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:34	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:35	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:36	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:37	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:38	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 14:39	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:40	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:41	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:42	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:43	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:44	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 14:45	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 14:46	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.3
10/20/2010 14:47	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.3
10/20/2010 14:48	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:49	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:50	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 14:51	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 14:52	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 14:53	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 14:54	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:55	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:56	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 14:57	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 14:58	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 14:59	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 15:00	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 15:01	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:02	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.4
10/20/2010 15:03	400	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.4
10/20/2010 15:04	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:05	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:06	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:07	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:08	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:09	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:10	401	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.4
10/20/2010 15:11	401	5.9	173.0	13.4	8.0	56.2	250.0	149.9	3.4

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 15:12	401	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:13	401	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:14	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:15	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:16	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 15:17	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:18	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:19	400	5.9	173.0	13.4	8.0	56.3	250.0	149.9	3.4
10/20/2010 15:20	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:21	400	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.4
10/20/2010 15:22	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.4
10/20/2010 15:23	400	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:24	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:25	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:26	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:27	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:28	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:29	401	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:30	401	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:31	401	5.9	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:32	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:33	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:34	401	5.9	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:35	401	5.9	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:36	400	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:37	400	5.9	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:38	400	5.9	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:39	400	5.8	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:40	400	5.8	173.0	13.4	8.0	56.6	250.0	149.9	3.3
10/20/2010 15:41	400	5.8	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:42	400	5.8	173.0	13.4	8.0	56.4	250.0	149.9	3.3
10/20/2010 15:43	400	5.8	173.0	13.4	8.0	56.5	250.0	149.9	3.3
10/20/2010 15:44	400	5.8	173.0	13.4	8.0	56.6	250.0	149.9	3.3

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 20, 2010 - Condition 1 - Run 2 - Start: 13:00 Stop: 16:02
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/20/2010 15:45	400	5.8	173.0	13.4	8.0	56.7	250.0	149.9	3.3
10/20/2010 15:46	400	5.8	173.0	13.4	8.0	56.8	250.0	149.9	3.3
10/20/2010 15:47	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:48	400	5.8	173.0	13.4	8.0	56.7	250.0	149.8	3.3
10/20/2010 15:49	400	5.8	173.0	13.4	8.0	56.5	250.0	149.8	3.3
10/20/2010 15:50	400	5.8	173.0	13.4	8.0	56.5	250.0	149.8	3.3
10/20/2010 15:51	400	5.8	173.0	13.4	8.0	56.6	250.0	149.8	3.3
10/20/2010 15:52	400	5.8	173.0	13.4	8.0	56.7	250.0	149.8	3.3
10/20/2010 15:53	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:54	400	5.8	173.0	13.4	8.0	56.9	250.0	149.8	3.3
10/20/2010 15:55	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:56	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 15:57	400	5.8	173.0	13.4	8.0	56.6	250.0	149.8	3.3
10/20/2010 15:58	400	5.8	173.0	13.4	8.0	56.6	250.0	149.8	3.3
10/20/2010 15:59	400	5.8	173.0	13.4	8.0	56.6	250.0	149.8	3.3
10/20/2010 16:00	400	5.8	173.0	13.4	8.0	56.7	250.0	149.8	3.3
10/20/2010 16:01	400	5.8	173.0	13.4	8.0	56.8	250.0	149.8	3.3
10/20/2010 16:02	400	5.8	173.0	13.3	8.0	56.9	250.0	149.8	3.3
AVERAGE	**400**	**5.9**	**173.0**	**13.6**	**8.0**	**56.4**	**250.0**	**149.9**	**3.3**
MINIMUM	**399**	**5.8**	**173.0**	**13.3**	**8.0**	**56.1**	**250.0**	**149.8**	**3.3**
MAXIMUM	**401**	**5.9**	**173.0**	**14.4**	**8.0**	**56.9**	**250.0**	**150.0**	**3.4**

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units Date / Time	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/21/2010 09:04	400	5.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:05	400	5.0	173.0	13.2	8.0	56.3	250.0	145.4	2.9
10/21/2010 09:06	400	5.0	173.0	13.2	8.0	56.3	250.0	145.4	2.9
10/21/2010 09:07	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:08	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:09	400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:10	400	5.0	173.0	13.2	8.0	56.5	250.0	145.5	2.9
10/21/2010 09:11	400	5.0	173.0	13.2	8.0	56.6	250.0	145.5	2.9
10/21/2010 09:12	400	5.0	173.0	13.2	8.0	56.5	250.0	145.5	2.9
10/21/2010 09:13	400	5.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:14	400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:15	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:16	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:17	400	5.0	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:18	400	5.0	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:19	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:20	400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:21	400	5.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:22	400	5.0	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:23	400	5.0	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:24	400	5.0	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:25	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:26	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:27	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:28	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:29	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:30	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:31	400	5.1	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:32	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:33	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:34	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:35	400	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 09:36	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/21/2010 09:37	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:38	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:39	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:40	400	5.1	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:41	400	5.1	173.0	13.2	8.0	56.4	250.0	145.5	2.9
10/21/2010 09:42	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:43	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:44	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:45	400	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:46	400	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 09:47	400	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 09:48	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:49	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:50	400	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 09:51	400	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:52	400	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:53	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:54	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 09:55	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 09:56	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 09:57	399	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 09:58	399	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 09:59	399	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 10:00	399	5.1	173.0	13.2	8.0	56.3	250.0	145.5	2.9
10/21/2010 10:01	399	5.1	173.0	13.2	8.0	56.2	250.0	145.5	2.9
10/21/2010 10:02	399	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 10:03	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 10:04	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 10:05	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:06	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:07	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9
10/21/2010 10:08	399	5.1	173.0	13.2	8.0	56.1	250.0	145.5	2.9
10/21/2010 10:09	399	5.1	173.0	13.2	8.0	56.0	250.0	145.5	2.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/21/2010 10:10	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:11	399	5.1	173.0	13.2	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:12	399	5.1	173.0	13.2	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:13	399	5.1	173.0	13.2	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:14	399	5.1	173.0	13.2	8.0	55.7	250.0	145.5	2.9
10/21/2010 10:15	399	5.1	173.0	13.2	8.0	55.7	250.0	145.5	2.9
10/21/2010 10:16	399	5.1	173.0	13.1	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:17	399	5.0	173.0	13.1	8.0	56.0	250.0	145.5	2.9
10/21/2010 10:18	399	5.0	173.0	13.1	8.0	56.0	250.0	145.5	2.9
10/21/2010 10:19	399	5.0	173.0	13.1	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:20	399	5.0	173.0	13.1	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:21	400	5.0	173.0	13.1	8.0	55.9	250.0	145.5	2.9
10/21/2010 10:22	400	5.0	173.0	13.1	8.0	55.8	250.0	145.4	2.9
10/21/2010 10:23	400	5.0	173.0	13.1	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:24	400	5.0	173.0	13.1	8.0	55.7	250.0	145.5	2.9
10/21/2010 10:25	400	5.0	173.0	13.1	8.0	55.8	250.0	145.5	2.9
10/21/2010 10:26	400	5.0	173.0	13.1	8.0	55.9	250.0	145.4	2.9
10/21/2010 10:27	400	5.0	173.0	13.1	8.0	56.0	250.0	145.4	2.9
10/21/2010 10:28	400	5.0	173.0	13.1	8.0	55.9	250.0	145.4	2.9
10/21/2010 10:29	400	5.0	173.0	13.1	8.0	55.8	250.0	145.4	2.9
10/21/2010 10:30	400	5.0	173.0	13.1	8.0	55.8	250.0	145.4	2.9
10/21/2010 10:31	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:32	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:33	400	5.0	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:34	400	5.0	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:35	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:36	400	5.0	173.0	13.1	8.0	55.7	250.0	145.4	2.9
10/21/2010 10:37	400	5.0	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:38	400	5.0	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:39	400	5.0	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:40	400	5.0	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:41	400	5.0	173.0	13.1	8.0	55.4	250.0	145.4	2.9
10/21/2010 10:42	400	5.0	173.0	13.1	8.0	55.3	250.0	145.4	2.9

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/21/2010 10:43	400	5.0	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:44	400	5.1	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:45	400	5.1	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:46	400	5.1	173.0	13.1	8.0	55.6	250.0	145.4	2.9
10/21/2010 10:47	400	5.1	173.0	13.1	8.0	55.6	250.0	145.5	2.9
10/21/2010 10:48	400	5.1	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:49	400	5.1	173.0	13.1	8.0	55.5	250.0	145.4	2.9
10/21/2010 10:50	400	5.1	173.0	13.1	8.0	55.4	250.0	145.4	2.9
10/21/2010 10:51	401	5.1	173.0	13.1	8.0	55.4	250.0	145.4	2.9
10/21/2010 10:52	401	5.1	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:53	401	5.1	173.0	13.1	8.0	55.3	250.0	145.4	2.9
10/21/2010 10:54	401	5.1	173.0	13.1	8.0	55.4	250.0	145.4	2.9
10/21/2010 10:55	401	5.1	173.0	13.1	8.0	55.6	250.0	145.5	2.9
10/21/2010 10:56	401	5.1	173.0	13.1	8.0	55.5	250.0	145.5	2.9
10/21/2010 10:57	401	5.1	173.0	13.1	8.0	55.4	250.0	145.5	2.9
10/21/2010 10:58	401	5.1	173.0	13.1	8.0	55.4	250.0	145.5	2.9
10/21/2010 10:59	401	5.1	173.0	13.1	8.0	55.3	250.0	145.5	2.9
10/21/2010 11:00	401	5.1	173.0	13.1	8.0	55.3	250.0	145.5	2.9
10/21/2010 11:01	401	5.1	173.0	13.1	8.0	55.2	250.0	145.5	2.9
10/21/2010 11:02	401	5.1	173.0	13.1	8.0	55.2	250.0	145.5	2.9
10/21/2010 11:03	401	5.1	173.0	13.1	8.0	55.3	250.0	145.5	2.9
10/21/2010 11:04	401	5.1	173.0	13.1	8.0	55.4	250.0	145.5	3.0
10/21/2010 11:05	401	5.1	173.0	13.1	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:06	401	5.1	173.0	13.1	8.0	55.7	250.0	145.5	3.0
10/21/2010 11:07	401	5.1	173.0	13.1	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:08	401	5.1	173.0	13.0	8.0	55.5	250.0	145.5	3.0
10/21/2010 11:09	401	5.1	173.0	13.0	8.0	55.5	250.0	145.5	3.0
10/21/2010 11:10	401	5.1	173.0	13.0	8.0	55.4	250.0	145.5	3.0
10/21/2010 11:11	401	5.1	173.0	13.0	8.0	55.4	250.0	145.5	3.0
10/21/2010 11:12	401	5.1	173.0	13.0	8.0	55.5	250.0	145.5	3.0
10/21/2010 11:13	401	5.1	173.0	13.0	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:14	401	5.1	173.0	13.0	8.0	55.8	250.0	145.5	3.0
10/21/2010 11:15	401	5.1	173.0	13.0	8.0	55.9	250.0	145.5	3.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/21/2010 11:16	401	5.1	173.0	13.0	8.0	55.8	250.0	145.5	3.0
10/21/2010 11:17	401	5.1	173.0	13.0	8.0	55.8	250.0	145.5	3.0
10/21/2010 11:18	401	5.1	173.0	13.0	8.0	55.7	250.0	145.5	3.0
10/21/2010 11:19	401	5.1	173.0	13.0	8.0	55.7	250.0	145.5	3.0
10/21/2010 11:20	401	5.1	173.0	13.0	8.0	55.6	250.0	145.5	3.0
10/21/2010 11:21	401	5.1	173.0	13.0	8.0	55.5	250.0	145.6	3.0
10/21/2010 11:22	400	5.1	173.0	13.0	8.0	55.6	250.0	145.6	3.0
10/21/2010 11:23	400	5.2	173.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:24	400	5.2	173.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:25	400	5.2	173.0	13.0	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:26	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:27	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:28	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:29	400	5.2	172.0	13.0	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:30	400	5.2	172.0	13.0	8.0	55.6	250.0	145.6	3.0
10/21/2010 11:31	400	5.2	172.0	13.0	8.0	55.6	250.0	145.6	3.0
10/21/2010 11:32	400	5.2	172.0	13.0	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:33	400	5.2	172.0	13.0	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:34	400	5.2	172.0	13.0	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:35	399	5.2	172.0	13.0	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:36	399	5.2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:37	399	5.2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:38	399	5.2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:39	399	5.2	172.0	12.9	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:40	399	5.2	172.0	12.9	8.0	55.7	250.0	145.6	3.0
10/21/2010 11:41	399	5.2	172.0	12.9	8.0	55.8	250.0	145.6	3.0
10/21/2010 11:42	399	5.2	172.0	12.9	8.0	56.0	250.0	145.6	3.0
10/21/2010 11:43	399	5.2	172.0	12.9	8.0	56.2	250.0	145.6	3.0
10/21/2010 11:44	399	5.2	172.0	12.9	8.0	56.2	250.0	145.6	3.0
10/21/2010 11:45	400	5.2	172.0	12.9	8.0	56.2	250.0	145.6	3.0
10/21/2010 11:46	400	5.3	172.0	12.9	8.0	56.1	250.0	145.6	3.0
10/21/2010 11:47	400	5.2	172.0	12.9	8.0	56.1	250.0	145.6	3.0
10/21/2010 11:48	400	5.2	172.0	12.9	8.0	56.0	250.0	145.6	3.0

Norlite Corporation - Cohoes, NY - MACT CPT 2010
October 21, 2010 - Condition 1 - Run 3 - Start: 09:04 Stop: 12:07
Air Pollution Control System (APCS) Operating Parameters

Tag No. Parameter Units **Date / Time**	TT-2404 Baghouse Inlet Temperature °F	DPT-2303 Venturi Pressure Drop in. H_2O	FT-2507 A/B Scrubber Recirculation Flow Rate gpm	FT-2508 Scrubber Blowdown Rate gpm	2509 A/B Scrubber Liquid pH pH units	LT-102 Scrubber Tank Level % Ht.	AC-101 / 102 / 103 Lime Feed Rate lb/hr	VF-101 / 102 / 103 Lime Carrier Fluid Flow Rate scfm	DPT-4402 Ducon Pressure Drop in. H_2O
10/21/2010 11:49	400	5.2	172.0	12.9	8.0	56.0	250.0	145.6	3.0
10/21/2010 11:50	400	5.3	172.0	12.9	8.0	55.9	250.0	145.6	3.0
10/21/2010 11:51	400	5.3	172.0	12.9	8.0	56.0	250.0	145.6	3.0
10/21/2010 11:52	401	5.3	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 11:53	401	5.3	172.0	12.9	8.0	56.3	250.0	145.6	3.1
10/21/2010 11:54	401	5.3	172.0	12.9	8.0	56.3	250.0	145.6	3.1
10/21/2010 11:55	401	5.3	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 11:56	401	5.3	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 11:57	400	5.3	172.0	12.9	8.0	56.1	250.0	145.6	3.1
10/21/2010 11:58	400	5.3	172.0	12.9	8.0	56.1	250.0	145.6	3.1
10/21/2010 11:59	400	5.4	172.0	12.9	8.0	56.2	250.0	145.6	3.1
10/21/2010 12:00	400	5.4	172.0	12.9	8.0	56.4	250.0	145.7	3.1
10/21/2010 12:01	400	5.4	172.0	12.9	8.0	56.5	250.0	145.7	3.1
10/21/2010 12:02	400	5.4	172.0	12.9	8.0	56.6	250.0	145.7	3.1
10/21/2010 12:03	400	5.4	172.0	12.9	8.0	56.5	250.0	145.7	3.1
10/21/2010 12:04	400	5.4	172.0	12.9	8.0	56.4	250.0	145.7	3.1
10/21/2010 12:05	400	5.4	172.0	12.9	8.0	56.3	250.0	145.7	3.2
10/21/2010 12:06	400	5.4	172.0	12.9	8.0	56.3	250.0	145.7	3.2
10/21/2010 12:07	400	5.5	172.0	12.9	8.0	56.2	250.0	145.7	3.2
AVERAGE	**400**	**5.1**	**172.8**	**13.1**	**8.0**	**55.9**	**250.0**	**145.5**	**2.9**
MINIMUM	**399**	**5.0**	**172.0**	**12.9**	**8.0**	**55.2**	**250.0**	**145.4**	**2.9**
MAXIMUM	**401**	**5.5**	**173.0**	**13.2**	**8.0**	**56.6**	**250.0**	**145.7**	**3.2**

Appendix B

CMS / CEMS Performance Evaluation Test Results

January 2011 Calibration Sheets

NORLITE CAL. SHEET CHECK LIST WWT

APPROVED BY : _____

CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
EFFLUENT DISCHARGE	FISCHER PORTER	0-80 GPM	1/3/11	[illegible]
FLOW TO EFFLUENT TANK	FISCHER PORTER	0-80 GPM	1/3/11	[illegible]
FLOC TANK PH "A"	ROSEMOUNT	PH	1-4-11	STUART
FLOC TANK PH "B"	ROSEMOUNT	PH	1-4-11	STUART
Pre EFFLUENT PH "A"	ROSEMOUNT	PH	1-4-11	STUART
Pre EFFLUENT PH "B"	ROSEMOUNT	PH	1-4-11	STUART
TRUNION WATER	FISCHER PORTER	0-80 GPM	1/3/11	[illegible]
WASTE WATER EFF. TEMP.	ROSEMOUNT	32-212 DEG. F	1/4/11	[illegible]

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: TRUNION WATER

MFG: FISHER PORTER

CONVERTER MODEL#: I0D1475SN12PL29KC11C111201

SERIAL# 96W001834

TAG#: FT- 0-80 GPM

LOCATION: TOP OF EQ TANK

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	3.99	3.99	0 GPM	0	0
2	20 GPM	0.76 m/s	8.00mA	7.99	7.99	20 GPM	20	20
3	40 GPM	1.52 m/s	12.00mA	12.00	12.00	40 GPM	40	40
4	60 GPM	2.28 m/s	16.00mA	16.00	16.00	60 GPM	60	60
5	80 GPM	3.04 m/s	20.00mA	20.01	20.01	80 GPM	80	80

CALIBRATION DATE: 1/3/11

INSTRUMENT TECHNICIAN: Hutton

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOW TO EFFLUENT TANK

MFG: FISHER PORTER

CONVERTER MODEL#: 50XM13BXKD10AABC224

SERIAL# 93W014159

TAG#: 0-80 GPM

LOCATION: WWT NORTH WALL OVER DESK

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	20 GPM	1.26 m/s	8.00mA	8.02	8.02	20 GPM	20	20
3	40 GPM	2.52 m/s	12.00mA	12.03	12.03	40 GPM	40	40
4	60 GPM	3.78 m/s	16.00mA	16.03	16.03	60 GPM	60	60
5	80 GPM	5.04 m/s	20.00mA	20.02	20.02	80 GPM	80	80

CALIBRATION DATE: 1/3/11

INSTRUMENT TECHNICIAN: [illegible]

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: EFFLUENT DISCHARGE TO MOHAWK

MFG: FISHER PORTER

CONVERTER MODEL#: I0D1475PN12PL29KD11C1112C1

SERIAL# 95W019156

TAG#: FT- 0-80 GPM

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	20 GPM	0.76 m/s	8.00mA	8.01	8.01	20 GPM	20	20
3	40 GPM	1.52 m/s	12.00mA	11.98	11.98	40 GPM	40	40
4	60 GPM	2.28 m/s	16.00mA	15.99	15.99	60 GPM	60	60
5	80 GPM	3.04 m/s	20.00mA	20.00	20.00	80 GPM	80	80

CALIBRATION DATE: 1/3/11 INSTRUMENT TECHNICIAN: Huffman

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRE EFFLUENT PH "B"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-41167 TAG# AE4613B

RANGE: 0 - 14 PH = 4-20mA

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.99	8.4	4.0 PH	4.35	4.0
3	10.00 PH	10	15.5mA	15.61	15.5	10.00 PH	10.15	10.00

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: STU

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRE EFFLUENT PH "A"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42468 TAG# AE4613A

RANGE: 0 - 14 PH = 4-20mA

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.82	8.6	4.0 PH	4.22	4.0
3	10.00 PH	10	15.5mA	15.86	15.5	10.00 PH	10.38	10.00

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOC TANK PH "B"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42946 TAG# AE4605B

RANGE: 0 - 14 PH = 4-20mA

LOCATION: ON THE FLOC TANK

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.86	8.6	4.0 PH	4.25	4.0
3	10.00 PH	10	15.5mA	15.58	15.5	10.00 PH	10.10	10.00

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOC TANK PH "A"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42703 TAG# AE4605A

RANGE: 0 - 14 PH = 4-20mA

LOCATION: ON THE FLOC TANK

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.99	8.6	4.0 PH	4.30	4.0
3	10.00 PH	10	15.5mA	15.84	15.5	10.00 PH	10.35	10.00

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

Model 1054A
pH analyzer

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: WASTE WATER EFFLUENT TEMP.

MFG: ROSEMOUNT

MODEL#: 3044C DEG.(F) RTD

SERIAL#: 0143402

TAG#: TT-4629

LOCATION: SOUTH WALL WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	32 F	32	4.00mA	3.97	3.91	32 F	31	31
2	77 F	77	8.00mA	7.92	7.97	77 F	76	76
3	122 F	122	12.00mA	11.94	11.94	122 F	121	121
4	167 F	167	16.00mA	15.95	15.95	167 F	166	166
5	212 F	212	20.00mA	19.93	19.93	212F	211	211

CALIBRATION DATE: 1/4/11 INSTRUMENT TECHNICIAN: Huffman

TEST EQUIPMENT USED		
	MFG: MODCAL	SERIAL: M779640-4
	MODEL: 90K1	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 268/275	CERTIFICATION DUE: NONE
	MFG: NBS RTD PROBE	SERIAL: 2285041
	MODEL: 10C-86-100-S-1-A-8-T	CERTIFICATION DUE: 7/9/11

COMMENTS:

NORLITE CAL. SHEET CHECK LIST MISC.

APPROVED BY : _____

CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
LIME FEEDERS	ACCURATE	1-500 LBS/HR	1-3-11	STUART/TOMMASINO
LIME TAG# AC-101 AC-102 AC-103				
CEM	CISCO	O2 / COC / HRA	1/4/11	Huffman
PRIMARY AIR VENT (LEL)	MSA	20% - 30%	1/3/11	Huffman
O2 / LEL SENSORS QUARTERLY CAL. (JAN.,APRIL,JULY,OCT.)	MSA	0-25 / 0-50	1/5/11	Huffman
FINISH PLANT PRESSURES	DWYER	0-15 "H2O	1/7/11	Huffman
FIRE PUMP TEST	JOSELYN CLARK	TEST RUN	1/6/11	Huffman
FUEL FARM VENT (O2)	SENSIDYNE	0-10 %	1/7/11	DARLING
PUMP SEAL ALARM CHECK	ECHOTELL/UNITED ELECTRIC	PASS/FAIL	1/7/11	DARLING
VORTEX FLOW METER	YOKOGAWA	INSPECTION	1-3-11	STUART

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRIMARY AIR VENT SYSTEM
MFG: MSA
MODEL#: 5000
SERIAL#:
LOCATION: OLD OIL ROOM (under K1)

TEST POINTS		LEL (%)	PASS	FAIL
1	ZERO	20%	X	
2	SPAN	30%	X	

CALIBRATION DATE: 1/3/11 INSTRUMENT TECHNICIAN: [illegible]

CALIBRATION TIME: 19:00

TEST EQUIPMENT USED		
	MFG: MSA	SERIAL:
	MODEL: ULTIMA	CERTIFICATION DUE: NONE
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: LIME FEEDERS

MFG: ACCURATE

RANGE: 225-500 LBS/HR

LOCATION: K2 MCC

TAG# AC-101, AC-102, AC-103

TEST EQUIPMENT USED

MFG: AVO MODEL: 359986

SERIAL: 2097.206086

CERTIFICATION DUE: 7/26/11

LIME FEEDER #	FEEDER SETTING	TARGET RPM	RPM HELIX DRIVE SHAFT	(RPM)(.139) = ft Displaced by 2.25 1/2 helix/hr	(40lbs) Bulk Density / ft Hydrated Lime	Target Weight
1	300	54	53.99	7.50	300.2	300
1	375	67.5	67.53	9.39	375.3	375
1	450	81	80.98	11.26	450.2	450
1	500	90	90.03	12.51	500.6	500
2	300	54	54.03	7.51	300.4	300
2	375	67.5	67.50	9.38	375.3	375
2	450	81	80.97	11.25	450.2	450
2	500	90	89.98	12.51	500.3	500
3	300	54	54.04	7.51	300.5	300
3	375	67.5	67.55	9.39	375.6	375
3	450	81	80.91	11.25	450.1	450
3	500	90	89.95	12.50	500.1	500

CALIBRATION DATE: 1/31/11

INSTRUMENT TECHNICIAN: STUART [illegible]

COMMENTS: NO ADJUSTMENT NECESSARY IF WITHIN (+) OR (-) 5%

**** KILN MUST BE ON USED OIL WHEN DOING THIS TEST ****

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

DATE: 1/3/11	
NAME: VORTEX FLOW METER #1	
MFG: YOKOGAWA	FLOW METER READING: 206.4
MODEL#: DY	VISUAL INSPECTION: OK
SERIAL#: 3353B031 2003	
CERT. DUE: 9/7/11	
TAG#: VF-101	
LOCATION: LIME SILO	
NAME: VORTEX FLOW METER #2	
MFG: YOKOGAWA	FLOW METER READING: 213.7
MODEL#: DY	VISUAL INSPECTION: OK
SERIAL#: 3353B034 2003	
CERT. DUE: 8/14/11	
TAG#: VF-102	
LOCATION: LIME SILO	
NAME: VORTEX FLOW METER #3	
MFG: YOKOGAWA	FLOW METER READING: 2180
MODEL#: DY	VISUAL INSPECTION: OK
SERIAL#: 3353B032 2003	
CERT. DUE: 8/3/11	
TAG#: VF-103	
LOCATION: LIME SILO	
	INSTRUMENT TECHNICIAN: STUART
COMMENTS:	

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: CEM CALIBRATION

LOCATION: CEM BUILDING

K1A			
	O_2	COC	HRA
K1 obs	9.7	60	18
CEM	9.8	62	18

K2A			
	O_2	COC	HRA
K2 obs	9.9	65	45
CEM	9.9	66	46

CALIBRATION DATE: 1/4/11 INSTRUMENT TECHNICIAN: Huffman

NOTE: USE CALIBRATION GAS OF 50 ppm CO AND 10% O_2

COMMENTS:

MONTHLY FIRE PUMP TEST - OPERATING PROCEDURE

1/6/11
L. Huffman

Frequency of Operation

1. Monthly for 15 minutes.

Notification

☑ 1. Inform Safety, Kiln Supervisor, kiln #1 and #2 control room operators, fuel farm operator, and [redacted], that fire testing is to begin and fire alarm lights will be activated. Both kilns must be off of LGF and there is no truck unloading allowed during testing.

ADT 1-800-6 2777
I.D. Code 33191
System # H76-002-861

Necessary Items

☑ *Radio, keys for fire suppression equipment, hearing protection.*

Visual Inspections

☑ 1. Check level of water in batteries (distilled). Add as necessary.
☑ 2. Check level of antifreeze in radiator. Add as necessary.
☐ 3. Check level of oil in diesel engine at dip stick. Service as needed/ once every 6 months.
Last service date: 7/10 Service due: _____
☐ 4. Check water level on water tank sight tube (minimum 3/4 full).
☐ 5. Check level indicator on fuel tank (minimum 3/4 full). Tank is located South center of room, next to water tank.
☐ 6. Check water temperature gauge on diesel engine for overheating heaters.
☑ 7. Jockey pump in Auto

Manual Inspection/Operation

☑ 1. Unlock and open Joselyn Clark control panel.

☑ 2. Hold STOP button in (located on outside right side) while turning selector knob from AUTO to OFF.

☑ 3. Release STOP button (low pressure light comes on).

☑ 4. Turn selector know to MANUAL 1 (to begin test for battery #1).

☑ 5. All employees will put on hearing protection. Press start button located inside control panel (fire alarm lights only will activate). Low oil pressure light will go off. Motor pump will start. Ampmeters will discharge then charge to 14-15 amps (control panel).

☑ 6. Allow pump to run for 5 minutes. While running, check for water drainage outside building.

☑ 7. Turn SELECTOR knob to OFF. Turn SELECTOR knob to MANUAL 2 (to begin test for battery #2).

☑ 8. Press START button located inside control panel. Motor pump will start.

☑ 9. Allow pump to run for 5 minutes. While running, check for water drainage outside building.

☑ 10. Turn SELECTOR knob to off. Turn SELECTOR knob to AUTO.

☑ 11. Close and lock Joselyn Clark control panel.

☑ 12. Go to Utility building Motor Control Center, unlock center blue fire panel.

☑ 13. Depress RESET LAMP TEST (left button). This will reset the fire pump run alarm.

☑ 14. Close and lock center blue fire control panel.

☑ 15. Notify Safety, Kiln Supervisor Kiln #1 & #2 control room operators, fuel farm operator and [redacted] that test is complete [redacted].

ADT
1-800-624-2777
Auto Dialer - code - 1234-1

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET L. Hutton

MSA CALIBRATIONS

SENSOR TYPE	SENSOR NUMBER	SENSOR AREA	DATE CAL'D	AS FOUND		AS LEFT		Oxygen sensor change date
				zero	span	zero	span	
LEL	1	SOLIDS REPRO.	1/5/11	3.0	56.4	0.0	50.0	
OXYGEN	1A	N.W. WALL	1/5/11	0.0	20.5	0.0	20.8	
LEL	2	SOLIDS REPRO.	1/5/11	-2.0	53.6	0.0	50.0	
OXYGEN	2A	S.E. WALL	1/5/11	0.0	20.6	0.0	20.8	
LEL	3	LGF BLDG. ACROSS	1/5/11	-0.6	51.0	0.0	50.0	
OXYGEN	3A	FROM PANELVIEW	1/5/11	0.0	19.6	0.0	20.8	
LEL	4	LGF BLDG. N.W.	1/6/11	-3.0	50.8	0.0	50.0	
OXYGEN	4A	CORNER	1/6/11	0.0	21.1	0.0	20.8	
LEL	5	LGF BLDG.N.E.	1/6/11	-0.5	46.3	0.0	50.0	
OXYGEN	5A	CORNER	1/6/11	0.0	21.2	0.0	20.8	
LEL	6	LGF BLDG. S.W.	1/6/11	-1.3	48.9	0.0	50.0	
OXYGEN	6A	CORNER	1/6/11	0.0	20.4	0.0	20.8	
LEL	7	LGF BLDG. S.E.	1/6/11	-1.8	49.7	0.0	50.0	
OXYGEN	7A	CORNER	1/6/11	0.0	21.1	0.0	20.8	
LEL	8	NORTH TUNNEL	1/6/11	-0.3	50.5	0.0	50.0	
OXYGEN	8A	DOOR	1/6/11	0.0	20.9	0.0	20.8	
LEL	9	NORTH TUNNEL	1/6/11	-2.9	47.4	0.0	50.0	
OXYGEN	9A	HATCH	1/6/11	0.0	20.6	0.0	20.8	
LEL	10	SOUTH TUNNEL	1/6/11	-1.7	47.1	0.0	50.0	
OXYGEN	10A	HATCH	1/6/11	0.0	20.8	0.0	20.8	
LEL	11	SOUTH TUNNEL	1/6/11	-1.4	48.3	0.0	50.0	
OXYGEN	11A	DOOR	1/6/11	0.0	20.8	0.0	20.8	
LEL	12	UPPER E.Q. EAST	1/6/11	-1.4	49.0	0.0	50.0	
OXYGEN	12A	WALL	1/6/11	-0.1	20.4	0.0	20.8	
LEL	13	UPPER E.Q. WEST	1/6/11	-1.3	53.7	0.6	50.0	
OXYGEN	13A	WALL	1/6/11	0.1	19.7	0.0	20.8	
LEL	14	LOWER E.Q. SOUTH	1/6/11	3.3	48.1	0.0	50.0	
OXYGEN	14A	WALL	1/6/11	0.1	20.0	0.0	20.8	
LEL	15	LOWER E.Q. NORTH	1/6/11	5.5	5.5	0.0	50.0	
OXYGEN	15A	WALL	1/6/11	0.0	20.4	0.0	20.8	
LEL	16	EXTRUDER ROOM.	1/6/11	0.7	48.7	0.0	50.0	
OXYGEN	16A	WEST WALL	1/6/11	0.0	20.4	0.0	20.8	
LEL	17	K1 GAS ROOM	1/6/11	0.9	49.2	0.0	50.0	
OXYGEN	17A		1/6/11	0.1	20.7	0.0	20.8	

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FUEL FARM VENT O2
MFG: SENSIDYNE
MODEL#: SENSALERT
SERIAL#: 102-207 PART# 7013276-2
LOCATION: SE CORNER OF LGF BUILDING

TEST POINTS		O2	PASS	FAIL
1	SPAN	7.05%	✓	
2				

CALIBRATION DATE: 1/7/11	INSTRUMENT TECHNICIAN: D. ARCENS
CALIBRATION TIME: 1115	

TEST EQUIPMENT USED	MFG: SENSIDYNE	SERIAL: 102-207
	MODEL: SENSALERT	CERTIFICATION DUE: NONE
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:

COMMENTS:

Installed NEW SENSOR

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PUMP SEAL ALARM CHECK

LOWER PAD TEST POINTS	PARAMETER		PUMP SEAL CHECK			
			PASSED	FAILED		
TANK 3	LEVEL		✓			
TANK 4	LEVEL		✓			
TANK 5	LEVEL		✓			
TANK 6	LEVEL		✓			
INSIDE TEST POINTS			**PUMP SEAL CHECK**			
			PASSED	**FAILED**		
100A	LEVEL		✓			
	PRESSURE		✓			
100B	LEVEL		✓			
	PRESSURE		✓			
200A	LEVEL		✓			
	PRESSURE		✓			
200B	LEVEL		✓			
	PRESSURE		✓			

CALIBRATION DATE: 1/7/11

INSTRUMENT TECHNICIAN: DARLING

COMMENTS:

FINISH PLANT PRESSURES

Technician : Huffman

AREA	ZERO	LINE CONDITION	READINGS				DATE
A) Photohelics			HI	LO	DP	COMMENTS	
1) MAIN BAGHOUSE	ok	ok	-9.0	-9.0	0.0		1/7/11
2) OVERSIZE HOPPER	ok	ok	0.0	-12.0	12.0		1/7/11
3) STATIONARY BELT	ok	ok	0.0	0.0	0.0		1/7/11
4) RADIAL STACKER BELT	ok	ok	0.0	0.0	0.0		1/7/11
5) #2 BELT	ok	ok	0.0	0.0	0.0		1/7/11
6) TOP OF FINES SILO	ok	ok	0.0	0.0	0.0	not in use	1/7/11
7) SODA ASH SILO	ok	ok	0.0	0.0	0.0		1/7/11
B) Magnehelics			HI	LO	DP	COMMENTS	
1) EAST DUST SILO	ok	ok	4.5	0.5	4.0		1/7/11
2) WEST DUST SILO	ok	ok	1.0	0.5	0.5		1/7/11

NORLITE CAL. SHEET CHECK LIST K1

APPROVED BY: _____

CALIBRATION TITLE	TAG#	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
BACK END GAS TEMP.	TT-4303	ROSEMOUNT 3044C	0-1400 F	1-4-11	STUART
BAGHOUSE D/P	DPT-4303	ROSEMOUNT 1151 DP	0-15" H2O	1-5-11	STUART
BAGHOUSE INLET TEMP	TT-4302	ROSEMOUNT D5NAB4	0-700 F	1-4-11	STUART
BAGHOUSE LEAK DETECTOR	PD-1000	BHA	0-100%	1-7-11	STUART
BLOWDOWN FLOW	FT-1508	FISCHER PORTER 10D1475	0-50 GPM	1-4-11	STUART
CAUSTIC FLOW	FT-4401	FISCHER PORTER 10D1475	0-40 GPM	1-4-11	STUART
EAST COOLER PRESSURE	PT-1205	ROSEMOUNT 1151 DP	0-15" H2O	1-5-11	STUART
HEAT EXCHANGER D/P	DPT-4301	ROSEMOUNT 1151 DP	0-6" H2O	1-7-11	STUART
HEAT EXCHANGER TEMP	TT-4301	ROSEMOUNT 3044P	0-700 F	1-4-11	STUART
HOOD PRESSURE ""BACK"" D/P	DPT-5550	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" H20	1-6-11	STUART
HOOD PRESSURE D/P	DPT-5203	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" H20	1-5-11	STUART
I.D. FAN CURRENT	IDF-4301	ABB (ACS 600)	0-500 AMPS	1/10/11	DARLING'S
LGF ATOM. AIR PRESSURE	PT-9104	ROSEMOUNT 1151 DP	0-200 PSI	1-5-11	STUART
LGF FEED RATE	MM-4301	MICROMOTION DL100	0-20 GPM	1/3/11	Darling
LGF PRESSURE	PT-9106	ROSEMOUNT 1151 DP	0-110 PSI	1-5-11	STUART
MULTICLONE D/P	DPT-4302	ROSEMOUNT 1151 DP	0-6" H2O	N/A	N/A
NOZZLE WATER	MM-4302	MICROMOTION DS065	0-15 GPM	N/A	N/A
PRIMARY AIR PRESSURE	PT-1108	ROSEMOUNT 1151 DP	0-60" H2O	1-5-11	STUART
SCRUBBER DUCON D/P	DPT-4402	ROSEMOUNT 1151 DP	0-10" H2O	1-6-11	STUART
SCRUBBER pH A	4401A	ROSEMOUNT 2081 pH	pH	1-4-11	STUART
SCRUBBER pH B	4401B	ROSEMOUNT 2081 pH	pH	1-4-11	STUART
SCRUBBER QUENCH TEMP.	TT-5103	ROSEMOUNT 3044	0-200 F	1-4-11	STUART
SCRUBBER RECIRC FLOW A	FT-4403A	FISCHER PORTER 10D1475	0-250 GPM	1-4-11	STUART
SCRUBBER RECIRC FLOW B	FT-4403B	FISCHER PORTER 10D1475	0-250 GPM	1-4-11	STUART
SCRUBBER TANK LEVEL	LT-101	ROSEMOUNT 1151 LT	0-40" H2O	1-5-11	STUART
SHALE FEED	AR-4301	ACCURATE MPC200	0-40 TPH	1/3/11	Darling
SOLIDS ATOM AIR PRESSURE	PT-9105	ROSEMOUNT 1151 DP	0-200 PSI	11-5-11	STUART
STACK GAS FLOW	FT-5555	FCI GF90	0-86,000 scfm	1/3/11	J. Hoffman
VENTURI D/P	DPT-4401	ROSEMOUNT 1151 DP	0-10" H2O	1-6-11	Stuart
WASTE OIL FEED RATE	MM-4303	MICROMOTION DS100	0-20 GPM	1/3/11	Darling
WEST COOLER PRESSURE	PT-5204	ROSEMOUNT 1151 DP	0-15" H2O	1-5-11	STUART

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 LGF FEED RATE

MFG: MICROMOTION

MODEL#: DL-100S223 SU RICE LAKE SCALE MODEL# IQ355

SERIAL#: 12002014 TAG# MM-4301 SERIAL# 145431

RANGE: 0-20 GPM = 4-20mA CERT. DUE 9/11

LOCATION: KILN 1 GAS ROOM

FIRST GRAB SAMPLE		BUCKET #1	
GROSS WEIGHT	13.70 lbs	TARE WEIGHT	0.00 lbs
NET WEIGHT	13.70 lbs		
SECOND GRAB SAMPLE		BUCKET # 2	
GROSS WEIGHT	11.70 lbs	TARE WEIGHT	0.00 lbs
NET WEIGHT	11.70 lbs		
THIRD GRAB SAMPLE		BUCKET # 3	
GROSS WEIGHT	9.05 lbs	TARE WEIGHT	0.00 lbs
NET WEIGHT	9.05 lbs		

AVERAGE TOTAL SCALE WEIGHT 11.48 lbs

MICROMOTION TOTALIZER WEIGHTS

1st GRAB 13.70 lbs

2nd GRAB 11.70 lbs

3rd GRAB 9.10 lbs

AVERAGE MICROMOTION TOTALIZER WEIGHTS 11.50 lbs

DIFFERENCE BETWEEN SCALE AVG. AND TOTALIZER AVG. .02 lbs

CALIBRATION DATE: 1/3/11 INSTRUMENT TECHNICIAN:

DRIFT ACCEPTANCE: +/- 1.0lbs

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 WASTE OIL FEED RATE

MFG: MICROMOTION

MODEL#: DS100S128SU 950323 RICE LAKE SCALE MODEL# IQ355

SERIAL#: 183743 TAG# MM-4303 SERIAL# 145431

RANGE: 0-20 GPM = 4-20mA CERT. DUE: 9/11

LOCATION: KILN 1 GAS ROOM

FIRST GRAB SAMPLE		BUCKET #1
GROSS WEIGHT	8.75 lbs	TARE WEIGHT 0.00 lbs
NET WEIGHT	8.75 lbs	
SECOND GRAB SAMPLE		BUCKET # 2
GROSS WEIGHT	8.10 lbs	TARE WEIGHT 0.00 lbs
NET WEIGHT	8.10 lbs	
THIRD GRAB SAMPLE		BUCKET # 3
GROSS WEIGHT	10.00 lbs	TARE WEIGHT 0.00 lbs
NET WEIGHT	10.00 lbs	

AVERAGE TOTAL SCALE WEIGHT 8.95 lbs

MICROMOTION TOTALIZER WEIGHTS

1st GRAB 8.80 lbs

2nd GRAB 8.00 lbs

3rd GRAB 10.00 lbs

AVERAGE MICROMOTION TOTALIZER WEIGHTS 8.93 lbs

DIFFERENCE BETWEEN SCALE AVE. AND TOTALIZER AVE. .02 lbs

CALIBRATION DATE: 1/3/11 INSTRUMENT TECHNICIAN: [illegible signature]

DRIFT ACCEPTANCE: +/- 1.0 lbs

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SHALE FEED RATE

MFG: ACCURATE

MODEL#: MPC 200 RICE LAKE SCALE MODEL# IQ355

SERIAL#: 3335 TAG# AR-4301 SERIAL# 145431

RANGE: 0-40 TPH = 4-20mA CERT. DUE 9/11

LOCATION: KILN 1 CONTROL ROOM, UNDER SHALE SILO

FIRST GRAB SAMPLE		BUCKET #1	
GROSS WEIGHT	87.70 lbs	TARE WEIGHT	0.0 lbs
NET WEIGHT	87.70 lbs		
SECOND GRAB SAMPLE		BUCKET # 2	
GROSS WEIGHT	85.10 lbs	TARE WEIGHT	0 0 lbs
NET WEIGHT	85.10 lbs		
THIRD GRAB SAMPLE		BUCKET # 3	
GROSS WEIGHT	83.25 lbs	TARE WEIGHT	0 0 lbs
NET WEIGHT	83.25 lbs		

AVERAGE TOTAL SCALE WEIGHT 85.00 lbs

CURRENT SHALE SETPOINT _____ TPH

FIRST TACH READING	223.6 fpm	TACH	MODEL# 359986
SECOND TACH READING	223.9 fpm		SERIAL# 2097.206086
THIRD TACH READING	223.7 fpm		CERT. DUE: 7/26/11

AVERAGE TACH READING 223.7 fpm

CALCULATE THE TPH OF THE MATERIAL TAKEN USING THIS FORMULA

(BELT SPEED) (GRAB SAMPLE AVE. / LENGTH OF GRAB) (60) / 2000 = TPH

(223.7 fpm) (lbs. / 35 ft.) (60min/hr) / 2000 lbs./ton = TPH

IF THE TPH FROM THE TEST IS NOT WITHIN .5 TON OF THE CURRENT SETPOINT, THE EMPIRICAL SPAN MUST BE CHANGED. (menu #5)

CALIBRATION DATE: 1/31/11 INSTRUMENT TECHNICIAN: [illegible]

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 I.D. FAN MOTOR CURRENT

MFG: ABB

MODEL#: ACS600

RANGE: 0-500 AMPS

LOCATION: KILN 1 MCC

TAG# IDF-4301

TEST POINTS	AMMETER READING	CONTROL RM. READING (MRA)	TEST EQUIPMENT USED
PHASE A	385	366	MFG: Fluke / Fluke
PHASE B	355	366	MODEL#: 334/334
PHASE C	360	366	SERIAL#: 13000087/90704869
			CERTIFICATION DUE: 7/26/11 9/30/11

CALIBRATION DATE: 1/10/11 INSTRUMENT TECHNICIAN: DAVIS

DRIFT ACCEPTANCE: +/- 25 AMPS

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 MULTICLONE DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-6" H_2O = 4-20 mA

SERIAL#: 1501171

TAG#: DPT-4302

LOCATION: TOP OF HEAT EXCHANGER

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA			0"H_2O		
2	1.5"H_2O	1.5	8.00mA			1.5"H_2O		
3	3.0"H_2O	3.0	12.00mA			3.0"H_2O		
4	4.5"H_2O	4.5	16.00mA			4.5"H_2O		
5	6.0"H_2O	6.0	20.00mA			6.0"H_2O		

CALIBRATION DATE: ~~8/10~~ 11/11

INSTRUMENT TECHNICIAN:

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS: N/A wires removed

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 NOZZLE WATER

MFG: MICROMOTION

MODEL#: DS065S113 RICE LAKE SCALE MODEL# IQ355

SERIAL#: 160559 TAG# MM-4302 SERIAL# 145431

RANGE: 0-15 GPM = 4-20mA CERT. DUE: 9/11

LOCATION: KILN 1 GAS ROOM

FIRST GRAB SAMPLE — BUCKET #1

GROSS WEIGHT _____ lbs — TARE WEIGHT _____ lbs

NET WEIGHT _____ lbs

SECOND GRAB SAMPLE — BUCKET # 2

GROSS WEIGHT _____ lbs — TARE WEIGHT _____ lbs

NET WEIGHT _____ lbs

THIRD GRAB SAMPLE — BUCKET # 3

GROSS WEIGHT _____ lbs — TARE WEIGHT _____ lbs

NET WEIGHT _____ lbs

AVERAGE TOTAL SCALE WEIGHT _____ lbs

MICROMOTION TOTALIZER WEIGHTS

1st GRAB _____ lbs

2nd GRAB _____ lbs

3rd GRAB _____ lbs

AVERAGE MICROMOTION TOTALIZER WEIGHTS _____ lbs

DIFFERENCE BETWEEN SCALE AVE. AND TOTALIZER AVE. _____ lbs

CALIBRATION DATE: 1/11 | INSTRUMENT TECHNICIAN:

COMMENTS: NOT CURRENTLY IN USE

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: K1 SCRUBBER QUENCH TEMP

MFG: ROSEMOUNT

MODEL#: 3144 0-200 DEG.(F) = 4-20mA TYPE K

SERIAL#: 0551618

TAG#: TT-5103

LOCATION: K1 MCC

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	4.01	4.01	0 F	.4	.4
2	50 F	50	8.00mA	8.00	8.00	50 F	49.9	49.9
3	100 F	100	12.00mA	12.05	12.05	100 F	100.5	100.5
4	150 F	150	16.00mA	16.04	16.04	150 F	150.5	150.5
5	200 F	200	20.00mA	20.06	20.06	200F	200.8	200.8

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: Stuart

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 275	CERTIFICATION DUE: NONE
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: K1 BACK END GAS TEMP

MFG: ROSEMOUNT

MODEL#: 3044C 0-1400 DEG.(F) = 4-20mA TYPE K

SERIAL#: 0050090

TAG#: TT-4303

LOCATION: MULTICLONE PLATFORM 2ND LEVEL

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	3.99	3.99	0 F	-1	-1
2	350 F	350	8.00mA	7.98	7.98	350 F	348.7	348.7
3	700 F	700	12.00mA	11.99	11.99	700 F	699.1	699.1
4	1050 F	1050	16.00mA	15.99	15.99	1050 F	1049.5	1049.5
5	1400 F	1400	20.00mA	19.99	19.99	1400F	1399.0	1399.4

CALIBRATION DATE: 1/4/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 275	CERTIFICATION DUE: NONE
	MFG: NBS "K"THERMOCOUPLE	SERIAL: 2285046
	MODEL: 6C-K-I-83-8-R-13.5"	CERTIFICATION DUE: 7/9/11

DRIFT ACCEPTANCE: +/- 10 F

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HEAT EXCHANGER EXIT TEMP

MFG: ROSEMOUNT

MODEL#: 3044P 0-700 DEG.(F) = 4-20mA

SERIAL#: 0410454

TAG#: TT-4301

LOCATION: HEAT EXCHANGER EXIT DUCT (ground level)

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	3.99	3.99	0 F	-.6	-.6
2	175 F	175	8.00mA	illegible	illegible	175 F	174.6	174.6
3	350 F	350	12.00mA	12.00	12.00	350 F	350.0	350.0
4	525 F	525	16.00mA	16.01	16.01	525 F	525.4	525.4
5	700 F	700	20.00mA	20.02	20.03	700 F	701.5	701.5

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 275	CERTIFICATION DUE: NONE
	MFG: NBS "K" THERMOCOUPLE	SERIAL: 2285043
	MODEL: 6C-K-I-83-8-R-13.5"	CERTIFICATION DUE: 7/9/11

DRIFT ACCEPTANCE: +/- 10F

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 BAGHOUSE INLET TEMP

MFG: ROSEMOUNT

MODEL#: D5NAB4 0-700 DEG.(F) = 4-20mA

SERIAL#: 0329566 03/00

TAG#: TT-4302

LOCATION: BAGHOUSE INLET DUCT

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	4.00	4.00	0 F	0	0
2	175 F	175	8.00mA	7.99	7.99	175 F	179.5	179.5
3	350 F	350	12.00mA	11.99	11.99	350 F	349.8	349.8
4	525 F	525	16.00mA	16.01	16.01	525 F	525.3	525.3
5	700 F	700	20.00mA	19.99	19.99	700 F	699.6	699.6

CALIBRATION DATE: 1/04/11 INSTRUMENT TECHNICIAN: Signed

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 275	CERTIFICATION DUE: NONE
	MFG: NBS "K" THERMOCOUPLE	SERIAL: 2285042
	MODEL: 6G-K-I-83-8-R-13.5"	CERTIFICATION DUE: 7/9/11

DRIFT ACCEPTANCE: +/- 10 F

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN FLOW RATE

MFG: FISHER PORTER

METER MODEL#: 10D1475, 1" SERIAL# 99W003139 DUE:12/10

CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 92W442690

TAG#: FT-1508 0-50 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	12.5 GPM	23.7 m/s	8.00mA	8.00	8.00	12.5 GPM	12.5	12.5
3	25.0 GPM	47.3 m/s	12.00mA	11.99	11.99	25.0 GPM	24.9	24.9
4	37.5 GPM	70.9 m/s	16.00mA	16.00	16.00	37.5 GPM	37.5	37.5
5	50.0 GPM	94.6 m/s	20.00mA	20.00	20.00	50.0 GPM	50.0	50.0

CALIBRATION DATE: 1/04/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 5.0 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 CAUSTIC FLOW RATE

MFG: FISHER PORTER

METER MODEL#: 10D1475, 1.5" SERIAL# 52733

CONVERTER MODEL#: 50XM13BXKD10AABC224, SERIAL# 93W014160

TAG#: FT-4401 0-40 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	3.99	3.99	0 GPM	0	0
2	10 GPM	6.3 m/s	8.00mA	7.98	7.98	10 GPM	9.95	9.95
3	20 GPM	12.7 m/s	12.00mA	12.02	12.02	20 GPM	20.06	20.06
4	30 GPM	19.0 m/s	16.00mA	16.01	16.01	30 GPM	30.04	30.04
5	40 GPM	25.3 m/s	20.00mA	20.01	20.01	40 GPM	40.00	40.00

CALIBRATION DATE: 1/9/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "B"

MFG: FISHER PORTER

METER MODEL#: 10D1475, 4" SERIAL# 92W442657 DUE:12/10

CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 93W013335

TAG#: FT-4403B 0-250 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	3.99	3.99	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	8.02	8.02	62.5 GPM	63.2	63.2
3	125 GPM	11.8 m/s	12.00mA	12.07	12.07	125 GPM	126.5	126.5
4	187.5 GPM	17.7 m/s	16.00mA	16.10	16.10	187.5 GPM	189.9	189.9
5	250 GPM	23.7 m/s	20.00mA	20.11	20.11	250 GPM	253.1	253.1

CALIBRATION DATE: 1/04/11 INSTRUMENT TECHNICIAN: GTUMP

TEST EQUIPMENT USED	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 10 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "A"

MFG: FISHER PORTER

METER MODEL#: 10D1475, 4" SERIAL# 92W442658 DUE:12/10

CONVERTER MODEL#: 50XM13BXKD10AABC224, SERIAL# 93W034754

TAG#: FT-4403A 0-250 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	7.97	7.97	62.5 GPM	61.1	61.1
3	125 GPM	11.8 m/s	12.00mA	11.95	11.95	125 GPM	124.3	124.3
4	187.5 GPM	17.7 m/s	16.00mA	11.93	11.93	187.5 GPM	186.2	186.2
5	250 GPM	23.7 m/s	20.00mA	19.98	19.98	250 GPM	249.8	249.8

CALIBRATION DATE: 1/04/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 10 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"A"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: A-95 33996 TAG# 4401A

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	7.0 PH	7	12.0mA	10.92	12.0	7.0 PH	6.53	7.0
3	10.00 PH	10	18.8mA	18.59	18.59	10.00 PH	9.89	10.00

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: STUART

DRIFT ACCEPTANCE: +/- 0.5 pH

COMMENTS: USE BUFFER SOLUTIONS OF 7 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"B"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: D92-90765 TAG# 4401B

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	7.0 PH	7	12.0mA	9.08	12.0	7.0 PH	5.73	7.0
3	10.00 PH	10	18.8mA	17.28	18.8	10.00 PH	9.31	10.00

CALIBRATION DATE: 1/4/11

INSTRUMENT TECHNICIAN: STUART

DRIFT ACCEPTANCE: +/- 0.5 pH

COMMENTS: USE BUFFER SOLUTIONS OF 7 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 WEST COOLER UNDER GRATE PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-15" H_2O = 4-20 mA

SERIAL#: 1519002

TAG#: PT-5204

LOCATION: KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	3.75"H_2O	3.75	8.00mA	8.00	8.00	3.75"H_2O	3.75	3.75
3	7.5"H_2O	7.5	12.00mA	12.00	12.00	7.5"H_2O	7.5	7.5
4	11.25"H_2O	11.25	16.00mA	16.00	16.00	11.25"H_2O	11.25	11.25
5	15.0"H_2O	15.0	20.00mA	20.00	20.00	15.0"H_2O	15.0	15.0

CALIBRATION DATE: 1/5/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HOOD PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P -2.0" - 1.0" H_2O = 4-20 mA

SERIAL#: 1501169

TAG#: DPT-5203

LOCATION: KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	-2.00"H2O	-2.00	4.00mA	4.00	[illegible]	-2.00"H2O	-2.00	-2.00
2	-1.25"H2O	-1.25	8.00mA	8.00	[illegible]	-1.25"H2O	-1.25	-1.25
3	-0.50"H2O	-0.50	12.00mA	12.00	12.00	-0.50"H2O	-.50	-.50
4	0.25"H2O	0.25	16.00mA	16.00	16.00	0.25"H2O	.25	.25
5	1.00"H2O	1.00	20.00mA	20.00	20.00	1.00"H2O	1.00	1.00

CALIBRATION DATE: 1/5/11

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 0.25" H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 EAST COOLER UNDER GRATE PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-15" H_2O = 4-20 mA

SERIAL#: 1500264

TAG#: PT-1205

LOCATION: KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	3.99	3.99	0"H_2O	0	0
2	3.75"H_2O	3.75	8.00mA	8.00	8.00	3.75"H_2O	3.75	3.75
3	7.5"H_2O	7.5	12.00mA	12.01	12.00	7.5"H_2O	7.5	7.5
4	11.25"H_2O	11.25	16.00mA	16.00	16.00	11.25"H_2O	11.25	11.25
5	15.0"H_2O	15.0	20.00mA	20.00	20.00	15.0"H_2O	15.0	15.0

CALIBRATION DATE: 1/5/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 PRIMARY AIR FAN PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-60" H_2O = 4-20 mA

SERIAL#: 1490021

TAG#: PT-1108

LOCATION: OUTSIDE KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.03	4.00	0"H_2O	0	0
2	15"H_2O	15	8.00mA	8.00	8.00	15"H_2O	15	15
3	30"H_2O	30	12.00mA	12.00	12.00	30"H_2O	30	30
4	45"H_2O	45	16.00mA	16.00	16.00	45"H_2O	45	45
5	60"H_2O	60	20.00mA	20.05	20.00	60"H_2O	60	60

CALIBRATION DATE: 1/5/11

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SOLIDS ATOMIZATION AIR PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-200 PSI = 4-20 mA

SERIAL#: 1559089

TAG#: PT-9105

LOCATION: OUTSIDE KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0	0
2	50 PSI	50	8.00mA	8.00	8.00	50 PSI	50	50
3	100 PSI	100	12.00mA	12.00	12.00	100 PSI	100	100
4	150 PSI	150	16.00mA	16.00	16.00	150 PSI	150	150
5	200 PSI	200	20.00mA	20.00	20.00	200 PSI	200	200

CALIBRATION DATE: 1/31/11 INSTRUMENT TECHNICIAN: Stroot

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: C19687
	MODEL: SS1410G	CERTIFICATION DUE: 6/23/11
	MFG: AMETEK	SERIAL: M851680-2
	MODEL: MOD CAL	CERTIFICATION DUE: 1/29/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 LGF FEED LINE PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-110 PSI = 4-20 mA

SERIAL#: 1467010

TAG#: PT-9106

LOCATION: INSIDE KILN 1 GAS ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 PSI	0	4.00mA	4.00		0 PSI		
2	27.5 PSI	27.5	8.00mA	8.00		27.5 PSI		
3	55 PSI	55	12.00mA	12.00	12.01	55 PSI		
4	82.5 PSI	82.5	16.00mA	16.00	16.00	82.5 PSI		
5	110 PSI	110	20.00mA	20.00	20.00	110 PSI		

CALIBRATION DATE: 1/26/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: C19687
	MODEL: SS1410G	CERTIFICATION DUE: 6/23/11
	MFG: AMETEK	SERIAL: M851680-2
	MODEL: MOD CAL	CERTIFICATION DUE: ~~4~~/29/11

DRIFT ACCEPTANCE:= +/- 5 PSI

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 LGF ATOMIZATION AIR PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-200 PSI = 4-20 mA

SERIAL#: 1486596

TAG#: PT-9104

LOCATION: OUTSIDE KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0	0
2	50 PSI	50	8.00mA	8.00	8.00	50 PSI	50	50
3	100 PSI	100	12.00mA	12.00	12.00	100 PSI	100	100
4	150 PSI	150	16.00mA	16.00	16.00	150 PSI	150	150
5	200 PSI	200	20.00mA	20.00	20.00	200 PSI	200	200

CALIBRATION DATE: 1/5/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: C19687
	MODEL: SS1410G	CERTIFICATION DUE: 6/23/11
	MFG: AMETEK	SERIAL: M851680-2
	MODEL: MOD CAL	CERTIFICATION DUE: 1/29/11

COMMENTS:

Replace Fitting - Surface

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER TANK LIQUID LEVEL

MFG: ROSEMOUNT

MODEL#: 1151L/T 0-40" H_2O = 4-20 mA

SERIAL#: 1983834

TAG#: LT-101

LOCATION: KILN 1 SCRUBBER TANK

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	10"H_2O	10	8.00mA	8.00	8.00	10"H_2O	10	10
3	20"H_2O	20	12.00mA	12.00	12.00	20"H_2O	20	20
4	30"H_2O	30	16.00mA	16.00	16.00	30"H_2O	30	30
5	40"H_2O	40	20.00mA	20.00	20.00	40"H_2O	40	40

CALIBRATION DATE: 4/5/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- ~~1.0~~"H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 BAGHOUSE DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-15" H_2O = 4-20 mA

SERIAL#: 1474790

TAG#: DPT-4303

LOCATION: KILN 1 MCC BLOCK HOUSE

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	3.75"H_2O	3.75	8.00mA	8.00	8.00	3.75"H_2O	3.75	3.75
3	7.5"H_2O	7.5	12.00mA	12.00	12.00	7.5"H_2O	7.5	7.5
4	11.25"H_2O	11.25	16.00mA	16.00	16.00	11.25"H_2O	11.25	11.25
5	15.0"H_2O	15.0	20.00mA	20.00	20.00	15.0"H_2O	15.0	15.0

CALIBRATION DATE: 1/5/11 INSTRUMENT TECHNICIAN: STV4-7

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: STACK GAS FLOW METER KILN #1

MFG: FCI

MODEL#: GF90

SERIAL#: 244110A

CERT. DUE: 5/11

TAG#: FT-5555

LOCATION: KILN 1 MCC

METER READING FIELD: 38.72 m SCFM

METER READING CONTROL ROOM: 38.730 SCFM

METER READING DIFFERENCE: 10

VISUAL INSPECTION (STACK): yes

VISUAL INSPECTION (ELECTRONICS): Yes

DATE: 1/3/11

INSTRUMENT TECHNICIAN: Huffman

DRIFT ACCEPTANCE +/- 5%

COMMENTS:

QUARTERLY CLEANINGS:

MARCH

JUNE

SEPTEMBER

DECEMBER

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER DUCON DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-10" H_2O = 4-20 mA

SERIAL#: 2246599

TAG#: DPT-4402

LOCATION: SCRUBBER PLATFORM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	2.5"H_2O	2.5	8.00mA	8.00	8.00	2.5"H_2O	2.5	2.5
3	5.0"H_2O	5.0	12.00mA	12.00	12.00	5.0"H_2O	5.0	5.0
4	7.5"H_2O	7.5	16.00mA	16.00	16.00	7.5"H_2O	7.5	7.5
5	10.0"H_2O	10.0	20.00mA	20.00	20.00	10.0"H_2O	10.0	10.0

CALIBRATION DATE: 1/6/11 INSTRUMENT TECHNICIAN: STAN L

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HOOD PRESSURE ***BACK***

MFG: ROSEMOUNT

MODEL#: 1151 D/P -2.0" - 1.0" H_2O = 4-20 mA

SERIAL#: 2362274

TAG#: DPT-5550

LOCATION: K1 MULTICLONE GROUND LEVEL (north)

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	-2.00"H2O	-2.00	4.00mA	4.00	4.00	-2.00"H2O	-2.00	-2.00
2	-1.25"H2O	-1.25	8.00mA	8.00	8.00	-1.25"H2O	-1.25	-1.25
3	-0.50"H2O	-0.50	12.00mA	12.00	12.00	-0.50"H2O	-.50	-.50
4	0.25"H2O	0.25	16.00mA	16.00	16.00	0.25"H2O	.25	.25
5	1.00"H2O	1.00	20.00mA	20.00	20.00	1.00"H2O	1.00	1.00

CALIBRATION DATE: 1/6/11 | INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 0.25" H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER VENTURI DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-10" H_2O = 4-20 mA

SERIAL#: 1111087

TAG#: DPT-4401

LOCATION: SCRUBBER PLATFORM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	2.5"H_2O	2.5	8.00mA	8.00	8.00	2.5"H_2O	2.5	2.5
3	5.0"H_2O	5.0	12.00mA	12.00	12.00	5.0"H_2O	5.0	5.0
4	7.5"H_2O	7.5	16.00mA	16.00	16.00	7.5"H_2O	7.5	7.5
5	10.0"H_2O	10.0	20.00mA	20.00	20.00	10.0"H_2O	10.0	10.0

CALIBRATION DATE: 1/6/11

INSTRUMENT TECHNICIAN: Stuart

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 0.5" H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HEAT EXCHANGER DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-6" H_2O = 4-20 mA

SERIAL#: 1968577

TAG#: DPT-4301

LOCATION: TOP OF HEAT EXCHANGER

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	1.5"H_2O	1.5	8.00mA	8.00	8.00	1.5"H_2O	1.5	1.5
3	3.0"H_2O	3.0	12.00mA	12.00	12.00	3.0"H_2O	3.0	3.0
4	4.5"H_2O	4.5	16.00mA	16.00	16.00	4.5"H_2O	4.5	4.5
5	6.0"H_2O	6.0	20.00mA	20.00	20.00	6.0"H_2O	6.0	6.0

CALIBRATION DATE: 1/7/11

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

Used outside power

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 BAGHOUSE LEAK DETECTOR CHECK			
MFG: BHA			
MODEL#: CPM750			
SERIAL#:750395 TAG# PD-1000			
RANGE: 0-100%			
LOCATION: CEM PROBE DECK			
CLEANED SIGHT TUBES	X	YES	NO
CLEANED TRANSMITTER LENS	X	YES	NO
CLEANED RECEIVER LENS	X	YES	NO
AIR INLET CLEAR	X	YES	NO
MAINTENANCE LIGHTS		YES	X NO

CALIBRATION DATE: 1/7/11	INSTRUMENT TECHNICIAN: STUART

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN FLOW RATE

MFG: FISHER PORTER 95W038438 12/11

METER MODEL#: 10D1475, 1" SERIAL# ~~99W003139~~ DUE: ~~12/10~~

CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 92W442690

TAG#: FT-1508 0-50 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	12.5 GPM	23.7 m/s	8.00mA	8.00	8.00	12.5 GPM	12.5	12.5
3	25.0 GPM	47.3 m/s	12.00mA	11.99	11.99	25.0 GPM	24.9	24.9
4	37.5 GPM	70.9 m/s	16.00mA	16.00	16.00	37.5 GPM	37.5	37.5
5	50.0 GPM	94.6 m/s	20.00mA	20.00	20.00	50.0 GPM	50.0	50.0

CALIBRATION DATE: 1/04/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 5.0 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "A"

MFG: FISHER PORTER 93W034753 12/11

METER MODEL#: 10D1475, 4" SERIAL# ~~92W442658~~ DUE: ~~12/10~~

CONVERTER MODEL#: 50XM13BXKD10AABC224, SERIAL# 93W034754

TAG#: FT-4403A 0-250 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	7.97	7.97	62.5 GPM	61.1	61.1
3	125 GPM	11.8 m/s	12.00mA	11.95	11.95	125 GPM	134.3	134.3
4	187.5 GPM	17.7 m/s	16.00mA	11.93	11.93	187.5 GPM	186.2	186.2
5	250 GPM	23.7 m/s	20.00mA	19.98	19.98	250 GPM	249.8	249.8

CALIBRATION DATE: 1/04/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 10 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "B"

MFG: FISHER PORTER 92W444478

METER MODEL#: 10D1475, 4" SERIAL# ~~92W442657~~ DUE: ~~12/10~~ 12/11

CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 93W013335

TAG#: FT-4403B 0-250 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	3.99	3.99	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	8.02	8.02	62.5 GPM	63.2	63.2
3	125 GPM	11.8 m/s	12.00mA	12.07	12.07	125 GPM	126.5	126.5
4	187.5 GPM	17.7 m/s	16.00mA	16.10	16.10	187.5 GPM	189.9	189.9
5	250 GPM	23.7 m/s	20.00mA	20.11	20.11	250 GPM	253.1	253.1

CALIBRATION DATE: 1/04/11 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 10 GPM

COMMENTS:

October 2010 Calibration Sheets

NORLITE CAL. SHEET CHECK LIST WWT

APPROVED BY : TIM LACHELL

CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
EFFLUENT DISCHARGE	FISCHER PORTER	0-80 GPM	10/4/2010	HUFFMAN
FLOW TO EFFLUENT TANK	FISCHER PORTER	0-80 GPM	10/4/2010	HUFFMAN
FLOC TANK PH "A"	ROSEMOUNT	PH	10/5/2010	STUART
FLOC TANK PH "B"	ROSEMOUNT	PH	10/5/2010	STUART
Pre EFFLUENT PH "A"	ROSEMOUNT	PH	10/5/2010	STUART
Pre EFFLUENT PH "B"	ROSEMOUNT	PH	10/5/2010	STUART
TRUNION WATER	FISCHER PORTER	0-80 GPM	10/4/2010	HUFFMAN
WASTE WATER EFF. TEMP.	ROSEMOUNT	32-212 DEG. F	10/5/2010	HUFFMAN

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOW TO EFFLUENT TANK

MFG: FISHER PORTER

CONVERTER MODEL#: 50XM13BXKD10AABC224

SERIAL# 93W014159

TAG#: 0-80 GPM

LOCATION: WWT NORTH WALL OVER DESK

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	3.99	3.99	0 GPM	0	0
2	20 GPM	1.26 m/s	8.00mA	8.02	8.02	20 GPM	20	20
3	40 GPM	2.52 m/s	12.00mA	12.04	12.04	40 GPM	40	40
4	60 GPM	3.78 m/s	16.00mA	16.05	16.05	60 GPM	60	60
5	80 GPM	5.04 m/s	20.00mA	20.06	20.06	80 GPM	80	80

CALIBRATION DATE: 10/4/10

INSTRUMENT TECHNICIAN: HUFFMAN

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: TRUNION WATER

MFG: FISHER PORTER

CONVERTER MODEL#: I0D1475SN12PL29KC11C111201

SERIAL# 96W001834

TAG#: 0-80 GPM

LOCATION: TOP OF EQ TANK

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	20 GPM	0.76 m/s	8.00mA	8.01	8.01	20 GPM	20	20
3	40 GPM	1.52 m/s	12.00mA	11.99	11.99	40 GPM	40	40
4	60 GPM	2.28 m/s	16.00mA	16.00	16.00	60 GPM	60	60
5	80 GPM	3.04 m/s	20.00mA	20.01	20.01	80 GPM	80	80

CALIBRATION DATE: 10/4/10

INSTRUMENT TECHNICIAN: HUFFMAN

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: EFFLUENT DISCHARGE TO MOHAWK

MFG: FISHER PORTER

CONVERTER MODEL#: I0D1475PN12PL29KD11C1112C1

SERIAL# 95W019156

TAG#: 0-80 GPM

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	20 GPM	0.76 m/s	8.00mA	8.02	8.02	20 GPM	20	20
3	40 GPM	1.52 m/s	12.00mA	12.00	12.00	40 GPM	40	40
4	60 GPM	2.28 m/s	16.00mA	16.02	16.02	60 GPM	60	60
5	80 GPM	3.04 m/s	20.00mA	20.00	20.00	80 GPM	80	80

CALIBRATION DATE: 10/4/10

INSTRUMENT TECHNICIAN: HUFFMAN

TEST EQUIPMENT USED	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOC TANK PH "B"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42946 TAG# AE4605B

RANGE: 0 - 14 PH = 4-20mA

LOCATION: ON THE FLOC TANK

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.60	8.60	4.0 PH	4.00	4.00
3	10.00 PH	10	15.5mA	14.92	15.50	10.00 PH	9.51	10.00

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

New probe

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FLOC TANK PH "A"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42703 TAG# AE4605A

RANGE: 0 - 14 PH = 4-20mA

LOCATION: ON THE FLOC TANK

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.47	8.60	4.0 PH	3.91	4.00
3	10.00 PH	10	15.5mA	15.72	15.50	10.00 PH	10.27	10.00

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRE EFFLUENT PH "B"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-41167 TAG# AE4613B

RANGE: 0 - 14 PH = 4-20mA

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.93	8.60	4.0 PH	4.31	4.00
3	10.00 PH	10	15.5mA	16.06	15.50	10.00 PH	10.54	10.00

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRE EFFLUENT PH "A"

MFG: ROSEMOUNT

MODEL#: 1054A PH

SERIAL#: E95-42468 TAG# AE4613A

RANGE: 0 - 14 PH = 4-20mA

LOCATION: SOUTH WALL OF WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	4.0 PH	4	8.6mA	8.88	8.60	4.0 PH	4.28	4.00
3	10.00 PH	10	15.5mA	15.92	15.50	10.00 PH	10.42	10.00

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

COMMENTS: USE BUFFER SOLUTIONS OF 4 AND 10

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: WASTE WATER EFFLUENT TEMP.

MFG: ROSEMOUNT

MODEL#: 3044C DEG.(F) RTD

SERIAL#: 0143402

TAG#: TT-4629

LOCATION: SOUTH WALL WASTE WATER BUILDING

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	32 F	32	4.00mA	3.93	3.93	32 F	31	31
2	77 F	77	8.00mA	7.94	7.94	77 F	76	76
3	122 F	122	12.00mA	11.94	11.94	122 F	121	121
4	167 F	167	16.00mA	15.93	15.93	167 F	166	166
5	212 F	212	20.00mA	19.93	19.93	212F	211	211

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: HUFFMAN

TEST EQUIPMENT USED	MFG: MODCAL	SERIAL: M779640-4
	MODEL: 90K1	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 268/275	CERTIFICATION DUE: NONE
	MFG: NBS RTD PROBE	SERIAL: 2285041
	MODEL: 10C-86-100-S-1-A-8-T	CERTIFICATION DUE: 7/9/11

COMMENTS:

NORLITE CAL. SHEET CHECK LIST MISC.

APPROVED BY : T.LACHELL

CALIBRATION TITLE	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
LIME FEEDERS	ACCURATE	1-500 LBS/HR	10/13/2010	STUART
LIME TAG# AC-101 AC-102 AC-103				
CEM	CISCO	O2 / COC / HRA	10/4/2010	HUFFMAN
PRIMARY AIR VENT (LEL)	MSA	20% - 30%	10/[illegible]/2010	HUFFMAN
O2 / LEL SENSORS	MSA		10/7/2010	HUFFMAN
QUARTERLY CAL. (JAN.,APRIL,JULY,OCT.)		0-25 / 0-50		
FINISH PLANT PRESSURES	DWYER	0-15 "H2O	10/1/2010	HUFFMAN
FIRE PUMP TEST	JOSELYN CLARK	TEST RUN	10/8/2010	HUFFMAN
FUEL FARM VENT (O2)	SENSIDYNE	0-10 %	10/12/2010	DARLING
PUMP SEAL ALARM CHECK	ECHOTELL/UNITED ELECTRIC	PASS/FAIL	10/12/2010	DARLING
VORTEX FLOW METER	YOKOGAWA	INSPECTION	10/13/2010	STUART

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PUMP SEAL ALARM CHECK

LOWER PAD TEST POINTS	PARAMETER		PUMP SEAL CHECK			
			PASSED	FAILED		
TANK 3	LEVEL		X			
TANK 4	LEVEL		X			
TANK 5	LEVEL		X			
TANK 6	LEVEL		X			
INSIDE TEST POINTS			**PUMP SEAL CHECK**			
			PASSED	**FAILED**		
100A	LEVEL		X			
	PRESSURE		X			
100B	LEVEL		X			
	PRESSURE		X			
200A	LEVEL		X			
	PRESSURE		X			
200B	LEVEL		X			
	PRESSURE		X			

CALIBRATION DATE: 10/12/10

INSTRUMENT TECHNICIAN: Darling

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: FUEL FARM VENT O_2

MFG: SENSIDYNE

MODEL#: SENSALERT

SERIAL#: 102-207 PART# 7013276-2

LOCATION: SE CORNER OF LGF BUILDING

TEST POINTS		O_2	PASS	FAIL
1	SPAN	7.05%	YES	
2				

CALIBRATION DATE: 10/12/10

INSTRUMENT TECHNICIAN: DARLING Darling

CALIBRATION TIME: 7:05 am

TEST EQUIPMENT USED		
	MFG: SENSIDYNE	SERIAL: 102-207
	MODEL: SENSALERT	CERTIFICATION DUE: NONE
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:

COMMENTS: Installed new sensor

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: LIME FEEDERS

MFG: ACCURATE .139 40

RANGE: 225-500 LBS/HR

LOCATION: K2 MCC

TAG# AC-101, AC-102, AC-103

TEST EQUIPMENT USED

MFG: AVO MODEL: 359986

SERIAL: 2097.206086

CERTIFICATION DUE: 7/26/11

LIME FEEDER #	FEEDER SETTING	TARGET RPM	RPM HELIX DRIVE SHAFT	(RPM)(.139) = ft Displaced by 2.25 1/2 helix/hr	(40lbs) Bulk Density / ft Hydrated Lime	Target Weight
1	300	54	54.03	7.51	300.4	300
1	375	67.5	67.59	9.40	375.8	375
1	450	81	81.23	11.29	451.6	450
1	500	90	90.05	12.52	500.7	500
2	300	54	53.96	7.50	300.0	300
2	375	67.5	67.41	9.37	374.8	375
2	450	81	80.92	11.25	449.9	450
2	500	90	90.01	12.51	500.5	500
3	300	54	53.97	7.50	300.1	300
3	375	67.5	67.48	9.38	375.2	375
3	450	81	81.09	11.27	450.9	450
3	500	90	90.01	12.51	500.5	500

CALIBRATION DATE: 10/13/10

INSTRUMENT TECHNICIAN: Stuart/Tommasino

COMMENTS: NO ADJUSTMENT NECESSARY IF WITHIN (+) OR (-) 5%

**** KILN MUST BE ON USED OIL WHEN DOING THIS TEST ****

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

DATE: 10/13/10

NAME: VORTEX FLOW METER #1		
MFG: YOKOGAWA	FLOW METER READING:	232.3
MODEL#: DY	VISUAL INSPECTION:	YES
SERIAL#: 3353B031 2003		
CERT. DUE: 9/7/11		
TAG#: VF-101		
LOCATION: LIME SILO		
NAME: VORTEX FLOW METER #2		
MFG: YOKOGAWA	FLOW METER READING:	210.9
MODEL#: DY	VISUAL INSPECTION:	YES
SERIAL#: 3353B034 2003		
CERT. DUE: 8/14/11		
TAG#: VF-102		
LOCATION: LIME SILO		
NAME: VORTEX FLOW METER #3		
MFG: YOKOGAWA	FLOW METER READING:	221.2
MODEL#: DY	VISUAL INSPECTION:	YES
SERIAL#: 3353B032 2003		
CERT. DUE: 8/3/11		
TAG#: VF-103		
LOCATION: LIME SILO		
	INSTRUMENT TECHNICIAN:	STUART
COMMENTS:		

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: PRIMARY AIR VENT SYSTEM
MFG: MSA
MODEL#: 5000
SERIAL#:
LOCATION: OLD OIL ROOM (under K1)

TEST POINTS		LEL (%)	PASS	FAIL
1	ZERO	20%	YES	
2	SPAN	30%	YES	

CALIBRATION DATE: 10/11/10
INSTRUMENT TECHNICIAN: Huffman

CALIBRATION TIME: 7:00 pm

TEST EQUIPMENT USED		
	MFG: MSA	SERIAL:
	MODEL: ULTIMA	CERTIFICATION DUE: NONE
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:

COMMENTS: RAN I-CAL PASSED

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: CEM CALIBRATION

LOCATION: CEM BUILDING

K1A			
	O_2	COC	HRA
K1 obs	9.9	59	6
CEM	10.1	62	6

K2A			
	O_2	COC	HRA
K2 obs	9.9	64	37
CEM	9.9	66	36

CALIBRATION DATE: 10/4/10

INSTRUMENT TECHNICIAN: HUFFMAN

NOTE: USE CALIBRATION GAS OF 50 ppm CO AND 10% O_2

COMMENTS:

MONTHLY FIRE PUMP TEST - OPERATING PROCEDURE

10/8/10

Louis Huffman

Frequency of Operation

1. Monthly for 15 minutes.

Notification

☑ 1. Inform Safety, Kiln Supervisor, kiln #1 and #2 control room operators, fuel farm operator, and [redacted], that fire testing is to begin and fire alarm lights will be activated. Both kilns must be off of LGF and there is no truck unloading allowed during testing.

ADT 1-800-6. 277-
I.D. Code 33191
System # H76-002-86

Necessary Items

☑ *Radio, keys for fire suppression equipment, hearing protection.*

Danelle

Visual Inspections

☑ 1. Check level of water in batteries (distilled). Add as necessary.
☑ 2. Check level of antifreeze in radiator. Add as necessary.
☑ 3. Check level of oil in diesel engine at dip stick. Service as needed/ once every 6 months.
Last service date: 7/10 Service due: 1/11
☑ 4. Check water level on water tank sight tube (minimum 3/4 full).
☑ 5. Check level indicator on fuel tank (minimum 3/4 full). Tank is located South center of room, next to water tank.
☑ 6. Check water temperature gauge on diesel engine for overheating heaters.
☑ 7. Jockey pump in Auto

Manual Inspection/Operation

☑ 1. Unlock and open Joselyn Clark control panel.

☑ 2. Hold STOP button in (located on outside right side) while turning selector knob from AUTO to OFF.

☑ 3. Release STOP button (low pressure light comes on).

☑ 4. Turn selector know to MANUAL 1 (to begin test for battery #1).

☑ 5. All employees will put on hearing protection. Press start button located inside control panel (fire alarm lights only will activate). Low oil pressure light will go off. Motor pump will start. Ampmeters will discharge then charge to 14-15 amps (control panel).

☑ 6. Allow pump to run for 5 minutes. While running, check for water drainage outside building.

☑ 7. Turn SELECTOR knob to OFF. Turn SELECTOR knob to MANUAL 2 (to begin test for battery #2).

☑ 8. Press START button located inside control panel. Motor pump will start.

☑ 9. Allow pump to run for 5 minutes. While running, check for water drainage outside building.

☑ 10. Turn SELECTOR knob to off. Turn SELECTOR knob to AUTO.

☑ 11. Close and lock Joselyn Clark control panel.

☑ 12. Go to Utility building Motor Control Center, unlock center blue fire panel.

☑ 13. Depress RESET LAMP TEST (left button). This will reset the fire pump run alarm.

☑ 14. Close and lock center blue fire control panel.

☑ 15. Notify Safety, Kiln Supervisor Kiln #1 & #2 control room operators, fuel farm operator and [redacted] that test is complete [redacted].

ADT
1-800-624-2777.
Auto dialer - code - 1234-1

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

MSA CALIBRATIONS

TECHNICIAN HUFFMAN

SENSOR TYPE	SENSOR NUMBER	SENSOR AREA	DATE CAL'D	AS FOUND		AS LEFT		Oxygen sensor change date
				zero	span	zero	span	
LEL	1	SOLIDS REPRO.	10/6/10	6.2	47.2	0.0	50.0	
OXYGEN	1A	N.W. WALL	10/6/10	-0.3	21.0	0.0	20.8	11/21/10
LEL	2	SOLIDS REPRO.	10/6/10	1.5	47.0	0.0	50.0	
OXYGEN	2A	S.E. WALL	10/6/10	0.0	20.5	0.0	20.8	11/22/10
LEL	3	LGF BLDG. ACROSS	10/6/10	3.9	46.5	0.0	50.0	
OXYGEN	3A	FROM PANELVIEW	10/6/10	-0.3	20.5	0.0	20.8	05/29/07
LEL	4	LGF BLDG. N.W.	10/6/10	3.5	46.5	0.0	50.0	
OXYGEN	4A	CORNER	10/6/10	-0.2	20.1	0.0	20.8	08/17/10
LEL	5	LGF BLDG.N.E.	10/6/10	6.0	47.3	0.0	50.0	
OXYGEN	5A	CORNER	10/6/10	0.0	20.8	0.0	20.8	09/24/09
LEL	6	LGF BLDG. S.W.	10/6/10	1.6	47.4	0.0	50.0	
OXYGEN	6A	CORNER	10/6/10	0.0	20.8	0.0	20.8	11/21/10
LEL	7	LGF BLDG. S.E.	10/6/10	1.8	47.6	0.0	50.0	
OXYGEN	7A	CORNER	10/6/10	0.0	19.9	0.0	20.8	06/07/10
LEL	8	NORTH TUNNEL	10/7/10	5.4	47.2	0.0	50.0	
OXYGEN	8A	DOOR	10/7/10	0.0	20.6	0.0	20.8	01/02/10
LEL	9	NORTH TUNNEL	10/7/10	4.7	50.5	0.0	50.0	
OXYGEN	9A	HATCH	10/7/10	0.0	20.8	0.0	20.8	05/30/10
LEL	10	SOUTH TUNNEL	10/7/10	5.3	50.2	0.0	50.0	
OXYGEN	10A	HATCH	10/7/10	-0.2	21.3	0.0	20.8	05/13/10
LEL	11	SOUTH TUNNEL	10/7/10	5.6	50.6	0.0	50.0	
OXYGEN	11A	DOOR	10/7/10	0.0	20.7	0.0	20.8	07/29/09
LEL	12	UPPER E.Q. EAST	10/7/10	2.2	50.6	0.0	50.0	
OXYGEN	12A	WALL	10/7/10	0.0	20.5	0.0	20.8	05/03/10
LEL	13	UPPER E.Q. WEST	10/7/10	3.3	50.2	0.0	50.0	
OXYGEN	13A	WALL	10/7/10	0.0	20.1	0.0	20.8	10/25/09
LEL	14	LOWER E.Q. SOUTH	10/7/10	7.2	49.5	0.0	50.0	
OXYGEN	14A	WALL	10/7/10	0.0	20.6	0.0	20.8	04/23/07
LEL	15	LOWER E.Q. NORTH	10/7/10	4.6	51.0	0.0	50.0	
OXYGEN	15A	WALL	10/7/10	0.0	21.5	0.0	20.8	05/14/10
LEL	16	EXTRUDER ROOM.	10/7/10	2.7	48.3	0.0	50.0	
OXYGEN	16A	WEST WALL	10/7/10	0.0	21.6	0.0	20.8	11/24/10
LEL	17	K1 GAS ROOM	10/7/10	6.2	48.8	0.0	50.0	
OXYGEN	17A		10/7/10	0.0	20.7	0.0	20.8	06/27/07

FINISH PLANT PRESSURES

Technician : HUFFMAN

AREA	ZERO	LINE CONDITION	READINGS				DATE
A) Photohelics			HI	LO	DP	COMMENTS	
1) MAIN BAGHOUSE	OK	OK	9.0	-9.5	0.0		10/1/2010
2) OVERSIZE HOPPER	OK	OK	0.0	-7.0	7.0		10/1/2010
3) STATIONARY BELT	OK	OK	0.0	0.0	0.0		10/1/2010
4) RADIAL STACKER BELT	OK	OK	0.0	0.0	0.0		10/1/2010
5) #2 BELT	OK	OK	0.0	-8.0	-8.0		10/1/2010
6) TOP OF FINES SILO	OK	OK	0.0	0.0	0.0	not in use	10/1/2010
7) SODA ASH SILO	OK	OK	0.0	0.0	0.0		10/1/2010
B) Magnehelics			HI	LO	DP	COMMENTS	
1) EAST DUST SILO	OK	OK	5.0	0.5	4.5		10/1/2010
2) WEST DUST SILO	OK	OK	1.0	0.5	0.5		10/1/2010

NORLITE CAL. SHEET CHECK LIST K1

APPROVED BY: Tim Lachell

CALIBRATION TITLE	TAG#	INSTRUMENT TITLE	SYSTEM PARAMETERS	DATE	TECHNICIAN
BACK END GAS TEMP.	TT-4303	ROSEMOUNT 3044C	0-1400 F	10/6/2010	Stuart
BAGHOUSE D/P	DPT-4303	ROSEMOUNT 1151 DP	0-15" H2O	10/8/2010	Stuart
BAGHOUSE INLET TEMP	TT-4302	ROSEMOUNT D5NAB4	0-700 F	10/6/2010	Stuart
BAGHOUSE LEAK DETECTOR	PD-1000	BHA	0-100%	10/12/2010	Stuart
BLOWDOWN FLOW	FT-1508	FISCHER PORTER 10D1475	0-50 GPM	10/5/2010	Stuart
CAUSTIC FLOW	FT-4401	FISCHER PORTER 10D1475	0-40 GPM	10/5/2010	Stuart
EAST COOLER PRESSURE	PT-1205	ROSEMOUNT 1151 DP	0-15" H2O	10/7/2010	Stuart
HEAT EXCHANGER D/P	DPT-4301	ROSEMOUNT 1151 DP	0-6" H2O	10/8/2010	Stuart
HEAT EXCHANGER TEMP	TT-4301	ROSEMOUNT 3044P	0-700 F	10/6/2010	Stuart
HOOD PRESSURE **BACK** D/P	DPT-5550	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" H20	10/8/2010	Stuart
HOOD PRESSURE D/P	DPT-5203	ROSEMOUNT 1151 DP	(-2.0) - (+1.0)" H20	10/7/2010	Stuart
I.D. FAN CURRENT	IDF-4301	ABB (ACS 600)	0-500 AMPS	10/12/2010	Stuart
LGF ATOM. AIR PRESSURE	PT-9104	ROSEMOUNT 1151 DP	0-200 PSI	10/6/2010	Stuart
LGF FEED RATE	MM-4301	MICROMOTION DL100	0-20 GPM	10/12/2010	Darling
LGF PRESSURE	PT-9106	ROSEMOUNT 1151 DP	0-110 PSI	10/6/2010	Stuart
MULTICLONE D/P	DPT-4302	ROSEMOUNT 1151 DP	0-6" H2O	N/A	Stuart
NOZZLE WATER	MM-4302	MICROMOTION DS065	0-15 GPM	N/A	Stuart
PRIMARY AIR PRESSURE	PT-1108	ROSEMOUNT 1151 DP	0-60" H2O	10/7/2010	Stuart
SCRUBBER DUCON D/P	DPT-4402	ROSEMOUNT 1151 DP	0-10" H2O	10/8/2010	Stuart
SCRUBBER pH A	4401A	ROSEMOUNT 2081 pH	pH	10/15/2010	Stuart
SCRUBBER pH B	4401B	ROSEMOUNT 2081 pH	pH	10/15/2010	Stuart
SCRUBBER QUENCH TEMP.	TT-5103	ROSEMOUNT 3044	0-200 F	10/6/2010	Stuart
SCRUBBER RECIRC FLOW A	FT-4403A	FISCHER PORTER 10D1475	0-250 GPM	10/5/2010	Stuart
SCRUBBER RECIRC FLOW B	FT-4403B	FISCHER PORTER 10D1475	0-250 GPM	10/5/2010	Stuart
SCRUBBER TANK LEVEL	LT-101	ROSEMOUNT 1151 LT	0-40" H2O	10/8/2010	Stuart
SHALE FEED	AR-4301	ACCURATE MPC200	0-40 TPH	10/13/2010	Darling
SOLIDS ATOM AIR PRESSURE	PT-9105	ROSEMOUNT 1151 DP	0-200 PSI	10/6/2010	Stuart
STACK GAS FLOW	FT-5555	FCI GF90	0-86,000 scfm	10/14/2010	Stuart
VENTURI D/P	DPT-4401	ROSEMOUNT 1151 DP	0-10" H2O	10/8/2010	Stuart
WASTE OIL FEED RATE	MM-4303	MICROMOTION DS100	0-20 GPM	10/12/2010	Darling
WEST COOLER PRESSURE	PT-5204	ROSEMOUNT 1151 DP	0-15" H2O	10/7/2010	Stuart

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SHALE FEED RATE

MFG: ACCURATE

MODEL#: MPC 200 RICE LAKE SCALE MODEL# IQ355

SERIAL#: 3335 TAG# AR-4301 SERIAL# 145431

RANGE: 0-40 TPH = 4-20mA CERT. DUE 9/11

LOCATION: KILN 1 CONTROL ROOM, UNDER SHALE SILO

FIRST GRAB SAMPLE		BUCKET #1	
GROSS WEIGHT	84.00 lbs	TARE WEIGHT	0.0 lbs
NET WEIGHT	84.00 lbs		
SECOND GRAB SAMPLE		BUCKET # 2	
GROSS WEIGHT	86.95 lbs	TARE WEIGHT	0.0 lbs
NET WEIGHT	86.95 lbs		
THIRD GRAB SAMPLE		BUCKET # 3	
GROSS WEIGHT	85.20 lbs	TARE WEIGHT	0.0 lbs
NET WEIGHT	85.20 lbs		

AVERAGE TOTAL SCALE WEIGHT 85.38 lbs

CURRENT SHALE SETPOINT 16.00 TPH

FIRST TACH READING	223.2 fpm	TACH	MODEL# 359986
SECOND TACH READING	223.4 fpm		SERIAL# 2097.206086
THIRD TACH READING	223.8 fpm		CERT. DUE: 7/26/11
	AVERAGE TACH READING	223.5 fpm	

CALCULATE THE TPH OF THE MATERIAL TAKEN USING THIS FORMULA

(BELT SPEED) (GRAB SAMPLE AVE. / LENGTH OF GRAB) (60) / 2000 = TPH

(223.5 fpm) (85.38 lbs. / 35 ft.) (60min/hr) / 2000 lbs./ton = 16.35 TPH

IF THE TPH FROM THE TEST IS NOT WITHIN .5 TON OF THE CURRENT SETPOINT, THE EMPIRICAL SPAN MUST BE CHANGED. (menu #5)

CALIBRATION DATE: 10/13/10 INSTRUMENT TECHNICIAN: Tommasino/Darling

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 LGF FEED RATE

MFG: MICROMOTION

MODEL#: DL-100S223 SU RICE LAKE SCALE MODEL# IQ355

SERIAL#: 12002014 TAG# MM-4301 SERIAL# 145431

RANGE: 0-20 GPM = 4-20mA CERT. DUE 9/11

LOCATION: KILN 1 GAS ROOM

FIRST GRAB SAMPLE			BUCKET #1	
GROSS WEIGHT	10.50	lbs	TARE WEIGHT	0.0 lbs
NET WEIGHT	10.50	lbs		
SECOND GRAB SAMPLE			BUCKET # 2	
GROSS WEIGHT	9.80	lbs	TARE WEIGHT	0.0 lbs
NET WEIGHT	9.80	lbs		
THIRD GRAB SAMPLE			BUCKET # 3	
GROSS WEIGHT	10.40	lbs	TARE WEIGHT	0.0 lbs
NET WEIGHT	10.40	lbs		

AVERAGE TOTAL SCALE WEIGHT 10.23 lbs

MICROMOTION TOTALIZER WEIGHTS

1st GRAB 10.50 lbs

2nd GRAB 9.70 lbs

3rd GRAB 10.40 lbs

AVERAGE MICROMOTION TOTALIZER WEIGHTS 10.20 lbs

DIFFERENCE BETWEEN SCALE AVG. AND TOTALIZER AVG. 0.03 lbs

CALIBRATION DATE: 10/12/10

INSTRUMENT TECHNICIAN: Tommasino/Darling

DRIFT ACCEPTANCE: +/- 1.0lbs

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 WASTE OIL FEED RATE

MFG: MICROMOTION

MODEL#: DS100S128SU 950323 RICE LAKE SCALE MODEL# IQ355

SERIAL#: 183743 TAG# MM-4303 SERIAL# 145431

RANGE: 0-20 GPM = 4-20mA CERT. DUE: 9/11

LOCATION: KILN 1 GAS ROOM

FIRST GRAB SAMPLE		BUCKET #1	
GROSS WEIGHT	8.95 lbs	TARE WEIGHT	0.00 lbs
NET WEIGHT	8.95 lbs		
SECOND GRAB SAMPLE		BUCKET # 2	
GROSS WEIGHT	9.60 lbs	TARE WEIGHT	0.00 lbs
NET WEIGHT	9.60 lbs		
THIRD GRAB SAMPLE		BUCKET # 3	
GROSS WEIGHT	10.55 lbs	TARE WEIGHT	0.00 lbs
NET WEIGHT	10.55 lbs		

AVERAGE TOTAL SCALE WEIGHT 9.70 lbs

MICROMOTION TOTALIZER WEIGHTS

1st GRAB 9.00 lbs

2nd GRAB 9.60 lbs

3rd GRAB 10.60 lbs

AVERAGE MICROMOTION TOTALIZER WEIGHTS 9.73 lbs

DIFFERENCE BETWEEN SCALE AVE. AND TOTALIZER AVE. 0.03 lbs

CALIBRATION DATE: 10/12/10

INSTRUMENT TECHNICIAN: Tommasino/Darling

DRIFT ACCEPTANCE: +/- 1.0 lbs

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 MULTICLONE DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-6" H_2O = 4-20 mA

SERIAL#: 1501171

TAG#: DPT-4302

LOCATION: TOP OF HEAT EXCHANGER

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA			0"H_2O		
2	1.5"H_2O	1.5	8.00mA			1.5"H_2O		
3	3.0"H_2O	3.0	12.00mA			3.0"H_2O		
4	4.5"H_2O	4.5	16.00mA			4.5"H_2O		
5	6.0"H_2O	6.0	20.00mA			6.0"H_2O		

CALIBRATION DATE: 10/10

INSTRUMENT TECHNICIAN:

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS: N/A wires removed

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 NOZZLE WATER

MFG: MICROMOTION

MODEL#: DS065S113 RICE LAKE SCALE MODEL# IQ355

SERIAL#: 160559 TAG# MM-4302 SERIAL# 145431

RANGE: 0-15 GPM = 4-20mA CERT. DUE: 9/11

LOCATION: KILN 1 GAS ROOM

FIRST GRAB SAMPLE BUCKET #1

GROSS WEIGHT _____ lbs TARE WEIGHT _____ lbs

NET WEIGHT _____ lbs

SECOND GRAB SAMPLE BUCKET # 2

GROSS WEIGHT _____ lbs TARE WEIGHT _____ lbs

NET WEIGHT _____ lbs

THIRD GRAB SAMPLE BUCKET # 3

GROSS WEIGHT _____ lbs TARE WEIGHT _____ lbs

NET WEIGHT _____ lbs

AVERAGE TOTAL SCALE WEIGHT _____ lbs

MICROMOTION TOTALIZER WEIGHTS

1st GRAB _____ lbs

2nd GRAB _____ lbs

3rd GRAB _____ lbs

AVERAGE MICROMOTION TOTALIZER WEIGHTS _____ lbs

DIFFERENCE BETWEEN SCALE AVE. AND TOTALIZER AVE. _____ lbs

CALIBRATION DATE: 10/10 INSTRUMENT TECHNICIAN:

COMMENTS: NOT CURRENTLY IN USE

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 CAUSTIC FLOW RATE

MFG: FISHER PORTER

METER MODEL#: 10D1475, 1.5" SERIAL# 52733

CONVERTER MODEL#: 50XM13BXKD10AABC224, SERIAL# 93W014160

TAG#: FT-4401 0-40 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	10 GPM	6.3 m/s	8.00mA	7.98	7.98	10 GPM	10	10
3	20 GPM	12.7 m/s	12.00mA	11.99	11.99	20 GPM	20	20
4	30 GPM	19.0 m/s	16.00mA	15.99	15.99	30 GPM	30	30
5	40 GPM	25.3 m/s	20.00mA	19.99	19.99	40 GPM	40	40

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN FLOW RATE

MFG: FISHER PORTER

METER MODEL#: 10D1475, 1" SERIAL# 99W003139 DUE:12/10

CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 92W442690

TAG#: FT-1508 0-50 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	12.5 GPM	23.7 m/s	8.00mA	7.99	7.99	12.5 GPM	12.4	12.4
3	25.0 GPM	47.3 m/s	12.00mA	11.99	11.99	25.0 GPM	25.1	25.1
4	37.5 GPM	70.9 m/s	16.00mA	15.99	15.99	37.5 GPM	37.4	37.4
5	50.0 GPM	94.6 m/s	20.00mA	19.99	19.99	50.0 GPM	50.0	50.0

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 5.0 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "A"

MFG: FISHER PORTER

METER MODEL#: 10D1475, 4" SERIAL# 92W442658 DUE: 12/10

CONVERTER MODEL#: 50XM13BXKD10AABC224, SERIAL# 93W034754

TAG#: FT-4403A 0-250 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	3.99	3.99	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	7.99	7.99	62.5 GPM	62.3	62.3
3	125 GPM	11.8 m/s	12.00mA	11.98	11.98	125 GPM	124.5	124.5
4	187.5 GPM	17.7 m/s	16.00mA	15.97	15.97	187.5 GPM	187.0	187.0
5	250 GPM	23.7 m/s	20.00mA	20.00	20.00	250 GPM	250.0	250.0

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 10 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER RECIRCULATION FLOW RATE "B"

MFG: FISHER PORTER

METER MODEL#: 10D1475, 4" SERIAL# 92W442657 DUE:12/10

CONVERTER MODEL#: 50XM13BXKD10AAAC224, SERIAL# 93W013335

TAG#: FT-4403B 0-250 GPM

LOCATION: RECIRCULATION TANK AREA

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 GPM	0.0 m/s	4.00mA	4.00	4.00	0 GPM	0	0
2	62.5 GPM	5.9 m/s	8.00mA	7.98	7.98	62.5 GPM	62.3	62.3
3	125 GPM	11.8 m/s	12.00mA	11.97	11.97	125 GPM	124.9	124.9
4	187.5 GPM	17.7 m/s	16.00mA	15.96	15.96	187.5 GPM	187.3	187.3
5	250 GPM	23.7 m/s	20.00mA	19.99	19.99	250 GPM	250.0	250.0

CALIBRATION DATE: 10/5/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: FISHER PORTER	SERIAL: 240097080/Y011
	MODEL: 55XC4	CERTIFICATION DUE: 6/22/11
	MFG: FLUKE	SERIAL: 956500114
	MODEL: 87	CERTIFICATION DUE: 6/23/11
	MFG: FLUKE	SERIAL: 13930061
	MODEL: 77	CERTIFICATION DUE: 7/26/11

DRIFT ACCEPTANCE: +/- 10 GPM

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SOLIDS ATOMIZATION AIR PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-200 PSI = 4-20 mA

SERIAL#: 1559089

TAG#: PT-9105

LOCATION: OUTSIDE KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0	0
2	50 PSI	50	8.00mA	8.00	8.00	50 PSI	50	50
3	100 PSI	100	12.00mA	12.00	12.00	100 PSI	100	100
4	150 PSI	150	16.00mA	16.00	16.00	150 PSI	150	150
5	200 PSI	200	20.00mA	20.00	20.00	200 PSI	200	200

CALIBRATION DATE: 10/6/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: C19687
	MODEL: SS1410G	CERTIFICATION DUE: 6/23/11
	MFG: AMETEK	SERIAL: M851680-2
	MODEL: MOD CAL	CERTIFICATION DUE: 1/29/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 LGF FEED LINE PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-110 PSI = 4-20 mA

SERIAL#: 1467010

TAG#: PT-9106

LOCATION: INSIDE KILN 1 GAS ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0.0	0.0
2	27.5 PSI	27.5	8.00mA	8.00	8.00	27.5 PSI	27.5	27.5
3	55 PSI	55	12.00mA	12.00	12.00	55 PSI	55.0	55.0
4	82.5 PSI	82.5	16.00mA	16.00	16.00	82.5 PSI	82.5	82.5
5	110 PSI	110	20.00mA	20.00	20.00	110 PSI	110.0	110.0

CALIBRATION DATE: 10/6/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: C19687
	MODEL: SS1410G	CERTIFICATION DUE: 6/23/11
	MFG: AMETEK	SERIAL: M851680-2
	MODEL: MOD CAL	CERTIFICATION DUE: 1/29/11

DRIFT ACCEPTANCE:= +/- 5 PSI

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 LGF ATOMIZATION AIR PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-200 PSI = 4-20 mA

SERIAL#: 1486596

TAG#: PT-9104

LOCATION: OUTSIDE KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 PSI	0	4.00mA	4.00	4.00	0 PSI	0	0
2	50 PSI	50	8.00mA	8.00	8.00	50 PSI	50	50
3	100 PSI	100	12.00mA	12.00	12.00	100 PSI	100	100
4	150 PSI	150	16.00mA	16.00	16.00	150 PSI	150	150
5	200 PSI	200	20.00mA	20.00	20.00	200 PSI	200	200

CALIBRATION DATE: 10/6/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: C19687
	MODEL: SS1410G	CERTIFICATION DUE: 6/23/11
	MFG: AMETEK	SERIAL: M851680-2
	MODEL: MOD CAL	CERTIFICATION DUE: 1/29/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: K1 SCRUBBER QUENCH TEMP

MFG: ROSEMOUNT

MODEL#: 3144 0-200 DEG.(F) = 4-20mA TYPE K

SERIAL#: 0551618

TAG#: TT-5103

LOCATION: K1 MCC

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	3.90	3.90	0 F	-3	-3
2	50 F	50	8.00mA	7.72	7.72	50 F	46	46
3	100 F	100	12.00mA	11.66	11.66	100 F	96	96
4	150 F	150	16.00mA	15.65	15.65	150 F	146	146
5	200 F	200	20.00mA	19.60	19.60	200F	195	195

CALIBRATION DATE: 10/6/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 275	CERTIFICATION DUE: NONE
	MFG:	SERIAL:
	MODEL:	CERTIFICATION DUE:

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 BAGHOUSE INLET TEMP

MFG: ROSEMOUNT

MODEL#: D5NAB4 0-700 DEG.(F) = 4-20mA

SERIAL#: 0329566 03/00

TAG#: TT-4302

LOCATION: BAGHOUSE INLET DUCT

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	3.99	3.99	0 F	0	0
2	175 F	175	8.00mA	7.99	7.99	175 F	175	175
3	350 F	350	12.00mA	11.99	11.99	350 F	349	349
4	525 F	525	16.00mA	15.99	15.99	525 F	525	525
5	700 F	700	20.00mA	20.00	20.00	700 F	700	700

CALIBRATION DATE: 10/6/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL 275	CERTIFICATION DUE: NONE
	MFG: NBS "K"THERMOCOUPLE	SERIAL: 2285042
	MODEL: 6C-K-I-83-8-R-13.5"	CERTIFICATION DUE: 7/9/11

DRIFT ACCEPTANCE: +/- 10 F

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HEAT EXCHANGER EXIT TEMP

MFG: ROSEMOUNT

MODEL#: 3044P 0-700 DEG.(F) = 4-20mA.

SERIAL#: 0410454

TAG#: TT-4301

LOCATION: HEAT EXCHANGER EXIT DUCT (ground level)

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	3.98	3.98	0 F	-1	-1
2	175 F	175	8.00mA	7.99	7.99	175 F	175	175
3	350 F	350	12.00mA	11.98	11.98	350 F	349	349
4	525 F	525	16.00mA	16.01	16.01	525 F	525	525
5	700 F	700	20.00mA	19.94	19.94	700 F	700	700

CALIBRATION DATE: 10/6/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 275	CERTIFICATION DUE: NONE
	MFG: NBS "K"THERMOCOUPLE	SERIAL: 2285043
	MODEL: 6C-K-I-83-8-R-13.5"	CERTIFICATION DUE: 7/9/11

DRIFT ACCEPTANCE: +/- 10F

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: K1 BACK END GAS TEMP

MFG: ROSEMOUNT

MODEL#: 3044C 0-1400 DEG.(F) = 4-20mA TYPE K

SERIAL#: 0050090

TAG#: TT-4303

LOCATION: MULTICLONE PLATFORM 2ND LEVEL

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0 F	0	4.00mA	3.92	3.92	0 F	-3	-3
2	350 F	350	8.00mA	7.97	7.97	350 F	348	348
3	700 F	700	12.00mA	11.97	11.97	700 F	698	698
4	1050 F	1050	16.00mA	15.98	15.98	1050 F	1048	1048
5	1400 F	1400	20.00mA	19.95	19.95	1400F	1398	1398

CALIBRATION DATE: 10/6/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6540201
	MODEL: 1062 J/K	CERTIFICATION DUE: 1/29/11
	MFG: ROSEMOUNT	SERIAL:
	MODEL: 275	CERTIFICATION DUE: NONE
	MFG: NBS "K"THERMOCOUPLE	SERIAL: 2285046
	MODEL: 6C-K-I-83-8-R-13.5"	CERTIFICATION DUE: 7/9/11

DRIFT ACCEPTANCE: +/- 10 F

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HOOD PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P -2.0" - 1.0" H_2O = 4-20 mA

SERIAL#: 1501169

TAG#: DPT-5203

LOCATION: KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	-2.00"H2O	-2.00	4.00mA	4.00	4.00	-2.00"H2O	-2.00	-2.00
2	-1.25"H2O	-1.25	8.00mA	8.00	8.00	-1.25"H2O	-1.25	-1.25
3	-0.50"H2O	-0.50	12.00mA	12.00	12.00	-0.50"H2O	-0.50	-0.50
4	0.25"H2O	0.25	16.00mA	16.00	16.00	0.25"H2O	0.25	0.25
5	1.00"H2O	1.00	20.00mA	20.00	20.00	1.00"H2O	1.00	1.00

CALIBRATION DATE: 10/7/10 | INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 659990Z/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 0.25" H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 WEST COOLER UNDER GRATE PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-15" H_2O = 4-20 mA

SERIAL#: 1519002

TAG#: PT-5204

LOCATION: KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0.0	0.0
2	3.75"H_2O	3.75	8.00mA	8.00	8.00	3.75"H_2O	3.75	3.75
3	7.5"H_2O	7.5	12.00mA	12.00	12.00	7.5"H_2O	7.5	7.5
4	11.25"H_2O	11.25	16.00mA	16.00	16.00	11.25"H_2O	11.25	11.25
5	15.0"H_2O	15.0	20.00mA	20.00	20.00	15.0"H_2O	15.0	15.0

CALIBRATION DATE: 10/7/10

INSTRUMENT TECHNICIAN: STUART JP

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 659990Z/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 BAGHOUSE DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-15" H_2O = 4-20 mA

SERIAL#: 1474790

TAG#: DPT-4303

LOCATION: KILN 1 MCC BLOCK HOUSE

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0.0	0.0
2	3.75"H_2O	3.75	8.00mA	8.00	8.00	3.75"H_2O	3.75	3.75
3	7.5"H_2O	7.5	12.00mA	12.00	12.00	7.5"H_2O	7.50	7.50
4	11.25"H_2O	11.25	16.00mA	16.00	16.00	11.25"H_2O	11.25	11.25
5	15.0"H_2O	15.0	20.00mA	20.00	20.00	15.0"H_2O	15.00	15.00

CALIBRATION DATE: 10/8/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 EAST COOLER UNDER GRATE PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-15" H_2O = 4-20 mA

SERIAL#: 1500264

TAG#: PT-1205

LOCATION: KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0.0	0.0
2	3.75"H_2O	3.75	8.00mA	8.00	8.00	3.75"H_2O	3.75	3.75
3	7.5"H_2O	7.5	12.00mA	12.00	12.00	7.5"H_2O	7.5	7.5
4	11.25"H_2O	11.25	16.00mA	16.00	16.00	11.25"H_2O	11.25	11.25
5	15.0"H_2O	15.0	20.00mA	20.00	20.00	15.0"H_2O	15.0	15.0

CALIBRATION DATE: ~~10/06/10~~ 10/7/10 INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 PRIMARY AIR FAN PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-60" H_2O = 4-20 mA

SERIAL#: 1490021

TAG#: PT-1108

LOCATION: OUTSIDE KILN 1 CONTROL ROOM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	15"H_2O	15	8.00mA	8.00	8.00	15"H_2O	15	15
3	30"H_2O	30	12.00mA	12.00	12.00	30"H_2O	30	30
4	45"H_2O	45	16.00mA	16.00	16.00	45"H_2O	45	45
5	60"H_2O	60	20.00mA	20.00	20.00	60"H_2O	60	60

CALIBRATION DATE: 10/7/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER VENTURI DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-10" H_2O = 4-20 mA

SERIAL#: 1111087

TAG#: DPT-4401

LOCATION: SCRUBBER PLATFORM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0.0	0.0
2	2.5"H_2O	2.5	8.00mA	8.00	8.00	2.5"H_2O	2.5	2.5
3	5.0"H_2O	5.0	12.00mA	12.00	12.00	5.0"H_2O	5.0	5.0
4	7.5"H_2O	7.5	16.00mA	16.00	16.00	7.5"H_2O	7.5	7.5
5	10.0"H_2O	10.0	20.00mA	20.00	20.00	10.0"H_2O	10.0	10.0

CALIBRATION DATE: 10/8/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 0.5" H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HOOD PRESSURE ***BACK***

MFG: ROSEMOUNT

MODEL#: 1151 D/P -2.0" - 1.0" H_2O = 4-20 mA

SERIAL#: 2362274

TAG#: DPT-5550

LOCATION: K1 MULTICLONE GROUND LEVEL (north)

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	-2.00"H2O	-2.00	4.00mA	4.00	4.00	-2.00"H2O	-2.00	-2.00
2	-1.25"H2O	-1.25	8.00mA	8.00	8.00	-1.25"H2O	-1.25	-1.25
3	-0.50"H2O	-0.50	12.00mA	12.00	12.00	-0.50"H2O	-0.50	-0.50
4	0.25"H2O	0.25	16.00mA	16.00	16.00	0.25"H2O	0.25	0.25
5	1.00"H2O	1.00	20.00mA	20.00	20.00	1.00"H2O	1.00	1.00

CALIBRATION DATE: 10/8/10 | INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 0.25" H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER TANK LIQUID LEVEL

MFG: ROSEMOUNT

MODEL#: 1151L/T 0-40" H_2O = 4-20 mA

SERIAL#: 1983834

TAG#: LT-101

LOCATION: KILN 1 SCRUBBER TANK

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0	0
2	10"H_2O	10	8.00mA	8.00	8.00	10"H_2O	10	10
3	20"H_2O	20	12.00mA	12.00	12.00	20"H_2O	20	20
4	30"H_2O	30	16.00mA	16.00	16.00	30"H_2O	30	30
5	40"H_2O	40	20.00mA	20.00	20.00	40"H_2O	40	40

CALIBRATION DATE: 10/8/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

DRIFT ACCEPTANCE: +/- 1.0"H_2O

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 HEAT EXCHANGER DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-6" H_2O = 4-20 mA

SERIAL#: 1968577

TAG#: DPT-4301

LOCATION: TOP OF HEAT EXCHANGER

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0.0	0.0
2	1.5"H_2O	1.5	8.00mA	8.00	8.00	1.5"H_2O	1.5	1.5
3	3.0"H_2O	3.0	12.00mA	12.00	12.00	3.0"H_2O	3.0	3.0
4	4.5"H_2O	4.5	16.00mA	16.00	16.00	4.5"H_2O	4.5	4.5
5	6.0"H_2O	6.0	20.00mA	20.00	20.00	6.0"H_2O	6.0	6.0

CALIBRATION DATE: 10/8/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 659990Z/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER DUCON DIFFERENTIAL PRESSURE

MFG: ROSEMOUNT

MODEL#: 1151 D/P 0-10" H_2O = 4-20 mA

SERIAL#: 2246599

TAG#: DPT-4402

LOCATION: SCRUBBER PLATFORM

TEST POINTS	IDEAL INPUT SIGNAL	ACTUAL INPUT SIGNAL	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
1	0"H_2O	0	4.00mA	4.00	4.00	0"H_2O	0.0	0.0
2	2.5"H_2O	2.5	8.00mA	8.00	8.00	2.5"H_2O	2.5	2.5
3	5.0"H_2O	5.0	12.00mA	12.00	12.00	5.0"H_2O	5.0	5.0
4	7.5"H_2O	7.5	16.00mA	16.00	16.00	7.5"H_2O	7.5	7.5
5	10.0"H_2O	10.0	20.00mA	20.00	20.00	10.0"H_2O	10.0	10.0

CALIBRATION DATE: 10/8/10

INSTRUMENT TECHNICIAN: STUART

TEST EQUIPMENT USED		
	MFG: TRANSMATION	SERIAL: 6599902/C19004
	MODEL: 1091/1091	CERTIFICATION DUE: 3/25/11 4/27/11
	MFG: TRANSMATION	SERIAL: 8467002
	MODEL: SD0312G	CERTIFICATION DUE: 10/28/11
	MFG: TRANSMATION	SERIAL: 97851101
	MODEL: SD0412G	CERTIFICATION DUE: 9/30/11

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 BAGHOUSE LEAK DETECTOR CHECK		
MFG: BHA		
MODEL#: CPM750		
SERIAL#:750395 TAG# PD-1000		
RANGE: 0-100%		
LOCATION: CEM PROBE DECK		
CLEANED SIGHT TUBES	YES	NO
CLEANED TRANSMITTER LENS	YES	NO
CLEANED RECEIVER LENS	YES	NO
AIR INLET CLEAR	YES	NO
MAINTENANCE LIGHTS	YES	NO

CALIBRATION DATE: 10/12/10	INSTRUMENT TECHNICIAN: STUART

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 I.D. FAN MOTOR CURRENT

MFG: ABB

MODEL#: ACS600

RANGE: 0-500 AMPS

LOCATION: KILN 1 MCC

TAG# IDF-4301

TEST POINTS	AMMETER READING	CONTROL RM. READING (MRA)	TEST EQUIPMENT USED
PHASE A	313	318	MFG: Fluke (Fluke)
PHASE B	318	318	MODEL#: 334/334
PHASE C	318	318	SERIAL#: 13000087/90704869
			CERTIFICATION DUE: 7/26/11 9/30/11

CALIBRATION DATE: 10/12/10

INSTRUMENT TECHNICIAN: STUART

DRIFT ACCEPTANCE: +/- 25 AMPS

COMMENTS:

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: STACK GAS FLOW METER KILN #1	
MFG: FCI	
MODEL#: GF90	
SERIAL#: 244110A	
CERT. DUE: 5/11	
TAG#: FT-5555	
LOCATION: KILN 1 MCC	
METER READING FIELD:	32.00 scfm
METER READING CONTROL ROOM:	32,006 scfm
METER READING DIFFERENCE:	6
VISUAL INSPECTION (STACK):	ok
VISUAL INSPECTION (ELECTRONICS):	ok
DATE:	10/14/10
INSTRUMENT TECHNICIAN:	STUART
DRIFT ACCEPTANCE +/- 5%	
COMMENTS:	
QUARTERLY CLEANINGS:	
MARCH	
JUNE	
SEPTEMBER	
DECEMBER	

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"A"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: A-95 33996 TAG# 4401A

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	7.0 PH	7	12.0mA	12.25	12.00	7.0 PH	7.11	7.00
3	10.00 PH	10	18.8mA	19.22	18.80	10.00 PH	10.16	10.00

CALIBRATION DATE: 10/15/10

INSTRUMENT TECHNICIAN: STUART

DRIFT ACCEPTANCE: +/- 0.5 pH

COMMENTS: USE BUFFER SOLUTIONS OF 7 AND 10

New probe

NORLITE CORPORATION

INSTRUMENT CALIBRATION DATA SHEET

NAME: KILN 1 SCRUBBER BLOWDOWN PH #1"B"

MFG: ROSEMOUNT

MODEL#: 2081 PH

SERIAL#: D92-90765 TAG# 4401B

RANGE: 3.5 - 10.5 = 4-20mA

LOCATION: RECIRCULATION TANK

EQUIPMENT USED: ROSEMOUNT 268

TEST POINTS	IDEAL INPUT	ACTUAL INPUT	IDEAL OUTPUT	OUTPUT AS FOUND	OUTPUT AS LEFT	IDEAL INDICATOR	INDICATOR AS FOUND	INDICATOR AS LEFT
2	7.0 PH	7	12.0mA	11.97	12.00	7.0 PH	6.99	7.00
3	10.00 PH	10	18.8mA	18.89	18.80	10.00 PH	10.02	10.00

CALIBRATION DATE: 10/15/10

INSTRUMENT TECHNICIAN: STUART

DRIFT ACCEPTANCE: +/- 0.5 pH

COMMENTS: USE BUFFER SOLUTIONS OF 7 AND 10

New probe

Equipment Certification Sheets

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: ___
Date Received: Oct 23, 2009

Cert/RA Nbr: 1-0V2BC-2-1
Manufacturer: Ametek
Model Nbr: 1726

Date Calibrated: Oct 26, 2009
Next Calibration: Oct 26, 2010

Description: Digital Tachometer

Calibration Proc: 1-AC06522-7

Serial Nbr: M367330-398
ID Nbr: NONE

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0V2BC-2-1

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 42%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS16949, ANSI/NCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point.

Notes: Unit was received in-tolerance. No adjustment required.

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2805	Fluke Corporation	910R	GPS-Controlled Frequency Stand	3/27/2001	3/27/2011	SM780614
LS001	HP	33120A	Function/Arbitrary, Waveform, Generator, 15 MHz	1/16/2009	1/31/2010	1-&LS001-1-3

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Ken Marciano

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 10/27/2009 4:33:43 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: ___
Date Received: Oct 23, 2009

Cert/RA Nbr: 1-0V2BC-1-1
Manufacturer: Transmation
Model Nbr: SD0312G

Date Calibrated: Nov 3, 2009
Next Calibration: Nov 3, 2010

Description: Pressure Module

Calibration Proc: 1-AC07428-0

Serial Nbr: 8467002
ID Nbr: NONE

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0V2BC-1-1

Temperature: 71.5°F / 21.9°C **Temp/RH Asset: 2672** **Relative Humidity: 34%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS16949, ANSI/NCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
3016	Keithley Instruments	2002	Digital Multimeter, 8.5 digit	7/27/2009	1/31/2010	5-0R0XL-1-1
O10172	Ruska Instruments Corp	7250xi	Pressure Calibrator	7/23/2009	1/31/2010	5-0R4WZ-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Doug Urquhart

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Bill Pritchard for
Date: 11/3/2009 10:13:11 AM

Chris Herrmann
Lab Manager

TECO THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

Customer:	Norlite Corporation	Date:	12/2009
Mfr.:	Fischer & Porter	TECO Number:	51619
Model:	10D1475P	Size:	4.00
Serial:	93W034753	Fluid:	Water

Run1 COMPUTED FACTOR	1071.0836
Run 2 COMPUTED FACTOR	1070.4069
Run 3 COMPUTED FACTOR	1071.5330
Run 4 COMPUTED FACTOR	1070.8675

NEW CALIBRATION FACTOR: 1073.00000

Flowlab Tech: PDO Date: 12/2009

Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/272009 A427	DS1505141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/80/2009 A02370	50XM13NXAD10AAAC229 6/8/2010

Thompson Equipment Company, Inc.
(504) 833-6381 Voice
(504) 831-4664 Fax
125 Industrial Avenue
New Orleans, LA 70121
P.O. Box 4189
New Orleans, LA 70178-4189
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THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

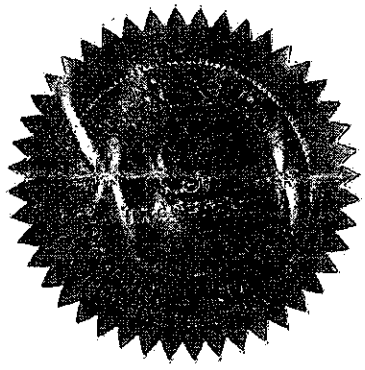
Customer:	Norlite Corporation	Date:	12/2009
Mfr.:	Fischer & Porter	TECO Number:	52734
Model:	10D1475EN15PL29KW12CAC2	Size:	4.00
Serial:	92W442739	Fluid:	Water

Run1 COMPUTED FACTOR	1075.3876
Run 2 COMPUTED FACTOR	1075.6934
Run 3 COMPUTED FACTOR	1075.7566
Run 4 COMPUTED FACTOR	1075.4602

NEW CALIBRATION FACTOR: 1073.00000

Flowlab Tech: PDO

Date: 12/2009



Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/272009 A427	DS1505141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/80/2009 A02370	50XM13NXAD10AAAC229 6/8/2010

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(504) 831-4664 Fax
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THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

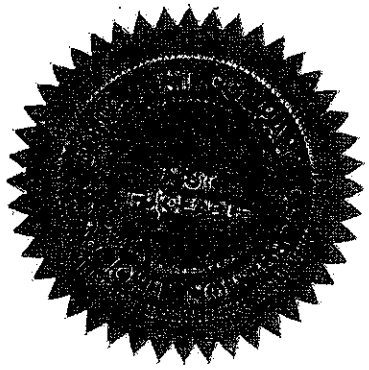
Customer:	Norlite Corporation	Date:	12/2009
Mfr.:	Fischer & Porter	TECO Number:	51209
Model:	10D1475PN15PL29KY12A1112C1	Size:	4.00
Serial:	92W442658	Fluid:	Water

Run1	COMPUTED FACTOR	1074.291381
Run 2	COMPUTED FACTOR	1073.044927
Run 3	COMPUTED FACTOR	1073.562150
Run 4	COMPUTED FACTOR	1074.968529

NEW CALIBRATION FACTOR: 1073.00000

Flowlab Tech: PDO

Date: 12/2009



Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 113674A TECO	MICRO MOTION 4/27/2009 A427	DS150S141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/8/2009 A02370	50XM13NXAD10AAAC22 6/8/2010

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(504) 831-4664 Fax
125 Industrial Avenue
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THOMPSON EQUIPMENT COMPANY

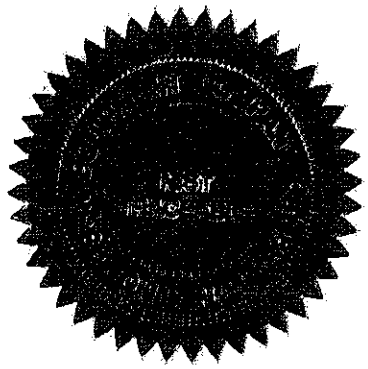
NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

Customer:	Norlite Corporation	Date:	12/2009
Mfr.:	Fischer & Porter	TECO Number:	50981
Model:	10D1475PN	Size:	4.00
Serial:	92W442657	Fluid:	Water

Run1 COMPUTED FACTOR	1071.1436
Run 2 COMPUTED FACTOR	1070.6181
Run 3 COMPUTED FACTOR	1070.2757
Run 4 COMPUTED FACTOR	1071.2434

NEW CALIBRATION FACTOR: 1073.00000

Flowlab Tech: PDO Date: 12/2009



Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/272009 A427	DS1505141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/80/2009 A02370	50XM13NXAD10AAAC229 6/8/2010

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(504) 831-4664 Fax
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THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

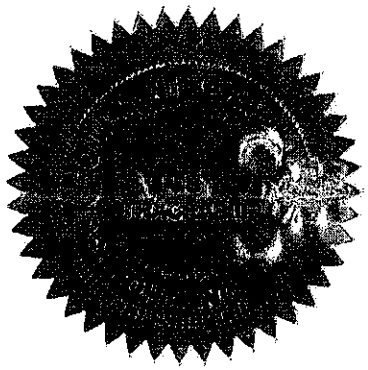
Customer:	Norlite Corporation	Date:	12/2009
Mfr.:	Fischer & Porter	TECO Number:	51485
Model:	10D1475PL29KY12A1112C2	Size:	1.50
Serial:	92W442738	Fluid:	Water

Run1 COMPUTED FACTOR	161.5348
Run 2 COMPUTED FACTOR	161.4306
Run 3 COMPUTED FACTOR	161.5888
Run 4 COMPUTED FACTOR	161.3666

NEW CALIBRATION FACTOR: 161.00000

Flowlab Tech: PDO

Date: 12/2009



Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/272009 A427	DS1505141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/80/2009 A02370	50XM13NXAD10AAAC229 6/8/2010

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(504) 831-4664 Fax
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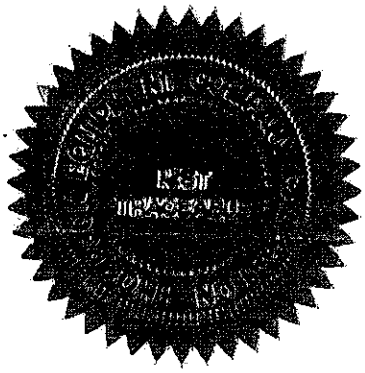
THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

Customer:	Norlite Corporation		
Date:	12/2009		
Mfr.:	Fischer & Porter	TECO Number:	52159
Model:	10D1475SN09PL29KY12A	Fluid:	Water
Serial:	95W038438		

Run1	COMPUTED FACTOR	53.502393
Run 2	COMPUTED FACTOR	53.534277
Run 3	COMPUTED FACTOR	53.516663
Run 4	COMPUTED FACTOR	53.534930



NEW CALIBRATION FACTOR: 53.67

Flowlab Tech: PDO Date: 12/2009

Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0565	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/27/2009 2008-129-C0940	DS150S141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/8/2009 A02370	50XM13NXAD10AAAC22 6/8/2010

Thompson Equipment Company, Inc.
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(504) 831-4664 Fax
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THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

Customer:	Norlite Corporation	Date:	01/2010
Mfr.:	Fischer & Porter	TECO Number:	51486
Model:	10D1475PN15PL29AY12A	Size:	4.00
Serial:	94W445135	Fluid:	Water

Run1 COMPUTED FACTOR	1070.3841
Run 2 COMPUTED FACTOR	1070.2983
Run 3 COMPUTED FACTOR	1070.1689
Run 4 COMPUTED FACTOR	1071.8956

NEW CALIBRATION FACTOR: 1073.00

Flowlab Tech: PDO

Date: 01/2010

Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/272009 A427	DS1505141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/80/2009 A02370	50XM13NXAD10AAAC229 6/8/2010

Thompson Equipment Company, Inc.
(504) 833-6381 Voice
(504) 831-4664 Fax
125 Industrial Avenue
New Orleans, LA 70121
P.O. Box 4189
New Orleans, LA 70178-4189
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TECO THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

Customer:	Norlite Corporation	Date:	01/2010
Mfr.:	Fischer & Porter	TECO Number:	52883
Model:	10D1475SN09PL29KY12A	Size:	1.00
Serial:	99W003139	Fluid:	Water

Run1 COMPUTED FACTOR	53.724168
Run 2 COMPUTED FACTOR	53.623518
Run 3 COMPUTED FACTOR	53.776268
Run 4 COMPUTED FACTOR	53.627172

NEW CALIBRATION FACTOR: 53.67

Flowlab Tech: PDO

Date: 01/2010

Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/272009 A427	DS1505141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/80/2009 A02370	50XM13NXAD10AAAC229 6/8/2010

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(504) 833-6381 Voice
(504) 831-4664 Fax
125 Industrial Avenue
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TECO THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

Customer:	Norlite Corporation	Date:	01/2010
Mfr.:	Fischer & Porter	TECO Number:	51570
Model:	10D1475PL29KY12A111C1	Size:	1.50
Serial:	93W014157	Fluid:	Water

Run1	COMPUTED FACTOR	160.765178
Run 2	COMPUTED FACTOR	160.880648
Run 3	COMPUTED FACTOR	160.981491
Run 4	COMPUTED FACTOR	160.132474

NEW CALIBRATION FACTOR: 161.00000

Flowlab Tech: KS Date: 01/2010

Standards used for calibration

ASSET NO.	Description/ Serial No/ Laboratory	Manufacturer/ Last Cal/ Cert. No	Model No/ Next Cal
MTE-0581	1-1/2" MASS FLOW METER 134902 TECO	MICRO MOTION 4/272009 A427	DS1505141 4/27/2010
MTE-0571	CONVERTER 95W008882 TECO	FISCHER & PORTER 6/80/2009 A02370	50XM13NXAD10AAAC229 6/8/2010

Thompson Equipment Company, Inc.
(504) 833-6381 Voice
(504) 831-4664 Fax
125 Industrial Avenue
New Orleans, LA 70121
P.O. Box 4189
New Orleans, LA 70178-4189
T:\DATA\Shop\FLOWROOM\Data2010\51486.015.Norlite.NIST.doc

TECO THOMPSON EQUIPMENT COMPANY

NIST TRACEABLE HYDRAULIC CALIBRATION REPORT

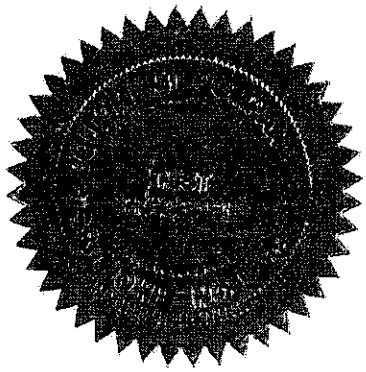
Customer:	Norlite Corporation	
Date:	09/2010	
Mfr.:	Fischer & Porter	TECO Number: 52159
Model:	10D1475SN09PL29KY12A	Fluid: Water
Serial:	95W038438	

Run1	COMPUTED FACTOR	53.665945
Run 2	COMPUTED FACTOR	53.703545
Run 3	COMPUTED FACTOR	53.675714
Run 4	COMPUTED FACTOR	53.622712

NEW CALIBRATION FACTOR: 53.67

Flowlab Tech: PDO

Date: 09/2010



Standards Used for Calibration

ASSET NO.	Description/ Serial No./ Laboratory	Manufacturer/ Last Cal./ Cert. No.	Model/ Next Cal.
1. MTE-0590	1-1/2" MASS FLOW METER 113674A TECO	MICRO MOTION 6/4/2010 113674	DS150S141 6/4/2011
2. MTE-0570	CONVERTER 09022009 TECO	FISCHER & PORTER 2/23/2010 A02404	50XM1000 2/23/2011

Thompson Equipment Company, Inc.
(504) 833-6381 Voice
(504) 831-4664 Fax
125 Industrial Avenue
New Orleans, LA 70121
P.O. Box 4189
New Orleans, LA 70178-4189
T:\DATA\Shop\FLOWROOM\Data2010\52159.Norlite.NIST.flow.report.doc

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 11861
Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-32-1
Manufacturer: Ametek M&G Products
Model Nbr: 90B1

Date Calibrated: May 19, 2010
Next Calibration: May 19, 2011

Description: Multimeter,Module

Calibration Proc: 1-AC22124-0

Serial Nbr: M700480-26
ID Nbr: NONE
Unit Barcode: 900A2835243

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-32-1

Temperature: 72°F / 22.2°C **Temp/RH Asset: 2993B** **Relative Humidity: 32%**

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10021	Fluke Corporation	5700A-EP	Multifunction Calibrator	01/27/2010	07/31/2010	5-0W4M4-1-1
2559	General Resistance	RDS63A	Decade Box, Resistance, 0.01%	12/08/2009	06/30/2010	1-&2559-2-25
31190	HP	3458A Opt002	Digital Multimeter	06/11/2009	06/30/2010	5-0Q2Y2-1-1
W2570	General Radio	1433-B	Decade Box, Resistance	02/24/2010	08/31/2010	1-&W2570-2010-2

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Bill Pritchard

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 05/19/2010 10:01:52 PM

Chris Herrmann
Lab Manager

F0013R21 ...

To access your calibration records, log on to www.caltrakonline.com

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 11861
Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-34-1
Manufacturer: Ametek M&G Products
Model Nbr: 90K1

Date Calibrated: Feb 4, 2010
Next Calibration: Feb 4, 2011

Description: Temperature Module

Calibration Proc: 1-AC08581-1

Serial Nbr: M779640-4
ID Nbr: NONE

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-34-1

Temperature: 71°F / 21.7°C **Temp/RH Asset: 2993C** **Relative Humidity: 33%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMIs), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
18802	Fluke Corporation	5440B	Calibrator, Meter, Voltage, DC	05/20/2009	02/28/2010	5-0P4A7-1-1
21639	HP	3458A Opt 002	Digital Multimeter, 8.5 Digit	08/13/2009	02/28/2010	5-0R9VM-1-1
MTCE2	National Basic Sensor	172142-E	Half Junction Thermocouple, Type E	02/13/2009	02/28/2010	6-0L50X-2-1
O10053	Hart Scientific	9101	Zero/Ice Point Reference Cell	01/04/2010	01/31/2011	1-&O10053-12-1
TC01J1	National Basic Sensor	172142-J	Half Junction Thermocouple, Type J	02/13/2009	02/28/2010	6-0L50X-4-1
TC01K1	National Basic Sensor	172142-K	Half Junction Thermocouple, Type K	02/13/2009	02/28/2010	6-0L50X-5-1
TC01T1	National Basic Sensor	172142-T	Half Junction Thermocouple, Type T	02/13/2009	02/28/2010	6-0L50X-6-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 02/04/2010 10:02:57 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 11861
Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-35-1
Manufacturer: Ametek M&G Products
Model Nbr: 90HG60

Date Calibrated: Feb 3, 2010
Next Calibration: Feb 3, 2011

Description: Mod Cal Pressure Module

Calibration Proc: 1-AC06635-1

Serial Nbr: M851680-2
ID Nbr: NONE

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-35-1

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993D** **Relative Humidity: 30%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
O10172	Ruska Instruments Corp	7250xi	Pressure Calibrator	1/8/2010	7/31/2010	5-0X2G5-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Bill Pritchard

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Doug Urquhart for
Date: 2/3/2010 12:04:20 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES. NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 11861
Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-1-1
Manufacturer: Ametek M&G Products
Model Nbr: 90HG26

Date Calibrated: Feb 3, 2010
Next Calibration: Feb 3, 2011

Description: Pressure Module

Calibration Proc: 1-AC06635-1

Serial Nbr: M820590-4
ID Nbr: NONE

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-1-1

Temperature: 70.4°F / 21.3°C **Temp/RH Asset: 2993D** **Relative Humidity: 38%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
010172	Ruska Instruments Corp	7250xi	Pressure Calibrator	1/8/2010	7/31/2010	5-0X2G5-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Bill Pritchard

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Doug Urquhart for
Date: 2/3/2010 12:02:11 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 11861
Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-33-1
Manufacturer: Ametek M&G Products
Model Nbr: 90C1

Date Calibrated: May 19, 2010
Next Calibration: May 19, 2011

Description: Simulator,Module

Calibration Proc: 1-AC22125-2

Serial Nbr: M805460-1
ID Nbr: NONE
Unit Barcode: 900A2835186

Item Received: Operational Failure
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-33-1

Temperature: 72°F / 22.2°C **Temp/RH Asset: 2993b** **Relative Humidity: 32%**

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMIs), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes: This module was received in operational failure. The readings were too unstable to take any data. The module was sent to the factory for repair and than sent back to Transcat for as left data.

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2996	Agilent	3458A Opt002	Digital Multimeter	05/11/2010	11/30/2010	5-A30EL-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Bill Pritchard

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 05/19/2010 10:02:45 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 11861
Date Received: Jan 25, 2010

Cert/RA Nbr: 1-0X7LA-5-1
Manufacturer: Transmation
Model Nbr: 1062JK

Date Calibrated: Jan 29, 2010
Next Calibration: Jan 29, 2011

Description: Thermocouple Calibrator

Calibration Proc: 1-AC17451-1

Serial Nbr: 6540201
ID Nbr: NONE

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-0X7LA-5-1

Temperature: 71.6°F / 22°C **Temp/RH Asset: 2993B** **Relative Humidity: 41%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10015	Fluke Corporation	5520A	Multifunction Calibrator	6/4/2009	1/31/2010	5-0N6LN-1-1
J1TCW-22	Omega Engineering, Inc.	Type-J	Thermocouple Extension Wire	7/5/2007	7/31/2099	6-&J1TCW-507-22
K1TCW-22	Omega Engineering, Inc.	Type-K	Thermocouple Extension Wire	7/5/2007	7/31/2099	6-&K1TCW-507-22

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Rajkumar K

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris DeZutter for
Date: 1/29/2010 2:07:18 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12128
Date Received: Mar 22, 2010

Cert/RA Nbr: 1-A130B-1-1
Manufacturer: Transmation
Model Nbr: 1091-0

Date Calibrated: Mar 25, 2010
Next Calibration: Mar 25, 2011

Description: Pressure Flexitester

Calibration Proc: 1-AC06519-5

Serial Nbr: 6599902
ID Nbr: NONE

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A130B-1-1

Temperature: 72.2°F / 22.3°C **Temp/RH Asset: 2993B** **Relative Humidity: 38%**

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10015	Fluke Corporation	5520A	Multifunction Calibrator	02/09/2010	08/31/2010	5-0Y053-1-1
2996	Agilent	3458A Opt002	Digital Multimeter	09/09/2009	03/31/2010	5-0T76J-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Rajkumar K

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 03/25/2010 9:44:37 AM

Chris Herrmann
Lab Manager

F0013(R21 10/09/2009

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12316
Date Received: Apr 23, 2010

Cert/RA Nbr: 1-A25G4-1-1
Manufacturer: Transmation
Model Nbr: 1091-0

Date Calibrated: Apr 27, 2010
Next Calibration: Apr 27, 2011

Description: Pressure Flexitester

Calibration Proc: 1-AC06519-5

Serial Nbr: C19004
ID Nbr: NONE
Unit Barcode: 900A2820072

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A25G4-1-1

Temperature: 71.6°F / 22°C **Temp/RH Asset: 2993A** **Relative Humidity: 32%**

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMIs), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10015	Fluke Corporation	5520A	Multifunction Calibrator	02/09/2010	08/31/2010	5-0Y053-1-1
31190	HP	3458A Opt002	Digital Multimeter	06/11/2009	06/30/2010	5-0Q2Y2-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Rajkumar K

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Bill Pritchard for
Date: 04/28/2010 6:17:43 AM

Chris Herrmann
Lab Manager

CERTIFICATE OF CALIBRATION

CERTIFICATE NO. 300038931

CUSTOMER R. L. STONE CO. INC.

ASSET I.D. NO. ABB – 060 - 3809 **SERIAL NO.** 240097080 / Y011

MANUFACTURER FISCHER & PORTER CO.

MODEL NO. 55XC4000

This equipment has been calibrated, under controlled conditions, and in accordance with manufacturer's documented procedures.

TEMPERATURE: 26.8 ±1°C **HUMIDITY:** 38.4 %R.H.

ABB, Inc. Instrument Division certifies that the above identified unit has been calibrated to meet or exceed its published specifications. Calibrations were performed using the standards listed below whose accuracies are traceable to the National Institute of Standards and Technology. A documented Quality Assurance Program is implemented at this facility meeting the requirements of ISO 9001, registered certification by Det norske Veritas (Certificate No. CERT-09170-2000-AQ-HOU-RvA/RAB). The metrology confirmation system for measuring equipment is operated to provide calibration services that conform to the intended requirements of ISO 10012-1 and ANSI Z540-1.

STANDARDS USED

I.D. NO.	MANUFACTURER	MODEL	CAL. DATE	DUE DATE
QCE-11	FLUKE	8505A	19 NOV 09	30 NOV 10
QCE-2693	EDC	CR103	22 FEB 10	28 FEB 11

PERFORMED BY: JIM KIRKPATRICK **DATE:** 22 JUNE 2010

APPROVED BY: Denise Stanislawczyk

Denise Stanislawczyk, Manager Repair Department

ABB Inc.

Automation Technology Products Division
Business Unit Instrumentation

125 East County Line Road
Warminster, PA 18974-4995
USA

Telephone
(215) 674-6000
Fax
(215) 674-7183

Internet
www.abb.com/instrumentation
E-mail
Instrumentation@us.abb.com

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES. NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12604
Date Received: Jun 22, 2010

Cert/RA Nbr: 1-A408X-1-1
Manufacturer: AEMC Instrument
Model Nbr: 4630 (2130.44)

Date Calibrated: Jun 23, 2010
Next Calibration: Jun 23, 2011

Description: Digital Ground, Resistance, Tester

Calibration Proc: 1-AC08975-1

Serial Nbr: 158164 DE DV
ID Nbr: NONE
Unit Barcode: 001A0010840

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A408X-1-1

Temperature: 71.6°F / 22°C **Temp/RH Asset: 2993B** **Relative Humidity: 52%**

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
21575	Electro Scientific Industries	RS925A	Resistance Standard	06/07/2010	09/30/2010	1-&21575-2010-6

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Bo Gobeli

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 06/23/2010 4:56:53 PM

Chris Herrmann
Lab Manager

F0013R21 8/05/2009

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES. NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12604
Date Received: Jun 22, 2010

Cert/RA Nbr: 1-A408X-3-1
Manufacturer: Fluke Corporation
Model Nbr: 87

Date Calibrated: Jun 28, 2010
Next Calibration: Jun 28, 2011

Description: True RMS Multimeter

Calibration Proc: 1-AC01549-12

Serial Nbr: 956500114
ID Nbr: NONE
Unit Barcode: 001A0027021

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A408X-3-1

Temperature: 72°F / 22.2°C **Temp/RH Asset: 2993b** **Relative Humidity: 42%**

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2945	Fluke Corporation	5520A-SC1100	Multifunction Calibrator, w/Scope Option	03/15/2010	12/31/2010	5-A016N-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Rajkumar K

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris DeZutter for
Date: 06/28/2010 2:20:41 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12604
Date Received: Jun 22, 2010

Cert/RA Nbr: 1-A408X-2-1
Manufacturer: Transmation
Model Nbr: SS1410G

Date Calibrated: Jun 30, 2010
Next Calibration: Jun 30, 2011

Description: Module, Pressure

Calibration Proc: 1-AC07835-2

Serial Nbr: C19687
ID Nbr: NONE
Unit Barcode: 900A2821484

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A408X-2-1

Temperature: 72°F / 22.2°C **Temp/RH Asset: 2993D** **Relative Humidity: 39%**

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
3016	Keithley Instruments	2002	Digital Multimeter, 8.5 digit	05/04/2010	02/28/2011	5-A187X-1-1
O10172	Ruska Instruments Corp	7250xi	Pressure Calibrator	05/05/2010	11/30/2010	5-A2747-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Bill Pritchard

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 06/30/2010 4:26:51 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-2-1
Manufacturer: National Basic Sensor
Model Nbr: 10-86-100-S-1-A-8-T-4"-W-SD27-Z

Date Calibrated: Jul 12, 2010
Next Calibration: Jul 12, 2011

Description: RTD Probe

Calibration Proc: 1-AC06896-1

Serial Nbr: 2285041
ID Nbr: NONE
Unit Barcode: 900A3390017

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-2-1

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 46%**

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1
31190	HP	3458A Opt002	Digital Multimeter	06/23/2010	06/30/2011	5-A386G-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 07/12/2010 10:44:38 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-9
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010
Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285042
ID Nbr: NONE
Unit Barcode: 900A3390020

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-9

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 51%**

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 07/09/2010 3:26:05 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-8
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 12, 2010
Next Calibration: Jul 12, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285043
ID Nbr: NONE
Unit Barcode: 900A3390018

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-8

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 42%**

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris DeZutter for
Date: 07/12/2010 11:05:45 AM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES. NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-4
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010
Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285044
ID Nbr: NONE
Unit Barcode: 900A3390021

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-4

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 51%**

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMIs), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

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All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For mass calibrations: Conventional mass referenced to 8.0 g/cc.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 07/09/2010 3:27:42 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-7
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010
Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285045
ID Nbr: NONE
Unit Barcode: 900A3390022

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-7

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 51%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1
3055	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

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Date: 07/09/2010 3:28:03 PM

Chris Herrmann
Lab Manager

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CALIBRATION CERT #
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CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-3
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010
Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285046
ID Nbr: NONE
Unit Barcode: 900A3390023

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-3

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 51%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

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Chris Herrmann
Lab Manager

F0013R21 8/06/2009

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CALIBRATION CERT #
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CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-1
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010
Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285047
ID Nbr: NONE
Unit Barcode: 900A3390024

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-1

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 51%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985*	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

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Date: 07/09/2010 3:25:44 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-5
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010
Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 2285049
ID Nbr: NONE
Unit Barcode: 900A3390019

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-5

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 51%**

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

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Date: 07/09/2010 3:26:55 PM

Chris Herrmann
Lab Manager

R0013R21.3006.2009

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CALIBRATION CERT #
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CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-6
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5-W-SD34-Z

Date Calibrated: Jul 12, 2010
Next Calibration: Jul 12, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 22712076
ID Nbr: NONE
Unit Barcode: 001A0012590

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-6

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 42%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9700

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Date: 07/12/2010 11:05:09 AM

Chris Herrmann
Lab Manager

F0913R21.8/06/2009

TRANSCAT® CALIBRATION SERVICES

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CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12696
Date Received: Jul 1, 2010

Cert/RA Nbr: 1-A453A-1-2
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5"-W-SL27-Z

Date Calibrated: Jul 9, 2010
Next Calibration: Jul 9, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 221212082
ID Nbr: NONE
Unit Barcode: 001A0033057

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A453A-1-2

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 51%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

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Date: 07/09/2010 3:27:15 PM

Chris Herrmann
Lab Manager

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CALIBRATION CERT #
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CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12785
Date Received: Jul 23, 2010

Cert/RA Nbr: 1-A51Z7-1-1
Manufacturer: National Basic Sensor
Model Nbr: 6C-K-I-83-8-R-13.5-W-SD34-Z

Date Calibrated: Aug 2, 2010
Next Calibration: Aug 2, 2011

Description: Thermocouple Probe, Type-K

Calibration Proc: 1-AC05852-2

Serial Nbr: 22712077
ID Nbr: NONE
Unit Barcode: 001A0012591

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A51Z7-1-1

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993C** **Relative Humidity: 47%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS16949, ANSI/NCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to reasonable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For mass calibrations: Conventional mass referenced to 8.0 g/cc.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2985	Hart Scientific	1560	Black Stack, Base Unit	01/29/2010	01/31/2011	1-&2985-2010-1
2988	Hart Scientific	2566	Black Stack, Thermocouple Scanner	01/15/2010	01/31/2011	5-0X10H-1-1
3053	Hart Scientific	2560	Module, SPRT, 2-Channel	09/08/2009	09/30/2010	6-0T12E-7-1
3054	Hart Scientific	5628	Secondary Standard PRT	09/17/2009	09/30/2010	15-0T5KT-4-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Patrick Whalen

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Sean Frys for
Date: 08/02/2010 4:26:18 PM

Chris Herrmann
Lab Manager

F0013R21/8-062009

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12785
Date Received: Jul 23, 2010

Cert/RA Nbr: 1-A51Z7-3-1
Manufacturer: AVO
Model Nbr: 359986

Date Calibrated: Jul 28, 2010
Next Calibration: Jul 28, 2011

Description: Tachometer Photo

Calibration Proc: 1-AC09988-2

Serial Nbr: 2097.206086
ID Nbr: NONE
Unit Barcode: 001A0013189

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A51Z7-3-1

Temperature: 72.2°F / 22.3°C **Temp/RH Asset: 2993B** **Relative Humidity: 48%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMIs), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2805	Fluke Corporation	910R	GPS-Controlled Frequency Stand	03/27/2001	03/27/2011	SM780614
3008	Agilent Technologies	33250A	Function / Arbitrary, Waveform, Generator, 80 MHz	02/23/2010	02/28/2011	33-A03V0-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Joe Stagnitta

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Sean Frys for
Date: 07/28/2010 3:39:35 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES. NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12785
Date Received: Jul 23, 2010

Cert/RA Nbr: 1-A51Z7-2-1
Manufacturer: Fluke Corporation
Model Nbr: 97

Date Calibrated: Aug 2, 2010
Next Calibration: Aug 2, 2011

Description: Scopemeter, 50 MHz

Calibration Proc: 1-AC06608-4

Serial Nbr: DM6041270
ID Nbr: None
Unit Barcode: 900A2821485

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A51Z7-2-1

Temperature: 71.6°F / 22°C **Temp/RH Asset: 2993B** **Relative Humidity: 49%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.5 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For mass calibrations: Conventional mass referenced to 8.0 g/cc.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2805	Fluke Corporation	910R	GPS-Controlled Frequency Stand	03/27/2001	03/27/2011	SM780614
2945	Fluke Corporation	5520A-SC1100	Multifunction Calibrator, w/Scope Option	03/15/2010	12/31/2010	5-A016N-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Dean Tyler

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Doug Urquhart for
Date: 08/03/2010 6:24:08 AM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12785
Date Received: Aug 10, 2010

Cert/RA Nbr: 1-A54F4-2-1
Manufacturer: Fluke Corporation
Model Nbr: 77 IV

Date Calibrated: Aug 11, 2010
Next Calibration: Aug 11, 2011

Description: Digital Multimeter

Calibration Proc: 1-AC04959-1

Serial Nbr: 13930061
ID Nbr: NONE
Unit Barcode: 001A0055045

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A54F4-2-1

Temperature: 72.2°F / 22.3°C **Temp/RH Asset: 2993B** **Relative Humidity: 50%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10015	Fluke Corporation	5520A	Multifunction Calibrator	07/08/2010	01/31/2011	5-A42W9-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Rajkumar K

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 08/11/2010 5:45:51 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: 12785
Date Received: Aug 6, 2010

Cert/RA Nbr: 1-A55UE-30-1
Manufacturer: Fluke Corporation
Model Nbr: 334

Date Calibrated: Aug 11, 2010
Next Calibration:

Description: Clamp-On Meter

Calibration Proc: 1-AC14346-0

Serial Nbr: 13000087
ID Nbr: NONE
Unit Barcode: 001A0054961

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A55UE-30-1

Temperature: 71.6°F / 22°C **Temp/RH Asset: 2993B** **Relative Humidity: 48%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

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Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10015	Fluke Corporation	5520A	Multifunction Calibrator	07/08/2010	01/31/2011	5-A42W9-1-1
3027	Fluke Corporation	5500A/Coil	50 Turn Current Coil	10/17/2007	10/31/2017	5-V680B-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Rajkumar K

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 08/11/2010 5:44:10 PM

Chris Herrmann
Lab Manager

Reprinted on 08/17/2010

YOKOGAWA

Yokogawa Corporation of America
4 Dart Road
Shenandoah Industrial Park
Newnan, Ga. 30265-1040

Phone 770 254-0400
Fax 770 254-0928
www.us.yokogawa.com

Yewflo Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1
Equipment Serial Number:	3353B031
Date Calibrated:	September 7, 2010
Customer PO #:	12989
Order #:	N69947
Tag Number:	N/A

Calibration Equipment Used:

Description	Model Number	Serial Number
Digital MultiMeter	2502A	2502GA039
Frequency Counter	TC110	91EB17520
Density Converter	DM8C-A1*A	8556DA036
Density Detector	VD6D-S3*B	8551DA025

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested in accordance with local standard ASME MFC-6M-1998 using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Quality Representative

Prepared by: Sabrina Newton

Certificate Date: September 9, 2010 11:56 AM

M1202EZ-A

YOKOGAWA

Yokogawa Corporation of America
4 Dart Road
Shenandoah Industrial Park
Newnan, Ga. 30265-1040

Phone 770 254-0400
Fax 770 254-0928
www.us.yokogawa.com

Yewflo Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1
Equipment Serial Number:	3353B032
Date Calibrated:	August 3, 2010
Customer PO #:	12820
Order #:	N69707
Tag Number:	N/A

Calibration Equipment Used:

Description	Model Number	Serial Number
Digital MultiMeter	2502A	2502GA039
Frequency Counter	TC110	91EB17520
Density Converter	DM8C-A1*A	8556DA036
Density Detector	VD6D-S3*B	8551DA025

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested in accordance with local standard ASME MFC-6M-1998 using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Quality Representative

Prepared by: Darlene Cheaves
Certificate Date: August 4, 2010 7:56 AM

M1202EZ-A

YOKOGAWA

Yokogawa Corporation of America
4 Dart Road
Shenandoah Industrial Park
Newnan, Ga. 30265-1040

Phone 770 254-0400
Fax 770 254-0928
www.us.yokogawa.com

Yewflo Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1
Equipment Serial Number:	3353B033
Date Calibrated:	August 3, 2010
Customer PO #:	12820
Order #:	N69707
Tag Number:	N/A

Calibration Equipment Used:

Description	Model Number	Serial Number
Digital MultiMeter	2502A	2502GA039
Frequency Counter	TC110	91EB17520
Density Converter	DM8C-A1*A	8556DA036
Density Detector	VD6D-S3*B	8551DA025

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested in accordance with local standard ASME MFC-6M-1998 using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Quality Representative

Prepared by: Darlene Cheaves

Certificate Date: August 4, 2010 7:51 AM

M1202EZ-A

YOKOGAWA

Yokogawa Corporation of America
4 Dart Road
Shenandoah Industrial Park
Newnan, Ga. 30265-1040

Phone 770 254-0400
Fax 770 254-0928
www.us.yokogawa.com

Service Calibration Certificate

Equipment Model Number:	DY050-NBMBA1-2N/FF1
Equipment Serial Number:	3353B034
Date Calibrated:	August 14, 2010
Customer PO #:	12886
Order #:	N69771
Tag Number:	N/A

Calibration Equipment Used:

Description	Model Number	Serial Number
Digital MultiMeter	2502A	2502GA039
Frequency Counter	TC110	91EB17520
Density Converter	DM8C-A1*A	8556DA036
Density Detector	VD6D-S3*B	8551DA025

Yokogawa Corporation of America does hereby certify that the above listed instrument meets or exceeds all published specifications and has been tested using standards whose accuracies are traceable to NIST (National Institute of Standard and Technology), formerly NBS.

Supporting documentation is on file.

Quality Representative

Prepared by: Debra Johnson

Certificate Date: August 16, 2010 9:25 AM

M1202EZ-A

TRANSCAT® CALIBRATION SERVICES

CALIBRATION LAB

Return As-Is / "BER" (BEYOND ECONOMICAL REPAIR) REPORT

(See Notes below for detail)

Customer:	NORLITE 628 SARATOGA ST COHOES, NY 12047-4697
RA #:	1-A51Z7-5-1
Manufacturer:	A. W. Sperry Instruments
Model Nbr:	DSA-2003
Description:	Clamp-On Meter
Serial Nbr:	0813522
PO Number:	12785
ID Tag:	NONE
Date Received:	Jul 23, 2010
Date Returned/Disposed:	Sep 24, 2010

Remarks: Unit was found to be out of tolerance, unable to adjust limits. Repair by replacement with Fluke model 334 per customer request.

For replacement instrument quotation, call Transcat at (800) 828-1470

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2945	Fluke Corporation	5520A-SC1100	Multifunction Calibrator, w/Scope Option	03/15/2010	12/31/2010	5-A016N-1-1
3027	Fluke Corporation	5500A/Coil	50 Turn Current Coil	10/17/2007	10/31/2017	5-V680B-1-1

Facility Responsible:

35 Vantage Point Dr
Rochester, NY 14624
585-352-9720
By: Chris DeZutter

Digitally Signed By Sean Frys for
Date: 09/24/2010 3:49:56 PM

Chris Herrmann
Lab Manager

F0132R1 8/12/03

PRO-TECH SCALE SERVICE

227 Sulphur Springs Road, Amsterdam, NY 12010
518-842-6303

CUSTOMER Norlite
STREET ADDRESS 628 Saratoga St Cohoes
ID/TAG#
MFG/MODEL Rice Lake IQ 355
SCALE SERIAL# 115 822

DATE 9-23-10
CITY & STATE NY 12047
BLDG#
SCALE CAPACITY 200 LB
DIVISION SIZE .05

In tolerance without Adjustment ☐
Out of tolerance ☐
Adjustment made/in tolerance ☒

Eccentricity (Shift Test)

1 200	2 200
3 200	4 200

Test Load	Weights applied	As found Reading	Error: plus or minus (d)	Allowable error (d)	As left Reading	Within Tolerance
Zero 0	0	0	0	0	0	☒ Yes ☐ No
50	50	49.95	-1	0	50.00	☒ Yes ☐ No
100	100	99.95	-1	1	100.00	☒ Yes ☐ No
150	150	149.90	-2	1	150.00	☒ Yes ☐ No
200 Max Load*	200	199.90	-2	2	200.00	☒ Yes ☐ No
						☐ Yes ☐ No
						☐ Yes ☐ No
						☐ Yes ☐ No
Zero 0	0	0	0	0	0	☐ Yes ☐ No

*Maximum load used in test

*In tolerance without adjustment ☐

REMARKS
Scale OFF Cal Good
WEIGHT IDENTIFICATION NUMBER: PT60-66
CUSTOMER CALIBRATION DATE: 9-23-10
CUSTOMER CALIBRATION DUE: 12-10
PERFORMED BY : TECHNICIAN NAME/SIGNATURE Justin Rea
CUSTOMER SIGNATURE:

TRANSCAT® CALIBRATION SERVICES

CALIBRATION LAB

Return As-Is / "BER" (BEYOND ECONOMICAL REPAIR) REPORT

(See Notes below for detail)

Customer:	NORLITE 628 SARATOGA ST COHOES, NY 12047-4697
RA #:	1-A51Z7-4-1
Manufacturer:	Fluke Corporation
Model Nbr:	76
Description:	Digital Multimeter
Serial Nbr:	65220856
PO Number:	12785
ID Tag:	IC-048
Date Received:	Jul 23, 2010
Date Returned/Disposed:	Sep 27, 2010

Remarks: unit no power-up,need repair,BER.

For replacement instrument quotation, call Transcat at (800) 828-1470

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
10015	Fluke Corporation	5520A	Multifunction Calibrator	07/08/2010	01/31/2011	5-A42W9-1-1

Facility Responsible:

35 Vantage Point Dr
Rochester, NY 14624
585-352-9720
By: Rajkumar K

Digitally Signed By Doug Urquhart for
Date: 09/28/2010 5:56:33 AM

Chris Herrmann
Lab Manager

F0132R1 8/12/04

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT #
1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: ___
Date Received: Sep 23, 2010

Cert/RA Nbr: 1-A7045-29-1
Manufacturer: Fluke Corporation
Model Nbr: 334

Date Calibrated: Sep 24, 2010
Next Calibration: Sep 24, 2011

Description: Clamp-On Meter

Calibration Proc: 1-AC14346-0

Serial Nbr: 90704869
ID Nbr: NONE
Unit Barcode: 001A0001432

Item Received: In Tolerance
Item Returned: In Tolerance

For calibration data, see Supplemental Report for RA Nbr 1-A7045-29-1

Temperature: 70°F / 21.1°C **Temp/RH Asset: 2993B** **Relative Humidity: 48%**

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS16949, ANSI/NCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMIs), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted in the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For mass calibrations: Conventional mass referenced to 8.0 g/cc.

Notes:

Assets	Manufacturer	Model	Description	Cal Date	Due Date	Traceability Numbers
2945	Fluke Corporation	5520A-SC1100	Multifunction Calibrator, w/Scope Option	03/15/2010	12/31/2010	5-A016N-1-1
3027	Fluke Corporation	5500A/Coil	50 Turn Current Coil	10/17/2007	10/31/2017	5-V680B-1-1

Calibrated at:
35 Vantage Point Dr
Rochester, NY 14624
By: Rajkumar K

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris DeZutter for
Date: 09/24/2010 2:12:50 PM

Chris Herrmann
Lab Manager

TRANSCAT® CALIBRATION SERVICES

ACCREDITED

CALIBRATION CERT # 1681.02

CERTIFICATE OF CALIBRATION

Customer: NORLITE
628 SARATOGA ST
COHOES, NY 12047-4697

Customer Nbr: 1-187790-000
PO Nbr: ____
Date Received: September 23, 2010

Cert/SO Nbr: 1-A7045-2-1
Manufacturer: Transmation
Model Nbr: SD0412G
Range: 0 to 33 psi
Accuracy: ±0.07% fs

Date Completed: October 07, 2010
Due Date: October 07, 2011

Description: Pressure Module
Serial Nbr: 97851101
ID Nbr: NONE
Unit Barcode: 001A0031154

Calibration Proc: 1-AC07339-1
Item Received: In Tolerance
Item Returned: In Tolerance

This item is calibrated to manufacturer specifications.
For calibration data, see Supplemental Report for SO Nbr 1-A7045-2-1

Transcat Calibration Laboratories have been audited and found in compliance with ISO/IEC 17025:2005. Accredited calibrations performed within the Lab's Scope of Accreditation are indicated by the presence of the Accrediting Body's Logo and Certificate Number on this Certificate of Calibration. Any measurements on an accredited calibration not covered by that Lab's Scope are noted below. This report must not be used to claim product certification, approval, or endorsement by NVLAP, A2LA, NIST, or any agency of the Federal Government.

Transcat calibrations, as applicable, are performed in compliance with the requirements of ISO 9001:2000, ISO TS16949, ANSI/NCSL Z540-1994, QS-9000 and ISO 10012-1992. When specified contractually, the requirements of 10CFR21, 10CFR50 App. B and NQA-1 are also covered.

Transcat will maintain and document the traceability of all its standards to the National Institute of Standards and Technology (NIST) or the National Research Council of Canada (NRC), or to other recognized national or international standard bodies (NMI's), or to measurable conditions created in our laboratory, or accepted fundamental and/or natural physical constants, ratio type of calibration, or by comparison to consensus standards. The specific path of traceability for the reported measurement results is maintained at the Transcat facility and is available there for review.

Complete records of work performed are maintained by Transcat and are available for inspection. Laboratory standards used in the performance of this calibration are shown below.

The results in this report relate only to the item calibrated or tested, and the determination of in or out of tolerance is specific to the model/serial no. referenced above based on the manufacturer's published specifications.

All calibrations have been performed using processes having a test uncertainty ratio of four or more times greater than the unit calibrated, unless otherwise noted on the Supplemental Report. Uncertainties have been estimated at a 95 percent confidence level (k=2). Calibration at a 4:1 TUR provides reasonable confidence that the instrument is within the manufacturer's published specifications. Limitations on the uses of this instrument are detailed in the manufacturer's operating instructions. Any number of factors can cause a unit to drift out of tolerance at any time following its calibration. The reported uncertainty is the uncertainty of the calibration process. For measuring instruments, add 0.6 of the least significant digit to the reported uncertainty to obtain the measurement uncertainty of the unit under test at the specific point. For mass calibrations: Conventional mass referenced to 8.0 g/cm³. For single sided tolerances no TUR will be provided.

Notes:

Calibrated At:
35 Vantage Point Dr
Rochester, NY 14624
By: Bill Pritchard
Digitally Signed On 10/07/2010

Facility Responsible:
35 Vantage Point Dr
Rochester, NY 14624
585-352-9720

Digitally Signed By Chris Herrmann
Date: 10/08/2010

Chris Herrmann
Lab Manager

Revision 0

CEMS Audit Summaries

CEM SOLUTIONS

December 9, 2010

Mr. Thomas VanVranken
Norlite Corporation
628 South Saratoga Street
Cohoes, NY 12047

Re: Calibration Error Audit Results

Dear Mr. VanVranken:

CEM Solutions performed Quarterly Calibration Error Audits (CE) on the Primary and Backup CiSCO Continuous Emission Monitoring Systems (CEMS) installed on Kilns 1 and 2 at the Norlite facility in Cohoes, NY. The audits were completed on December 3, 2010 for Kiln 1 and Kiln 2 in accordance with procedures outlined in 40 CFR 266 (BIF), Appendix IX. The CE audit results for Primary and Backup CEMS are presented in Tables 1 and 2 for Kiln 1 and Tables 3 and 4 for Kiln 2 below.

The CE Audits indicated acceptable performance for Kiln 1 and 2 Primary and Backup CEMS with US EPA, BIF, 40 CFR 266, Appendix IX Quality Assurance limits and 40 CFR 60, Appendix B. Performance Specification 4B .

TABLE 1
CE AUDIT RESULTS
PRIMARY CEMS KILN 1A
December 3, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	0.0	-0.2	
CO	0-200 ppm	0.0	- 0.3	-0.1	
CO	0-3000 ppm	0.1	-0.6	1.7	

* ACCURACY < 5 % Span Value for CO, < 0.5% O2

1200 Route 9 Hudson, NY 12534 518■828■2026

TABLE 2
CE AUDIT RESULTS
BACKUP CEMS KILN 1B
December 3, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	-0.1	-0.2	
CO	0-200 ppm	-0.3	1.2	1.0	
CO	0-3000 ppm	0.1	0.0	0.2	

TABLE 3
CE AUDIT RESULTS
PRIMARY CEMS KILN 2A
December 3, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	-0.1	-0.1	
CO	0-200 ppm	0.5	1.9	1.6	
CO	0-3000 ppm	0.1	0.5	0.8	

TABLE 4
CE AUDIT RESULTS
BACKUP CEMS KILN 2B
December 3, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	-0.2	-0.2	
CO	0-200 ppm	0.7	1.0	0.5	
CO	0-3000 ppm	0.1	-0.2	-0.9	

* ACCURACY < 5 % Span Value for CO, < 0.5% O2

EPA PROTOCOL AUDIT GASES

Audit gases are EPA Protocol 1 and supplied by Air Gas Inc.. Gas certifications are on file at the Norlite Plant for review.

CYLINDER TANK ID	COMPONENT	AUDIT VALUE	PSI \ EXPIRATION
XCO25669B	N2	ULTRA PURE N2	850 / NA
CC186413	CO O_2	70.0 ppm 9.011 %	1150 \ 2-19-13
CC23222	CO O_2	149.5 ppm 15.06 %	1400\ 11-4-11
CC137876	CO	1058 ppm	1300 \ 4-6-13
CC37552	CO	2320 ppm	1150\ 2-17-13

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,
CEM SOLUTIONS

E. Mark Krizar
Project Engineer

Attachments
Summary field data sheets

NORLITE, KILN 1A
CE FIELD DATA SUMMARY
DECEMBER 3, 2010

Analyzer: O2 **Serial No.:** B7-066 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE LOW	DIFFERENCE MID	DIFFERENCE HIGH
1 - LOW	0.0	0.1	0.1		
2 - MID	9.011	9.0		-0.011	
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	9.0		-0.011	
5 - LOW	0.0	0.0	0		
6 - HIGH	15.06	14.9			-0.16
7 - LOW	0.0	-0.1	-0.1		
8 - MID	9.011	9.0		-0.011	
9 - HIGH	15.06	14.9			-0.16
			0.0	0.0	-0.2
		ACCURACY =	0.0	0.0	-0.2

Analyzer: CO **Serial No.:** B7-889 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE LOW	DIFFERENCE MID	DIFFERENCE HIGH
1 - LOW	0.0	0.9	0.9		
2 - MID	70.0	68.8		-1.2	
3 - HIGH	149.5	147.1			-2.4
4 - MID	70.0	70.5		0.5	
5 - LOW	0.0	-0.3	-0.3		
6 - HIGH	149.5	150.0			0.5
7 - LOW	0.0	-0.4	-0.4		
8 - MID	70.0	69.2		-0.8	
9 - HIGH	149.5	150.7			1.2
		MEAN DIFFERENCE =	0.1	-0.5	-0.2
		ACCURACY =	0.0	-0.3	-0.1

Analyzer: CO **Serial No.:** B7-889 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE LOW	DIFFERENCE MID	DIFFERENCE HIGH
1 - LOW	0.0	-0.8	-0.8		
2 - MID	1058	1043.7		-14.3	
3 - HIGH	2320	2370.6			50.6
4 - MID	1058	1038.9		-19.1	
5 - LOW	0.0	4.6	4.6		
6 - HIGH	2320	2372.1			52.1
7 - LOW	0.0	2.8	2.8		
8 - MID	1058	1040.4		-17.6	
9 - HIGH	2320	2372.1			52.1
		MEAN DIFFERENCE =	2.2	-17.0	51.6
		ACCURACY =	0.1	-0.6	1.7

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

Kiln 1A CO/O2

Audit Data

Norlite Corporation

Data for 12/3/2010 8:29:00 AM thru 12/3/2010 9:05:20 AM from '2010-12-03 08.28.cea'

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
8:29:00 AM	-1.7	16.3
8:29:20 AM	0.8	0.7
8:29:40 AM	-0.2	0.1
8:30:00 AM	-0.5	0.0
8:30:20 AM	-0.6	0.0
8:30:40 AM	0.4	0.1
8:31:00 AM	0.0	0.0
8:31:20 AM	-0.2	0.1
8:31:40 AM	0.9	0.1
8:32:00 AM	0.4	3.2
8:32:20 AM	34.6	8.7
8:32:40 AM	61.9	8.9
8:33:00 AM	68.4	9.0
8:33:20 AM	69.8	9.0
8:33:40 AM	69.2	9.0
8:34:00 AM	68.3	9.0
8:34:20 AM	70.3	9.0
8:34:40 AM	69.9	9.0
8:35:00 AM	68.8	9.0
8:35:20 AM	49.9	11.1
8:35:40 AM	118.3	14.8
8:36:00 AM	142.8	14.9
8:36:20 AM	148.7	14.9
8:36:40 AM	150.4	14.9
8:37:00 AM	149.6	14.9
8:37:20 AM	151.2	14.9
8:37:40 AM	150.5	14.9
8:38:00 AM	149.1	14.9
8:38:20 AM	149.9	14.9
8:38:40 AM	147.1	14.9
8:39:00 AM	132.4	10.7
8:39:20 AM	84.0	9.0
8:39:40 AM	74.1	9.0
8:40:00 AM	70.2	9.0
8:40:20 AM	69.6	9.0
8:40:40 AM	70.6	8.9
8:41:00 AM	71.5	9.0
8:41:20 AM	68.7	9.0
8:41:40 AM	69.0	9.0
8:42:00 AM	70.0	9.0
8:42:20 AM	67.8	9.0
8:42:40 AM	68.8	9.0
8:43:00 AM	68.0	8.9
8:43:20 AM	68.1	9.0
8:43:40 AM	69.9	9.0

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
8:44:00 AM	70.3	9.0
8:44:22 AM	70.5	9.0
8:44:40 AM	66.1	9.7
8:45:00 AM	32.4	0.5
8:45:20 AM	7.5	0.0
8:45:40 AM	2.0	0.0
8:46:00 AM	0.7	-0.1
8:46:20 AM	0.5	-0.1
8:46:40 AM	-0.8	-0.1
8:47:00 AM	0.0	-0.1
8:47:20 AM	-0.2	-0.1
8:47:40 AM	-0.3	0.0
8:48:00 AM	0.0	0.0
8:48:20 AM	-1.6	-0.1
8:48:40 AM	-0.3	0.0
8:49:00 AM	-1.3	6.0
8:49:20 AM	91.5	14.5
8:49:40 AM	138.0	14.9
8:50:00 AM	146.7	14.9
8:50:20 AM	149.5	14.9
8:50:40 AM	150.3	14.9
8:51:00 AM	149.6	14.9
8:51:20 AM	150.0	14.9
8:51:40 AM	149.6	14.9
8:52:00 AM	151.4	15.0
8:52:20 AM	150.1	14.9
8:52:40 AM	150.3	14.9
8:53:00 AM	150.0	14.9
8:53:20 AM	143.9	13.6
8:53:40 AM	45.4	0.2
8:54:00 AM	10.4	0.0
8:54:20 AM	2.6	0.0
8:54:40 AM	0.0	-0.1
8:55:00 AM	0.0	-0.1
8:55:20 AM	0.6	-0.1
8:55:40 AM	0.6	-0.1
8:56:00 AM	0.6	-0.1
8:56:20 AM	-1.2	-0.1
8:56:40 AM	-0.4	-0.1
8:57:00 AM	1.0	1.5
8:57:20 AM	48.4	8.8
8:57:40 AM	65.7	9.0
8:58:00 AM	67.6	8.9
8:58:20 AM	69.3	9.0
8:58:40 AM	69.2	9.0
8:59:00 AM	69.8	9.0
8:59:20 AM	69.5	8.9
8:59:40 AM	69.3	8.9
9:00:00 AM	69.3	8.9

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%	
9:00:20 AM	68.2	9.0	
9:00:40 AM	61.8	10.3	
9:01:00 AM	116.3	14.7	
9:01:20 AM	143.5	14.9	
9:01:40 AM	148.5	14.9	
9:02:00 AM	150.4	14.8	
9:02:20 AM	151.6	14.8	
9:02:40 AM	149.9	14.9	
9:03:00 AM	150.5	14.9	
9:03:20 AM	149.7	14.9	
9:03:40 AM	151.1	14.9	
9:04:00 AM	150.8	14.8	
9:04:20 AM	151.8	14.9	
9:04:40 AM	151.0	14.9	
9:05:00 AM	150.1	14.8	
9:05:20 AM	150.7	14.9	
Average	74.4	8.5	
Minimum	-1.7	-0.1	
Maximum	151.8	16.3	

CO_H

Audit Data

Norlite Corporation

Data for 12/3/2010 9:06:40 AM thru 12/3/2010 9:51:40 AM from '2010-12-03 09.05.cea'

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%	
9:06:40 AM	2.2	-0.1	
9:07:00 AM	1.0	-0.1	
9:07:20 AM	1.6	-0.1	
9:07:40 AM	2.8	-0.1	
9:08:00 AM	-1.7	-0.2	
9:08:20 AM	-1.4	-0.2	
9:08:40 AM	1.0	-0.2	
9:09:00 AM	1.6	-0.2	
9:09:20 AM	-1.4	-0.2	
9:09:40 AM	-0.8	-0.2	L
9:10:00 AM	653.9	0.7	
9:10:20 AM	941.7	-0.2	
9:10:40 AM	1020.5	-0.1	
9:11:00 AM	1039.2	-0.1	
9:11:20 AM	1037.4	-0.2	
9:11:40 AM	1041.6	-0.2	
9:12:00 AM	1044.0	-0.2	
9:12:20 AM	1042.5	-0.1	
9:12:40 AM	1039.2	-0.1	
9:13:00 AM	1045.5	-0.3	
9:13:20 AM	1042.2	-0.2	
9:13:40 AM	1042.5	-0.2	
9:14:00 AM	1043.4	-0.2	
9:14:20 AM	1043.7	-0.2	M
9:14:40 AM	1792.6	0.0	
9:15:00 AM	2223.5	-0.2	
9:15:20 AM	2348.8	-0.2	
9:15:40 AM	2376.3	-0.2	
9:16:00 AM	2368.5	-0.1	
9:16:20 AM	2376.6	-0.2	
9:16:40 AM	2377.8	-0.2	
9:17:00 AM	2377.2	-0.2	
9:17:20 AM	2376.3	-0.2	
9:17:40 AM	2371.2	-0.2	
9:18:00 AM	2373.3	-0.2	
9:18:20 AM	2370.6	-0.2	H
9:18:40 AM	2030.9	2.5	
9:19:00 AM	1330.0	-0.1	
9:19:20 AM	1101.4	-0.2	
9:19:40 AM	1047.9	-0.2	
9:20:00 AM	1038.6	-0.2	
9:20:20 AM	1036.5	-0.2	
9:20:40 AM	1036.6	-0.2	
9:21:00 AM	1037.7	-0.2	
9:21:20 AM	1034.7	-0.2	

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
9:21:40 AM	1038.6	-0.2
9:22:00 AM	1040.1	-0.3
9:22:20 AM	1039.8	-0.3
9:22:40 AM	1042.2	-0.3
9:23:00 AM	1038.9	-0.2
9:23:20 AM	733.9	2.4
9:23:40 AM	193.7	-0.2
9:24:00 AM	45.1	-0.1
9:24:20 AM	14.6	-0.1
9:24:40 AM	7.6	-0.1
9:25:00 AM	4.0	-0.1
9:25:20 AM	3.4	-0.1
9:25:40 AM	3.4	-0.1
9:26:00 AM	5.2	-0.2
9:26:20 AM	4.6	-0.2
9:26:40 AM	3.4	-0.1
9:27:00 AM	1.0	-0.2
9:27:20 AM	3.4	-0.2
9:27:40 AM	4.6	-0.2
9:28:00 AM	4.6	-0.1
9:28:20 AM	1367.1	0.5
9:28:40 AM	2219.9	-0.2
9:29:00 AM	2343.1	-0.2
9:29:20 AM	2372.1	-0.2
9:29:40 AM	2369.7	-0.2
9:30:00 AM	2374.2	-0.2
9:30:20 AM	2376.3	-0.2
9:30:40 AM	2373.3	-0.2
9:31:00 AM	2373.9	-0.2
9:31:20 AM	2376.0	-0.2
9:31:40 AM	2369.7	-0.2
9:32:00 AM	2373.0	-0.2
9:32:20 AM	2372.7	-0.2
9:32:40 AM	2369.1	-0.2
9:33:00 AM	2372.1	-0.2
9:33:20 AM	2212.4	1.3
9:33:40 AM	413.2	0.1
9:34:00 AM	107.6	-0.2
9:34:20 AM	29.4	-0.2
9:34:40 AM	14.8	-0.2
9:35:00 AM	5.8	-0.2
9:35:20 AM	8.3	-0.2
9:35:40 AM	4.0	-0.2
9:36:00 AM	5.2	-0.2
9:36:20 AM	4.0	-0.3
9:36:40 AM	5.8	-0.2
9:37:00 AM	5.8	-0.2
9:37:20 AM	5.8	-0.2
9:37:40 AM	5.8	-0.1

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
9:38:00 AM	3.4	-0.1
9:38:20 AM	3.4	-0.1
9:38:40 AM	2.8	-0.1
9:39:00 AM	4.0	6.9
9:39:20 AM	784.9	-0.1
9:39:40 AM	985.4	-0.2
9:40:00 AM	1032.2	-0.2
9:40:20 AM	1037.7	-0.2
9:40:40 AM	1037.7	-0.2
9:41:00 AM	1039.5	-0.2
9:41:20 AM	1038.0	-0.2
9:41:40 AM	1042.2	-0.2
9:42:00 AM	1042.5	-0.2
9:42:20 AM	1043.4	-0.2
9:42:40 AM	1038.3	-0.2
9:43:00 AM	1043.4	-0.2
9:43:20 AM	1039.8	-0.2
9:43:40 AM	1046.4	-0.3
9:44:00 AM	1042.5	-0.1
9:44:20 AM	1040.1	-0.2
9:44:40 AM	1042.2	-0.2
9:45:00 AM	1040.4	-0.2
9:45:20 AM	1684.5	0.1
9:45:40 AM	2231.4	-0.2
9:46:00 AM	2349.2	-0.2
9:46:20 AM	2376.0	-0.2
9:46:40 AM	2374.5	-0.2
9:47:00 AM	2378.7	-0.2
9:47:20 AM	2377.8	-0.2
9:47:40 AM	2373.6	-0.2
9:48:00 AM	2368.2	-0.1
9:48:20 AM	2372.4	-0.1
9:48:40 AM	2369.7	-0.2
9:49:00 AM	2376.3	-0.3
9:49:20 AM	2380.3	-0.3
9:49:40 AM	2375.1	-0.3
9:50:00 AM	2373.6	-0.2
9:50:20 AM	2367.6	-0.2
9:50:40 AM	2372.1	-0.1
9:51:00 AM	536.4	11.3
9:51:20 AM	1105.3	0.7
9:51:40 AM	130.9	-0.2
Average	1144.7	0.0
Minimum	-1.7	-0.3
Maximum	2380.3	11.3

NORLITE, KILN 1B
CE FIELD DATA SUMMARY
DECEMBER 3, 2010

Analyzer: O2 **Serial No.:** B7-067 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE LOW	DIFFERENCE MID	DIFFERENCE HIGH
1 - LOW	0.0	0.0	0.00		
2 - MID	9.011	8.9		-0.11	
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	8.9		-0.11	
5 - LOW	0.0	0.0	0.00		
6 - HIGH	15.06	14.9			-0.16
7 - LOW	0.0	0.0	0.00		
8 - MID	9.011	8.9		-0.11	
9 - HIGH	15.06	14.9			-0.16
		MEAN DIFFERENCE =	0.0	-0.1	-0.2
		ACCURACY =	0.0	-0.1	-0.2

Analyzer: CO B7-890 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE LOW	DIFFERENCE MID	DIFFERENCE HIGH
1 - LOW	0.0	-1.5	-1.5		
2 - MID	70.0	73.8		3.8	
3 - HIGH	149.5	150.5			1.0
4 - MID	70.0	71.3		1.3	
5 - LOW	0.0	-1.1	-1.1		
6 - HIGH	149.5	151.5			2.0
7 - LOW	0.0	0.8	0.8		
8 - MID	70.0	72.2		2.2	
9 - HIGH	149.5	152.5			3.0
		MEAN DIFFERENCE =	-0.6	2.4	2.0
		ACCURACY =	-0.3	1.2	1.0

Analyzer: CO **Serial No.:** B7-890 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE LOW	DIFFERENCE MID	DIFFERENCE HIGH
1 - LOW	0.0	-0.4	-0.4		
2 - MID	1058	1060.2		2.2	
3 - HIGH	2320.0	2326.7			6.7
4 - MID	1058	1061.4		3.4	
5 - LOW	0.0	5.3	5.3		
6 - HIGH	2320.0	2321.6			1.6
7 - LOW	0.0	5.3	5.3		
8 - MID	1058	1054.8		-3.2	
9 - HIGH	2320.0	2328.6			8.6
		MEAN DIFFERENCE =	3.4	0.8	5.6
		ACCURACY =	0.1	0.0	0.2

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

1B-CO52

Audit Data

Norlite Corporation

Data for 12/3/2010 10:07:20 AM thru 12/3/2010 10:47:00 AM from '2010-12-03 10.07.cea'

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%	
10:07:20 AM	4.2	0.2	
10:07:40 AM	1.6	0.1	
10:08:00 AM	-0.8	0.1	
10:08:20 AM	0.5	0.1	
10:08:40 AM	-0.1	0.0	
10:09:00 AM	-0.7	0.1	
10:09:20 AM	-0.3	0.1	
10:09:40 AM	-0.5	0.1	
10:10:00 AM	-1.5	0.0	
10:10:20 AM	-0.7	1.4	L
10:10:40 AM	31.1	8.5	
10:11:00 AM	62.0	8.9	
10:11:20 AM	67.5	8.9	
10:11:40 AM	70.6	8.9	
10:12:00 AM	71.9	8.9	
10:12:20 AM	70.5	8.9	
10:12:40 AM	68.9	8.9	
10:13:00 AM	71.2	8.9	
10:13:20 AM	72.2	8.9	
10:13:40 AM	75.7	8.9	
10:14:00 AM	73.8	8.9	
10:14:20 AM	70.1	10.7	M
10:14:40 AM	92.8	14.4	
10:15:00 AM	136.2	14.8	
10:15:20 AM	147.6	14.8	
10:15:40 AM	149.0	14.8	
10:16:00 AM	150.7	14.8	
10:16:20 AM	151.0	14.9	
10:16:40 AM	148.5	14.9	
10:17:00 AM	150.7	14.9	
10:17:20 AM	151.0	14.9	
10:17:40 AM	150.3	14.9	
10:18:00 AM	151.7	14.9	
10:18:20 AM	152.0	14.9	
10:18:40 AM	150.5	14.9	
10:19:00 AM	134.0	10.5	H
10:19:20 AM	91.6	9.0	
10:19:40 AM	74.2	8.9	
10:20:00 AM	71.7	8.9	
10:20:20 AM	71.0	8.9	
10:20:40 AM	71.2	8.9	
10:21:00 AM	69.9	8.9	
10:21:20 AM	70.7	8.9	
10:21:40 AM	72.5	8.9	
10:22:00 AM	70.2	8.9	

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
10:22:20 AM	69.5	8.9
10:22:40 AM	71.3	8.9
10:23:00 AM	70.7	9.3
10:23:20 AM	63.4	2.5
10:23:40 AM	21.6	0.1
10:24:00 AM	4.9	0.1
10:24:20 AM	0.9	0.1
10:24:40 AM	1.1	0.0
10:25:00 AM	1.7	0.0
10:25:20 AM	0.0	0.0
10:25:40 AM	-1.1	0.0
10:26:00 AM	0.0	0.0
10:26:20 AM	0.7	0.0
10:26:40 AM	-1.3	0.0
10:27:00 AM	-0.6	0.0
10:27:20 AM	0.5	0.0
10:27:40 AM	-1.0	0.0
10:28:00 AM	-1.1	0.0
10:28:20 AM	1.1	1.2
10:28:40 AM	83.9	14.6
10:29:00 AM	134.7	14.8
10:29:20 AM	148.6	14.8
10:29:40 AM	149.4	14.8
10:30:00 AM	150.0	14.8
10:30:20 AM	152.2	14.8
10:30:40 AM	150.8	14.9
10:31:00 AM	150.0	14.9
10:31:20 AM	152.1	14.8
10:31:40 AM	151.4	14.8
10:32:00 AM	149.3	14.9
10:32:20 AM	151.2	14.9
10:32:40 AM	150.7	14.9
10:33:00 AM	149.6	14.9
10:33:20 AM	149.7	14.9
10:33:40 AM	151.5	14.9
10:34:00 AM	150.1	15.2
10:34:20 AM	125.6	3.2
10:34:40 AM	37.8	0.2
10:35:00 AM	9.4	0.1
10:35:20 AM	2.0	0.1
10:35:40 AM	-0.6	0.1
10:36:00 AM	0.4	0.0
10:36:20 AM	1.2	0.0
10:36:40 AM	-0.4	0.0
10:37:00 AM	-1.0	0.0
10:37:20 AM	1.0	0.0
10:37:40 AM	0.2	0.0
10:38:00 AM	-0.8	0.0
10:38:20 AM	-0.5	0.0

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
10:38:40 AM	0.8	0.0
10:39:00 AM	0.1	5.9
10:39:20 AM	14.8	7.3
10:39:40 AM	56.5	8.8
10:40:00 AM	68.1	8.9
10:40:20 AM	70.2	8.9
10:40:40 AM	70.6	8.9
10:41:00 AM	72.2	8.9
10:41:20 AM	71.3	8.9
10:41:40 AM	70.2	8.9
10:42:00 AM	71.5	8.9
10:42:20 AM	72.1	8.9
10:42:40 AM	70.8	8.9
10:43:00 AM	72.2	8.9
10:43:20 AM	73.5	11.7
10:43:40 AM	124.3	14.8
10:44:00 AM	143.5	14.8
10:44:20 AM	150.0	14.9
10:44:40 AM	149.5	14.9
10:45:00 AM	148.8	14.9
10:45:20 AM	151.2	14.9
10:45:40 AM	151.5	14.9
10:46:00 AM	150.3	14.9
10:46:20 AM	150.4	14.9
10:46:40 AM	151.7	14.9
10:47:00 AM	152.5	14.9
Average	74.3	8.1
Minimum	-1.5	0.0
Maximum	152.5	15.2

1B
CO H

Audit Data

Norlite Corporation

Data for 12/3/2010 10:49:00 AM thru 12/3/2010 11:31:20 AM from '2010-12-03 10.48.cea'

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
10:49:00 AM	2.0	0.1
10:49:20 AM	2.6	0.0
10:49:40 AM	0.2	0.0
10:50:00 AM	-1.6	0.0
10:50:20 AM	2.3	0.0
10:50:40 AM	-0.4	0.0
10:51:00 AM	0.2	0.0
10:51:20 AM	0.2	0.0
10:51:40 AM	-0.4	0.0
10:52:00 AM	-0.4	0.0
10:52:20 AM	0.8	2.0
10:52:40 AM	535.9	0.5
10:53:00 AM	878.6	0.0
10:53:20 AM	1015.9	0.0
10:53:40 AM	1051.5	0.0
10:54:00 AM	1056.0	0.0
10:54:20 AM	1051.5	0.0
10:54:40 AM	1059.0	0.0
10:55:00 AM	1055.1	0.0
10:55:20 AM	1054.5	0.0
10:55:40 AM	1058.3	0.0
10:56:00 AM	1060.2	0.0
10:56:20 AM	1056.0	0.0
10:56:40 AM	1060.2	0.0
10:57:00 AM	1033.1	1.8
10:57:20 AM	1863.6	0.0
10:57:40 AM	2191.5	0.0
10:58:00 AM	2302.7	0.0
10:58:20 AM	2322.8	0.0
10:58:40 AM	2325.8	0.0
10:59:00 AM	2327.6	0.0
10:59:20 AM	2321.9	0.0
10:59:40 AM	2324.9	0.0
11:00:00 AM	2329.2	0.0
11:00:20 AM	2326.1	0.0
11:00:40 AM	2323.1	0.0
11:01:00 AM	2327.3	0.0
11:01:20 AM	2326.7	0.0
11:01:40 AM	1740.7	0.5
11:02:00 AM	1259.2	0.0
11:02:20 AM	1105.1	0.0
11:02:40 AM	1062.6	0.0
11:03:00 AM	1062.6	0.0
11:03:20 AM	1060.2	0.0
11:03:40 AM	1057.2	0.0

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
11:04:00 AM	1060.2	0.0
11:04:20 AM	1061.4	-0.1
11:04:40 AM	1061.4	0.0
11:05:00 AM	1061.4	0.0
11:05:20 AM	1058.1	0.0
11:05:40 AM	1060.8	0.0
11:06:00 AM	1061.4	0.0
11:06:20 AM	1022.2	2.8
11:06:40 AM	677.4	1.2
11:07:00 AM	244.1	0.0
11:07:20 AM	66.1	0.0
11:07:40 AM	20.1	0.0
11:08:00 AM	8.9	0.0
11:08:20 AM	6.8	0.0
11:08:40 AM	4.7	0.0
11:09:00 AM	5.0	0.0
11:09:20 AM	6.2	0.0
11:09:40 AM	5.9	0.0
11:10:00 AM	5.0	0.0
11:10:20 AM	7.1	0.0
11:10:40 AM	4.7	0.0
11:11:00 AM	5.0	0.0
11:11:20 AM	5.9	0.0
11:11:40 AM	5.3	0.0
11:12:00 AM	4.1	2.1
11:12:20 AM	1355.0	0.1
11:12:40 AM	2070.8	0.0
11:13:00 AM	2262.3	0.0
11:13:20 AM	2312.0	0.0
11:13:40 AM	2321.0	0.0
11:14:00 AM	2318.0	0.0
11:14:20 AM	2321.6	-0.1
11:14:40 AM	2322.5	-0.1
11:15:00 AM	2321.6	0.0
11:15:20 AM	2312.6	1.0
11:15:40 AM	735.9	0.0
11:16:00 AM	188.7	0.0
11:16:20 AM	52.6	0.0
11:16:40 AM	18.3	0.0
11:17:00 AM	9.5	0.0
11:17:20 AM	4.7	0.0
11:17:40 AM	5.9	0.0
11:18:00 AM	7.1	0.0
11:18:20 AM	5.3	0.0
11:18:40 AM	3.2	0.0
11:19:00 AM	6.8	0.0
11:19:20 AM	2.0	0.0
11:19:40 AM	3.2	0.0
11:20:00 AM	7.1	0.0

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
11:20:20 AM	4.7	0.0
11:20:40 AM	4.7	0.0
11:21:00 AM	5.3	0.0
11:21:20 AM	5.3	0.0
11:21:40 AM	3.8	3.2
11:22:00 AM	140.8	1.4
11:22:20 AM	826.8	0.0
11:22:40 AM	1000.6	0.0
11:23:00 AM	1041.8	0.0
11:23:20 AM	1055.7	0.0
11:23:40 AM	1053.6	0.0
11:24:00 AM	1058.4	0.0
11:24:20 AM	1054.2	-0.1
11:24:40 AM	1055.1	0.0
11:25:00 AM	1054.5	0.0
11:25:20 AM	1060.2	0.0
11:25:40 AM	1053.6	0.0
11:26:00 AM	1054.8	-0.1
11:26:20 AM	984.9	0.8
11:26:40 AM	1942.8	0.0
11:27:00 AM	2225.3	0.0
11:27:20 AM	2308.7	0.0
11:27:40 AM	2321.0	0.0
11:28:00 AM	2323.4	0.0
11:28:20 AM	2324.9	0.0
11:28:40 AM	2322.2	0.0
11:29:00 AM	2323.7	0.0
11:29:20 AM	2328.2	0.0
11:29:40 AM	2323.4	0.0
11:30:00 AM	2327.0	-0.1
11:30:20 AM	2330.7	0.0
11:30:40 AM	2328.6	0.0
11:31:00 AM	2326.7	0.0
11:31:20 AM	2328.6	0.0
Average	1034.3	0.1
Minimum	-1.6	-0.1
Maximum	2330.7	3.2

NORLITE, KILN 2A
CE FIELD DATA SUMMARY
DECEMBER 3, 2010

Analyzer: O2 **Serial No.:** AO2-611 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.1	0.10		
2 - MID	9.011	8.8		-0.211	
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	9.0		-0.011	
5 - LOW	0.0	-0.1	-0.10		
6 - HIGH	15.06	15.0			-0.06
7 - LOW	0.0	0.1	0.10		
8 - MID	9.011	8.9		-0.111	
9 - HIGH	15.06	15.0			-0.06
		MEAN DIFFERENCE =	0.0	-0.1	-0.1
		ACCURACY =	0.0	-0.1	-0.1

Analyzer: CO **Serial No.:** XO7-400 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.8	0.8		
2 - MID	70.0	72.4		2.4	
3 - HIGH	149.5	152.6			3.1
4 - MID	70.0	74.7		4.7	
5 - LOW	0.0	1.4	1.4		
6 - HIGH	149.5	153.3			3.8
7 - LOW	0.0	0.6	0.6		
8 - MID	70.0	74.2		4.2	
9 - HIGH	149.5	152.1			2.6
		MEAN DIFFERENCE =	0.9	3.8	3.2
		ACCURACY =	0.5	1.9	1.6

Analyzer: CO **Serial No.:** X07-400 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	1.6	1.6		
2 - MID	1058	1069.7		11.7	
3 - HIGH	2320	2339.6			19.6
4 - MID	1058	1071.0		13	
5 - LOW	0.0	3.4	3.4		
6 - HIGH	2320	2346.4			26.4
7 - LOW	0.0	1.0	1.0		
8 - MID	1058	1075.0		17.0	
9 - HIGH	2320	2348.2			28.2
		MEAN DIFFERENCE =	2.0	13.9	24.7
		ACCURACY =	0.1	0.5	0.8

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

CO/O2
2A

Audit Data

Norlite Corporation

Data for 12/3/2010 11:45:00 AM thru 12/3/2010 12:24:40 PM from '2010-12-03 11.44.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%	
11:45:00 AM	3.3	0.0	
11:45:20 AM	1.2	0.1	
11:45:40 AM	0.3	0.0	
11:46:00 AM	0.1	0.0	
11:46:20 AM	0.0	0.0	
11:46:40 AM	-0.1	0.1	
11:47:00 AM	-0.5	0.0	
11:47:20 AM	0.0	0.0	
11:47:40 AM	0.6	0.1	
11:48:00 AM	0.7	0.1	
11:48:20 AM	0.5	0.1	
11:48:40 AM	0.8	0.1	L
11:49:00 AM	18.5	8.2	
11:49:20 AM	52.1	8.8	
11:49:40 AM	66.3	8.8	
11:50:00 AM	71.5	8.8	
11:50:20 AM	72.9	8.8	
11:50:40 AM	73.5	8.8	
11:51:00 AM	73.2	8.8	
11:51:20 AM	73.5	8.8	
11:51:40 AM	73.2	8.8	
11:52:00 AM	72.4	8.8	M
11:52:20 AM	75.3	13.1	
11:52:40 AM	117.5	14.9	
11:53:00 AM	140.8	14.9	
11:53:20 AM	149.0	14.9	
11:53:40 AM	151.3	14.9	
11:54:00 AM	152.3	14.9	
11:54:20 AM	152.3	14.9	
11:54:40 AM	152.6	14.9	
11:55:00 AM	151.4	14.9	
11:55:20 AM	151.6	14.9	
11:55:40 AM	152.2	14.9	
11:56:00 AM	152.6	14.9	H
11:56:20 AM	146.3	11.5	
11:56:40 AM	106.4	8.9	
11:57:00 AM	84.4	8.8	
11:57:20 AM	76.1	8.8	
11:57:40 AM	74.3	8.8	
11:58:00 AM	73.4	8.8	
11:58:20 AM	73.4	8.8	
11:58:40 AM	73.2	8.9	
11:59:00 AM	73.5	8.9	
11:59:20 AM	74.2	8.9	
11:59:40 AM	73.9	8.9	

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%
12:00:00 PM	74.7	9.0
12:00:20 PM	51.9	0.4
12:00:40 PM	19.6	0.1
12:01:00 PM	6.2	0.0
12:01:20 PM	1.6	0.0
12:01:40 PM	0.8	0.0
12:02:00 PM	0.7	0.0
12:02:20 PM	0.4	0.0
12:02:40 PM	0.4	0.0
12:03:00 PM	0.4	0.1
12:03:20 PM	0.7	0.0
12:03:40 PM	0.6	0.0
12:04:00 PM	0.4	0.0
12:04:20 PM	1.0	0.1
12:04:40 PM	0.7	0.0
12:05:00 PM	1.4	0.1
12:05:20 PM	5.5	8.2
12:05:40 PM	81.5	14.8
12:06:00 PM	127.9	14.9
12:06:20 PM	144.9	14.9
12:06:40 PM	150.6	14.9
12:07:00 PM	151.8	15.0
12:07:20 PM	152.1	14.9
12:07:40 PM	152.5	14.9
12:08:00 PM	152.3	15.0
12:08:20 PM	152.0	15.0
12:08:40 PM	152.5	15.0
12:09:00 PM	153.2	14.9
12:09:20 PM	153.1	15.0
12:09:40 PM	152.9	15.0
12:10:00 PM	152.4	14.9
12:10:20 PM	152.4	14.9
12:10:40 PM	153.3	15.0
12:11:00 PM	141.5	13.5
12:11:20 PM	74.1	0.3
12:11:40 PM	26.3	0.0
12:12:00 PM	8.6	0.1
12:12:20 PM	2.1	0.0
12:12:40 PM	0.3	0.0
12:13:00 PM	1.2	0.1
12:13:20 PM	1.6	0.0
12:13:40 PM	0.5	0.1
12:14:00 PM	0.1	0.0
12:14:20 PM	0.5	0.0
12:14:40 PM	0.7	0.1
12:15:00 PM	0.7	0.0
12:15:20 PM	1.4	0.0
12:15:40 PM	0.6	0.1
12:16:00 PM	4.4	5.2

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%	
12:16:20 PM	42.7	8.9	
12:16:40 PM	63.3	8.8	
12:17:00 PM	70.2	8.9	
12:17:20 PM	72.7	8.8	
12:17:40 PM	73.2	8.8	
12:18:00 PM	73.6	8.8	
12:18:20 PM	73.4	8.8	
12:18:40 PM	72.7	8.8	
12:19:00 PM	73.7	8.8	
12:19:20 PM	73.6	8.9	
12:19:40 PM	73.4	8.8	
12:20:00 PM	73.4	8.9	
12:20:20 PM	74.2	8.9	m
12:20:40 PM	74.3	11.5	
12:21:00 PM	115.7	14.9	
12:21:20 PM	139.7	14.9	
12:21:40 PM	148.9	15.0	
12:22:00 PM	151.1	15.0	
12:22:20 PM	151.3	14.9	
12:22:40 PM	151.5	15.0	
12:23:00 PM	151.3	15.0	
12:23:20 PM	152.2	15.0	
12:23:40 PM	152.5	15.0	
12:24:00 PM	152.5	15.0	
12:24:20 PM	152.1	15.0	4
12:24:40 PM	146.8	9.5	
Average	73.3	7.8	
Minimum	-0.5	-0.1	
Maximum	153.3	15.0	

2H

CO+1

Audit Data

Norlite Corporation

Data for 12/3/2010 12:26:20 PM thru 12/3/2010 1:09:40 PM from '2010-12-03 12.26.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%	
12:26:20 PM	0.4	0.0	
12:26:40 PM	-0.9	0.0	
12:27:00 PM	1.0	-0.1	
12:27:20 PM	1.6	0.0	
12:27:40 PM	-1.5	0.0	
12:28:00 PM	1.6	0.1	
12:28:20 PM	-0.9	0.0	
12:28:40 PM	2.8	0.0	
12:29:00 PM	2.8	0.1	
12:29:20 PM	2.8	0.0	
12:29:40 PM	2.8	0.0	
12:30:00 PM	1.6	0.0	L
12:30:20 PM	2.8	0.0	
12:30:40 PM	88.5	1.3	
12:31:00 PM	621.1	0.0	
12:31:20 PM	916.3	0.0	
12:31:40 PM	1023.3	0.0	
12:32:00 PM	1056.5	0.0	
12:32:20 PM	1064.8	0.0	
12:32:40 PM	1070.4	0.0	
12:33:00 PM	1070.4	0.0	
12:33:20 PM	1067.9	0.1	
12:33:40 PM	1069.7	0.0	
12:34:00 PM	1064.8	0.1	
12:34:20 PM	1066.1	0.0	
12:34:40 PM	1071.6	0.0	
12:35:00 PM	1065.7	0.0	
12:35:20 PM	1069.7	0.1	
12:35:40 PM	1070.4	0.1	
12:36:00 PM	1067.3	0.0	
12:36:20 PM	1069.7	0.0	M
12:36:40 PM	1044.8	2.0	
12:37:00 PM	1640.1	0.1	
12:37:20 PM	2088.1	0.0	
12:37:40 PM	2260.6	0.0	
12:38:00 PM	2315.9	0.0	
12:38:20 PM	2334.7	0.0	
12:38:40 PM	2335.3	0.0	
12:39:00 PM	2336.5	0.0	
12:39:20 PM	2336.5	0.0	
12:39:40 PM	2336.5	0.0	
12:40:00 PM	2337.7	0.0	
12:40:20 PM	2336.5	0.0	
12:40:40 PM	2337.4	0.0	
12:41:00 PM	2339.6	0.0	H

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%	
12:41:20 PM	1648.7	0.2	
12:41:40 PM	1276.7	0.0	
12:42:00 PM	1133.7	0.0	
12:42:20 PM	1084.2	0.0	
12:42:40 PM	1070.0	-0.1	
12:43:00 PM	1073.7	0.0	
12:43:20 PM	1072.8	0.0	
12:43:40 PM	1075.6	0.0	
12:44:00 PM	1074.7	0.1	
12:44:20 PM	1069.7	0.0	
12:44:40 PM	1076.2	0.0	
12:45:00 PM	1072.5	0.0	
12:45:20 PM	1071.6	0.0	
12:45:40 PM	1071.0	0.0	m
12:46:00 PM	927.4	0.6	
12:46:20 PM	377.3	0.0	
12:46:40 PM	125.8	0.0	
12:47:00 PM	38.7	0.0	
12:47:20 PM	13.0	0.0	
12:47:40 PM	6.5	0.0	
12:48:00 PM	3.4	0.0	
12:48:20 PM	3.4	0.1	
12:48:40 PM	1.0	0.0	
12:49:00 PM	1.6	0.1	
12:49:20 PM	4.0	0.0	
12:49:40 PM	3.4	0.1	L
12:50:00 PM	4.0	5.0	
12:50:20 PM	1421.5	0.2	
12:50:40 PM	1945.1	0.0	
12:51:00 PM	2209.8	0.0	
12:51:20 PM	2305.2	0.0	
12:51:40 PM	2334.4	0.0	
12:52:00 PM	2340.5	0.0	
12:52:20 PM	2343.9	0.0	
12:52:40 PM	2343.3	0.0	
12:53:00 PM	2343.0	0.0	
12:53:20 PM	2345.7	0.0	
12:53:40 PM	2346.4	0.0	H
12:54:00 PM	2308.2	2.7	
12:54:20 PM	619.6	0.1	
12:54:40 PM	235.0	0.0	
12:55:00 PM	78.8	0.0	
12:55:20 PM	28.0	0.1	
12:55:40 PM	10.5	0.0	
12:56:00 PM	5.6	0.0	
12:56:20 PM	5.6	0.0	
12:56:40 PM	2.8	0.0	
12:57:00 PM	2.2	0.0	
12:57:20 PM	4.7	0.0	

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%
12:57:40 PM	2.8	0.0
12:58:00 PM	2.2	0.0
12:58:20 PM	2.2	0.0
12:58:40 PM	4.0	0.0
12:59:00 PM	3.4	0.0
12:59:20 PM	1.0	0.0
12:59:40 PM	3.4	0.0
1:00:00 PM	2.8	0.0
1:00:20 PM	3.4	0.0
1:00:40 PM	1.0	0.0
1:01:00 PM	46.8	1.5
1:01:20 PM	581.8	0.0
1:01:40 PM	899.4	0.0
1:02:00 PM	1022.1	0.0
1:02:20 PM	1056.8	0.0
1:02:40 PM	1070.4	0.0
1:03:00 PM	1072.8	0.0
1:03:20 PM	1076.8	0.0
1:03:40 PM	1072.5	0.0
1:04:00 PM	1074.4	0.0
1:04:20 PM	1075.0	0.0
1:04:40 PM	1061.7	1.6
1:05:00 PM	1661.6	0.0
1:05:20 PM	2105.3	-0.1
1:05:40 PM	2271.0	0.0
1:06:00 PM	2326.1	-0.1
1:06:20 PM	2344.2	0.0
1:06:40 PM	2346.4	0.0
1:07:00 PM	2347.0	0.0
1:07:20 PM	2347.0	0.0
1:07:40 PM	2346.0	0.0
1:08:00 PM	2347.0	0.0
1:08:20 PM	2346.7	0.0
1:08:40 PM	2347.6	-0.1
1:09:00 PM	2346.7	0.0
1:09:20 PM	2348.2	0.0
1:09:40 PM	778.3	0.2
Average	1043.5	0.1
Minimum	-1.5	-0.1
Maximum	2348.2	5.0

NORLITE, KILN 2B
CE FIELD DATA SUMMARY
DECEMBER 3, 2010

Analyzer: O2 **Serial No.:** F6-279 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.0	0.00		
2 - MID	9.011	8.8		-0.21	
3 - HIGH	15.06	14.8			-0.26
4 - MID	9.011	8.9		-0.11	
5 - LOW	0.0	0.0	0.00		
6 - HIGH	15.06	14.9			-0.16
7 - LOW	0.0	0.0	0.00		
8 - MID	9.011	8.8		-0.21	
9 - HIGH	15.06	14.9			-0.16
		MEAN DIFFERENCE =	0.0	-0.2	-0.2
		ACCURACY =	0.0	-0.2	-0.2

Analyzer: CO **Serial No.:** F6-187 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	1.1	1.1		
2 - MID	70.0	71.7		1.7	
3 - HIGH	149.5	149.6			0.1
4 - MID	70.0	71.8		1.8	
5 - LOW	0.0	1.6	1.6		
6 - HIGH	149.5	150.5			1.0
7 - LOW	0.0	1.7	1.7		
8 - MID	70.0	72.2		2.2	
9 - HIGH	149.5	151.3			1.8
		MEAN DIFFERENCE =	1.5	1.9	1.0
		ACCURACY =	0.7	1.0	0.5

Analyzer: CO **Serial No.:** F6-187 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	2.8	2.8		
2 - MID	1058	1050.8		-7.2	
3 - HIGH	2320.0	2293.2			-26.8
4 - MID	1058	1052.0		-6	
5 - LOW	0.0	2.8	2.8		
6 - HIGH	2320.0	2295.8			-24.2
7 - LOW	0.0	4.9	4.9		
8 - MID	1058.0	1052.0		-6.0	
9 - HIGH	2320.0	2294.0			-26.0
		MEAN DIFFERENCE =	3.5	-6.4	-25.7
		ACCURACY =	0.1	-0.2	-0.9

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

CoO2
2B

Audit Data

Norlite Corporation

Data for 12/3/2010 1:23:20 PM thru 12/3/2010 2:01:20 PM from '2010-12-03 13.23.cea'

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
1:23:20 PM	1.3	0.1
1:23:40 PM	0.9	0.0
1:24:00 PM	1.3	0.0
1:24:20 PM	1.1	0.0
1:24:40 PM	0.9	0.0
1:25:00 PM	0.9	0.0
1:25:20 PM	1.0	0.0
1:25:40 PM	1.1	0.0
1:26:00 PM	1.5	0.0
1:26:20 PM	1.8	0.0
1:26:40 PM	1.0	0.0
1:27:00 PM	1.1	0.0
1:27:20 PM	5.8	7.1
1:27:40 PM	48.0	8.8
1:28:00 PM	66.3	8.8
1:28:20 PM	70.7	8.8
1:28:40 PM	71.8	8.8
1:29:00 PM	72.2	8.8
1:29:20 PM	72.0	8.8
1:29:40 PM	71.7	8.8
1:30:00 PM	71.6	8.8
1:30:20 PM	71.7	8.8
1:30:40 PM	65.8	12.1
1:31:00 PM	114.9	14.8
1:31:20 PM	140.6	14.8
1:31:40 PM	147.5	14.8
1:32:00 PM	148.8	14.8
1:32:20 PM	148.9	14.8
1:32:40 PM	149.3	14.9
1:33:00 PM	149.3	14.8
1:33:20 PM	149.5	14.9
1:33:40 PM	149.9	14.8
1:34:00 PM	149.8	14.8
1:34:20 PM	149.6	14.8
1:34:40 PM	128.9	9.5
1:35:00 PM	89.0	8.9
1:35:20 PM	76.3	8.9
1:35:40 PM	72.5	8.9
1:36:00 PM	72.1	8.9
1:36:20 PM	72.2	8.9
1:36:40 PM	72.1	8.9
1:37:00 PM	71.9	8.9
1:37:20 PM	72.0	8.9
1:37:40 PM	72.2	8.9
1:38:00 PM	71.8	8.9

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
1:38:20 PM	62.3	1.8
1:38:40 PM	22.1	0.1
1:39:00 PM	6.3	0.1
1:39:20 PM	2.1	0.0
1:39:40 PM	1.6	0.1
1:40:00 PM	1.0	0.0
1:40:20 PM	0.6	0.0
1:40:40 PM	0.3	0.0
1:41:00 PM	0.4	0.0
1:41:20 PM	0.7	0.0
1:41:40 PM	1.4	0.0
1:42:00 PM	2.0	0.1
1:42:20 PM	1.4	0.0
1:42:40 PM	1.8	0.1
1:43:00 PM	2.2	0.1
1:43:20 PM	1.6	0.0
1:43:40 PM	35.1	13.4
1:44:00 PM	113.3	14.8
1:44:20 PM	141.4	14.9
1:44:40 PM	147.9	14.9
1:45:00 PM	149.0	14.9
1:45:20 PM	149.6	14.9
1:45:40 PM	149.4	14.9
1:46:00 PM	149.7	14.9
1:46:20 PM	150.1	14.9
1:46:40 PM	150.6	14.9
1:47:00 PM	150.6	14.9
1:47:20 PM	150.7	14.9
1:47:40 PM	150.6	14.9
1:48:00 PM	150.5	14.9
1:48:20 PM	150.5	14.9
1:48:40 PM	89.3	0.6
1:49:00 PM	26.0	0.1
1:49:20 PM	6.8	0.1
1:49:40 PM	2.3	0.1
1:50:00 PM	0.9	0.1
1:50:20 PM	0.7	0.1
1:50:40 PM	1.1	0.1
1:51:00 PM	0.9	0.1
1:51:20 PM	1.4	0.1
1:51:40 PM	1.5	0.1
1:52:00 PM	1.6	0.1
1:52:20 PM	1.9	0.1
1:52:40 PM	1.7	0.0
1:53:00 PM	5.3	5.7
1:53:20 PM	48.8	8.8
1:53:40 PM	66.4	8.9
1:54:00 PM	71.2	8.8
1:54:20 PM	71.9	8.9

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
1:54:40 PM	71.8	8.8
1:55:00 PM	72.4	8.8
1:55:20 PM	71.9	8.9
1:55:40 PM	72.3	8.9
1:56:00 PM	72.2	8.8
1:56:20 PM	72.5	8.8
1:56:40 PM	72.2	8.8
1:57:00 PM	72.7	8.8
1:57:20 PM	72.2	8.8
1:57:40 PM	70.1	10.9
1:58:00 PM	114.8	14.9
1:58:20 PM	141.5	14.9
1:58:40 PM	148.7	14.9
1:59:00 PM	150.3	14.9
1:59:20 PM	150.0	14.9
1:59:40 PM	150.1	14.9
2:00:00 PM	150.6	14.9
2:00:20 PM	150.7	14.9
2:00:40 PM	151.5	14.9
2:01:00 PM	151.5	14.9
2:01:20 PM	151.3	14.9
Average	70.4	7.7
Minimum	0.3	0.0
Maximum	151.5	14.9

CO H
2B

Audit Data

Norlite Corporation

Data for 12/3/2010 2:02:40 PM thru 12/3/2010 2:42:20 PM from '2010-12-03 14.02.ceа'

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:02:40 PM	5.9	0.0
2:03:00 PM	3.4	0.0
2:03:20 PM	4.0	0.0
2:03:40 PM	1.9	0.0
2:04:00 PM	2.2	0.0
2:04:20 PM	1.0	0.0
2:04:40 PM	2.8	0.0
2:05:00 PM	1.0	0.0
2:05:20 PM	2.8	0.0
2:05:40 PM	3.4	0.0
2:06:00 PM	2.8	0.0
2:06:20 PM	2.8	0.0
2:06:40 PM	16.2	2.8 L
2:07:00 PM	585.1	0.0
2:07:20 PM	928.0	0.0
2:07:40 PM	1024.6	0.0
2:08:01 PM	1042.5	0.0
2:08:20 PM	1049.9	0.0
2:08:40 PM	1051.1	0.0
2:09:00 PM	1051.1	0.0
2:09:20 PM	1046.6	0.0
2:09:40 PM	1050.2	0.0
2:10:00 PM	1050.8	0.0
2:10:20 PM	1047.2	1.5 M
2:10:40 PM	1502.0	0.0
2:11:00 PM	2067.6	0.0
2:11:20 PM	2245.5	0.0
2:11:40 PM	2287.2	0.0
2:12:00 PM	2292.3	0.0
2:12:20 PM	2291.1	0.0
2:12:40 PM	2280.0	0.2
2:13:00 PM	2279.4	0.1
2:13:20 PM	2293.4	0.0
2:13:40 PM	2292.3	0.0
2:14:00 PM	2293.7	0.0
2:14:20 PM	2293.7	0.0
2:14:40 PM	2293.2	0.0
2:15:00 PM	1780.9	3.1 H
2:15:20 PM	1301.4	0.0
2:15:40 PM	1105.7	0.0
2:16:00 PM	1056.8	0.0
2:16:20 PM	1050.5	0.0
2:16:40 PM	1050.2	0.0
2:17:00 PM	1052.3	0.0
2:17:20 PM	1050.5	0.0

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:17:40 PM	1049.0	0.0
2:18:00 PM	1050.2	0.0
2:18:20 PM	1050.2	0.0
2:18:40 PM	1052.0	0.0
2:19:00 PM	928.0	1.4
2:19:20 PM	323.7	0.0
2:19:40 PM	84.4	0.0
2:20:00 PM	24.8	0.0
2:20:20 PM	9.9	0.0
2:20:40 PM	5.5	0.0
2:21:00 PM	2.8	0.0
2:21:20 PM	3.4	0.0
2:21:40 PM	5.8	0.0
2:22:00 PM	5.2	0.0
2:22:20 PM	4.0	0.0
2:22:40 PM	2.8	0.0
2:23:00 PM	5.5	0.0
2:23:20 PM	2.8	0.0
2:23:40 PM	5.2	5.3
2:24:00 PM	954.3	1.6
2:24:20 PM	1674.8	0.0
2:24:40 PM	2132.2	0.0
2:25:00 PM	2260.7	0.0
2:25:20 PM	2289.6	0.0
2:25:40 PM	2292.3	0.0
2:26:00 PM	2294.0	0.0
2:26:20 PM	2294.3	0.0
2:26:40 PM	2292.3	0.0
2:27:00 PM	2296.4	0.0
2:27:20 PM	2295.5	0.0
2:27:40 PM	2296.4	0.0
2:28:00 PM	2293.4	0.0
2:28:20 PM	2292.9	0.0
2:28:40 PM	2293.4	0.0
2:29:00 PM	2295.8	0.0
2:29:20 PM	1662.9	1.2
2:29:40 PM	531.1	0.0
2:30:00 PM	147.0	-0.1
2:30:20 PM	41.8	0.0
2:30:40 PM	16.2	0.0
2:31:00 PM	9.0	0.0
2:31:20 PM	7.3	0.0
2:31:40 PM	6.1	0.0
2:32:00 PM	6.7	0.0
2:32:20 PM	5.2	0.0
2:32:40 PM	5.2	0.0
2:33:00 PM	6.7	0.0
2:33:20 PM	4.9	0.0
2:33:40 PM	6.7	3.8

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:34:00 PM	525.2	0.0
2:34:20 PM	906.3	0.0
2:34:40 PM	1021.3	0.0
2:35:00 PM	1044.3	0.0
2:35:20 PM	1047.8	0.0
2:35:40 PM	1051.4	0.0
2:36:00 PM	1054.1	-0.1
2:36:20 PM	1052.0	-0.1
2:36:40 PM	1047.8	0.0
2:37:00 PM	1049.0	0.0
2:37:20 PM	1050.2	0.0
2:37:40 PM	1053.2	0.0
2:38:00 PM	1052.0	0.0
2:38:20 PM	1058.3	1.0
2:38:40 PM	1825.9	0.0
2:39:00 PM	2182.0	0.0
2:39:20 PM	2272.3	0.0
2:39:40 PM	2294.3	0.0
2:40:00 PM	2292.9	0.0
2:40:20 PM	2294.3	0.0
2:40:40 PM	2296.1	0.0
2:41:00 PM	2293.2	0.0
2:41:20 PM	2292.6	0.0
2:41:40 PM	2293.7	0.0
2:42:00 PM	2294.6	0.0
2:42:20 PM	2294.0	0.0
Average	1105.8	0.2
Minimum	1.0	-0.1
Maximum	2296.4	5.3

CEM SOLUTIONS

October 5, 2010

Mr. Thomas VanVranken
Norlite Corporation
628 South Saratoga Street
Cohoes, NY 12047

Re: Calibration Error Audit Results

Dear Mr. VanVranken:

CEM Solutions performed Quarterly Calibration Error Audits (CE) on the Primary and Backup CiSCO Continuous Emission Monitoring Systems (CEMS) installed on Kilns 1 and 2 at the Norlite facility in Cohoes, NY. The audits were completed on September 21, 2010 for Kiln 1 and Kiln 2 in accordance with procedures outlined in 40 CFR 266 (BIF), Appendix IX. The CE audit results for Primary and Backup CEMS are presented in Tables 1 and 2 for Kiln 1 and Tables 3 and 4 for Kiln 2 below.

The CE Audits indicated acceptable performance for Kiln 1 and 2 Primary and Backup CEMS with US EPA, BIF, 40 CFR 266, Appendix IX Quality Assurance limits and 40 CFR 60, Appendix B. Performance Specification 4B .

TABLE 1
CE AUDIT RESULTS
PRIMARY CEMS KILN 1A
September 21, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	0.0	-0.1	
CO	0-200 ppm	0.0	- 1.0	-3.0	
CO	0-3000 ppm	0.1	-1.2	-1.0	

* ACCURACY < 5 % Span Value for CO, < 0.5% O2

1200 Route 9 Hudson, NY 12534 518■828■2026

TABLE 2
CE AUDIT RESULTS
BACKUP CEMS KILN 1B
September 21, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	-0.1	-0.2	
CO	0-200 ppm	-0.6	-1.4	-1.4	
CO	0-3000 ppm	0.1	-0.5	-1.4	

TABLE 3
CE AUDIT RESULTS
PRIMARY CEMS KILN 2A
September 21, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	-0.2	-0.2	
CO	0-200 ppm	0.0	1.2	0.5	
CO	0-3000 ppm	0.1	-0.9	-2.2	

TABLE 4
CE AUDIT RESULTS
BACKUP CEMS KILN 2B
September 21, 2010

ANALYZER	RANGE	AUDIT POINTS (%)			*
		low	mid	high	
O_2	0-25 %	0.0	-0.1	-0.2	
CO	0-200 ppm	0.4	1.7	1.4	
CO	0-3000 ppm	0.1	-1.3	-3.3	

* ACCURACY < 5 % Span Value for CO, < 0.5% O2

EPA PROTOCOL AUDIT GASES

Audit gases are EPA Protocol 1 and supplied by Air Gas Inc.. Gas certifications are on file at the Norlite Plant for review.

CYLINDER TANK ID	COMPONENT	AUDIT VALUE	PSI \ EXPIRATION
XCO256693	N2	ULTRA PURE N2	2000 / NA
CC186413	CO O_2	70.0 ppm 9.011 %	1800 \ 2-19-13
CC23222	CO O_2	149.5 ppm 15.06 %	1500\ 11-4-11
CC137876	CO	1058 ppm	1800 \ 4-6-13
CC37552	CO	2320 ppm	1500\ 2-17-13

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,
CEM SOLUTIONS

E. Mark Krizar
Project Engineer

Attachments
Summary field data sheets

NORLITE, KILN 1A
CE FIELD DATA SUMMARY
SEPTEMBER 21, 2010

Analyzer: O2 **Serial No.:** B7-066 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.1	0.1		
2 - MID	9.011	9.0		-0.011	
3 - HIGH	15.06	15.0			-0.06
4 - MID	9.011	9.0		-0.011	
5 - LOW	0.0	0.0	0		
6 - HIGH	15.06	15.0			-0.06
7 - LOW	0.0	-0.1	-0.1		
8 - MID	9.011	9.0		-0.011	
9 - HIGH	15.06	15.0			-0.06
			0.0	0.0	-0.1
		ACCURACY =	0.0	0.0	-0.1

Analyzer: CO **Serial No.:** B7-889 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	-0.3	-0.3		
2 - MID	70.0	68.1		-1.9	
3 - HIGH	149.5	143.5			-6.0
4 - MID	70.0	68.2		-1.8	
5 - LOW	0.0	0.3	0.3		
6 - HIGH	149.5	142.5			-7.0
7 - LOW	0.0	0.1	0.1		
8 - MID	70.0	67.7		-2.3	
9 - HIGH	149.5	144.3			-5.2
		MEAN DIFFERENCE =	0.0	-2.0	-6.1
		ACCURACY =	0.0	-1.0	-3.0

Analyzer: CO **Serial No.:** B7-889 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	2.1	2.1		
2 - MID	1058	1024.0		-34.0	
3 - HIGH	2320	2284.2			-35.8
4 - MID	1058	1022.2		-35.8	
5 - LOW	0.0	2.1	2.1		
6 - HIGH	2320	2294.1			-25.9
7 - LOW	0.0	0.9	0.9		
8 - MID	1058	1021.6		-36.4	
9 - HIGH	2320	2289.3			-30.7
		MEAN DIFFERENCE =	1.7	-35.4	-30.8
		ACCURACY =	0.1	-1.2	-1.0

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

KIA CO|O2

Audit Data

Norlite Corporation

Data for 9/21/2010 8:29:40 AM thru 9/21/2010 9:05:00 AM from '2010-09-21 08.29.cea'

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
8:29:40 AM	15.6	13.9
8:30:00 AM	12.4	16.4
8:30:20 AM	5.4	0.4
8:30:40 AM	1.6	0.2
8:31:00 AM	0.5	0.2
8:31:20 AM	-0.2	0.2
8:31:40 AM	-0.2	0.1
8:32:00 AM	1.1	0.1
8:32:20 AM	-0.1	0.1
8:32:40 AM	-0.7	0.1
8:33:00 AM	-0.3	0.1
8:33:20 AM	4.1	10.9
8:33:40 AM	23.4	7.6
8:34:00 AM	56.3	9.0
8:34:20 AM	64.6	9.0
8:34:40 AM	66.9	9.0
8:35:00 AM	67.1	9.0
8:35:20 AM	67.4	9.0
8:35:40 AM	67.2	9.0
8:36:00 AM	67.4	8.9
8:36:20 AM	68.1	9.0
8:36:40 AM	66.9	9.2
8:37:00 AM	84.0	13.7
8:37:20 AM	130.8	14.9
8:37:40 AM	141.7	15.0
8:38:00 AM	144.7	15.0
8:38:20 AM	143.8	15.0
8:38:40 AM	144.6	15.0
8:39:00 AM	145.0	14.9
8:39:20 AM	144.3	14.9
8:39:40 AM	144.8	14.8
8:40:00 AM	143.5	15.0
8:40:20 AM	134.3	14.8
8:40:40 AM	98.3	9.3
8:41:00 AM	72.6	9.1
8:41:20 AM	68.3	9.0
8:41:40 AM	68.1	9.0
8:42:00 AM	67.9	9.1
8:42:20 AM	67.9	9.0
8:42:40 AM	67.2	9.0
8:43:00 AM	67.4	9.0
8:43:20 AM	68.2	9.0
8:43:40 AM	66.7	9.3
8:44:00 AM	34.7	0.6
8:44:20 AM	6.9	0.0

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
8:44:40 AM	2.5	0.0
8:45:00 AM	0.9	0.0
8:45:20 AM	0.4	0.0
8:45:40 AM	0.1	0.0
8:46:00 AM	-0.2	0.0
8:46:20 AM	0.9	0.0
8:46:40 AM	0.6	0.0
8:47:00 AM	0.3	0.0
8:47:20 AM	0.3	0.0
8:47:40 AM	0.3	0.0 L
8:48:00 AM	1.0	3.3
8:48:20 AM	60.4	13.6
8:48:40 AM	126.2	14.8
8:49:00 AM	139.7	14.9
8:49:20 AM	143.8	14.9
8:49:40 AM	144.9	14.9
8:50:00 AM	145.2	14.9
8:50:20 AM	144.2	15.0
8:50:40 AM	144.5	14.9
8:51:00 AM	144.8	14.9
8:51:20 AM	145.2	15.0
8:51:40 AM	142.5	15.0 H
8:52:00 AM	56.2	0.5
8:52:20 AM	13.1	0.1
8:52:40 AM	2.5	0.0
8:53:00 AM	-0.1	0.0
8:53:20 AM	0.4	0.0
8:53:40 AM	0.2	0.0
8:54:00 AM	-0.1	0.0
8:54:20 AM	-0.7	0.0
8:54:40 AM	-0.6	0.0
8:55:00 AM	0.1	0.0
8:55:20 AM	0.0	0.0
8:55:40 AM	0.3	-0.1
8:56:00 AM	0.1	-0.1
8:56:20 AM	0.4	-0.1
8:56:40 AM	0.8	-0.1
8:57:00 AM	0.5	-0.1
8:57:20 AM	0.3	-0.1
8:57:40 AM	0.1	-0.1 L
8:58:00 AM	23.0	7.6
8:58:20 AM	58.1	8.9
8:58:40 AM	65.5	9.0
8:59:00 AM	66.2	9.0
8:59:20 AM	67.0	9.0
8:59:40 AM	67.4	9.0
9:00:00 AM	67.3	9.0
9:00:20 AM	66.3	9.0
9:00:40 AM	66.9	9.0

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
9:01:00 AM	67.7	9.0
9:01:20 AM	67.7	9.0
9:01:40 AM	65.0	9.9
9:02:00 AM	122.6	14.9
9:02:20 AM	140.5	15.0
9:02:40 AM	144.1	14.9
9:03:00 AM	145.6	15.0
9:03:20 AM	144.5	15.0
9:03:40 AM	144.8	15.0
9:04:00 AM	145.3	15.0
9:04:20 AM	144.3	15.0
9:04:40 AM	143.1	15.0
9:05:00 AM	144.3	15.0
Average	62.0	7.6
Minimum	-0.7	-0.1
Maximum	145.5	16.4

Kiln 1A

Audit Data

Norlite Corporation

Data for 9/21/2010 9:44:20 AM thru 9/21/2010 10:20:00 AM from '2010-09-21 09.44.cea'

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
9:44:20 AM	2.7	0.1
9:44:40 AM	2.7	-0.1
9:45:00 AM	1.0	-0.1
9:45:20 AM	2.1	-0.1
9:45:40 AM	218.8	0.9
9:46:00 AM	881.9	-0.1
9:46:20 AM	992.0	-0.1
9:46:40 AM	1016.6	-0.1
9:47:00 AM	1020.4	-0.1
9:47:20 AM	1018.9	-0.1
9:47:40 AM	1022.2	-0.1
9:48:00 AM	1020.4	-0.1
9:48:20 AM	1022.5	-0.1
9:48:40 AM	1024.6	-0.2
9:49:00 AM	1024.0	0.0
9:49:20 AM	1822.4	0.1
9:49:40 AM	2183.9	-0.1
9:50:00 AM	2272.1	-0.1
9:50:20 AM	2290.2	-0.1
9:50:40 AM	2283.8	-0.1
9:51:00 AM	2289.3	-0.1
9:51:20 AM	2286.3	-0.1
9:51:40 AM	2284.2	0.0
9:52:00 AM	2285.7	-0.1
9:52:20 AM	2284.8	-0.1
9:52:40 AM	2290.8	-0.1
9:53:00 AM	2284.2	-0.1
9:53:20 AM	2284.2	-0.1
9:53:40 AM	1730.0	2.3
9:54:00 AM	1268.2	0.0
9:54:20 AM	1068.4	-0.1
9:54:40 AM	1027.7	-0.1
9:55:00 AM	1017.4	-0.1
9:55:20 AM	1019.2	-0.1
9:55:40 AM	1025.2	-0.2
9:56:00 AM	1023.4	-0.1
9:56:20 AM	1020.4	-0.1
9:56:40 AM	1022.5	-0.1
9:57:00 AM	1022.2	-0.2
9:57:20 AM	1022.8	-0.2
9:57:40 AM	1024.6	-0.2
9:58:00 AM	1022.2	-0.1
9:58:20 AM	897.3	1.3
9:58:40 AM	147.8	-0.1
9:59:00 AM	36.5	-0.1

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
9:59:20 AM	12.6	-0.1
9:59:40 AM	6.9	-0.1
10:00:00 AM	5.7	-0.1
10:00:20 AM	4.5	-0.1
10:00:40 AM	2.1	-0.1
10:01:00 AM	3.3	-0.1
10:01:20 AM	0.3	-0.1
10:01:40 AM	2.1	-0.2
10:02:00 AM	2.7	-0.2
10:02:20 AM	-1.0	-0.1
10:02:40 AM	2.1	-0.1
10:03:00 AM	2.1	-0.1
10:03:20 AM	0.9	-0.1
10:03:40 AM	0.9	-0.1
10:04:00 AM	-0.4	-0.1
10:04:20 AM	2.1	-0.1
10:04:40 AM	1.5	6.9
10:05:00 AM	1826.3	0.4
10:05:20 AM	2178.8	-0.1
10:05:40 AM	2270.9	-0.1
10:06:00 AM	2293.8	-0.1
10:06:20 AM	2289.3	-0.1
10:06:40 AM	2292.6	-0.1
10:07:00 AM	2292.0	-0.1
10:07:20 AM	2286.9	-0.1
10:07:40 AM	2293.2	-0.1
10:08:00 AM	2287.5	-0.1
10:08:20 AM	2294.1	-0.1
10:08:40 AM	697.2	0.0
10:09:00 AM	112.8	-0.2
10:09:20 AM	33.5	-0.2
10:09:40 AM	10.8	-0.2
10:10:00 AM	5.1	-0.2
10:10:20 AM	4.5	-0.2
10:10:40 AM	5.1	-0.2
10:11:00 AM	3.9	-0.1
10:11:20 AM	4.5	-0.2
10:11:40 AM	1.5	-0.2
10:12:00 AM	1.5	-0.2
10:12:20 AM	0.9	-0.2
10:12:40 AM	0.9	1.1
10:13:00 AM	745.2	-0.1
10:13:20 AM	965.2	-0.1
10:13:40 AM	1012.6	-0.2
10:14:00 AM	1024.3	-0.1
10:14:20 AM	1022.2	-0.1
10:14:40 AM	1024.0	-0.1
10:15:00 AM	1021.6	-0.1
10:15:20 AM	1018.0	-0.1

Timestamp	(Kiln 1/Train A) CO ppm	(Kiln 1/Train A) O2%
10:15:40 AM	1025.2	-0.2
10:16:00 AM	1024.3	-0.1
10:16:20 AM	1021.6	-0.1
10:16:40 AM	1993.5	-0.1
10:17:00 AM	2233.7	-0.1
10:17:20 AM	2288.7	-0.1
10:17:40 AM	2296.2	-0.2
10:18:00 AM	2292.6	-0.1
10:18:20 AM	2292.0	-0.1
10:18:40 AM	2290.8	-0.1
10:19:00 AM	2295.9	-0.1
10:19:20 AM	2294.1	-0.1
10:19:40 AM	2289.3	-0.1
10:20:00 AM	2264.8	1.5
Average	1084.1	0.0
Minimum	-1.0	-0.2
Maximum	2296.2	6.9

NORLITE, KILN 1B
CE FIELD DATA SUMMARY
SEPTEMBER 21, 2010

Analyzer: O2 **Serial No.:** B7-067 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.0	0.00		
2 - MID	9.011	8.9		-0.11	
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	8.9		-0.11	
5 - LOW	0.0	0.0	0.00		
6 - HIGH	15.06	14.9			-0.16
7 - LOW	0.0	0.0	0.00		
8 - MID	9.011	8.9		-0.11	
9 - HIGH	15.06	14.9			-0.16
MEAN DIFFERENCE =			0.0	-0.1	-0.2
ACCURACY =			0.0	-0.1	-0.2

Analyzer: CO B7-890 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	-0.4	-0.4		
2 - MID	70.0	66.9		-3.1	
3 - HIGH	149.5	146.7			-2.8
4 - MID	70.0	68.3		-1.7	
5 - LOW	0.0	-1.2	-1.2		
6 - HIGH	149.5	147.4			-2.1
7 - LOW	0.0	-2.1	-2.1		
8 - MID	70.0	66.6		-3.4	
9 - HIGH	149.5	145.8			-3.7
MEAN DIFFERENCE =			-1.2	-2.7	-2.9
ACCURACY =			-0.6	-1.4	-1.4

Analyzer: CO **Serial No.:** B7-890 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	-1.1	-1.1		
2 - MID	1058	1039.8		-18.2	
3 - HIGH	2320.0	2285.8			-34.2
4 - MID	1058	1047.9		-10.1	
5 - LOW	0.0	5.8	5.8		
6 - HIGH	2320.0	2279.8			-40.2
7 - LOW	0.0	4.9	4.9		
8 - MID	1058	1039.2		-18.8	
9 - HIGH	2320.0	2267.5			-52.5
MEAN DIFFERENCE =			3.2	-15.7	-42.3
ACCURACY =			0.1	-0.5	-1.4

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

Kiln 1B c4o2

Audit Data

Norlite Corporation

Data for 9/21/2010 10:57:40 AM thru 9/21/2010 11:36:00 AM from '2010-09-21 10.57.cea'

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%	
10:57:40 AM	0.6	0.1	
10:58:00 AM	1.5	0.1	
10:58:20 AM	0.7	0.1	
10:58:40 AM	0.3	0.1	
10:59:00 AM	0.8	0.1	
10:59:20 AM	2.2	0.0	
10:59:40 AM	1.2	0.0	
11:00:00 AM	1.2	0.0	
11:00:20 AM	1.8	0.0	
11:00:40 AM	1.7	0.0	
11:01:00 AM	1.3	0.0	
11:01:20 AM	0.5	0.0	
11:01:40 AM	0.4	0.0	L
11:02:00 AM	3.9	4.3	
11:02:20 AM	48.6	8.8	
11:02:40 AM	65.0	8.9	
11:03:00 AM	67.6	8.9	
11:03:20 AM	67.9	8.9	
11:03:40 AM	68.7	8.9	
11:04:00 AM	68.5	8.9	
11:04:20 AM	69.4	8.9	
11:04:40 AM	66.9	8.9	
11:05:00 AM	66.5	8.9	
11:05:20 AM	67.6	8.9	
11:05:40 AM	68.3	8.9	
11:06:00 AM	67.5	8.9	
11:06:20 AM	66.9	8.9	
11:06:40 AM	84.1	13.8	M
11:07:00 AM	130.5	14.9	
11:07:20 AM	141.8	14.9	
11:07:40 AM	144.8	14.9	
11:08:00 AM	146.5	14.9	
11:08:20 AM	147.0	14.9	
11:08:40 AM	144.8	14.9	
11:09:00 AM	146.0	14.9	
11:09:20 AM	147.4	14.9	
11:09:40 AM	145.7	14.9	
11:10:00 AM	144.6	14.9	
11:10:20 AM	146.7	14.9	
11:10:40 AM	140.0	14.8	H
11:11:00 AM	102.8	9.1	
11:11:20 AM	76.1	9.0	
11:11:40 AM	69.7	9.0	
11:12:00 AM	68.3	8.9	
11:12:20 AM	66.8	9.0	

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
11:12:40 AM	66.2	9.0
11:13:00 AM	68.2	9.0
11:13:20 AM	69.1	9.0
11:13:40 AM	68.3	8.9
11:14:00 AM	56.1	2.1
11:14:20 AM	15.8	0.1
11:14:40 AM	3.0	0.1
11:15:00 AM	-0.4	0.1
11:15:20 AM	-1.9	0.1
11:15:40 AM	-1.3	0.1
11:16:00 AM	-0.9	0.1
11:16:20 AM	-1.4	0.0
11:16:40 AM	-1.7	0.0
11:17:00 AM	-2.1	0.0
11:17:20 AM	-1.7	0.0
11:17:40 AM	-2.2	0.0
11:18:00 AM	-2.8	0.0
11:18:20 AM	-1.5	0.0
11:18:40 AM	-1.2	0.0
11:19:00 AM	1.3	6.1
11:19:20 AM	54.8	13.8
11:19:40 AM	121.9	14.8
11:20:00 AM	140.6	14.8
11:20:20 AM	145.2	14.8
11:20:40 AM	145.3	14.9
11:21:00 AM	144.6	14.8
11:21:20 AM	146.5	14.9
11:21:40 AM	146.9	14.9
11:22:00 AM	145.4	14.9
11:22:20 AM	146.0	14.9
11:22:40 AM	147.4	14.9
11:23:00 AM	143.0	14.5
11:23:20 AM	100.0	2.0
11:23:40 AM	26.2	0.1
11:24:00 AM	5.0	0.1
11:24:20 AM	0.7	0.0
11:24:40 AM	-1.7	0.0
11:25:00 AM	-1.9	0.0
11:25:20 AM	-1.1	0.0
11:25:40 AM	-1.0	0.0
11:26:00 AM	-2.3	0.0
11:26:20 AM	-2.4	0.0
11:26:40 AM	-1.7	0.0
11:27:00 AM	-2.1	0.0
11:27:20 AM	-2.1	0.0
11:27:40 AM	9.1	6.5
11:28:00 AM	51.7	8.8
11:28:20 AM	65.8	8.9
11:28:40 AM	67.6	8.9

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%	
11:29:00 AM	68.0	8.9	
11:29:20 AM	68.5	8.9	
11:29:40 AM	68.5	8.9	
11:30:00 AM	67.9	8.9	
11:30:20 AM	67.0	8.9	
11:30:40 AM	68.4	8.9	
11:31:00 AM	67.4	8.9	
11:31:20 AM	66.6	8.9	
11:31:40 AM	66.6	8.9	M
11:32:00 AM	66.0	9.2	
11:32:20 AM	105.8	14.7	
11:32:40 AM	136.7	14.9	
11:33:00 AM	143.4	14.9	
11:33:20 AM	145.5	14.9	
11:33:40 AM	146.6	14.9	
11:34:00 AM	146.2	14.9	
11:34:20 AM	146.1	14.9	
11:34:40 AM	146.8	14.9	
11:35:00 AM	147.9	14.9	
11:35:20 AM	146.3	14.9	
11:35:40 AM	144.6	14.9	
11:36:00 AM	145.8	14.9	H
Average	66.3	7.6	
Minimum	-2.8	0.0	
Maximum	147.9	14.9	

COH

Audit Data

Norlite Corporation

Data for 9/21/2010 11:38:20 AM thru 9/21/2010 12:18:20 PM from '2010-09-21 11.38.cea'

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
11:38:20 AM	-0.5	0.0
11:38:40 AM	-1.1	0.0
11:39:00 AM	0.1	0.0
11:39:20 AM	1.3	0.0
11:39:40 AM	-0.5	0.0
11:40:00 AM	-1.7	0.0
11:40:20 AM	0.1	0.0
11:40:40 AM	1.3	0.0
11:41:00 AM	-0.5	0.0
11:41:20 AM	-1.1	0.0
11:41:40 AM	332.8	0.4
11:42:00 AM	843.0	0.0
11:42:20 AM	994.9	0.0
11:42:40 AM	1029.5	0.0
11:43:00 AM	1043.1	0.0
11:43:20 AM	1036.8	0.0
11:43:40 AM	1036.2	0.0
11:44:00 AM	1042.8	0.0
11:44:20 AM	1039.2	0.0
11:44:40 AM	1041.0	0.0
11:45:00 AM	1039.8	0.0
11:45:20 AM	1043.1	0.0
11:45:40 AM	1040.4	0.0
11:46:00 AM	1039.2	0.0
11:46:20 AM	1039.8	0.0
11:46:40 AM	1039.8	0.0
11:47:00 AM	1116.5	0.3
11:47:20 AM	1984.4	0.0
11:47:40 AM	2214.2	0.0
11:48:00 AM	2271.7	0.0
11:48:20 AM	2285.5	0.0
11:48:40 AM	2285.2	0.0
11:49:00 AM	2279.5	0.0
11:49:20 AM	2282.5	0.0
11:49:40 AM	2285.5	0.0
11:50:00 AM	2284.6	0.0
11:50:20 AM	2284.0	0.0
11:50:40 AM	2284.3	0.0
11:51:00 AM	2289.4	0.0
11:51:20 AM	2286.4	0.0
11:51:40 AM	2283.4	0.0
11:52:00 AM	2285.8	0.0
11:52:20 AM	1517.8	0.2
11:52:40 AM	1200.4	0.0
11:53:00 AM	1078.9	-0.1

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
11:53:20 AM	1045.8	0.0
11:53:40 AM	1045.8	0.0
11:54:00 AM	1042.2	0.0
11:54:20 AM	1039.8	0.0
11:54:40 AM	1045.2	-0.1
11:55:00 AM	1042.8	0.0
11:55:20 AM	1045.5	0.0
11:55:40 AM	1047.9	-0.1
11:56:00 AM	999.8	2.3
11:56:20 AM	322.3	0.0
11:56:40 AM	94.0	-0.1
11:57:00 AM	27.8	0.0
11:57:20 AM	10.9	-0.1
11:57:40 AM	8.8	0.0
11:58:00 AM	7.3	0.0
11:58:20 AM	3.7	0.0
11:58:40 AM	4.9	0.0
11:59:00 AM	4.9	0.0
11:59:20 AM	7.6	0.0
11:59:40 AM	4.9	-0.1
12:00:00 PM	5.8	0.0
12:00:20 PM	6.7	1.4
12:00:40 PM	1190.5	0.3
12:01:00 PM	1997.9	0.0
12:01:20 PM	2217.5	0.0
12:01:40 PM	2271.4	0.0
12:02:00 PM	2283.1	0.0
12:02:20 PM	2281.3	0.0
12:02:40 PM	2283.1	0.0
12:03:00 PM	2283.1	0.0
12:03:20 PM	2281.3	0.0
12:03:40 PM	2280.4	0.0
12:04:00 PM	2278.9	0.0
12:04:20 PM	2282.5	0.0
12:04:40 PM	2279.2	0.0
12:05:00 PM	2283.1	0.0
12:05:20 PM	2279.8	0.0
12:05:40 PM	2279.8	0.0
12:06:00 PM	872.2	0.1
12:06:20 PM	201.4	-0.1
12:06:40 PM	58.5	0.0
12:07:00 PM	21.8	0.0
12:07:20 PM	13.6	0.0
12:07:40 PM	11.2	0.0
12:08:00 PM	8.2	0.0
12:08:20 PM	8.5	0.0
12:08:40 PM	9.1	0.0
12:09:00 PM	6.7	0.0
12:09:20 PM	6.7	0.0

Timestamp	(Kiln 1/Train B) CO ppm	(Kiln 1/Train B) O2%
12:09:40 PM	7.6	0.0
12:10:00 PM	4.3	0.0
12:10:20 PM	4.9	0.0
12:10:40 PM	585.2	0.1
12:11:00 PM	872.2	0.0
12:11:20 PM	1000.7	0.0
12:11:40 PM	1031.0	0.0
12:12:00 PM	1034.7	0.0
12:12:20 PM	1039.2	0.0
12:12:40 PM	1035.6	0.0
12:13:00 PM	1038.0	0.0
12:13:20 PM	1034.7	0.0
12:13:40 PM	1039.2	0.0
12:14:00 PM	1588.5	0.0
12:14:20 PM	2043.9	0.0
12:14:40 PM	2215.7	0.0
12:15:00 PM	2254.2	0.0
12:15:20 PM	2262.0	0.0
12:15:40 PM	2262.0	0.0
12:16:00 PM	2261.7	0.0
12:16:20 PM	2269.3	0.0
12:16:40 PM	2271.4	0.0
12:17:00 PM	2267.2	0.0
12:17:20 PM	2269.9	0.0
12:17:40 PM	2270.2	0.0
12:18:00 PM	2272.9	0.0
12:18:20 PM	2267.5	0.0
Average	1166.3	0.0
Minimum	-1.7	-0.1
Maximum	2289.4	2.3

NORLITE, KILN 2A
CE FIELD DATA SUMMARY
SEPTEMBER 21, 2010

Analyzer: O2 **Serial No.:** AO2-611 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.0	0.00		
2 - MID	9.011	8.8		-0.211	
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	8.9		-0.111	
5 - LOW	0.0	0.0	0.00		
6 - HIGH	15.06	14.9			-0.16
7 - LOW	0.0	0.0	0.00		
8 - MID	9.011	8.8		-0.211	
9 - HIGH	15.06	14.8			-0.26
MEAN DIFFERENCE =			0.0	-0.2	-0.2
ACCURACY =			0.0	-0.2	-0.2

Analyzer: CO **Serial No.:** XO7-400 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	-0.1	-0.1		
2 - MID	70.0	72.7		2.7	
3 - HIGH	149.5	151.0			1.5
4 - MID	70.0	72.2		2.2	
5 - LOW	0.0	-0.5	-0.5		
6 - HIGH	149.5	150.5			1.0
7 - LOW	0.0	0.4	0.4		
8 - MID	70.0	72.2		2.2	
9 - HIGH	149.5	149.9			0.4
MEAN DIFFERENCE =			-0.1	2.4	1.0
ACCURACY =			0.0	1.2	0.5

Analyzer: CO **Serial No.:** X07-400 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.3	0.3		
2 - MID	1058	1031.8		-26.2	
3 - HIGH	2320	2256.1			-63.9
4 - MID	1058	1037.0		-21	
5 - LOW	0.0	2.7	2.7		
6 - HIGH	2320	2255.8			-64.2
7 - LOW	0.0	1.5	1.5		
8 - MID	1058	1028.1		-29.9	
9 - HIGH	2320	2252.1			-67.9
MEAN DIFFERENCE =			1.5	-25.7	-65.3
ACCURACY =			0.1	-0.9	-2.2

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

Audit Data

Norlite Corporation

Data for 9/21/2010 12:25:00 PM thru 9/21/2010 1:05:00 PM from '2010-09-21 12.24.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%
12:25:00 PM	0.4	0.1
12:25:20 PM	-0.3	0.0
12:25:40 PM	-0.3	0.0
12:26:00 PM	-0.2	0.0
12:26:20 PM	0.1	0.0
12:26:40 PM	0.2	0.0
12:27:00 PM	-0.1	0.0
12:27:20 PM	-0.3	0.0
12:27:40 PM	-0.1	0.0
12:28:00 PM	12.3	8.1
12:28:20 PM	48.1	8.8
12:28:40 PM	64.8	8.8
12:29:00 PM	69.7	8.8
12:29:20 PM	71.3	8.8
12:29:40 PM	72.0	8.8
12:30:00 PM	72.0	8.8
12:30:20 PM	72.4	8.8
12:30:40 PM	72.7	8.8
12:31:00 PM	72.5	8.8
12:31:20 PM	72.7	8.8
12:31:40 PM	70.8	11.3
12:32:00 PM	109.2	14.8
12:32:20 PM	135.5	14.9
12:32:40 PM	145.3	14.9
12:33:00 PM	149.0	14.9
12:33:20 PM	149.9	14.9
12:33:40 PM	149.9	14.9
12:34:00 PM	149.6	14.9
12:34:20 PM	149.6	14.9
12:34:40 PM	150.0	14.9
12:35:00 PM	150.3	14.9
12:35:20 PM	150.8	14.9
12:35:40 PM	151.0	14.9
12:36:00 PM	148.8	13.2
12:36:20 PM	111.4	8.9
12:36:40 PM	85.6	8.8
12:37:00 PM	76.6	8.8
12:37:20 PM	73.8	8.8
12:37:40 PM	72.6	8.9
12:38:00 PM	72.4	8.9
12:38:20 PM	72.4	8.8
12:38:40 PM	72.2	8.8
12:39:00 PM	72.6	8.9
12:39:20 PM	72.5	8.8
12:39:40 PM	72.6	8.9

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%
12:40:00 PM	72.4	8.8
12:40:20 PM	72.3	8.8
12:40:40 PM	72.8	8.8
12:41:00 PM	72.9	8.8
12:41:20 PM	72.5	8.8
12:41:40 PM	72.5	8.8
12:42:00 PM	72.6	8.8
12:42:20 PM	73.1	8.8
12:42:40 PM	72.7	8.8
12:43:00 PM	72.2	8.9
12:43:20 PM	49.2	0.3
12:43:40 PM	17.8	0.0
12:44:00 PM	5.6	0.0
12:44:20 PM	1.4	0.0
12:44:40 PM	0.1	0.0
12:45:00 PM	-0.2	0.0
12:45:20 PM	-0.2	0.0
12:45:40 PM	-0.5	0.0
12:46:00 PM	-0.5	0.0
12:46:20 PM	4.5	9.7
12:46:40 PM	81.8	14.7
12:47:00 PM	126.4	14.8
12:47:20 PM	143.0	14.8
12:47:40 PM	148.0	14.8
12:48:00 PM	149.3	14.9
12:48:20 PM	149.6	14.9
12:48:40 PM	149.9	14.8
12:49:00 PM	150.2	14.8
12:49:20 PM	150.9	14.8
12:49:40 PM	150.5	14.8
12:50:00 PM	150.9	14.8
12:50:20 PM	150.7	14.8
12:50:40 PM	150.6	14.8
12:51:00 PM	150.5	14.9
12:51:20 PM	150.4	14.8
12:51:40 PM	150.8	14.9
12:52:00 PM	150.1	14.8
12:52:20 PM	150.5	14.9
12:52:40 PM	150.4	14.9
12:53:00 PM	150.6	14.8
12:53:20 PM	150.5	14.9
12:53:40 PM	145.0	5.7
12:54:00 PM	67.3	0.2
12:54:20 PM	23.6	0.1
12:54:40 PM	8.0	0.1
12:55:00 PM	2.8	0.1
12:55:20 PM	1.2	0.0
12:55:40 PM	0.9	0.1
12:56:00 PM	0.5	0.1

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%	
12:56:20 PM	0.2	0.0	
12:56:40 PM	0.0	0.0	
12:57:00 PM	0.4	0.0	
12:57:20 PM	0.6	2.2	
12:57:40 PM	35.5	8.7	
12:58:00 PM	59.5	8.8	
12:58:20 PM	68.3	8.8	
12:58:40 PM	71.9	8.8	
12:59:00 PM	72.5	8.8	
12:59:20 PM	73.0	8.8	
12:59:40 PM	72.9	8.8	
1:00:00 PM	72.6	8.8	
1:00:20 PM	73.1	8.9	
1:00:40 PM	72.7	8.8	
1:01:00 PM	72.3	8.8	
1:01:20 PM	72.2	8.8	
1:01:40 PM	72.8	12.1	
1:02:00 PM	113.0	14.8	
1:02:20 PM	137.4	14.8	
1:02:40 PM	146.0	14.9	
1:03:00 PM	148.6	14.8	
1:03:20 PM	149.0	14.8	
1:03:40 PM	149.4	14.9	
1:04:00 PM	149.6	14.9	
1:04:20 PM	149.6	14.9	
1:04:40 PM	149.9	14.8	
1:05:00 PM	125.2	4.3	
Average	82.1	8.8	
Minimum	-0.5	0.0	
Maximum	151.0	14.9	

CO H 2A

Audit Data

Norlite Corporation

Data for 9/21/2010 1:08:40 PM thru 9/21/2010 1:45:00 PM from '2010-09-21 13.08.cea'

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%
1:08:40 PM	-0.3	0.0
1:09:00 PM	-3.4	0.0
1:09:20 PM	-0.9	0.1
1:09:40 PM	-2.1	0.0
1:10:00 PM	0.3	0.0
1:10:20 PM	0.9	6.0
1:10:40 PM	374.3	0.1
1:11:00 PM	783.1	0.1
1:11:20 PM	949.9	0.0
1:11:40 PM	1003.7	0.0
1:12:00 PM	1022.6	0.0
1:12:20 PM	1030.6	0.1
1:12:40 PM	1032.4	0.0
1:13:00 PM	1033.0	0.0
1:13:20 PM	1031.5	0.0
1:13:40 PM	1033.3	0.0
1:14:00 PM	1028.7	0.0
1:14:20 PM	1030.9	0.0
1:14:40 PM	1031.8	0.0
1:15:00 PM	1228.9	0.7
1:15:20 PM	1785.2	0.0
1:15:40 PM	2097.8	0.0
1:16:00 PM	2208.1	0.0
1:16:20 PM	2241.4	0.0
1:16:40 PM	2253.6	0.0
1:17:00 PM	2254.2	0.0
1:17:20 PM	2252.7	0.0
1:17:40 PM	2255.8	0.0
1:18:00 PM	2255.8	0.0
1:18:20 PM	2255.5	0.0
1:18:40 PM	2254.5	0.0
1:19:00 PM	2256.1	0.0
1:19:20 PM	2094.1	1.6
1:19:40 PM	1459.2	0.1
1:20:00 PM	1171.7	0.0
1:20:20 PM	1071.2	0.0
1:20:40 PM	1039.1	0.0
1:21:00 PM	1031.8	0.0
1:21:20 PM	1037.0	0.0
1:21:40 PM	1034.2	0.0
1:22:00 PM	1033.3	0.0
1:22:20 PM	1034.8	0.0
1:22:40 PM	1033.0	0.0
1:23:00 PM	1034.5	0.0
1:23:20 PM	1034.8	0.0

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%
1:23:40 PM	1037.0	0.0
1:24:00 PM	986.3	2.4
1:24:20 PM	454.6	0.0
1:24:40 PM	155.5	0.0
1:25:00 PM	51.3	0.0
1:25:20 PM	18.0	0.0
1:25:40 PM	7.9	0.0
1:26:00 PM	4.9	0.0
1:26:20 PM	3.4	0.0
1:26:40 PM	4.3	0.0
1:27:00 PM	0.9	0.0
1:27:20 PM	2.7	0.0
1:27:40 PM	3.4	0.0
1:28:00 PM	2.7	0.0
1:28:20 PM	755.0	1.6
1:28:40 PM	1587.0	0.0
1:29:00 PM	2008.3	0.0
1:29:20 PM	2178.1	0.0
1:29:40 PM	2236.2	0.0
1:30:00 PM	2252.1	0.0
1:30:20 PM	2257.0	0.0
1:30:40 PM	2256.4	0.0
1:31:00 PM	2256.7	0.0
1:31:20 PM	2261.9	0.0
1:31:40 PM	2258.2	0.0
1:32:00 PM	2259.4	0.0
1:32:20 PM	2255.8	0.0
1:32:40 PM	1748.6	0.7
1:33:00 PM	571.4	0.0
1:33:20 PM	211.7	0.0
1:33:40 PM	70.9	0.0
1:34:00 PM	27.8	0.0
1:34:20 PM	11.6	0.0
1:34:40 PM	4.6	0.0
1:35:00 PM	2.7	0.0
1:35:20 PM	2.1	0.0
1:35:40 PM	4.9	0.0
1:36:00 PM	1.5	0.0
1:36:20 PM	3.1	0.1
1:36:40 PM	118.2	1.3
1:37:00 PM	624.8	0.0
1:37:20 PM	892.8	0.0
1:37:40 PM	991.5	0.0
1:38:00 PM	1015.9	0.0
1:38:20 PM	1028.1	0.0
1:38:40 PM	1027.5	0.0
1:39:00 PM	1026.3	0.0
1:39:20 PM	1028.1	0.0
1:39:40 PM	1026.9	0.0

Timestamp	(Kiln 2/Train A) CO ppm	(Kiln 2/Train A) O2%
1:40:00 PM	1026.9	0.0
1:40:20 PM	1028.1	0.1
1:40:40 PM	1184.0	0.2
1:41:00 PM	1794.4	0.0
1:41:20 PM	2100.3	0.0
1:41:40 PM	2207.5	0.0
1:42:00 PM	2237.7	0.0
1:42:20 PM	2251.8	0.0
1:42:40 PM	2253.8	0.0
1:43:00 PM	2251.5	0.0
1:43:20 PM	2251.2	0.1
1:43:40 PM	2252.1	0.0
1:44:00 PM	2256.1	0.1
1:44:20 PM	2252.7	0.1
1:44:40 PM	2252.1	0.0
1:45:00 PM	2252.1	0.0
Average	1163.1	0.1
Minimum	-3.4	0.0
Maximum	2261.9	6.0

NORLITE, KILN 2B
CE FIELD DATA SUMMARY
SEPTEMBER 21, 2010

Analyzer: O2 **Serial No.:** F6-279 Range = 0 to 25

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	0.0	0.00		
2 - MID	9.011	8.9		-0.11	
3 - HIGH	15.06	14.9			-0.16
4 - MID	9.011	8.9		-0.11	
5 - LOW	0.0	0.0	0.00		
6 - HIGH	15.06	14.9			-0.16
7 - LOW	0.0	0.0	0.00		
8 - MID	9.011	8.8		-0.21	
9 - HIGH	15.06	14.9			-0.16
		MEAN DIFFERENCE =	0.0	-0.1	-0.2
		ACCURACY =	0.0	-0.1	-0.2

Analyzer: CO **Serial No.:** F6-187 Range = 0 to 200

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	1.1	1.1		
2 - MID	70.0	71.8		1.8	
3 - HIGH	149.5	151.9			2.4
4 - MID	70.0	74.5		4.5	
5 - LOW	0.0	0.2	0.2		
6 - HIGH	149.5	152.2			2.7
7 - LOW	0.0	0.8	0.8		
8 - MID	70.0	73.6		3.6	
9 - HIGH	149.5	152.5			3.0
		MEAN DIFFERENCE =	0.7	3.3	2.7
		ACCURACY =	0.4	1.7	1.4

Analyzer: CO **Serial No.:** F6-187 Range = 0 to 3000

RUN NUMBER	AUDIT VALUE	MONITOR RESPONSE	DIFFERENCE		
			LOW	MID	HIGH
1 - LOW	0.0	1.9	1.9		
2 - MID	1058	1019.8		-38.2	
3 - HIGH	2320.0	2220.6			-99.4
4 - MID	1058	1022.1		-35.9	
5 - LOW	0.0	4.9	4.9		
6 - HIGH	2320.0	2219.5			-100.5
7 - LOW	0.0	1.3	1.3		
8 - MID	1058.0	1017.4		-40.6	
9 - HIGH	2320.0	2221.8			-98.2
		MEAN DIFFERENCE =	2.7	-38.2	-99.4
		ACCURACY =	0.1	-1.3	-3.3

CEM Solutions
Hudson, NY

Analyzer CO = ≤ 5% span / O2 ≤ 0.5 O2

CO/O2
2B

Audit Data

Norlite Corporation

Data for 9/21/2010 2:02:20 PM thru 9/21/2010 2:37:40 PM from '2010-09-21 14.02.cea'

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:02:20 PM	3.6	0.0
2:02:40 PM	1.2	0.0
2:03:00 PM	0.5	0.0
2:03:20 PM	0.3	0.0
2:03:40 PM	0.3	0.0
2:04:00 PM	-0.1	0.0
2:04:20 PM	0.5	0.0
2:04:40 PM	1.0	0.0
2:05:00 PM	1.3	0.0
2:05:20 PM	1.3	0.0
2:05:40 PM	1.1	0.0
2:06:00 PM	19.2	7.8
2:06:20 PM	55.7	8.9
2:06:40 PM	68.0	8.8
2:07:00 PM	70.9	8.9
2:07:20 PM	71.9	8.9
2:07:40 PM	72.0	8.9
2:08:00 PM	71.9	8.8
2:08:20 PM	71.2	8.9
2:08:40 PM	71.8	8.9
2:09:00 PM	71.7	8.9
2:09:20 PM	71.8	8.9
2:09:40 PM	72.4	8.9
2:10:00 PM	72.0	8.9
2:10:20 PM	72.0	8.9
2:10:40 PM	71.7	8.9
2:11:00 PM	72.2	8.9
2:11:20 PM	72.3	8.9
2:11:40 PM	72.7	8.9
2:12:00 PM	72.6	8.9
2:12:20 PM	71.8	8.9
2:12:40 PM	104.8	14.7
2:13:00 PM	137.0	14.9
2:13:20 PM	146.7	14.9
2:13:40 PM	151.1	14.9
2:14:00 PM	151.7	14.8
2:14:20 PM	151.3	14.9
2:14:40 PM	151.8	14.9
2:15:00 PM	151.5	14.9
2:15:20 PM	151.9	14.9
2:15:40 PM	152.2	14.9
2:16:00 PM	152.1	14.9
2:16:20 PM	151.3	14.9
2:16:40 PM	151.5	14.9
2:17:00 PM	151.4	14.9

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:17:20 PM	151.9	14.9
2:17:40 PM	129.2	9.3
2:18:00 PM	87.9	8.9
2:18:20 PM	74.7	8.9
2:18:40 PM	72.1	8.9
2:19:00 PM	72.7	8.9
2:19:20 PM	73.7	8.8
2:19:40 PM	74.1	8.9
2:20:00 PM	74.0	8.9
2:20:20 PM	74.0	8.9
2:20:40 PM	74.5	8.9
2:21:00 PM	47.5	0.4
2:21:20 PM	13.7	0.0
2:21:40 PM	3.6	0.0
2:22:00 PM	1.0	0.0
2:22:20 PM	-0.4	0.0
2:22:40 PM	-0.5	0.0
2:23:00 PM	0.0	0.0
2:23:20 PM	0.4	0.0
2:23:40 PM	0.2	0.0
2:24:00 PM	7.5	6.3
2:24:20 PM	97.3	14.8
2:24:40 PM	136.5	14.9
2:25:00 PM	148.5	14.9
2:25:20 PM	151.1	14.9
2:25:40 PM	152.3	14.9
2:26:00 PM	152.3	14.9
2:26:20 PM	152.6	14.9
2:26:40 PM	151.7	14.9
2:27:00 PM	151.2	14.9
2:27:20 PM	151.4	14.9
2:27:40 PM	152.2	14.9
2:28:00 PM	109.4	0.8
2:28:20 PM	33.1	0.1
2:28:40 PM	8.5	0.0
2:29:00 PM	2.4	0.0
2:29:20 PM	1.3	0.0
2:29:40 PM	0.2	0.0
2:30:00 PM	-0.3	0.0
2:30:20 PM	-0.4	0.0
2:30:40 PM	-0.2	0.0
2:31:00 PM	0.3	0.0
2:31:20 PM	0.5	0.0
2:31:40 PM	0.8	0.0
2:32:00 PM	0.8	5.0
2:32:20 PM	41.6	8.7
2:32:40 PM	63.9	8.8
2:33:00 PM	69.9	8.8
2:33:20 PM	72.6	8.8

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:33:40 PM	73.9	8.8
2:34:00 PM	73.7	8.8
2:34:20 PM	73.6	8.8
2:34:40 PM	72.2	10.6
2:35:00 PM	106.7	14.8
2:35:20 PM	138.0	14.9
2:35:40 PM	148.3	14.9
2:36:00 PM	151.3	14.9
2:36:20 PM	151.1	14.9
2:36:40 PM	151.9	14.9
2:37:00 PM	152.7	14.9
2:37:20 PM	152.5	14.9
2:37:40 PM	144.3	14.4
Average	75.3	8.1
Minimum	-0.5	0.0
Maximum	152.7	14.9

Audit Data

Norlite Corporation

Data for 9/21/2010 2:39:00 PM thru 9/21/2010 3:14:00 PM from '2010-09-21 14.38.cea'

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:39:00 PM	0.1	0.0
2:39:20 PM	1.3	0.0
2:39:40 PM	-0.5	0.0
2:40:00 PM	0.7	0.0
2:40:20 PM	1.3	0.0
2:40:40 PM	-0.5	0.0
2:41:00 PM	1.9	0.0
2:41:20 PM	83.2	1.2
2:41:40 PM	660.9	0.0
2:42:00 PM	926.0	0.0
2:42:20 PM	1000.5	0.0
2:42:40 PM	1013.5	0.0
2:43:00 PM	1020.7	0.0
2:43:20 PM	1015.9	0.0
2:43:40 PM	1020.1	0.0
2:44:00 PM	1020.1	0.0
2:44:20 PM	1018.0	0.0
2:44:40 PM	1019.8	0.0
2:45:00 PM	1164.8	0.2
2:45:20 PM	1849.6	0.0
2:45:40 PM	2131.7	0.0
2:46:00 PM	2206.1	0.0
2:46:20 PM	2216.8	0.0
2:46:40 PM	2219.2	0.0
2:47:00 PM	2221.5	0.0
2:47:20 PM	2220.0	0.0
2:47:40 PM	2221.8	0.0
2:48:00 PM	2218.3	0.0
2:48:20 PM	2220.9	0.0
2:48:40 PM	2221.8	0.0
2:49:00 PM	2220.6	0.0
2:49:20 PM	1838.0	0.4
2:49:40 PM	1250.8	0.0
2:50:00 PM	1070.8	0.0
2:50:20 PM	1026.9	0.0
2:50:40 PM	1019.2	0.0
2:51:00 PM	1019.8	0.0
2:51:20 PM	1022.1	0.0
2:51:40 PM	1022.7	0.0
2:52:00 PM	1018.3	0.0
2:52:20 PM	1020.4	0.0
2:52:40 PM	1023.3	0.0
2:53:00 PM	1023.3	0.0
2:53:20 PM	1022.1	0.0
2:53:40 PM	856.3	0.4

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
2:54:00 PM	277.1	0.0
2:54:20 PM	68.6	0.0
2:54:40 PM	18.2	0.0
2:55:00 PM	6.3	0.0
2:55:20 PM	5.7	0.0
2:55:40 PM	6.0	0.0
2:56:00 PM	2.6	-0.1
2:56:20 PM	1.9	0.0
2:56:40 PM	4.3	0.0
2:57:00 PM	5.1	0.0
2:57:20 PM	4.9	0.0
2:57:40 PM	3.7	3.1
2:58:00 PM	1234.5	0.0
2:58:20 PM	1897.4	0.0
2:58:40 PM	2145.6	0.0
2:59:00 PM	2208.5	0.0
2:59:20 PM	2220.3	0.0
2:59:40 PM	2222.1	0.0
3:00:00 PM	2223.9	0.0
3:00:20 PM	2218.9	0.0
3:00:40 PM	2219.5	-0.1
3:01:00 PM	1087.1	0.3
3:01:20 PM	437.0	0.0
3:01:40 PM	115.8	-0.1
3:02:00 PM	32.1	-0.1
3:02:20 PM	11.7	0.0
3:02:40 PM	7.8	0.0
3:03:00 PM	3.7	0.0
3:03:20 PM	3.1	0.0
3:03:40 PM	4.3	-0.1
3:04:00 PM	4.3	-0.1
3:04:20 PM	3.1	0.0
3:04:40 PM	4.0	-0.1
3:05:00 PM	1.3	0.0
3:05:20 PM	292.2	0.1
3:05:40 PM	791.1	0.0
3:06:00 PM	964.9	0.0
3:06:20 PM	1002.9	0.0
3:06:40 PM	1014.1	-0.1
3:07:00 PM	1018.3	0.0
3:07:20 PM	1017.4	0.0
3:07:40 PM	1018.3	0.0
3:08:00 PM	1014.7	0.0
3:08:20 PM	1014.7	0.0
3:08:40 PM	1018.6	0.0
3:09:00 PM	1019.5	0.0
3:09:20 PM	1015.3	0.0
3:09:40 PM	1017.4	-0.1
3:10:00 PM	884.8	5.0

Timestamp	(Kiln 2/Train B) CO ppm	(Kiln 2/Train B) O2%
3:10:20 PM	838.0	2.0
3:10:40 PM	1656.8	0.0
3:11:00 PM	2075.9	0.0
3:11:20 PM	2193.4	0.0
3:11:40 PM	2219.5	0.0
3:12:00 PM	2218.3	0.0
3:12:20 PM	2217.7	0.0
3:12:40 PM	2222.1	0.0
3:13:00 PM	2217.7	0.0
3:13:20 PM	2218.0	0.0
3:13:40 PM	2221.8	0.0 H
3:14:00 PM	2201.1	7.0
Average	1053.6	0.2
Minimum	-0.5	-0.1
Maximum	2223.9	7.0

PERFORMANCE SPECIFICATION TEST REPORT

Three Continuous Flow Rate Monitoring Systems Serving Kilns 1 and 2

Norlite Corporation
Cohoes, New York

July 2010

O'BRIEN & GERE
www.obg.com

Three Continuous Flow Rate Monitoring Systems Serving Kilns 1 and 2

Prepared for:

Norlite Corporation
Cohoes, New York

BRIAN GARRETT, SENIOR TECHNICIAN
O'Brien & Gere Engineers, Inc.

DAVID OSTASZEWSKI, P.E., SENIOR MANAGING ENGINEER
O'Brien & Gere Engineers, Inc.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

1. INTRODUCTION AND BACKGROUND

O'Brien & Gere was retained by Norlite Corporation to conduct relative accuracy test audits (RATAs) on two primary and one back-up flow rate monitoring system (FRMS) serving the Kiln 1 and 2 exhausts at the Norlite facility located in Cohoes, New York. The objective of the test program was to evaluate the performance of each FRMS with respect to criteria outlined in 40 CFR Part 60, Appendix B, Performance Specification (PS) 6.

Thomas VanVranken of Norlite was present to coordinate facility process operations with the testing program. There were no representatives of the regulatory agencies present to witness the field testing.

The remaining sections of this report include a summary of the scope of work conducted, facility description, sampling methods used, and RATA test results.

1.1 EMISSIONS TESTING PROGRAM PARTICIPANTS

Facility

Name:	Norlite Corporation
Site Address:	628 Saratoga Street Cohoes, New York 12047
Contact:	Thomas VanVranken
Telephone number:	(518) 235-0401

Certification Testing Company

Name:	O'Brien & Gere Engineers, Inc.
Address:	5000 Brittonfield Parkway East Syracuse, New York 13057
Contact:	Dave Ostaszewski, P.E.
Telephone number:	(315) 437-6100

2. FACILITY DESCRIPTION

This section provides a general description of the facility and the kiln exhaust FRMS.

2.1 PROCESS DESCRIPTION

The Norlite facility in Cohoes, New York produces an expanded shale aggregate in two rotary dry kilns. Raw materials are quarried on-site, sized, and transported to each kiln via trucks and a conveyor system. The shale is proportioned and stored in a silo or fed directly to each kiln. The raw product is introduced to each kiln at the feedback end from the silo, while fuels are fed from the opposite end. Calcination of the product occurs at a temperature of 1700 °F to 2000 °F. The shale is then heated until it is in a semi plastic state to expand internal gases. Draft for each kiln is supplied by individual Barrons 400 hp induced draft fans each rated at 5,300 acfm at 450 °F. The resulting clinker is then transformed from each rotary kiln to individual Fuller Corp. Model 622H forced draft clinker coolers.

Exhaust gases from each cooling clinker are passed through individual Barrons Corp. 2 stage multiple cyclones. Dust is removed from the airstream by centrifugation. Recovered dust is returned to the clinker outfeed from the kiln. Secondary combustion air to the kiln is supplied by forced draft clinker cooler fans rated at a total of 25,000 acfm. The secondary combustion air is pre heated by each clinker cooler at the front end of each kiln. The remaining exhaust gases from each clinker cooler are discharged to atmosphere through individual two stage multicyclones and then through individual 45-inch inside diameter (ID) stacks. The rotary kilns are each exhausted to individual baghouses and then to caustic scrubbers prior to discharge to atmosphere through individual 48-inch ID fiberglass stacks.

2.2 FLOW RATE MONITOR DESCRIPTION

The volumetric flow rate of the kiln exhausts is monitored using Fluid Components International Model GF90 gas flow meters. These instruments are installed at the lower sampling platform on each kiln exhaust. The FRMS are calibrated and audited in accordance with Part 60, Appendix B, PS 6 and Appendix F procedures. The FRMS output to the kiln data acquisition system (DAS) which reports flow data in units of standard cubic feet per minute (scfm).

3. SUMMARY OF TEST PROGRAM

This section provides a summary of the scope of work conducted. Test methods used can be found in Section 4 of this report.

3.1 SCOPE OF WORK SUMMARY

O'Brien & Gere conducted relative accuracy test audits (RATAs) on two primary and one back-up FRMS serving the kiln exhausts at the Norlite Corporation facility located in Cohoes, New York.

Testing of the FRMS units was conducted on May 11 through 13, 2010. Each RATA consisted of nine, 21-minute test runs. Testing was conducted during normal process operating conditions while the process was operating at greater than 50 percent of rated capacity. Relative accuracy (RA) for each FRMS was evaluated in units of scfm.

Facility FRMS data coinciding with the RM test runs is presented in Appendix A of this report.

4. SAMPLING AND ANALYTICAL PROCEDURES

This section provides a description of the test methods that were utilized as part of the testing program.

4.1 REFERENCE TEST METHODS

The RATA testing was conducted using USEPA Reference Methods (RMs) outlined below and as described in Title 40 CFR Part 60, Appendix A.

RM 1: Sample and velocity traverses for stationary sources

RM 2: Determination of stack gas velocity and volumetric flow rate (S-type pitot tube)

RM 3: Gas analysis for the determination of dry molecular weight

RM 4: Determination of moisture content in stack gases

4.2 TEST PORT LOCATIONS

Test ports in each 48-inch inside diameter (ID) kiln exhaust stack are located approximately 33 feet downstream of the ID fan and approximately 35 feet upstream of the stack exhaust. Velocity measurements were performed at 12 traverse points for each volumetric flow test in accordance with USEPA RM 1 requirements. A sketch of the stack configurations and sample locations can be found in Appendix B.

4.3 VOLUMETRIC FLOW RATE

The volumetric flow rate of the kiln exhausts was determined in accordance with USEPA RMs 1 through 4. The gas velocity was determined from velocity pressure data measured using a stainless steel Type-S pitot tube and manometer across the diameter of the stacks. As part of this test, the air stream temperatures were monitored using a thermocouple attached to the pitot tube. Velocity and temperature traverses were taken across the stacks in two directions, each oriented 90° apart in the same plane. USEPA RMs 1 and 2 were followed to establish the equal areas to be measured in identifying the gas velocity and volumetric flow rate.

Oxygen and carbon dioxide concentration data were obtained in accordance with USEPA RM 3 using a Fyrite apparatus. One Fyrite grab sample was collected at a single point in the stack during each moisture test run. A single 60-minute moisture test run encompassed three 21-minute RATA test runs. Samples were collected at a single point in the exhaust stack using an unheated sample probe.

4.4 QUALITY ASSURANCE/QUALITY CONTROL

All reference method test equipment was calibrated before, during, or following use in the field. The dry gas meter/orifice module was calibrated before and following completion of the test program. Temperature read-outs are calibrated upon receipt, immediately following damage or repair, and during field use, as applicable. A post test check of the stack gas thermocouple was also conducted. Copies of the equipment calibration data can be found in Appendix C.

5. FRMS CERTIFICATION RESULTS

A brief discussion of the FRMS certification results is presented below. A tabular summary of all test results can be found in Tables 1, 2 and 3. Supporting field data and calculations can be found in Appendix D.

5.1 FRMS SERIAL NO. 281147 RESULTS

Table 1 summarizes the results of the certification testing conducted on the Serial No. 281147 FRMS. A review of Table 1 indicates that the reference method flow results averaged approximately 36651 scfm. The Serial No. 281147 FRMS results averaged approximately 38419 scfm resulting in an absolute difference and confidence coefficient (cc) of approximately -1768.4 and 174.5 scfm, respectively. The FRMS RA was 5.3 percent, within the Part 60, PS 6 limit of 20 percent.

5.2 FRMS SERIAL NO. 244110A RESULTS

The results of the FRMS Serial No. 244110A certification testing can be found in Table 2. A review of Table 2 indicates that the reference method flow results averaged approximately 36217 scfm. The Serial No. 244110A FRMS results averaged approximately 36608 scfm resulting in an absolute difference and cc of approximately -391.2 and 157.9 scfm, respectively. The FRMS RA was 1.5 percent, within the Part 60, PS 6 limit of 20 percent.

5.3 FRMS SERIAL NO. 246163 RESULTS

The results of the FRMS Serial No. 246163 certification testing can be found in Table 4. A review of Table 4 indicates that the reference method flow results averaged approximately 33628 scfm. The Serial No. 246163 FRMS results averaged approximately 39515 scfm resulting in an absolute difference and cc of approximately -5887.1 and 213.6 scfm, respectively. The FRMS RA was 18.1 percent, within the Part 60, PS 6 limit of 20 percent.

Tables 1 – 3

Table 1
Relative Accuracy - Flow Rate Meter (Serial No. 281147)
Norlite Corporation
Kiln 2
Cohoes, NY

Run ID	Date	Time	Reference Method Data (scfm)	Facility CEMS Data (scfm)	Difference
Run 1	05/13/10	0928-0948	35984	37424	-1439.8
Run 2	05/13/10	0948-1008	36147	37700	-1553.0
Run 3	05/13/10	1008-1028	36127	38051	-1923.5
Run 4	05/13/10	1036-1056	36845	38525	-1679.8
Run 5	05/13/10	1056-1116	37247	38729	-1482.1
Run 6	05/13/10	1116-1136	36876	38761	-1885.4
Run 7	05/13/10	1147-1207	37052	38972	-1919.9
Run 8	05/13/10	1207-1227	36797	38793	-1996.4
Run 9	05/13/10	1227-1247	36783	38819	-2036.2
		Average:	**36651**	**38419**	**-1768.4**

Emission Standard (ES)	**NA**	**Relative Accuracy (% of RM)**	**5.3**
Standard Deviation (Sd)	**231.5**	**Relative Accuracy (% of ES)**	**NA**
Confidence Coefficient (CC)	**174.5**		

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Table 2
Relative Accuracy - Flow Rate Meter (Serial No. 244110A)
Norlite Corporation
Kiln 1
Cohoes, NY

Run ID	Date	Time	Reference Method Data (scfm)	Facility CEMS Data (scfm)	Difference
Run 1	05/11/10	1329-1349	36459	37000	-540.9
Run 2	05/11/10	1349-1409	36259	36329	-69.5
Run 3	05/11/10	1409-1429	36023	36379	-356.1
Run 4	05/11/10	1439-1459	35973	36372	-399.5
Run 5	05/11/10	1459-1519	35895	36583	-688.5
Run 6	05/11/10	1519-1539	36038	36456	-418.2
Run 7	05/11/10	1547-1607	36117	36609	-492.5
Run 8	05/11/10	1607-1627	36492	36811	-318.7
Run 9	05/11/10	1627-1647	36370	36934	-563.6
		Average:	**36181**	**36608**	**-427.5**

Emission Standard (ES)	**NA**	**Relative Accuracy (% of RM)**	**1.5**
Standard Deviation (Sd)	**176.7**	**Relative Accuracy (% of ES)**	**NA**
Confidence Coefficient (CC)	**133.2**		

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Table 3
Relative Accuracy - Flow Rate Meter (Serial No. 246163)
Norlite Corporation
Kiln 2
Cohoes, NY

Run ID	Date	Time	Reference Method Data (scfm)	Facility CEMS Data (scfm)	Difference
Run 1	05/12/10	1642-1702	34298	39792	-5493.5
Run 2	05/12/10	1702-1722	33125	39188	-6063.1
Run 3	05/12/10	1722-1742	33015	38904	-5889.3
Run 4	05/12/10	1708-1729	33401	39058	-5656.9
Run 5	05/12/10	1729-1750	33335	39260	-5924.9
Run 6	05/12/10	1757-1818	33824	39486	-5661.8
Run 7	05/12/10	1818-1839	33890	39783	-5893.0
Run 8	05/12/10	1839-1900	33948	39871	-5923.1
Run 9	05/12/10	1904-1925	33812	40290	-6478.3
		Average:	**33628**	**39515**	**-5887.1**

Emission Standard (ES)	**NA**	**Relative Accuracy (% of RM)**	**18.1**
Standard Deviation (Sd)	**283.3**	**Relative Accuracy (% of ES)**	**NA**
Confidence Coefficient (CC)	**213.6**		

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Facility FRMS Data

244110A

Kiln 1	Passed
timestamp	K1_FT_5555_MRA_VAL0
5/11/2010 13:29:00	38558
5/11/2010 13:30:00	38411
5/11/2010 13:31:00	38159
5/11/2010 13:32:00	37508
5/11/2010 13:33:00	37088
5/11/2010 13:34:00	37235
5/11/2010 13:35:00	37823
5/11/2010 13:36:00	37151
5/11/2010 13:37:00	36962
5/11/2010 13:38:00	36962
5/11/2010 13:39:00	36458
5/11/2010 13:40:00	36542
5/11/2010 13:41:00	36290
5/11/2010 13:42:00	36227
5/11/2010 13:43:00	36185
5/11/2010 13:44:00	36395
5/11/2010 13:45:00	36626
5/11/2010 13:46:00	36773
5/11/2010 13:47:00	36584
5/11/2010 13:48:00	36437
5/11/2010 13:49:00	36626
	37000
5/11/2010 13:50:00	36374
5/11/2010 13:51:00	36017
5/11/2010 13:52:00	36185
5/11/2010 13:53:00	36290
5/11/2010 13:54:00	36122
5/11/2010 13:55:00	36731
5/11/2010 13:56:00	36542
5/11/2010 13:57:00	36416
5/11/2010 13:58:00	36080
5/11/2010 13:59:00	36164
5/11/2010 14:00:00	35828
5/11/2010 14:01:00	36017
5/11/2010 14:02:00	35828
5/11/2010 14:03:00	36521
5/11/2010 14:04:00	36416
5/11/2010 14:05:00	37088
5/11/2010 14:06:00	36164
5/11/2010 14:07:00	36584
5/11/2010 14:08:00	37046
5/11/2010 14:09:00	36164
	36329

5/11/2010 14:10:00	36458
5/11/2010 14:11:00	36164
5/11/2010 14:12:00	36752
5/11/2010 14:13:00	36290
5/11/2010 14:14:00	36248
5/11/2010 14:15:00	36101
5/11/2010 14:16:00	36164
5/11/2010 14:17:00	35870
5/11/2010 14:18:00	36038
5/11/2010 14:19:00	35954
5/11/2010 14:20:00	36584
5/11/2010 14:21:00	36500
5/11/2010 14:22:00	36605
5/11/2010 14:23:00	36479
5/11/2010 14:24:00	36122
5/11/2010 14:25:00	36668
5/11/2010 14:26:00	36542
5/11/2010 14:27:00	36437
5/11/2010 14:28:00	36794
5/11/2010 14:29:00	36815
	36379

5/11/2010 14:39:00	36458
5/11/2010 14:40:00	36500
5/11/2010 14:41:00	36395
5/11/2010 14:42:00	36983
5/11/2010 14:43:00	36206
5/11/2010 14:44:00	36164
5/11/2010 14:45:00	36164
5/11/2010 14:46:00	36458
5/11/2010 14:47:00	36332
5/11/2010 14:48:00	36458
5/11/2010 14:49:00	36311
5/11/2010 14:50:00	36395
5/11/2010 14:51:00	36521
5/11/2010 14:52:00	35912
5/11/2010 14:53:00	36164
5/11/2010 14:54:00	35996
5/11/2010 14:55:00	36668
5/11/2010 14:56:00	36437
5/11/2010 14:57:00	36542
5/11/2010 14:58:00	36605
5/11/2010 14:59:00	36143
	36372

5/11/2010 15:00:00	36710
5/11/2010 15:01:00	36290
5/11/2010 15:02:00	36416
5/11/2010 15:03:00	36332
5/11/2010 15:04:00	37340
5/11/2010 15:05:00	37151
5/11/2010 15:06:00	36584
5/11/2010 15:07:00	36479
5/11/2010 15:08:00	36689
5/11/2010 15:09:00	36668
5/11/2010 15:10:00	36353
5/11/2010 15:11:00	36479
5/11/2010 15:12:00	36500
5/11/2010 15:13:00	36878
5/11/2010 15:14:00	36605
5/11/2010 15:15:00	36647
5/11/2010 15:16:00	36353
5/11/2010 15:17:00	36857
5/11/2010 15:18:00	36290
5/11/2010 15:19:00	36038
	36583

5/11/2010 15:20:00	36395
5/11/2010 15:21:00	36584
5/11/2010 15:22:00	36836
5/11/2010 15:23:00	36542
5/11/2010 15:24:00	36332
5/11/2010 15:25:00	36332
5/11/2010 15:26:00	36836
5/11/2010 15:27:00	36101
5/11/2010 15:28:00	36248
5/11/2010 15:29:00	35429
5/11/2010 15:30:00	36794
5/11/2010 15:31:00	36626
5/11/2010 15:32:00	36416
5/11/2010 15:33:00	36353
5/11/2010 15:34:00	36563
5/11/2010 15:35:00	36773
5/11/2010 15:36:00	36248
5/11/2010 15:37:00	36353
5/11/2010 15:38:00	36563
5/11/2010 15:39:00	36794
	36456

5/11/2010 15:47:00	36332
5/11/2010 15:48:00	37067
5/11/2010 15:49:00	36731
5/11/2010 15:50:00	36710
5/11/2010 15:51:00	36458
5/11/2010 15:52:00	36521
5/11/2010 15:53:00	36500
5/11/2010 15:54:00	36416
5/11/2010 15:55:00	36227
5/11/2010 15:56:00	36416
5/11/2010 15:57:00	36878
5/11/2010 15:58:00	36710
5/11/2010 15:59:00	36542
5/11/2010 16:00:00	36500
5/11/2010 16:01:00	36269
5/11/2010 16:02:00	36458
5/11/2010 16:03:00	36563
5/11/2010 16:04:00	36374
5/11/2010 16:05:00	36899
5/11/2010 16:06:00	37172
5/11/2010 16:07:00	37046
	36609

5/11/2010 16:08:00	36815
5/11/2010 16:09:00	36227
5/11/2010 16:10:00	36332
5/11/2010 16:11:00	36794
5/11/2010 16:12:00	36668
5/11/2010 16:13:00	35849
5/11/2010 16:14:00	37319
5/11/2010 16:15:00	37004
5/11/2010 16:16:00	36836
5/11/2010 16:17:00	36962
5/11/2010 16:18:00	36668
5/11/2010 16:19:00	37004
5/11/2010 16:20:00	36962
5/11/2010 16:21:00	36794
5/11/2010 16:22:00	36878
5/11/2010 16:23:00	37361
5/11/2010 16:24:00	36983
5/11/2010 16:25:00	36962
5/11/2010 16:26:00	36920
5/11/2010 16:27:00	36878
	36811

5/11/2010 16:28:00	37025
5/11/2010 16:29:00	37004
5/11/2010 16:30:00	36710
5/11/2010 16:31:00	36962
5/11/2010 16:32:00	37256
5/11/2010 16:33:00	37151
5/11/2010 16:34:00	37172
5/11/2010 16:35:00	36731
5/11/2010 16:36:00	36815
5/11/2010 16:37:00	36836
5/11/2010 16:38:00	36983
5/11/2010 16:39:00	37067
5/11/2010 16:40:00	37046
5/11/2010 16:41:00	36962
5/11/2010 16:42:00	36857
5/11/2010 16:43:00	36710
5/11/2010 16:44:00	36752
5/11/2010 16:45:00	36857
5/11/2010 16:46:00	36731
5/11/2010 16:47:00	37046
	36934

246163

246163

K2 timestamp	Passed K2_FT_5555_MRA_VAL0
5/12/2010 15:42:00	39755
5/12/2010 15:43:00	39566
5/12/2010 15:44:00	39755
5/12/2010 15:45:00	39986
5/12/2010 15:46:00	40070
5/12/2010 15:47:00	40112
5/12/2010 15:48:00	40028
5/12/2010 15:49:00	39545
5/12/2010 15:50:00	39818
5/12/2010 15:51:00	39923
5/12/2010 15:52:00	40070
5/12/2010 15:53:00	40322
5/12/2010 15:54:00	39776
5/12/2010 15:55:00	39650
5/12/2010 15:56:00	39860
5/12/2010 15:57:00	39566
5/12/2010 15:58:00	39692
5/12/2010 15:59:00	39524
5/12/2010 16:00:00	39524
5/12/2010 16:01:00	39440
5/12/2010 16:02:00	39650
	39792
5/12/2010 16:03:00	39650
5/12/2010 16:04:00	39398
5/12/2010 16:05:00	39461
5/12/2010 16:06:00	38600
5/12/2010 16:07:00	38726
5/12/2010 16:08:00	39398
5/12/2010 16:09:00	39356
5/12/2010 16:10:00	39398
5/12/2010 16:11:00	39272
5/12/2010 16:12:00	39146
5/12/2010 16:13:00	39545
5/12/2010 16:14:00	39356
5/12/2010 16:15:00	39314
5/12/2010 16:16:00	39020
5/12/2010 16:17:00	39041
5/12/2010 16:18:00	38663
5/12/2010 16:19:00	38684
5/12/2010 16:20:00	39272
5/12/2010 16:21:00	39272
5/12/2010 16:22:00	39188
	39188

5/12/2010 16:23:00	39545
5/12/2010 16:24:00	39503
5/12/2010 16:25:00	38978
5/12/2010 16:26:00	38432
5/12/2010 16:27:00	38537
5/12/2010 16:28:00	38978
5/12/2010 16:29:00	38999
5/12/2010 16:30:00	39125
5/12/2010 16:31:00	38831
5/12/2010 16:32:00	38138
5/12/2010 16:33:00	38894
5/12/2010 16:34:00	39020
5/12/2010 16:35:00	39062
5/12/2010 16:36:00	39062
5/12/2010 16:37:00	38054
5/12/2010 16:38:00	38453
5/12/2010 16:39:00	39062
5/12/2010 16:40:00	39188
5/12/2010 16:41:00	39146
5/12/2010 16:42:00	39062
	38904

5/12/2010 16:52:00	38810
5/12/2010 16:53:00	39020
5/12/2010 16:54:00	39020
5/12/2010 16:55:00	39314
5/12/2010 16:56:00	39419
5/12/2010 16:57:00	39188
5/12/2010 16:58:00	39083
5/12/2010 16:59:00	38936
5/12/2010 17:00:00	38558
5/12/2010 17:01:00	38537
5/12/2010 17:02:00	38810
5/12/2010 17:03:00	39062
5/12/2010 17:04:00	39146
5/12/2010 17:05:00	39587
5/12/2010 17:06:00	39356
5/12/2010 17:07:00	39272
5/12/2010 17:08:00	39230
5/12/2010 17:09:00	39167
5/12/2010 17:10:00	39230
5/12/2010 17:11:00	38558
5/12/2010 17:12:00	38915
	39058

5/12/2010 17:13:00	39272
5/12/2010 17:14:00	39251
5/12/2010 17:15:00	39356
5/12/2010 17:16:00	39608
5/12/2010 17:17:00	39482
5/12/2010 17:18:00	39230
5/12/2010 17:19:00	38558
5/12/2010 17:20:00	39020
5/12/2010 17:21:00	39419
5/12/2010 17:22:00	39524
5/12/2010 17:23:00	39650
5/12/2010 17:24:00	38684
5/12/2010 17:25:00	38789
5/12/2010 17:26:00	39314
5/12/2010 17:27:00	39692
5/12/2010 17:28:00	39629
5/12/2010 17:29:00	39545
5/12/2010 17:30:00	38642
5/12/2010 17:31:00	38894
5/12/2010 17:32:00	39629
	39260

5/12/2010 17:33:00	39671
5/12/2010 17:34:00	39713
5/12/2010 17:35:00	39104
5/12/2010 17:36:00	39125
5/12/2010 17:37:00	39671
5/12/2010 17:38:00	39797
5/12/2010 17:39:00	39776
5/12/2010 17:40:00	39818
5/12/2010 17:41:00	39251
5/12/2010 17:42:00	38768
5/12/2010 17:43:00	39650
5/12/2010 17:44:00	39650
5/12/2010 17:45:00	39881
5/12/2010 17:46:00	39692
5/12/2010 17:47:00	39545
5/12/2010 17:48:00	39923
5/12/2010 17:49:00	39062
5/12/2010 17:50:00	38978
5/12/2010 17:51:00	39356
5/12/2010 17:52:00	39293
	39486

281147

281147

K2	Passed
timestamp	K2_FT_5555_MRA_VAL0
5/13/2010 9:28:00	37256
5/13/2010 9:29:00	37508
5/13/2010 9:30:00	37634
5/13/2010 9:31:00	37676
5/13/2010 9:32:00	37382
5/13/2010 9:33:00	37466
5/13/2010 9:34:00	37298
5/13/2010 9:35:00	37193
5/13/2010 9:36:00	37781
5/13/2010 9:37:00	37592
5/13/2010 9:38:00	37403
5/13/2010 9:39:00	37550
5/13/2010 9:40:00	37361
5/13/2010 9:41:00	37277
5/13/2010 9:42:00	37277
5/13/2010 9:43:00	37676
5/13/2010 9:44:00	37466
5/13/2010 9:45:00	37235
5/13/2010 9:46:00	37298
5/13/2010 9:47:00	37256
5/13/2010 9:48:00	37319
	37424
5/13/2010 9:49:00	37718
5/13/2010 9:50:00	37172
5/13/2010 9:51:00	37466
5/13/2010 9:52:00	37550
5/13/2010 9:53:00	37025
5/13/2010 9:54:00	37466
5/13/2010 9:55:00	37865
5/13/2010 9:56:00	37634
5/13/2010 9:57:00	37529
5/13/2010 9:58:00	37718
5/13/2010 9:59:00	37844
5/13/2010 10:00:00	37802
5/13/2010 10:01:00	37718
5/13/2010 10:02:00	37928
5/13/2010 10:03:00	37655
5/13/2010 10:04:00	37865
5/13/2010 10:05:00	38264
5/13/2010 10:06:00	37949
5/13/2010 10:07:00	38117
5/13/2010 10:08:00	37718
	37700

5/13/2010 10:09:00	37676
5/13/2010 10:10:00	38033
5/13/2010 10:11:00	38327
5/13/2010 10:12:00	38075
5/13/2010 10:13:00	37928
5/13/2010 10:14:00	37991
5/13/2010 10:15:00	37928
5/13/2010 10:16:00	37949
5/13/2010 10:17:00	37928
5/13/2010 10:18:00	37991
5/13/2010 10:19:00	38054
5/13/2010 10:20:00	37802
5/13/2010 10:21:00	38117
5/13/2010 10:22:00	38243
5/13/2010 10:23:00	38033
5/13/2010 10:24:00	37970
5/13/2010 10:25:00	38012
5/13/2010 10:26:00	38096
5/13/2010 10:27:00	38474
5/13/2010 10:28:00	38390
	38051

5/13/2010 10:36	38747
5/13/2010 10:37	38684
5/13/2010 10:38	38369
5/13/2010 10:39	38453
5/13/2010 10:40	38222
5/13/2010 10:41	38306
5/13/2010 10:42	38663
5/13/2010 10:43	38684
5/13/2010 10:44	38348
5/13/2010 10:45	38348
5/13/2010 10:46	38201
5/13/2010 10:47	38495
5/13/2010 10:48	38873
5/13/2010 10:49	38684
5/13/2010 10:50	38306
5/13/2010 10:51	38369
5/13/2010 10:52	38705
5/13/2010 10:53	38768
5/13/2010 10:54	38516
5/13/2010 10:55	38768
5/13/2010 10:56	38516
	38525

5/13/2010 10:57	38894
5/13/2010 10:58	38768
5/13/2010 10:59	38747
5/13/2010 11:00	38726
5/13/2010 11:01	38936
5/13/2010 11:02	38663
5/13/2010 11:03	38621
5/13/2010 11:04	38642
5/13/2010 11:05	38810
5/13/2010 11:06	38915
5/13/2010 11:07	38621
5/13/2010 11:08	38810
5/13/2010 11:09	38747
5/13/2010 11:10	38894
5/13/2010 11:11	38684
5/13/2010 11:12	38516
5/13/2010 11:13	38453
5/13/2010 11:14	38495
5/13/2010 11:15	38684
5/13/2010 11:16	38957
	38729

5/13/2010 11:17	38831
5/13/2010 11:18	38768
5/13/2010 11:19	38810
5/13/2010 11:20	38684
5/13/2010 11:21	38747
5/13/2010 11:22	38558
5/13/2010 11:23	38705
5/13/2010 11:24	38894
5/13/2010 11:25	39062
5/13/2010 11:26	38978
5/13/2010 11:27	38600
5/13/2010 11:28	38516
5/13/2010 11:29	38726
5/13/2010 11:30	38642
5/13/2010 11:31	38621
5/13/2010 11:32	38642
5/13/2010 11:33	38600
5/13/2010 11:34	38978
5/13/2010 11:35	39167
5/13/2010 11:36	38684
	38761

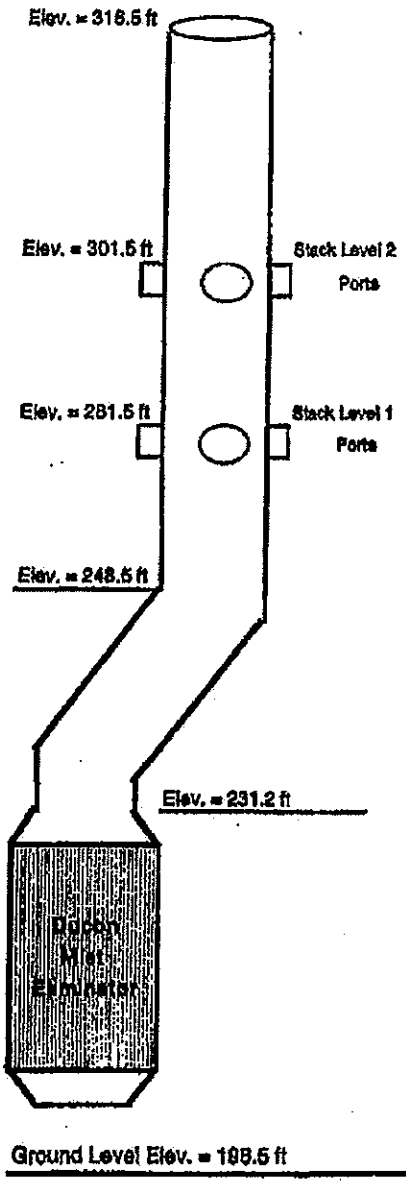
5/13/2010 11:47	38936
5/13/2010 11:48	38873
5/13/2010 11:49	39146
5/13/2010 11:50	38684
5/13/2010 11:51	39062
5/13/2010 11:52	39272
5/13/2010 11:53	39272
5/13/2010 11:54	39146
5/13/2010 11:55	38684
5/13/2010 11:56	38894
5/13/2010 11:57	39020
5/13/2010 11:58	38999
5/13/2010 11:59	38978
5/13/2010 12:00	38915
5/13/2010 12:01	38810
5/13/2010 12:02	38789
5/13/2010 12:03	39020
5/13/2010 12:04	38852
5/13/2010 12:05	38726
5/13/2010 12:06	39041
5/13/2010 12:07	39293
	38972

5/13/2010 12:08	39377
5/13/2010 12:09	39020
5/13/2010 12:10	38600
5/13/2010 12:11	38747
5/13/2010 12:12	38852
5/13/2010 12:13	38852
5/13/2010 12:14	39062
5/13/2010 12:15	38873
5/13/2010 12:16	38348
5/13/2010 12:17	38600
5/13/2010 12:18	38936
5/13/2010 12:19	38957
5/13/2010 12:20	38621
5/13/2010 12:21	38474
5/13/2010 12:22	38642
5/13/2010 12:23	38642
5/13/2010 12:24	38726
5/13/2010 12:25	38579
5/13/2010 12:26	38894
5/13/2010 12:27	39062
	38793

5/13/2010 12:28	38768
5/13/2010 12:29	38747
5/13/2010 12:30	38852
5/13/2010 12:31	38957
5/13/2010 12:32	39041
5/13/2010 12:33	38978
5/13/2010 12:34	38894
5/13/2010 12:35	38789
5/13/2010 12:36	38831
5/13/2010 12:37	38894
5/13/2010 12:38	38852
5/13/2010 12:39	38852
5/13/2010 12:40	38621
5/13/2010 12:41	38957
5/13/2010 12:42	39020
5/13/2010 12:43	38663
5/13/2010 12:44	38432
5/13/2010 12:45	38684
5/13/2010 12:46	38726
5/13/2010 12:47	38810
	38819

Schematic of Test Location

Figure 3-1 Kiln 1 and Kiln 2 Traverse Point Data



KEY STACK PARAMETERS		
Parameter	Units	Value
Temp.	°F	140
Moisture	% v/v	16.3
O_2	% v/v	14.3
CO_2	% v/v	5.1
Flowrate	dscfm	31,000
Vel. Press.	in. w.c.	0.82
Static P.	in. w.c.	0.25

← TEST PORTS USED FOR FRMS CERTIFICATION

TRAVERSE POINT DATA		
Pt. No.	% of Diam.	Dist. Incl. Port (in.)
1	4.4%	8.1
2	14.6%	13.0
3	29.5%	20.2
4	70.4%	39.8
5	85.4%	47.0
6	95.6%	61.9

Stack ID = 48 Inches
Port + Wall = 6.0 Inches

Kiln # 1 or # 2
Norlite Corporation
Cohoes, NY

Equipment Calibration Data

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
2) Record barometric pressure before and after calibration procedure.
3) Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
4) Record data and information in the **GREEN** cells, YELLOW cells are calculated.

							INITIAL	FINAL	AVG (P_{bar})
DATE:	6/24/2010	METER SERIAL #:	MB1	BAROMETRIC PRESSURE (In Hg):			29.26	29.04	29.15
METER PART #:		CRITICAL ORIFICE SET SERIAL #:	1393						

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (In Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	NET (V_m)	TEMPERATURES °F AMBIENT	DGM INLET INITIAL	DGM INLET FINAL	DGM OUTLET INITIAL	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH (In H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y	Y % Diff to Average Y	Y % Diff with other orifices	$\Delta H_@$
11	1	0.306				.0						0								
	2	0.306	23	353.878	359.894	6.016	76	81	81	77	77	79	15.00	0.43	5.7488	5.7809	1.006			1.56
	3	0.306				.0						0								
																AVG =	1.006	-1.94	-0.39	
16	1	0.4268				.0						0								
	2	0.4268	22	345.536	353.878	8.342	76	80	80	77	77	78.5	15.00	0.65	7.9873	8.0630	1.009			1.58
	3	0.4268				.0						0								
																AVG =	1.009	-1.56	0.39	
18	1	0.4961				.0						0								
	2	0.4961	19	336.024	345.536	9.512	76	79	80	76	77	78	15.00	1.2	9.1241	9.3722	1.027			1.66
	3	0.4961				.0						0								
																AVG =	1.027	0.16	1.76	
26	1	0.7131				.0						0								
	2	0.7131	19	321.60	335.914	14.314	76	78	81	75	76	77.5	16.00	2.4	13.7845	14.3699	1.042			1.61
	3	0.7131				.0						0								
																AVG =	1.042	1.65	1.49	
31	1	0.8358				.0						0								
	2	0.8358	7.5	275.248	290.946	15.699	76	78	83	75	76	78	15.00	3.4	15.1416	15.7898	1.043			1.66
	3	0.8358				.0						0								
																AVG =	1.043	1.69	1.52	

USING THE CRITICAL ORIFICES AS CALIBRATION STANDARDS:
The following equations are used to calculate the standard volumes of air passed through the DGM, V_m (std), and the critical orifice, V_{cr} (std), and the DGM calibration factor, Y. These equations are automatically calculated in the spreadsheet above.

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y = 1.026

AVERAGE $\Delta H_@$ = 1.62

(1) $$Vm_{(std)} = K_1 * Vm * \frac{Pbar + (\Delta H / 13.6)}{Tm}$$

= Net volume of gas sample passed through DGM, corrected to standard conditions
K_1 = 17.64 °R/in. Hg (English), 0.3858 °K/mm Hg (Metric)
T_m = Absolute DGM avg. temperature (°R - English, °K - Metric)

(2) $$Vcr_{(std)} = K' * \frac{Pbar * \Theta}{\sqrt{Tamb}}$$

= Volume of gas sample passed through the critical orifice, corrected to standard conditions
T_{amb} = Absolute ambient temperature (°R - English, °K - Metric)
K' = Average K' factor from Critical Orifice Calibration

(3) $$Y = \frac{Vcr_{(std)}}{Vm_{(std)}}$$

= DGM calibration factor

$$\Delta H_@ = \left(\frac{0.75\,\theta}{V_{cr(std)}}\right)^2 \Delta H \left(\frac{V_{m(std)}}{V_m}\right)$$

MB1 06-24-10.xlsx

POST TEST DRY GAS METER CALIBRATION

DATE: 06/23/10

TECHNICIAN: JLS

METER BOX #: MB1

CRITICAL ORIFICE SET SERIAL #: 1393

	INITIAL	FINAL	AVG (P_{bar})
BAROMETRIC PRESSURE (in Hg):	29.3	29.3	29.3

ORIFICE #	RUN #	K' FACTOR (AVG)	TESTED VACUUM (in Hg)	DGM READINGS (FT^3) INITIAL	DGM READINGS (FT^3) FINAL	NET (V_m)	TEMPERATURES °F AMBIENT	DGM INLET INITIAL	DGM INLET FINAL	DGM OUTLET INITIAL	DGM OUTLET FINAL	DGM AVG	ELAPSED TIME (MIN) θ	DGM ΔH (in H_2O)	(1) V_m (STD)	(2) V_{cr} (STD)	(3) Y		
18	1	0.4961	21			.0						0							
	2	0.4961	21			.0						0							
	3	0.4961	21			.0						0							
																AVG =			
18	1	0.4961	21	240.372	249.818	9.446	74	76	77	74	75	75.5	15.00	1.2	9.1498	9.4381	1.032		1.65
	2	0.4961	21	249.818	259.292	9.474	74	77	78	74	75	76	15.00	1.2	9.1684	9.4381	1.029		1.65
	3	0.4961	22	230.894	240.372	9.478	74	76	76	74	75	75.25	15.00	1.2	9.1851	9.4381	1.028		1.65
																AVG =	1.029	0.00	
	1					.0						0							
	2					.0						0							
	3					.0						0							
																AVG =			

AVERAGE DRY GAS METER CALIBRATION FACTOR, Y =	1.029
PRE-DETERMINED DRY GAS METER CALIBRATION FACTOR, Y =	1.083
PERCENT DIFFERENCE =	-4.9

O'BRIEN & GERE

Initial Impinger Outlet Thermocouple Calibration

ID Number	Ice Bath			Ambient			Hot Water Bath			Technician	Date Performed
	Reference Temperature (°Rk	Thermocouple Temperature (°Rk	Deviation*	Reference Temperature (°Rk	Thermocouple Temperature (°Rk	Deviation*	Reference Temperature (°Rk	Thermocouple Temperature (°Rk	Deviation*		
IO-1	493	492	-0.2%	526	526	0.0%	672	670	-0.3%	MAS	01/12/10
IO-2	493	492	-0.2%	526	526	0.0%	672	670	-0.3%	MAS	01/12/10
IO-3	493	493	0.0%	526	527	0.2%	672	670	-0.3%	MAS	01/12/10
IO-4	493	492	-0.2%	526	528	0.4%	672	670	-0.3%	MAS	01/12/10
IO-5	493	492	-0.2%	526	526	0.0%	672	670	-0.3%	MAS	01/12/10
IO-6	493	493	0.0%	526	527	0.2%	672	670	-0.3%	MAS	01/12/10
IO-8	493	493	0.0%	526	527	0.2%	672	670	-0.3%	MAS	01/12/10
IO-10	493	492	-0.2%	526	526	0.0%	672	670	-0.3%	MAS	01/12/10

Reference Thermocouple: Fluke S/N: 83450033 or S/N 90460057 traceable to the Untied States National Institute of Standards and Technology
*Acceptable Deviation: 1.5%

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Initial Meterbox Thermocouple Calibration

ID Number	Ice Bath			Ambient			Hot Water Bath				
	Reference Temperature (°R)	Thermocouple Temperature (°R)	Deviation*	Reference Temperature (°R)	Thermocouple Temperature (°R)	Deviation*	Reference Temperature (°R)	Thermocouple Temperature (°R)	Deviation*	Technician	Date Performed
MB1 Inlet	492	493	0.2%	532	532	0.0%	672	674	0.3%	JLS	08/25/03
MB1 Outlet	492	492	0.0%	532	530	-0.4%	672	673	0.1%	JLS	08/25/03
MB2 Inlet	492	493	0.2%	531	532	0.2%	672	671	-0.1%	EMA	06/16/03
MB2 Outlet	492	492	0.0%	531	532	0.2%	672	672	0.0%	EMA	06/16/03
MB3 Inlet	492	493	0.2%	532	533	0.2%	672	673	0.1%	EMA	06/19/03
MB3 Outlet	492	492	0.0%	532	532	0.0%	672	671	-0.1%	EMA	06/19/03
MB4 Inlet	492	491	-0.2%	532	532	0.0%	672	670	-0.3%	JLS	08/25/03
MB4 Outlet	492	492	0.0%	532	531	-0.2%	672	671	-0.1%	JLS	08/25/03
MB5 Inlet	492	493	0.2%	528	533	0.9%	672	671	-0.1%	JLS	04/27/04
MB5 Outlet	492	493	0.2%	528	533	0.9%	672	671	-0.1%	JLS	04/27/04
MB6 Inlet	492	494	0.4%	532	533	0.2%	672	670	-0.3%	JLS	09/17/04
MB6 Outlet	492	493	0.2%	532	533	0.2%	672	671	-0.1%	JLS	09/17/04
MB7 Inlet	492	493	0.2%	535	535	0.0%	672	673	0.1%	EMA	07/15/05
MB7 Outlet	492	493	0.2%	535	536	0.2%	672	672	0.0%	EMA	07/15/05
MB8 Inlet	492	493	0.2%	528	527	-0.2%	672	675	0.4%	BPG	12/27/05
MB8 Outlet	492	495	0.6%	528	529	0.2%	672	673	0.1%	BPG	12/27/05
MB9 Inlet	492	497	1.0%	528	526	-0.4%	672	676	0.6%	BPG	12/27/05
MB9 Outlet	492	496	0.8%	528	529	0.2%	672	671	-0.1%	BPG	12/27/05
MB10 Inlet	492	493	0.1%	524	525	0.2%	669	669	0.0%	BAG	04/27/06
MB10 Outlet	493	494	0.2%	524	525	0.2%	668	668	0.0%	BAG	04/27/06
MB11 Inlet	492	493	0.2%	539	543	0.7%	670	668	-0.3%	BAG	08/23/06
MB11 Outlet	492	493	0.1%	539	539	0.0%	670	669	-0.2%	BAG	08/23/06

Reference Thermocouple: Fluke S/N: 83450033 or S/N 90460057 traceable to the Untied States National Institute of Standards and Technology
*Acceptable Deviation: 1.5%

Field Data and Calculations

O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed: 1 through 4

Client	Norlite	Run Number	1-3	Pitot Number	P5
Location	Cohoes, NY	Stack Diameter	48"	Pitot Coefficient	.84
Source	Unit #1 Stack	Barometric Pres.		Stack TC I.D.	K5
Date	5/11/10	Static Pressure	.30	Oven Box I.D.	OB-7
Operators	BL/AG	Meter Box #	1	Impinger Out I.D.	FO-3
Start Time	1:30 1329	Meter delta H	1.58	Flow Box I.D.	
End Time	2:30 1430	Meter Gamma	1.083		

Run No. 1 1330-1350 Run No. 2 1350-1410 R3 1410-1430

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft^3)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
A1	5	1.58	675.818						60	63	63	4	
2	10		—						50	66	63	4	
3	15		—						46	67	64	4	
4	20		686.1						46	69	64	4	
5	25		689.6						50	69	64	4	
6	30		692.5						51	71	64	4	
	35		695.3						51	72	64	4	
B1	40		699.1						51	73	65	4	
2	45		—						51	75	66	4	
3	50		—						52	77	67	4	
4	55		710.1						53	78	68	4	
5	60	↓	712.6						53	76	66	4	
6													
		FV=	715.753										

Leak Check Rates	Sample Rate in.	Sample Rate cfm	Pitot +	Pitot -
Initial	10	.001	✓	✓
Mid				
Mid				
Final	10	.001	✓	✓

Impinger Data (vol) #	Initial	Final
1	100	
2	100	
3	0	
4	SC	
5		
6		

Silica Gel Data (gm) #	Initial	Final
1	228.0	265.7
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%) #	O_2	CO_2
1		
2		
3		

O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed 1 through 4

Client	Norlite inc	Run Number	4-6	Pitot Number	P5
Location	Cohoes, NY	Stack Diameter	48	Pitot Coefficient	.84
Source	Unit #1	Barometric Pres.		Stack TC I.D.	P5
Date	5/11/10	Static Pressure	.30	Oven Box I.D.	08
Operators	BG/JS	Meter Box #	1	Impinger Out I.D.	E0-3
Start Time	1437	Meter delta H	1.58	Flow Box I.D.	
End Time	1539	Meter Gamma	1.033		

Run No. 4 1437-1455 Run No. 5 1459-1519 R. 6 1519-1535

Leak Check Rates				
	Sample Rate in.	cfm	Pitot +	Pitot -
Initial	10	.002	✓	✓
Mid				
Mid				
Final	12	.001	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft^3)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
A1	5	1.58	716.014						61	67	66	4	
2	10		—						56	67	66	4	
3	15		—						54	71	67	4	
4	20		729.1						52	74	67	4	
5	25		—						53	74	67	4	
6	30		—						54	75	69	4	
1	35		—						55	76	68	4	
B1	40		—						55	76	69	4	
2	45		942.5						55	76	68	4	
3	50		—						55	77	68	4	
4	55		750.0						56	77	68	4	
5	60	↓	—						56	77	68	4	
6		FV=	756.490										

Impinger Data (vol)		
#	Initial	Final
1	100	
2	100	
3	0	
4	sc	
5		
6		

Silica Gel Data (gm)		
#	Initial	Final
1	210.6	218.6
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%)		
#	O_2	CO_2
1		
2		
3		

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O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed 1 through 4

Client	Norlite THC	Run Number	7-9	Pitot Number	PS
Location	Cohoes NY	Stack Diameter	48	Pitot Coefficient	.84
Source	Unit #1	Barometric Pres.		Stack TC I.D.	PS
Date	5/11/10	Static Pressure	.30	Oven Box I.D.	—
Operators	BE/JS	Meter Box #	1	Impinger Out I.D.	20-3
Start Time	3:47	Meter delta H	1.58	Flow Box I.D.	
End Time	4:47	Meter Gamma	1.087		

Run No. 7 1547-1607 Run No. 8 1607-1627 9 1627-1647

Leak Check Rates				
	Sample Rate in.	cfm	Pitot +	Pitot -
Initial	10	.002	✓	✓
Mid				
Mid				
Final	10	.002	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft^3)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
	5	1.58	756.640						56	76	66	4	
	10		—						54	76	66	4	
	15		765.7						52	76	66	4	
	20		768.1						52	76	66	4	
	25		—						52	76	67	4	
	30		—						52	77	68	4	
	35		775						53	77	69	4	
	40		779.1						52	77	69	4	
	45		—						53	77	69	4	
	50		—						54	77	70	4	
	55		790.1						55	78	70	4	
	60		793.4						56	78	70	4	
		FV=	795.956										

Impinger Data (vol)		
#	Initial	Final
1	100	131
2	100	104
3	0	0
4	36	
5		
6		

Silica Gel Data (gm)		
#	Initial	Final
1	316.1	320.2
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%)		
#	O_2	CO_2
1		
2		
3		

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O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed: 1 through 4

Client	Norlite	Run Number	1-3	Pitot Number	P5
Location	Cohoes NY	Stack Diameter	48	Pitot Coefficient	.84
Source	Unit 2	Barometric Pres.		Stack TC I.D.	P5
Date	5/12/10	Static Pressure		Oven Box I.D.	—
Operators	BG/JS	Meter Box #	1	Impinger Out I.D.	IO-3
Start Time	7:49	Meter delta H	1.58	Flow Box I.D.	
End Time	8:49	Meter Gamma	1.083		

Run No. 1 749-809 Run No. 2 907-829 #3 529-845

Leak Check Rates	Sample Rate		Pitot	
	in.	cfm	+	-
Initial	10	.001	✓	✓
Mid				
Mid				
Final	10	.001	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft³)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
	5	1.58	796.648						47	59	58	2	
	10	↓	—						48	60	58	2	
	15		801.1						49	63	59	2	
	20		805.6						53	67	59	2	
	25		—						53	68	60	2	
	30		—						52	69	60	2	
	35		—						51	70	61	2	
	40		—						50	72	62	2	
	45		820.6						48	73	63	2	
	50		827.5						47	74	64	2	
	55		—						46	75	65	2	
	60	↓	833.6						49	75	65	2	
		FV=	836.588										

Impinger Data (vol)		
#	Initial	Final
1	100	202
2	100	102
3	0	
4	40	
5		
6		

Silica Gel Data (gm)		
#	Initial	Final
1	298.1	302.5
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%)		
#	O_2	CO_2
1		
2		
3		

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O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed 1 through 4

Client	Norlite Inc	Run Number	4-6	Pitot Number	P5
Location	Cohoes NY	Stack Diameter	48"	Pitot Coefficient	.84
Source	Unit #2 246163-A	Barometric Pres.		Stack TC I.D.	P5
Date	5/18/10	Static Pressure	.10	Oven Box I.D.	—
Operators	BG/JS	Meter Box #	1	Impinger Out I.D.	FD-3
Start Time	452	Meter delta H	1.88	Flow Box I.D.	
End Time	552	Meter Gamma	1.023		

Run No 4 1652 - 1852 Run No. 5 1812 - 1832 R6 1832 - 1852

Leak Check Rates				
	Sample Rate		Pitot	
	in.	cfm	+	-
Initial	10	.024	✓	✓
Mid				
Mid				
Final	10	.001	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft³)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit							Vacuum (in. hg)	Comments/Notes
					Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet		
	5	1.08	965.463						49	72	71	4	
	10	↓	—						49	73	71	4	
	15		—						50	74	71	4	
	20		—						50	75	72	4	
	25		976.1						50	76	72	4	
	30		980.1						51	78	72	4	
	35		984.6						51	79	72	4	
	40		—						51	80	72	4	
	45		—						51	80	72	4	
	50		992.1						51	80	72	4	
	55		996.4						51	80	72	4	
	60	↓	1000.1						51	81	72	4	
		FV =	1025.120										

Impinger Data (vol)		
#	Initial	Final
1	100	
2	100	
3	0	
4	56	
5		
6		

Silica Gel Data (gm)		
#	Initial	Final
1		
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%)		
#	O_2	CO_2
1		
2		
3		

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O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed: 1 through 4

Client	Norlite	Run Number	7-9	Pitot Number	PS
Location	Cohoes, NY	Stack Diameter	42"	Pitot Coefficient	.84
Source	Unit 2	Barometric Pres.		Stack TC I.D.	95
Date	5/12/10	Static Pressure	.10	Oven Box I.D.	—
Operators	BG/JS	Meter Box #	1	Impinger Out I.D.	50-3
Start Time	8:10	Meter delta H	1.52	Flow Box I.D.	
End Time	11:12	Meter Gamma	1.083		

Run No. 7 1012-1032 Run No. 8 - 1032 - 1052 Run No. 9 1052-1112

Leak Check Rates	Sample Rate in.	Sample Rate cfm	Pitot +	Pitot -
Initial	10	.002	✓	✓
Mid				
Mid				
Final	10	.001	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft³)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
	5	1.58	876.880						46	70	68	2	
	10		—						47	71	68	2	
	15		—						48	71	68	2	
	20		—						49	72	68	2	
	25		870.1						49	73	68	2	
	30		893.1						49	74	68	2	
	35		897.4						49	75	68	2	
	40		901.1						49	75	68	2	
	45		904.6						49	75	68	2	
	50		908.1						49	75	68	2	
	55		—						49	75	68	2	
	60	↓	914.1						49	75	68	2	
		FV=	917184										

Impinger Data (vol)		
#	Initial	Final
1	100	198
2	100	100
3	0	0
4	SG	
5		
6		

Silica Gel Data (gm)		
#	Initial	Final
1	249.2	257.1
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%)		
#	O_2	CO_2
1		
2		
3		

O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed 1 through 4

Client	Norlite Inc	Run Number	1-3	Pitot Number	P5
Location	Cohoes	Stack Diameter	48"	Pitot Coefficient	.84
Source	Unit #2 2811+7	Barometric Pres.		Stack TC I.D.	P5
Date	5/13/10	Static Pressure		Oven Box I.D.	—
Operators	BL/JS	Meter Box #	1	Impinger Out I.D.	IO-3
Start Time	9:28	Meter delta H	1.58	Flow Box I.D.	
End Time	10:28	Meter Gamma	1.023		

Run No. 1 - 928 - 948 Run No. 2 948 - 1008 R3 - 1008 - 1028

Leak Check Rates	Sample Rate in.	Sample Rate cfm	Pitot +	Pitot -
Initial	10	.001	✓	✓
Mid				
Mid				
Final	10	.002	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft³)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
	5	1.58	47.948						58	58	56	3	
	10		—						58	62	56	3	
	15		54.1						58	66	56	3	
	20		58.6						58	68	57	3	
	25		—						57	69	58	3	
	30		—						56	70	57	3	
	35		64.6						53	71	60	3	
	40		69.1						50	72	61	3	
	45		72.1						49	73	62	3	
	50		77.3						49	75	63	3	
	55		82.1						49	75	63	3	
	60	↓	—						49	75	63	3	
		FV =	89.312										

Impinger Data (vol)		
#	Initial	Final
1	100	
2	100	
3	0	
4	40	
5		
6		

Silica Gel Data (gm)		
#	Initial	Final
1		
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%)		
#	O_2	CO_2
1		
2		
3		

O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed 1 through 4

Client	Norlite Inc	Run Number	4-6	Pitot Number	P5
Location	Cohoes, NY	Stack Diameter	48"	Pitot Coefficient	.84
Source	Unit #2 28147	Barometric Pres.		Stack TC I.D.	P5
Date	5/13/10	Static Pressure		Oven Box I.D.	—
Operators	BH/JS	Meter Box #	1	Impinger Out I.D.	IO-3
Start Time	1036	Meter delta H	1.58	Flow Box I.D.	
End Time	1136	Meter Gamma	1.83		

Run No. R1 1036-1056 Run No. 1056-1116 R3 1116-1136

Leak Check Rates				
	Sample Rate		Pitot	
	in.	cfm	+	-
Initial	10	.001	✓	✓
Mid				
Mid				
Final	10	.002	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft³)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
	5	1.58	87.433						55	72	68	3	
	10		—						54	73	68	3	
	15		—						53	74	69	3	
	20		—						53	75	69	3	
	25		100.0						52	76	70	3	
	30		103.1						52	77	70	3	
	35		107.4						51	80	71	3	
	40		111.6						51	81	71	3	
	45		—						51	81	72	3	
	50		—						51	82	73	3	
	55		120.9						52	83	74	3	
	60	↓	124.1						52	84	75	3	
		=V=	128.0%										

Impinger Data (vol)		
#	Initial	Final
1	150	210
2	100	104
3	0	
4	56	
5		
6		

Silica Gel Data (gm)		
#	Initial	Final
1	295.8	304.1
2		

Moisture Gain	
	ml.
	gm
	Total

Molecular Weight Data (%)		
#	O_2	CO_2
1		
2		
3		

O'BRIEN & GERE

EPA Method 4 Field Sheet

Methods Performed: 1 through 4

Client	Norlite	Run Number	7-9	Pitot Number	PS
Location	Cohoes, NY	Stack Diameter	48"	Pitot Coefficient	.84
Source	Unit #2 28 1147	Barometric Pres.	29.29	Stack TC I.D.	PS
Date	5/13/10	Static Pressure	.2	Oven Box I.D.	—
Operators	BH/JS	Meter Box #	1	Impinger Out I.D.	IO-3
Start Time	1147	Meter delta H	1.58	Flow Box I.D.	
End Time	1249	Meter Gamma	1.083		

Run No. 1147 - 1207 Run No. 1207 - 1227 RS-1227 - 1249

Leak Check Rates

	Sample Rate in.	Sample Rate cfm	Pitot +	Pitot -
Initial	10	.002	✓	✓
Mid				
Mid				
Final	10	.002	✓	✓

Sample Point	Sample Time (min)	Orifice Setting (in. H_2O)	Meter Volume (ft³)	Velocity Head (in. H_2O)	Temperature Readings in Degrees Farenheit: Stack		Velocity Head	Stack	Impinger	Meter Inlet	Meter Outlet	Vacuum (in. hg)	Comments/Notes
	5	1.58	128.186						47	72	70		
	10		—						48	74	71		
	15		—						49	76	72		
	20		—						50	78	73		
	25		—						51	80	74		
	30		—						52	82	75		
	35		141.1						52	84	76		
	40		146.1						53	86	77		
	45		151.6						53	87	78		
	50		—						53	87	78		
	55		—						52	87	78		
	60	↓	159.1						52	87	78		
		FV=	168.789										

Impinger Data (vol)

#	Initial	Final
1	100	98
2	100	100
3	0	
4	56	
5		
6		

Silica Gel Data (gm)

#	Initial	Final
1	309.7	317.1
2		

Moisture Gain

_____ ml.
_____ gm
_____ Total

Molecular Weight Data (%)

#	O_2	CO_2
1		
2		
3		

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Norlite Inc
Location: Cohoes, N.Y.
Source: Kiln # 1
Date: 5/13/10
Operator: JS

Stack Diameter: 48"
Barometric Pressure: 29.92
Probe ID: P5
Velocity Guage ID: B2

Leak Check	pos.	neg
Initial		
Post		

Run No. 1

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.74	127
2	.82	127
3	.84	127
4	.82	127
5	.84	127
6	.69	127
B1	.79	129
2	.82	129
3	.84	129
4	.84	129
5	.84	129
6	.79	129

Static Pressure: .20
Oxygen (%): 14.0
Carbon Dioxide (%): 4
Wet Bulb (°F):
Dry Bulb (°F):

Run No. 2

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.78	126
2	.86	126
3	~~[illegible]~~ .88	126
4	.88	126
5	.86	126
6	.70	126
B1	.74	126
2	.80	126
3	.80	126
4	.72	126
5	.82	126
6	.70	126

Static Pressure: .2
Oxygen (%): 14
Carbon Dioxide (%): 4
Wet Bulb (°F):
Dry Bulb (°F):

Run No. 3

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.69	129
2	.80	129
3	.80	129
4	.74	129
5	.82	130
6	.79	130
B1	.79	130
2	.80	129
3	.82	129
4	.82	129
5	.84	129
6	.70	129

Static Pressure: .2
Oxygen (%): 14
Carbon Dioxide (%): 4
Wet Bulb (°F):
Dry Bulb (°F):

Velocity.xls

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Norlite Inc.
Location: Cohoes, NY
Source: Kiln # 1
Date: 5/13/10
Operator: JS

Stack Diameter: 48"
Barometric Pressure: 29.52
Probe ID: 04
Velocity Guage ID: 02

Leak Check	pos.	neg
Initial		
Post		

Run No. 4

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.70	130
2	.80	130
3	.82	130
4	.84	130
5	.84	130
6	.72	130
B1	.69	130
2	.78	130
3	.80	130
4	.83	130
5	.83	130
6	.70	130

Static Pressure: .20
Oxygen (%): 14.5
Carbon Dioxide (%): 4
Wet Bulb (°F):
Dry Bulb (°F):

Run No. 5

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.72	129
2	.76	129
3	.80	129
4	.82	129
5	.82	129
6	.74	129
B1	.70	129
2	.80	129
3	.82	129
4	.80	129
5	.82	129
6	.69	129

Static Pressure: .20
Oxygen (%): 14.5
Carbon Dioxide (%):
Wet Bulb (°F):
Dry Bulb (°F):

Run No. 6

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.74	128
2	.80	128
3	.82	128
4	.84	128
5	.80	128
6	.74	128
B1	.69	127
2	.79	127
3	.80	127
4	.80	127
5	.82	127
6	.70	127

Static Pressure: .20
Oxygen (%): 14.5
Carbon Dioxide (%):
Wet Bulb (°F):
Dry Bulb (°F):

Velocity.xls

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Norlite Inc.
Location: Cohoes, NY
Source: Kiln #1
Date: 5/13/10
Operator: JS

Stack Diameter: 48"
Barometric Pressure: 29.92
Probe ID: PS
Velocity Guage ID: #2

Leak Check	pos.	neg
Pitot		
Post		

Run No. 7

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.70	129
2	.78	129
3	.80	129
4	.84	129
5	.84	129
6	.72	129
B1	.72	128
2	.84	128
3	.88	128
4	.82	128
5	.82	128
6	.70	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 8

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A-1	.74	130
2	.80	130
3	.84	130
4	.80	130
5	.88	130
6	.72	130
B1	.78	130
2	.82	130
3	.82	130
4	.88	130
5	.88	130
6	.72	130

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	5
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 9

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A-1	.72	129
2	.80	129
3	.80	129
4	.88	129
5	.88	129
6	.76	129
B-1	.74	129
2	.80	129
3	.82	129
4	.86	129
5	.84	129
6	.70	129

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Velocity.xls

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Norlite Inc.
Location: Cohoes, NY
Source: Kiln 2
Date: 5/13/10
Operator: TS

Stack Diameter: 48"
Barometric Pressure: 29.98
Probe ID: P3
Velocity Guage ID: B2

Leak Check	pos.	neg
Pitot		
Post		

Run No. 1

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.74	126
2	.78	126
3	.77	126
4	.80	126
5	.78	126
6	.52	126
B1	.74	126
2	.82	126
3	.82	126
4	.68	126
5	.70	126
6	.44	126

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 2

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.66	127
2	.70	127
3	.70	127
4	.70	127
5	.70	127
6	.54	127
B1	.72	127
2	.74	127
3	.76	127
4	.66	127
5	.66	127
6	.48	127

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	5
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 3

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.74	128
2	.80	128
3	.74	128
4	.66	128
5	.64	128
6	.44	128
B1	.68	128
2	.72	128
3	.74	128
4	.64	128
5	.70	128
6	.50	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	5
Wet Bulb (°F)	
Dry Bulb (°F)	

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Norlite Inc.
Location: Cohoes, NY
Source: Kiln 2
Date: 5/13/10
Operator: TS

Stack Diameter: 48"
Barometric Pressure: 29.70
Probe ID: P5
Velocity Guage ID: B2

Leak Check	pos.	neg
Pre		
Post		

Run No. 4

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.70	128
2	.72	128
3	.72	128
4	.72	128
5	.68	128
6	.74	128
B1	.76	128
2	.74	128
3	.74	128
4	.66	128
5	.66	128
6	.54	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 5

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.72	128
A2	.72	128
3	.74	128
4	.66	128
5	.66	128
6	.~~56~~.66	128
B-1	.52	128
2	.72	128
3	.74	128
4	.72	128
5	.70	128
6	.50	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 6

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.64	129
2	.70	129
3	.70	129
4	.74	129
5	.74	129
6	.74	129
B1	.50	129
2	.78	129
3	.78	129
4	.80	129
5	.66	129
6	.54	129

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Velocity.xls

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Norlite Inc.
Location: Cohoes, NY
Source: Kiln 2
Date: 5/13/10
Operator: JS

Stack Diameter: 48"
Barometric Pressure: 29.90
Probe ID: PS
Velocity Guage ID: B-2

Leak Check	pos.	neg
[illegible]		
Post		

Run No. 7

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.72	128
2	.80	128
3	.74	128
4	.68	128
5	.68	128
6	.54	128
B1	.72	128
2	.72	128
3	.72	128
4	.74	128
5	.74	128
6	.54	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 8

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.64	128
2	.70	128
3	.72	128
4	.76	128
5	.70	128
6	.48	128
B1	.78	128
2	.80	128
3	.80	128
4	.72	128
5	.70	128
6	.58	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 9

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A-1	.64	128
2	.72	128
3	.72	128
4	.74	128
5	.70	128
6	.50	128
B1	.76	128
2	.82	128
3	.80	128
4	.72	128
5	.70	128
6	.50	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

O'BRIEN & GERE

Velocity Determination Data Sheet

Client Norlite, Inc.
Location Cohoes, NY
Source Kiln 2
Date 5/13/10
Operator JS

Stack Diameter 48"
Barometric Pressure 29.90
Probe ID P5
Velocity Guage ID 02

Leak Check	pos.	neg
Initial		
Post		

Run No. 1

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.78	128
2	.85	128
3	.82	128
4	.84	128
5	.86	128
6	.52	128
B-1	.82	128
2	.90	128
3	.90	128
4	.84	128
5	.80	128
6	.48	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 2

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.84	128
2	.80	128
3	.88	128
4	.82	128
5	.75	128
6	.48	128
B-1	.84	128
2	.90	128
3	.90	128
4	.88	128
5	.84	128
6	.56	128

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 3

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A-1	.80	128
2	.84	128
3	.86	128
4	.80	128
5	.84	128
6	.50	128
B-1	.90	127
2	.92	127
3	.90	127
4	.80	127
5	.82	127
6	.50	127

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Velocity.xls

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Worlitc Inc.
Location: Cohoes, NY
Source: Kiln 2
Date: 5/13/10
Operator: JS

Stack Diameter: 48"
Barometric Pressure: 29.9
Probe ID: P5
Velocity Guage ID: B2

Leak Check	pos.	neg
Pre		
Post		

Run No. 7

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.84	127
2	.84	127
3	.90	127
4	.90	127
5	.88	127
6	.62	127
B1	.90	127
2	.95	127
3	1.00	127
4	.80	127
5	.88	127
6	.50	127

Static Pressure	-.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 8

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.80	126
2	.84	126
3	.42	126
4	.40	126
5	.40	126
6	.62	126
B1	.90	126
2	.42	126
3	.42	126
4	.80	126
5	.78	126
6	.54	126

Static Pressure	-.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 9

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.84	126
2	.42	126
3	.40	126
4	.90	126
5	.42	126
6	.60	126
B1	.90	126
2	.42	126
3	.95	126
4	.80	126
5	.78	126
6	.44	126

Static Pressure	-.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Velocity.xls

O'BRIEN & GERE

Velocity Determination Data Sheet

Client: Norlite Inc.
Location: Cohoes, NY
Source: Kiln 2
Date: 5/13/10
Operator: JS

Stack Diameter: 48"
Barometric Pressure: 29.90
Probe ID: P5
Velocity Guage ID: B2

Leak Check	pos.	neg
Initial		
Post		

Run No. 4

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.42	126
2	.36	126
3	.42	126
4	.82	126
5	.80	126
6	.50	126
B1	.84	126
2	.90	126
3	.88	126
4	.92	126
5	.82	126
6	.56	126

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 5

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.84	127
2	.90	127
3	.90	127
4	.90	127
5	.90	127
6	.60	127
B1	.88	127
2	1.00	127
3	.95	127
4	.90	127
5	.80	127
6	.50	127

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Run No. 6

Traverse Point Number	Delta P (in. H20)	Stack Temp (°F)
A1	.84	126
2	.90	126
3	.90	126
4	.98	126
5	.90	126
6	.62	126
B-1	.94	127
2	.92	127
3	.90	127
4	.80	127
5	.76	127
6	.48	127

Static Pressure	.20
Oxygen (%)	14.5
Carbon Dioxide (%)	4
Wet Bulb (°F)	
Dry Bulb (°F)	

Appendix C

Triad Chemicals, LLC Spiking Report

LIGHT-WEIGHT AGGREGATE KILN CPT SPIKING REPORT

Norlite Inc.
Cohoes, New York

Test Dates: January 12, 2011 – January 13, 2011

Report Date: March 2, 2011

Triad Chemicals, Inc.
P.O Box 4529
Greensboro, North Carolina 27404
Phone: (336) 209-1498
FAX: (336) 323-2895

SPIKING REPORT
for
Norlite Inc.

March 2, 2011

TEST SITE: Cohoes, New York

Table of Contents

SPIKING REPORT
For
Norlite Inc.

TEST SITE: Cohoes, New York

1.0 INTRODUCTION

This report describes the spiking operations that were carried out at one condition, consisting of three three-hour runs, on Light-weight Aggregate Kiln #1at Norlite Inc. in Cohoes, New York. A Liquiflo gear pump was used to spike chlorobenzene. The project was completed as planned and on schedule.

2.0 METHODOLOGY

2.1. Materials

The material used for the spiking was chlorobenzene (CAS # 108-90-7) purchased from Univar Chemicals in Houston, Texas. The certificate of analysis for this material is in Appendix A.

2.2. Equipment

The injection of the material was carried out using a Liquiflo Model CDP 3330 gear pump. The flow rate was maintained using a Micro Motion Elite sensor in conjunction with a 1700R11ABUEZZZ (Micro Motion) transmitter in a dynamic feedback loop run by a Dell Inspiron-controlled Argonaut CamileConnect control system. Expected deviation from nominal flow rate was expected to be less than 0.5% (see Calibration Certificates, Appendix B).

The material were pumped through approximately fifteen feet of Teflon tubing to a stainless steel valved ½" fitting that had been preinstalled by Norlite personnel in the waste feed line. Back pressure of ~38 p.s.i. was noted.

2.3. Injection Technique

Spiking of the solutions was started one hour before the stack sampling was scheduled to begin. Each run required approximately three hours of stack sampling time.

2.4. Data Collection and Tabulation

The flow data from the inline Micro Motion flow meters and transmitters were collected at one-second intervals. This information was used by the controller to maintain the pumping rates at the desired set

point. The one-second data points were then saved to disk at fifteen-second intervals. Averaging to 1-minute intervals provided the data that is presented in graphical form in Appendix C and in tabular form in Appendix D. These 1-minute averages were also analyzed statistically, and the results are summarized in Table 1.

3.0 SPIKING OPERATIONS

Details of the Spiking Operations are presented in the Spiking Log in Appendix E. Spiking was started approximately one hour before stack sampling was scheduled to start each day. Method 23 PCDD/PCDF and Method 0031 VOST sampling were conducted at the same time. Overall (Method 23) Run 1 was conducted on January 12, 2011 from 1333 – 1635 at 60.00 lb. /hr. The pumping rate was increased on January 13 to 75.00 lb. /hr. with stack sampling for Run 2 and Run 3 being conducted from 0833 – 1135 and 1200 – 1530, respectively. Concurrently Method 0031 VOST stack sampling was carried out from 1403 – 1557 on January 12 and 0900 – 1101 and 1230 – 1446 on January 13 for Run 1, Run 2, and Run 3, respectively.

4.0 RESULTS AND DISCUSSION

Table 1 summarizes the spiking results for each of the three runs and a statistical analysis of the one-minute averages. All spiking rates were within 0.1% of the desired set points. The standard deviations for all the data were within 6% of the set point. The stability of the spiking rates and consistency of the data indicate that the equipment was working properly.

Table 1. Norlite Inc., Cohoes, New York
Pumping Rates and Data Analysis

Material	Method	Run Number	Nominal Pumping Rate (Lb. /hr.)	Average Pumping Rate (Lb. /hr.)	Standard Deviation (Lb. /hr.)	Maximum (Lb. /hr.)	Minimum (Lb. /hr.)	Range (Lb. /hr.)
MCB	23 PCDD/PCDF	C1A-R1	60.00	**60.01**	0.38	61.17	57.87	3.30
		C1A-R2	75.00	**75.00**	0.29	75.91	74.10	1.81
		C1A-R3	75.00	**75.04**	0.43	76.56	73.75	2.81
MCB	0031 VOST	C1A-R1	60.00	**60.03**	0.40	61.17	57.87	3.30
		C1A-R2	75.00	**75.01**	0.29	75.91	74.10	1.81
		C1A-R3	75.00	**75.06**	0.45	76.56	73.75	2.81

5.0 CALIBRATION AND QUALITY ASSURANCE

Calibration curves for the pumps are in Appendix B and indicate that errors of $\pm$<0.5% would be expected for the system at the rates actually used.

Table 2. Norlite Inc., Cohoes, New York
Chlorobenzene Spiking Rates

Material	Method	Run No.	Pumping Rate (Lb. /hr.)	Material Concentration (%)	Material Addition Rate (Lb. /hr.)
MCB	23 PCDD/PCDF	C1A-R1	60.01	≥99.9	≥59.95
		C1A-R2	75.00	≥99.9	≥74.93
		C1A-R3	75.04	≥99.9	≥74.96
MCB	0031 VOST	C1A-R1	60.03	≥99.9	≥59.97
		C1A-R2	75.01	≥99.9	≥74.93
		C1A-R1	75.06	≥99.9	≥74.98

6.0 SUMMARY

No spiking problems were encountered throughout the testing. The consistency of the data and the statistical analyses indicate that the spiking equipment was working properly, and the project was completed on schedule.

Approved: Martin D. Friedman

Martin D. Friedman, Ph.D.
President

APPENDIX A

CERTIFICATE OF ANALYSIS

ProductNo:771219
Annotation:po# verbal ship date 1-3-2011

LotNo:HS090896191

LANXESS
Energizing Chemistry

Certificate of Analysis

Univar Houston
777 Brisbane St.
Houston TX 77061-5044

LANXESS Corporation
111 RIDC Park West Dr
PITTSBURGH PA 15275-1112
USA

771219
HS090896191
Page 1 of 2

Date: 09/24/2010

Material description	Material
CHLOROBENZENE PURE	768159

773908
HS 729928

Customer order data

Your order no.	Ship-to party
HS-729928	3052913 Univar Houston

Delivery data

Delivery no.	Delivered quantity	Planned delivery date	Order no.
3012486716 / 000010	7,484.000 KG	09/30/2010	3030297185 / 000010

Batch	Delivered quantity
082610	7,484.000 KG

Results Reported as tested.

Inspection method/ Characteristic	Result	Specification	Unit
1) Optical reference			
Visual			
Colorless to weakly yellow liquid	complies	complies	
2) FT-IR-Spectroscopy			
Identity	complies	complies	
3) GC:(norm.)			
Benzene	<=0.00	<= 0.02	%
Chlorobenzene	100.0	>= 99.9	%
1,4-Dichlorobenzene	<=0.01	<= 0.02	%
1,2-Dichlorobenzene	<=0.01	<= 0.01	%
4)			
Water	0	<= 100	mg/kg
5) APHA (Hazen)			
Colour number (Hazen)	< 5	<= 10	

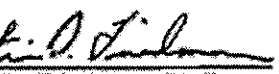
APPENDIX B

CALIBRATION CERTIFICATES

Table 3. Norlite Inc., Cohoes, New York
Comprehensive Performance Test
Calibration Check

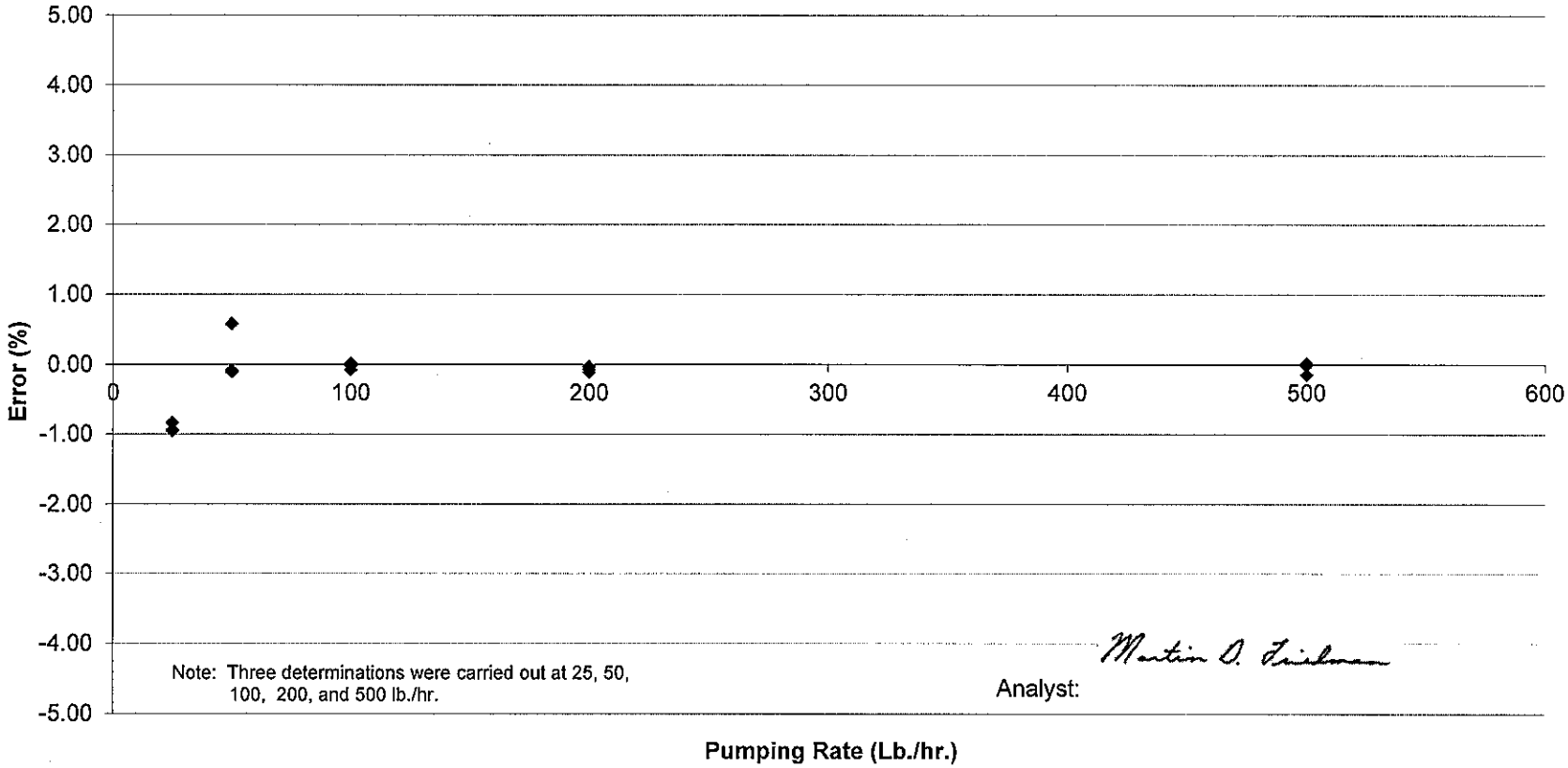
Date	Pump Number	Spiking Material	Spiking Rate (Lb. /hr.)	Calibration Pumping Rate (Lb. /hr.)	Initial Computer Mass (Lb.)	Final Computer Mass (Lb.)	Computer Mass (Lb.)	Scale Mass (Lb.)	Difference (Lb.)	Difference (%)
3/1/11	3	MCB	75.0	75.0	25.582	31.582	6.000	6.010	-0.10	-0.02
			75.0	75.0	32.850	39.047	6.197	6.235	-0.038	-0.06
			75.0	75.0	65.039	71.186	6.125	6.147	-0.022	-0.36
3/1/11	3	MCB	60.0	60.0	72.102	78.167	6.065	6.015	0.050	0.82
			60.0	60.0	79.792	86.349	6.557	6.505	0.052	0.79
			60.0	60.0	88.242	94.366	6.124	6.105	0.019	0.31

I certify that the above numbers are true and correct.

Approved: 

Martin D. Friedman, Ph.D.
President

Pump 3 Calibration Chart
Liquiflo Model CDP3330 Gear Pump S/N MO304032845
MicroMotion CMF025M39NU Sensor S/N 485371
MicroMotion 1700R11ABUEZZZ Transmitter S/N 3015552
Intercept = -250.33; slope = 62.46
March 8, 2010



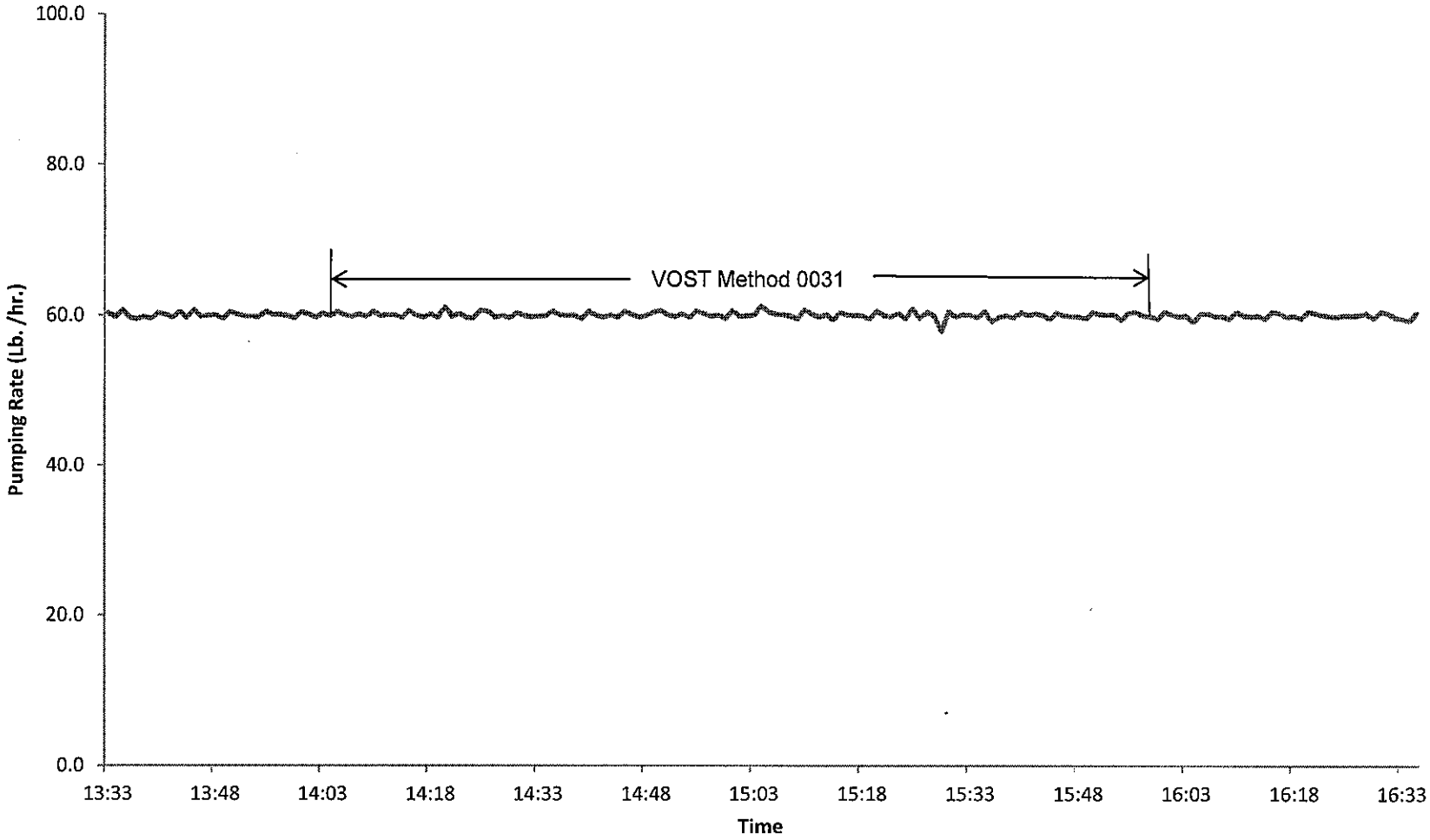
Note: Three determinations were carried out at 25, 50, 100, 200, and 500 lb./hr.

Analyst: Martin O. Tiebout

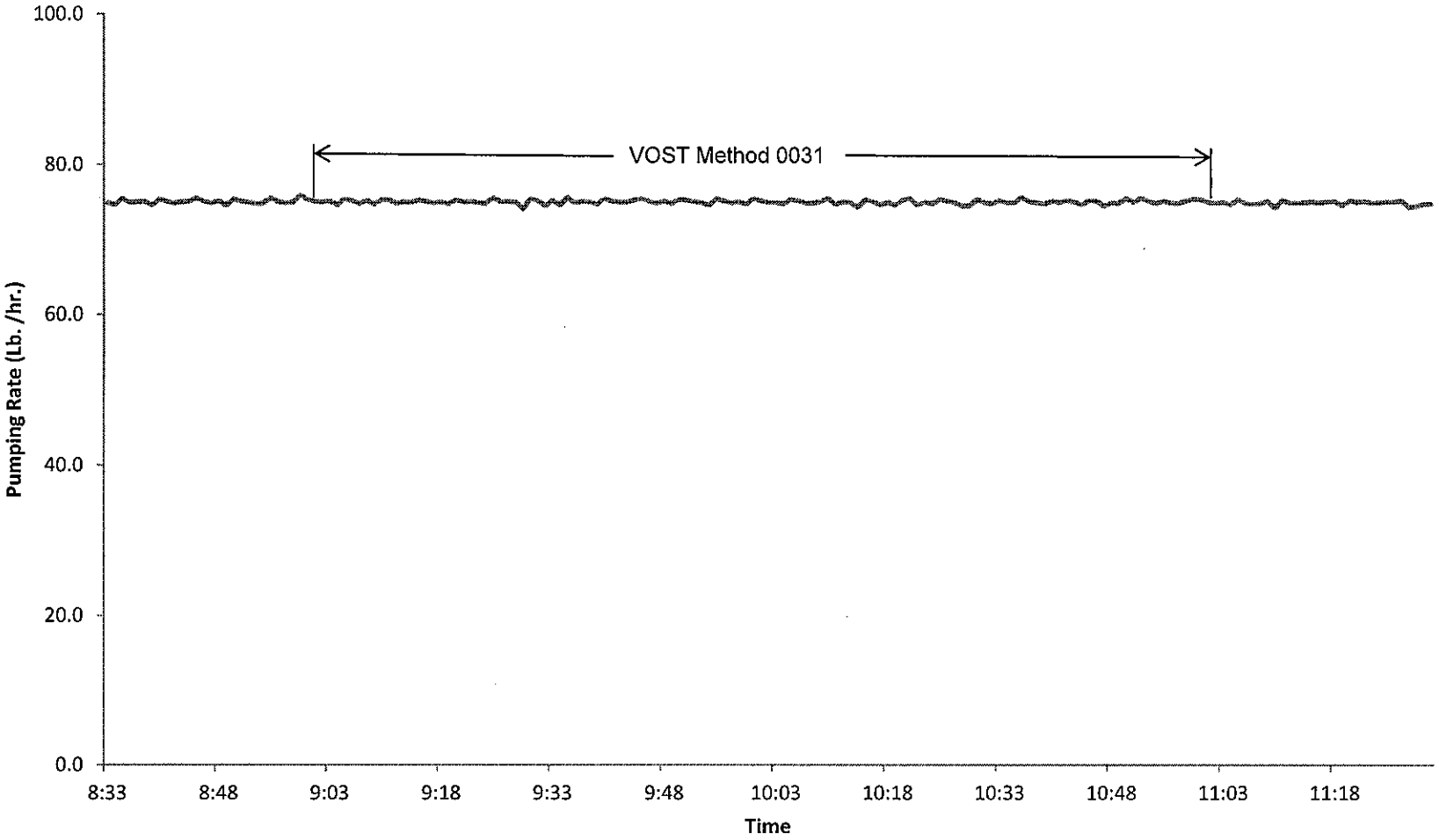
APPENDIX C

GRAPHICAL PRESENTATION OF DATA

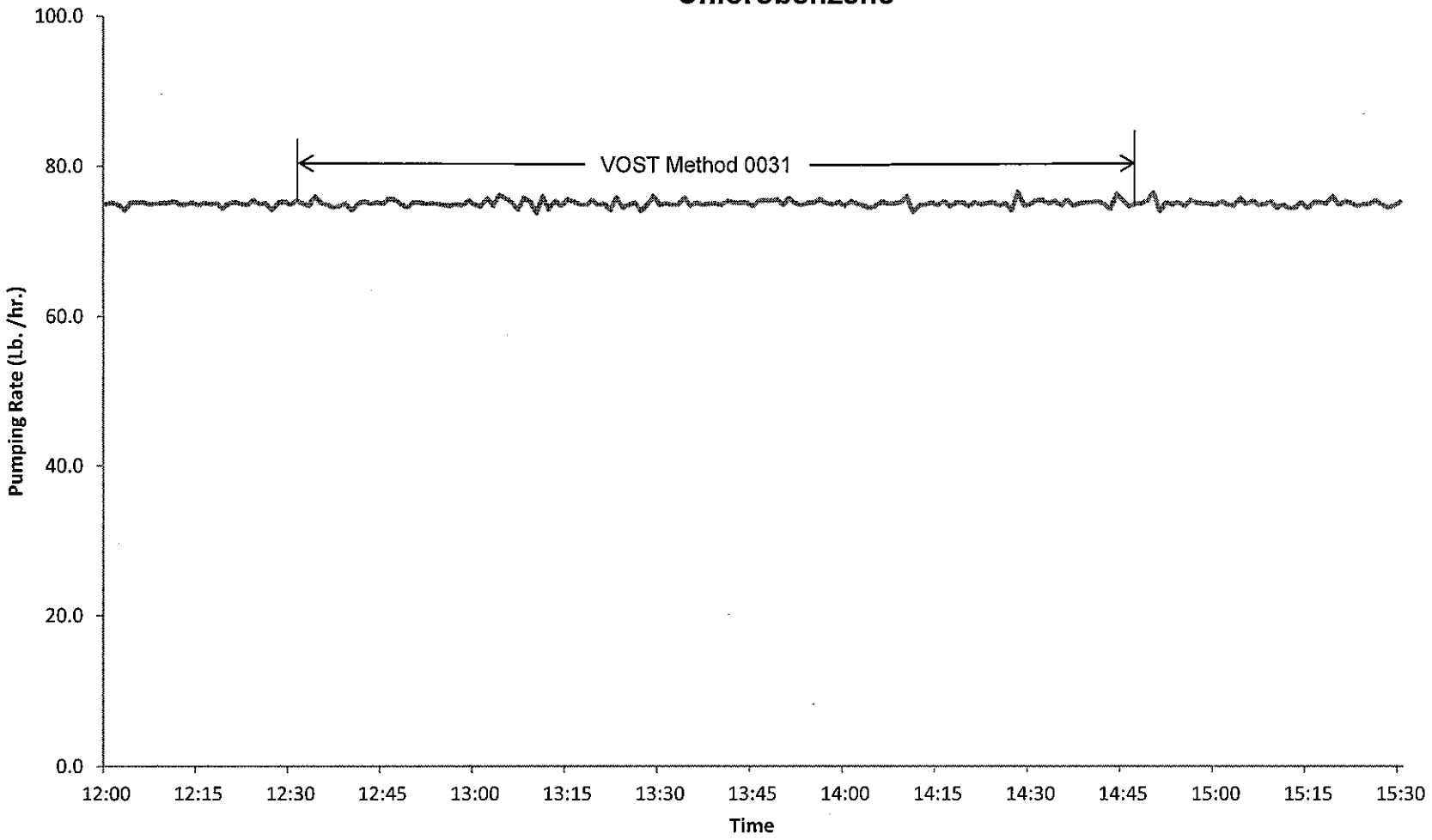
Norlite Inc., Cohoes, New York
LWAK #1 Comprehensive Performance Test
January 12, 2011
Condition 1A, Run 1
Chlorobenzene



Norlite Inc., Cohoes, New York
LWAK #1 Comprehensive Performance Test
January 13, 2011
Condition 1A, Run 2
Chlorobenzene



Norlite Inc., Cohoes, New York
LWAK #1 Comprehensive Performance Test
January 13, 2011
Condition 1A, Run 3
Chlorobenzene



APPENDIX D

TABULAR PRESENTATION OF DATA

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 1

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/12/2011	12:32	58.78	0.00		
1/12/2011	12:33	60.10	0.98		
1/12/2011	12:34	60.02	1.99		
1/12/2011	12:35	60.25	2.98		
1/12/2011	12:36	60.07	3.99		
1/12/2011	12:37	59.67	4.99		
1/12/2011	12:38	59.85	5.99		
1/12/2011	12:39	59.02	6.98		
1/12/2011	12:40	60.95	8.03		
1/12/2011	12:41	58.98	9.05		
1/12/2011	12:42	56.82	10.05		
1/12/2011	12:43	60.48	10.97		
1/12/2011	12:44	59.90	11.98		
1/12/2011	12:45	60.56	12.98		
1/12/2011	12:46	60.13	13.98		
1/12/2011	12:47	59.83	14.98		
1/12/2011	12:48	59.31	15.98		
1/12/2011	12:49	60.86	16.97		
1/12/2011	12:50	60.61	17.97		
1/12/2011	12:51	59.88	18.98		
1/12/2011	12:52	60.70	19.99		
1/12/2011	12:53	59.40	21.00		
1/12/2011	12:54	59.83	21.98		
1/12/2011	12:55	60.53	22.97		
1/12/2011	12:56	59.98	23.98		
1/12/2011	12:57	60.12	24.98		
1/12/2011	12:58	60.11	25.98		
1/12/2011	12:59	59.66	26.98		
1/12/2011	13:00	60.40	27.98		
1/12/2011	13:01	59.98	28.98		
1/12/2011	13:02	60.06	29.98		
1/12/2011	13:03	59.97	30.98		
1/12/2011	13:04	59.66	31.98		
1/12/2011	13:05	60.46	32.98		
1/12/2011	13:06	59.93	33.98		
1/12/2011	13:07	59.82	34.98		
1/12/2011	13:08	60.01	35.98		
1/12/2011	13:09	59.81	36.98		
1/12/2011	13:10	60.45	37.98		
1/12/2011	13:11	60.02	38.98		
1/12/2011	13:12	59.90	39.98		
1/12/2011	13:13	60.13	40.98		
1/12/2011	13:14	59.62	41.98		
1/12/2011	13:15	60.61	42.98		
1/12/2011	13:16	60.16	43.98		
1/12/2011	13:17	59.88	44.98		
1/12/2011	13:18	60.12	45.98		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 1
Page 2 of 6

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/12/2011	13:19	59.67	46.98		
1/12/2011	13:20	60.17	47.98		
1/12/2011	13:21	59.87	48.98		
1/12/2011	13:22	59.92	49.98		
1/12/2011	13:23	60.26	50.98		
1/12/2011	13:24	59.71	51.98		
1/12/2011	13:25	60.61	52.97		
1/12/2011	13:26	60.00	53.98		
1/12/2011	13:27	59.85	54.98		
1/12/2011	13:28	60.10	55.98		
1/12/2011	13:29	60.13	56.98		
1/12/2011	13:30	59.55	57.98		
1/12/2011	13:31	60.02	58.98		
1/12/2011	13:32	59.91	59.98		
1/12/2011	13:33	60.31	60.98	START RUN 1	
1/12/2011	13:34	59.77	61.98		
1/12/2011	13:35	60.68	62.98		
1/12/2011	13:36	59.72	63.99		
1/12/2011	13:37	59.52	64.99		
1/12/2011	13:38	59.81	65.98		
1/12/2011	13:39	59.57	66.97		
1/12/2011	13:40	60.31	67.97		
1/12/2011	13:41	60.12	68.97		
1/12/2011	13:42	59.73	69.97		
1/12/2011	13:43	60.42	70.97		
1/12/2011	13:44	59.66	71.98		
1/12/2011	13:45	60.71	72.98		
1/12/2011	13:46	59.82	73.98		
1/12/2011	13:47	59.97	74.98		
1/12/2011	13:48	60.01	75.98		
1/12/2011	13:49	59.56	76.98		
1/12/2011	13:50	60.45	77.98		
1/12/2011	13:51	60.12	78.98		
1/12/2011	13:52	59.88	79.98		
1/12/2011	13:53	59.86	80.98		
1/12/2011	13:54	59.78	81.98		
1/12/2011	13:55	60.50	82.98		
1/12/2011	13:56	60.08	83.98		
1/12/2011	13:57	60.08	84.98		
1/12/2011	13:58	59.92	85.98		
1/12/2011	13:59	59.63	86.98		
1/12/2011	14:00	60.40	87.98		
1/12/2011	14:01	60.16	88.98		
1/12/2011	14:02	59.75	89.98		
1/12/2011	14:03	60.25	90.98		START RUN 1
1/12/2011	14:04	59.91	91.98		
1/12/2011	14:05	60.46	92.98		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 1

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/12/2011	14:06	60.07	93.98		
1/12/2011	14:07	59.83	94.98		
1/12/2011	14:08	60.16	95.98		
1/12/2011	14:09	59.85	96.98		
1/12/2011	14:10	60.47	97.98		
1/12/2011	14:11	59.95	98.98		
1/12/2011	14:12	60.00	99.98		
1/12/2011	14:13	60.01	100.98		
1/12/2011	14:14	59.73	101.98		
1/12/2011	14:15	60.57	102.98		
1/12/2011	14:16	59.98	103.98		
1/12/2011	14:17	59.78	104.98		
1/12/2011	14:18	60.15	105.98		
1/12/2011	14:19	59.75	106.98		
1/12/2011	14:20	61.13	107.98		
1/12/2011	14:21	59.86	108.98		
1/12/2011	14:22	60.21	109.98		
1/12/2011	14:23	59.70	110.98		
1/12/2011	14:24	59.65	111.98		
1/12/2011	14:25	60.63	112.98		
1/12/2011	14:26	60.50	113.99		
1/12/2011	14:27	59.75	114.99		
1/12/2011	14:28	59.97	115.99		
1/12/2011	14:29	59.63	116.99		
1/12/2011	14:30	60.35	117.98		
1/12/2011	14:31	59.96	118.98		
1/12/2011	14:32	59.81	119.98		
1/12/2011	14:33	59.90	120.98		
1/12/2011	14:34	59.91	121.98		
1/12/2011	14:35	60.53	122.98		
1/12/2011	14:36	60.01	123.99		
1/12/2011	14:37	59.97	124.99		
1/12/2011	14:38	59.98	125.99		
1/12/2011	14:39	59.55	126.99		
1/12/2011	14:40	60.51	127.98		
1/12/2011	14:41	59.97	128.99		
1/12/2011	14:42	59.76	129.99		
1/12/2011	14:43	60.02	130.99		
1/12/2011	14:44	59.72	131.99		
1/12/2011	14:45	60.50	132.98		
1/12/2011	14:46	60.07	133.99		
1/12/2011	14:47	59.78	134.99		
1/12/2011	14:48	59.93	135.99		
1/12/2011	14:49	60.40	136.99		
1/12/2011	14:50	60.61	137.98		
1/12/2011	14:51	60.03	138.99		
1/12/2011	14:52	59.83	139.99		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 1

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/12/2011	14:53	60.16	140.99		
1/12/2011	14:54	59.71	141.99		
1/12/2011	14:55	60.53	142.98		
1/12/2011	14:56	60.22	143.98		
1/12/2011	14:57	59.88	144.98		
1/12/2011	14:58	60.02	145.98		
1/12/2011	14:59	59.60	146.98		
1/12/2011	15:00	60.57	147.98		
1/12/2011	15:01	59.87	148.98		
1/12/2011	15:02	59.92	149.98		
1/12/2011	15:03	60.06	150.98		
1/12/2011	15:04	61.17	151.99		
1/12/2011	15:05	60.42	152.98		
1/12/2011	15:06	60.13	153.98		
1/12/2011	15:07	60.08	154.98		
1/12/2011	15:08	59.92	155.98		
1/12/2011	15:09	59.53	156.98		
1/12/2011	15:10	60.70	157.98		
1/12/2011	15:11	60.16	158.98		
1/12/2011	15:12	59.76	159.98		
1/12/2011	15:13	60.10	160.99		
1/12/2011	15:14	59.40	161.98		
1/12/2011	15:15	60.33	162.98		
1/12/2011	15:16	60.00	163.99		
1/12/2011	15:17	59.98	164.98		
1/12/2011	15:18	59.93	165.99		
1/12/2011	15:19	59.55	166.98		
1/12/2011	15:20	60.60	167.98		
1/12/2011	15:21	59.95	168.99		
1/12/2011	15:22	59.80	169.99		
1/12/2011	15:23	60.23	170.99		
1/12/2011	15:24	59.56	171.99		
1/12/2011	15:25	60.81	172.98		
1/12/2011	15:26	59.62	173.99		
1/12/2011	15:27	60.42	174.99		
1/12/2011	15:28	59.91	175.99		
1/12/2011	15:29	57.87	176.99		
1/12/2011	15:30	60.46	177.98		
1/12/2011	15:31	59.83	178.98		
1/12/2011	15:32	60.08	179.98		
1/12/2011	15:33	59.98	180.98		
1/12/2011	15:34	59.73	181.98		
1/12/2011	15:35	60.50	182.98		
1/12/2011	15:36	59.18	183.98		
1/12/2011	15:37	59.77	184.98		
1/12/2011	15:38	59.95	185.98		
1/12/2011	15:39	59.71	186.98		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 1

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/12/2011	15:40	60.36	187.98		
1/12/2011	15:41	60.02	188.98		
1/12/2011	15:42	60.21	189.98		
1/12/2011	15:43	60.02	190.99		
1/12/2011	15:44	59.53	191.98		
1/12/2011	15:45	60.32	192.98		
1/12/2011	15:46	59.93	193.98		
1/12/2011	15:47	59.90	194.98		
1/12/2011	15:48	59.82	195.98		
1/12/2011	15:49	59.57	196.98		
1/12/2011	15:50	60.40	197.98		
1/12/2011	15:51	60.11	198.98		
1/12/2011	15:52	60.05	199.98		
1/12/2011	15:53	60.07	200.98		
1/12/2011	15:54	59.33	201.98		
1/12/2011	15:55	60.36	202.98		
1/12/2011	15:56	60.38	203.98		END
1/12/2011	15:57	59.95	204.98		RUN 1
1/12/2011	15:58	59.86	205.98		
1/12/2011	15:59	59.53	206.98		
1/12/2011	16:00	60.45	207.98		
1/12/2011	16:01	60.06	208.98		
1/12/2011	16:02	59.83	209.98		
1/12/2011	16:03	59.96	210.98		
1/12/2011	16:04	59.10	211.98		
1/12/2011	16:05	60.18	212.98		
1/12/2011	16:06	60.17	213.98		
1/12/2011	16:07	59.88	214.98		
1/12/2011	16:08	59.86	215.99		
1/12/2011	16:09	59.53	216.98		
1/12/2011	16:10	60.41	217.98		
1/12/2011	16:11	59.95	218.99		
1/12/2011	16:12	59.83	219.98		
1/12/2011	16:13	59.92	220.99		
1/12/2011	16:14	59.56	221.98		
1/12/2011	16:15	60.46	222.98		
1/12/2011	16:16	60.23	223.98		
1/12/2011	16:17	59.77	224.98		
1/12/2011	16:18	59.91	225.99		
1/12/2011	16:19	59.58	226.98		
1/12/2011	16:20	60.47	227.98		
1/12/2011	16:21	60.23	228.98		
1/12/2011	16:22	60.00	229.98		
1/12/2011	16:23	59.87	230.99		
1/12/2011	16:24	59.81	231.98		
1/12/2011	16:25	60.01	232.98		
1/12/2011	16:26	59.92	233.98		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 1
Page 6 of 6

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/12/2011	16:27	60.02	234.98		
1/12/2011	16:28	60.25	235.99		
1/12/2011	16:29	59.60	236.99		
1/12/2011	16:30	60.43	237.98		
1/12/2011	16:31	60.25	238.99		
1/12/2011	16:32	59.72	239.98		
1/12/2011	16:33	59.53	240.99		
1/12/2011	16:34	59.25	241.99	END	
1/12/2011	16:35	60.28	242.98	RUN 1	
1/12/2011	16:36	60.16	243.99		
1/12/2011	16:37	59.91	244.98		
1/12/2011	16:38	60.13	245.99		
1/12/2011	16:39	59.61	246.99		
1/12/2011	16:40	77.11	247.98		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 2

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	7:38	73.40	0.00		
1/13/2011	7:39	75.52	1.23		
1/13/2011	7:40	75.05	2.48		
1/13/2011	7:41	74.64	3.73		
1/13/2011	7:42	74.96	4.98		
1/13/2011	7:43	74.84	6.23		
1/13/2011	7:44	75.75	7.47		
1/13/2011	7:45	74.84	8.74		
1/13/2011	7:46	74.82	9.98		
1/13/2011	7:47	74.92	11.23		
1/13/2011	7:48	74.80	12.48		
1/13/2011	7:49	75.55	13.73		
1/13/2011	7:50	74.99	14.98		
1/13/2011	7:51	74.91	16.23		
1/13/2011	7:52	75.25	17.48		
1/13/2011	7:53	74.91	18.73		
1/13/2011	7:54	75.64	19.98		
1/13/2011	7:55	75.00	21.24		
1/13/2011	7:56	74.86	22.49		
1/13/2011	7:57	75.06	23.74		
1/13/2011	7:58	74.57	24.99		
1/13/2011	7:59	75.44	26.23		
1/13/2011	8:00	75.17	27.49		
1/13/2011	8:01	74.86	28.74		
1/13/2011	8:02	75.20	29.99		
1/13/2011	8:03	74.66	31.24		
1/13/2011	8:04	75.57	32.48		
1/13/2011	8:05	74.99	33.74		
1/13/2011	8:06	74.56	34.99		
1/13/2011	8:07	74.84	36.24		
1/13/2011	8:08	74.70	37.48		
1/13/2011	8:09	75.44	38.73		
1/13/2011	8:10	75.02	39.98		
1/13/2011	8:11	74.75	41.23		
1/13/2011	8:12	75.00	42.48		
1/13/2011	8:13	74.56	43.73		
1/13/2011	8:14	75.49	44.98		
1/13/2011	8:15	74.99	46.23		
1/13/2011	8:16	74.89	47.48		
1/13/2011	8:17	75.09	48.73		
1/13/2011	8:18	74.81	49.98		
1/13/2011	8:19	75.45	51.23		
1/13/2011	8:20	75.14	52.49		
1/13/2011	8:21	74.86	53.74		
1/13/2011	8:22	75.14	54.99		
1/13/2011	8:23	74.67	56.24		
1/13/2011	8:24	75.40	57.49		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 2
Page 2 of 6

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	8:25	75.14	58.74		
1/13/2011	8:26	74.90	59.99		
1/13/2011	8:27	74.95	61.24		
1/13/2011	8:28	74.64	62.49		
1/13/2011	8:29	75.56	63.74		
1/13/2011	8:30	74.82	64.99		
1/13/2011	8:31	74.97	66.24		
1/13/2011	8:32	74.62	67.50		
1/13/2011	8:33	74.72	68.74	START RUN 2	
1/13/2011	8:34	75.66	69.99		
1/13/2011	8:35	75.01	71.24		
1/13/2011	8:36	74.42	72.49		
1/13/2011	8:37	74.85	73.74		
1/13/2011	8:38	74.67	74.99		
1/13/2011	8:39	75.44	76.24		
1/13/2011	8:40	74.91	77.49		
1/13/2011	8:41	75.00	78.74		
1/13/2011	8:42	75.05	79.99		
1/13/2011	8:43	74.59	81.24		
1/13/2011	8:44	75.36	82.49		
1/13/2011	8:45	75.02	83.74		
1/13/2011	8:46	74.81	84.99		
1/13/2011	8:47	75.01	86.24		
1/13/2011	8:48	75.04	87.49		
1/13/2011	8:49	75.54	88.73		
1/13/2011	8:50	75.06	89.98		
1/13/2011	8:51	74.84	91.23		
1/13/2011	8:52	75.11	92.48		
1/13/2011	8:53	74.55	93.73		
1/13/2011	8:54	75.39	94.98		
1/13/2011	8:55	75.10	96.23		
1/13/2011	8:56	74.95	97.49		
1/13/2011	8:57	74.75	98.74		
1/13/2011	8:58	74.77	99.99		
1/13/2011	8:59	75.54	101.24		
1/13/2011	9:00	75.04	102.49		START RUN 2
1/13/2011	9:01	74.82	103.74		
1/13/2011	9:02	74.97	104.99		
1/13/2011	9:03	75.91	106.24		
1/13/2011	9:04	75.32	107.49		
1/13/2011	9:05	75.04	108.74		
1/13/2011	9:06	74.99	109.99		
1/13/2011	9:07	75.09	111.25		
1/13/2011	9:08	74.62	112.49		
1/13/2011	9:09	75.37	113.74		
1/13/2011	9:10	75.17	114.99		
1/13/2011	9:11	74.76	116.24		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 2
Page 3 of 6

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	9:12	75.20	117.49		
1/13/2011	9:13	74.70	118.75		
1/13/2011	9:14	75.31	119.99		
1/13/2011	9:15	75.27	121.24		
1/13/2011	9:16	74.77	122.49		
1/13/2011	9:17	75.01	123.75		
1/13/2011	9:18	74.95	125.00		
1/13/2011	9:19	75.26	126.25		
1/13/2011	9:20	75.06	127.50		
1/13/2011	9:21	74.84	128.75		
1/13/2011	9:22	75.00	130.00		
1/13/2011	9:23	74.74	131.25		
1/13/2011	9:24	75.25	132.49		
1/13/2011	9:25	74.96	133.75		
1/13/2011	9:26	75.04	134.99		
1/13/2011	9:27	74.90	136.25		
1/13/2011	9:28	74.77	137.49		
1/13/2011	9:29	75.59	138.74		
1/13/2011	9:30	75.02	140.00		
1/13/2011	9:31	75.04	141.25		
1/13/2011	9:32	74.97	142.50		
1/13/2011	9:33	74.10	143.75		
1/13/2011	9:34	75.40	145.00		
1/13/2011	9:35	75.17	146.25		
1/13/2011	9:36	74.50	147.49		
1/13/2011	9:37	75.17	148.74		
1/13/2011	9:38	74.60	149.99		
1/13/2011	9:39	75.60	151.24		
1/13/2011	9:40	74.89	152.50		
1/13/2011	9:41	75.06	153.75		
1/13/2011	9:42	74.97	155.00		
1/13/2011	9:43	74.71	156.25		
1/13/2011	9:44	75.44	157.50		
1/13/2011	9:45	75.06	158.75		
1/13/2011	9:46	74.96	160.00		
1/13/2011	9:47	74.99	161.25		
1/13/2011	9:48	75.26	162.50		
1/13/2011	9:49	75.41	163.75		
1/13/2011	9:50	75.07	165.00		
1/13/2011	9:51	74.80	166.25		
1/13/2011	9:52	75.10	167.50		
1/13/2011	9:53	74.80	168.75		
1/13/2011	9:54	75.35	170.00		
1/13/2011	9:55	75.20	171.25		
1/13/2011	9:56	75.05	172.50		
1/13/2011	9:57	74.89	173.75		
1/13/2011	9:58	74.60	175.00		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 2
Page 4 of 6

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	9:59	75.45	176.25		
1/13/2011	10:00	75.09	177.50		
1/13/2011	10:01	74.87	178.75		
1/13/2011	10:02	75.02	180.00		
1/13/2011	10:03	74.74	181.25		
1/13/2011	10:04	75.41	182.49		
1/13/2011	10:05	75.12	183.75		
1/13/2011	10:06	74.92	185.00		
1/13/2011	10:07	74.92	186.25		
1/13/2011	10:08	74.74	187.50		
1/13/2011	10:09	75.32	188.75		
1/13/2011	10:10	75.19	190.00		
1/13/2011	10:11	74.82	191.25		
1/13/2011	10:12	74.85	192.50		
1/13/2011	10:13	75.04	193.75		
1/13/2011	10:14	75.46	195.00		
1/13/2011	10:15	74.69	196.25		
1/13/2011	10:16	75.00	197.49		
1/13/2011	10:17	74.94	198.75		
1/13/2011	10:18	74.31	200.00		
1/13/2011	10:19	75.31	201.25		
1/13/2011	10:20	75.05	202.50		
1/13/2011	10:21	74.62	203.75		
1/13/2011	10:22	74.95	205.00		
1/13/2011	10:23	74.52	206.25		
1/13/2011	10:24	75.25	207.50		
1/13/2011	10:25	75.46	208.75		
1/13/2011	10:26	74.57	210.00		
1/13/2011	10:27	74.97	211.25		
1/13/2011	10:28	74.75	212.50		
1/13/2011	10:29	75.36	213.75		
1/13/2011	10:30	75.09	215.01		
1/13/2011	10:31	74.90	216.25		
1/13/2011	10:32	74.47	217.51		
1/13/2011	10:33	74.50	218.75		
1/13/2011	10:34	75.35	220.00		
1/13/2011	10:35	74.86	221.25		
1/13/2011	10:36	74.77	222.50		
1/13/2011	10:37	75.22	223.75		
1/13/2011	10:38	74.90	225.00		
1/13/2011	10:39	74.91	226.25		
1/13/2011	10:40	75.61	227.49		
1/13/2011	10:41	75.02	228.75		
1/13/2011	10:42	74.90	230.00		
1/13/2011	10:43	74.72	231.25		
1/13/2011	10:44	75.11	232.50		
1/13/2011	10:45	74.95	233.75		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 2
Page 5 of 6

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	10:46	75.21	235.00		
1/13/2011	10:47	75.01	236.26		
1/13/2011	10:48	74.67	237.51		
1/13/2011	10:49	75.17	238.76		
1/13/2011	10:50	75.14	240.01		
1/13/2011	10:51	74.47	241.26		
1/13/2011	10:52	74.87	242.50		
1/13/2011	10:53	74.82	243.75		
1/13/2011	10:54	75.50	245.00		
1/13/2011	10:55	74.96	246.26		
1/13/2011	10:56	75.56	247.51		
1/13/2011	10:57	75.11	248.76		
1/13/2011	10:58	74.84	250.01		
1/13/2011	10:59	75.15	251.26		
1/13/2011	11:00	74.87	252.51		END
1/13/2011	11:01	74.84	253.76		RUN 2
1/13/2011	11:02	75.12	255.01		
1/13/2011	11:03	75.41	256.27		
1/13/2011	11:04	75.32	257.52		
1/13/2011	11:05	74.99	258.76		
1/13/2011	11:06	74.89	260.01		
1/13/2011	11:07	74.97	261.27		
1/13/2011	11:08	74.69	262.52		
1/13/2011	11:09	75.36	263.76		
1/13/2011	11:10	74.80	265.02		
1/13/2011	11:11	74.76	266.26		
1/13/2011	11:12	74.80	267.51		
1/13/2011	11:13	75.14	268.76		
1/13/2011	11:14	74.26	270.01		
1/13/2011	11:15	75.25	271.26		
1/13/2011	11:16	74.90	272.51		
1/13/2011	11:17	74.91	273.76		
1/13/2011	11:18	74.94	275.01		
1/13/2011	11:19	75.04	276.26		
1/13/2011	11:20	74.92	277.51		
1/13/2011	11:21	75.06	278.76		
1/13/2011	11:22	75.10	280.01		
1/13/2011	11:23	74.57	281.26		
1/13/2011	11:24	75.21	282.51		
1/13/2011	11:25	75.00	283.76		
1/13/2011	11:26	75.09	285.01		
1/13/2011	11:27	74.92	286.26		
1/13/2011	11:28	74.95	287.51		
1/13/2011	11:29	75.06	288.76		
1/13/2011	11:30	75.04	290.01		
1/13/2011	11:31	75.16	291.26		
1/13/2011	11:32	74.32	292.52		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 2
Page 6 of 6

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	11:33	74.46	293.77		
1/13/2011	11:34	74.75	295.01	END	
1/13/2011	11:35	74.79	296.25	RUN 2	
1/13/2011	11:36	74.79	297.50		
1/13/2011	11:37	74.51	298.75		
1/13/2011	11:38	74.80	300.00		
1/13/2011	11:39	75.14	301.25		
1/13/2011	11:40	74.92	302.50		
1/13/2011	11:41	75.09	303.75		
1/13/2011	11:42	74.55	305.00		
1/13/2011	11:43	75.01	306.25		
1/13/2011	11:44	75.24	307.50		
1/13/2011	11:45	74.99	308.75		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 3
Page 1 of 5

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	11:46	75.19	0.00		
1/13/2011	11:47	74.96	1.25		
1/13/2011	11:48	74.96	2.50		
1/13/2011	11:49	75.21	3.75		
1/13/2011	11:50	75.01	5.00		
1/13/2011	11:51	75.14	6.25		
1/13/2011	11:52	75.05	7.51		
1/13/2011	11:53	74.72	8.76		
1/13/2011	11:54	75.35	10.01		
1/13/2011	11:55	74.95	11.26		
1/13/2011	11:56	75.15	12.51		
1/13/2011	11:57	75.01	13.76		
1/13/2011	11:58	74.85	15.01		
1/13/2011	11:59	75.25	16.26		
1/13/2011	12:00	74.95	17.51	START RUN 3	
1/13/2011	12:01	75.14	18.76		
1/13/2011	12:02	74.87	20.01		
1/13/2011	12:03	74.12	21.26		
1/13/2011	12:04	75.16	22.51		
1/13/2011	12:05	75.14	23.76		
1/13/2011	12:06	75.16	25.01		
1/13/2011	12:07	74.97	26.26		
1/13/2011	12:08	74.99	27.51		
1/13/2011	12:09	75.10	28.76		
1/13/2011	12:10	75.07	30.01		
1/13/2011	12:11	75.34	31.26		
1/13/2011	12:12	74.91	32.51		
1/13/2011	12:13	74.90	33.76		
1/13/2011	12:14	75.16	35.01		
1/13/2011	12:15	74.81	36.26		
1/13/2011	12:16	75.09	37.50		
1/13/2011	12:17	74.97	38.76		
1/13/2011	12:18	75.04	40.01		
1/13/2011	12:19	74.39	41.26		
1/13/2011	12:20	75.04	42.51		
1/13/2011	12:21	75.22	43.75		
1/13/2011	12:22	74.97	45.01		
1/13/2011	12:23	74.89	46.26		
1/13/2011	12:24	75.45	47.51		
1/13/2011	12:25	74.96	48.76		
1/13/2011	12:26	75.10	50.01		
1/13/2011	12:27	74.20	51.26		
1/13/2011	12:28	75.11	52.50		
1/13/2011	12:29	75.30	53.75		
1/13/2011	12:30	74.89	55.00		START RUN 3
1/13/2011	12:31	75.37	56.25		
1/13/2011	12:32	75.05	57.51		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 3
Page 2 of 5

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	12:33	74.76	58.76		
1/13/2011	12:34	75.95	60.01		
1/13/2011	12:35	75.14	61.25		
1/13/2011	12:36	74.86	62.50		
1/13/2011	12:37	74.49	63.75		
1/13/2011	12:38	74.70	65.00		
1/13/2011	12:39	75.06	66.25		
1/13/2011	12:40	74.15	67.51		
1/13/2011	12:41	75.00	68.75		
1/13/2011	12:42	75.34	70.00		
1/13/2011	12:43	74.99	71.25		
1/13/2011	12:44	75.14	72.50		
1/13/2011	12:45	75.01	73.75		
1/13/2011	12:46	75.64	75.01		
1/13/2011	12:47	75.52	76.26		
1/13/2011	12:48	74.95	77.50		
1/13/2011	12:49	74.51	78.76		
1/13/2011	12:50	75.19	80.01		
1/13/2011	12:51	75.19	81.25		
1/13/2011	12:52	75.00	82.51		
1/13/2011	12:53	75.06	83.76		
1/13/2011	12:54	74.96	85.01		
1/13/2011	12:55	74.86	86.26		
1/13/2011	12:56	74.75	87.50		
1/13/2011	12:57	74.95	88.75		
1/13/2011	12:58	74.82	90.01		
1/13/2011	12:59	75.37	91.26		
1/13/2011	13:00	74.92	92.52		
1/13/2011	13:01	74.65	93.76		
1/13/2011	13:02	75.69	95.00		
1/13/2011	13:03	74.75	96.26		
1/13/2011	13:04	76.19	97.52		
1/13/2011	13:05	75.71	98.76		
1/13/2011	13:06	75.26	100.01		
1/13/2011	13:07	74.24	101.26		
1/13/2011	13:08	75.79	102.50		
1/13/2011	13:09	75.21	103.77		
1/13/2011	13:10	73.75	105.02		
1/13/2011	13:11	75.96	106.25		
1/13/2011	13:12	74.26	107.51		
1/13/2011	13:13	75.37	108.75		
1/13/2011	13:14	74.72	110.01		
1/13/2011	13:15	75.57	111.25		
1/13/2011	13:16	75.29	112.50		
1/13/2011	13:17	74.92	113.76		
1/13/2011	13:18	74.84	115.01		
1/13/2011	13:19	75.44	116.26		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 3
Page 3 of 5

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	13:20	74.86	117.51		
1/13/2011	13:21	75.00	118.76		
1/13/2011	13:22	74.17	120.01		
1/13/2011	13:23	75.85	121.25		
1/13/2011	13:24	74.46	122.52		
1/13/2011	13:25	74.86	123.76		
1/13/2011	13:26	75.16	125.00		
1/13/2011	13:27	74.01	126.26		
1/13/2011	13:28	74.85	127.49		
1/13/2011	13:29	76.01	128.74		
1/13/2011	13:30	74.82	130.01		
1/13/2011	13:31	75.04	131.26		
1/13/2011	13:32	74.84	132.51		
1/13/2011	13:33	74.86	133.76		
1/13/2011	13:34	75.81	135.01		
1/13/2011	13:35	74.77	136.26		
1/13/2011	13:36	75.11	137.51		
1/13/2011	13:37	74.87	138.76		
1/13/2011	13:38	74.97	140.01		
1/13/2011	13:39	75.06	141.26		
1/13/2011	13:40	74.81	142.51		
1/13/2011	13:41	75.37	143.75		
1/13/2011	13:42	75.12	145.01		
1/13/2011	13:43	75.10	146.26		
1/13/2011	13:44	75.20	147.51		
1/13/2011	13:45	74.69	148.76		
1/13/2011	13:46	75.36	150.00		
1/13/2011	13:47	75.45	151.26		
1/13/2011	13:48	75.39	152.50		
1/13/2011	13:49	75.55	153.76		
1/13/2011	13:50	74.85	155.01		
1/13/2011	13:51	75.81	156.25		
1/13/2011	13:52	75.05	157.50		
1/13/2011	13:53	74.79	158.76		
1/13/2011	13:54	75.10	160.01		
1/13/2011	13:55	75.16	161.26		
1/13/2011	13:56	75.60	162.51		
1/13/2011	13:57	75.09	163.76		
1/13/2011	13:58	74.91	165.01		
1/13/2011	13:59	75.21	166.26		
1/13/2011	14:00	74.72	167.51		
1/13/2011	14:01	75.35	168.76		
1/13/2011	14:02	74.95	170.01		
1/13/2011	14:03	74.79	171.26		
1/13/2011	14:04	74.39	172.51		
1/13/2011	14:05	74.71	173.76		
1/13/2011	14:06	75.30	175.01		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 3
Page 4 of 5

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	14:07	74.99	176.26		
1/13/2011	14:08	75.02	177.51		
1/13/2011	14:09	75.20	178.76		
1/13/2011	14:10	75.97	180.01		
1/13/2011	14:11	73.90	181.27		
1/13/2011	14:12	74.76	182.51		
1/13/2011	14:13	74.89	183.76		
1/13/2011	14:14	75.15	185.01		
1/13/2011	14:15	74.82	186.26		
1/13/2011	14:16	75.31	187.51		
1/13/2011	14:17	74.64	188.76		
1/13/2011	14:18	75.19	190.01		
1/13/2011	14:19	75.17	191.27		
1/13/2011	14:20	74.72	192.51		
1/13/2011	14:21	75.15	193.76		
1/13/2011	14:22	74.92	195.01		
1/13/2011	14:23	75.06	196.26		
1/13/2011	14:24	75.21	197.51		
1/13/2011	14:25	74.79	198.76		
1/13/2011	14:26	75.06	200.01		
1/13/2011	14:27	74.15	201.26		
1/13/2011	14:28	76.56	202.50		
1/13/2011	14:29	74.76	203.76		
1/13/2011	14:30	74.96	205.01		
1/13/2011	14:31	75.42	206.25		
1/13/2011	14:32	75.50	207.51		
1/13/2011	14:33	75.06	208.76		
1/13/2011	14:34	75.36	210.02		
1/13/2011	14:35	74.79	211.26		
1/13/2011	14:36	75.45	212.51		
1/13/2011	14:37	74.74	213.76		
1/13/2011	14:38	75.06	215.01		
1/13/2011	14:39	75.15	216.26		
1/13/2011	14:40	75.19	217.51		
1/13/2011	14:41	75.32	218.76		
1/13/2011	14:42	74.92	220.01		
1/13/2011	14:43	74.32	221.26		
1/13/2011	14:44	76.26	222.50		
1/13/2011	14:45	75.41	223.75		END RUN 3
1/13/2011	14:46	74.64	225.01		
1/13/2011	14:47	75.02	226.26		
1/13/2011	14:48	75.02	227.51		
1/13/2011	14:49	75.42	228.76		
1/13/2011	14:50	76.45	230.01		
1/13/2011	14:51	74.00	231.27		
1/13/2011	14:52	75.17	232.51		
1/13/2011	14:53	74.92	233.77		

Norlite Inc.
Cohoes, NY
LWAK #1 CPT
1-Minute Averages
Chlorobenzene
Cond. 1A, Run 3
Page 5 of 5

DATE	TIME	PUMPING RATE (Lb. /hr.)	TOTAL MASS (Lb.)	METHOD 23 RUN STATUS	METHOD 0031 RUN STATUS
1/13/2011	14:54	75.19	235.02		
1/13/2011	14:55	74.71	236.26		
1/13/2011	14:56	75.51	237.51		
1/13/2011	14:57	75.10	238.76		
1/13/2011	14:58	75.02	240.01		
1/13/2011	14:59	74.99	241.26		
1/13/2011	15:00	74.81	242.51		
1/13/2011	15:01	75.30	243.75		
1/13/2011	15:02	74.91	245.01		
1/13/2011	15:03	74.72	246.26		
1/13/2011	15:04	75.72	247.52		
1/13/2011	15:05	74.97	248.76		
1/13/2011	15:06	75.36	250.01		
1/13/2011	15:07	74.81	251.26		
1/13/2011	15:08	74.95	252.51		
1/13/2011	15:09	75.29	253.76		
1/13/2011	15:10	74.45	255.02		
1/13/2011	15:11	74.90	256.26		
1/13/2011	15:12	74.40	257.51		
1/13/2011	15:13	74.52	258.75		
1/13/2011	15:14	75.15	260.01		
1/13/2011	15:15	74.40	261.26		
1/13/2011	15:16	75.20	262.50		
1/13/2011	15:17	75.20	263.76		
1/13/2011	15:18	74.99	265.01		
1/13/2011	15:19	75.97	266.27		
1/13/2011	15:20	74.87	267.51		
1/13/2011	15:21	75.29	268.76		
1/13/2011	15:22	75.10	270.01		
1/13/2011	15:23	74.69	271.26		
1/13/2011	15:24	74.95	272.51		
1/13/2011	15:25	74.99	273.76		
1/13/2011	15:26	75.42	275.01		
1/13/2011	15:27	74.90	276.27		
1/13/2011	15:28	74.50	277.51		
1/13/2011	15:29	74.72	278.76	END	
1/13/2011	15:30	75.24	280.01	RUN 3	
1/13/2011	15:31	75.65	281.25		
1/13/2011	15:32	74.80	282.51		
1/13/2011	15:33	75.07	283.76		
1/13/2011	15:34	75.25	285.02		
1/13/2011	15:35	88.24	286.27		
1/13/2011	15:36	75.47	287.82		
1/13/2011	15:37	37.49	289.08		

APPENDIX E

FIELD SPIKING LOG

Field Spiking Log

Norlite Inc.

Cohoes, New york

January 11, 2011 (All times Eastern Standard Time)

0700	Departed Greensboro, North Carolina.
1230	Arrived Cohoes, New York.
1330	Arrived at Norlite plant. Started setup.
1730	Setup complete. Departed plant.

January 12, 2011

1000	Arrived at plant.
1232	One pump on-line and stable at set point. Pump 3 Chlorobenzene 60.0 Lb. /hr.
1333	Stack sampling started for Condition 1A, Run 1.
1403	Stack sampling started for VOST Method 0031 Condition 1A, Run 1.
1557	Stack sampling for VOST Method 0031 Run 1 complete.
1635	Stack sampling for Run 1 complete.
1730	Departed plant.

January 13, 2011

0630	Arrived at plant.
0738	One pump on-line and stable at set point. Pump 3 Chlorobenzene 75.0 Lb. /hr.
0837	Stack sampling started for Condition 1A, Run 2.
0900	Stack sampling started for VOST Method 0031 Condition 1A, Run 2.
1101	Stack sampling for VOST Method 0031 Run 2 complete.
1135	Stack sampling for Run 2 complete.
1200	Stack sampling started for Condition 1A, Run 3.
1230	Stack sampling started for VOST Method 0031 Condition 1A, Run 3.
1446	Stack sampling for VOST Method 0031 Run 3 complete.
1533	Stack sampling for Run 3 complete.
1545	Demob started.
1730	Departed plant.

January 14, 2011

0815	Departed Albany, New York.
1215	Arrived in Greensboro, North Carolina.

Appendix D

Analytical Lab Reports for Kiln Feed Materials

Adirondack Lab Report for January 2011 Test

Adirondack Environmental Services Inc.

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www.adirondackenvironmental.com

Norlite Corp.
628 South Saratoga Street
Cohoes, New York 12047

Attention: Prince Knight

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TITLE PAGE

On January 14, 2011 six liquid and six solid samples were received by Adirondack Environmental Services, Inc. from Norlite at the Cohoes site. These samples were analyzed for Metals and Physical Parameters in accordance with methodology as detailed by the contract. The project was completed on February 10, 2011.

Laboratory Manager

Date: 2/10/11

Adirondack Environmental Services, Inc.

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SAMPLE DATA

SUMMARY PACKAGE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	*VOA GC/MS Method	*BNA GC/MS Method	*PCB GC Method	*Pest GC Method	*Metals	*Other CN
LLGF-C1RT-R1	110114014-001					X	X
LLGF-C1RT-R2	110114014-002					X	X
LLGF-C1RT-R3	110114014-003					X	X
LLGF-C1A-R1	110114014-004					X	X
LLGF-C1A-R2	110114014-005					X	X
LLGF-C1A-R3	110114014-006					X	X
Shale-C1RT-R1	110114014-007					X	X
Shale-C1RT-R2	110114014-008					X	X
Shale-C1RT-R3	110114014-009					X	X
Shale-C1A-R1	110114014-010					X	X
Shale-C1A-R2	110114014-011					X	X
Shale-C1A-R3	110114014-012					X	X

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Prepared	Date Analyzed
110114014-001	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-002	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-003	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-004	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-005	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Prepared	Date Analyzed
110114014-006	LIQUID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Ash			1/27/11
		Heating Value			1/18/11
		Chlorine (IC)		1/18/11	1/25/11
		Chlorine (Titration)		1/18/11	2/8/11
		Density			1/27/11
110114014-007	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
110114014-008	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
110114014-009	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
110114014-010	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
110114014-011	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11
110114014-012	SOLID	ICP	1/14/11	1/20/11	1/26/11
		Mercury		1/26/11	1/26/11
		Chlorine		1/21/11	1/25/11

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Case Narrative

Client: Norlite – MACT/CPT

Case: NO 1101

SDG: LLGF-C1A-R1

Sample ID	Laboratory Sample ID	Date Received	VTSR	Matrix
LLGF-C1RT-R1	110114014-001	01/14/11	10:21	Liquid
LLGF-C1RT-R2	110114014-002	01/14/11	10:21	Liquid
LLGF-C1RT-R3	110114014-003	01/14/11	10:21	Liquid
LLGF-C1A-R1	110114014-004	01/14/11	10:21	Liquid
LLGF-C1A-R2	110114014-005	01/14/11	10:21	Liquid
LLGF-C1A-R3	110114014-006	01/14/11	10:21	Liquid
Shale-C1RT-R1	110114014-007	01/14/11	10:21	Solid
Shale-C1RT-R2	110114014-008	01/14/11	10:21	Solid
Shale-C1RT-R3	110114014-009	01/14/11	10:21	Solid
Shale-C1A-R1	110114014-010	01/14/11	10:21	Solid
Shale-C1A-R2	110114014-011	01/14/11	10:21	Solid
Shale-C1A-R3	110114014-012	01/14/11	10:21	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

Inorganics – Total Metals (Liquid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.

3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).

4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Cadmium, Copper, Lead, Nickel and Zinc for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recoveries for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 2 times the sample concentration were all within the required 75-125 % limits.

6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1RT-R1 B (AES sample number 110114014-001) was within the required 75-125 % limits.

7) The recovery between sample LLGF-C1RT-R1 (AES sample number 110114014-001) and the duplicate sample for the element Arsenic was outside the required limits for sample duplication. This element is flagged with an " * " as required by the protocol.

Inorganics – Total Metals (Solid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.

3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Lead and Zinc for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 3 times the MDL was outside the required 75-125 % limits. The digested spike recovery for the elements Arsenic and Lead for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

5) The digested spike recovery for the element Mercury for SHALE-C1RT-R1 (AES sample number 110114014-007) was within the required 75-125 % limits.

6) The element Copper for sample SHALE-C1RT-R2 (AES sample number 110114014-008) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

Inorganics

1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.

2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.

3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.

4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.

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5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.

6) Density was performed at ambient temperature.

7) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was within acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 99 %. The recovery for the Chlorine spike by ASTM 808/9253 was 120 %.

8) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 84 %.

9) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the duplicate for the LLGF samples. All recoveries were within required limits.

10) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.

11) The following lists the analyses and the units in which the results are reported.

Analyte	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/Kg
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: 2/10/11

Albany, NY

: 00007

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C1A-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-004A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	41.0		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	56.8			P
7440-47-3	Chromium	210			P
7440-50-8	Copper	1010			P
7439-97-6	Mercury	0.30			CV
7439-92-1	Lead	161			P
7440-02-0	Nickel	460			P
7440-66-6	Zinc	1610			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Form I - IN ILM04.2

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R1 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-004A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.15			CV

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-005A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	46.9		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	45.9			P
7440-47-3	Chromium	166			P
7440-50-8	Copper	1210			P
7439-97-6	Mercury	0.38			CV
7439-92-1	Lead	181			P
7440-02-0	Nickel	486			P
7440-66-6	Zinc	1630			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C1A-R2 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-005A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.17			CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-006A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	37.4		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	45.9			P
7440-47-3	Chromium	183			P
7440-50-8	Copper	1220			P
7439-97-6	Mercury	0.32			CV
7439-92-1	Lead	168			P
7440-02-0	Nickel	554			P
7440-66-6	Zinc	1660			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R3 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-006A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.18			CV

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Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-001A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	31.0		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	36.8			P
7440-47-3	Chromium	149			P
7440-50-8	Copper	1480			P
7439-97-6	Mercury	0.24			CV
7439-92-1	Lead	107			P
7440-02-0	Nickel	1390			P
7440-66-6	Zinc	2070			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R1 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-001A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.14			CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-002A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	26.5		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	36.4			P
7440-47-3	Chromium	138			P
7440-50-8	Copper	1450			P
7439-97-6	Mercury	0.22			CV
7439-92-1	Lead	111			P
7440-02-0	Nickel	1350			P
7440-66-6	Zinc	2040			P

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Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R2 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-002A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.13			CV

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Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-003A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	22.7		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	24.2			P
7440-47-3	Chromium	153			P
7440-50-8	Copper	1280			P
7439-97-6	Mercury	0.25			CV
7439-92-1	Lead	115			P
7440-02-0	Nickel	952			P
7440-66-6	Zinc	1780			P

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Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R3 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-003A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.15			CV

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Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1A-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-010A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	73.1			P
7440-50-8	Copper	68.6		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	43.4			P
7440-66-6	Zinc	134			P

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Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1A-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-011A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	74.9			P
7440-50-8	Copper	43.9		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	41.0			P
7440-66-6	Zinc	100			P

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Form I - IN ILM04.2

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1A-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-012A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	59.1			P
7440-50-8	Copper	42.3		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	43.1			P
7440-66-6	Zinc	64.4			P

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Form I - IN ILM04.2

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1RT-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-007A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	63.8			P
7440-50-8	Copper	38.4		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	42.6			P
7440-66-6	Zinc	71.1			P

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Form I - IN ILM04.2

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1RT-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-008A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	72.2			P
7440-50-8	Copper	43.4		E	P
7439-97-6	Mercury	0.02	B		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	39.4			P
7440-66-6	Zinc	87.1			P

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Comments: _____

Form I - IN ILM04.2

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1RT-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-009A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	72.9			P
7440-50-8	Copper	40.2		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	40.7			P
7440-66-6	Zinc	141			P

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Form I - IN ILM04.2

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1A-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-004

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9605			ASTM D240-76
Ash	7.38			ASTM D482
Total Chlorine (IC)	17490			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	17500			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9899			ASTM D1298

Comments _____

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FORM I - CONV

: 00026

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1A-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-005

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9268			ASTM D240-76
Ash	7.71			ASTM D482
Total Chlorine (IC)	16140			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16070			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9869			ASTM D1298

Comments _____

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FORM I - CONV

: 00027

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1A-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-006

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9228			ASTM D240-76
Ash	7.71			ASTM D482
Total Chlorine (IC)	16010			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16830			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9902			ASTM D1298

Comments _____

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FORM I - CONV

: 00028

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1RT-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-001

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9369			ASTM D240-76
Ash	5.57			ASTM D482
Total Chlorine (IC)	16240			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16030			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9865			ASTM D1298

Comments _____

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FORM I - CONV

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1RT-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-002

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9439			ASTM D240-76
Ash	5.64			ASTM D482
Total Chlorine (IC)	16700			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	16730			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9104			ASTM D1298

Comments _____

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FORM I - CONV

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1RT-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-003

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9264			ASTM D240-76
Ash	5.63			ASTM D482
Total Chlorine (IC)	17130			ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	17680			ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9797			ASTM D1298

Comments _____

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FORM I - CONV

: 00031

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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1A-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-010

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1A-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Solid Lab Sample ID: 110114014-011

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00033

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CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1A-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Solid Lab Sample ID: 110114014-012

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 60034

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1RT-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Solid Lab Sample ID: 110114014-007

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00035

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1RT-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Solid Lab Sample ID: 110114014-008

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00036

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1RT-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 110114014-009

Level (Low/Med): Low Date Received: 1/14/11

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00037

6

DUPLICATES

SAMPLE NO.

LLGF-C1RT-R1 BDP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury		0.144		0.128		11.8		CV

6

DUPLICATES

SAMPLE NO.

LLGF-C1RT-R1DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		30.9718		47.7360		42.6	*	P
Beryllium		0.22	U	0.22	U			P
Cadmium		36.8413		37.6900		2.3		P
Chromium		149.2530		157.0795		5.1		P
Copper		1482.2330		1520.8860		2.6		P
Mercury		0.2420		0.2260		6.8		CV
Lead		107.1786		111.4653		3.9		P
Nickel		1391.6270		1397.6950		0.4		P
Zinc		2068.7170		2124.7280		2.7		P

6

DUPLICATES

SAMPLE NO.

SHALE-C1RT-R1DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury		0.0120	U	0.0120	U			CV

6

DUPLICATES

SAMPLE NO.

SHALE-C1RT-R2DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		11.96	U	11.96	U			P
Beryllium		1.7016		1.6982	B	0.2		P
Cadmium		0.31	U	0.31	U			P
Chromium		72.2200		70.8385		1.9		P
Copper	8.2	43.4097		42.4342		2.3		P
Lead		11.58	U	11.58	U			P
Nickel	13.2	39.3845		37.9502		3.7		P
Zinc		87.1394		81.7059		6.4		P

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6

DUPLICATES

LLGF-C1A-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Level (Low/Med): Low

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Sample (S)	C	Duplicate (D)	C	% R	Q	M
Heating Value		9228		9183		0.5		
Ash		7.71		7.61		1.3		
Total Chlorine (IC)		16010		15910		0.6		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)		16830		16310		3.1		
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C		0.9902		0.9891		0.1		

Comments This analysis was a pre-preparation duplicate.

FORM VI - CONV

: 00042

U.S. EPA - CLP

6

DUPLICATES

Shale-C1A-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Solid Level (Low/Med): Low

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Sample (S)	C	Duplicate (D)	C	% R	Q	M
Heating Value								
Ash								
Total Chlorine (IC)		234	U	234	U	NC		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)								
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C								

Comments This analysis was a pre-preparation duplicate.

FORM VI - CONV

: 00043

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1 BMS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	0.472		0.144		0.400	82.0		CV

Comments:

Form V (PART 1) - IN ILM04.2

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	46.7237		30.9718		16.234	97.0		P
Beryllium	75 - 125	0.7950	B	0.22	U	0.974	81.6		P
Cadmium		39.6202		36.8413		0.397	700		P
Chromium	75 - 125	193.8694		149.2530		44.733	99.7		P
Copper		1594.3720		1482.2330		19.481	576		P
Mercury	75 - 125	0.5500		0.2420		0.40	77.0		CV
Lead		134.4662		107.1786		15.512	176		P
Nickel		1540.4090		1391.6270		11.183	1330		P
Zinc		2226.4570		2068.7170		34.993	451		P

Comments:

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1MS2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	90.6297		30.9718		67.01	89.0		P
Beryllium		0.0521	U	0.22	U	0.00	0.0		P
Cadmium	75 - 125	108.7793		36.8413		74.46	96.6		P
Chromium	75 - 125	414.4670		149.2530		294.12	90.2		P
Copper	75 - 125	4121.0430		1482.2330		2565.15	102.9		P
Lead	75 - 125	346.7920		107.1786		234.55	102.2		P
Nickel	75 - 125	3963.3970		1391.6270		2553.98	100.7		P
Zinc	75 - 125	5364.5200		2068.7170		4151.15	79.4		P

Comments:

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R1MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	0.3780		0.0120	U	0.40	94.5		CV

Comments:

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R2MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	7.9362		11.96	U	15.571	51.0	N	P
Beryllium	75 - 125	2.4308		1.7016		0.934	78.1		P
Cadmium	75 - 125	0.4156	B	0.31	U	0.381	109.1		P
Chromium	75 - 125	108.0969		72.2200		42.907	83.6		P
Copper	75 - 125	61.1181		43.4097		18.685	94.8		P
Lead	75 - 125	0.6678	U	11.58	U	14.879	0.0	N	P
Nickel	75 - 125	48.3131		39.3845		10.727	83.2		P
Zinc	75 - 125	108.0044		87.1394		33.564	62.2	N	P

Comments:

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R2MS2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	11.3468		11.96	U	18.998	59.7	N	P
Beryllium	75 - 125	4.1932		1.7016		2.936	84.9		P
Cadmium		0.0846	B	0.31	U	0.0	0.0		P
Chromium	75 - 125	154.1564		72.2200		93.264	87.9		P
Copper	75 - 125	137.3771		43.4097		79.447	118.3		P
Lead	75 - 125	61.5843		11.58	U	34.542	178.3	N	P
Nickel	75 - 125	103.1725		39.3845		69.085	92.3		P
Zinc	75 - 125	235.3684		87.1394		138.169	107.3		P

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1A

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Arsenic		170.11		101.59		80.0	85.6		P
Beryllium		100.89		0.14	U	100.0	100.9		P
Cadmium		213.66		120.84		100.0	92.8		P
Chromium		865.69		489.55		400.0	94.0		P
Copper		5345.53		4861.73		500.0	96.8		P
Lead		380.46		351.55		40.0	72.3		P
Nickel		5437.13		4564.54		1000.0	87.3		P
Zinc		7463.28		6785.39		1000.0	67.8		P

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R2A

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		49.33		1.50	U	80.0	61.7		P
Beryllium		105.74		5.16		100.0	100.6		P
Cadmium		95.65		0.13	U	100.0	95.6		P
Chromium		630.40		219.12		400.0	102.8		P
Copper		657.07		131.70		500.0	105.1		P
Lead		24.12		1.93	U	40.0	60.3		P
Nickel		1101.06		119.49		1000.0	98.2		P
Zinc		1266.39		264.38		1000.0	100.2		P

Comments:

U.S. EPA - CLP

5

SPIKE SAMPLE RECOVERY

LLGF-C1A-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Liquid Waste Level (Low/Med): Low

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	% R	Q	M
Heating Value									
Ash									
Total Chlorine (IC)	75-125	20131		16012		4162	99		
Flash Point									
Corrosivity									
Reactive Cyanide									
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)	75-125	21840		16830		4162	120		
Total Cyanide									
Kinematic Viscosity									
Density @ 22 C									

Comments This analysis was a pre-preparation spike. The spike was added before bombing.

FORM V (Part 1) - CONV

: 00052

U.S. EPA - CLP

5

SPIKE SAMPLE RECOVERY

Shale-C1A-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): Solid Level (Low/Med): Low

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	% R	Q	M
Heating Value									
Ash									
Total Chlorine (IC)	75-125	2711		234	U	3213	84		
Flash Point									
Corrosivity									
Reactive Cyanide									
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)									
Total Cyanide									
Kinematic Viscosity									
Density @ 22 C									

Comments This analysis was a pre-preparation spike. The spike was added before bombing.

FORM V (Part 1) - CONV

: 00053

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic	1.5	U	1.5	U	1.5	U	1.5	U	0.150	U	P
Beryllium	0.1	U	0.1	U	0.1	U	0.1	U	0.013	U	P
Cadmium	0.1	U	0.2	B	0.2	B	0.3	B	0.090	B	P
Chromium	4.7	U	4.7	U	4.7	U	4.7	U	0.470	U	P
Copper	2.5	U	2.5	U	2.5	U	2.5	U	0.250	U	P
Mercury	0.06	U	0.06	U	0.06	U	0.06	U	0.012	U	CV
Lead	1.9	U	1.9	U	1.9	U	1.9	U	0.190	U	P
Nickel	0.6	U	0.6	U	0.6	U	0.6	U	1.896	B	P
Zinc	0.8	U	0.8	U	0.8	U	0.8	U	0.736	B	P

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic			1.5	U					0.150	U	P
Beryllium			0.1	U					0.013	U	P
Cadmium			0.1	B					0.045	B	P
Chromium			4.7	U					0.470	U	P
Copper			2.5	U					0.250	U	P
Mercury			0.06	U	0.06	U			0.012	U	CV
Lead			1.9	U					0.190	U	P
Nickel			0.6	U					0.304	B	P
Zinc			0.8	U					0.377	B	P

U.S. EPA - CLP

3
BLANKS

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Preparation Blank Matrix: Liquid

Preparation Blank Concentration Units: mg/Kg

Analyte	Initial Calib. Blank(ug/L)	C	Continuing Calibration 1	C	2	C	3	C	Prep. Blank	C	Method
Heating Value											ASTM D240-76
Ash											ASTM D482
Total Chlorine (IC)	1000	U	1000	U	1000	U	1000	U	100	U	EPA 5050/9056
Flash Point											EPA 1010
Corrosivity											SW-846 7.2.2
Reactive Cyanide											SW-846 7.3.3
Reactive Sulfide											SW-846 7.3.4
Reactivity											SW-846 7.3.2.1
Total Chlorine (Titration)									100	U	ASTM D808/9253
Total Cyanide											SW-846 9012
Kinematic Viscosity											ASTM D445
Density @ 22 C											ASTM D1298

Comments _____

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FORM III - CONV

: 00056

U.S. EPA - CLP

3
BLANKS

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Preparation Blank Matrix: Liquid

Preparation Blank Concentration Units: mg/Kg

Analyte	Initial Calib. Blank(ug/L)	C	Continuing Calibration 1	C	2	C	3	C	Prep. Blank	C	Method
Heating Value											ASTM D240-76
Ash											ASTM D482
Total Chlorine (IC)			1000	U							EPA 5050/9056
Flash Point											EPA 1010
Corrosivity											SW-846 7.2.2
Reactive Cyanide											SW-846 7.3.3
Reactive Sulfide											SW-846 7.3.4
Reactivity											SW-846 7.3.2.1
Total Chlorine (Titration)											ASTM D808/9253
Total Cyanide											SW-846 9012
Kinematic Viscosity											ASTM D445
Density @ 22 C											ASTM D1298

Comments _____

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FORM III - CONV

: 00057

SAMPLE DATA

PACKAGE

Adirondack Environmental Services, Inc.
Experience is the solution
314 North Pearl Street • Albany, New York 12207 • (518) 434-4546 • Fax (518) 434-0891
www.adirondackenvironmental.com

Case Narrative

Client: Norlite – MACT/CPT

Case: NO 1101

SDG: LLGF-C1A-R1

Sample ID	Laboratory Sample ID	Date Received	VTSR	Matrix
LLGF-C1RT-R1	110114014-001	01/14/11	10:21	Liquid
LLGF-C1RT-R2	110114014-002	01/14/11	10:21	Liquid
LLGF-C1RT-R3	110114014-003	01/14/11	10:21	Liquid
LLGF-C1A-R1	110114014-004	01/14/11	10:21	Liquid
LLGF-C1A-R2	110114014-005	01/14/11	10:21	Liquid
LLGF-C1A-R3	110114014-006	01/14/11	10:21	Liquid
Shale-C1RT-R1	110114014-007	01/14/11	10:21	Solid
Shale-C1RT-R2	110114014-008	01/14/11	10:21	Solid
Shale-C1RT-R3	110114014-009	01/14/11	10:21	Solid
Shale-C1A-R1	110114014-010	01/14/11	10:21	Solid
Shale-C1A-R2	110114014-011	01/14/11	10:21	Solid
Shale-C1A-R3	110114014-012	01/14/11	10:21	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

Inorganics – Total Metals (Liquid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.

3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).

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4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Cadmium, Copper, Lead, Nickel and Zinc for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recoveries for sample LLGF-C1RT-R1 (AES sample number 110114014-001) spiked at 2 times the sample concentration were all within the required 75-125 % limits.

6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1RT-R1 B· (AES sample number 110114014-001) was within the required 75-125 % limits.

7) The recovery between sample LLGF-C1RT-R1 (AES sample number 110114014-001) and the duplicate sample for the element Arsenic was outside the required limits for sample duplication. This element is flagged with an " * " as required by the protocol.

Inorganics – Total Metals (Solid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.

3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Lead and Zinc for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 3 times the MDL was outside the required 75-125 % limits. The digested spike recovery for the elements Arsenic and Lead for sample SHALE-C1RT-R2 (AES sample number 110114014-008) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

5) The digested spike recovery for the element Mercury for SHALE-C1RT-R1 (AES sample number 110114014-007) was within the required 75-125 % limits.

6) The element Copper for sample SHALE-C1RT-R2 (AES sample number 110114014-008) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

Inorganics

1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.

2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.

3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.

4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.

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5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.

6) Density was performed at ambient temperature.

7) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was within acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 99 %. The recovery for the Chlorine spike by ASTM 808/9253 was 120 %.

8) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 84 %.

9) Sample LLGF-C1A-R3 (AES sample number 110114014-006) was used for the duplicate for the LLGF samples. All recoveries were within required limits.

10) Sample Shale-C1A-R3 (AES sample number 110114014-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.

11) The following lists the analyses and the units in which the results are reported.

Analyte	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/Kg
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: 2/10/11

Albany, NY

: 00052

1101 14 014

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date:	1/11-13/11	Project Location:	Cohoes, NY	P.O. #:	N/A
Type of Program:	2010 MACT CPT	Date Shipped:	Hand Delivered	Laboratory:	Adirondack Env. Services		
Project #:	60163411	Shipper /	Doug Roeck / 1/13/11	Test Conditions:	C1RT = Condition 1 Retest		
Program Office:	Westford, MA	Recovery:	Fred Sanguedolce		C1A = Condition 1 Revised		
Program Contact:	Doug Roeck			FedEx Air Bill #:	Hand Delivered		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	001A LLGF-C1RT-R1	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 1	See Notes 1 and 3 1/11/11	* Analytical results
2	002A LLGF-C1RT-R2	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 2	See Notes 1 and 3 1/11/11	in 2 weeks,
3	003A LLGF-C1RT-R3	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 3	See Notes 1 and 3 1/12/11	Final report in
4	004A LLGF-C1A-R1	Organic Liquid	Liquid Low Grade Fuel C1A, Run 1	See Notes 1 and 3 1/12/11	3 weeks.
5	005A LLGF-C1A-R2	Organic Liquid	Liquid Low Grade Fuel C1A, Run 2	See Notes 1 and 3 1/13/11	
6	006A LLGF-C1A-R3	Organic Liquid	Liquid Low Grade Fuel C1A, Run 3	See Notes 1 and 3 1/13/11	
7					
8					
9					
10					
11					
12					
13	007 SHALE-C1RT-R1	Inorganic / Solid	Shale Feed C1RT, Run 1	See Notes 2 and 3 1/11/11	
14	008 SHALE-C1RT-R2	Inorganic / Solid	Shale Feed C1RT, Run 2	See Notes 2 and 3 1/11/11	
15	009 SHALE-C1RT-R3	Inorganic / Solid	Shale Feed C1RT, Run 3	See Notes 2 and 3 1/12/11	
16	010 SHALE-C1A-R1	Inorganic / Solid	Shale Feed C1A, Run 1	See Notes 2 and 3 1/12/11	
17	011 SHALE-C1A-R2	Inorganic / Solid	Shale Feed C1A, Run 2	See Notes 2 and 3 1/13/11	
18	012 SHALE-C1A-R3	Inorganic / Solid	Shale Feed C1A, Run 3	See Notes 2 and 3 1/13/11	
19					
20					

Field Notes/ Comments

1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.
2. Target parameters for shale are total chlorine and metals.
3. Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc.

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	1/13/11					J. Mikele	1/14/11
Signature:	Time:	Signature:	Time:	Signature:	Time:	Signature:	Time:
Douglas R Roeck	17:00					J. Mikele	10:20 AM
Received By (print):	**Date:**	**Received By (print):**	**Date:**	**Received By (print):**	**Date:**	**Analytical Laboratory Destination:**	
Prime Knight	1/13/11					Adirondack Environmental Services	
Signature:	Time:	Signature:	Time:	Signature:	Time:	314 North Pearl Street	
	1700					Albany, NY 12207	
						Attn: Tara Daniels, (518)-434-4546	

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AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date: 1/11-13/11	Project Location:	Cohoes, NY	P.O. #: N/A
Type of Program:	2010 MACT CPT	Date Shipped: Hand Delivered	Laboratory:	Adirondack Env. Services	
Project #:	60163411	Shipper / Doug Roeck / 1/13/11	Test Conditions:	C1RT = Condition 1 Retest	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C1A = Condition 1 Revised	
Program Contact:	Doug Roeck		FedEx Air Bill #:	Hand Delivered	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	001B LLGF-C1RT-R1	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 1	See Notes 1 and 3 1/11/11	Archived Duplicate
22	002B LLGF-C1RT-R2	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 2	See Notes 1 and 3 1/11/11	Archived Duplicate
23	003B LLGF-C1RT-R3	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 3	See Notes 1 and 3 1/12/11	Archived Duplicate
24	004B LLGF-C1A-R1	Organic Liquid	Liquid Low Grade Fuel C1A, Run 1	See Notes 1 and 3 1/12/11	Archived Duplicate
25	005B LLGF-C1A-R2	Organic Liquid	Liquid Low Grade Fuel C1A, Run 2	See Notes 1 and 3 1/13/11	Archived Duplicate
26	006B LLGF-C1A-R3	Organic Liquid	Liquid Low Grade Fuel C1A, Run 3	See Notes 1 and 3 1/13/11	Archived Duplicate
27					
28					* See pg 1 of 3
29					
30					
31					
32					
33	SHALE-C1RT-R1	Inorganic / Solid	Shale Feed C1RT, Run 1	See Notes 2 and 3	Archived Duplicate
34	SHALE-C1RT-R2	Inorganic / Solid	Shale Feed C1RT, Run 2	See Notes 2 and 3	Archived Duplicate
35	SHALE-C1RT-R3	Inorganic / Solid	Shale Feed C1RT, Run 3	See Notes 2 and 3	Archived Duplicate
36	SHALE-C1A-R1	Inorganic / Solid	Shale Feed C1A, Run 1	See Notes 2 and 3	Archived Duplicate
37	SHALE-C1A-R2	Inorganic / Solid	Shale Feed C1A, Run 2	See Notes 2 and 3	Archived Duplicate
38	SHALE-C1A-R3	Inorganic / Solid	Shale Feed C1A, Run 3	See Notes 2 and 3	Archived Duplicate
39					
40					

Field Notes/ Comments

1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.
2. Target parameters for shale are total chlorine and metals.
3. Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc.

Page 2 of 3

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	1/13/11					J. Michelen	1/14/11
Signature: Douglas R. Roeck	Time: 17:00	Signature:	Time:	Signature:	Time:	Signature:	Time: 10:20 AM
Received By (print):	**Date:**	**Received By (print):**	**Date:**	**Received By (print):**	**Date:**	**Analytical Laboratory Destination:**	
Prince Knight	1/13/11					Adirondack Environmental Services	
Signature:	Time: 17:00	Signature:	Time:	Signature:	Time:	314 North Pearl Street	
						Albany, NY 12207	
						Attn: Tara Daniels, (518)-434-4546	

11011401 4

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	**Sample Date:**	1/11-13/11	**Project Location:**	Cohoes, NY	**P.O. #:**	N/A
Type of Program:	2010 MACT CPT	**Date Shipped:**	Hand Delivered	**Laboratory:**	Adirondack Env. Services		
Project #:	60163411	**Shipper /**	**Doug Roeck /** 1/13/11	**Test Conditions:**	C1RT = Condition 1 Retest		
Program Office:	Westford, MA	**Recovery:**	**Fred Sanguedolce**		C1A = Condition 1 Revised		
Program Contact:	Doug Roeck			**FedEx Air Bill #:**	**Hand Delivered**		

	Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
013	41	**LLGF-SEDIMENT-C1RT-R1**	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 1	See Notes 1 and 3 1/11/11	for sediment analysis
014	42	**LLGF-SEDIMENT-C1RT-R2**	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 2	See Notes 1 and 3 1/11/11	for sediment analysis
015	43	**LLGF-SEDIMENT-C1RT-R3**	Organic Liquid	Liquid Low Grade Fuel C1RT, Run 3	See Notes 1 and 3 1/12/11	for sediment analysis
016	44	**LLGF-SEDIMENT-C1A-R1**	Organic Liquid	Liquid Low Grade Fuel C1A, Run 1	See Notes 1 and 3 1/12/11	for sediment analysis
017	45	**LLGF-SEDIMENT-C1A-R2**	Organic Liquid	Liquid Low Grade Fuel C1A, Run 2	See Notes 1 and 3 1/13/11	for sediment analysis
018	46	**LLGF-SEDIMENT-C1A-R3**	Organic Liquid	Liquid Low Grade Fuel C1A, Run 3	See Notes 1 and 3 1/13/11	for sediment analysis
	47					
	48					* See Page 1 of 3
	49					
	50					
	51					
	52					
	53					
	54					
	55					
	56					
	57					
	58					
	59					
	60					

Field Notes/ Comments

1. **Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.**
2. **Target parameters for shale are total chlorine and metals.**
3. **Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc.**

Page 3 of 3

Relinquished By (print): **Douglas R. Roeck** Date: 1/13/11 Signature: Douglas R Roeck Time: 17:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): J. Mihale Date: 1/14/11 Signature: [signature] Time: 10:21
Received By (print): Prince Knight Date: 1/13/11 Signature: [signature] Time: 17:00	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	**Analytical Laboratory Destination:** Adirondack Environmental Services 314 North Pearl Street Albany, NY 12207 Attn: Tara Daniels, (518)-434-4546

00065

Sample ID:	Action:	ActionDate:	ID:	NewLocation:	Purpose:
110114014-001A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-001A	Logout	1/18/2011 2:17:33 PM	PL	PL	BTU
110114014-001A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-001A	Logout	1/26/2011 8:15:27 AM	WB	William Blom	HG_PREP
110114014-001A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-001A	Logout	1/27/2011 8:54:10 AM	PL	PL	ASH&DENSITY
110114014-001B	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-002A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-002A	Logout	1/18/2011 2:17:33 PM	PL	PL	BTU
110114014-002A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-002A	Logout	1/26/2011 8:15:27 AM	WB	William Blom	HG_PREP
110114014-002A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-002A	Logout	1/27/2011 8:54:10 AM	PL	PL	ASH&DENSITY
110114014-002B	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-003A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-003A	Logout	1/18/2011 2:17:33 PM	PL	PL	BTU
110114014-003A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-003A	Logout	1/26/2011 8:15:27 AM	WB	William Blom	HG_PREP
110114014-003A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-003A	Logout	1/27/2011 8:54:10 AM	PL	PL	ASH&DENSITY
110114014-003B	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-004A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-004A	Logout	1/18/2011 2:17:33 PM	PL	PL	BTU
110114014-004A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-004A	Logout	1/26/2011 8:15:27 AM	WB	William Blom	HG_PREP
110114014-004A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-004A	Logout	1/27/2011 8:54:10 AM	PL	PL	ASH&DENSITY
110114014-004B	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-005A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-005A	Logout	1/18/2011 2:17:33 PM	PL	PL	BTU
110114014-005A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-005A	Logout	1/26/2011 8:15:27 AM	WB	William Blom	HG_PREP
110114014-005A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-005A	Logout	1/27/2011 8:54:10 AM	PL	PL	ASH&DENSITY
110114014-005B	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-006A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-006A	Logout	1/18/2011 2:17:33 PM	PL	PL	BTU
110114014-006A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-006A	Logout	1/26/2011 8:15:27 AM	WB	William Blom	HG_PREP
110114014-006A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-006A	Logout	1/27/2011 8:54:10 AM	PL	PL	ASH&DENSITY
110114014-006B	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-007A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-007A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-007A	Logout	1/21/2011 3:53:49 PM	PL	PL	Bomb Prep
110114014-007A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-008A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-008A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-008A	Logout	1/21/2011 3:53:49 PM	PL	PL	Bomb Prep
110114014-008A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-009A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-009A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-009A	Logout	1/21/2011 3:53:49 PM	PL	PL	Bomb Prep
110114014-009A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-010A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-010A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I

Sample ID:	Action:	ActionDate:	ID:	NewLocation:	Purpose:
110114014-010A	Logout	1/21/2011 3:53:49 PM	PL	PL	Bomb Prep
110114014-010A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-011A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-011A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-011A	Logout	1/21/2011 3:53:49 PM	PL	PL	Bomb Prep
110114014-011A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-012A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-012A	Logout	1/20/2011 8:15:48 AM	WB	William Blom	3050_I
110114014-012A	Logout	1/21/2011 3:53:49 PM	PL	PL	Bomb Prep
110114014-012A	Logout	1/26/2011 8:15:33 AM	WB	William Blom	HG_PREP_S
110114014-013A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-014A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-015A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-016A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-017A	Receiving	1/14/2011 10:30:16 AM	tara		
110114014-018A	Receiving	1/14/2011 10:30:16 AM	tara		

INORGANIC - METALS

ANALYSIS

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

SOW No.: N/A

EPA Sample No.	Lab Sample ID.
LLGF-C1RT-R1	110114014-001A
LLGF-C1RT-R2	110114014-002A
LLGF-C1RT-R3	110114014-003A
LLGF-C1A-R1	110114014-004A
LLGF-C1A-R2	110114014-005A
LLGF-C1A-R3	110114014-006A
SHALE-C1RT-R1	110114014-007A
SHALE-C1RT-R2	110114014-008A
SHALE-C1RT-R3	110114014-009A
SHALE-C1A-R1	110114014-010A
SHALE-C1A-R2	110114014-011A
SHALE-C1A-R3	110114014-012A

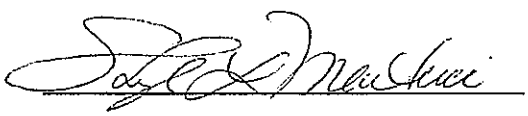
Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES

If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:  Name: Sheryl Martucci

Date: 2/10/11 Title: Inorganics Manager

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-004A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	41.0		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	56.8			P
7440-47-3	Chromium	210			P
7440-50-8	Copper	1010			P
7439-97-6	Mercury	0.30			CV
7439-92-1	Lead	161			P
7440-02-0	Nickel	460			P
7440-66-6	Zinc	1610			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R1 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-004A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.15			CV

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-005A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	46.9		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	45.9			P
7440-47-3	Chromium	166			P
7440-50-8	Copper	1210			P
7439-97-6	Mercury	0.38			CV
7439-92-1	Lead	181			P
7440-02-0	Nickel	486			P
7440-66-6	Zinc	1630			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R2 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-005A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.17			CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-006A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	37.4		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	45.9			P
7440-47-3	Chromium	183			P
7440-50-8	Copper	1220			P
7439-97-6	Mercury	0.32			CV
7439-92-1	Lead	168			P
7440-02-0	Nickel	554			P
7440-66-6	Zinc	1660			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1A-R3 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-006A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.18			CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-001A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	31.0		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	36.8			P
7440-47-3	Chromium	149			P
7440-50-8	Copper	1480			P
7439-97-6	Mercury	0.24			CV
7439-92-1	Lead	107			P
7440-02-0	Nickel	1390			P
7440-66-6	Zinc	2070			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R1 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-001A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.14			CV

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-002A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	26.5		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	36.4			P
7440-47-3	Chromium	138			P
7440-50-8	Copper	1450			P
7439-97-6	Mercury	0.22			CV
7439-92-1	Lead	111			P
7440-02-0	Nickel	1350			P
7440-66-6	Zinc	2040			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R2 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-002A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.13			CV

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-003A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	22.7		*	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	24.2			P
7440-47-3	Chromium	153			P
7440-50-8	Copper	1280			P
7439-97-6	Mercury	0.25			CV
7439-92-1	Lead	115			P
7440-02-0	Nickel	952			P
7440-66-6	Zinc	1780			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1RT-R3 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-003A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.15			CV

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1A-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-010A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	73.1			P
7440-50-8	Copper	68.6		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	43.4			P
7440-66-6	Zinc	134			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1A-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-011A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	74.9			P
7440-50-8	Copper	43.9		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	41.0			P
7440-66-6	Zinc	100			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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00083

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1A-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-012A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	59.1			P
7440-50-8	Copper	42.3		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	43.1			P
7440-66-6	Zinc	64.4			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1RT-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-007A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	63.8			P
7440-50-8	Copper	38.4		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	42.6			P
7440-66-6	Zinc	71.1			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1RT-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-008A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	72.2			P
7440-50-8	Copper	43.4		E	P
7439-97-6	Mercury	0.02	B		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	39.4			P
7440-66-6	Zinc	87.1			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

Form I - IN ILM04.2

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1RT-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Lab Sample ID: 110114014-009A

Level (low/med): LOW Date Received: 1/14/2011

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.8			P
7440-43-9	Cadmium	0.31	U		P
7440-47-3	Chromium	72.9			P
7440-50-8	Copper	40.2		E	P
7439-97-6	Mercury	0.01	U		CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	40.7			P
7440-66-6	Zinc	141			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

Form I - IN ILM04.2

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Initial Calibration Source: EPA-ICV

Continuing Calibration Source: EPA-LV

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Arsenic	2000.0	1968.86	98.4	2000.0	1955.83	97.8	1980.55	99.0	P
Beryllium	2000.0	2068.70	103.4	2000.0	2034.15	101.7	2022.28	101.1	P
Cadmium	2000.0	2070.48	103.5	2000.0	2058.02	102.9	2044.82	102.2	P
Chromium	2000.0	1980.09	99.0	2000.0	1968.36	98.4	1972.39	98.6	P
Copper	2000.0	2142.53	107.1	2000.0	2103.78	105.2	2128.42	106.4	P
Mercury	2.0	2.07	103.5	2.0	2.05	102.5	2.16	108.0	CV
Lead	2000.0	2068.86	103.4	2000.0	2046.47	102.3	2050.23	102.5	P
Nickel	2000.0	2040.59	102.0	2000.0	2022.91	101.1	2053.95	102.7	P
Zinc	2000.0	2027.42	101.4	2000.0	2026.37	101.3	2042.84	102.1	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Initial Calibration Source: EPA-ICV

Continuing Calibration Source: EPA-LV

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	M
Arsenic				2000.0	1999.52	100.0	1964.74	98.2	P
Beryllium				2000.0	2032.94	101.6	2009.15	100.5	P
Cadmium				2000.0	2034.46	101.7	2009.52	100.5	P
Chromium				2000.0	2025.38	101.3	1973.00	98.6	P
Copper				2000.0	2116.02	105.8	2098.05	104.9	P
Mercury				2.0	2.13	106.5	1.86	93.0	CV
Lead				2000.0	2058.10	102.9	2026.12	101.3	P
Nickel				2000.0	2089.74	104.5	2053.71	102.7	P
Zinc				2000.0	2062.42	103.1	2033.97	101.7	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Initial Calibration Source: EPA-ICV

Continuing Calibration Source: EPA-LV

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Mercury				2.0	1.86	93.0			CV

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2B-IN

CRDL STANDARD FOR AA AND ICP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

AA CRDL Standard Source:

ICP CRDL Standard Source: INOR-VEN

Concentration Units: ug/L

Analyte	True	Found	%R	CRDL Standard for ICP Initial True	Initial Found	Initial %R	Final Found	Final %R
Arsenic				20.0	16.26	81.3	17.64	88.2
Beryllium				10.0	8.95	89.5	8.88	88.8
Cadmium				10.0	9.51	95.1	9.33	93.3
Chromium				20.0	17.94	89.7	19.49	97.4
Copper				50.0	46.08	92.2	42.21	84.4
Lead				6.0	6.56	109.3	6.83	113.8
Nickel				80.0	76.32	95.4	76.57	95.7
Zinc				40.0	39.70	99.2	39.87	99.7

Control Limits: no limits have been established by EPA at this time

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic	1.5	U	1.5	U	1.5	U	1.5	U	0.150	U	P
Beryllium	0.1	U	0.1	U	0.1	U	0.1	U	0.013	U	P
Cadmium	0.1	U	0.2	B	0.2	B	0.3	B	0.090	B	P
Chromium	4.7	U	4.7	U	4.7	U	4.7	U	0.470	U	P
Copper	2.5	U	2.5	U	2.5	U	2.5	U	0.250	U	P
Mercury	0.06	U	0.06	U	0.06	U	0.06	U	0.012	U	CV
Lead	1.9	U	1.9	U	1.9	U	1.9	U	0.190	U	P
Nickel	0.6	U	0.6	U	0.6	U	0.6	U	1.896	B	P
Zinc	0.8	U	0.8	U	0.8	U	0.8	U	0.736	B	P

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic			1.5	U					0.150	U	P
Beryllium			0.1	U					0.013	U	P
Cadmium			0.1	B					0.045	B	P
Chromium			4.7	U					0.470	U	P
Copper			2.5	U					0.250	U	P
Mercury			0.06	U	0.06	U			0.012	U	CV
Lead			1.9	U					0.190	U	P
Nickel			0.6	U					0.304	B	P
Zinc			0.8	U					0.377	B	P

ICP INTERFERENCE CHECK SAMPLE

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

ICP ID Number: ICP4 ICS Source: EPA

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R
Aluminum	500000	500000	499003	500185.1	100.0	497944	501795.1	100.4
Beryllium		500		462.2	92.4		458.0	91.6
Cadmium		1000		997.1	99.7		979.6	98.0
Calcium	500000	500000	532135	535812.3	107.2	528971	534807.1	107.0
Chromium		500		458.8	91.8		447.8	89.6
Copper		500		460.9	92.2		456.4	91.3
Iron	200000	200000	181945	183277.1	91.6	176958	188868.3	94.4
Lead		1000		902.3	90.2		909.9	91.0
Magnesium	500000	500000	462240	465488.4	93.1	461157	468225.4	93.6
Nickel		1000		1065.7	106.6		1062.4	106.2
Zinc		1000		925.2	92.5		930.4	93.0

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1 BMS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	0.472		0.144		0.400	82.0		CV

Comments:

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	46.7237		30.9718		16.234	97.0		P
Beryllium	75 - 125	0.7950	B	0.22	U	0.974	81.6		P
Cadmium		39.6202		36.8413		0.397	700		P
Chromium	75 - 125	193.8694		149.2530		44.733	99.7		P
Copper		1594.3720		1482.2330		19.481	576		P
Mercury	75 - 125	0.5500		0.2420		0.40	77.0		CV
Lead		134.4662		107.1786		15.512	176		P
Nickel		1540.4090		1391.6270		11.183	1330		P
Zinc		2226.4570		2068.7170		34.993	451		P

Comments:

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1MS2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	90.6297		30.9718		67.01	89.0		P
Beryllium		0.0521	U	0.22	U	0.00	0.0		P
Cadmium	75 - 125	108.7793		36.8413		74.46	96.6		P
Chromium	75 - 125	414.4670		149.2530		294.12	90.2		P
Copper	75 - 125	4121.0430		1482.2330		2565.15	102.9		P
Lead	75 - 125	346.7920		107.1786		234.55	102.2		P
Nickel	75 - 125	3963.3970		1391.6270		2553.98	100.7		P
Zinc	75 - 125	5364.5200		2068.7170		4151.15	79.4		P

Comments:

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R1MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	0.3780		0.0120	U	0.40	94.5		CV

Comments:

Form V (PART 1) - IN ILM04.2

: 0098

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R2MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	7.9362		11.96	U	15.571	51.0	N	P
Beryllium	75 - 125	2.4308		1.7016		0.934	78.1		P
Cadmium	75 - 125	0.4156	B	0.31	U	0.381	109.1		P
Chromium	75 - 125	108.0969		72.2200		42.907	83.6		P
Copper	75 - 125	61.1181		43.4097		18.685	94.8		P
Lead	75 - 125	0.6678	U	11.58	U	14.879	0.0	N	P
Nickel	75 - 125	48.3131		39.3845		10.727	83.2		P
Zinc	75 - 125	108.0044		87.1394		33.564	62.2	N	P

Comments:

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R2MS2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	11.3468		11.96	U	18.998	59.7	N	P
Beryllium	75 - 125	4.1932		1.7016		2.936	84.9		P
Cadmium		0.0846	B	0.31	U	0.0	0.0		P
Chromium	75 - 125	154.1564		72.2200		93.264	87.9		P
Copper	75 - 125	137.3771		43.4097		79.447	118.3		P
Lead	75 - 125	61.5843		11.58	U	34.542	178.3	N	P
Nickel	75 - 125	103.1725		39.3845		69.085	92.3		P
Zinc	75 - 125	235.3684		87.1394		138.169	107.3		P

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1RT-R1A

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		170.11		101.59		80.0	85.6		P
Beryllium		100.89		0.14	U	100.0	100.9		P
Cadmium		213.66		120.84		100.0	92.8		P
Chromium		865.69		489.55		400.0	94.0		P
Copper		5345.53		4861.73		500.0	96.8		P
Lead		380.46		351.55		40.0	72.3		P
Nickel		5437.13		4564.54		1000.0	87.3		P
Zinc		7463.28		6785.39		1000.0	67.8		P

Comments:

Form V (PART 2) - IN

ILM04.2

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1RT-R2A

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Arsenic		49.33		1.50	U	80.0	61.7		P
Beryllium		105.74		5.16		100.0	100.6		P
Cadmium		95.65		0.13	U	100.0	95.6		P
Chromium		630.40		219.12		400.0	102.8		P
Copper		657.07		131.70		500.0	105.1		P
Lead		24.12		1.93	U	40.0	60.3		P
Nickel		1101.06		119.49		1000.0	98.2		P
Zinc		1266.39		264.38		1000.0	100.2		P

Comments:

Form V (PART 2) - IN

ILM04.2

6

DUPLICATES

SAMPLE NO.

LLGF-C1RT-R1 BDP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury		0.144		0.128		11.8		CV

DUPLICATES

SAMPLE NO.

LLGF-C1RT-R1DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		30.9718		47.7360		42.6	*	P
Beryllium		0.22	U	0.22	U			P
Cadmium		36.8413		37.6900		2.3		P
Chromium		149.2530		157.0795		5.1		P
Copper		1482.2330		1520.8860		2.6		P
Mercury		0.2420		0.2260		6.8		CV
Lead		107.1786		111.4653		3.9		P
Nickel		1391.6270		1397.6950		0.4		P
Zinc		2068.7170		2124.7280		2.7		P

DUPLICATES

SAMPLE NO.

SHALE-C1RT-R1DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury		0.0120	U	0.0120	U			CV

6

DUPLICATES

SAMPLE NO.

SHALE-C1RT-R2DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLCF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		11.96	U	11.96	U			P
Beryllium		1.7016		1.6982	B	0.2		P
Cadmium		0.31	U	0.31	U			P
Chromium		72.2200		70.8385		1.9		P
Copper	8.2	43.4097		42.4342		2.3		P
Lead		11.58	U	11.58	U			P
Nickel	13.2	39.3845		37.9502		3.7		P
Zinc		87.1394		81.7059		6.4		P

LABORATORY CONTROL SAMPLE

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Solid LCS Source: EPA-ICV

Aqueous LCS Source: EPA-ICV

Analyte	Aqueous (ug/L)			Solid (mg/kg)					
	True	Found	%R	True	Found	C	Limits		%R
Arsenic	500.0	454.00	90.8						
Beryllium	500.0	448.00	89.6						
Cadmium	500.0	457.00	91.4						
Chromium	500.0	443.00	88.6						
Copper	500.0	458.00	91.6						
Mercury	2.0	2.08	104.0	7.7	9.3		5.5	9.9	120.9
Lead	500.0	469.00	93.8						
Nickel	500.0	453.00	90.6						
Zinc	500.0	445.00	89.0						

7

LABORATORY CONTROL SAMPLE

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: _____ SDG No.: LLGF-C1A-R1

Solid LCS Source: EPA-ICV

Aqueous LCS Source: EPA-ICV

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits	%R
Arsenic	500.0	475.00	95.0					
Beryllium	500.0	464.00	92.8					
Cadmium	500.0	480.00	96.0					
Chromium	500.0	454.00	90.8					
Copper	500.0	481.00	96.2					
Lead	500.0	494.00	98.8					
Nickel	500.0	484.00	96.8					
Zinc	500.0	474.00	94.8					

-8-

STANDARD ADDITION RESULTS

Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG NO.: LLGF-C1A-R1

(Concentration Units): ug/L

Sample ID.	An	0 ADD ABS	1 ADD		2 ADD		3 ADD		Final Conc.	r	Q
			CON	ABS	CON	ABS	CON	ABS			

Form VIII - IN

: 00109

9

ICP SERIAL DILUTIONS

SAMPLE NO.

LLGF-C1RT-R1L

Lab Name: Adirondack Environmental Contract: 2010 MACT C

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	101.59		99.19		2.4		P
Beryllium	0.14	U	0.70	U			P
Cadmium	120.84		124.80		3.3		P
Chromium	489.55		466.06		4.8		P
Copper	4861.73		4559.11		6.2		P
Lead	351.55		374.86		6.6		P
Nickel	4564.54		4553.11		0.3		P
Zinc	6785.39		7335.97		8.1		P

9

ICP SERIAL DILUTIONS

SAMPLE NO.

SHALE-C1RT-R2L

Lab Name: Adirondack Environmental Contract: 2010 MACT C

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Arsenic	1.50	U	7.50	U			P
Beryllium	5.16		4.14	B	19.8		P
Cadmium	0.13	U	0.65	U			P
Chromium	219.12		185.97		15.1		P
Copper	131.70		110.12	B	16.4	E	P
Lead	1.93	U	9.65	U			P
Nickel	119.49		126.65	B	6.0		P
Zinc	264.38		287.89		8.9		P

10

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

ICP ID Number: Date: 7/21/2010

Flame AA ID Number: CVAA

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Mercury	253.70		0.20	0.06	CV

Comments:

Form X - IN ILM04.2

00112

INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

ICP ID Number: ICP4 Date: 10/19/2009

Flame AA ID Number:

Furnace AA ID Number:

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Arsenic	189.04		10	1.5	P
Beryllium	313.04		5	0.1	P
Cadmium	226.50		5	0.1	P
Chromium	267.72		10	4.7	P
Copper	324.75		25	2.5	P
Lead	220.35		3	1.9	P
Nickel	231.60		40	0.6	P
Zinc	206.2		20	0.8	P

Comments:

11A

ICP INTERELEMENT CORRECTION FACTORS (ANNUALLY)

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R

ICP ID Number: ICP4 Date: 7/13/2010

Analyte	Wave-length (nm)	Interelement Correction Factors for: Al	Ca	Fe	Mg
Aluminum	308.20	0.0000000	0.0000000	0.0000000	0.0000000
Antimony	206.80	0.0000000	0.0000000	0.0001461	0.0000000
Arsenic	193.70	0.0000000	0.0000000	0.0000000	0.0000000
Barium	493.40	0.0000000	0.0000000	0.0000000	0.0000000
Beryllium	313.00	0.0000000	0.0000000	0.0000000	0.0000000
Cadmium	228.80	0.0000000	0.0000000	0.0000000	0.0000000
Calcium	317.90	0.0000000	0.0000000	0.0000000	0.0000000
Chromium	357.80	0.0000000	0.0000000	0.0000000	0.0000000
Cobalt	228.60	0.0000000	0.0000000	0.0000000	0.0000000
Copper	324.70	0.0000000	0.0000000	0.0000000	0.0000000
Iron	259.90	0.0000000	0.0000000	0.0000000	0.0000000
Lead	220.30	0.0005837	0.0000000	0.0000000	0.0000000
Magnesium	383.80	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.60	0.0000000	0.0000000	0.0000000	0.0000000
Potassium	766.49	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.00	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.00	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	588.90	0.0000000	0.0000000	0.0000000	0.0000000
Thallium	190.80	0.0000000	0.0000000	0.0000000	0.0000000
Tin	189.90	0.0000000	0.0000000	0.0000000	0.0000000
Vanadium	292.40	0.0000000	0.0000000	0.0000000	0.0000000
Zinc	213.80	0.0000000	0.0000000	0.0002508	0.0000000

Comments:

12

ICP LINEAR RANGES (QUARTERLY)

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

ICP ID Number: ICP4 Date: 7/20/2010

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Arsenic	60.00	100000.0	P
Beryllium	60.00	10000.0	P
Cadmium	60.00	10000.0	P
Chromium	60.00	10000.0	P
Copper	60.00	100000.0	P
Lead	60.00	200000.0	P
Nickel	60.00	200000.0	P
Zinc	60.00	20000.0	P

Comments:

Form XII - IN ILM04.2

00115

PREPARATION LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Method: P

EPA Sample No.	Preparation Date	Initial Volume mL	Volume (mL)
LCSW	1/20/2011	100.0	100.0
LLGF-C1A-R1	1/20/2011	0.26	100.0
LLGF-C1A-R2	1/20/2011	0.26	100.0
LLGF-C1A-R3	1/20/2011	0.27	100.0
LLGF-C1RT-R1	1/20/2011	0.33	100.0
LLGF-C1RT-R1DP	1/20/2011	0.26	100.0
LLGF-C1RT-R1MS	1/20/2011	0.28	100.0
LLGF-C1RT-R1MS2	1/20/2011	0.27	100.0
LLGF-C1RT-R2	1/20/2011	0.29	100.0
LLGF-C1RT-R3	1/20/2011	0.26	100.0
MB,IS	1/20/2011	100.00	100.0
SHALE-C1A-R1	1/20/2011	0.31	100.0
SHALE-C1A-R2	1/20/2011	0.30	100.0
SHALE-C1A-R3	1/20/2011	0.33	100.0
SHALE-C1RT-R1	1/20/2011	0.32	100.0
SHALE-C1RT-R2	1/20/2011	0.30	100.0
SHALE-C1RT-R2DP	1/20/2011	0.28	100.0
SHALE-C1RT-R2MS	1/20/2011	0.29	100.0
SHALE-C1RT-R2MS2	1/20/2011	0.29	100.0
SHALE-C1RT-R3	1/20/2011	0.31	100.0

PREPARATION LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Method: CV

EPA Sample No.	Preparation Date	Initial Weight (g)	Volume (mL)
LCSS	1/26/2011	0.20	50.0
LLGF-C1A-R1	1/26/2011	0.25	50.0
LLGF-C1A-R2	1/26/2011	0.25	50.0
LLGF-C1A-R3	1/26/2011	0.25	50.0
LLGF-C1RT-R1	1/26/2011	0.25	50.0
LLGF-C1RT-R1DP	1/26/2011	0.25	50.0
LLGF-C1RT-R1MS	1/26/2011	0.25	50.0
LLGF-C1RT-R2	1/26/2011	0.25	50.0
LLGF-C1RT-R3	1/26/2011	0.25	50.0
PBS	1/26/2011	0.25	50.0
SHALE-C1A-R1	1/26/2011	0.25	50.0
SHALE-C1A-R2	1/26/2011	0.25	50.0
SHALE-C1A-R3	1/26/2011	0.25	50.0
SHALE-C1RT-R1	1/26/2011	0.25	50.0
SHALE-C1RT-R1DP	1/26/2011	0.25	50.0
SHALE-C1RT-R1MS	1/26/2011	0.25	50.0
SHALE-C1RT-R2	1/26/2011	0.25	50.0
SHALE-C1RT-R3	1/26/2011	0.25	50.0

PREPARATION LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Method: CV

EPA Sample No.	Preparation Date	Initial Volume mL	Volume (mL)
LCSW	1/26/2011	50.0	50.0
LLGF-C1A-R1 B	1/26/2011	0.3	50.0
LLGF-C1A-R2 B	1/26/2011	0.3	50.0
LLGF-C1A-R3 B	1/26/2011	0.3	50.0
LLGF-C1RT-R1 B	1/26/2011	0.3	50.0
LLGF-C1RT-R1 BDP	1/26/2011	0.3	50.0
LLGF-C1RT-R1 BMS	1/26/2011	0.3	50.0
LLGF-C1RT-R2 B	1/26/2011	0.3	50.0
LLGF-C1RT-R3 B	1/26/2011	0.3	50.0
PBW	1/26/2011	50.0	50.0

ANALYSIS RUN LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Instrument ID Number: ICP4 Method: P

Start Date: 1/26/2011 End Date: 1/26/2011

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
ICV-1	1.00	1009				X		X	X		X		X		X				X						X	
ICB-1	1.00	1015				X		X	X		X		X		X				X						X	
CRI-1	1.00	1044				X		X	X		X		X		X				X						X	
ICSA-1	1.00	1049		X						X				X		X										
ICSAB-1	1.00	1050		X				X	X	X	X		X	X	X	X			X						X	
CCV-1	1.00	1054				X		X	X		X		X		X				X						X	
CCB-1	1.00	1108				X		X	X		X		X		X				X						X	
MB,IS	1.00	1121				X		X	X		X		X		X				X						X	
LCSW	1.00	1125				X		X	X		X		X		X				X						X	
LLGF-C1RT-R1	1.00	1127				X		X	X		X		X		X				X						X	
LLGF-C1RT-R1DP	1.00	1132				X		X	X		X		X		X				X						X	
LLGF-C1RT-R1MS	1.00	1137				X		X	X		X		X		X				X						X	
LLGF-C1RT-R1MS2	1.00	1140				X		X	X		X		X		X				X						X	
LLGF-C1RT-R1A	1.00	1145				X		X	X		X		X		X				X						X	
LLGF-C1RT-R1L	5.00	1154				X		X	X		X		X		X				X						X	
LLGF-C1RT-R2	1.00	1159				X		X	X		X		X		X				X						X	
LLGF-C1RT-R3	1.00	1203				X		X	X		X		X		X				X						X	
CCV-2	1.00	1212				X		X	X		X		X		X				X						X	
CCB-2	1.00	1218				X		X	X		X		X		X				X						X	
LLGF-C1A-R1	1.00	1222				X		X	X		X		X		X				X						X	
LLGF-C1A-R2	1.00	1226				X		X	X		X		X		X				X						X	
LLGF-C1A-R3	1.00	1229				X		X	X		X		X		X				X						X	
MB,IS	1.00	1238				X		X	X		X		X		X				X						X	
LCS,IS	1.00	1239				X		X	X		X		X		X				X						X	
SHALE-C1RT-R1	1.00	1243				X		X	X		X		X		X				X						X	
SHALE-C1RT-R2	1.00	1247				X		X	X		X		X		X				X						X	
SHALE-C1RT-R2DP	1.00	1251				X		X	X		X		X		X				X						X	
SHALE-C1RT-R2MS	1.00	1255				X		X	X		X		X		X				X						X	
SHALE-C1RT-R2MS2	1.00	1259				X		X	X		X		X		X				X						X	
CCV-3	1.00	1306				X		X	X		X		X		X				X						X	
CCB-3	1.00	1313				X		X	X		X		X		X				X						X	
SHALE-C1RT-R2A	1.00	1322				X		X	X		X		X		X				X						X	
SHALE-C1RT-R2L	5.00	1327				X		X	X		X		X		X				X						X	
SHALE-C1RT-R3	1.00	1333				X		X	X		X		X		X				X						X	
SHALE-C1A-R1	1.00	1337				X		X	X		X		X		X				X						X	
SHALE-C1A-R2	1.00	1345				X		X	X		X		X		X				X						X	
SHALE-C1A-R3	1.00	1349				X		X	X		X		X		X				X						X	
CRI-2	1.00	1359				X		X	X		X		X		X				X						X	

ANALYSIS RUN LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Instrument ID Number: ICP4 Method: P

Start Date: 1/26/2011 End Date: 1/26/2011

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN			
ICSA-2	1.00	1400		X						X				X		X														
ICSAB-2	1.00	1404		X				X	X	X	X		X	X	X	X			X							X				
CCV-4	1.00	1417				X		X	X		X		X		X				X							X				
CCB-4	1.00	1425				X		X	X		X		X		X				X							X				

ANALYSIS RUN LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Instrument ID Number: CVAA Method: CV

Start Date: 1/26/2011 End Date: 1/26/2011

EPA Sample No.	D/F	Time	% R	Analytes																										
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN			
ICV	1.00	1338																X												
ICB	1.00	1340																X												
PBW	1.00	1344																X												
LCSW	1.00	1346																X												
LLGF-C1RT-R1 B	1.00	1348																X												
LLGF-C1RT-R1 BDP	1.00	1349																X												
LLGF-C1RT-R1 BMS	1.00	1351																X												
LLGF-C1RT-R2 B	1.00	1352																X												
LLGF-C1RT-R3 B	1.00	1354																X												
LLGF-C1A-R1 B	1.00	1355																X												
CCV	1.00	1357																X												
CCB	1.00	1359																X												
LLGF-C1A-R2 B	1.00	1400																X												
LLGF-C1A-R3 B	1.00	1402																X												
PBS	1.00	1403																X												
LCSS	10.00	1405																X												
LLGF-C1RT-R1	1.00	1406																X												
LLGF-C1RT-R1DP	1.00	1408																X												
LLGF-C1RT-R1MS	1.00	1409																X												
LLGF-C1RT-R2	1.00	1411																X												
CCV	1.00	1419																X												
CCB	1.00	1420																X												
LLGF-C1A-R2	1.00	1422																X												
LLGF-C1A-R3	1.00	1424																X												
SHALE-C1RT-R1	1.00	1425																X												
SHALE-C1RT-R1DP	1.00	1427																X												
SHALE-C1RT-R1MS	1.00	1428																X												
SHALE-C1RT-R2	1.00	1430																X												
SHALE-C1RT-R3	1.00	1431																X												
SHALE-C1A-R1	1.00	1433																X												
SHALE-C1A-R2	1.00	1434																X												
SHALE-C1A-R3	1.00	1436																X												
CCV	1.00	1437																X												
CCB	1.00	1439																X												
CCV	1.00	1628																X												
CCB	1.00	1629																X												
LLGF-C1RT-R3	1.00	1631																X												
LLGF-C1A-R1	1.00	1632																X												

ANALYSIS RUN LOG

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1101 SAS No.: SDG No.: LLGF-C1A-R1

Instrument ID Number: CVAA Method: CV

Start Date: 1/26/2011 End Date: 1/26/2011

EPA Sample No.	D/F	Time	% R	Analytes																								
				AL	SB	AS	BA	BE	CD	CA	CR	CO	CU	FE	PB	MG	MN	HG	NI	K	SE	AG	NA	TL	V	ZN	CN
CCV	1.00	1637																X									
CCB	1.00	1638																X									

Adirondack Lab Report for October 2010 Test

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Norlite Corp.
628 South Saratoga Street
Cohoes, New York 12047

Attention: Prince Knight

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TITLE PAGE

On October 21, 2010 six liquid and six solid samples were received by Adirondack Environmental Services, Inc. from Norlite at the Cohoes site. These samples were analyzed for Metals and Physical Parameters in accordance with methodology as detailed by the contract. **This is an updated report to correct the metals results based on the client supplied information.** The project was completed on January 25, 2011.

Laboratory Manager

Date: 1/25/11

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SAMPLE DATA

SUMMARY PACKAGE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	*VOA GC/MS Method	*BNA GC/MS Method	*PCB GC Method	*Pest GC Method	*Metals	*Other CN
LLGF-C1-R1	101021050-001					X	X
LLGF-C1-R2	101021050-002					X	X
LLGF-C1-R3	101021050-003					X	X
LLGF-C2-R1	101021050-004					X	X
LLGF-C2-R2	101021050-005					X	X
LLGF-C2-R3	101021050-006					X	X
Shale-C1-R1	101021050-007					X	X
Shale-C1-R2	101021050-008					X	X
Shale-C1-R3	101021050-009					X	X
Shale-C2-R1	101021050-010					X	X
Shale-C2-R2	101021050-011					X	X
Shale-C2-R3	101021050-012					X	X

: 00001

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Prepared	Date Analyzed
101021050-001	LIQUID	ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-002	LIQUID	ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-003	LIQUID	ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-004	LIQUID	ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17, 11/18/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-005	LIQUID	ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10

: 00002

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Prepared	Date Analyzed
101021050-006	LIQUID	ICP	10/21/10	11/16/10	11/17/10
		Mercury		11/15/10	11/16, 11/17/10
		Ash			11/9/10
		Heating Value			11/24/10
		Chlorine (IC)		11/24/10	11/30/10
		Chlorine (Titration)		11/24/10	12/2/10
		Density			11/30/10
101021050-007	SOLID	ICP	10/21/10	11/18/10	12/1/10
		Mercury		11/15/10	11/17/10
		Chlorine		11/29/10	11/30/10
101021050-008	SOLID	ICP	10/21/10	11/18/10	12/1/10
		Mercury		11/15/10	11/17/10
		Chlorine		11/29/10	11/30/10
101021050-009	SOLID	ICP	10/21/10	11/18/10	12/1/10
		Mercury		11/15/10	11/17/10
		Chlorine		11/29/10	11/30/10
101021050-010	SOLID	ICP	10/21/10	11/18/10	12/1/10
		Mercury		11/15/10	11/17/10
		Chlorine		11/29/10	11/30/10
101021050-011	SOLID	ICP	10/21/10	11/18/10	12/1/10
		Mercury		11/15/10	11/17/10
		Chlorine		11/29/10	11/30/10
101021050-012	SOLID	ICP	10/21/10	11/18/10	12/1/10
		Mercury		11/15/10	11/17/10
		Chlorine		11/29/10	11/30/10

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Case Narrative

Client: Norlite – MACT/CPT

Case: NO 1001

SDG: LLGF-C1-R1

Sample ID	Laboratory Sample ID	Date Received	VTSR	Matrix
LLGF-C1-R1	101021050-001	10/21/10	14:09	Liquid
LLGF-C1-R2	101021050-002	10/21/10	14:09	Liquid
LLGF-C1-R3	101021050-003	10/21/10	14:09	Liquid
LLGF-C2-R1	101021050-004	10/21/10	14:09	Liquid
LLGF-C2-R2	101021050-005	10/21/10	14:09	Liquid
LLGF-C2-R3	101021050-006	10/21/10	14:09	Liquid
Shale-C1-R1	101021050-007	10/21/10	14:09	Solid
Shale-C1-R2	101021050-008	10/21/10	14:09	Solid
Shale-C1-R3	101021050-009	10/21/10	14:09	Solid
Shale-C2-R1	101021050-010	10/21/10	14:09	Solid
Shale-C2-R2	101021050-011	10/21/10	14:09	Solid
Shale-C2-R3	101021050-012	10/21/10	14:09	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

This is an updated report to correct the metals results based on the client supplied information.

Inorganics – Total Metals (Liquid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.

3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).

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4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the element Chromium for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1-R1 B (AES sample number 101021050-001) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

7) The element Arsenic for sample LLGF-C1-R1 (AES sample number 101021050-001) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

8) The recovery between sample LLGF-C1-R1 B (AES sample number 101021050-001) and the duplicate sample for the element Mercury (SW-846 3050/7470) was outside the required limits for sample duplication. This element is flagged with an " * " as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.

Inorganics – Total Metals (Solid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

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2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.

3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the elements Arsenic, Cadmium, Lead and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

5) The digested spike recovery for the element Mercury for SHALE-C1-R1 (AES sample number 101021050-007) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

6) The elements Copper and Zinc for sample SHALE-C1-R1 (AES sample number 101021050-007) did not meet the serial dilution criteria of 10 %. These elements are flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

7) The recovery between sample SHALE-C1-R1 (AES sample number 101021050-007) and the duplicate sample for the element Zinc was outside the required limits for sample duplication. This element is flagged with an " * " as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.

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Inorganics

1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.

2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.

3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.

4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.

5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.

6) Density was performed at ambient temperature.

7) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was outside acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 148 %. The recovery for the Chlorine spike by ASTM 808/9253 was 137 %. The results for this analyte are flagged with an "N" as specified by the protocol. This indicates possible matrix interference

8) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 87 %.

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9) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the duplicate for the LLGF samples, except for Ash analysis. All recoveries were within required limits.

10) Sample LLGF-C1-R1 (AES sample number 101021050-001) was used for the duplicate for the LLGF samples for Ash analysis. All recoveries were within required limits.

11) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.

12) The following lists the analyses and the units in which the results are reported.

Analyte	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/Kg
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: 1/25/11

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C1-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-001A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	28.2		E	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	53.4			P
7440-47-3	Chromium	375		N	P
7440-50-8	Copper	1230			P
7439-97-6	Mercury	1.5			CV
7439-92-1	Lead	1050			P
7440-02-0	Nickel	895			P
7440-66-6	Zinc	1230			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C1-R1 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-001A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.31		N*	CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-002A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	30.9		E	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	56.3			P
7440-47-3	Chromium	400		N	P
7440-50-8	Copper	1250			P
7439-97-6	Mercury	1.5			CV
7439-92-1	Lead	1080			P
7440-02-0	Nickel	934			P
7440-66-6	Zinc	1270			P

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Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1-R2 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-002A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.31		N*	CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-003A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	16.3		E	P
7440-41-7	Beryllium	0.22	U		P
7440-43-9	Cadmium	32.8			P
7440-47-3	Chromium	361		N	P
7440-50-8	Copper	1270			P
7439-97-6	Mercury	1.0			CV
7439-92-1	Lead	741			P
7440-02-0	Nickel	819			P
7440-66-6	Zinc	1280			P

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Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C1-R3 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-003A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.27		N*	CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C2-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-004A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	36.9		E	P
7440-41-7	Beryllium	0.51	B		P
7440-43-9	Cadmium	61.8			P
7440-47-3	Chromium	508		N	P
7440-50-8	Copper	1250			P
7439-97-6	Mercury	1.7			CV
7439-92-1	Lead	1020			P
7440-02-0	Nickel	939			P
7440-66-6	Zinc	1330			P

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Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C2-R1 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-004A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.41		N*	CV

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C2-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-005A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	37.3		E	P
7440-41-7	Beryllium	0.56	B		P
7440-43-9	Cadmium	60.8			P
7440-47-3	Chromium	490		N	P
7440-50-8	Copper	1220			P
7439-97-6	Mercury	1.7			CV
7439-92-1	Lead	1010			P
7440-02-0	Nickel	920			P
7440-66-6	Zinc	1320			P

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Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
LLGF-C2-R2 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-005A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.38		N*	CV

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C2-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-006A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	36.6		E	P
7440-41-7	Beryllium	0.34	B		P
7440-43-9	Cadmium	61.0			P
7440-47-3	Chromium	453		N	P
7440-50-8	Copper	1280			P
7439-97-6	Mercury	1.8			CV
7439-92-1	Lead	1040			P
7440-02-0	Nickel	943			P
7440-66-6	Zinc	1300			P

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Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

LLGF-C2-R3 B

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-006A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7439-97-6	Mercury	0.35		N*	CV

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Comments: _____

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-007A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.31	U	N	P
7440-47-3	Chromium	64.2			P
7440-50-8	Copper	48.6		E	P
7439-97-6	Mercury	0.02	B	N	CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	39.2			P
7440-66-6	Zinc	68.3		N*E	P

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Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-008A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	2.0			P
7440-43-9	Cadmium	0.31	U	N	P
7440-47-3	Chromium	76.7			P
7440-50-8	Copper	75.0		E	P
7439-97-6	Mercury	0.05		N	CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	38.0			P
7440-66-6	Zinc	109		N*E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C1-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-009A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	2.1			P
7440-43-9	Cadmium	0.31	U	N	P
7440-47-3	Chromium	78.6			P
7440-50-8	Copper	47.3		E	P
7439-97-6	Mercury	0.06		N	CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	34.8			P
7440-66-6	Zinc	65.0		N*E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C2-R1

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-010A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	2.0			P
7440-43-9	Cadmium	0.31	U	N	P
7440-47-3	Chromium	71.9			P
7440-50-8	Copper	50.5		E	P
7439-97-6	Mercury	0.05		N	CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	41.0			P
7440-66-6	Zinc	136		N*E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C2-R2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-011A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.9			P
7440-43-9	Cadmium	0.35	B	N	P
7440-47-3	Chromium	64.7			P
7440-50-8	Copper	51.1		E	P
7439-97-6	Mercury	0.02	B	N	CV
7439-92-1	Lead	11.58	U	N	P
7440-02-0	Nickel	41.9			P
7440-66-6	Zinc	72.1		N*E	P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.
SHALE-C2-R3

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Lab Sample ID: 101021050-012A

Level (low/med): LOW Date Received: 10/21/2010

% Solids: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7440-38-2	Arsenic	11.96	U	N	P
7440-41-7	Beryllium	1.7			P
7440-43-9	Cadmium	0.80	B	N	P
7440-47-3	Chromium	61.5			P
7440-50-8	Copper	76.6		E	P
7439-97-6	Mercury	0.02	B	N	CV
7439-92-1	Lead	15.7		N	P
7440-02-0	Nickel	32.8			P
7440-66-6	Zinc	516		N*E	P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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1

CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-001

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	14605			ASTM D240-76
Ash	12.1			ASTM D482
Total Chlorine (IC)	10610		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	12450		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9898			ASTM D1298

Comments

FORM I - CONV

: 00027

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1

CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-002

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	10125			ASTM D240-76
Ash	11.8			ASTM D482
Total Chlorine (IC)	18100		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	18290		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0095			ASTM D1298

Comments

FORM I - CONV

: 00028

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CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C1-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-003

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9755			ASTM D240-76
Ash	12.4			ASTM D482
Total Chlorine (IC)	18370		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	19200		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	0.9922			ASTM D1298

Comments _____

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FORM I - CONV

: 00023

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C2-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-004

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9480			ASTM D240-76
Ash	11.5			ASTM D482
Total Chlorine (IC)	17860		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	18710		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0736			ASTM D1298

Comments _____

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FORM I - CONV

: 00030

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C2-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-005

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9643			ASTM D240-76
Ash	11.4			ASTM D482
Total Chlorine (IC)	19220		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	20860		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0754			ASTM D1298

Comments _____

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FORM I - CONV

: 00031

1

CONVENTIONALS ANALYSIS DATA SHEET

LLGF-C2-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-006

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value	9704			ASTM D240-76
Ash	11.7			ASTM D482
Total Chlorine (IC)	18760		N	ASTM D808/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)	19840		N	ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C	1.0767			ASTM D1298

Comments _____

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FORM I - CONV

: 00032

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Solid Lab Sample ID: 101021050-007

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

FORM I - CONV

: 00033

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Solid Lab Sample ID: 101021050-008

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00034

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C1-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-009

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00035

U.S. EPA - CLP

I

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C2-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Lab Sample ID: 101021050-010

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00036

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C2-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Solid Lab Sample ID: 101021050-011

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

: 00037

U.S. EPA - CLP

1

CONVENTIONALS ANALYSIS DATA SHEET

Shale-C2-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Solid Lab Sample ID: 101021050-012

Level (Low/Med): Low Date Received: 10/21/10

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Concentration	C	Q	Method
Heating Value				ASTM D240-76
Ash				ASTM D482
Total Chlorine (IC)	234	U		EPA 5050/9056
Flash Point				EPA 1010
Corrosivity				SW-846 7.2.2
Reactive Cyanide				SW-846 7.3.3
Reactive Sulfide				SW-846 7.3.4
Reactivity				SW-846 7.3.2.1
Total Chlorine (Titration)				ASTM D808/9253
Total Cyanide				SW-846 9012
Kinematic Viscosity				ASTM D445
Density @ 22 C				ASTM D1298

Comments _____

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FORM I - CONV

DUPLICATES

SAMPLE NO.

LLGF-C1-R1 BDP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Mercury		0.3100		0.2320		28.8	*	CV

DUPLICATES

SAMPLE NO.

LLGF-C1-R1DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic		28.1582		28.9388		2.7		P
Beryllium		0.1200	B	0.0852	B	33.9		P
Cadmium		53.4412		53.8830		0.8		P
Chromium		375.4938		365.0119		2.8		P
Copper		1227.8180		1216.5810		0.9		P
Mercury		1.7201		1.5100		13.0		CV
Lead		1045.5420		1049.6470		0.4		P
Nickel		895.3947		901.2617		0.7		P
Zinc		1231.0700		1248.9960		1.4		P

DUPLICATES

SAMPLE NO.

SHALE-C1-R1DP

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0 % Solids for Duplicate: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Arsenic	3.0	11.96	U	11.96	U			P
Beryllium	1.5	1.7241		1.8341		6.2		P
Cadmium		0.31	U	0.31	U			P
Chromium		64.1580		71.4264		10.7		P
Copper		48.6487		53.1143		8.8		P
Mercury		0.0200	B	0.0140	B	35.3		CV
Lead		11.58	U	11.58	U			P
Nickel	11.8	39.1643		41.3515		5.4		P
Zinc		68.2825		85.5171		22.4	*	P

U.S. EPA - CLP

6

DUPLICATES

LLGF-C1-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Level (Low/Med): Low

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Sample (S)	C	Duplicate (D)	C	% R	Q	M
Heating Value		10125		9835		2.9		
Ash								
Total Chlorine (IC)		17730		18390		3.7		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)		18290		18700		2.2		
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C		1.0095		1.0181		0.8		

Comments This analysis was a pre-preparation duplicate.

FORM VI - CONV

: 00042

U.S. EPA - CLP

6

DUPLICATES

Shale-C2-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Solid Level (Low/Med): Low

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Sample (S)	C	Duplicate (D)	C	% R	Q	M
Heating Value								
Ash								
Total Chlorine (IC)		186	U	194	U	NC		
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)								
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C								

Comments This analysis was a pre-preparation duplicate.

FORM VI - CONV

U.S. EPA - CLP

6
DUPLICATES

LLGF-C1-R1

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Level (Low/Med): Low

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/Kg dry weight): %

Analyte	Control Limit % R	Sample (S)	C	Duplicate (D)	C	% R	Q	M
Heating Value								
Ash		12.1		12.2		0.8		
Total Chlorine (IC)								
Flash Point								
Corrosivity								
Reactive Cyanide								
Reactive Sulfide								
Reactivity								
Total Chlorine (Titration)								
Total Cyanide								
Kinematic Viscosity								
Density @ 22 C								

Comments This analysis was a pre-preparation duplicate.

FORM VI - CONV

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1-R1MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 87.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	2.1251		1.7201		0.46	88.0		CV

Comments:

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1-R1 RMS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	0.5300		0.3100		0.40	55.0	N	CV

Comments:

Form V (PART 1) - IN ILM04.2

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C2-R1MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		37.9892		36.9011		0.545	199.7		P
Beryllium		0.4711	B	0.5058	B	0.022	-157.7		P
Cadmium		62.4569		61.8158		0.022	2914		P
Chromium		507.7174		508.4688		0.131	-573.6		P
Copper		1287.2290		1251.7190		0.109	32578		P
Lead		1042.3770		1018.1080		0.153	15862		P
Nickel		959.3932		939.3381		2.66	754		P
Zinc		1353.4900		1325.1590		0.200	14166		P

Comments:

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C2-R1MS2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	151.1548		36.9011		116	98.5		P
Beryllium		1.1348	B	0.5058	B	0.00			P
Cadmium	75 - 125	181.9311		61.8158		116	103.6		P
Chromium	75 - 125	1575.3240		508.4688		2321	46.0	N	P
Copper	75 - 125	3620.8020		1251.7190		2321	102.1		P
Lead	75 - 125	3472.3570		1018.1080		2321	105.7		P
Nickel	75 - 125	3094.1470		939.3381		2321	92.8		P
Zinc	75 - 125	3248.3170		1325.1590		2321	82.9		P

Comments:

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1-R1S

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Mercury	75 - 125	0.7720		0.0200	B	0.40	188.0	N	CV

Comments:

5A

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C2-R1MS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic		12.5281		11.96	U	0.547	2290		P
Beryllium		2.7382		1.9520		0.022	3574		P
Cadmium		0.9974	B	0.31	U	0.022	4534		P
Chromium		106.5146		71.9454		0.131	26389		P
Copper		102.2390		50.4672		0.109	47497		P
Lead		18.8561		11.58	U	0.153	12324		P
Nickel		50.2538		41.0124		2.668	346.4		P
Zinc		119.0428		135.8068		0.197	-8510		P

Comments:

SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C2-R1MS2

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Arsenic	75 - 125	11.7974		11.96	U	18.19	64.9	N	P
Beryllium	75 - 125	4.8350		1.9520		2.897	99.5		P
Cadmium	75 - 125	1.5448	B	0.31	U	0.842	183.5	N	P
Chromium	75 - 125	160.4174		71.9454		87.57	101.0		P
Copper	75 - 125	208.9418		50.4672		151.57	104.6		P
Lead	75 - 125	124.8152		11.58	U	27.96	446.4	N	P
Nickel	75 - 125	97.9415		41.0124		64.00	89.0		P
Zinc	75 - 125	256.7848		135.8068		185.25	65.3	N	P

Comments:

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

LLGF-C1-R1A

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Arsenic		160.24		90.44		80.0	87.2		P
Beryllium		100.14		0.39	B	100.0	99.8		P
Cadmium		270.26		171.65		100.0	98.6		P
Chromium		1577.72		1206.09		400.0	92.9		P
Copper		4393.04		3943.75		500.0	89.9		P
Lead		3334.33		3358.28		40.0	-59.9		P
Nickel		3828.29		2876.01		1000.0	95.2		P
Zinc		4801.55		3954.20		1000.0	84.7		P

Comments: _____

Form V (PART 2) - IN

ILM04.2

: 00052

5B

POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

SHALE-C1-R1A

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): SOIL Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added(SA)	%R	Q	M
Arsenic		65.22		1.50	U	80.0	81.5		P
Beryllium		106.78		5.83		100.0	101.0		P
Cadmium		102.44		0.90	B	100.0	101.5		P
Chromium		641.96		216.85		400.0	106.3		P
Copper		702.08		164.43		500.0	107.5		P
Lead		76.10		1.93	U	40.0	190.2		P
Nickel		1113.07		132.38		1000.0	98.1		P
Zinc		1237.90		230.79		1000.0	100.7		P

Comments:

Form V (PART 2) - IN

ILM04.2

: 00053

U.S. EPA - CLP

5

SPIKE SAMPLE RECOVERY

LLGF-C1-R2

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Liquid Waste Level (Low/Med): Low

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	% R	Q	M
Heating Value									
Ash									
Total Chlorine (IC)	75-125	24570		17730		4630	148	N	
Flash Point									
Corrosivity									
Reactive Cyanide									
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)	75-125	24650		18290		4630	137	N	
Total Cyanide									
Kinematic Viscosity									
Density @ 22 C									

Comments This analysis was a pre-preparation spike. The spike was added before bombing.

FORM V (Part 1) - CONV

: 00054

U.S. EPA - CLP

5

SPIKE SAMPLE RECOVERY

Shale-C2-R3

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Matrix (soil/water): Solid Level (Low/Med): Low

% Solids: 0.0

Concentration Units (ug/L or mg/Kg dry weight): mg/Kg

Analyte	Control Limit % R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	% R	Q	M
Heating Value									
Ash									
Total Chlorine (IC)	75-125	1240		186	U	1420	87		
Flash Point									
Corrosivity									
Reactive Cyanide									
Reactive Sulfide									
Reactivity									
Total Chlorine (Titration)									
Total Cyanide									
Kinematic Viscosity									
Density @ 22 C									

Comments This analysis was a pre-preparation spike. The spike was added before bombing.

FORM V (Part 1) - CONV

: 00055

3

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1021 SAS No.: _____ SDG No.: LLGF-C1-R1

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Mercury	0.06	U	0.06	U	0.06	U			0.060	U	CV

3

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Mercury	0.06	U	0.06	U	0.06	U			0.012	U	CV

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic	1.5	U	1.5	U	1.5	U	1.5	U	0.075	U	P
Beryllium	0.1	U	0.1	U	0.1	U	0.1	U	0.007	U	P
Cadmium	0.1	U	0.1	U	0.1	U	0.1	U	0.034	B	P
Chromium	4.7	U	4.7	U	4.7	U	4.7	U	0.234	U	P
Copper	2.5	U	2.5	U	2.5	U	2.5	U	0.130	B	P
Mercury	0.06	U	0.06	U					0.012	U	CV
Lead	1.9	U	1.9	U	1.9	U	1.9	U	0.097	U	P
Nickel	0.6	U	0.6	U	0.6	U	0.6	U	0.028	U	P
Zinc	0.8	U	0.8	U	0.8	U	0.8	U	0.163	B	P

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic			1.5	U	1.5	U	1.7	B			P
Beryllium			0.2	B	0.2	B	0.3	B			P
Cadmium			0.1	U	0.2	B	0.1	U			P
Chromium			4.7	U	4.7	U	4.7	U			P
Copper			2.5	U	2.5	U	3.6	B			P
Lead			1.9	U	1.9	U	4.2				P
Nickel			0.6	U	0.6	U	0.6	U			P
Zinc			0.8	U	0.8	U	0.8	U			P

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: _____ SDG No.: LLGF-C1-R1

Preparation Blank Matrix (soil/water): SOIL

Preparation Blank Concentration Units (ug/L or mg/kg): MG/KG

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic	1.5	U	1.5	U	1.5	U	1.5	U	0.075	U	P
Beryllium	0.1	U	0.1	U	0.4	B	0.4	B	0.007	U	P
Cadmium	0.1	U	0.1	U	0.1	U	0.1	U	0.052	B	P
Chromium	4.7	U	4.7	U	4.7	U	4.7	U	0.234	U	P
Copper	2.5	U	2.5	U	2.5	U	2.5	U	0.126	U	P
Mercury	0.06	U	0.06	U	0.06	U			0.012	U	CV
Lead	1.9	U	1.9	U	1.9	U	1.9	U	0.097	U	P
Nickel	0.6	U	0.6	U	0.6	U	0.6	U	0.028	U	P
Zinc	0.8	U	0.8	U	0.8	U	0.8	U	0.115	B	P

BLANKS

Lab Name: Adirondack Environmental Contract: 2010 MACT CPT

Lab Code: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Arsenic			1.5	U	1.5	U	1.5	U			P
Beryllium			0.1	U	0.1	B	0.1	U			P
Cadmium			0.3	B	0.3	B	0.1	U			P
Chromium			4.7	U	4.7	U	4.7	U			P
Copper			2.5	U	2.5	U	2.5	U			P
Lead			1.9	U	1.9	U	1.9	U			P
Nickel			0.6	B	0.6	U	0.6	U			P
Zinc			0.8	U	0.8	U	0.8	U			P

U.S. EPA - CLP

3
BLANKS

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Preparation Blank Matrix: Liquid

Preparation Blank Concentration Units: mg/Kg

Analyte	Initial Calib. Blank(ug/L)	C	Continuing Calibration 1	C	2	C	3	C	Prep. Blank	C	Method
Heating Value											ASTM D240-76
Ash											ASTM D482
Total Chlorine (IC)	1000	U	1000	U	1000	U	1000	U	100	U	EPA 5050/9056
Flash Point											EPA 1010
Corrosivity											SW-846 7.2.2
Reactive Cyanide											SW-846 7.3.3
Reactive Sulfide											SW-846 7.3.4
Reactivity											SW-846 7.3.2.1
Total Chlorine (Titration)									100	U	ASTM D808/9253
Total Cyanide											SW-846 9012
Kinematic Viscosity											ASTM D445
Density @ 22 C											ASTM D1298

Comments _____

_____

_____

FORM III - CONV

: 00062

U.S. EPA - CLP

3
BLANKS

LAB NAME: Adirondack Environmental CONTRACT:

LAB CODE: AES Case No.: NO 1001 SAS No.: SDG No.: LLGF-C1-R1

Preparation Blank Matrix: Liquid

Preparation Blank Concentration Units: mg/Kg

Analyte	Initial Calib. Blank(ug/L)	C	Continuing Calibration 1	C	2	C	3	C	Prep. Blank	C	Method
Heating Value											ASTM D240-76
Ash											ASTM D482
Total Chlorine (IC)	1000	U	1000	U					100	U	EPA 5050/9056
Flash Point											EPA 1010
Corrosivity											SW-846 7.2.2
Reactive Cyanide											SW-846 7.3.3
Reactive Sulfide											SW-846 7.3.4
Reactivity											SW-846 7.3.2.1
Total Chlorine (Titration)											ASTM D808/9253
Total Cyanide											SW-846 9012
Kinematic Viscosity											ASTM D445
Density @ 22 C											ASTM D1298

Comments _____

_____

_____

FORM III - CONV

: 00063

SAMPLE DATA

PACKAGE

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Case Narrative

Client: Norlite – MACT/CPT

Case: NO 1001

SDG: LLGF-C1-R1

Sample ID	Laboratory Sample ID	Date Received	VTSR	Matrix
LLGF-C1-R1	101021050-001	10/21/10	14:09	Liquid
LLGF-C1-R2	101021050-002	10/21/10	14:09	Liquid
LLGF-C1-R3	101021050-003	10/21/10	14:09	Liquid
LLGF-C2-R1	101021050-004	10/21/10	14:09	Liquid
LLGF-C2-R2	101021050-005	10/21/10	14:09	Liquid
LLGF-C2-R3	101021050-006	10/21/10	14:09	Liquid
Shale-C1-R1	101021050-007	10/21/10	14:09	Solid
Shale-C1-R2	101021050-008	10/21/10	14:09	Solid
Shale-C1-R3	101021050-009	10/21/10	14:09	Solid
Shale-C2-R1	101021050-010	10/21/10	14:09	Solid
Shale-C2-R2	101021050-011	10/21/10	14:09	Solid
Shale-C2-R3	101021050-012	10/21/10	14:09	Solid

The liquid waste and solid samples were reported as is (assumed 100 % solids) for all analyses.

This is an updated report to correct the metals results based on the client supplied information.

Inorganics – Total Metals (Liquid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

2) The element Beryllium had results below the method detection limits (MDL). A LLGF sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/18/10. The results of this MDL are provided after this case narrative. All results for the LLGF samples for Beryllium use the value from the MDL for the reporting limit.

3) Analysis for Mercury was performed using two different digestion procedures. The first procedure used EPA Method 7471. The second procedure used a portion of the Metals digestate from EPA 3050 followed by EPA Method 7470 (Labeled with a "B" at the end of the sample name on the data forms).

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4) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

5) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the element Chromium for sample LLGF-C2-R1 (AES sample number 101021050-004) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

6) The digested spike recovery for the element Mercury (SW-846 3050/7470) for LLGF-C1-R1 B (AES sample number 101021050-001) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

7) The element Arsenic for sample LLGF-C1-R1 (AES sample number 101021050-001) did not meet the serial dilution criteria of 10 %. This element is flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

8) The recovery between sample LLGF-C1-R1 B (AES sample number 101021050-001) and the duplicate sample for the element Mercury (SW-846 3050/7470) was outside the required limits for sample duplication. This element is flagged with an " * " as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.

Inorganics – Total Metals (Solid)

1) Metals digestion for ICP analysis was performed by Norlite using EPA Method 3052.

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2) The elements Arsenic, Cadmium and Lead had results below the method detection limits (MDL). A Shale sample was spiked with low levels of these elements in order to perform a Method Detection Limit (MDL) on 11/16/10. The results of this MDL are provided after this case narrative. All results for the Shale samples for Arsenic, Cadmium and Lead use the value from the MDL for the reporting limit.

3) The recovery for Aluminum, Calcium and Iron in the ICSA and the ICSAB check standards may be outside the required limit. The required concentration for these analytes in the check standards is 500,000 ug/L and 200,000 ug/L, respectively. The linear range on this instrument for Aluminum, Calcium and Iron is 250,000 ug/L, 200,000 ug/L and 80,000 ug/L, respectively. At this level accurate recovery of Aluminum, Calcium and Iron in the check standards is not possible. No further action is required.

4) Spikes were performed at two levels for the ICP digestion and analysis. One set at approximately 3 times the MDL (Labeled as "MS" at the end of the sample name on the spike data forms) and one set at 2 times the sample concentration (Labeled with a "MS2" at the end of the sample name on the spike data forms). The digested spike recovery for the elements Arsenic, Beryllium, Cadmium, Chromium, Copper, Lead, Nickel and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 3 times the MDL was outside the required 75-125 % limits. This was due to the level in the sample that was much higher than the level of the spike added. At the levels spiked accurate recovery is not possible. The digested spike recovery for the elements Arsenic, Cadmium, Lead and Zinc for sample SHALE-C2-R1 (AES sample number 101021050-010) spiked at 2 times the sample concentration was outside the required 75-125 % limits. The results for these elements are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

5) The digested spike recovery for the element Mercury for SHALE-C1-R1 (AES sample number 101021050-007) was outside the required 75-125 % limits. The results for this element are flagged with an "N" as specified by the protocol. This indicates possible matrix interference.

6) The elements Copper and Zinc for sample SHALE-C1-R1 (AES sample number 101021050-007) did not meet the serial dilution criteria of 10 %. These elements are flagged with an "E" as required by the protocol. The "E" denotes an estimated value. This indicates a possible chemical or physical interference.

7) The recovery between sample SHALE-C1-R1 (AES sample number 101021050-007) and the duplicate sample for the element Zinc was outside the required limits for sample duplication. This element is flagged with an " * " as required by the protocol. The %RPD for this analyte was less than the 35 % specified in the QAPP.

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Inorganics

1) The samples were submitted for various physical characteristics. The Chlorine results were reported from the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples and by Bomb preparation method (ASTM D808) followed by both Ion Chromatography (EPA 9056) and Titration (EPA 9253) for the LLGF Samples. The analysis for Titration (EPA 9253) for the LLGF Samples was sub-contracted to Certified Environmental Laboratory for analysis. Copies of the data for this sub-contracted analysis is presented after the raw data for analysis conducted by Adirondack Environmental Services.

2) The Bomb preparation blank for Chlorine was an accurately weighed amount of Iso-octane carried through the entire Bomb preparation and sample analysis. The ratio of the blank result versus the amount of Iso-octane added for the sample preparation was subtracted from the results. The Shale samples were the only samples that had the Iso-octane added during preparation since these samples would not ignite on their own.

3) Peak area was used to calculate all Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples appearing in this data package.

4) Retention time windows for Chlorine results for the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the LLGF and Shale samples use +/- 3 times the standard deviation of the standards about the mean retention time.

5) A Method Detection Limit (MDL) study was performed for Chlorine using the Bomb preparation method (EPA 5050) followed by Ion Chromatography (EPA 9056) for the Shale samples. The results of this MDL are provided after this case narrative.

6) Density was performed at ambient temperature.

7) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the matrix spike for Chlorine on the LLGF samples. The recovery for Chlorine was outside acceptable limits. The recovery for the Chlorine spike by ASTM 808/9056 was 148 %. The recovery for the Chlorine spike by ASTM 808/9253 was 137 %. The results for this analyte are flagged with an "N" as specified by the protocol. This indicates possible matrix interference

8) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation matrix spike for Chlorine on the Shale samples. This spike was added prior to the bomb preparation step. The recovery for EPA Method 5050/9056 was 87 %.

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9) Sample LLGF-C1-R2 (AES sample number 101021050-002) was used for the duplicate for the LLGF samples, except for Ash analysis. All recoveries were within required limits.

10) Sample LLGF-C1-R1 (AES sample number 101021050-001) was used for the duplicate for the LLGF samples for Ash analysis. All recoveries were within required limits.

11) Sample Shale-C2-R3 (AES sample number 101021050-012) was used for the pre-preparation duplicate for Chlorine on the Shale samples. All recoveries were within required limits.

12) The following lists the analyses and the units in which the results are reported.

Analyte	Reporting Units
% Ash	%
Heating Value	btu/lb
Chlorine (5050/9056 and ASTM D808/9056)	mg/Kg
Chlorine (ASTM D808/9253)	mg/Kg
Density	g/ml

"I certify that this data package is in compliance with the terms and conditions of the protocol, both technically and for completeness, to the best of my knowledge, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature."

Laboratory Manager

Date: 1/25/11

Norlite 101021050

AECOM

Sample Packing and Traceability List

Site of Program: Norlite Corp.	Sample Date: 10/19-21/10	Project Location: Cohoes, NY	P.O. #: N/A		
Type of Program: 2010 MACT CPT	Date Shipped: Delivered	Laboratory: Adirondack			
Project #: 60163411	Shipper / Doug Roeck /	Test Conditions: C1 = Condition 1			
Program Office: Westford, MA	Recovery: Fred Sanguedolce	C2 = Condition 2			
Program Contact: Doug Roeck		FedEx Air Bill #: Hand Delivered			

	Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
001	1	LLGF-C1-R1	Organic Liquid	Liquid Low Grade Fuel C1, Run 1	See Notes 1 and 3	
002	2	LLGF-C1-R2	Organic Liquid	Liquid Low Grade Fuel C1, Run 2	See Notes 1 and 3	
003	3	LLGF-C1-R3	Organic Liquid	Liquid Low Grade Fuel C1, Run 3	See Notes 1 and 3	
004	4	LLGF-C2-R1	Organic Liquid	Liquid Low Grade Fuel C2, Run 1	See Notes 1 and 3	
005	5	LLGF-C2-R2	Organic Liquid	Liquid Low Grade Fuel C2, Run 2	See Notes 1 and 3	
006	6	LLGF-C2-R3	Organic Liquid	Liquid Low Grade Fuel C2, Run 3	See Notes 1 and 3	
~~7~~ (initialed 10/21/10)	7	~~USED OIL-C1-R1~~	~~Fuel Oil~~	~~Used Oil Fuel C1, Run 1~~	~~See Notes 1 and 3~~	USED OIL NOT FIRED
	8	~~USED OIL-C1-R2~~	~~Fuel Oil~~	~~Used Oil Fuel C1, Run 2~~	~~See Notes 1 and 3~~	
	9	~~USED OIL-C1-R3~~	~~Fuel Oil~~	~~Used Oil Fuel C1, Run 3~~	~~See Notes 1 and 3~~	
	10	~~USED OIL-C2-R1~~	~~Fuel Oil~~	~~Used Oil Fuel C2, Run 1~~	~~See Notes 1 and 3~~	
	11	~~USED OIL-C2-R2~~	~~Fuel Oil~~	~~Used Oil Fuel C2, Run 2~~	~~See Notes 1 and 3~~	
	12	~~USED OIL-C2-R3~~	~~Fuel Oil~~	~~Used Oil Fuel C2, Run 3~~	~~See Notes 1 and 3~~	
007	13	SHALE-C1-R1	Inorganic / Solid	Shale Feed C1, Run 1	See Notes 2 and 3	
008	14	SHALE-C1-R2	Inorganic / Solid	Shale Feed C1, Run 2	See Notes 2 and 3	
009	15	SHALE-C1-R3	Inorganic / Solid	Shale Feed C1, Run 3	See Notes 2 and 3	
010	16	SHALE-C2-R1	Inorganic / Solid	Shale Feed C2, Run 1	See Notes 2 and 3	
011	17	SHALE-C2-R2	Inorganic / Solid	Shale Feed C2, Run 2	See Notes 2 and 3	
012	18	SHALE-C2-R3	Inorganic / Solid	Shale Feed C2, Run 3	See Notes 2 and 3	
	19					
	20					

Field Notes/ Comments

1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.
2. Target parameters for shale are total chlorine and metals.
3. Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc.

Page 1 of 3

Relinquished By (print): Douglas R. Roeck Date: 10/21/10 Signature: [signature] Time: ~~11:00~~	Relinquished By (print): Prince Knight Date: 10/21/10 Signature: [signature] Time: 1330	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): J. Mihalek Date: 10/21/10 Signature: [signature] Time: 2:04 PM
Received By (print): Prince Knight 12:30 Date: 10/21/10 Signature: [signature] Time: 12:30	Received By (print): Chris McGoghe Date: 10/21/10 Signature: [signature] Time: 1440	Received By (print): Date: Signature: Time:	**Analytical Laboratory Destination:** Adirondack Environmental Services, 314 North Pearl Street, Albany, NY 12207, Attn: Tara Daniels, (518)-434-4546

: 00070

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date: 10/19-21/10	Project Location:	Cohoes, NY	P.O. #: N/A
Type of Program:	2010 MACT CPT	Date Shipped: Delivered	Laboratory:	Adirondack	
Project #:	60163411	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:	Hand Delivered	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
001 21	LLGF-C1-R1 10/20	Organic Liquid	Liquid Low Grade Fuel C1, Run 1	See Notes 1 and 3	Archived Duplicate
002 22	LLGF-C1-R2 10/20	Organic Liquid	Liquid Low Grade Fuel C1, Run 2	See Notes 1 and 3	Archived Duplicate
003 23	LLGF-C1-R3 10/21	Organic Liquid	Liquid Low Grade Fuel C1, Run 3	See Notes 1 and 3	Archived Duplicate
004 24	LLGF-C2-R1 10/19	Organic Liquid	Liquid Low Grade Fuel C2, Run 1	See Notes 1 and 3	Archived Duplicate
005 25	LLGF-C2-R2 10/19	Organic Liquid	Liquid Low Grade Fuel C2, Run 2	See Notes 1 and 3	Archived Duplicate
006 26	LLGF-C2-R3 10/19	Organic Liquid	Liquid Low Grade Fuel C2, Run 3	See Notes 1 and 3	Archived Duplicate
27	~~USED OIL-C1-R1~~	~~Fuel Oil~~	~~Used Oil Fuel C1, Run 1~~	~~See Notes 1 and 3~~	~~Archived Duplicate~~
28	~~USED OIL-C1-R2~~	~~Fuel Oil~~	~~Used Oil Fuel C1, Run 2~~	~~See Notes 1 and 3~~	~~Archived Duplicate~~
29	~~USED OIL-C1-R3~~	~~Fuel Oil~~	~~Used Oil Fuel C1, Run 3~~	~~See Notes 1 and 3~~	~~Archived Duplicate~~
30	~~USED OIL-C2-R1~~	~~Fuel Oil~~	~~Used Oil Fuel C2, Run 1~~	~~See Notes 1 and 3~~	~~Archived Duplicate~~
31	~~USED OIL-C2-R2~~	~~Fuel Oil~~	~~Used Oil Fuel C2, Run 2~~	~~See Notes 1 and 3~~	~~Archived Duplicate~~
32	~~USED OIL-C2-R3~~	~~Fuel Oil~~	~~Used Oil Fuel C2, Run 3~~	~~See Notes 1 and 3~~	~~Archived Duplicate~~
007 33	SHALE-C1-R1 10/20	Inorganic / Solid	Shale Feed C1, Run 1	See Notes 2 and 3	Archived Duplicate
008 34	SHALE-C1-R2 10/20	Inorganic / Solid	Shale Feed C1, Run 2	See Notes 2 and 3	Archived Duplicate
009 35	SHALE-C1-R3 10/21	Inorganic / Solid	Shale Feed C1, Run 3	See Notes 2 and 3	Archived Duplicate
010 36	SHALE-C2-R1 10/19	Inorganic / Solid	Shale Feed C2, Run 1	See Notes 2 and 3	Archived Duplicate
011 37	SHALE-C2-R2 10/19	Inorganic / Solid	Shale Feed C2, Run 2	See Notes 2 and 3	Archived Duplicate
012 38	SHALE-C2-R3 10/19	Inorganic / Solid	Shale Feed C2, Run 3	See Notes 2 and 3	Archived Duplicate
39					
40					

USED OIL NOT FIRED

Field Notes/ Comments

1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.
2. Target parameters for shale are total chlorine and metals.
3. Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc.

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	10/21/10	Prince Knight	10/21/10			J. Minaler	10/21/10
Signature: Douglas R Roeck	Time: ~~14:00~~	Signature:	Time: 1330	Signature:	Time:	Signature: J Minaler	Time: 2:09 pm
Received By (print): 12:30 Prince Knight	Date: 10/21/10	Received By (print):	Date: 10/21/10	Received By (print):	Date:	Analytical Laboratory Destination:	
Signature:	Time: 1230	Signature:	Time: 1330	Signature:	Time:	Adirondack Environmental Services 314 North Pearl Street Albany, NY 12207 Attn: Tara Daniels, (518)-434-4546	

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date: 10/19-21/10	Project Location:	Cohoes, NY	P.O. #: N/A
Type of Program:	2010 MACT CPT	Date Shipped: Delivered	Laboratory:	Adirondack	
Project #:	60163411	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:	Hand Delivered	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
41	LLGF-SEDIMENT-C1-R1	Organic Liquid	Liquid Low Grade Fuel C1, Run 1	See Notes 1 and 3	for sediment analysis
42	LLGF-SEDIMENT-C1-R2	Organic Liquid	Liquid Low Grade Fuel C1, Run 2	See Notes 1 and 3	for sediment analysis
43	LLGF-SEDIMENT-C1-R3	Organic Liquid	Liquid Low Grade Fuel C1, Run 3	See Notes 1 and 3	for sediment analysis
44	LLGF-SEDIMENT-C2-R1	Organic Liquid	Liquid Low Grade Fuel C2, Run 1	See Notes 1 and 3	for sediment analysis
45	LLGF-SEDIMENT-C2-R2	Organic Liquid	Liquid Low Grade Fuel C2, Run 2	See Notes 1 and 3	for sediment analysis
46	LLGF-SEDIMENT-C2-R3	Organic Liquid	Liquid Low Grade Fuel C2, Run 3	See Notes 1 and 3	for sediment analysis
47					
48					
49					
50					
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					

013
014
015
016
017
018

Field Notes/ Comments

1. Target parameters for LLGF and Used Oil (if fired) are ash, heat content, density, total chlorine, sediment and metals.
2. Target parameters for shale are total chlorine and metals.
3. Target metals (all streams) include: arsenic, beryllium, cadmium, chromium, lead, mercury, copper, nickel and zinc.

Page 3 of 3

Relinquished By (print): Douglas R. Roeck Date: 10/21/10 Signature: Douglas R Roeck Time: ~~13:00~~	Relinquished By (print): Prince Knight Date: 10/21/10 Signature: Time: 1330	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): J. Mineler Date: 10/21/10 Signature: J. Mineler Time: 2:05 pm
Received By (print): Prince Knight Date: 10/21/10 Signature: Time: 12:30	Received By (print): Chris McTighe Date: 10/21/10 Signature: Time: 1340	Received By (print): Date: Signature: Time:	Analytical Laboratory Destination: Adirondack Environmental Services 314 North Pearl Street Albany, NY 12207 Attn: Tara Daniels, (518)-434-4546

12:30

D-202

ANALYTICAL LABORATORY CHAIN OF CUSTODY

A ROTARY KILN Norlite EXPANDED SHALE AGGREGATE

628 SOUTH SARATOGA STREET
COHOES, NEW YORK 12047
(518) 235-0401/(518) 233-8377 FAX

ACCREDITED IN ACCORDANCE WITH

THE MATRIX SPECIALISTS FOR RAPID, QUALITY, ANALYTICAL DATA

REPORT TO			
COMPANY: Norlite Corporation	COMPANY: SAME	LAB PROJECT #	CLIENT PROJECT # 60163411 / PO# —
ADDRESS: 628 South Saratoga St.	ADDRESS:	TURN AROUND TIME (WORKING DAYS) NORMAL TAT=5 DAYS NOT INCLUDING TCLP	
CITY: Cohoes STATE: NY ZIP: 12047	CITY: STATE: ZIP:	☐ 1 ☐ 2 ☐ 3 ☒ OTHER Normal	
PHONE: 518-235-0401 FAX: 518-235-0233	PHONE: FAX:	BILLING INFO: Norlite	
EMAIL: PKNIGHT@NORLITECORP.COM	EMAIL:		
ATTN: Prince Knight	ATTN:		

PROJECT NAME (LOCATION)	RECEIVED WITHIN HOLDING TIMES	PROPERLY PRESERVED	TEMPERATURE
2010 MACT CPT	(YES) NO NOTES	(YES) NO NOTES	AMBIENT OR CHILLED NOTES 17.1°C

NORLITE LAB #	DATE & TIME	SAMPLE ID & LOCATION	SAMPLER'S INIT.	# OF CONTAINERS	MATRIX	COMPOSITE	GRAB	REQUESTED ANALYSIS: WASTE PROFILE	BTUs	HALOGENS *	TOTAL METALS (1)	PCBs	TCLP METALS	VOLATILES	ASH SPECS.	SEDIMENT	COMMENTS
	10/20/10 1232 p	LLGF-C1-R1	CM	1	LW	X			X	X	X				X	X	(1) Metals: As, Be, Cd, Cr, Pb, Hg*, Cu, Ni, Zn
	1602 p	-C1-R2							X	X	X				X	X	
	10/21/10 1207 p	-C1-R3							X	X	X				X	X	
	10/19/10 1405 p	LLGF-C2-R1							X	X	X				X	X	
	1742 p	-C2-R2							X	X	X				X	X	
	2100 p	-C2-R3							X	X	X				X	X	
	10/20/10 1232 p	SHALE-C1-R1	JP		Solid					X	X						
	1602p	-C1-R2								X	X						
	10/21/10 1207p	-C1-R3								X	X						
	10/19/10 1405p	SHALE-C2-R1								X	X						

RELINQUISHED BY: (DATE/TIME) INTERNAL COC ONLY	RECEIVED BY: (DATE/TIME)	SPECIAL HANDLING/~~PRECAUTIONS~~ * Hg to be analyzed by two methods: 3050B/7470A & 7471A
RELINQUISHED BY: (DATE/TIME)	RECEIVED BY: (DATE/TIME)	
RECEIVED BY LABORATORY: (DATE/TIME) INTERNAL COC ONLY	SPECIAL INSTRUCTIONS: - Level III report (NO RAW DATA) - Project specific QA/QC. See CPT Plan (Summary attached)	

WHITE-LAB YELLOW-REPORT PINK-CUSTOMER | NYS ELAP ID: 11526 | EPA LAB CODE: NY01517 | MADEP ID: M-NY1517 | *NON NELAP PARAMETER

D-203

A ROTARY KILN
Norlite
EXPANDED SHALE AGGREGATE

ANALYTICAL LABORATORY CHAIN OF CUSTODY

628 SOUTH SARATOGA STREET
COHOES, NEW YORK 12047
(518) 235-0401/(518) 233-8377 FAX

THE MATRIX SPECIALISTS FOR RAPID, QUALITY, ANALYTICAL DATA

ACCREDITED IN ACCORDANCE WITH

COMPANY: SEE PAGE 1	COMPANY: —
ADDRESS:	ADDRESS:
CITY: STATE: ZIP:	CITY: STATE: ZIP:
PHONE: FAX:	PHONE: FAX:
EMAIL:	EMAIL:
ATTN:	ATTN:

LAB PROJECT # | CLIENT PROJECT # 60163411 | PO# —

TURN AROUND TIME (WORKING DAYS) NORMAL TAT=5 DAYS NOT INCLUDING TCLP
☐ 1 ☐ 2 ☐ 3 ☒ OTHER Normal

BILLING INFO:

PROJECT NAME (LOCATION): 2010 MACT CPT

RECEIVED WITHIN HOLDING TIMES (YES) NO — NOTES

PROPERLY PRESERVED (YES) NO — NOTES

TEMPERATURE (AMBIENT) OR CHILLED — NOTES 17.1 °C

REQUESTED ANALYSIS

NORLITE LAB #	DATE & TIME	SAMPLE ID & LOCATION	SAMPLER'S INIT.	# OF CONTAINERS	MATRIX	COMPOSITE	GRAB	WASTE PROFILE	BTUs	HALOGENS #	TOTAL METALS	PCBs	TCLP METALS	VOLATILES	COMMENTS
	10/19/10	1742 P SHALE-C2-R2	JP	1	Solid	X				X	X				
	↓	~~DUP~~ P ↓ -C2-R3	↓	↓	↓	↓				X	X				
		2100													

RELINQUISHED BY: (DATE/TIME)
RECEIVED BY: (DATE/TIME)
SPECIAL HANDLING/PRECAUTIONS

RELINQUISHED BY: (DATE/TIME)
RECEIVED BY: (DATE/TIME)

RECEIVED BY LABORATORY: (DATE/TIME)
SPECIAL INSTRUCTIONS SEE PAGE 1

WHITE-LAB YELLOW-REPORT PINK-CUSTOMER | NYS ELAP ID: 11526 | EPA LAB CODE: NY01517 | MADEP ID: M-NY1517 | *NON NELAP PARAMETER

D-204

Sub-Contracted Analysis

Bottom Sediment & Water - Method ASTM D1796

: 00375

ATLANTIC
Product Services, Inc.
EPA RFG No 1008 U S CUSTOMS APPROVED
N.Y.S ELAP No. 10750 U.S EPA No NY00071

2 Terminal Road
KMI Building OB2
Carteret, New Jersey 07008
Phone (732) 969-4800
Fax (732) 969-1112
Email ops@apsinsp.com

INSPECTIONS OF QUALITY

SAMPLE SOUIRCE : SUBMITTED SAMPLES
TERMINAL : ADIRONDACK ENVIRONMENTAL
LOCATION ALBANY, NY
PRODUCT : ORGANIC LIQUID

APS FILE No : 79969
LAB No.: 11841-11846
DATE SAMPLED . 10/21/2010
DATE TESTING COMPLETED : 11/5/2010

ON ORGANIC LIQUID SAMPLE/S
THE FOLLOWING ANALYTICAL RESULTS WERE OBTAINED

METHOD No.	TESTS	UNITS	RESULTS	
LAB No. 11841 - ADIRONDACK SAMPLE # 101021050-013A				C1-R1
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	
	WATER	VOLUME %	25.0	
	SEDIMENT	VOLUME %	25.0	
LAB No. 11842 - ADIRONDACK SAMPLE # 101021050-014A				C1-R2
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	44.0	
	WATER	VOLUME %	18.0	
	SEDIMENT	VOLUME %	26.0	
LAB No. 11843 - ADIRONDACK SAMPLE # 101021050-015A				C1-R3
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	
	WATER	VOLUME %	30.0	
	SEDIMENT	VOLUME %	20.0	
LAB No. 11844 - ADIRONDACK SAMPLE # 101021050-016A				C2-R1
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	
	WATER	VOLUME %	20.0	
	SEDIMENT	VOLUME %	30.0	
LAB No. 11845 - ADIRONDACK SAMPLE # 101021050-017A				C2-R2
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	
	WATER	VOLUME %	25.0	
	SEDIMENT	VOLUME %	25.0	
LAB No. 11846 - ADIRONDACK SAMPLE # 101021050-018A				C2-R3
ASTM D 1796	WATER & SEDIMENT TOTAL	VOLUME %	50.0	
	WATER	VOLUME %	30.0	
	SEDIMENT	VOLUME %	20.0	

Stephen Levano
Atlantic Product Services, Inc.

: 00375

Appendix E

Field Sampling Documentation

Field Data Sheets (January 2011 Test)

AECOM

Field Log - MACT CPT 2010 / 2011 - Norlite Corporation

Date	Time	Description of Events and Activities
1/10/11 (MON)	07:30	Departed Harvard, MA for Norlite. One stop for breakfast at Charlton Plaza on Mass Pike
	10:30	Arrived at Norlite. Setting up equipment
	18:00	Departed site for hotel
1/11/11 (TUES)	07:00	Arrived onsite
	08:49	Start CIRT-R1
	11:50	End CIRT-R1
	12:35	Start CIRT-R2
	15:37	End CIRT-R2
	17:00	Departed site for hotel
1/12/11 (WED)	07:00	Arrived onsite
		Plant a little delayed in getting to condition - shooting for a start ~ 09:00. Snow overnight and thru the day.
	09:03	Start CIRT-R3
	12:04	End CIRT-R3
	12:30	Plant at "flow" conditions for CIA
		AECOM doing a prelim. flow / T_s traverse
	12:30	Triad online spiking at 60 lb/hr MCB
	13:33	Start CIA-R1 (M23)
	14:03	Start CIA-R1 (VOST)
	15:57	End CIA-R1 (VOST)
	16:35	End CIA-R1 (M23)
	17:30	Departed site for hotel
1/13/11 (THURS)	07:00	Arrived onsite
	07:38	Triad online spiking MCB at 75 lb/hr
	08:33	Start CIA-R1 (M23)
	09:00	Start CIA-R1 (VOST)
	11:01	CIA-R2 end (VOST)
	11:35	CIA-R2 end (M23)
		(cont'd)

AECOM

Field Log - MACT CPT 2010 / 2011 - Norlite Corporation

Date	Time	Description of Events and Activities
1/13/11 (THURS)	12:00	C1A-R3 start (M23)
	12:30	C1A-R3 start (VOST)
	14:46	C1A-R3 end (VOST)
	15:30	C1A-R3 end (M23)
	17:30	DR & RB depart site with all samples to drop off at FedEx office in Menands, NY
	18:00	All samples left at FedEx - Heading to Mass Pike and home
1/14/11 (FRI)	08:30	FS, RS & CC onsite at Norlite to pack all equipment, get CEM trailer power disconnected and to depart
	09:30	CC calls DR to check on status of samples. All samples confirmed to have been shipped. Rest of field crew departs for return trip to Harvard, MA

AECOM - CEM

SITE FIELD LOG

Client :	Norlite Corp.	Project #	60163411 - 200
Operater:	Robert Sicard	Date :	01/12/11

Time	Description of events
07:25	- Arrived on site To test Kiln #1
:	- Attended tailgate safety meeting. Snowing 5" overnight
:	- Performed Direct and System Calibrations - ok.
:	- Turned on all heated probes and lines.
:	- leaked check sample line. ok.
:	
09:03	- Start of first Run #3 dioxan
12:04	- End of Run #3
@ :	Condition #1
13:33	- Start of Test Run #1 VOST C1A-R1
15:43	
15:48	- Fred pulled power to Trailer out of connector.
15:52	- Back on line
:	
16:35	- End Run #1 C1A-R1
:	- Performed Final System Calibration checks
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AECOM - CEM

SITE FIELD LOG

Client :	Norlite Corp.	Project #	60163411.200
Operater:	Robert Sicard	Date :	01/13/11

Time	Description of events
07:00	Arrived on site To Test Klin #1
:	- Turned up heated line Temp To 275°F
:	- Turned on heated probe to 275°F and heated "J" box x 250°F
:	- Leaked check Sample line. OK.
:	- Performed Direct and System Calibration Check - OK (in spec)
:	
08:33	- Start Run #2 - CIA
:	
11:35	- End of Run #2 CIA - Performed final system Cal check - OK
:	
12:00	- Start Run #3 - CIA
:	
15:30	- End (Run #3 (CIA) - Performed final system Cal. check - OK
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AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200
Client: Norlite Corp.	Facility: Cohoes, NY
Stream Sampled:	Liquid Low-Grade Fuel (LLGF)
Sampling Location:	K1 - Burner Floor

Date: 1/11/11		Date: 1/11/11		Date: 1/12/11	
Condition: CIRT		Condition: CIRT		Condition: CIRT	
Run No. R1		Run No. R2		Run No. R3	
Start Time: 08:49 a		Start Time: 1235		Start Time: 09:03 a	
Stop Time: 1150		Stop Time: 1537		Stop Time: 12:04 p	
Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)
0	~~0849~~ 0849	0	~~1236~~ 1236	0	0903
15	~~0904~~ 0904	15	1251	15	0918
30	0919	30	1306	30	0933
45	0934	45	1321	45	0948
60	0949	60	1336 *	60	1003
75	* 1004 (PW)	75	1351 *	75	1018 *
90	* 1019 (PW)	90	1406	90	1033 *
105	1034	105	1421	105	1048
120	1049	120	1436	120	1103
135	1104	135	1451 *	135	1118
150	1119	150	1506	150	1133 *
165	1134	165	1521	165	1148
180	1149	180	1525	180	1204
195		195		195	
210		210		210	
225		225		225	
240		240		240	

Comments :

Signature of Sampler:

* (PW)

AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200		
Client:	Norlite Corp.	**Facility:**	Cohoes, NY
Stream Sampled:	Shale		
Sampling Location:	Shale Silo		

Date:	1-11-11	**Date:**	1-11-11	**Date:**	1-12-11
Condition:	C I RT	**Condition:**	C I RT	**Condition:**	C I RT
Run No.	1	**Run No.**	2	**Run No.**	3
Start Time:	08:49	**Start Time:**	12:35	**Start Time:**	09:03
Stop Time:	11:50	**Stop Time:**	15:37	**Stop Time:**	12:04
Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)
Beginning	08:49	Beginning	12:35	Beginning	0903
Middle	10:19	Middle	2:05	Middle	1033
End	11:50	End	15:37	End	12:03

Comments :

Signature of Sampler: Thomas Hack

AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200		
Client:	Norlite Corp.	Facility:	Cohoes, NY
Stream Sampled:	Liquid Low-Grade Fuel (LLGF)		
Sampling Location:	K1 - Burner Floor		

Date: 1/12/11		Date: 1/13/11		Date: 1/13/11	
Condition: C1A		Condition: C1A		Condition: C1A	
Run No. R1		Run No. R2		Run No. R3	
Start Time: 1333		Start Time: 0833		Start Time: 1200	
Stop Time: 1635		Stop Time: 1135		Stop Time: 1530	
Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)
0	1334	0	0833	0	1204 *(PW)
15	1349	15	0848	15	1219
30	1404	30	0903	30	1234 *(PW)
45	1419	45	0918	45	1249
60	1434	60	0933 *(PW)	60	1304
75	1449 *(PW)	75	0948	75	1319
90	1504 *(PW)	90	1003	90	1334
105	1519	105	1018	105	1349 *(PW)
120	1535	120	1033 *(PW)	120	1404
135	1549	135	1048	135	1419
150	1604	150	1103	150	1434
165	1619	165	1118	165	1449
180	1633	180	1132	180	1504
195		195		195	1519
210		210		210	1530
225		225		225	
240		240		240	

Comments :

Signature of Sampler: [signature]

*(PW) [signature]

AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200				
Client:	Norlite Corp.	**Facility:**	Cohoes, NY		
Stream Sampled:	Shale				
Sampling Location:	Shale Silo				
Date:	1-12-11	**Date:**	1-13-11	**Date:**	1-13-11
Condition:	~~CERT~~ CIA-R1	**Condition:**	CIA	**Condition:**	CIA
Run No.	1	**Run No.**	2	**Run No.**	3
Start Time:	13:33	**Start Time:**	08:33	**Start Time:**	12:00
Stop Time:	16:35	**Stop Time:**	11:35	**Stop Time:**	15:30
Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)
Beginning	13:34	Beginning	08:34	Beginning	12:01
Middle	15:03	Middle	10:04	Middle	1:31
End	16:35	End	11:35	End	15:31

Comments :

Signature of Sampler: Thomas Hunt

AECOM

METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

Prelim Traverse Prior to Condition 1RT

Facility : Norlite Corp. - Cohoes, NY Port Length: 6" Monorail ? Platform Width

Date : 1-11-11 Port Diam.: (Y) or N Railing Ht. :

Operator(s) : C. Crowley

Stack Diameter (in.) : 52-in

Bar. Press. (in. Hg) :

Static Press. (in. H_2O)

Cp : (0.84) or 0.99 (Circle one)

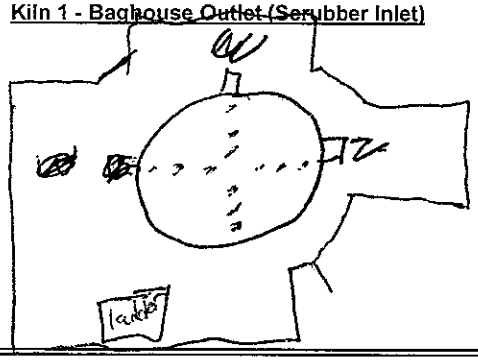
O_2 (%)

CO_2 (%)

Wet Bulb Temp. (°F) :

Dry Bulb Temp. (°F) :

Kiln 1 - Baghouse Outlet (Scrubber Inlet)



SCHEMATIC OF STACK CROSS SECTION

Including 6" Port

Pt. #	Pos. (in.) Factor	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP		Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP
1	51.9	0.68	129		West	1	51.9			
2	42.0	0.72	129			2	42.0			
3	39.8	0.74	129			3	39.8			
4	20.2	0.72	129			4	20.2			
5	13.0	0.70	129			5	13.0			
6	8.1	0.62	129			6	8.1			
	AVG	0.70	129							

West

C:\Documents and Settings\roeckd\My Documents\PROJECTS\NORLITE\CY2010\Field Prep\[Method 2 Form.xlsx]A

Method 0023A (PCDDs/PCDFs) Sampling Parameters MACT CPT Condition 1RT - Norlite Kiln 1					
Run No.		C1RT-R1	C1RT-R2	C1RT-R3	
Date		11-Jan-11	11-Jan-11	12-Jan-11	
Start Time	Units	08:49	12:35	09:03	
Stop Time		11:50	15:37	12:04	**AVGS**
Nozzle Diameter	inches	0.223	0.223	0.223	0.223
Barometric Pressure	in. Hg	30.20	30.20	29.60	30.00
Net Sampling Time	min.	180.0	180.0	180.0	180.0
Volume Metered	dcf	110.731	115.401	111.576	112.569
Avg. DGM Temp.	°F	37.5	40.0	39.5	39.0
Avg Delta H	in H_2O	1.25	1.35	1.29	1.30
Avg Delta H	in. Hg	0.0919	0.0996	0.0950	0.0955
DGM Calibration Factor	--	0.982	0.982	0.982	0.982
Gas Sample Volume	**dscf**	**116.829**	**121.178**	**114.948**	**117.652**
Total Water Collected	mL	372.8	384.4	352.9	370.0
Volume of Water Vapor	scf	17.578	18.124	16.639	17.447
Moisture (measured)	% v/v	13.1	13.0	12.6	12.9
Moisture (@ saturation)	% v/v	15.0	15.4	14.9	15.1
Dry Mole Fraction	--	0.8692	0.8699	0.8735	0.8709
CO_2 at Stack	% dry	4.76	4.69	4.38	4.61
O_2 at Stack	% dry	15.00	15.02	14.56	14.86
CO + N_2	% dry	80.24	80.29	81.06	80.53
Dry Molecular Weight	lb/lb-mole	29.36	29.35	29.28	29.33
Wet Molecular Weight	lb/lb-mole	27.88	27.87	27.86	27.87
Excess Air at Stack	%	242.6	243.2	212.9	232.9
Stack Diameter	inches	48.0	48.0	48.0	48.0
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6
Static Pressure	in H_2O	0.90	0.95	1.00	0.95
Stack Pressure	in. Hg	30.27	30.27	29.67	30.07
Avg. Stack Temp.	°F	130.9	131.0	129.0	130.3
Avg. Sqroot of Delta P	--	0.8385	0.8675	0.8445	0.8502
SDE Average	--	20.384	21.089	20.496	20.657
Pitot Coefficient	--	0.84	0.84	0.84	0.84
Stack Gas Velocity	afpm	3,024	3,129	3,072	3,075
Stack Flowrate	wet acfm	38,002	39,316	38,604	38,641
Stack Flowrate	wet scfm	34,349	35,533	34,319	34,733
Stack Flowrate	**dscfm**	**29,857**	**30,910**	**29,979**	**30,248**
Isokinetics	**%**	**101**	**101**	**99**	**100**
Meter Box No.	--	0808030	0808030	0808030	--
Delta H @	in. Hg	1.833	1.833	1.833	--
Field QA Yqc	--	0.966	0.967	0.987	0.973
[Deviation] Pre-Y	%	1.66%	1.54%	0.53%	1.24%

QC Date Init

CLC 1/17/11

MACT CPT Condition 1RT - Norlite Kiln 1

PT	C1RT-R1 AVGS -- PCDDs / PCDFs					C1RT-R2 AVGS -- PCDDs / PCDFs					C1RT-R3 AVGS -- PCDDs / PCDFs				
	DP	SQRT DP	DGM TEMP	DH	STACK TEMP	DP	SQRT DP	DGM TEMP	DH	STACK TEMP	DP	SQRT DP	DGM TEMP	DH	STACK TEMP
a1	0.65	0.8062	26	1.10	130	0.74	0.8602	32	1.30	130	0.62	0.7874	28	1.10	126
	0.68	0.8246	28	1.20	130	0.76	0.8718	33	1.30	131	0.61	0.7810	29	1.10	126
a2	0.77	0.8775	31	1.40	131	0.75	0.8660	36	1.30	130	0.78	0.8832	30	1.40	127
	0.76	0.8718	32	1.30	131	0.80	0.8944	37	1.40	131	0.78	0.8832	31	1.40	128
a3	0.80	0.8944	34	1.40	131	0.77	0.8775	38	1.40	131	0.77	0.8775	32	1.40	128
	0.76	0.8718	36	1.30	131	0.77	0.8775	37	1.40	130	0.78	0.8832	33	1.40	128
a4	0.75	0.8660	37	1.30	131	0.78	0.8832	37	1.40	130	0.74	0.8602	33	1.30	129
	0.72	0.8485	38	1.30	131	0.77	0.8775	38	1.40	131	0.77	0.8775	35	1.40	128
a5	0.69	0.8307	38	1.20	131	0.69	0.8307	39	1.20	131	0.69	0.8307	37	1.20	128
	0.68	0.8246	38	1.20	130	0.69	0.8307	40	1.20	131	0.68	0.8246	38	1.20	128
a6	0.60	0.7746	39	1.10	131	0.58	0.7616	40	1.00	131	0.65	0.8062	40	1.20	129
	0.60	0.7746	39	1.10	131	0.58	0.7616	40	1.00	131	0.65	0.8062	42	1.20	129
b1	0.72	0.8485	39	1.30	130	0.77	0.8775	39	1.40	131	0.71	0.8426	43	1.30	126
	0.71	0.8426	40	1.30	131	0.80	0.8944	41	1.40	131	0.71	0.8426	44	1.30	129
b2	0.72	0.8485	41	1.30	132	0.81	0.9000	42	1.50	132	0.76	0.8718	45	1.40	131
	0.76	0.8718	41	1.40	131	0.81	0.9000	42	1.50	132	0.76	0.8718	46	1.40	131
b3	0.74	0.8602	41	1.30	131	0.83	0.9110	44	1.50	132	0.72	0.8485	46	1.30	131
	0.72	0.8485	41	1.30	131	0.85	0.9220	44	1.50	132	0.68	0.8246	47	1.20	131
b4	0.72	0.8485	40	1.30	131	0.81	0.9000	45	1.50	132	0.75	0.8660	46	1.40	131
	0.73	0.8544	41	1.30	131	0.84	0.9165	44	1.50	131	0.77	0.8775	45	1.40	131
b5	0.68	0.8246	41	1.20	130	0.75	0.8660	43	1.40	131	0.71	0.8426	44	1.30	131
	0.68	0.8246	40	1.20	131	0.75	0.8660	43	1.40	131	0.73	0.8544	44	1.30	130
b6	0.63	0.7937	40	1.10	132	0.69	0.8307	43	1.30	131	0.67	0.8185	45	1.20	130
	0.63	0.7937	40	1.10	132	0.71	0.8426	44	1.30	131	0.65	0.8062	45	1.20	131
AVG	**0.70**	**0.8385**	**37.5**	**1.25**	**131**	**0.75**	**0.8675**	**40.0**	**1.35**	**131**	**0.71**	**0.8445**	**39.5**	**1.29**	**129**

QC Date Init CLC 1/17/11

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

CEM

Sampling Train	Method 0023A (D/F)
Run Number	C1-RT-R1 (one)
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	January 11, 2011
Operator	C. Crowley
Stack Dia. - in.	48
Start Time	0849 1020
Stop Time	1019 1150

Barometric Pressure	30.2
Static Pressure (+/-)	+0.90
Probe/Pitot Number	MS-S-6
Pitot Coefficient	0.84
Filter Box No.	~~0808030~~ HB-9
Meter Box No.	0808030
Orifice Coefficient (Y)	0.982
Delta H @	1.833
Nozzle Size/No.	0.223
XAD Thermocouple ID:	XAD-1
Imp Outlet TC ID:	LI-2

LEAK CHECKS in "Hg

INITIAL VAC.	15	in.	CFM	0.001
MID VAC.		in.	CFM	
FINAL VAC.	7	in.	CFM	0.001

	+	-
INIT. PITOT	√	√
FINAL PITOT	√	√

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		

~~Orsat~~	
CO2	O2
4.76	15.00

SILICA GEL		
336.3	357.5	Final Purge Rate
		Final PH

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in.wc	ORIFICE METER VOL. DeltaH, in.wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
N													
1	0	0.65	1.1	721.920	130	257	229	42	30	26	N/A	1.0	Start 0849
	7.5	0.68	1.2	726.19	130	253	229	49	38	28		2.0	
2	15	0.77	1.4	730.55	131	260	230	53	41	31		2.5	
	22.5	0.76	1.3	735.46	131	260	230	60	45	32		2.5	
3	30.0	0.80	1.4	740.13	131	259	229	41	47	34		3.0	
	37.5	0.76	1.3	745.01	131	259	230	45	45	36		2.0	
4	45.0	0.75	1.3	749.75	131	259	230	38	42	37		2.0	
	52.5	0.72	1.3	754.46	131	261	232	38	42	38		2.0	
5	60.0	0.69	1.2	759.18	131	262	231	37	42	38		2.0	
	67.5	0.68	1.2	763.72	130	260	230	37	41	38		2.0	
6	75.0	0.60	1.1	768.28	131	259	230	37	39	39		2.0	
	82.5	0.60	1.1	772.77	131	258	229	37	38	39		2.0	Port Δ 10:19
W 1	90.0	0.72	1.3	777.05	130	262	229	38	38	39		2.5	Restart 1020
	97.5	0.71	1.3	781.73	131	264	230	38	36	40		2.5	
2	105.0	0.72	1.3	786.40	132	261	229	37	37	41		2.5	
	112.5	0.76	1.4	791.12	131	261	230	38	36	41		3.0	
3	120.0	0.74	1.3	796.03	131	264	231	38	36	41		3.0	
	127.5	0.72	1.3	800.70	131	263	230	38	38	41		3.0	
4	135.0	0.72	1.3	805.49	131	262	232	39	38	40		3.0	
	142.5	0.73	1.3	810.20	131	262	231	38	39	41		3.0	
5	150.0	0.68	1.2	814.88	130	263	230	38	40	41		2.5	
	157.5	0.68	1.2	819.47	131	265	229	39	44	40		2.5	
6	165.0	0.63	1.1	823.94	132	263	229	39	45	40		2.0	
	172.5	0.63	1.1	828.32	132	261	230	39	48	40	√	2.0	
End	180.0	—	—	832.651	—	—	—	—	—	—		—	End 1151

QC CLC

AECOM EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)
Run Number	C1-RT-R2 (TWO)
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	January 11, 2011
Operator	C. Crowley
Stack Dia. - in.	48
Start Time	1235 1407
Stop Time	14:05 1537

Barometric Pressure	30.2
Static Pressure (+/-)	+0.95
Probe/Pitot Number	115-5-6
Pitot Coefficient	0.84
Filter Box No.	HB-9
Meter Box No.	5080330
Orifice Coefficient (Y)	1.833
Delta H @	0.982
Nozzle Size/No.	0.223
XAD Thermocouple ID:	XAD-12
Imp Outlet TC ID:	LT-2

LEAK CHECKS in "Hg

INITIAL VAC.	18 in.	CFM	0.008
MID VAC.	in.	CFM	
FINAL VAC.	5 in.	CFM	0.004
	+		+ -
INIT. PITOT	✓✓	FINAL PITOT	✓✓

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		
SILICA GEL		Final Purge Rate
333.4	345.4	Final PH

CEM

Orsat	
CO2	O2
4.69	15.02

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in we	ORIFICE METER VOL. DeltaH, in we	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1	0	0.74	1.3	834.303	130	252	227	34	30	32	n/a	1.0	Start 1235
	7.5	0.76	1.3	838.80	131	254	230	36	34	33		2.5	
2	15	0.75	1.3	843.65	130	255	229	37	34	36		3.0	
	22.5	0.80	1.4	848.18	131	260	229	37	34	37		3.0	
3	30	0.77	1.4	852.98	131	257	229	36	33	38		3.0	
	37.5	0.77	1.4	857.83	130	258	231	34	33	37		3.0	
4	45	0.78	1.4	862.77	130	256	231	35	33	37		3.0	
	52.5	0.77	1.4	867.72	131	265	232	39	34	35		3.0	
5	60	0.69	1.2	872.430	131	260	230	39	35	39		2.5	
	67.5	0.69	1.2	877.124	131	260	230	39	36	40		2.5	
6	75	0.58	1.0	881.748	131	260	231	40	37	40		2.0	
	82.5	0.58	1.0	886.006	131	262	232	41	37	40		2.0	Port Δ 1405
1	90	0.77	1.4	890.10	131	259	230	42	38	39		4.0	Restart 1407
	97.5	0.80	1.4	894.93	131	258	231	43	40	41		4.0	
2	105	0.81	1.5	899.85	132	262	231	44	41	42		4.0	
	112.5	0.81	1.5	904.87	132	263	230	44	41	42		4.0	
3	120	0.83	1.5	909.92	132	258	230	44	41	44		4.0	
	127.5	0.85	1.5	915.00	132	265	230	45	44	44		4.0	
4	135	0.81	1.5	920.11	132	263	231	44	42	45		4.0	
	142.5	0.84	1.5	925.22	131	255	230	47	42	44		4.0	
5	150	0.75	1.4	930.32	131	251	229	50	43	43		4.0	
	157.5	0.75	1.4	435.—	131	259	229	51	46	43		4.0	
6	165	0.69	1.3	940.19	131	262	229	52	49	43		4.0	
	172.5	0.71	1.3	945.26	131	263	231	51	49	44		4.0	
End	180	—	—	949.704	—	—	—	—	—	—	✓	—	End 1537

QC CLC

AECOM EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)
Run Number	C1-RT-R3 (three)
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	January 12, 2011
Operator	C. Crowley
Stack Dia. - in.	48
Start Time	0903 1034
Stop Time	1033 1204

Barometric Pressure	29.6
Static Pressure (+/-)	+1.0
Probe/Pitot Number	MS-5-G
Pitot Coefficient	0.84
Filter Box No.	~~5080~~ HB-9
Meter Box No.	5050030
Orifice Coefficient (Y)	0.987
Delta H @	1.933
Nozzle Size/No.	0.233
XAD Thermocouple ID:	XAD-1
Imp Outlet TC ID:	T-2

LEAK CHECKS in "Hg

INITIAL VAC. 15 in. CFM 0.005

MID VAC. in. CFM

FINAL VAC. 5 in. CFM 0.002

+ - + -

INIT. PITOT ✓✓ FINAL PITOT ✓✓

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		
SILICA GEL		Final Purge Rate
332.0	754.2	Final PH

a2M

~~Orsat~~	
CO2	O2
4.38	14.56

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1	0	0.62	1.10	952.544	126	242	230	30	27	25	N/A	1.0	Start 0903
	7.5	0.61	1.1	957.16	126	240	229	30	29	29		1.0	
2	15	0.78	1.4	961.45	127	240	229	31	30	30		1.0	
	22.5	0.78	1.4	966.27	128	262	229	33	31	31		1.0	
3	30	0.77	1.4	971.10	128	266	233	38	32	32		1.0	
	37.5	0.78	1.4	975.98	128	268	232	42	33	33		1.0	
4	45	0.74	1.3	980.76	129	260	230	46	36	33		1.0	
	52.5	0.77	1.4	985.38	128	259	230	52	36	35		1.0	
5	60	0.69	1.2	990.22	128	260	229	56	39	37		1.0	
	67.5	0.68	1.2	994.69	128	261	228	57	42	38		1.0	
6	75	0.65	1.2	999.21	129	261	228	59	43	40		1.0	
	82.5	0.65	1.2	1003.66	124	261	229	60	45	42		1.0	Port Δ 1035
1	90	0.71	1.3	1008.14	126	263	228	59	44	43		1.0	Restart 1034
	97.5	0.71	1.3	1012.80	129	262	226	60	43	44		1.0	
2	105	0.76	1.4	1017.50	131	262	229	61	45	45		1.0	
	112.5	0.76	1.4	1022.32	131	262	230	62	45	46		1.0	
3	120	0.72	1.3	1027.17	131	262	233	63	46	46		1.0	
	127.5	0.68	1.2	1031.90	131	262	228	61	45	47		1.0	
4	135	0.75	1.4	1036.35	131	262	229	59	42	46		1.0	
	142.5	0.77	1.4	1041.18	131	262	230	60	41	45		1.0	
5	150	0.71	1.3	1046.04	131	262	229	60	41	44		1.0	
	157.5	0.73	1.3	1050.71	130	262	231	60	44	44		1.0	
6	165	0.67	1.2	1055.38	130	262	230	61	45	45		1.0	
	172.5	0.65	1.2	1059.90	131	262	230	60	45	45		1.0	
End	180	—	—	1064.420	—	—	—	—	—	—		—	End 1204

QC CLC

AECOM

SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train : M0023A - PCDDs/PCDFs CPT

Recovered by : D. Roeck				Recovered by : DR/FS				Recovered by : FS			
Run No. CIRT-R1 Date : 01/11/2011				Run No. CIRT-R2 Date : 01/11/2011				Run No. CIRT-R3 Date : 01/12/2011			
XAD Module No. : ST19295				XAD Module No. : ST19295				XAD Module No. : ST19295			
Filter # : N/A Tare: N/A				Filter # : N/A Tare: N/A				Filter # : N/A Tare: N/A			
Impinger No. and Volume				Impinger No. and Volume				Impinger No. and Volume			
No.	Initial (mL)	Final (mL)	Rinse (mL)	No.	Initial (mL)	Final (mL)	Rinse (mL)	No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	216 124	N/A	1	0	250 98	N/A	1	0	250 65	N/A
2	100	100		2	100	102		2	100	104	
3	100	100		3	100	98		3	100	98	
4	0	0		4	0	1		4	0	4	
5	SG			5	SG			5	SG		
6				6				6			
7			DIFF :	7			DIFF :	7			DIFF :
Totals	200	540	340	Totals	200	549	349	Totals	200	521	321
	Initial (g)	Final (g)	DIFF :		Initial (g)	Final (g)	DIFF :		Initial (g)	Final (g)	DIFF :
Silica Gel	336.3	357.5	21.2	Silica Gel	333.4	355.4	22.0	Silica Gel	332.0	354.2	22.2
XAD Trap	313.7	325.3	11.6	XAD Trap	316.5	329.9	13.4	XAD Trap	294.5	304.2	9.7
Final Net Moisture Gain:			372.8	Final Net Moisture Gain:			384.4	Final Net Moisture Gain:			352.9

HPLC Water — Fisher Scientific — Lot 104416

Methylene Chloride — Fisher Scientific — Lot 102647

Toluene — Fisher Scientific — Lot 105615

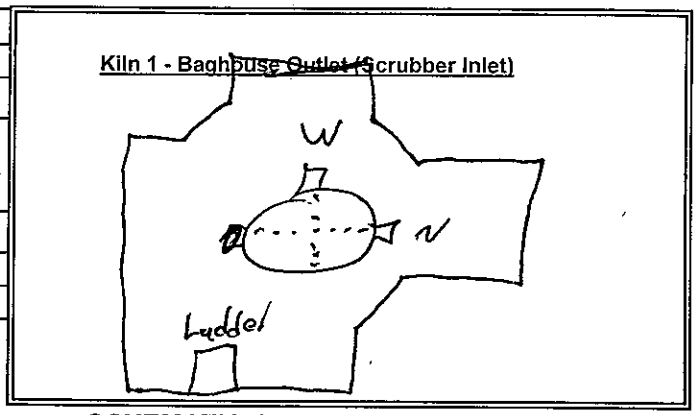
QC CLC

AECOM

METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

Facility : Norlite Corp. - Cohoes, NY Port Length: Monorail ? (Y) or N Platform Width
Date : 1/12/11 Port Diam.: Railing Ht. :
Operator(s) : Crowley
Stack Diameter (in.) : 52-in
Bar. Press. (in. Hg) : 29.36
Static Press. (in. H_2O)
Cp : (0.84) or 0.99 (Circle one)
O_2 (%)
CO_2 (%)
Wet Bulb Temp. (°F) :
Dry Bulb Temp. (°F) :

Prelim. Traverse prior to Condition 1A



SCHEMATIC OF STACK CROSS SECTION

1235

Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP		Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP
1		1.1 Or	123			1		0.90	121	
2		1.2	123			2		1.1	124	
3		1.2	123			3		1.2	125	
4		1.1	124			4		1.2	125	
5		1.1	125			5		1.1	126	
6		0.95	126			6		0.94	126	

West
North
Static +1.5
12:45

C:\Documents and Settings\roeckd\My Documents\PROJECTS\NORLITE\CY2010\Field Prep\[Method 2 Form.xlsx]A

$\Delta P_{avg} = 1.09$

$T_s\ avg = 124$

Method 0023A (PCDDs/PCDFs) Sampling Parameters MACT CPT Condition 1A - Norlite Kiln 1					
Run No.		C1A-R1	C1A-R2	C1A-R3	
Date		12-Jan-11	13-Jan-11	13-Jan-11	
Start Time	Units	13:33	08:33	12:00	
Stop Time		16:35	11:35	15:30	AVGS
Nozzle Diameter	inches	0.223	0.223	0.223	0.223
Barometric Pressure	in. Hg	29.60	30.05	30.10	29.92
Net Sampling Time	min.	180.0	180.0	180.0	180.0
Volume Metered	dcf	137.378	141.288	135.315	137.994
Avg. DGM Temp.	°F	41.6	37.5	38.6	39.2
Avg Delta H	in H_2O	1.93	2.04	1.89	1.95
Avg Delta H	in. Hg	0.1415	0.1498	0.1391	0.1435
DGM Calibration Factor	--	0.982	0.982	0.982	0.982
Gas Sample Volume	**dscf**	**141.163**	**148.628**	**142.208**	**144.000**
Total Water Collected	mL	437.1	448.3	409.7	431.7
Volume of Water Vapor	scf	20.609	21.137	19.317	20.355
Moisture (measured)	% v/v	12.7	12.5	12.0	12.4
Moisture (@ saturation)	% v/v	12.6	12.8	12.7	12.7
Dry Mole Fraction	--	0.8740	0.8755	0.8804	0.8766
CO_2 at Stack	% dry	3.87	3.93	3.98	3.93
O_2 at Stack	% dry	15.57	16.13	16.09	15.93
CO + N_2	% dry	80.56	79.94	79.93	80.14
Dry Molecular Weight	lb/lb-mole	29.24	29.27	29.28	29.27
Wet Molecular Weight	lb/lb-mole	27.83	27.87	27.93	27.88
Excess Air at Stack	%	273.3	324.3	321.1	306.2
Stack Diameter	inches	48.0	48.0	48.0	48.0
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6
Static Pressure	in H_2O	1.50	1.30	1.30	1.37
Stack Pressure	in. Hg	29.71	30.15	30.20	30.02
Avg. Stack Temp.	°F	123.8	124.7	124.6	124.4
Avg. Sqroot of Delta P	--	1.0263	1.0615	1.0180	1.0353
SDE Average	--	24.799	25.668	24.615	25.027
Pitot Coefficient	--	0.84	0.84	0.84	0.84
Stack Gas Velocity	afpm	3,717	3,816	3,652	3,728
Stack Flowrate	wet acfm	46,705	47,954	45,898	46,852
Stack Flowrate	wet scfm	41,942	43,629	41,834	42,469
Stack Flowrate	**dscfm**	**36,658**	**38,197**	**36,831**	**37,229**
Isokinetics	**%**	**99**	**100**	**99**	**100**
Meter Box No.	--	0808030	0808030	0808030	--
Delta H @	in. Hg	1.833	1.833	1.833	--
Field QA Yqc	--	0.981	0.969	0.975	0.975
[Deviation] Pre-Y	%	0.12%	1.31%	0.67%	0.70%

QC Date Init

CLC 1/17/11

MACT CPT Condition 1A - Norlite Kiln 1

PT	C1A-R1 AVGS -- PCDDs / PCDFs					C1A-R2 AVGS -- PCDDs / PCDFs					C1A-R3 AVGS -- PCDDs / PCDFs				
	DP	SQRT DP	DGM TEMP	DH	STACK TEMP	DP	SQRT DP	DGM TEMP	DH	STACK TEMP	DP	SQRT DP	DGM TEMP	DH	STACK TEMP
a1	0.90	0.9487	35	1.60	125	1.10	1.0488	24	1.90	123	1.10	1.0488	37	2.00	124
	0.91	0.9539	36	1.60	125	1.10	1.0488	25	1.90	123	1.00	1.0000	38	1.80	124
a2	1.20	1.0954	37	2.20	125	1.30	1.1402	27	2.30	124	1.20	1.0954	38	2.20	123
	1.20	1.0954	40	2.20	125	1.20	1.0954	29	2.10	124	1.20	1.0954	39	2.20	124
a3	1.20	1.0954	40	2.20	125	1.30	1.1402	31	2.30	124	1.20	1.0954	40	2.20	123
	1.20	1.0954	41	2.20	124	1.20	1.0954	32	2.10	125	1.20	1.0954	40	2.20	124
a4	1.10	1.0488	41	2.00	125	1.10	1.0488	34	2.00	125	1.20	1.0954	41	2.20	125
	1.10	1.0488	42	2.00	125	1.10	1.0488	35	2.00	125	1.20	1.0954	41	2.20	124
a5	1.10	1.0488	43	2.00	124	1.10	1.0488	37	2.00	125	1.10	1.0488	41	2.00	125
	1.10	1.0488	44	2.00	125	1.10	1.0488	37	2.00	126	1.10	1.0488	41	2.00	124
a6	0.96	0.9798	44	1.80	124	0.98	0.9899	38	1.80	125	0.99	0.9950	40	1.80	125
	0.96	0.9798	45	1.80	125	1.00	1.0000	39	1.80	126	0.98	0.9899	40	1.80	124
b1	0.80	0.8944	45	1.50	124	1.10	1.0488	38	2.00	125	0.81	0.9000	39	1.40	123
	0.83	0.9110	45	1.50	121	1.10	1.0488	39	2.00	124	0.82	0.9055	39	1.50	124
b2	1.10	1.0488	45	2.00	121	1.20	1.0954	40	2.20	125	1.20	1.0954	32	2.10	124
	1.20	1.0954	44	2.20	122	1.20	1.0954	40	2.20	124	1.10	1.0488	34	2.00	125
b3	1.20	1.0954	43	2.20	123	1.20	1.0954	41	2.20	124	0.98	0.9899	37	1.80	125
	1.20	1.0954	42	2.20	124	1.20	1.0954	43	2.20	125	0.93	0.9644	37	1.70	125
b4	1.10	1.0488	41	2.00	123	1.20	1.0954	44	2.20	124	1.00	1.0000	38	1.80	126
	1.10	1.0488	40	2.00	124	1.20	1.0954	45	2.20	126	1.10	1.0488	38	2.00	125
b5	1.00	1.0000	40	1.80	122	1.10	1.0488	45	2.00	125	0.95	0.9747	39	1.70	127
	1.00	1.0000	41	1.80	123	1.10	1.0488	45	2.00	126	0.97	0.9849	39	1.80	126
b6	0.95	0.9747	42	1.70	123	0.96	0.9798	46	1.80	125	0.81	0.9000	40	1.50	126
	0.96	0.9798	42	1.70	125	0.95	0.9747	46	1.70	125	0.84	0.9165	39	1.50	126
AVG	**1.06**	**1.0263**	**41.6**	**1.93**	**124**	**1.13**	**1.0615**	**37.5**	**2.04**	**125**	**1.04**	**1.0180**	**38.6**	**1.89**	**125**

QC Date Init
CLC 1/17/11

AECOM EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)
Run Number	C1A-R2
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	January 12, 2011
Operator	C. Crowley
Stack Dia. - in.	48
Start Time	1333 1505
Stop Time	1503 1635

Barometric Pressure	29.6
Static Pressure (+/-)	+1.5
Probe/Pitot Number	NS-5-G
Pitot Coefficient	0.84
Filter Box No.	HB-4
Meter Box No.	805030
Orifice Coefficient (Y)	0.982
Delta H @	1.533
Nozzle Size/No.	0.223
XAD Thermocouple ID:	XAD-12
Imp Outlet TC ID:	LI-2

LEAK CHECKS in "Hg

INITIAL VAC. 16 in. CFM 0.014

MID VAC. ____ in. CFM ____

FINAL VAC. 12 in. CFM 0.017

\+ \+

INIT. PITOT √ √ FINAL PITOT √ √

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		

SILICA GEL	
329.8	360.6

Final Purge Rate

Final PH

Orsat	
CO2	O2
3.87	15.57

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1	0	0.90	1.6	64.702	125	261	228	43	32	35	N/A	1.0	Start 1333
	7.5	0.91	1.6	69.66	125	261	229	45	34	36		1.0	
2	15	1.2	2.2	74.75	125	260	230	48	37	37		4.0	
	22.5	1.2	2.2	80.77	125	259	230	48	39	40		4.0	
3	30	1.2	2.2	86.81	125	255	230	49	40	40		4.0	
	32.5	1.2	2.2	92.88	124	258	231	50	40	41		4.0	
4	45	1.1	2.0	98.91	125	259	229	52	42	41		4.0	
	52.5	1.1	2.0	104.67	125	257	230	53	43	42		4.0	
5	60	1.1	2.0	110.62	124	261	230	55	46	43		4.0	
	67.5	1.1	2.0	116.44	125	261	228	57	47	44		4.0	
6	75	0.96	1.8	122.32	124	259	228	57	48	44		4.0	
	82.5	0.96	1.8	128.00	125	260	228	56	49	45		4.0	Port Δ 1503
1	90	0.80	1.5	133.63	124	263	229	51	44	45		3.0	Restart 1505
	97.5	0.83	1.5	138.73	121	262	229	57	45	45		3.0	
2	105	1.1	2.0	143.81	121	261	228	55	44	45		4.0	
	112.5	1.2	2.2	149.79	122	261	232	60	46	44		5.0	
3	120	1.2	2.2	156.01	123	260	233	59	47	43		5.0	
	127.5	1.2	2.2	162.11	124	261	232	60	47	42		5.0	
4	135	1.1	2.0	168.27	123	261	233	59	47	41		5.0	
	142.5	1.1	2.0	174.30	124	261	233	59	47	40		5.0	
5	150	1.0	1.8	180.10	122	261	234	59	51	40		4.0	
	157.5	1.0	1.8	185.80	123	261	235	61	53	41		4.0	
6	165	0.95	1.7	191.39	123	258	235	63	53	42		3.5	
	172.5	0.96	1.7	196.78	125	259	235	61	49	42		3.5	
END	180	—	—	202.080	—	—	—	—	—	—	↓	—	End 1635

QC CLC

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train: Method 0023A (D/F)
Run Number: C1A-R3 (TWO) (~~THREE~~)
Client: Norlite Corporation
Facility Location: Cohoes, NY
Source: Kiln 1 Exhaust Stack
Date: January 13, 2011
Operator: C. Crowley
Stack Dia. - in.: 48
Start Time: 0833 1005
Stop Time: 1003 1135

Barometric Pressure: 30.05
Static Pressure (+/-): +1.3
Probe/Pitot Number: MS-5-6
Pitot Coefficient: 0.84
Filter Box No.: #B-9
Meter Box No.: 8050130
Orifice Coefficient (Y): 0.982
Delta H @: 1.833
Nozzle Size/No.: 0.223
XAD Thermocouple ID: XAD-1
Imp Outlet TC ID: I-2

LEAK CHECKS in "Hg
INITIAL VAC. 15 in. CFM 0.015
MID VAC. ____ in. CFM ____
FINAL VAC. 6 in. CFM 0.016
\+ -
INIT. PITOT √ √ FINAL PITOT √ √

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		

SILICA GEL	
326.0	344.2

Final Purge Rate
Final PH

Orsat	
CO2	O2
3.13	16.13

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1	0	1.1	~~2.0~~ 1.9	202.432	123	257	228	39	26	24	N/A	1.0	Start 0833
	7.5	1.1	1.9	207.89	123	254	228	41	28	25		1.0	
2	15	1.3	2.3	213.50	124	251	229	42	28	27		3.0	
	22.5	1.2	2.1	219.74	124	253	229	45	29	29		3.0	
3	30	1.3	2.3	225.70	124	253	230	46	30	31		3.0	
	37.5	1.2	2.1	231.94	125	254	229	47	31	32		3.0	
4	45	1.1	2.0	238.00	125	255	228	48	32	34		3.0	
	52.5	1.1	2.0	244.23	125	255	230	50	33	35		3.0	
5	60	1.1	2.0	250.03	125	254	230	49	33	37		3.0	
	67.5	1.1	1.0	255.65	126	255	231	49	33	37		3.0	
6	75	0.98	1.8	261.45	125	252	231	49	33	38		3.0	
	82.5	1.0	1.8	266.99	126	255	229	50	34	39		3.0	Port Δ 1003
1	90	1.1	2.0	272.55	125	259	229	43	31	38		3.0	Restart 1005
	97.5	1.1	2.0	278.30	124	258	229	45	33	39		3.0	
2	105	1.2	2.2	283.99	125	259	230	45	34	40		4.0	
	112.5	1.2	2.2	290.17	124	258	230	46	35	40		4.0	
3	120	1.2	2.2	296.27	124	260	231	49	36	41		4.0	
	127.5	1.2	2.2	302.40	125	261	231	51	37	43		4.0	
4	135	1.2	2.2	308.58	124	261	230	51	39	44		4.5	
	142.5	1.2	2.2	314.73	126	261	229	52	39	45		5.0	
5	150	1.1	2.0	320.98	125	261	228	51	39	45		4.0	
	157.5	1.1	2.0	326.82	126	260	229	52	40	45		4.0	
6	165	0.96	1.8	332.70	125	259	229	51	40	46		4.0	
	172.5	0.95	1.7	338.60	125	260	228	51	41	46		4.0	
End	180	—	—	343.720	—	—	—	—	—	—		—	End 1135

QC CLC

AECOM EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)	Barometric Pressure	~~30.09~~ 30.1
Run Number	C1A-R3 (Three)	Static Pressure (+/-)	+ 1.3
Client	Norlite Corporation	Probe/Pitot Number	MS-5-6
Facility Location	Cohoes, NY	Pitot Coefficient	0.84
Source	Kiln 1 Exhaust Stack	Filter Box No.	HB-4
Date	January 13, 2011 13	Meter Box No.	4050930
Operator	C. Crowley	Orifice Coefficient (Y)	0.982
Stack Dia. - in.	48	Delta H @	1.533
Start Time	1200 13:32 1415	Nozzle Size/No.	0.223
Stop Time	13:30 13:47 1530	XAD Thermocouple ID:	XAD-1
		Imp Outlet TC ID:	LI-2

LEAK CHECKS in "Hg

INITIAL VAC.	16	in.	CFM	0.014	
MID VAC.	8	in.	CFM	0.013	
FINAL VAC.	4	in.	CFM	0.014	
INIT. PITOT	✓	+	FINAL PITOT	✓	+ -

FILTER DATA

NUMBER	TARE

322.0

IMPINGER VOL'S.			Orsat	
INIT.	FINAL	RINSE	CO2	O2
0			3.48	16.09
100				
100				
0				
SG				
SILICA GEL				
~~226.0~~	347.3			

Final Purge Rate

Final PH

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT	PUMP VACUUM in. Hg	COMMENTS
1	0	1.1	2.0	344.060	124	257	230	43	30	37	N/A	1.0	Start 1200
	7.5	1.0	1.8	349.67	124	254	231	45	30	38		1.0	
2	15	1.7	2.2	355.04	123	258	230	48	31	38		3.0	
	22.5	1.2	2.2	361.20	124	258	229	50	32	39		3.0	
3	30	1.2	2.2	367.33	123	261	229	52	34	40		3.0	
	37.5	1.2	2.2	373.56	124	261	230	54	35	40		3.0	
4	45	1.2	2.2	379.74	125	261	230	56	36	41		3.0	
	52.5	1.2	2.2	385.89	124	260	228	55	36	41		3.0	
5	60	1.1	2.0	392.04	125	260	228	56	37	41		3.0	
	67.5	1.1	2.0	397.95	124	261	230	56	37	41		3.0	
6	75	0.94	1.8	403.84	125	260	230	57	38	40		2.0	
	82.5	0.98	1.8	409.439	124	259	231	56	38	40		2.0	Port △ 1330
1	90	0.81	1.4	415.100	123	260	230	54	35	39		1.0	Restart 1332
	97.5	0.82	1.5	419.875	124	259	231	55	36	39		1.0	
2	105	1.2	2.1	425.059	124	259	230	55	34	32		3.0	Leak✓ 426.622 14:15
	112.5	1.1	2.0	431.97	125	258	228	55	43	34		3.0	
3	120	0.48	1.8	437.84	125	256	228	43	42	37		2.0	
	127.5	0.93	1.7	443.41	125	257	229	41	38	37		1.0	
4	135	1.0	1.8	448.80	126	255	229	39	37	38		1.0	
	142.5	1.1	2.0	454.33	125	258	229	40	36	38		3.0	
5	150	0.95	1.7	460.20	127	257	231	40	36	39		1.0	
	157.5	0.97	1.8	465.85	126	256	231	40	37	39		2.0	
6	165	0.81	1.5	471.11	126	249	230	40	37	40		2.0	
	172.5	0.84	1.5	475.95	126	254	230	40	37	39		2.0	
END	180	—	—	480.938	—	—	—	—	—	—		—	End 1530

QC CLC

AECOM

SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train : M0023A - PCDDs/PCDFs CPT

Recovered by : FS	Recovered by : FS	Recovered by : FS
Run No. C1A-R1 Date : 01/13/2011	Run No. C1A-R2 Date : 01/13/2011	Run No. C1A-R3 Date : 01/13/2011
XAD Module No. : ST19295	XAD Module No. : ST19295	XAD Module No. : ST19295
Filter # : N/A Tare: N/A	Filter # : N/A Tare: N/A	Filter # : N/A Tare: N/A

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	248 127	N/A
2	100	110	
3	100	103	
4	0	7	
5	SG		
6			
7			DIFF :
Totals	200	595	395

	Initial (g)	Final (g)	DIFF :
Silica Gel	329.8	360.6	30.8
XAD Trap	300.4	311.7	11.3
Final Net Moisture Gain:			437.1

437.1

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	250 148	N/A
2	100	108	
3	100	102	
4	0	8	
5	SG		
6			
7			DIFF :
Totals	200	616	416

	Initial (g)	Final (g)	DIFF :
Silica Gel	326.0	349.2	23.2
XAD Trap	304.1	313.2	9.1
Final Net Moisture Gain:			448.3

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	223 139	N/A
2	100	104	
3	100	99	
4	0	4	
5	SG		
6			
7			DIFF :
Totals	200	569	369

	Initial (g)	Final (g)	DIFF :
Silica Gel	322.0	347.3	25.3
XAD Trap	311.9	327.3	15.4
Final Net Moisture Gain:			409.7

QC CLC

Norlite MACT CPT - January 2011

VOST Meter Temperature Readings, °C

Run #	1	2	3	4	5	6	7	8	9	10	AVG
1A	0.0	0.0	0.0	1.0	1.0						0.4
1B	1.0	2.0	2.0	2.0							1.8
1C	3.0	3.0	3.0	3.0							3.0
1D	3.0	3.0	3.0	3.0							3.0
2A	-4.0	-4.0	-3.0	-3.0							-3.5
2B	-2.0	-2.0	-2.0	-1.0							-1.8
2C	-2.0	-2.0	-2.0	-2.0							-2.0
2D	-1.0	-1.0	0.0	0.0							-0.5
3A	0.0	-2.0	-2.0	-2.0							-1.5
3B	-1.0	-1.0	-1.0	-1.0							-1.0
3C	-1.0	-1.0	-2.0	-2.0							-1.5
3D	-1.0	-1.0	-2.0	-2.0							-1.5

QC DRR 1/18/11

AECOM

VOST DATA SHEET

PROJECT NO. 60163411, Task 200	DATE 1/12/11
CLIENT Norlite Corporation	OPERATOR R. Burns
FACILITY Cohoes, NY	BAR. PRESSURE, in. Hg 29.6
SOURCE Kiln # 1	PROBE LENGTH (ft) 3'
SAMPLING LOCATION Exhaust Stack	DESIRED PROBE TEMP. 130°C ± 5°C
METER CALIBRATION FACTOR (Y) 1.0577	PROBE PURGED ? Y
DRY GAS METER NO. V014	DESIRED FLOW RATE (Lpm) 1.0
RUN NO. R1A	DESIRED SAMPLE VOLUME (dsL) 20
SORBENT TUBE NO'S. 2017-06-03	DGM PRESSURE, in. H_2O 1.8
Train Leak Check -- INITIAL VACUUM (in. Hg): 17	Leak Rate : 0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg): 5	Leak Rate : 0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1403	1.0	8985.28	128	0	3	4
5	1408	1.0	8990.41	129	0	3	4
10	1413	1.0	8995.40	129	0	3	4
15	1418	1.0	9000.36	130	1	3	4
20	1423	1.0	9005.32	130	1	4	4

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO. 60163411, Task 200	DATE 1/12/10
CLIENT Norlite Corporation	OPERATOR R. Burns
FACILITY Cohoes, NY	BAR. PRESSURE, in. Hg 29.6
SOURCE Kiln # 1	PROBE LENGTH (ft) 3'
SAMPLING LOCATION Exhaust Stack	DESIRED PROBE TEMP. 130°C ± 5°C
METER CALIBRATION FACTOR (Y) 1.0577	PROBE PURGED ? Y
DRY GAS METER NO. V014	DESIRED FLOW RATE (Lpm) 1.0
RUN NO. RIB	DESIRED SAMPLE VOLUME (dsL) 20
SORBENT TUBE NO'S. 2017-16-06A BC	DGM PRESSURE, in. H_2O 1.8
Train Leak Check -- INITIAL VACUUM (in. Hg): 15	Leak Rate : 0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg): 5	Leak Rate : 0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1433	1.0	9006.04	130	1	5	4
5	1438	1.0	9011.98	130	2	5	4
10	1443	1.0	9016.03	130	2	5	4
15	1448	1.0	9020.84	129	2	5	4
20	1453	1.0	9025.58	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO.	60163411, Task 200	DATE	1/12/10
CLIENT	Norlite Corporation	OPERATOR	R. Burns
FACILITY	Cohoes, NY	BAR. PRESSURE, in. Hg	29.6
SOURCE	Kiln # 1	PROBE LENGTH (ft)	3'
SAMPLING LOCATION	Exhaust Stack	DESIRED PROBE TEMP.	130°C ± 5°C
METER CALIBRATION FACTOR (Y)	1.0577	PROBE PURGED ?	Y
DRY GAS METER NO.	1014	DESIRED FLOW RATE (Lpm)	1.0
RUN NO.	R1C	DESIRED SAMPLE VOLUME (dsL)	20
SORBENT TUBE NO'S.	2017-016-04 ABC	DGM PRESSURE, in. H_2O	1.8
Train Leak Check – INITIAL VACUUM (in. Hg):	15	Leak Rate :	0.0 in. Hg in 60 sec.
Train Leak Check – FINAL VACUUM (in. Hg):	5	Leak Rate :	0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS: PROBE (°C or °F)	TEMPERATURE READINGS: DRY GAS METER (°C or °F)	TEMPERATURE READINGS: TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1504	1.0	9026.05	129	3	5	4
5	1509	1.0	9029.96	130	3	5	4
10	1514	1.0	9034.95	129	3	5	4
15	1519	1.0	9039.88	129	3	5	4
20	1524	1.0	9044.86	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO. 60163411, Task 200	DATE 1/12/10
CLIENT Norlite Corporation	OPERATOR R. Burns
FACILITY Cohoes, NY	BAR. PRESSURE, in. Hg 29.6
SOURCE Kiln # 1	PROBE LENGTH (ft) 3'
SAMPLING LOCATION Exhaust Stack	DESIRED PROBE TEMP. 130°C ± 5°C
METER CALIBRATION FACTOR (Y) 1.0527	PROBE PURGED ? Y
DRY GAS METER NO. V014	DESIRED FLOW RATE (Lpm) 1.0
RUN NO. R1D	DESIRED SAMPLE VOLUME (dsL) 20
SORBENT TUBE NO'S. 201716-03 ABC	DGM PRESSURE, in. H_2O
Train Leak Check -- INITIAL VACUUM (in. Hg): 15	Leak Rate : 0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg): 5	Leak Rate : 0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1537	1.0	9045.10	129	3	5	5
5	1542	1.0	9050.11	130	3	5	5
10	1547	1.0	9055.15	129	3	5	5
15	1552	1.0	9060.08	129	3	5	5
20	1557	1.0	9065.06	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO. 60163411, Task 200	DATE 1/13/11
CLIENT Norlite Corporation	OPERATOR R. Burns
FACILITY Cohoes, NY	BAR. PRESSURE, in. Hg 30.05
SOURCE Kiln # 1	PROBE LENGTH (ft) 3
SAMPLING LOCATION Exhaust Stack	DESIRED PROBE TEMP. 130°C ± 5°C
METER CALIBRATION FACTOR (Y) 1.0577	PROBE PURGED ? Y
DRY GAS METER NO. V014	DESIRED FLOW RATE (Lpm) 1.0
RUN NO. R2A	DESIRED SAMPLE VOLUME (dsL) 20
SORBENT TUBE NO'S. 2017-16-20 ABC	DGM PRESSURE, in. H_2O 1.8
Train Leak Check -- INITIAL VACUUM (in. Hg): 15	Leak Rate : 0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg): 5	Leak Rate : 0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	0900	1.0	9069.13	130	-4	3	5
5	0905	1.0	9073.62	129	-4	3	5
10	0910	1.0	9078.30	131	-3	3	5
15	0915	1.0	9083.51	130	-3	3	5
20	0920	1.0	9088.29	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO. 60163411, Task 200	DATE 1/13/11
CLIENT Norlite Corporation	OPERATOR R. Burns
FACILITY Cohoes, NY	BAR. PRESSURE, in. Hg 30.05
SOURCE Kiln # 1	PROBE LENGTH (ft) 3
SAMPLING LOCATION Exhaust Stack	DESIRED PROBE TEMP. 130°C ± 5°C
METER CALIBRATION FACTOR (Y) 1.0577	PROBE PURGED ? Y
DRY GAS METER NO. V014	DESIRED FLOW RATE (Lpm) 1.0
RUN NO. R2B	DESIRED SAMPLE VOLUME (dsL) 20
SORBENT TUBE NO'S. 2017:16-19AB-C	DGM PRESSURE, in. H_2O 1.8
Train Leak Check -- INITIAL VACUUM (in. Hg): 15	Leak Rate : 0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg): 5	Leak Rate : 0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	DRY GAS METER (°C or °F)	TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	0928	1.0	9089.11	131	-2	3	5
5	0933	1.0	9094.61	131	-2	3	5
10	0938	1.0	9098.71	130	-2	4	5
15	0943	1.0	9103.55	136	-1	4	5
20	0948	1.0	9108.49	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO.	60163411, Task 200	DATE	1/13/11
CLIENT	Norlite Corporation	OPERATOR	R. Burns
FACILITY	Cohoes, NY	BAR. PRESSURE, in. Hg	30.05
SOURCE	Kiln # 1	PROBE LENGTH (ft)	3'
SAMPLING LOCATION	Exhaust Stack	DESIRED PROBE TEMP.	130°C ± 5°C
METER CALIBRATION FACTOR (Y)	1.0577	PROBE PURGED ?	X
DRY GAS METER NO.	V014	DESIRED FLOW RATE (Lpm)	1.0
RUN NO.	RBC	DESIRED SAMPLE VOLUME (dsL)	20
SORBENT TUBE NO'S.	2017-16 ~~1235~~ ABC	DGM PRESSURE, in. H_2O	
Train Leak Check -- INITIAL VACUUM (in. Hg):	15	Leak Rate :	0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg):	8	Leak Rate :	0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (RB) (24-hr)	FLOW RATE (Lpm)	GAS METER READING (RB) (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	~~1006~~ 1014	1.0	~~9109.20~~ 9110.27	130	-2	3	7
5	1019	1.0	9115.31	130	-2	3	7
10	1024	1.0	9120.01	129	-2	3	6
15	1029	1.0	9124.60	130	-2	3	6
20	1034	1.0	9129.40	—	—	—	—

COMMENTS : First pair of "C" tubes could only draw 0.25 Lpm
Swapped out @ 1 min into run and discarded

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO. 60163411, Task 200	DATE 1/13/11
CLIENT Norlite Corporation	OPERATOR R. Burns
FACILITY Cohoes, NY	BAR. PRESSURE, in. Hg 30.05
SOURCE Kiln # 1	PROBE LENGTH (ft) 3'
SAMPLING LOCATION Exhaust Stack	DESIRED PROBE TEMP. 130°C ± 5°C
METER CALIBRATION FACTOR (Y) 1.0577	PROBE PURGED ? Y
DRY GAS METER NO. V014	DESIRED FLOW RATE (Lpm) 1.0
RUN NO. R2D	DESIRED SAMPLE VOLUME (dsL) 20
SORBENT TUBE NO'S. 2017-16-22 ABC	DGM PRESSURE, in. H_2O 1.8
Train Leak Check – INITIAL VACUUM (in. Hg): 16	Leak Rate : 0.0 in. Hg in 60 sec.
Train Leak Check – FINAL VACUUM (in. Hg): 5	Leak Rate : 0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1041	1.0	9129.80	131	-1	3	5
5	1046	1.0	9134.63	130	-1	3	5
10	1051	1.0	9138.50	130	0	4	5
15	1056	1.0	9144.22	131	0	4	5
20	1101	1.0	9149.00	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO.	60163411, Task 200	DATE	1/13/11
CLIENT	Norlite Corporation	OPERATOR	R. Burns
FACILITY	Cohoes, NY	BAR. PRESSURE, in. Hg	30.0
SOURCE	Kiln # 1	PROBE LENGTH (ft)	3'
SAMPLING LOCATION	Exhaust Stack	DESIRED PROBE TEMP.	130°C ± 5°C
METER CALIBRATION FACTOR (Y)	1.0577	PROBE PURGED ?	Y
DRY GAS METER NO.	V014	DESIRED FLOW RATE (Lpm)	1.0
RUN NO.	R3A	DESIRED SAMPLE VOLUME (dsL)	20
SORBENT TUBE NO'S.	2017-16-11 A·B·C	DGM PRESSURE, in. H_2O	1.8
Train Leak Check -- INITIAL VACUUM (in. Hg):	16	Leak Rate :	0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg):	5	Leak Rate :	in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1230	1.0	9149.42	130	0	4	5
5	1235	1.0	9154.76	131	-2	4	5
10	1240	1.0	9158.55	130	-2	4	5
15	1245	1.0	9163.52	131	-2	4	5
20	1250	1.0	9168.31	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO.	60163411, Task 200	DATE	1/13/11
CLIENT	Norlite Corporation	OPERATOR	R. Burns
FACILITY	Cohoes, NY	BAR. PRESSURE, in. Hg	30.0
SOURCE	Kiln # 1	PROBE LENGTH (ft)	3'
SAMPLING LOCATION	Exhaust Stack	DESIRED PROBE TEMP.	130°C ± 5°C
METER CALIBRATION FACTOR (Y)	1.0577	PROBE PURGED ?	Y
DRY GAS METER NO.	V014	DESIRED FLOW RATE (Lpm)	1.0
RUN NO.	R3B	DESIRED SAMPLE VOLUME (dsL)	20
SORBENT TUBE NO'S.	2017-16-09 A-B-C	DGM PRESSURE, in. H_2O	1.8
Train Leak Check -- INITIAL VACUUM (in. Hg):	17	Leak Rate :	0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg):		Leak Rate :	in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1259	1.0	9168.65	130	-1	4	5
5	1304	1.0	9173.50	130	-1	4	5
10	1309	1.0	9178.31	131	-1	4	5
15	1314	1.0	9183.33	129	-1	4	5
20	1319	1.0	9188.25	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO.	60163411, Task 200	DATE	1/13/11
CLIENT	Norlite Corporation	OPERATOR	R. Burns
FACILITY	Cohoes, NY	BAR. PRESSURE, in. Hg	30.0
SOURCE	Kiln # 1	PROBE LENGTH (ft)	3'
SAMPLING LOCATION	Exhaust Stack	DESIRED PROBE TEMP.	130°C ± 5°C
METER CALIBRATION FACTOR (Y)	1.0577	PROBE PURGED ?	Y
DRY GAS METER NO.	V014	DESIRED FLOW RATE (Lpm)	1.0
RUN NO.	RBC	DESIRED SAMPLE VOLUME (dsL)	20
SORBENT TUBE NO'S.	2017-16-8 A.B.C	DGM PRESSURE, in. H_2O	1.8
Train Leak Check – INITIAL VACUUM (in. Hg):	15	Leak Rate :	0.0 in. Hg in 60 sec.
Train Leak Check – FINAL VACUUM (in. Hg):	6	Leak Rate :	0.0 in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	TEMPERATURE READINGS DRY GAS METER (°C or °F)	TEMPERATURE READINGS TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1332	1.0	9188.68	130	-1	5	5
5	1337	1.0	9193.50	131	-1	5	5
10	1342	1.0	9198.28	130	-2	6	5
15	1347	1.0	9203.03	131	-2	6	5
20	1352	1.0	9207.88	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM

VOST DATA SHEET

PROJECT NO. 60163411, Task 200	DATE 1/13/11
CLIENT Norlite Corporation	OPERATOR R Burns
FACILITY Cohoes, NY	BAR. PRESSURE, in. Hg 30.0
SOURCE Kiln # 1	PROBE LENGTH (ft) 3'
SAMPLING LOCATION Exhaust Stack	DESIRED PROBE TEMP. 130°C ± 5°C
METER CALIBRATION FACTOR (Y) 1.0577	PROBE PURGED ? Y
DRY GAS METER NO. V014	DESIRED FLOW RATE (Lpm) 1.0
RUN NO. R3D	DESIRED SAMPLE VOLUME (dsL) 20
SORBENT TUBE NO'S. 2017-16-10A, B, C	DGM PRESSURE, in. H_2O 1.8
Train Leak Check -- INITIAL VACUUM (in. Hg): 15	Leak Rate : 0.0 in. Hg in 60 sec.
Train Leak Check -- FINAL VACUUM (in. Hg): 6	Leak Rate : in. Hg in 60 sec.

ACCEPTANCE CRITERIA : Leak Rate < 2.5 mm Hg (0.1 in. Hg) after 60 sec.

SAMPLING TIME (min)	CLOCK TIME (24-hr)	FLOW RATE (Lpm)	GAS METER READING (L)	TEMPERATURE READINGS PROBE (°C or °F)	DRY GAS METER (°C or °F)	TRAP (°C or °F)	PUMP VAC. (in. Hg)
0	1426	1.0	9218.43	130	-1	4	6
5	1431	1.0	9223.22	130	-1	4	6
10	1436	1.0	9228.28	131	-2	4	6
15	1441	1.0	9233.02	129	-2	4	6
20	1446	1.0	9238.92	—	—	—	—

COMMENTS :

Laboratory Lot #:

AECOM CEM Data (January 2011 Test)

AECOM

CEMS 3A

~~ORSAT~~ ANALYSIS (EPA METHOD 3)

PLANT :	Norlite Corp. - Cohoes, NY
DATE :	01/12/11
LOCATION :	Kiln 1 Exhaust Stack
SAMPLE TYPE :	Tedlar Bag
OPERATOR :	R. Sicard

PRE-LEAK CHECK : _____
POST-LEAK CHECK : _____

NOTE:
Valid Leak Check : Liquid level must not fall below bottom of capillary tubing in 4 minutes and meniscus must not change by more than 0.2 mL in 4 minutes.

NOTES / DATA CRITERIA --

CO_2 : When greater than 4%, difference between readings shall be 0.3% or less.
When less than 4%, difference between readings shall be 0.2% or less.

O_2 : When greater than or equal to 15%, difference between readings shall be 0.2% or less.
When less than 15%, difference between readings shall be 0.3% or less.

Test Condition: CIRT

Run: 1	Reading A		Reading B		Reading C		Avg. Net Volume
GAS	Actual	Net	Actual	Net	Actual	Net	
CO_2						O_2	15.00 %
O_2 *						CO_2	4.76 %

Run: 2	Reading A		Reading B		Reading C		Avg. Net Volume
GAS	Actual	Net	Actual	Net	Actual	Net	
CO_2						CO_2	4.69 %
O_2 *						O_2	15.02 %

Run: 3	Reading A		Reading B		Reading C		Avg. Net Volume
GAS	Actual	Net	Actual	Net	Actual	Net	
CO_2				CEM data		CO_2	4.38 % 4.3
O_2 *						O_2	14.56 % 14.5

* Net O_2 is actual O_2 minus actual CO_2 reading.

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AECOM Enviormental

CORRECTED CEM MONITORING RESULTS

INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE:	Norlite Corp.	PROJECT NO.:	
SOURCE:	Kiln # 1	FILE NAME:	Run #3-CIRT
CONDITION:	100% feed Rate	DATE:	01/12/2011
RUN NUMBER:	3	RUN TIME:	09:03 to 12:04
Fd: (dscf/MMBtu) =	8,710		

	O2 %		CO2 %			
Full Scale	**20.54**		**17.99**			
Cyl. Gas Concentrations Zero/Span	0.00	10.97	0.00	9.04		
Direct Calibration Zero Response		0.01		0.00		
Direct Calibration Span Response		11.02		9.14		
Initial System Zero Response		0.02		0.01		
Initial System Span Response		11.08		9.15		
Final System Zero Response		0.03		0.02		
Final System Span Response		11.11		9.14		
Initial/Final System Bias, Zero (%)	0.05	0.10	0.06	0.11		
Initial/Final System Bias, Span (%)	0.29	0.44	0.06	0.00		
System Drift, Zero/Span (%)	0.05	0.15	0.06	-0.06		
Run Average	14.72		4.44			
Corrected Run Averages	**14.56**		**4.38**			

Emission Calculations:

COMMENTS:

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp. CONDITION: 100% feed Rate
SOURCE: Kiln # 1 RUN NUMBER: 3

Date	Time	O2 %	CO2 ppm
12-Jan-2011	09:03	14.77	4.44
12-Jan-2011	09:04	14.65	4.43
12-Jan-2011	09:05	14.49	4.59
12-Jan-2011	09:06	14.68	4.52
12-Jan-2011	09:07	14.79	4.39
12-Jan-2011	09:08	14.81	4.35
12-Jan-2011	09:09	14.83	4.32
12-Jan-2011	09:10	14.71	4.40
12-Jan-2011	09:11	14.81	4.42
12-Jan-2011	09:12	14.77	4.35
12-Jan-2011	09:13	14.76	4.41
12-Jan-2011	09:14	14.76	4.39
12-Jan-2011	09:15	14.75	4.44
12-Jan-2011	09:16	14.71	4.44
12-Jan-2011	09:17	14.87	4.40
12-Jan-2011	09:18	14.81	4.34
12-Jan-2011	09:19	14.81	4.35
12-Jan-2011	09:20	14.72	4.41
12-Jan-2011	09:21	14.69	4.46
12-Jan-2011	09:22	14.36	4.59
12-Jan-2011	09:23	14.59	4.65
12-Jan-2011	09:24	14.72	4.40
12-Jan-2011	09:25	14.56	4.50
12-Jan-2011	09:26	14.53	4.57
12-Jan-2011	09:27	14.52	4.55
12-Jan-2011	09:28	14.54	4.58
12-Jan-2011	09:29	14.62	4.50
12-Jan-2011	09:30	14.57	4.53
12-Jan-2011	09:31	14.59	4.56
12-Jan-2011	09:32	14.63	4.52
12-Jan-2011	09:33	14.58	4.51
12-Jan-2011	09:34	14.74	4.54
12-Jan-2011	09:35	14.73	4.45
12-Jan-2011	09:36	14.67	4.47
12-Jan-2011	09:37	14.67	4.46
12-Jan-2011	09:38	14.68	4.49
12-Jan-2011	09:39	14.58	4.49
12-Jan-2011	09:40	14.62	4.55
12-Jan-2011	09:41	14.70	4.47
12-Jan-2011	09:42	14.64	4.45
12-Jan-2011	09:43	14.66	4.47
12-Jan-2011	09:44	14.56	4.52
12-Jan-2011	09:45	14.43	4.63
12-Jan-2011	09:46	14.32	4.75
12-Jan-2011	09:47	14.66	4.63
12-Jan-2011	09:48	15.18	4.14
12-Jan-2011	09:49	14.65	4.38
12-Jan-2011	09:50	14.59	4.52
12-Jan-2011	09:51	14.69	4.50
12-Jan-2011	09:52	14.83	4.37
12-Jan-2011	09:53	14.80	4.36
12-Jan-2011	09:54	14.82	4.34
12-Jan-2011	09:55	14.60	4.47
12-Jan-2011	09:56	14.64	4.51
12-Jan-2011	09:57	14.56	4.53
12-Jan-2011	09:58	14.74	4.48
12-Jan-2011	09:59	14.79	4.38
12-Jan-2011	10:00	14.72	4.42
12-Jan-2011	10:01	14.75	4.44
12-Jan-2011	10:02	14.82	4.41
12-Jan-2011	10:03	14.77	4.41
12-Jan-2011	10:04	14.87	4.34
12-Jan-2011	10:05	14.81	4.36
12-Jan-2011	10:06	14.94	4.33

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1
CONDITION: 100% feed Rate
RUN NUMBER: 3

Date	Time	O2 %	CO2 ppm
12-Jan-2011	10:07	14.85	4.28
12-Jan-2011	10:08	14.67	4.39
12-Jan-2011	10:09	14.81	4.41
12-Jan-2011	10:10	14.75	4.42
12-Jan-2011	10:11	14.72	4.44
12-Jan-2011	10:12	14.56	4.52
12-Jan-2011	10:13	14.52	4.58
12-Jan-2011	10:14	14.56	4.53
12-Jan-2011	10:15	14.59	4.56
12-Jan-2011	10:16	14.64	4.50
12-Jan-2011	10:17	14.85	4.43
12-Jan-2011	10:18	14.94	4.29
12-Jan-2011	10:19	14.83	4.34
12-Jan-2011	10:20	14.82	4.40
12-Jan-2011	10:21	14.87	4.34
12-Jan-2011	10:22	14.85	4.35
12-Jan-2011	10:23	14.82	4.38
12-Jan-2011	10:24	14.89	4.32
12-Jan-2011	10:25	14.95	4.31
12-Jan-2011	10:26	15.00	4.22
12-Jan-2011	10:27	14.58	4.28
12-Jan-2011	10:28	14.57	4.48
12-Jan-2011	10:29	14.58	4.55
12-Jan-2011	10:30	14.50	4.62
12-Jan-2011	10:31	14.53	4.63
12-Jan-2011	10:32	14.75	4.51
12-Jan-2011	10:33	14.69	4.41
12-Jan-2011	10:34	14.54	4.54
12-Jan-2011	10:35	14.43	4.64
12-Jan-2011	10:36	14.54	4.61
12-Jan-2011	10:37	14.45	4.66
12-Jan-2011	10:38	14.53	4.59
12-Jan-2011	10:39	14.47	4.61
12-Jan-2011	10:40	14.37	4.70
12-Jan-2011	10:41	14.34	4.76
12-Jan-2011	10:42	14.53	4.64
12-Jan-2011	10:43	14.61	4.53
12-Jan-2011	10:44	14.59	4.50
12-Jan-2011	10:45	14.47	4.65
12-Jan-2011	10:46	14.46	4.69
12-Jan-2011	10:47	14.54	4.66
12-Jan-2011	10:48	13.99	4.86
12-Jan-2011	10:49	13.66	5.23
12-Jan-2011	10:50	14.31	4.95
12-Jan-2011	10:51	14.66	4.61
12-Jan-2011	10:52	14.76	4.46
12-Jan-2011	10:53	14.78	4.24
12-Jan-2011	10:54	14.82	4.35
12-Jan-2011	10:55	14.76	4.43
12-Jan-2011	10:56	14.89	4.36
12-Jan-2011	10:57	14.93	4.26
12-Jan-2011	10:58	15.10	4.16
12-Jan-2011	10:59	15.15	4.08
12-Jan-2011	11:00	15.04	4.15
12-Jan-2011	11:01	15.07	4.15
12-Jan-2011	11:02	15.17	4.13
12-Jan-2011	11:03	15.13	4.02
12-Jan-2011	11:04	14.78	4.18
12-Jan-2011	11:05	14.69	4.36
12-Jan-2011	11:06	14.65	4.49
12-Jan-2011	11:07	14.72	4.46
12-Jan-2011	11:08	14.68	4.48
12-Jan-2011	11:09	14.98	4.34
12-Jan-2011	11:10	14.94	4.25

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1
CONDITION: 100% feed Rate
RUN NUMBER: 3

Date	Time	O2 %	CO2 ppm
12-Jan-2011	11:11	15.00	4.22
12-Jan-2011	11:12	14.96	4.23
12-Jan-2011	11:13	14.47	4.50
12-Jan-2011	11:14	14.81	4.50
12-Jan-2011	11:15	14.78	4.39
12-Jan-2011	11:16	14.75	4.45
12-Jan-2011	11:17	14.71	4.48
12-Jan-2011	11:18	14.78	4.41
12-Jan-2011	11:19	14.76	4.41
12-Jan-2011	11:20	14.70	4.45
12-Jan-2011	11:21	14.69	4.47
12-Jan-2011	11:22	14.61	4.49
12-Jan-2011	11:23	14.74	4.44
12-Jan-2011	11:24	14.74	4.43
12-Jan-2011	11:25	14.69	4.46
12-Jan-2011	11:26	14.63	4.49
12-Jan-2011	11:27	14.55	4.59
12-Jan-2011	11:28	14.62	4.54
12-Jan-2011	11:29	14.62	4.50
12-Jan-2011	11:30	14.62	4.53
12-Jan-2011	11:31	14.72	4.52
12-Jan-2011	11:32	14.89	4.37
12-Jan-2011	11:33	14.62	4.42
12-Jan-2011	11:34	14.78	4.41
12-Jan-2011	11:35	14.58	4.49
12-Jan-2011	11:36	14.86	4.46
12-Jan-2011	11:37	14.80	4.37
12-Jan-2011	11:38	14.81	4.37
12-Jan-2011	11:39	14.94	4.28
12-Jan-2011	11:40	14.93	4.25
12-Jan-2011	11:41	14.97	4.23
12-Jan-2011	11:42	14.94	4.26
12-Jan-2011	11:43	15.01	4.23
12-Jan-2011	11:44	14.91	4.20
12-Jan-2011	11:45	14.81	4.35
12-Jan-2011	11:46	14.88	4.34
12-Jan-2011	11:47	14.96	4.29
12-Jan-2011	11:48	14.85	4.33
12-Jan-2011	11:49	14.81	4.37
12-Jan-2011	11:50	14.73	4.43
12-Jan-2011	11:51	14.85	4.36
12-Jan-2011	11:52	14.77	4.38
12-Jan-2011	11:53	14.77	4.40
12-Jan-2011	11:54	14.85	4.34
12-Jan-2011	11:55	14.84	4.35
12-Jan-2011	11:56	14.86	4.35
12-Jan-2011	11:57	14.77	4.38
12-Jan-2011	11:58	14.78	4.43
12-Jan-2011	11:59	14.89	4.36
12-Jan-2011	12:00	14.48	4.47
12-Jan-2011	12:01	14.57	4.68
12-Jan-2011	12:02	14.76	4.42
12-Jan-2011	12:03	15.00	4.32
12-Jan-2011	12:04	14.94	4.22
AVERAGES:		14.72	4.44

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	Norlite Corp.
Location:	Cohoes, NY.
Date:	01/12/11
Day:	Wednesday

Project No.: 60163411.200

Performed By: Robert Sicard

Kiln # 1

Run #	Run Time
	07:35

Type of Calibration

Direct: **System:** THC

Initial: **Final:**

	← Direct Cal →				← Start of Day →			
Instrument	**1**		**2**		**3**		**4**	
	Conc.	**Response**	**Conc.**	**Response**	**Conc.**	**Response**	**Conc.**	**Response**
O2	0.00	0.01	20.54	20.60	10.97	11.02		
CO2	0.00	0.00	17.99	18.10	9.04	9.14		
THC	0.00	0.02	85.40	85.46	45.50	45.68	25.10	25.32

Instrument	**O2**	**CO2**	**THC**					
Scale	**0-25%**	**0-20%**	**0-100 ppm**					

CEM #2 C:\WBW\DATA\MASTERS\[calsheetdir.xls]A

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	**Norlite Corp.**
Location:	Cohoes, NY.
Date:	01/12/11
Day:	Wednesday

Project No.: 60163911.200

Performed By: Robert Sicard

Kiln # 1

Run #	Run Time
1	09:03 To 12:04
	no THC data

Type of Calibration

Direct: **System:** ⊗

Initial: ⊗ **Final:** ⊗

Run #3 Dioxan

Initial Run #1 VOST

← Initial Run #1 → ← Final Run #1 →

Instrument	1		2		3		4	
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
O2	0.00	0.02	10.97	11.08	0.00	0.03	10.97	11.11
CO2	0.00	0.01	9.04	9.15	0.00	0.02	9.04	9.14
THC	0.00	0.01	45.50	45.60	0.00	0.10	45.50	45.54

Instrument	O2	CO2	THC					
Scale	0-25%	0-20%	0-100 ppm					

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetdir.xls]A

AECOM

CEMS 3A

~~ORSAT~~ ANALYSIS (EPA METHOD ~~3~~)

PLANT :	Norlite Corp. - Cohoes, NY
DATE :	
LOCATION :	Kiln 1 Exhaust Stack
SAMPLE TYPE :	Analyze ~~Tedlar Bag~~ Method 3A
OPERATOR :	R. Sicard
O2 –	Servomex Model 1400

PRE-LEAK CHECK : _____

POST-LEAK CHECK : _____

NOTE:
Valid Leak Check : Liquid level must not fall below bottom of capillary tubing in 4 minutes and meniscus must not change by more than 0.2 mL in 4 minutes.

NOTES / DATA CRITERIA --

CO_2 : When greater than 4%, difference between readings shall be 0.3% or less. When less than 4%, difference between readings shall be 0.2% or less.

O_2 : When greater than or equal to 15%, difference between readings shall be 0.2% or less. When less than 15%, difference between readings shall be 0.3% or less.

Test Condition: C1 A

Run: 1	Reading A		Reading B		Reading C		Avg. Net Volume	
GAS	Actual	Net	Actual	Net	Actual	Net		
CO_2	13:33 – 16:35 Time				Run #1	CO2	3.87	%
O_2 *						O2	15.57	%

Run: 2	Reading A		Reading B		Reading C		Avg. Net Volume	
GAS	Actual	Net	Actual	Net	Actual	Net		
CO_2	08:33 – 11:35 ~~12:00~~ – Time				Run #2	CO2	3.93	%
O_2 *						O2	16.13	%

Run: 3	Reading A		Reading B		Reading C		Avg. Net Volume	
GAS	Actual	Net	Actual	Net	Actual	Net		
CO_2	12:00 – 15:30					CO2	3.98	%
O_2 *	Time					O2	16.09	%

* Net O_2 is actual O_2 minus actual CO_2 reading.

AECOM Enviormental
CORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE:	Norlite Corp.	PROJECT NO.:	
SOURCE:	Kiln # 1	FILE NAME:	Run #1-CIA
CONDITION:	Condition 1 Run #1 (CIA)	DATE:	01/12/2011
RUN NUMBER:	1	RUN TIME:	13:33 to 16:35

	O2 %		CO2 %		THC ppm	
Full Scale	**20.54**		**17.99**		**85.40**	
Cyl. Gas Concentrations Zero/Span	0.00	10.97	0.00	9.04	0.00	45.50
Direct Calibration Zero Response		0.01		0.00		0.02
Direct Calibration Span Response		11.02		9.14		45.68
Initial System Zero Response		0.02		0.01		0.01
Initial System Span Response		11.08		9.15		45.60
Final System Zero Response		0.04		0.04		-0.04
Final System Span Response		11.14		9.12		44.59
Initial/Final System Bias, Zero (%)	0.05	0.15	0.06	0.22	-0.01	-0.07
Initial/Final System Bias, Span (%)	0.29	0.58	0.06	-0.11	-0.09	-1.28
System Drift, Zero/Span (%)	0.10	0.29	0.17	-0.17	-0.06	-1.18
Run Average	15.76		3.93		1.68	
Corrected Run Averages	**15.57**		**3.87**		**1.71**	

Emission Calculations:

COMMENTS:

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1
CONDITION: Condition 1 Run #1 (CIA)
RUN NUMBER: 1

Date	Time	O2 %	CO2 ppm	THC ppm
12-Jan-2011	13:33	15.88	3.65	1.86
12-Jan-2011	13:34	15.93	3.83	1.82
12-Jan-2011	13:35	15.92	3.83	1.84
12-Jan-2011	13:36	15.69	3.81	1.80
12-Jan-2011	13:37	15.53	3.98	1.82
12-Jan-2011	13:38	15.52	4.10	1.83
12-Jan-2011	13:39	15.50	4.11	1.85
12-Jan-2011	13:40	15.54	4.10	1.81
12-Jan-2011	13:41	15.63	4.00	1.83
12-Jan-2011	13:42	15.61	4.08	1.89
12-Jan-2011	13:43	15.77	3.95	1.86
12-Jan-2011	13:44	15.64	3.96	1.85
12-Jan-2011	13:45	15.59	4.05	1.83
12-Jan-2011	13:46	15.71	3.98	1.81
12-Jan-2011	13:47	15.66	4.01	1.84
12-Jan-2011	13:48	15.86	3.92	1.83
12-Jan-2011	13:49	15.73	3.91	1.83
12-Jan-2011	13:50	15.71	3.97	1.85
12-Jan-2011	13:51	15.80	3.92	1.81
12-Jan-2011	13:52	15.74	3.92	1.82
12-Jan-2011	13:53	15.76	3.96	1.84
12-Jan-2011	13:54	15.73	3.95	1.77
12-Jan-2011	13:55	15.69	3.98	1.81
12-Jan-2011	13:56	15.74	3.95	1.79
12-Jan-2011	13:57	15.75	3.94	1.80
12-Jan-2011	13:58	15.72	3.97	1.79
12-Jan-2011	13:59	15.65	3.98	1.77
12-Jan-2011	14:00	15.70	3.99	1.79
12-Jan-2011	14:01	15.76	3.94	1.76
12-Jan-2011	14:02	15.80	3.82	1.76
12-Jan-2011	14:03	15.95	3.84	1.77
12-Jan-2011	14:04	15.72	3.84	1.78
12-Jan-2011	14:05	15.76	3.93	1.76
12-Jan-2011	14:06	15.84	3.86	1.74
12-Jan-2011	14:07	15.86	3.86	1.75
12-Jan-2011	14:08	15.95	3.79	1.74
12-Jan-2011	14:09	15.85	3.82	1.76
12-Jan-2011	14:10	15.78	3.91	1.73
12-Jan-2011	14:11	15.87	3.84	1.73
12-Jan-2011	14:12	15.84	3.89	1.75
12-Jan-2011	14:13	15.89	3.84	1.72
12-Jan-2011	14:14	15.76	3.90	1.75
12-Jan-2011	14:15	15.74	3.96	1.73
12-Jan-2011	14:16	15.78	3.89	1.73
12-Jan-2011	14:17	15.75	3.96	1.73
12-Jan-2011	14:18	15.88	3.89	1.67
12-Jan-2011	14:19	15.88	3.80	1.69
12-Jan-2011	14:20	15.78	3.94	1.69
12-Jan-2011	14:21	15.90	3.90	1.69
12-Jan-2011	14:22	15.60	3.91	1.68
12-Jan-2011	14:23	15.62	4.08	1.65
12-Jan-2011	14:24	15.61	4.05	1.67
12-Jan-2011	14:25	15.97	3.94	1.68
12-Jan-2011	14:26	16.06	3.76	1.66
12-Jan-2011	14:27	15.95	3.77	1.68
12-Jan-2011	14:28	15.96	3.76	1.66
12-Jan-2011	14:29	15.78	3.76	1.68
12-Jan-2011	14:30	15.57	3.93	1.68
12-Jan-2011	14:31	15.66	4.00	1.66
12-Jan-2011	14:32	15.57	4.03	1.68
12-Jan-2011	14:33	15.86	3.98	1.65
12-Jan-2011	14:34	15.81	3.88	1.67
12-Jan-2011	14:35	15.76	3.91	1.67
12-Jan-2011	14:36	15.84	3.88	1.66

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1

CONDITION: Condition 1 Run #1 (CIA)
RUN NUMBER: 1

Date	Time	O2 %	CO2 ppm	THC ppm
12-Jan-2011	14:37	15.85	3.89	1.67
12-Jan-2011	14:38	15.85	3.88	1.69
12-Jan-2011	14:39	15.82	3.92	1.70
12-Jan-2011	14:40	15.90	3.85	1.67
12-Jan-2011	14:41	15.88	3.82	1.70
12-Jan-2011	14:42	15.90	3.83	1.68
12-Jan-2011	14:43	15.91	3.79	1.69
12-Jan-2011	14:44	15.93	3.81	1.72
12-Jan-2011	14:45	15.98	3.75	1.69
12-Jan-2011	14:46	15.98	3.72	1.71
12-Jan-2011	14:47	16.07	3.72	1.69
12-Jan-2011	14:48	16.20	3.60	1.68
12-Jan-2011	14:49	15.85	3.72	1.70
12-Jan-2011	14:50	15.87	3.84	1.68
12-Jan-2011	14:51	15.88	3.82	1.72
12-Jan-2011	14:52	15.80	3.90	1.68
12-Jan-2011	14:53	15.88	3.86	1.69
12-Jan-2011	14:54	15.74	3.93	1.71
12-Jan-2011	14:55	15.75	3.97	1.66
12-Jan-2011	14:56	15.77	3.89	1.73
12-Jan-2011	14:57	15.62	4.01	1.73
12-Jan-2011	14:58	15.74	3.99	1.70
12-Jan-2011	14:59	15.65	3.99	1.69
12-Jan-2011	15:00	15.61	4.04	1.68
12-Jan-2011	15:01	15.75	3.97	1.70
12-Jan-2011	15:02	15.71	4.00	1.67
12-Jan-2011	15:03	15.76	3.96	1.69
12-Jan-2011	15:04	15.51	4.10	1.67
12-Jan-2011	15:05	15.57	4.10	1.68
12-Jan-2011	15:06	15.74	3.99	1.70
12-Jan-2011	15:07	15.70	3.98	1.70
12-Jan-2011	15:08	15.69	3.99	1.70
12-Jan-2011	15:09	15.70	3.99	1.67
12-Jan-2011	15:10	15.66	3.99	1.70
12-Jan-2011	15:11	15.73	3.97	1.69
12-Jan-2011	15:12	15.76	3.97	1.66
12-Jan-2011	15:13	15.75	3.95	1.71
12-Jan-2011	15:14	15.75	3.96	1.68
12-Jan-2011	15:15	15.81	3.91	1.70
12-Jan-2011	15:16	15.87	3.88	1.70
12-Jan-2011	15:17	15.86	3.87	1.67
12-Jan-2011	15:18	15.84	3.89	1.68
12-Jan-2011	15:19	15.87	3.86	1.65
12-Jan-2011	15:20	15.87	3.87	1.66
12-Jan-2011	15:21	15.88	3.81	1.66
12-Jan-2011	15:22	15.88	3.85	1.66
12-Jan-2011	15:23	15.97	3.78	1.71
12-Jan-2011	15:24	16.03	3.76	1.69
12-Jan-2011	15:25	16.02	3.69	1.68
12-Jan-2011	15:26	16.21	3.70	1.69
12-Jan-2011	15:27	16.20	3.56	1.68
12-Jan-2011	15:28	15.66	3.94	1.68
12-Jan-2011	15:29	15.69	3.97	1.69
12-Jan-2011	15:30	15.58	4.04	1.72
12-Jan-2011	15:31	15.65	4.03	1.71
12-Jan-2011	15:32	15.60	4.03	1.74
12-Jan-2011	15:33	15.63	4.05	1.74
12-Jan-2011	15:34	15.64	4.00	1.72
12-Jan-2011	15:35	15.71	4.01	1.75
12-Jan-2011	15:36	15.69	3.98	1.72
12-Jan-2011	15:37	15.65	4.01	1.75
12-Jan-2011	15:38	15.69	4.00	1.75
12-Jan-2011	15:39	15.72	3.99	1.74
12-Jan-2011	15:40	15.59	4.02	1.76

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1
CONDITION: Condition 1 Run #1 (CIA)
RUN NUMBER: 1

Date	Time	O2 %	CO2 ppm	THC ppm
12-Jan-2011	15:41	15.74	4.02	1.73
12-Jan-2011	15:42	15.87	3.88	1.77
12-Jan-2011	15:43	15.81	3.91	1.77
12-Jan-2011	15:51	15.61	4.01	1.69
12-Jan-2011	15:52	15.61	4.00	1.64
12-Jan-2011	15:53	15.73	3.98	1.63
12-Jan-2011	15:54	15.69	3.97	1.63
12-Jan-2011	15:55	15.51	4.07	1.56
12-Jan-2011	15:56	15.67	4.05	1.58
12-Jan-2011	15:57	15.62	4.01	1.56
12-Jan-2011	15:58	15.66	4.05	1.57
12-Jan-2011	15:59	15.67	4.01	1.57
12-Jan-2011	16:00	15.55	4.09	1.57
12-Jan-2011	16:01	15.67	4.05	1.58
12-Jan-2011	16:02	15.66	4.01	1.56
12-Jan-2011	16:03	15.68	4.03	1.56
12-Jan-2011	16:04	15.85	3.92	1.54
12-Jan-2011	16:05	15.64	3.99	1.57
12-Jan-2011	16:06	15.80	3.97	1.57
12-Jan-2011	16:07	15.83	3.91	1.58
12-Jan-2011	16:08	15.80	3.94	1.58
12-Jan-2011	16:09	15.87	3.91	1.55
12-Jan-2011	16:10	15.80	3.92	1.55
12-Jan-2011	16:11	15.82	3.93	1.55
12-Jan-2011	16:12	15.85	3.89	1.56
12-Jan-2011	16:13	15.72	3.96	1.54
12-Jan-2011	16:14	15.85	3.91	1.51
12-Jan-2011	16:15	15.69	3.97	1.53
12-Jan-2011	16:16	15.81	3.96	1.52
12-Jan-2011	16:17	15.75	3.93	1.52
12-Jan-2011	16:18	15.73	4.00	1.52
12-Jan-2011	16:19	15.84	3.95	1.50
12-Jan-2011	16:20	15.55	4.06	1.53
12-Jan-2011	16:21	15.61	4.11	1.53
12-Jan-2011	16:22	15.70	4.01	1.56
12-Jan-2011	16:23	15.61	4.05	1.56
12-Jan-2011	16:24	15.70	4.03	1.51
12-Jan-2011	16:25	15.51	4.09	1.55
12-Jan-2011	16:26	15.56	4.16	1.52
12-Jan-2011	16:27	15.66	4.06	1.53
12-Jan-2011	16:28	15.71	4.01	1.54
12-Jan-2011	16:29	15.82	3.95	1.49
12-Jan-2011	16:30	15.80	3.93	1.50
12-Jan-2011	16:31	15.76	3.98	1.51
12-Jan-2011	16:32	15.85	3.93	1.51
12-Jan-2011	16:33	16.00	3.83	1.52
12-Jan-2011	16:34	15.84	3.86	1.50
12-Jan-2011	16:35	15.64	3.99	1.56
AVERAGES:		15.76	3.93	1.68

AECOM Enviormental
CORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE:	Norlite Corp.	PROJECT NO.:	
SOURCE:	Kiln # 1	FILE NAME:	Run #2-CIA
CONDITION:	Condition 1 Run #2 (CIA)	DATE:	01/13/2011
RUN NUMBER:	2	RUN TIME:	08:33 to 11:35

	O2 %		CO2 %		THC ppm		
Full Scale	**20.54**		**17.99**		**85.40**		
Cyl. Gas Concentrations Zero/Span	0.00	10.97	0.00	9.04	0.00	45.50	
Direct Calibration Zero Response		-0.01		0.00		0.00	
Direct Calibration Span Response		11.01		9.01		45.38	
Initial System Zero Response		0.00		0.01		0.00	
Initial System Span Response		11.00		8.98		45.40	
Final System Zero Response		0.02		0.02		0.03	
Final System Span Response		11.01		8.96		45.54	
Initial/Final System Bias, Zero (%)	0.05	0.15	0.06	0.11	0.00	0.04	
Initial/Final System Bias, Span (%)	-0.05	0.00	-0.17	-0.28	0.02	0.19	
System Drift, Zero/Span (%)	0.10	0.05	0.06	-0.11	0.04	0.16	
Run Average	16.18		3.91		1.82		
Corrected Run Averages	**16.13**		**3.93**		**1.81**		

Emission Calculations:

COMMENTS:

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1
CONDITION: Condition 1 Run #2 (CIA)
RUN NUMBER: 2

Date	Time	O2 %	CO2 ppm	THC ppm
13-Jan-2011	08:33	16.06	4.00	1.77
13-Jan-2011	08:34	16.13	3.95	1.78
13-Jan-2011	08:35	16.16	3.89	1.80
13-Jan-2011	08:36	16.06	3.91	1.81
13-Jan-2011	08:37	16.02	3.99	1.79
13-Jan-2011	08:38	16.11	3.95	1.79
13-Jan-2011	08:39	15.98	3.99	1.83
13-Jan-2011	08:40	16.03	3.99	1.81
13-Jan-2011	08:41	16.15	3.92	1.81
13-Jan-2011	08:42	16.15	3.92	1.80
13-Jan-2011	08:43	16.19	3.87	1.82
13-Jan-2011	08:44	16.03	3.95	1.81
13-Jan-2011	08:45	16.05	3.98	1.82
13-Jan-2011	08:46	16.10	3.95	1.80
13-Jan-2011	08:47	16.16	3.93	1.78
13-Jan-2011	08:48	15.94	3.83	1.77
13-Jan-2011	08:49	15.67	3.92	1.71
13-Jan-2011	08:50	15.91	4.15	1.80
13-Jan-2011	08:51	16.00	4.03	1.78
13-Jan-2011	08:52	15.93	4.07	1.78
13-Jan-2011	08:53	15.98	4.07	1.77
13-Jan-2011	08:54	15.99	4.04	1.78
13-Jan-2011	08:55	15.94	4.04	1.77
13-Jan-2011	08:56	16.01	4.04	1.77
13-Jan-2011	08:57	15.91	4.07	1.78
13-Jan-2011	08:58	15.96	4.05	1.78
13-Jan-2011	08:59	15.98	4.05	1.76
13-Jan-2011	09:00	16.11	3.96	1.78
13-Jan-2011	09:01	16.11	3.93	1.80
13-Jan-2011	09:02	16.07	3.97	1.79
13-Jan-2011	09:03	16.23	3.88	1.78
13-Jan-2011	09:04	15.98	3.97	1.77
13-Jan-2011	09:05	16.02	4.04	1.80
13-Jan-2011	09:06	16.17	3.93	1.77
13-Jan-2011	09:07	16.10	3.93	1.76
13-Jan-2011	09:08	16.12	3.94	1.76
13-Jan-2011	09:09	16.14	3.93	1.74
13-Jan-2011	09:10	16.14	3.89	1.77
13-Jan-2011	09:11	16.13	3.90	1.78
13-Jan-2011	09:12	16.12	3.93	1.79
13-Jan-2011	09:13	16.22	3.87	1.80
13-Jan-2011	09:14	16.07	3.96	1.80
13-Jan-2011	09:15	16.10	3.97	1.81
13-Jan-2011	09:16	16.16	3.91	1.78
13-Jan-2011	09:17	16.21	3.90	1.81
13-Jan-2011	09:18	16.29	3.81	1.79
13-Jan-2011	09:19	16.29	3.80	1.79
13-Jan-2011	09:20	16.32	3.78	1.82
13-Jan-2011	09:21	16.33	3.77	1.78
13-Jan-2011	09:22	16.37	3.76	1.77
13-Jan-2011	09:23	16.42	3.67	1.76
13-Jan-2011	09:24	16.22	3.80	1.78
13-Jan-2011	09:25	16.15	3.89	1.77
13-Jan-2011	09:26	16.19	3.88	1.73
13-Jan-2011	09:27	16.19	3.91	1.78
13-Jan-2011	09:28	16.21	3.89	1.74
13-Jan-2011	09:29	16.28	3.82	1.76
13-Jan-2011	09:30	16.26	3.81	1.76
13-Jan-2011	09:31	16.28	3.80	1.75
13-Jan-2011	09:32	16.29	3.85	1.75
13-Jan-2011	09:33	16.45	3.75	1.75
13-Jan-2011	09:34	16.27	3.78	1.75
13-Jan-2011	09:35	16.21	3.85	1.75
13-Jan-2011	09:36	16.09	3.96	1.76

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp. CONDITION: Condition 1 Run #2 (CIA)
SOURCE: Kiln # 1 RUN NUMBER: 2

Date	Time	O2 %	CO2 ppm	THC ppm
13-Jan-2011	09:37	16.10	3.98	1.77
13-Jan-2011	09:38	16.18	3.92	1.75
13-Jan-2011	09:39	16.23	3.84	1.79
13-Jan-2011	09:40	16.26	3.88	1.79
13-Jan-2011	09:41	16.30	3.82	1.79
13-Jan-2011	09:42	16.26	3.82	1.80
13-Jan-2011	09:43	16.26	3.84	1.79
13-Jan-2011	09:44	16.24	3.81	1.81
13-Jan-2011	09:45	16.20	3.89	1.80
13-Jan-2011	09:46	16.23	3.85	1.83
13-Jan-2011	09:47	16.28	3.89	1.82
13-Jan-2011	09:48	16.33	3.80	1.80
13-Jan-2011	09:49	16.28	3.82	1.83
13-Jan-2011	09:50	16.25	3.83	1.81
13-Jan-2011	09:51	16.16	3.85	1.82
13-Jan-2011	09:52	16.11	3.96	1.83
13-Jan-2011	09:53	16.17	3.96	1.84
13-Jan-2011	09:54	16.17	3.93	1.85
13-Jan-2011	09:55	16.23	3.86	1.83
13-Jan-2011	09:56	16.28	3.82	1.86
13-Jan-2011	09:57	16.23	3.88	1.85
13-Jan-2011	09:58	16.30	3.82	1.83
13-Jan-2011	09:59	16.25	3.83	1.85
13-Jan-2011	10:00	16.22	3.87	1.84
13-Jan-2011	10:01	16.24	3.88	1.83
13-Jan-2011	10:02	16.24	3.88	1.84
13-Jan-2011	10:03	16.14	3.89	1.86
13-Jan-2011	10:04	16.13	3.99	1.82
13-Jan-2011	10:05	16.21	3.90	1.81
13-Jan-2011	10:06	16.27	3.85	1.83
13-Jan-2011	10:07	16.21	3.89	1.82
13-Jan-2011	10:08	16.32	3.85	1.84
13-Jan-2011	10:09	16.26	3.86	1.82
13-Jan-2011	10:10	16.24	3.87	1.82
13-Jan-2011	10:11	16.29	3.82	1.81
13-Jan-2011	10:12	16.33	3.80	1.82
13-Jan-2011	10:13	16.27	3.85	1.85
13-Jan-2011	10:14	16.17	3.89	1.82
13-Jan-2011	10:15	16.02	3.99	1.83
13-Jan-2011	10:16	16.05	4.00	1.85
13-Jan-2011	10:17	16.05	4.06	1.84
13-Jan-2011	10:18	16.23	3.96	1.84
13-Jan-2011	10:19	16.14	3.94	1.83
13-Jan-2011	10:20	16.19	3.94	1.84
13-Jan-2011	10:21	16.17	3.91	1.83
13-Jan-2011	10:22	16.16	3.95	1.83
13-Jan-2011	10:23	16.21	3.91	1.86
13-Jan-2011	10:24	16.12	3.98	1.85
13-Jan-2011	10:25	16.46	3.86	1.84
13-Jan-2011	10:26	16.39	3.72	1.84
13-Jan-2011	10:27	16.23	3.85	1.86
13-Jan-2011	10:28	16.46	3.80	1.86
13-Jan-2011	10:29	16.49	3.70	1.85
13-Jan-2011	10:30	16.46	3.70	1.86
13-Jan-2011	10:31	16.34	3.70	1.85
13-Jan-2011	10:32	16.06	3.87	1.88
13-Jan-2011	10:33	16.19	3.91	1.89
13-Jan-2011	10:34	16.16	3.93	1.85
13-Jan-2011	10:35	16.09	3.93	1.86
13-Jan-2011	10:36	15.91	4.04	1.86
13-Jan-2011	10:37	15.90	4.16	1.87
13-Jan-2011	10:38	16.04	4.07	1.88
13-Jan-2011	10:39	15.65	4.14	1.87
13-Jan-2011	10:40	15.96	4.20	1.90

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1

CONDITION: Condition 1 Run #2 (CIA)
RUN NUMBER: 2

Date	Time	O2 %	CO2 ppm	THC ppm
13-Jan-2011	10:41	16.02	4.06	1.87
13-Jan-2011	10:42	15.98	4.06	1.88
13-Jan-2011	10:43	16.01	4.05	1.89
13-Jan-2011	10:44	15.98	4.06	1.88
13-Jan-2011	10:45	16.05	4.03	1.90
13-Jan-2011	10:46	16.26	3.95	1.86
13-Jan-2011	10:47	16.51	3.78	1.87
13-Jan-2011	10:48	16.52	3.66	1.88
13-Jan-2011	10:49	16.49	3.68	1.85
13-Jan-2011	10:50	16.56	3.65	1.85
13-Jan-2011	10:51	16.20	3.75	1.85
13-Jan-2011	10:52	15.94	4.05	1.88
13-Jan-2011	10:53	16.02	4.09	1.84
13-Jan-2011	10:54	16.24	3.94	1.84
13-Jan-2011	10:55	16.16	3.93	1.85
13-Jan-2011	10:56	16.11	3.95	1.82
13-Jan-2011	10:57	16.10	4.00	1.84
13-Jan-2011	10:58	16.12	3.98	1.88
13-Jan-2011	10:59	16.08	4.00	1.89
13-Jan-2011	11:00	16.17	3.98	1.88
13-Jan-2011	11:01	16.21	3.91	1.88
13-Jan-2011	11:02	16.26	3.96	1.90
13-Jan-2011	11:03	16.40	3.82	1.87
13-Jan-2011	11:04	16.36	3.71	1.87
13-Jan-2011	11:05	16.17	3.98	1.88
13-Jan-2011	11:06	16.21	3.89	1.86
13-Jan-2011	11:07	16.34	3.83	1.87
13-Jan-2011	11:08	16.29	3.80	1.84
13-Jan-2011	11:09	16.30	3.82	1.86
13-Jan-2011	11:10	16.16	3.89	1.85
13-Jan-2011	11:11	16.13	3.93	1.85
13-Jan-2011	11:12	16.13	3.93	1.87
13-Jan-2011	11:13	16.48	3.86	1.85
13-Jan-2011	11:14	16.07	3.83	1.87
13-Jan-2011	11:15	16.21	3.91	1.86
13-Jan-2011	11:16	16.22	3.88	1.84
13-Jan-2011	11:17	16.19	3.90	1.86
13-Jan-2011	11:18	16.30	3.84	1.86
13-Jan-2011	11:19	16.18	3.91	1.86
13-Jan-2011	11:20	16.19	3.92	1.86
13-Jan-2011	11:21	16.17	3.92	1.87
13-Jan-2011	11:22	16.20	3.93	1.86
13-Jan-2011	11:23	16.23	3.87	1.83
13-Jan-2011	11:24	16.17	3.92	1.85
13-Jan-2011	11:25	16.13	3.94	1.83
13-Jan-2011	11:26	16.23	3.89	1.85
13-Jan-2011	11:27	16.19	3.89	1.84
13-Jan-2011	11:28	16.19	3.91	1.87
13-Jan-2011	11:29	16.13	3.98	1.89
13-Jan-2011	11:30	16.24	3.89	1.86
13-Jan-2011	11:31	16.40	3.81	1.87
13-Jan-2011	11:32	16.32	3.76	1.88
13-Jan-2011	11:33	16.16	3.89	1.86
13-Jan-2011	11:34	16.20	3.94	1.88
13-Jan-2011	11:35	16.24	3.87	1.88
AVERAGES:		16.18	3.91	1.82

AECOM Enviormental

CORRECTED CEM MONITORING RESULTS

INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE:	Norlite Corp.	PROJECT NO.:	
SOURCE:	Kiln # 1	FILE NAME:	Run #3-CIA
CONDITION:	Condition 1 Run #3 (CIA)	DATE:	01/13/2011
RUN NUMBER:	3	RUN TIME:	12:00 to 15:30

	O2 %		CO2 %		THC ppm	
Full Scale	**20.54**		**17.99**		**85.40**	
Cyl. Gas Concentrations Zero/Span	0.00	10.97	0.00	9.04	0.00	45.50
Direct Calibration Zero Response		-0.01		0.00		0.00
Direct Calibration Span Response		11.01		9.01		45.38
Initial System Zero Response		0.02		0.02		0.03
Initial System Span Response		11.01		8.96		45.54
Final System Zero Response		0.03		0.02		0.05
Final System Span Response		11.00		8.98		45.61
Initial/Final System Bias, Zero (%)	0.15	0.19	0.11	0.11	0.04	0.06
Initial/Final System Bias, Span (%)	0.00	-0.05	-0.28	-0.17	0.19	0.27
System Drift, Zero/Span (%)	0.05	-0.05	0.00	0.11	0.02	0.08
Run Average	16.13		3.96		1.77	
Corrected Run Averages	**16.09**		**3.98**		**1.73**	

Emission Calculations:

COMMENTS:

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp.
SOURCE: Kiln # 1
CONDITION: Condition 1 Run #3 (CIA)
RUN NUMBER: 3

Date	Time	O2 %	CO2 ppm	THC ppm
13-Jan-2011	12:00	16.39	3.76	1.77
13-Jan-2011	12:01	16.30	3.78	1.79
13-Jan-2011	12:02	16.41	3.80	1.78
13-Jan-2011	12:03	16.40	3.72	1.78
13-Jan-2011	12:04	16.32	3.79	1.74
13-Jan-2011	12:05	16.30	3.80	1.76
13-Jan-2011	12:06	16.35	3.78	1.72
13-Jan-2011	12:07	16.34	3.77	1.72
13-Jan-2011	12:08	16.34	3.76	1.74
13-Jan-2011	12:09	16.30	3.80	1.74
13-Jan-2011	12:10	16.42	3.74	1.77
13-Jan-2011	12:11	16.39	3.73	1.78
13-Jan-2011	12:12	16.35	3.77	1.77
13-Jan-2011	12:13	16.44	3.72	1.76
13-Jan-2011	12:14	16.43	3.71	1.78
13-Jan-2011	12:15	16.30	3.76	1.81
13-Jan-2011	12:16	16.24	3.86	1.81
13-Jan-2011	12:17	16.32	3.78	1.81
13-Jan-2011	12:18	16.47	3.73	1.82
13-Jan-2011	12:19	16.27	3.76	1.79
13-Jan-2011	12:20	16.36	3.76	1.82
13-Jan-2011	12:21	16.34	3.75	1.81
13-Jan-2011	12:22	16.27	3.82	1.82
13-Jan-2011	12:23	16.46	3.74	1.84
13-Jan-2011	12:24	16.51	3.67	1.81
13-Jan-2011	12:25	16.61	3.58	1.82
13-Jan-2011	12:26	16.37	3.58	1.80
13-Jan-2011	12:27	15.94	4.12	1.83
13-Jan-2011	12:28	16.13	3.99	1.82
13-Jan-2011	12:29	16.15	3.95	1.81
13-Jan-2011	12:30	16.31	3.84	1.83
13-Jan-2011	12:31	16.35	3.76	1.80
13-Jan-2011	12:32	16.40	3.75	1.82
13-Jan-2011	12:33	16.47	3.71	1.78
13-Jan-2011	12:34	16.09	3.73	1.79
13-Jan-2011	12:35	16.17	3.91	1.80
13-Jan-2011	12:36	16.03	3.90	1.78
13-Jan-2011	12:37	16.11	3.97	1.81
13-Jan-2011	12:38	16.04	3.99	1.79
13-Jan-2011	12:39	16.26	3.92	1.80
13-Jan-2011	12:40	16.30	3.79	1.77
13-Jan-2011	12:41	15.88	3.91	1.77
13-Jan-2011	12:42	16.00	4.03	1.79
13-Jan-2011	12:43	16.15	3.95	1.76
13-Jan-2011	12:44	16.12	3.97	1.80
13-Jan-2011	12:45	16.31	3.92	1.78
13-Jan-2011	12:46	16.22	3.84	1.78
13-Jan-2011	12:47	16.18	3.91	1.76
13-Jan-2011	12:48	16.25	3.87	1.77
13-Jan-2011	12:49	16.11	3.92	1.80
13-Jan-2011	12:50	16.23	3.91	1.78
13-Jan-2011	12:51	16.22	3.87	1.78
13-Jan-2011	12:52	16.26	3.87	1.79
13-Jan-2011	12:53	16.28	3.83	1.78
13-Jan-2011	12:54	16.22	3.87	1.80
13-Jan-2011	12:55	16.25	3.87	1.81
13-Jan-2011	12:56	16.02	3.95	1.81
13-Jan-2011	12:57	16.21	3.95	1.80
13-Jan-2011	12:58	16.30	3.84	1.79
13-Jan-2011	12:59	16.56	3.73	1.82
13-Jan-2011	13:00	16.60	3.60	1.79
13-Jan-2011	13:01	16.09	3.75	1.78
13-Jan-2011	13:02	16.35	3.83	1.78
13-Jan-2011	13:03	16.47	3.77	1.80

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp. CONDITION: Condition 1 Run #3 (CIA)
SOURCE: Kiln # 1 RUN NUMBER: 3

Date	Time	O2 %	CO2 ppm	THC ppm
13-Jan-2011	13:04	16.36	3.74	1.77
13-Jan-2011	13:05	16.77	3.53	1.74
13-Jan-2011	13:06	16.46	3.58	1.77
13-Jan-2011	13:07	15.74	4.27	1.77
13-Jan-2011	13:08	16.68	3.65	1.76
13-Jan-2011	13:09	16.53	3.57	1.78
13-Jan-2011	13:10	15.98	4.06	1.77
13-Jan-2011	13:11	16.06	3.99	1.78
13-Jan-2011	13:12	15.92	4.21	1.76
13-Jan-2011	13:13	16.34	3.96	1.78
13-Jan-2011	13:14	15.87	3.94	1.78
13-Jan-2011	13:15	16.07	4.16	1.76
13-Jan-2011	13:16	16.13	3.98	1.79
13-Jan-2011	13:17	16.13	3.94	1.80
13-Jan-2011	13:18	16.25	3.91	1.79
13-Jan-2011	13:19	16.27	3.84	1.79
13-Jan-2011	13:20	16.42	3.79	1.80
13-Jan-2011	13:21	16.30	3.72	1.82
13-Jan-2011	13:22	16.03	3.90	1.77
13-Jan-2011	13:23	16.59	3.68	1.80
13-Jan-2011	13:24	16.20	3.66	1.78
13-Jan-2011	13:25	16.21	3.83	1.77
13-Jan-2011	13:26	16.21	3.90	1.78
13-Jan-2011	13:27	15.42	4.27	1.78
13-Jan-2011	13:28	15.36	4.59	1.80
13-Jan-2011	13:29	16.08	4.17	1.77
13-Jan-2011	13:30	16.30	3.90	1.80
13-Jan-2011	13:31	16.18	3.89	1.82
13-Jan-2011	13:32	16.05	4.00	1.80
13-Jan-2011	13:33	16.31	3.94	1.78
13-Jan-2011	13:34	16.51	3.80	1.78
13-Jan-2011	13:35	16.41	3.73	1.81
13-Jan-2011	13:36	16.24	3.86	1.81
13-Jan-2011	13:37	16.27	3.85	1.78
13-Jan-2011	13:38	16.26	3.84	1.81
13-Jan-2011	13:39	16.26	3.87	1.78
13-Jan-2011	13:40	16.31	3.84	1.76
13-Jan-2011	13:41	16.31	3.80	1.77
13-Jan-2011	13:42	16.31	3.80	1.75
13-Jan-2011	13:43	16.38	3.77	1.76
13-Jan-2011	13:44	16.41	3.76	1.72
13-Jan-2011	13:45	16.38	3.75	1.74
13-Jan-2011	13:46	16.04	3.89	1.74
13-Jan-2011	13:47	15.95	4.17	1.75
13-Jan-2011	13:48	16.14	4.00	1.75
13-Jan-2011	13:49	16.10	3.92	1.75
13-Jan-2011	13:50	16.11	3.99	1.77
13-Jan-2011	13:51	16.01	4.05	1.74
13-Jan-2011	13:52	16.13	4.03	1.74
13-Jan-2011	13:53	16.13	3.93	1.75
13-Jan-2011	13:54	16.10	4.00	1.74
13-Jan-2011	13:55	16.26	3.88	1.75
13-Jan-2011	13:56	16.15	3.92	1.72
13-Jan-2011	13:57	16.27	3.85	1.76
13-Jan-2011	13:58	16.24	3.85	1.76
13-Jan-2011	13:59	16.28	3.85	1.76
13-Jan-2011	14:00	16.31	3.83	1.77
13-Jan-2011	14:01	16.25	3.84	1.74
13-Jan-2011	14:02	16.30	3.85	1.75
13-Jan-2011	14:03	16.41	3.79	1.73
13-Jan-2011	14:04	16.25	3.82	1.74
13-Jan-2011	14:05	16.27	3.87	1.76
13-Jan-2011	14:06	16.25	3.86	1.72
13-Jan-2011	14:07	16.28	3.85	1.75

AECOM Enviormental
UNCORRECTED CEM MONITORING RESULTS
INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE: Norlite Corp. CONDITION: Condition 1 Run #3 (CIA)
SOURCE: Kiln # 1 RUN NUMBER: 3

Date	Time	O2 %	CO2 ppm	THC ppm
13-Jan-2011	14:08	16.25	3.84	1.87
13-Jan-2011	14:09	16.24	3.88	1.73
13-Jan-2011	14:10	16.74	3.62	1.73
13-Jan-2011	14:11	16.35	3.59	1.72
13-Jan-2011	14:12	16.14	3.87	1.73
13-Jan-2011	14:13	16.16	3.94	1.70
13-Jan-2011	14:14	16.15	3.95	1.71
13-Jan-2011	14:15	16.19	3.93	1.73
13-Jan-2011	14:16	16.10	3.97	1.69
13-Jan-2011	14:17	16.20	3.95	1.69
13-Jan-2011	14:18	16.40	3.81	1.69
13-Jan-2011	14:19	16.22	3.81	1.73
13-Jan-2011	14:20	16.14	3.94	1.74
13-Jan-2011	14:21	15.98	4.03	1.70
13-Jan-2011	14:22	15.98	4.06	1.72
13-Jan-2011	14:23	16.08	4.00	1.72
13-Jan-2011	14:24	15.99	4.08	1.76
13-Jan-2011	14:25	16.15	4.00	1.73
13-Jan-2011	14:26	16.15	3.92	1.73
13-Jan-2011	14:27	16.26	3.87	1.76
13-Jan-2011	14:28	15.92	3.98	1.75
13-Jan-2011	14:29	15.86	4.15	1.77
13-Jan-2011	14:30	15.75	4.26	1.77
13-Jan-2011	14:31	15.73	4.28	1.79
13-Jan-2011	14:32	15.71	4.33	1.80
13-Jan-2011	14:33	16.07	4.17	1.78
13-Jan-2011	14:34	15.93	4.12	1.81
13-Jan-2011	14:35	15.90	4.16	1.80
13-Jan-2011	14:36	15.84	4.21	1.79
13-Jan-2011	14:37	15.93	4.14	1.77
13-Jan-2011	14:38	15.86	4.16	1.80
13-Jan-2011	14:39	15.95	4.22	1.80
13-Jan-2011	14:40	15.92	4.09	1.76
13-Jan-2011	14:41	15.81	4.23	1.78
13-Jan-2011	14:42	15.92	4.18	1.77
13-Jan-2011	14:43	15.39	4.40	1.79
13-Jan-2011	14:44	15.40	4.63	1.79
13-Jan-2011	14:45	15.82	4.37	1.80
13-Jan-2011	14:46	15.67	4.26	1.81
13-Jan-2011	14:47	15.64	4.37	1.76
13-Jan-2011	14:48	15.95	4.24	1.75
13-Jan-2011	14:49	15.91	4.01	1.76
13-Jan-2011	14:50	16.29	3.83	1.74
13-Jan-2011	14:51	15.75	4.16	1.75
13-Jan-2011	14:52	15.96	4.11	1.69
13-Jan-2011	14:53	15.93	4.14	1.73
13-Jan-2011	14:54	15.90	4.19	1.74
13-Jan-2011	14:55	15.90	4.18	1.73
13-Jan-2011	14:56	15.78	4.17	1.74
13-Jan-2011	14:57	15.74	4.28	1.73
13-Jan-2011	14:58	15.64	4.36	1.74
13-Jan-2011	14:59	15.70	4.39	1.72
13-Jan-2011	15:00	15.81	4.31	1.73
13-Jan-2011	15:01	15.83	4.27	1.75
13-Jan-2011	15:02	15.67	4.30	1.74
13-Jan-2011	15:03	15.96	4.24	1.74
13-Jan-2011	15:04	15.92	4.09	1.71
13-Jan-2011	15:05	16.08	4.15	1.72
13-Jan-2011	15:06	15.99	4.09	1.75
13-Jan-2011	15:07	16.08	4.09	1.74
13-Jan-2011	15:08	16.06	3.99	1.76
13-Jan-2011	15:09	16.02	4.08	1.75
13-Jan-2011	15:10	16.14	4.00	1.77
13-Jan-2011	15:11	16.11	4.02	1.75

AECOM Enviormental

UNCORRECTED CEM MONITORING RESULTS

INSTRUMENTAL REFERENCE METHODS - 3A, 6C, 7E, 10 & 25A

CLIENT: / SITE:	Norlite Corp.	CONDITION:	Condition 1 Run #3 (CIA)
SOURCE:	Kiln # 1	RUN NUMBER:	3

Date	Time	O2 %	CO2 ppm	THC ppm
13-Jan-2011	15:12	15.84	4.08	1.75
13-Jan-2011	15:13	15.80	4.20	1.78
13-Jan-2011	15:14	15.75	4.33	1.75
13-Jan-2011	15:15	15.66	4.37	1.74
13-Jan-2011	15:16	15.62	4.45	1.75
13-Jan-2011	15:17	15.72	4.34	1.73
13-Jan-2011	15:18	15.87	4.30	1.77
13-Jan-2011	15:19	15.87	4.24	1.72
13-Jan-2011	15:20	16.01	4.14	1.75
13-Jan-2011	15:21	15.79	4.15	1.75
13-Jan-2011	15:22	15.88	4.24	1.75
13-Jan-2011	15:23	15.87	4.19	1.76
13-Jan-2011	15:24	15.86	4.25	1.75
13-Jan-2011	15:25	16.13	4.09	1.76
13-Jan-2011	15:26	16.19	3.97	1.73
13-Jan-2011	15:27	16.06	4.01	1.73
13-Jan-2011	15:28	15.87	4.06	1.76
13-Jan-2011	15:29	15.59	4.25	1.75
13-Jan-2011	15:30	15.95	4.27	1.78
AVERAGES:		16.13	3.96	1.77

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	**Norlite Corp.**
Location:	Cohoes, NY.
Date:	01/12/11
Day:	Wednesday

Project No.: 60163411.200

Performed By: Robert Sicard

Kiln # 1

Run #	Run Time
	07:35

Type of Calibration

Direct: **System:** THC

Initial: **Final:**

	← Direct Cal →				← Start of Day →			
Instrument	1		2		3		4	
	Conc.	**Response**	**Conc.**	**Response**	**Conc.**	**Response**	**Conc.**	**Response**
O2	0.00	0.01	20.54	20.60	10.97	11.02		
CO2	0.00	0.00	17.99	18.10	9.04	9.14		
THC	0.00	0.02	85.40	85.46	45.50	45.68	25.10	25.32

Instrument	**O2**	**CO2**	**THC**					
Scale	**0-25%**	**0-20%**	**0-100 ppm**					

CEM #2 C:\WBW\DATA\MASTERS\[calsheetdir.xls]A

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	**Norlite Corp.**
Location:	Cohoes, NY.
Date:	01/12/11
Day:	Wednesday

Project No.: 60163411.200

Performed By: Robert Sicard

Kiln # 1

Run #	Run Time
1	09:03 to 12:04
	no THC data

Type of Calibration

Direct: **System:** ⊗

Initial: ⊗ **Final:** ⊗

Run #3 Dioxan

Initial Run #1 VOST

← Initial Run #1 → ← Final Run #1 →

Instrument	1		2		3		4	
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
O2	0.00	0.02	10.97	11.08	0.00	0.03	10.97	11.11
CO2	0.00	0.01	9.04	9.15	0.00	0.02	9.04	9.14
THC	0.00	0.01	45.50	45.60	0.00	0.10	45.50	45.54

Instrument	O2	CO2	THC					
Scale	0-25%	0-20%	0-100 ppm					

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetdir.xls]A

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	**Norlite Corp.**
Location:	Cohoes, NY.
Date:	01/12/11
Day:	Wednesday

Project No.:

Performed By: Robert Sicard

Kiln # 1

CIA-R1

Run #	Run Time
1	13:33 TO 16:35

Type of Calibration

Direct:	**System:**
Initial:	**Final:**

Final Run #1

Instrument	1		2		3		4	
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
O2	0.00	0.04	10.97	11.14	0.00		10.97	
CO2	0.00	0.04	9.04	9.12	0.00		9.04	
THC	0.00	-0.04	45.50	44.59	0.00		45.50	

Instrument	O2	CO2	THC					
Scale	0-25%	0-20%	0-100 ppm					

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetsys.xls]A

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	**Norlite Corp.**
Location:	Cohoes, NY.
Date:	01/13/11
Day:	Thursday

Project No.: 60163411

Performed By: Robert Sicard

Kiln # 1

CIA

Run #	Run Time
	07:50

Type of Calibration

Direct: ⊗ **System:** THC

Initial: ⊗ **Final:**

	← Direct Cals →				← Start of Day →			
Instrument	**1**		**2**		**3**		**4**	
	Conc.	**Response**	**Conc.**	**Response**	**Conc.**	**Response**	**Conc.**	**Response**
O2	0.00	-0.01	20.54	20.50	10.97	11.01		
CO2	0.00	0.00	17.99	18.01	9.04	9.01		
THC	0.00	0.00	85.40	85.30	45.50	45.38	25.10	25.05

Instrument	**O2**	**CO2**	**THC**					
Scale	**0-25%**	**0-20%**	**0-100 ppm**					

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetdir.xls]A

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	**Norlite Corp.**
Location:	Cohoes, NY.
Date:	01/13/11
Day:	Thursday

Project No.: 60163411.200

Performed By: Robert Sicard

Kiln # 1

CIA - R2

Run #	Run Time
2 (CIA)	08:33 To 11:35

Type of Calibration

Direct:	**System:** (Y)
Initial: (X)	**Final:** (Y)

	← Initial Run #2 →				← Final Run #2 →			
Instrument	**1**		**2**		**3**		**4**	
	Conc.	**Response**	**Conc.**	**Response**	**Conc.**	**Response**	**Conc.**	**Response**
O2	0.00	0.00	10.97	11.00	0.00	0.02	10.97	11.01
CO2	0.00	0.01	9.04	8.98	0.00	0.02	9.04	8.96
THC	0.00	0.00	45.50	45.40	0.00	0.03	45.50	45.54

Instrument	**O2**	**CO2**	**THC**					
Scale	**0-25%**	**0-20%**	**0-100 ppm**					

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetsys.xls]A

ANALYZER DAILY CALIBRATION CHECK

AECOM

Client:	**Norlite Corp.**
Location:	Cohoes, NY.
Date:	01/13/11
Day:	Thursday

Project No.: 60163411.200

Performed By: Robert Sicard

Kiln # 1

Run #	Run Time
3	12:00 To 15:30

CIA

Type of Calibration

Direct: **System:** ⊗

Initial: **Final:** ⊗

← Final Run #3 →

Instrument	1		2		3		4	
	Conc.	Response	Conc.	Response	Conc.	Response	Conc.	Response
O2	0.00	0.03	10.97	11.00	0.00		10.97	
CO2	0.00	0.02	9.04	8.98	0.00		9.04	
THC	0.00	0.05	45.50	45.61	0.00		45.50	

Instrument	O2	CO2	THC					
Scale	0-25%	0-20%	0-100 ppm					

CEM #2 C:\WBW\DATA\NORLITE\2011\[calsheetsys.xls]A

Field Data
RESPONSE TIME RESULTS - O2 %

Client:/Site:	**Norlite Corp.**	**Monitor:**	**Servomex 1400**
Source:	**Kiln # 1**	**Serial Number:**	**47**
Date:	**01/11/11**	**Span:**	**25 %**
Calibration gas values:	**0 - 10.97 %**		

Run No.	UPSCALE Time (sec.)
1	58
2	57
3	57
Average:	57
Run No.	**DOWNSCALE Time (sec.)**
1	61
2	61
3	61
Average:	61
System Response Time =	61

Acceptance Criteria:
Maximum 2 minutes
Note - System
response time is

@CELLPOINTER("filename"); C:\WBW\DA

Field Data
RESPONSE TIME RESULTS - CO2 %

Client:/Site:	**Norlite Corp.**	**Monitor:**	**Servomex 1400**
Source:	**Kiln # 1**	**Serial Number:**	**B691**
Date:	**01/11/11**	**Span:**	**20 %**
Calibration gas values:	**0 - 9.04 %**		

Run No.	UPSCALE Time (sec.)
1	66
2	68
3	68
Average:	67

Run No.	DOWNSCALE Time (sec.)
1	64
2	65
3	65
Average:	65

System Response Time = 67

Acceptance Criteria:

Maximum 2 minutes
Note - System
response time is

@CELLPOINTER("filename"); C:\WBW\DA

Field Data
RESPONSE TIME RESULTS - THC

Client:/Site:	**Norlite Corp.**	**Monitor:**	**VIG - Model 20**
Source:	**Kiln # 1**	**Serial Number:**	**1794**
Date:	**01/11/11**	**Span:**	**100 ppm**
Calibration gas values:	**0 - 45.5 ppm**		

Run No.	UPSCALE Time (sec.)
1	53
2	53
3	51
Average:	52

Run No.	DOWNSCALE Time (sec.)
1	55
2	54
3	53
Average:	54

System Response Time = 54

Acceptance Criteria:

Maximum 2 minutes
Note - System
response time is

@CELLPOINTER("filename"); C:\WBW\DA

Airgas

Airgas Specialty Gases
600 Union Landing Road
Riverton, NJ 08077
(856) 829-7878
Fax (856) 829-0571
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI79E15AC667	Reference Number:	82-124136886-1
Cylinder Number:	XC032961B	Cylinder Volume:	146 Cu.Ft.
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
Analysis Date:	May 07, 2008	Valve Outlet:	590

Expiration Date: May 07, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	20.50 %	20.54 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRMplus	06060808	CC206113	22.51% OXYGEN/NITROGEN	May 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Siemens 5E BN805	Paramagnetic	May 05, 2008

Triad Data Available Upon Request

Notes:

QA Approval

Airgas

Airgas Specialty Gases
600 Union Landing Road
Riverton, NJ 08077
(856) 829-7878
Fax (856) 829-0571
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI80E15A0007	Reference Number:	82-124158592-1
Cylinder Number:	CC55093	Cylinder Volume:	150 Cu.Ft.
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
Analysis Date:	Nov 18, 2008	Valve Outlet:	590

Expiration Date: Nov 18, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON DIOXIDE	9.000 %	9.043 %	G1	+/- 1% NIST Traceable
OXYGEN	11.00 %	10.97 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	01119418	CC14317	9.72% OXYGEN/NITROGEN	Jul 05, 2010
NTRM	99061107	XC018958B	4.811% CARBON DIOXIDE/NITROGEN	May 15, 2012

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Siemens Ultramat 6E N1-N0-0820	NDIR	Oct 20, 2008
Siemens 5E BN805	Paramagnetic	Oct 30, 2008

Triad Data Available Upon Request

Notes:

QA Approval

#5000

Airgas

Airgas Specialty Gases
600 Union Landing Road
Riverton, NJ 08077
(856) 829-7878
Fax (856) 829-0571
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI67E15AC377	Reference Number:	82-124129265-1
Cylinder Number:	CC14688	Cylinder Volume:	157 Cu.Ft.
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
Analysis Date:	Mar 14, 2008	Valve Outlet:	590

Expiration Date: Mar 14, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	14.50 %	14.49 %	G1	+/- 1% NIST Traceable
CARBON DIOXIDE	18.00 %	17.99 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	03060203	XC024381B	22.60% OXYGEN/NITROGEN	Jul 01, 2011
NTRMplus	04060443	XC034294B	19.84% CARBON DIOXIDE/NITROGEN	May 16, 2008

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Siemens Ultramat 6E N1-N0-0820	NDIR	Feb 18, 2008
Siemens 5E BN805	Paramagnetic	Mar 05, 2008

Triad Data Available Upon Request

Notes:

QA Approval

MATHESON TRI•GAS
ask...The Gas Professionals™

TWINSBURG, OH

EPA PROTOCOL GAS ANALYSIS

CYL NUMBER: SX-34679
LAB REFERENCE #:
LOT NUMBER: 109-96-14404

COMPONENT NAME	MEAN CONCENTRATION
Propane	25.1 PPM ± 1% REL

SIZE: 1R CGA: 590
Volume: 141 cuft
Pressure: 2000 psig @ 70F

This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards revised

Balance Gas: Air
PROCEDURE: G1
ASSAY DATE: 9/10/09
EXPIRATION DATE: 9/10/12

Phil D. Mat.
analyst's name

NOTE: this mixture should not be used when the pressure falls below 150 psig.

Information continued on other side of this tag

IMPONENT NAME	MEAN CONCENTRATION
ropane	45.5 PPM ± 1% REL

LAB REFERENCE #:
LOT NUMBER: 109-96-11119

SIZE: 1R CGA: 590
Volume: 141 cuft
Pressure: 2000 psig @ 70F

This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards revised

alance Gas: Air
ROCEDURE: G1
ASSAY DATE: 3/10/09
EXPIRATION DATE: 3/10/12

Phil D. Mat.
analyst's name

NOTE: this mixture should not be used when the pressure falls below 150 psig.

Information continued on other side of this tag

MATHESON TRI•GAS
ask...The Gas Professionals™

TWINSBURG, OH

EPA PROTOCOL GAS ANALYSIS

CYL NUMBER: SX-45227
LAB REFERENCE #:
LOT NUMBER: 109-96-01347

COMPONENT NAME	MEAN CONCENTRATION
Propane	85.4 PPM ± 1% REL

SIZE: 1R CGA: 590
Volume: 141 cuft
Pressure: 2000 psig @ 70F

This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards revised

Balance Gas: Air
PROCEDURE: G1
ASSAY DATE: 7/30/09
EXPIRATION DATE: 7/30/12

Phil D. Mat.
analyst's name

NOTE: this mixture should not be used when the pressure falls below 150 psig.

Information continued on other side of this tag

Sample Shipment Documentation (January 2011 Test)

Sample Shipment Summary - Norlite Corporation
MACT CPT - January 2011

Sample Description (Laboratory)	Analyses	Packages / Comments	FedEx Airbill #	Date Shipped
Method 0031	MCB	VOST Tube Sets	8739 6577 0196	1/13/11
(Air Toxics, Ltd.)		1 ~~2~~ - Coolers	~~8739 6577 0200~~	
Method 0023A	D/F	FHR / BHR + FB	8739 6577 0174	1/13/11
(Vista Analytical)		2-DOT(9)	8739 6577 0185	
Method 0023A	D/F	XAD + Filters	8739 6577 0163	1/13/11
(Vista Analytical)		1 - Cooler		
			Page 1 of 2	

Dangerous Goods Shipment Details - Norlite Corporation
MACT CPT - January 2011

Sample Train	Reagent / Fraction	DOT Box Type	Description of Contents
Method 0023A	Acetone / MeCl / Toluene	1-DOT(9)	6 - 250-mL FHR
			1 - 250-mL FB
		1-DOT(9)	6 - 250-mL BHR
			Page 2 of 2

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770163 Select time format: 12H

Delivered

Delivered
Signed for by: B.BENIDICT

Shipment Dates	Destination
Ship date Jan 13, 2011	Signature Proof of Delivery
Delivery date Jan 14, 2011 12:17 PM	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	46.0 lbs/20.9 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Jan 14, 2011 12:17 PM	**Delivered**		
Jan 14, 2011 11:49 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Jan 14, 2011 10:36 AM	At local FedEx facility	RANCHO CORDOVA, CA	
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA	
Jan 14, 2011 3:37 AM	Departed FedEx location	MEMPHIS, TN	
Jan 13, 2011 11:24 PM	Arrived at FedEx location	MEMPHIS, TN	
Jan 13, 2011 8:39 PM	Left FedEx origin facility	MENANDS, NY	
Jan 13, 2011 6:05 PM	Picked up	MENANDS, NY	

FedEx Express **US Airbill**

FedEx Tracking Number 8739 6577 0163

Sender's Copy

1 From *Please print and press hard.*

Date 1/13/11 Sender's FedEx Account Number 2336-1936-1

Sender's Name DOUGLAS R. ROECK Phone (978) 589-3255

Company AECOM, INC. c/o Norlite Corp.

Address 628 S. Saratoga St.

Dept/Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-0200

3 To

Recipient's Name Ms. Martha Maier Phone (916) 673-1520

Company Vista Analytical Laboratories, Inc.

Address 1104 Windfield Way

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City El Dorado Hills State CA ZIP 95762

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

- [X] No
- [ ] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:*

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Enter FedEx Acct. No. or Credit Card No. below.

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	46 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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FedEx

Detailed Results

Tracking no.: 873965770174 Select time format: 12H

Delivered

Delivered
Signed for by: B.BENIDICT

Shipment Dates	Destination
Ship date Jan 13, 2011	Signature Proof of Delivery
Delivery date Jan 14, 2011 12:17 PM	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	9.0 lbs/4.1 kg	Reference	60163411 200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Jan 14, 2011 12:17 PM	**Delivered**		
Jan 14, 2011 11:44 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Jan 14, 2011 10:32 AM	At local FedEx facility	RANCHO CORDOVA, CA	
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA	
Jan 14, 2011 3:37 AM	Departed FedEx location	MEMPHIS, TN	
Jan 13, 2011 11:24 PM	Arrived at FedEx location	MEMPHIS, TN	
Jan 13, 2011 8:34 PM	Left FedEx origin facility	MENANDS, NY	
Jan 13, 2011 6:05 PM	Picked up	MENANDS, NY	

FedEx Express US Airbill

FedEx Tracking Number 8739 6577 0174

0200 Sender's Copy

1 From *Please print and press hard.*

Date 1/13/11 Sender's FedEx Account Number 2336-1936-1

Sender's Name DOUGLAS R. ROECK Phone (978) 589-3255

Company AECOM, Inc. c/o Norlite Corp.

Address 628 S. Saratoga St. Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411 200

3 To

Recipient's Name Ms. Martha Maier Phone (916) 673-1520

Company Vista Analytical Laboratories, Inc.

Address 1104 Windfield Way Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City El Dorado Hills State CA ZIP 95762

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

☐ No ☒ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	9 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM, Inc. c/o Norlite Corp. 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0174 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Ms. Martha Maier, (916)-673-0114	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)
PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure:

Airport of Destination:

Shipment type: (delete non-applicable)
NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1993	Flammable Liquid, n.o.s. (Acetone in Solution)	3	II	One 4G Fiberboard Box x 1,0 L	305	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
January 13, 2011
Signature (see warning above)
Douglas R. Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770185 Select time format: 12H

Delivered

Delivered
Signed for by: B.BENIDICT

Shipment Dates

Ship date Jan 13, 2011
Delivery date Jan 14, 2011 12:17 PM

Destination

Signature Proof of Delivery

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	8.0 lbs/3.6 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Jan 14, 2011 12:17 PM	**Delivered**		
Jan 14, 2011 11:45 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Jan 14, 2011 10:32 AM	At local FedEx facility	RANCHO CORDOVA, CA	
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA	
Jan 14, 2011 3:37 AM	Departed FedEx location	MEMPHIS, TN	
Jan 13, 2011 11:24 PM	Arrived at FedEx location	MEMPHIS, TN	
Jan 13, 2011 8:34 PM	Left FedEx origin facility	MENANDS, NY	
Jan 13, 2011 6:05 PM	Picked up	MENANDS, NY	

FedEx® US Airbill
Express

FedEx Tracking Number 8739 6577 0185

0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 1/13/11 Sender's FedEx Account Number 2336-1936-1 (FEDEX ACCOUNT NUMBER ONLY)

Sender's Name DOUGLAS R. ROECK Phone (978) 589-3255

Company AECOM, Inc. c/o Norlite Corp.

Address 628 S. Saratoga St.

Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-TT200

3 To

Recipient's Name Ms. Martha Maier Phone (916) ~~933~~-~~1645~~ 673-1520

Company Vista Analytical Laboratories, Inc.

Address 1104 Windfield Way

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City El Dorado Hills State CA ZIP 95762

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4a Express Package Service *To most locations. *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

- [ ] No
- [X] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	8 lbs.	$ ____ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper	AECOM, Inc. c/o Norlite Corp. 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. Page 1 of 1 Pages Shipper's Reference Number	8739 6577 0185 60163411, Task 200
Consignee	Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Ms. Martha Maier, (916)-673-0114	Fed Ex Express	

Two completed and signed copies of this declaration must be handed to the operator.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure

Airport of Destination:

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1993	Flammable Liquid, n.o.s. (Acetone in Solution)	3	II	One 4G Fiberboard Box x 0.75 L	305	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
January 13, 2011
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770196 Select time format: 12H

Delivered

Delivered
Signed for by: C.WATSON

Shipment Dates
Ship date Jan 13, 2011
Delivery date Jan 14, 2011 11:42 AM

Destination
Signature Proof of Delivery

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	44.0 lbs/20.0 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Jan 14, 2011 11:42 AM	**Delivered**		
Jan 14, 2011 10:45 AM	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Jan 14, 2011 10:41 AM	At local FedEx facility	RANCHO CORDOVA, CA	
Jan 14, 2011 8:33 AM	At dest sort facility	SACRAMENTO, CA	
Jan 14, 2011 3:37 AM	Departed FedEx location	MEMPHIS, TN	
Jan 13, 2011 11:24 PM	Arrived at FedEx location	MEMPHIS, TN	
Jan 13, 2011 8:39 PM	Left FedEx origin facility	MENANDS, NY	
Jan 13, 2011 6:05 PM	Picked up	MENANDS, NY	

FedEx Express **US Airbill**

FedEx Tracking Number: 8739 6577 0196

Form No. 0200 — **Sender's Copy**

1 From *Please print and press hard.*

Date

Sender's FedEx Account Number: 2336-1936-1

Sender's Name: DOUGLAS R. ROECK Phone: 978 589-3255

Company: AECOM, INC. c/o Norlite Corp.

Address: 628 S. Saratoga ST.

Dept./Floor/Suite/Room

City: Cohoes State: NY ZIP: 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name: Ms. AUSHA SCOTT Phone: 800 985-5955 x 1044

Company: AIR TOXICS, LTD.

Address: 180 Blue Ravine Road

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address: Suite B

Use this line for the HOLD location address or for continuation of your shipping address.

City: Folsom State: CA ZIP: 95630

☐ HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Learn to pack like a pro at fedex.com/packaging
Or let our pros pack for you with FedEx Office℠ Pack & Ship.

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?
One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

☒ Sender Acct. No. in Section 1 will be billed. Enter FedEx Acct. No. or Credit Card No. below. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	44 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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RETAIN THIS COPY FOR YOUR RECORDS.

Equipment Calibration Data (January 2011 Test)

AECOM

NOZZLE CALIBRATION FORM

Client: Norlite Corp. Project #: 60163411, Task 200

Date: 1/10/11 Calibrated by: D. Roecic

Nozzle ID #	D_1, in.	D_2, in.	D_3, in.	Delta D, in.	D_{avg}, in.
M23-1	.222	.224	.222	.002	.223
M23-2	.222	.223	.224	.002	.223
M23-3	.226	.227	.226	.001	.226
M23-4	.195	.195	.195	0	.195

Where:

$D_{1,2,3}$ = Nozzle diameter measured on a different diameter to the nearest 0.001 in.

Delta D = Maximum difference between any two measurements, in.
Tolerance = 0.004 in.

D_{avg} = Average of $D_{1,2,3}$

G:\Personal\Work\[NozzleCalibFormNorlite.xlsx]A

AECOM

DRY GAS METER CALIBRATION

Meter Box No.: 0808030

Check one:

Annual Calibration X Recalibration _____

Date:	1/3/2011	
Operator:	Ryan Burns	
Barometric Pressure:	29.75	(in Hg)
Theoretical Critical Vacuum:	14.03	(in Hg)

Pretest Leak Checks		
	Allowable	Actual
Positive	0	0.00
(at 5 - 7 in. H_2O)	in. H_2O per min.	
Negative	0	0.00
(at 3 in. Hg)	cfm	cfm

Manufacturer: Apex Inst.

Date Received/Placed in service: 2008

Serial No.: 0808030

DRY GAS METER DATA							CRITICAL ORIFICE DATA					
		Volume			Temp					Ambient Temperature		
ΔH (in H_2O)	Time (min)	Initial (ft^3)	Final (ft^3)	Total (ft^3)	Initial °F	Final °F	Critical Orifice Serial #	K' Orifice Calibration Coefficient	Actual Vacuum (in Hg)	Initial °F	Final °F	Average °F
0.29	20	650.200	656.250	6.050	70	72	40	0.225	15	65	65	65
0.98	15	661.000	669.559	8.559	73	76	52	0.427	15	65	65	65
1.70	15	689.000	700.414	11.414	81	82	63	0.562	15	65	65	65
3.80	10	710.400	721.737	11.337	83	85	76	0.831	15	65	65	65

CORRECTED VOLUME	
Dry Gas Meter Vm (std ft^3)	Critical Orifice Vcr (std ft^3)
5.984	5.848
8.424	8.316
11.108	10.947
11.039	10.788

DRY GAS METER CALIBRATION FACTOR Y	
0.977	-0.004
0.987	0.01
0.986	0.00
0.977	0.00

DRY GAS METER CALIBRATION FACTOR ΔH@	
1.908	0.075
1.793	-0.040
1.795	-0.038
1.837	0.00

Avg. Y 0.982

Avg. ΔH@ 1.833

Notes:

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

2) The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((In.Hg)*(min)).

3) The minimum number of sample volume required per orifice is 5 cubic feet.

4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is ±0.02

5) For Orifice Calibration Factor ΔH@, the orifice differential pressure in inches of H_2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is ± 0.2.

Dry Gas Meter Thermocouple Calibration					
Ref. TC ID#	2131035	Inlet ID# : 0808030-IN		Outlet ID# :	
Ref. Source	Ref, °F	°F	Δ	°F	Δ
Amb. Air	65	65	0		
Hot Water	111	111	0		

Potentiometer Calibration		
Low	50 °F	50
Mid	450 °F	449
High	950 °F	950

Notes:

1) Hot Water to be in the range of 104 - 122 °F.

2) Tolerance allowed for all thermocouple individual readings : ± 5.4 °F

3) Tolerance allowed for all potentiometer individual readings : ± 2 °F

$$V_{m(std)} = 17.64\,(V_m)\frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(std)} = K' \cdot \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_@ = \Delta H \left(\frac{.75\theta}{V_{cr(std)}} \right)^2$$

AECOM

DRY GAS METER ANNUAL CALIBRATION - VOST / M6

Meter Box No. : VO14

Operator : Ryan Burns
Date : 05-Jan-11
Barometric Pressure : 29.46 in. Hg
Wet Test Meter
Calibration Coefficient : 1.0066
Manufacturer:
Date Received/Placed in service:
Serial No.:

Pretest Leak Check :		
	Allowed	Actual
Negative	< 0.02	0.00
(at 10 in. Hg)	Lpm	Lpm

INITIAL CALIBRATION :

Q Vw Vd Tw Tdi Tdo Tm ϕ Dm γ

Meter Flow Rate (Lpm)	Volume: Wet Meter (L)	Volume: Dry Meter (L)	Meter Temperature Readings: Wet Meter (°C)	Meter Temperature Readings: Dry Meter In (°C)	Meter Temperature Readings: Dry Meter Out (°C)	Meter Temperature Readings: Dry Meter Avg (°C)	Time ϕ (min.)	Press. Wet Meter (in. H_2O)	Calib. Coeff. γ --
1.0	20.97	20.00	17.5	n/a	20.0	20.0	20.00	1.7	1.0690
1.0	20.75	20.58	17.5	n/a	24.0	24.0	20.00	1.7	1.0420
1.0	20.36	19.58	17.5	n/a	20.5	20.5	20.00	1.7	1.0620
								AVG :	**1.0577**

POST-TEST CHECK :

N/A		#DIV/0!
N/A		#DIV/0!
Date:	**Pb =** in. Hg	**AVG:** **#DIV/0!**

γ = Ratio of reading of wet test meter to dry test meter (dimensionless);
Tolerance for individual values is ±0.02 from the average.

Deviation =	**#DIV/0!**
(Post-Test to Initial)	
Tolerance = ±5 % of Initial Y	

Potentiometer Calibration :		
Low	0° F	0
Mid	450° F	450
High	950° F	950

Dry Gas Meter Thermocouple Calibration					
		TC ID# :		TC ID# :	
Ref	Ref, ° F	Temp., ° F	Δ	Temp., ° F	Δ
Amb. Air	66	67	1		
Hot Water	110	110	0		

Note: Hot water to be in the range of 104 –122 °F
Tolerance allowed for all individual readings: ± 5.4 °F

AECOM

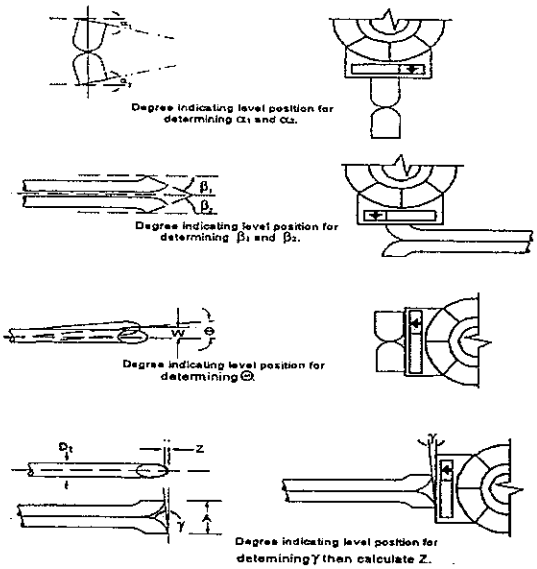
~~STACK TEST PROBE CALIBRATION DATA FORM~~

TYPE "S" PITOT TUBE ASSEMBLY AND NOZZLE

Thermocouple Calibration

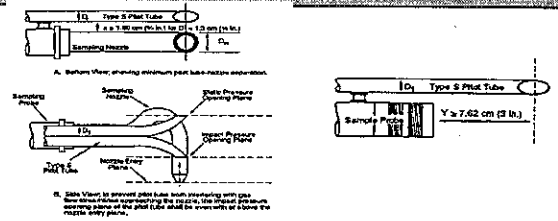
PROBE ID:	Reference Thermometer ID #:	Omega HH-81					Omega CI1000, #06022200					Omega CI1000, #06022200				
		Ice Bath					Boiling Water					Tube Furnace (300° - 500° F)				
M5-5-G	Thermocouple ID#	Reference °C	Reference °F	TC °C	TC °F	Temp Difference °F	Reference °C	Reference °F	TC °C	TC °F	Temp Difference °F	Reference °C	Reference °F	TC °C	TC °F	Temp Difference °F
Date: 12/30/2010	M5-5-G	32	273	33	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2
		32	273	33	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2
Ambient Temperature (°F): 65		32	273	33	274	1	212	373	210	372	-0.3	450	505	449	505	-0.1
Barometric Pressure (in Hg): 29.87	Average	32	273	33	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2

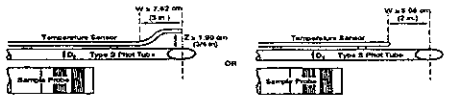
Type "S" Pitot Tube Calibration:



Level and Perpendicular	Yes
Obstruction	No
Damaged	No
α_1 ($-10° \le \alpha_1 \le +10°$)	1
α_2 ($-10° \le \alpha_2 \le +10°$)	0
β_1 ($-5° \le \beta_1 \le +5°$)	1
β_2 ($-5° \le \beta_2 \le +5°$)	0
γ	0
Θ	0
$z = A \tan\gamma$ ($\pm \le 0.125$")	0.000
$W = A \tan\Theta$ ($\pm \le 0.03125$")	0.000
D_t ($3/16 \le D_t \le 3/8$")	0.375
A	0.912
$A/2D_t$ ($1.05 \le P_A/D_t \le 1.5$)	1.216

Pitot Tube to Nozzle Calibration:





Pitot Tube to Nozzle Calibration

1) Pitot to nozzle separation	X	>3/4" (w/.500 nozzle)	0.797
2) Thermocouple to pitot separ	Z	>3/4"	1.506
3) Pitot end to probe union dis	Y	>3.0"	3.130

Probe Information

Manufacturer: Apex

Date Received and placed in Service: pre-1995

Condition of Probe when placed in service: NEW USED RECONDITIONED (circle one)

QA/QC Check

Completeness _X_ Legibility _X_ Accuracy _X_ Specifications _X_ Reasonableness _X_

I certify that the Type S pitot tube/probe ID# M5-5-G meets or exceeds all Specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor C_p of 0.84

Certified by: Ryan Burns 1-26-10
Personnel (Signature/Date)

Ryan Burns 1-29-10
Team Leader (Signature/Date)

All construction criteria for an isolated "S" type pitot are within given tolerances prescribed in Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III, Stationary Source-Specific Methods, EPA/600/R-94/038c, September 1994

rev 06/PS

NOTES:

AECOM

XAD Thermocouple Calibrations

Date: 1-12-10
BP: 29.93
Reference Thermometer ID#:
Manufacture:
Date placed in Service:

Calibrator: Jarrod Hendley
Ambient Temp (F): 67
HH-81
Omega
Pre 1980

	Ice Bath			Ambient		
Thermocouple ID#	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F
XAD-1	32	33	1	66	67	1
XAD-2	32	33	1	66	67	1
XAD-3	32	32	0	66	67	1
XAD-4	32	33	1	66	66	0
XAD-5			0			0
XAD-6	32	33	1	66	68	2
XAD-7			0			0
XAD-8	32	33	1	66	67	1
XAD-9	32	32	0	65	65	0
XAD-10	32	33	1	66	67	1
XAD-11	32	33	1	66	68	2
XAD-12	32	32	0	66	67	1

AECOM

Calibrator: Jarrod Hendley Reference Thermometer: HH-81

Filter Box Calibration

Hot Box #1		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	69	252
Actual Temperatures	68	250
Temp Difference (tol. = +-2)	1	2

Hot Box #2		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures	72	255
Actual Temperatures	71	254
Temp Difference (tol. = +-2)	1	1

Hot Box #3		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**30-Dec-09**	
	Ambient	**Hot**
Reference Temperatures	69	249
Actual Temperatures	68	248
Temp Difference (tol. = +-2)	1	1

Hot Box #4		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	67	245
Actual Temperatures	67	245
Temp Difference (tol. = +-2)	0	0

Hot Box #5		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	69	252
Actual Temperatures	67	250
Temp Difference (tol. = +-2)	2	2

Hot Box #6		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures		
Actual Temperatures		
Temp Difference (tol. = +-2)	0	0

Hot Box #7		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**29-Dec-09**	
	Ambient	**Hot**
Reference Temperatures	68	248
Actual Temperatures	69	247
Temp Difference (tol. = +-2)	-1	1

Hot Box #8		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	70	245
Actual Temperatures	70	244
Temp Difference (tol. = +-2)	0	1

Hot Box #9		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	65	250
Actual Temperatures	66	248
Temp Difference (tol. = +-2)	-1	2

Hot Box #10		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	68	248
Actual Temperatures	69	248
Temp Difference (tol. = +-2)	-1	0

Hot Box #11		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures		
Actual Temperatures		
Temp Difference (tol. = +-2)	0	0

Hot Box #12		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures		
Actual Temperatures		
Temp Difference (tol. = +-2)	0	0

Hot Box #13		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	69	241
Actual Temperatures	68	243
Temp Difference (tol. = +-2)	1	-2

Hot Box #14		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	67	244
Actual Temperatures	68	245
Temp Difference (tol. = +-2)	-1	-1

Hot Box #15		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures		
Actual Temperatures		
Temp Difference (tol. = +-2)	0	0

Hot Box #16		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**29-Dec-09**	
	Ambient	**Hot**
Reference Temperatures	65	246
Actual Temperatures	64	245
Temp Difference (tol. = +-2)	1	-2

Hot Box #17		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**29-Dec-09**	
	Ambient	**Hot**
Reference Temperatures	65	246
Actual Temperatures	65	245
Temp Difference (tol. = +-2)	0	1

Hot Box #18		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures		
Actual Temperatures		
Temp Difference (tol. = +-2)	0	0

Hot Box #19		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**	
	Ambient	**Hot**
Reference Temperatures	67	244
Actual Temperatures	67	245
Temp Difference (tol. = +-2)	0	-1

Hot Box #20		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures		
Actual Temperatures		
Temp Difference (tol. = +-2)	0	0

Hot Box #21		
Manufacturer:	Anderson NUTECH	
Serial No.:	N/A	
Date received/placed in service:	Pre 1995	
Calibration Date:		
	Ambient	**Hot**
Reference Temperatures		
Actual Temperatures		
Temp Difference (tol. = +-2)	0	0

AECOM

BAROMETER CALIBRATION DATA FORM

Field Barometer ID# : **Serial No. 51111291**

Reference Barometer ID # : **Serial No. 188841**

Pre-Test Calibration data

Calibration Performed By : **Ryan Burns**

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg
14-Jan-10	29.93	29.93	≤ +/- 0.10 in. Hg

Post-Test Calibration data

Calibration Performed By :

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg
			≤ +/- 0.10 in. Hg

Note: The field barometer is adjusted to agree with the reference barometer after each calibration. The reference barometer is checked and re-calibrated by the vendor on an annual basis.

Airgas

Airgas Specialty Gases
600 Union Landing Road
Riverton, NJ 08077
(856) 829-7878
Fax (856) 829-0571
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI79E15AC667	Reference Number:	82-124136886-1
Cylinder Number:	XC032961B	Cylinder Volume:	146 Cu.Ft.
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
Analysis Date:	May 07, 2008	Valve Outlet:	590

Expiration Date: May 07, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	20.50 %	20.54 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRMplus	06060808	CC206113	22.51% OXYGEN/NITROGEN	May 01, 2010

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Siemens 5E BN805	Paramagnetic	May 05, 2008

Triad Data Available Upon Request

Notes:

QA Approval

#5000

Airgas

Airgas Specialty Gases
600 Union Landing Road
Riverton, NJ 08077
(856) 829-7878
Fax (856) 829-0571
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI80E15A0007	Reference Number:	82-124158592-1
Cylinder Number:	CC55093	Cylinder Volume:	150 Cu.Ft.
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
Analysis Date:	Nov 18, 2008	Valve Outlet:	590

Expiration Date: Nov 18, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1 Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
CARBON DIOXIDE	9.000 %	9.043 %	G1	+/- 1% NIST Traceable
OXYGEN	11.00 %	10.97 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	01119418	CC14317	9.72% OXYGEN/NITROGEN	Jul 05, 2010
NTRM	99061107	XC018958B	4.811% CARBON DIOXIDE/NITROGEN	May 15, 2012

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Siemens Ultramat 6E N1-N0-0820	NDIR	Oct 20, 2008
Siemens 5E BN805	Paramagnetic	Oct 30, 2008

Triad Data Available Upon Request

Notes:

QA Approval

#5000

Airgas

Airgas Specialty Gases
600 Union Landing Road
Riverton, NJ 08077
(856) 829-7878
Fax (856) 829-0571
www.airgas.com

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI67E15AC377	Reference Number:	82-124129265-1
Cylinder Number:	CC14688	Cylinder Volume:	157 Cu.Ft.
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
Analysis Date:	Mar 14, 2008	Valve Outlet:	590

Expiration Date: Mar 14, 2011

Certification performed in accordance with "EPA Traceability Protocol (Sept. 1997)" using the assay procedures listed. Analytical Methodology does not require correction for analytical interferences. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a volume/volume basis unless otherwise noted.
Do Not Use This Cylinder below 150 psig.i.e. 1.Mega Pascal

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty
OXYGEN	14.50 %	14.49 %	G1	+/- 1% NIST Traceable
CARBON DIOXIDE	18.00 %	17.99 %	G1	+/- 1% NIST Traceable
NITROGEN	Balance			

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Expiration Date
NTRM	03060203	XC024381B	22.60% OXYGEN/NITROGEN	Jul 01, 2011
NTRMplus	04060443	XC034294B	19.84% CARBON DIOXIDE/NITROGEN	May 15, 2008

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Siemens Ultramat 6E N1-N0-0820	NDIR	Feb 18, 2008
Siemens 5E BN805	Paramagnetic	Mar 05, 2008

Triad Data Available Upon Request

Notes:

QA Approval

#5000

MATHESON TRI•GAS
ask...The Gas Professionals™

TWINSBURG, OH

EPA PROTOCOL GAS ANALYSIS

CYL NUMBER: SX-34679
LAB REFERENCE #:
LOT NUMBER: 109-96-14404

COMPONENT NAME	MEAN CONCENTRATION
Propane	25.1 PPM ± 1% REL

SIZE: 1R CGA: 590
Volume: 141 cuft
Pressure: 2000 psig @ 70F

This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards revised

Balance Gas: Air
PROCEDURE: G1 ASSAY DATE: 9/10/09
EXPIRATION DATE: 9/10/12

Phil D. Mott
analyst's name

NOTE: this mixture should not be used when the pressure falls below 150 psig

Information continued on other side of this tag

IMPONENT NAME	MEAN CONCENTRATION
ropane	45.5 PPM ± 1% REL

LAB REFERENCE #:
LOT NUMBER: 109-96-11119

SIZE: 1R CGA: 590
Volume: 141 cuft
Pressure: 2000 psig @ 70F

This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards revised

alance Gas: Air
ROCEDURE: G1 ASSAY DATE: 3/10/09
EXPIRATION DATE: 3/10/12

Phil D. Mott
analyst's name

NOTE: this mixture should not be used when the pressure falls below 150 psig

Information continued on other side of this tag

MATHESON TRI•GAS
ask...The Gas Professionals™

TWINSBURG, OH

EPA PROTOCOL GAS ANALYSIS

CYL NUMBER: SX-45227
LAB REFERENCE #:
LOT NUMBER: 109-96-01347

COMPONENT NAME	MEAN CONCENTRATION
Propane	85.4 PPM ± 1% REL

SIZE: 1R CGA: 590
Volume: 141 cuft
Pressure: 2000 psig @ 70F

This mixture has been analyzed according to EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards revised

Balance Gas: Air
PROCEDURE: G1 ASSAY DATE: 7/30/09
EXPIRATION DATE: 7/30/12

Phil D. Mott
analyst's name

NOTE: this mixture should not be used when the pressure falls below 150 psig

Information continued on other side of this tag

Field Data Sheets (October 2010 Test)

AECOM

Field Log - MACT CPT 2010 - Norlite Corporation

Date	Time	Description of Events and Activities
10/18/10	07:15	Left Harvard for Norlite
	10:20	Checked in at Norlite to watch safety video
		and to set up all equipment
	15:00	Meeting in Admin Bldg to review test
		coordination with all Norlite personnel
	16:15	Meeting with Prince Knight and LLGF/shale
		sampling personnel to review grab sampling
		procedures and forms to be used.
	17:00	AECOM departs site
10/19/10	06:45	AECOM onsite
	07:15	Plant goes down - ID fan off. Will probably
		be a couple of hours to get lined out again.
	09:45	Kiln 1 pretty much at the test condition - need
		1-hr to establish HRAs
	10:58	Start C2-R1 all sampling trains P_b = 29.81
	13:04	Complete C2-R1 - M26A? M29
	14:00	End C2-R1 M23
	14:40	Start C2-R2 all trains
	16:45	Complete C2-R2 M26A & M29
	17:42	End C2-R2 M23
	17:58	Start C2-R3 all sample trains
	20:02	End C2-R3 M26A and M29 trains
	21:00	End C2-R3 M23
	21:30	Left Site
10/20/10	07:45	AECOM onsite P_b = 29.91 @ ground
	08:18	M23 Train leakchecked and ready to go
	09:00	Plant estimating 09:30 at earliest for HRAs to
		be established
	09:30	Start C1-R1 M23
	12:32	End C1-R1 M23

JZJ

AECOM

Field Log - MACT CPT 2010 - Norlite Corporation

Date	Time	Description of Events and Activities
10/20/10	13:00	Start C1-R2 M23
	16:02	End C1-R2 M23
	17:00	RB, CC and JT offsite
	17:30	DR and FS offsite
10/21/10	07:45	AECOM onsite
	08:17	Both trains leak-checked and ready to go
	08:45	Kiln 1 ready - waiting on State's sample bottles
	09:04	Start C1-R3 M23
	12:07	End C1-R3 M23
	14:30	AECOM departs site
	14:45	All samples dropped off at FedEx station in Menands, NY for shipment
	17:30	Arrive back at Harvard, MA location

AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200
Client: Norlite Corp.	Facility: Cohoes, NY
Stream Sampled:	Liquid Low-Grade Fuel (LLGF)
Sampling Location:	K1 Burner Floor

Date: 10-19-10		Date: 10-19-10		Date: 10-19-10	
Condition: C2		Condition: C2		Condition: C2	
Run No. R1		Run No. R2		Run No. R3	
Start Time: ~~1058A~~ ~~1058A~~		Start Time: 2:40p		Start Time: 1758	
Stop Time: 2:05p		Stop Time: 17:42p		Stop Time: 2100	
Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)
0	~~1045~~ 1100A	0	241p	0	1801
15	1115A	15	256p	15	1816
30	1130A	30	311p	30	1831
45	1145A	45	326p *	45	1846 *
60	1200p	60	341p *	60	1901 *
75	1215p *	75	356p	75	1916 *
90	1230p *	90	411p	90	1931
105	1245p *	105	426p	105	1946
120	100p	120	441p	120	2001
135	115p	135	456p *	135	2016
150	130p	150	511p	150	2031
165	145p	165	526p	165	2046
180	200p	180	541p *	180	2101
~~195~~		~~195~~		195	
210		210		210	
225		225		225	
240		240		240	

Comments :

(*) Sampled by Prince Knight

Signature of Sampler:

AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200		
Client:	Norlite Corp.	Facility:	Cohoes, NY
Stream Sampled:	Shale		
Sampling Location:	Silo Bert		

Date: 10-19-10		Date: 10-19-10		Date: 10-19-10	
Condition: C2		Condition: C2		Condition: C2	
Run No. R1		Run No. R2		Run No. R3	
Start Time: 10:58A		Start Time: 2:40P		Start Time: 5:58P	
Stop Time: 2:05P		Stop Time: 17:42P		Stop Time: 9:00P	
Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)
Beginning	10:58	Beginning	2:40	Beginning	6:00
Middle	12:30	Middle	4:16	Middle	7:30
End	2:05	End	5:42	End	9:00

Comments :

Signature of Sampler: Thomas E. Hoch

AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200				
Client:	Norlite Corp.	**Facility:**	Cohoes, NY		
Stream Sampled:	Shale				
Sampling Location:	Shale Silo				
Date:	10/20/10	**Date:**	10/20/10	**Date:**	10/21/10
Condition:	C1	**Condition:**	C1	**Condition:**	C1
Run No.	R1	**Run No.**	R2	**Run No.**	R3
Start Time:	09:30	**Start Time:**	13:00	**Start Time:**	09:04
Stop Time:	12:32	**Stop Time:**	16:02	**Stop Time:**	12:07
Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)	Grab Interval	Clock Time (actual)
Beginning	09:30	Beginning	13:00	Beginning	9:02
Middle	11:00	Middle	14:30	Middle	10:30
End	12:32	End	16:00	End	12:07

Comments :

Signature of Sampler:

AECOM

SOLID/LIQUID GRAB SAMPLING FIELD DATA SHEET

AECOM Project No.	60163411-200
Client: Norlite Corp.	Facility: Cohoes, NY
Stream Sampled:	Liquid Low-Grade Fuel (LLGF)
Sampling Location:	K1 Burner Floor

Date: 10·20·10		Date: 10·20·10		Date: 10·21·10	
Condition: C1		Condition: C1		Condition: C1	
Run No. R1		Run No. R2		Run No. R3	
Start Time: 0930 A		Start Time: 1300		Start Time: 0904	
Stop Time: 1232 P		Stop Time: 1602		Stop Time: 12:07	
Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)	Grab Interval (min)	Clock Time (actual)
0	0932	0	1301	0	0907
15	0947	15	1316	15	0917
30	1002	30	1331 *	30	0932
45	1017	45	1346	45	0947
60	1032 *	60	1401	60	1002 *
75	1047 *	75	1416	75	1017
90	1102	90	1431	90	1032
105	1117	105	1446 *	105	1047
120	1132	120	1501	120	1102 *
135	1147	135	1516	135	1117
150	1202	150	1531	150	1132
165	1217 *	165	1546	165	1147
180	1232	180	1601	180	1205
195		195		195	
210		210		210	
225		225		225	
240		240		240	

Comments :

* Samples collected by Prime Knight

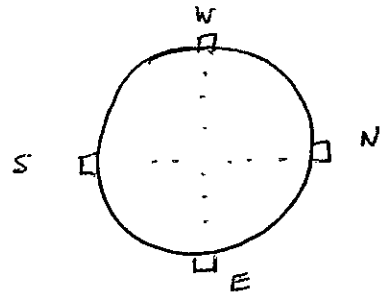
Signature of Sampler:

AECOM

METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

Facility : Norlite Corp. - Cohoes, NY Port Length: 6.0" Monorail ? Platform Width Large
Date : 10/20/10 Port Diam.: 4" (Y) or N Railing Ht. : 42"
Operator(s) : C. Crowley
Stack Diameter (in.) : 48-in
Bar. Press. (in. Hg) : 29.81
Static Press. (in. H_2O) + 0.29
Cp : (0.84) or 0.99 (Circle one)
O_2 (%)
CO_2 (%)
Wet Bulb Temp. (°F) :
Dry Bulb Temp. (°F) :

Kiln 1 - Level 1 - Stack Exhaust



SCHEMATIC OF STACK CROSS SECTION

08:22 Port A

Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP		Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP
6		0.81	127							
5		0.85	127							
4		0.86	127							
3		0.86	128							
2		0.83	127							
1		0.71	128							
	AVG	0.82	127.3							

C:\Documents and Settings\roeckd\My Documents\PROJECTS\NORLITE\CY2010\Field Prep\[Method 2 Form.xlsx]A

Method 0023A (PCDDs/PCDFs) Sampling Parameters
MACT CPT Condition 1 - Norlite Kiln 1

Run No.		C1-R1	C1-R2	C1-R3	
Date		20-Oct-10	20-Oct-10	21-Oct-10	
Start Time	Units	09:30	13:00	09:04	
Stop Time		12:32	16:02	12:07	**AVGS**
Nozzle Diameter	inches	0.216	0.216	0.216	0.216
Barometric Pressure	in. Hg	29.81	29.81	29.40	29.67
Net Sampling Time	min.	180.0	180.0	180.0	180.0
Volume Metered	dcf	119.755	128.064	117.978	121.932
Avg. DGM Temp.	°F	61.0	71.4	60.3	64.2
Avg Delta H	in H_2O	1.57	1.77	1.53	1.62
Avg Delta H	in. Hg	0.1155	0.1302	0.1124	0.1194
DGM Calibration Factor	--	0.971	0.971	0.971	0.971
Gas Sample Volume	**dscf**	**117.866**	**123.649**	**114.675**	**118.730**
Total Water Collected	mL	404.7	421.4	394.3	406.8
Volume of Water Vapor	scf	19.082	19.869	18.591	19.181
Moisture (measured)	% v/v	13.9	13.8	14.0	13.9
Moisture (@ saturation)	% v/v	16.4	16.4	17.1	16.7
Dry Mole Fraction	--	0.8607	0.8616	0.8605	0.8609
CO_2 at Stack	% dry	4.20	4.00	4.20	4.13
O_2 at Stack	% dry	15.60	15.90	15.40	15.63
CO + N_2	% dry	80.20	80.10	80.40	80.23
Dry Molecular Weight	lb/lb-mole	29.30	29.28	29.29	29.29
Wet Molecular Weight	lb/lb-mole	27.72	27.71	27.71	27.72
Excess Air at Stack	%	279.9	303.1	264.4	282.4
Stack Diameter	inches	48.0	48.0	48.0	48.0
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6
Static Pressure	in H_2O	0.35	0.33	0.15	0.28
Stack Pressure	in. Hg	29.84	29.83	29.41	29.69
Avg. Stack Temp.	°F	133.1	133.0	134.4	133.5
Avg. Sqroot of Delta P	--	0.9500	0.9925	0.9363	0.9596
SDE Average	--	23.137	24.170	22.826	23.377
Pitot Coefficient	--	0.84	0.84	0.84	0.84
Stack Gas Velocity	afpm	3,467	3,622	3,445	3,511
Stack Flowrate	wet acfm	43,564	45,516	43,294	44,125
Stack Flowrate	wet scfm	38,672	40,408	37,805	38,962
Stack Flowrate	**dscfm**	**33,283**	**34,813**	**32,531**	**33,543**
Isokinetics	**%**	**97**	**97**	**97**	**97**
Meter Box No.	--	80612	80612	80612	--
Delta H @	in. Hg	1.914	1.914	1.914	--
Field QA Yqc	--	1.010	1.012	1.018	1.013
[Deviation] Pre-Y	%	3.98%	4.27%	4.80%	4.35%

QC Date Init
10/25/10 cc

MACT CPT Condition 1 - Norlite Kiln 1

PT	C1-R1 AVGS -- PCDDs / PCDFs						C1-R2 AVGS -- PCDDs / PCDFs						C1-R3 AVGS -- PCDDs / PCDFs					
	DP	SQRT DP	DGM IN	DGM OUT	DH	STACK TEMP	DP	SQRT DP	DGM IN	DGM OUT	DH	STACK TEMP	DP	SQRT DP	DGM IN	DGM OUT	DH	STACK TEMP
a1	0.88	0.9381	48	44	1.50	131	1.00	1.0000	65	65	1.80	134	0.79	0.8888	52	51	1.40	133
	0.89	0.9434	50	45	1.50	133	1.00	1.0000	70	66	1.80	134	0.86	0.9274	53	52	1.50	134
a2	0.93	0.9644	53	47	1.60	133	1.10	1.0488	73	66	2.00	133	0.90	0.9487	56	52	1.60	134
	0.99	0.9950	57	49	1.70	133	1.10	1.0488	74	67	2.00	133	0.91	0.9539	58	52	1.60	134
a3	1.00	1.0000	59	50	1.70	132	0.97	0.9849	75	67	1.70	133	0.95	0.9747	60	53	1.60	134
	0.99	0.9950	62	52	1.70	132	0.97	0.9849	75	66	1.70	133	0.88	0.9381	62	54	1.50	134
a4	0.99	0.9950	62	54	1.70	133	1.00	1.0000	76	67	1.80	133	0.94	0.9695	63	54	1.60	134
	0.99	0.9950	64	54	1.70	132	1.00	1.0000	75	68	1.80	133	0.90	0.9487	65	55	1.60	134
a5	0.93	0.9644	65	56	1.60	132	0.94	0.9695	75	67	1.70	133	0.89	0.9434	66	56	1.60	134
	0.93	0.9644	67	58	1.60	133	0.94	0.9695	74	67	1.70	133	0.91	0.9539	66	58	1.60	134
a6	0.81	0.9000	69	59	1.40	133	0.89	0.9434	74	67	1.60	133	0.77	0.8775	67	59	1.40	134
	0.82	0.9055	69	61	1.40	134	0.87	0.9327	73	67	1.50	133	0.82	0.9055	68	58	1.40	134
b1	0.95	0.9747	66	61	1.70	132	0.84	0.9165	74	67	1.50	133	0.88	0.9381	65	60	1.50	134
	0.95	0.9747	68	61	1.70	134	0.84	0.9165	75	68	1.50	132	0.87	0.9327	67	59	1.50	134
b2	0.93	0.9644	69	62	1.60	134	1.00	1.0000	76	69	1.80	132	0.88	0.9381	67	59	1.50	135
	0.87	0.9327	68	61	1.50	134	1.10	1.0488	76	70	2.00	134	0.88	0.9381	68	60	1.50	135
b3	0.86	0.9274	68	61	1.50	134	1.10	1.0488	75	69	2.00	133	0.84	0.9165	68	60	1.50	135
	0.82	0.9055	69	61	1.40	134	1.10	1.0488	75	68	2.00	133	0.83	0.9110	68	59	1.50	135
b4	0.90	0.9487	68	61	1.60	134	1.10	1.0488	77	68	2.00	133	0.90	0.9487	65	61	1.60	135
	0.91	0.9539	69	61	1.60	134	1.10	1.0488	78	69	2.00	133	0.90	0.9487	64	58	1.60	135
b5	0.89	0.9434	71	62	1.60	134	1.00	1.0000	78	71	1.80	133	0.88	0.9381	65	58	1.50	135
	0.90	0.9487	72	63	1.60	134	1.00	1.0000	78	70	1.80	133	0.92	0.9592	65	57	1.60	135
b6	0.78	0.8832	72	64	1.40	133	0.86	0.9274	78	69	1.50	133	0.87	0.9327	67	58	1.50	135
	0.78	0.8832	72	64	1.40	133	0.87	0.9327	78	70	1.50	133	0.88	0.9381	67	58	1.50	135
AVG	**0.90**	**0.9500**	**61.0**		**1.57**	**133**	**0.99**	**0.9925**	**71.4**		**1.77**	**133**	**0.88**	**0.9363**	**60.3**		**1.53**	**134**

QC Date Init

10/25/cc

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

C1-R1

Sampling Train	Method 0023A (D/F)
Run Number	ONC-R1C1-Cond.1
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 20, 2010
Operator	Crowley
Stack Dia. - in.	48
Start Time	0930 1102
Stop Time	1100 1232

Barometric Pressure	29.81
Static Pressure (+/-)	+0.35
Probe/Pitot Number	MS-5-H
Pitot Coefficient	0.84
Filter Box No.	1-HB-1
Meter Box No.	50612
Orifice Coefficient (Y)	0.971
Delta H @	1.914
Nozzle Size/No.	0.216
XAD Thermocouple ID:	XAD-12
Imp Outlet TC ID:	LI-27

LEAK CHECKS in "Hg

INITIAL VAC. 16 in. CFM 0.010

MID VAC. ____ in. CFM ____

FINAL VAC. 8 in. CFM 0.002

\+ -

INIT. PITOT ✓ ✓ FINAL PITOT ✓ ✓

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		

Orsat	
CO2	O2

SILICA GEL	Final Purge Rate
226.7	
	Final PH

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1A	0	0.88	1.5	591.514	132	255	255	39	45	48	44	5.0	Start 0930
	7.5	0.89	1.5	596.30	133	254	255	40	40	50	45	5.5	
2	15.0	0.93	1.6	601.10	133	255	256	40	40	53	47	6.0	
	22.5	0.99	1.7	606.05	133	255	256	40	41	57	49	6.5	
3	30.0	1.0	1.7	611.25	132	255	256	41	42	59	50	6.5	
	37.5	0.99	1.7	616.39	132	256	255	44	43	62	52	6.5	
4	45.0	0.99	1.7	621.56	133	254	252	42	44	62	54	6.5	
	52.5	0.99	1.7	626.71	132	255	254	43	45	64	54	6.5	
5	60.0	0.93	1.6	631.87	132	257	255	44	46	65	56	6.5	
	67.5	0.93	1.6	637.00	133	254	256	43	46	67	58	6.5	
6	75.0	0.81	1.4	641.96	133	254	253	44	47	64	59	6.0	
	82.5	0.82	1.4	646.77	134	256	257	45	49	69	61	6.0	
1B	90.0	0.95	1.7	651.53	132	255	256	44	44	66	61	6.5	Port Δ 1100
	97.5	0.95	1.7	656.70	134	252	256	42	43	65	61	7.0	Restart 1102
2	105.0	0.93	1.6	661.92	134	255	255	42	42	69	62	7.0	
	112.5	0.87	~~1.5~~ 1.5	666.97	134	255	257	43	43	68	61	7.0	
3	120.0	0.86	1.5	671.86	134	254	256	42	43	68	61	7.0	
	127.5	0.82	1.4	676.75	134	256	253	44	44	69	61	7.0	
4	135.0	0.90	1.6	681.48	134	255	254	45	44	68	61	7.0	
	142.5	0.91	1.6	686.53	134	255	256	46	46	69	61	7.0	
5	150.0	0.89	1.6	691.61	134	256	255	45	46	71	62	7.0	
	157.5	0.90	1.6	696.68	134	255	256	46	47	72	63	7.0	
6	165.0	0.78	1.4	701.75	133	255	255	46	47	72	64	6.5	
	172.5	0.78	1.4	706.51	133	255	254	46	47	72	64		
End	180.0	—	—	711.269	—	—	—	—	—	—	—	—	End 1232

AECOM EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)
Run Number	TWO-R2 C1-R2
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 20, 2010
Operator	Crowley
Stack Dia. - in.	48
Start Time	1300 1437
Stop Time	1430 1602

Barometric Pressure	29.81
Static Pressure (+/-)	+0.33
Probe/Pitot Number	MS-5-H
Pitot Coefficient	0.84
Filter Box No.	HB-1
Meter Box No.	80612
Orifice Coefficient (Y)	0.971
Delta H @	1.914
Nozzle Size/No.	0.216
XAD Thermocouple ID:	XAD-11
Imp Outlet TC ID:	LI-27

LEAK CHECKS in "Hg

INITIAL VAC. 15 in. CFM 0.002

MID VAC. ——— in. CFM ———

FINAL VAC. 8 in. CFM 0.001

\+ - + -

INIT. PITOT ✓ ✓ FINAL PITOT ✓✓

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		
SILICA GEL		
225.2		

Orsat	
CO2	O2

Final Purge Rate N/A

Final PH N/A

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in we	ORIFICE METER VOL. DeltaH, in we	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1	0	1.0	1.8	711.545	134	262	260	55	39	65	65	5.0	Start 1300
	7.5	1.0	1.8	716.84	134	256	256	40	45	70	66	5.5	
2	15.0	1.1	2.0	722.20	133	254	258	41	45	73	66	6.0	
	22.5	1.1	2.0	727.86	133	256	255	42	46	74	67	6.0	
3	30.0	0.97	1.7	733.50	133	256	256	41	46	75	67	5.5	
	37.5	0.97	1.7	738.74	133	254	257	42	47	75	66	5.5	
4	45.0	1.0	1.8	743.98	133	257	259	42	47	76	67	6.0	
	52.5	1.0	1.8	749.34	133	255	260	43	48	75	68	6.0	
5	60.0	0.94	1.7	754.72	133	254	256	44	48	75	67	6.0	
	67.9	0.94	1.7	760.08	133	254	253	44	49	74	67	6.0	
6	75.0	0.89	1.6	765.20	133	256	256	45	50	74	67	5.5	
	82.5	0.87	1.5	770.26	133	253	254	45	49	73	67	5.0	
1	90.0	0.84	1.5	775.22	133	255	258	45	50	74	67	5.5	Port Δ ΔH = 1.5
	97.5	0.84	1.5	780.065	132	254	257	44	49	75	68	5.5	Restart @ 14:32
2	105.0	1.0	1.8	785.05	132	255	254	45	49	76	69	6.0	
	112.5	1.1	2.0	790.47	134	256	256	46	50	76	70	6.5	
3	120.0	1.1	2.0	796.13	133	255	254	46	50	75	69	6.5	
	127.5	1.1	2.0	801.64	133	255	255	46	51	75	68	6.5	
4	135.0	1.1	2.0	807.48	133	255	257	46	51	77	68	6.5	
	142.5	1.1	2.0	813.13	133	254	255	46	52	78	69	6.5	
5	150.0	1.0	1.8	818.78	133	255	255	48	53	78	71	6.0	
	157.5	1.0	1.8	824.25	133	255	256	45	49	78	70	6.0	
6	165.0	0.86	1.5	829.66	133	257	257	44	42	78	69	5.0	
	172.5	0.87	1.5	834.65	133	254	258	45	43	78	70	5.5	
End	160.0	—	—	839.609	—	—	—	—	—	—	—	—	End 1602 839.609

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)
Run Number	Three R3 C1-R3
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 21, 2010
Operator	Crowley
Stack Dia. - in.	48
Start Time	0904 1037
Stop Time	1034 1207

Barometric Pressure	29.40
Static Pressure (+/-)	+0.15
Probe/Pitot Number	MS-S-14
Pitot Coefficient	0.84
Filter Box No.	HB-1
Meter Box No.	80612
Orifice Coefficient (Y)	0.971
Delta H @	1.914
Nozzle Size/No.	0.216
XAD Thermocouple ID:	XAD+1
Imp Outlet TC ID:	LI-27

LEAK CHECKS in "Hg

INITIAL VAC.	15	in.	CFM	0.003	
MID VAC.	—	in.	CFM	—	
FINAL VAC.	8	in.	CFM	0.001	
	+	-		+	-
INIT. PITOT	✓✓		FINAL PITOT	✓✓	

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		
SILICA GEL		
218.9		

Orsat	
CO2	O2

Final Purge Rate N/A

Final PH N/A

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1A	0	0.79	1.4	839.553	133	253	256	55	52	52	51	5.0	Start 0904
	7.5	0.86	1.5	844.50	134	252	251	39	46	53	52	6.0	
2	15.0	0.90	1.6	849.27	134	256	264	40	43	56	52	6.0	
	22.5	0.91	1.6	854.26	134	255	256	40	42	58	52	6.0	
3	30.0	0.95	1.6	859.32	134	257	255	41	42	60	53	6.5	
	37.5	0.68	1.5	864.30	134	253	256	42	42	62	54	6.0	
4	45.0	0.94	1.6	869.23	134	255	256	43	44	63	54	6.5	
	52.5	0.90	1.6	874.22	134	255	254	43	45	65	55	6.5	
5	60.0	0.89	1.6	879.24	134	255	262	44	46	66	56	6.5	
	67.5	0.91	1.6	884.30	134	256	252	44	47	66	58	6.5	
6	75.0	0.77	1.4	889.27	134	256	253	44	48	67	59	6.0	
	82.5	0.82	1.4	894.04	134	254	253	45	48	68	58	6.0	
1B	90.0	0.88	1.5	898.82	134	259	260	44	49	65	60	6.0	Port Δ 1034
	97.5	0.87	1.5	903.60	134	256	254	45	49	67	59	6.0	Restart 1037
2	105.0	0.88	1.5	908.42	135	254	255	45	50	67	59	6.0	
	112.5	0.88	1.5	913.27	135	255	256	47	51	68	60	6.5	
3	120.0	0.84	1.5	918.26	135	255	253	46	52	68	60	6.5	
	127.5	0.83	1.5	923.04	135	255	254	47	52	68	59	6.5	
4	135.0	0.90	1.6	928.00	135	255	250	49	54	65	61	7.0	
	142.5	0.90	1.6	933.01	135	255	254	48	52	64	58	7.0	
5	150.0	0.88	1.5	938.05	135	252	249	48	51	65	58	7.0	
	157.5	0.92	1.6	942.98	135	257	255	50	51	65	57	7.0	
6	165.0	0.87	1.5	948.01	135	256	255	52	52	67	58	7.0	
	172.5	0.88	1.5	952.92	135	257	256	52	52	67	58	7.0	
End	180.0	—	—	957.831	—	—	—	—	—	—	—	—	End 1207

AECOM

SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train : M0023A - PCDDs/PCDFs CPT

Recovered by : F. Sanguedolce	Recovered by : F. Sanguedolce	Recovered by : F. Sanguedolce
Run No. C1-R1 Date : 10/20/2010	Run No. C1-R2 Date : 10/20/2010	Run No. C1-R3 Date : 10/21/2010
XAD Module No. : ST17415	XAD Module No. : ST17415	XAD Module No. : ST17415
Filter # : N/A Tare: N/A	Filter # : N/A Tare: N/A	Filter # : N/A Tare: N/A

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	250 110	N/A
2	100	104	
3	100	102	
4	0	2	
5	SG		
6			
7			
			DIFF :
Totals	200	568	368
	Initial (g)	Final (g)	DIFF :
Silica Gel	226.7	248.7	22.0
XAD Trap	307.6	322.3	14.7
Final Net Moisture Gain:			404.7

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	250 135	N/A
2	100	102	
3	100	102	
4	0	1	
5	SG		
6			
7			
			DIFF :
Totals	200	590	390
	Initial (g)	Final (g)	DIFF :
Silica Gel	225.2	249.3	24.1
XAD Trap	287.4	294.7	7.3
Final Net Moisture Gain:			421.4

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	187 170	N/A
2	100	100	
3	100	100	
4	0	0	
5	SG		
6			
7			
			DIFF :
Totals	200	557	357
	Initial (g)	Final (g)	DIFF :
Silica Gel	218.9	245.5	26.6
XAD Trap	314.5	325.2	10.7
Final Net Moisture Gain:			394.3

AECOM

ORSAT ANALYSIS (EPA METHOD 3)

PLANT : Norlite Corp. - Cohoes, NY	**PRE-LEAK CHECK :** ✓
DATE : 10/20-21/2010	**POST-LEAK CHECK :** ✓
LOCATION : Kiln 1 Exhaust Stack	**NOTE:**
SAMPLE TYPE : Tedlar Bag *	Valid Leak Check : Liquid level must not fall below bottom of capillary tubing in 4 minutes and meniscus must not change by more than 0.2 mL in 4 minutes.
OPERATOR : Fred Senguedolle	
*Multipoint, Integrated	

NOTES / DATA CRITERIA --

CO_2 : When greater than 4%, difference between readings shall be 0.3% or less.
When less than 4%, difference between readings shall be 0.2% or less.

O_2 : When greater than or equal to 15%, difference between readings shall be 0.2% or less.
When less than 15%, difference between readings shall be 0.3% or less.

Test Condition: 1

Run: C1-R1	Reading A		Reading B		Reading C		Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO_2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
O_2 *	19.8	15.6	19.8	15.6	19.8	15.6	15.6

10/20/2010

Run: C1-R2	Reading A		Reading B		Reading C		Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO_2	4.0	4.0	4.0	4.0	4.0	4.0	4.0
O_2 *	19.9	15.9	19.8	15.8	19.9	15.9	15.9

10/20/2010

Run: C1-R3	Reading A		Reading B		Reading C		Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO_2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
O_2 *	19.6	15.4	19.6	15.4	19.6	15.4	15.4

10/21/2010

* Net O_2 is actual O_2 minus actual CO_2 reading.

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AECOM

METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

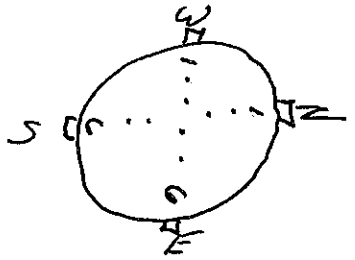
Preliminary Traverse – Setup day

Facility : Norlite Corp. - Cohoes, NY Port Length: 6" Monorail ? Platform Width Large
Date : 10/18/10 Port Diam.: 4" (Y) or N Railing Ht. : 42"
Operator(s) : R. Burns

Stack Diameter (in.) : 48-in
Bar. Press. (in. Hg) :
Static Press. (in. H_2O) +0.16
Cp : (0.84) or 0.99 (Circle one)
O_2 (%)
CO_2 (%)
Wet Bulb Temp. (°F) :
Dry Bulb Temp. (°F) :

Leak Check + − + −
Angle 0° ✓ ✓

Kiln 1 - Level 1 - Stack Exhaust



SCHEMATIC OF STACK CROSS SECTION

1434 - 1450

Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP		Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP
W 1		0.60	125	4						
2		0.73	123	4						
3		0.78	123	7						
4		0.78	123	4						
5		0.77	123	6						
6		0.72	123	0						
N 1		0.61	124	1						
2		0.74	124	0						
3		0.76	124	0						
4		0.66	123	4						
5		0.74	123	4						
6		0.74	123	3						
AVG		0.72	123							

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AECOM

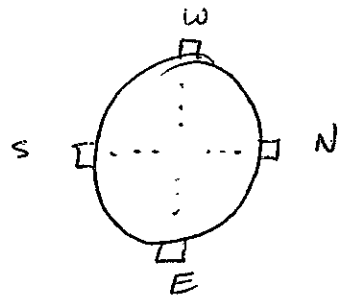
METHOD 2 GAS VELOCITY AND VOLUME DATA SHEET

Facility : Norlite Corp. - Cohoes, NY Port Length: 6" Monorail ? Platform Width Large
Date : 10/19/10 Port Diam.: 4" (Y) or N Railing Ht. : 42"
Operator(s) : R. Burns

Stack Diameter (in.) : 48-in
Bar. Press. (in. Hg) :
Static Press. (in. H_2O) + 0.45
Cp : (0.84) or 0.99 (Circle one)
O_2 (%)
CO_2 (%)
Wet Bulb Temp. (°F) :
Dry Bulb Temp. (°F) :

AM check prior to testing

Kiln 1 - Level 1 - Stack Exhaust



SCHEMATIC OF STACK CROSS SECTION

	Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP		Pt. #	Pos. (in.)	Vel. DP (in. H_2O)	Stack Temp. (°F)	Flow Angle that Yields a Null DP
W	1		0.99	122							
	2		1.0	122							
	3		0.94	122							
	4		0.97	122							
	5		0.95	122							
	6		0.80	123							
N	1		0.93	122							
	2		1.0	122							
	3		1.1	123							
	4		1.1	123							
	5		1.0	123							
	6		0.87	123							
	AVG		0.97	122							

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Method 0023A (PCDDs/PCDFs) Sampling Parameters MACT CPT Condition 2 - Norlite Kiln 1					
Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	Units	10:58	14:40	17:58	
Stop Time		14:00	17:42	21:00	**AVGS**
Nozzle Diameter	inches	0.216	0.216	0.216	0.216
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Net Sampling Time	min.	180.0	180.0	180.0	180.0
Volume Metered	dcf	120.326	126.039	121.630	122.665
Avg. DGM Temp.	°F	60.6	69.5	64.9	65.0
Avg Delta H	in H_2O	1.59	1.72	1.63	1.64
Avg Delta H	in. Hg	0.1170	0.1262	0.1195	0.1209
DGM Calibration Factor	--	0.971	0.971	0.971	0.971
Gas Sample Volume	**dscf**	**118.515**	**122.108**	**118.610**	**119.744**
Total Water Collected	mL	365.4	385.4	370.7	373.8
Volume of Water Vapor	scf	17.229	18.172	17.479	17.626
Moisture (measured)	% v/v	12.7	13.0	12.8	12.8
Moisture (@ saturation)	% v/v	14.8	15.6	16.0	15.5
Dry Mole Fraction	--	0.8731	0.8705	0.8716	0.8717
CO_2 at Stack	% dry	3.90	4.00	4.00	3.97
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
CO + N_2	% dry	82.73	80.20	80.20	81.04
Dry Molecular Weight	lb/lb-mole	29.16	29.27	29.27	29.23
Wet Molecular Weight	lb/lb-mole	27.74	27.81	27.82	27.79
Excess Air at Stack	%	157.7	294.1	294.1	248.6
Stack Diameter	inches	48.0	48.0	48.0	48.0
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6
Static Pressure	in H_2O	0.42	0.35	0.35	0.37
Stack Pressure	in. Hg	29.84	29.84	29.78	29.82
Avg. Stack Temp.	°F	129.5	131.4	132.3	131.1
Avg. Sqroot of Delta P	--	0.9813	1.0099	0.9925	0.9945
SDE Average	--	23.827	24.559	24.154	24.180
Pitot Coefficient	--	0.84	0.84	0.84	0.84
Stack Gas Velocity	afpm	3,568	3,674	3,616	3,619
Stack Flowrate	wet acfm	44,843	46,167	45,441	45,483
Stack Flowrate	wet scfm	40,056	41,100	40,313	40,490
Stack Flowrate	**dscfm**	**34,972**	**35,776**	**35,136**	**35,294**
Isokinetics	**%**	**93**	**94**	**93**	**93**
Meter Box No.	--	80612	80612	80612	--
Delta H @	in. Hg	1.914	1.914	1.914	--
Field QA Yqc	--	1.013	1.011	1.016	1.014
[Deviation] Pre-Y	%	4.38%	4.14%	4.65%	4.39%

QC Date Init
10/25/10 CC

MACT CPT Condition 2 - Norlite Kiln 1

PT	C2-R1 AVGS -- PCDDs / PCDFs						C2-R2 AVGS -- PCDDs / PCDFs						C2-R3 AVGS -- PCDDs / PCDFs					
	DP	SQRT DP	DGM IN	DGM OUT	DH	STACK TEMP	DP	SQRT DP	DGM IN	DGM OUT	DH	STACK TEMP	DP	SQRT DP	DGM IN	DGM OUT	DH	STACK TEMP
a1	0.86	0.9274	49	46	1.40	128	1.10	1.0488	61	61	1.80	132	0.87	0.9327	65	64	1.40	132
	0.86	0.9274	51	48	1.40	128	1.10	1.0488	66	61	1.80	131	0.87	0.9327	66	63	1.40	132
a2	0.72	0.8485	54	49	1.20	129	1.10	1.0488	68	61	1.80	131	0.78	0.8832	69	62	1.30	132
	0.70	0.8367	56	48	1.10	129	0.97	0.9849	70	62	1.60	131	0.74	0.8602	69	62	1.20	132
a3	1.10	1.0488	57	51	1.80	129	0.97	0.9849	70	63	1.60	131	1.10	1.0488	69	62	1.80	133
	1.10	1.0488	61	51	1.80	129	0.97	0.9849	69	64	1.60	131	1.10	1.0488	70	62	1.80	133
a4	1.20	1.0954	64	54	2.00	129	1.00	1.0000	69	64	1.70	131	1.10	1.0488	70	62	1.80	133
	1.20	1.0954	66	54	2.00	129	1.00	1.0000	71	64	1.70	131	1.10	1.0488	70	62	1.80	132
a5	1.10	1.0488	67	57	1.80	129	0.95	0.9747	71	63	1.60	131	1.10	1.0488	71	62	1.80	132
	1.10	1.0488	68	59	1.80	130	1.00	1.0000	72	65	1.70	131	1.10	1.0488	71	62	1.80	132
a6	0.96	0.9798	68	59	1.60	130	0.98	0.9899	70	66	1.60	131	0.98	0.9899	70	62	1.60	132
	0.96	0.9798	67	59	1.60	130	0.97	0.9849	72	65	1.60	131	0.98	0.9899	69	63	1.60	133
b1	0.93	0.9644	66	61	1.60	130	0.87	0.9327	74	69	1.40	130	0.92	0.9592	65	62	1.50	133
	0.83	0.9110	67	61	1.40	130	0.90	0.9487	75	71	1.50	131	0.94	0.9695	67	61	1.60	133
b2	0.93	0.9644	68	62	1.50	129	1.10	1.0488	75	73	1.90	131	0.97	0.9849	68	60	1.60	132
	0.95	0.9747	68	63	1.60	131	1.10	1.0488	74	74	1.90	132	0.97	0.9849	67	59	1.60	132
b3	0.93	0.9644	68	63	1.50	130	1.20	1.0954	74	73	2.00	132	0.97	0.9849	68	60	1.60	132
	0.93	0.9644	67	61	1.50	130	1.20	1.0954	74	73	2.00	132	1.10	1.0488	68	61	1.80	132
b4	1.10	1.0488	67	61	1.80	130	1.10	1.0488	73	73	1.90	132	1.10	1.0488	69	60	1.80	132
	1.10	1.0488	68	62	1.80	130	1.10	1.0488	74	72	1.90	132	1.10	1.0488	68	61	1.80	132
b5	0.97	0.9849	68	61	1.60	130	1.00	1.0000	74	72	1.70	132	1.00	1.0000	68	60	1.70	132
	0.95	0.9747	68	59	1.60	130	1.00	1.0000	74	73	1.70	132	1.00	1.0000	68	60	1.70	132
b6	0.87	0.9327	69	60	1.40	130	0.92	0.9592	73	70	1.60	132	0.90	0.9487	68	60	1.50	132
	0.87	0.9327	69	61	1.40	130	0.92	0.9592	72	68	1.60	133	0.92	0.9592	68	60	1.50	133
AVG	**0.97**	**0.9813**	**60.6**		**1.59**	**130**	**1.02**	**1.0099**	**69.5**		**1.72**	**131**	**0.99**	**0.9925**	**64.9**		**1.63**	**132**

QC Date Init

10/25/10 cc

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)
Run Number	One-R1 C2-R1
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Baghouse Outlet
Date	October 19, 2010
Operator	Crowley
Stack Dia. - in.	52
Start Time	1058 1230
Stop Time	1228 1400

Barometric Pressure	29.81
Static Pressure (+/-)	+0.42
Probe/Pitot Number	NS-[illegible]S-H
Pitot Coefficient	0.84
Filter Box No.	HB-1
Meter Box No.	20612
Orifice Coefficient (Y)	0.971
Delta H @	1.914
Nozzle Size/No.	0.216
XAD Thermocouple ID:	XAD-12
Imp Outlet TC ID:	LI-27

LEAK CHECKS in "Hg

INITIAL VAC.	15	in.	CFM	0.002
MID VAC.		in.	CFM	
FINAL VAC.	8	in.	CFM	0.000
	+	-		+
INIT. PITOT	√ √	FINAL PITOT		√ √

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.			Orsat	
INIT.	FINAL	RINSE	CO2	O2
0				
100				
100				
0				
SG				
SILICA GEL		Final Purge Rate		
229.3		Final PH		

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1A	0	0.86	1.4	222.046	128	261	266	46	46	49	46	4.0	Start 1058
	7.5	0.86	1.4	226.68	128	254	264	47	41	51	48	4.0	
2	15.0	0.72	1.2	231.26	129	254	265	45	41	54	49	5.0	
	22.5	0.70	1.1	235.62	129	254	264	47	41	56	48	4.5	
3	30.0	1.1	1.8	239.83	129	255	266	47	42	57	51	6.0	
	37.5	1.1	1.8	245.06	129	257	265	46	42	61	51	6.0	
4	45.0	1.2	2.0	250.40	129	256	264	47	43	64	54	6.0	
	52.5	1.2	2.0	256.03	129	256	265	49	44	66	54	6.0	
5	60.0	1.1	1.8	261.66	129	255	265	52	46	67	57	6.0	
	67.5	1.1	1.8	267.05	130	255	266	54	46	68	59	6.0	
6	75.0	0.96	1.6	272.42	130	255	265	55	50	68	59	5.5	
	82.5	0.96	1.6	277.51	130	256	265	53	49	67	59	5.5	Port Δ 1228
1B	90.0	0.93	1.6	282.63	130	256	264	58	51	66	61	5.5	Restart 1230
	97.5	0.83	1.4	287.63	130	256	264	54	49	67	61	5.5	
2	105.0	0.93	~~1.5~~ 1.5	292.90	129	252	266	53	50	68	62	5.5	
	112.5	0.95	1.6	297.26	131	258	265	55	51	68	63	6.0	
3	120.0	0.93	1.5	302.31	130	255	265	54	52	68	63	6.0	
	127.5	0.93	1.5	307.25	130	254	265	54	52	67	61	6.0	
4	135.0	1.1	1.8	312.15	130	257	265	54	52	67	61	6.0	
	142.5	1.1	1.8	317.42	130	255	265	56	54	68	62	6.0	
5	150.0	0.97	1.6	322.85	130	254	266	57	55	68	61	6.0	
	157.5	0.95	1.6	327.89	130	255	265	57	56	68	59	6.0	
6	165.0	0.87	1.4	332.99	130	255	264	56	57	64	60	5.5	
	172.5	0.87	1.4	336.9	130	255	265	59	58	67	61	5.5	
End	180.0	—	—	342.372	—	—	—	—	—	—	—	—	End 1400

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train: Method 0023A (D/F)
Run Number: TWO-R2 C2-R2
Client: Norlite Corporation
Facility Location: Cohoes, NY
Source: Kiln 1 Exhaust Stack
Date: October 19, 2010
Operator: Crowley
Stack Dia. - in.: 48
Start Time: 1440 1612
Stop Time: 1610 1742

Barometric Pressure: 29.81
Static Pressure (+/-): +0.35
Probe/Pitot Number: M5-E-H
Pitot Coefficient: 0.84
Filter Box No.: HB-1
Meter Box No.: 80612
Orifice Coefficient (Y): 0.971
Delta H @: 1.914
Nozzle Size/No.: 0.216
XAD Thermocouple ID: XAD-11
Imp Outlet TC ID: LS-27

LEAK CHECKS in "Hg
INITIAL VAC. 17 in. CFM 0.003
MID VAC. ____ in. CFM ____
FINAL VAC. 9 in. CFM 0.00
INIT. PITOT √√ FINAL PITOT √√

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		
SILICA GEL		Final Purge Rate
229.0		Final PH

Orsat	
CO2	O2

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1B	0	1.1	1.8	343.021	132	264	268	43	57	61	61	5.0	Start 1440
	7.5	1.1	1.8	346.30	131	254	264	39	43	66	61	6.0	
2	15.0	1.1	1.8	353.65	131	251	264	39	44	68	61	6.0	
	22.5	0.97	1.6	359.03	131	255	264	40	44	70	62	6.0	
3	30.0	0.97	1.6	364.—	131	257	266	40	45	70	63	6.0	
	37.5	0.97	1.6	369.12	131	256	265	44	48	69	64	6.0	
4	45.0	1.0	1.7	374.11	131	255	265	43	49	69	64	6.0	
	52.5	1.0	1.7	379.41	131	257	265	42	48	71	64	6.5	
5	60.0	0.95	1.6	384.60	131	254	266	42	48	71	63	6.0	
	67.5	1.0	1.7	389.65	131	255	264	42	48	72	65	6.5	
6	75.0	0.98	1.6	394.87	131	253	265	43	49	70	66	6.0	
	82.5	0.97	1.6	399.95	131	256	264	44	50	72	65	6.5	Port Δ 1610
1A	90.0	0.87	1.4	405.08	130	253	265	47	52	74	69	6.0	Restart 1612
	97.5	0.90	1.5	409.87	131	255	265	46	51	75	71	6.0	
2	105.0	1.1	1.9	414.85	131	255	266	47	52	75	73	7.5	
	112.5	1.1	1.9	420.38	132	255	265	48	54	74	74	7.5	
3	120.0	1.2	2.0	425.91	132	254	264	50	55	74	73	8.0	
	127.5	1.2	2.0	431.58	132	253	265	50	55	74	73	8.0	
4	135.0	1.1	1.9	437.37	132	255	260	53	57	73	73	8.0	
	142.5	1.1	1.9	442.90	132	254	263	55	57	74	72	8.0	
5	150.0	1.0	1.7	448.28	132	255	267	57	60	74	72	8.0	
	157.5	1.0	1.7	453.60	132	254	264	57	60	74	73	8.0	
6	165.0	0.92	1.6	458.88	132	255	266	59	62	73	70	8.0	
	172.5	0.92	1.6	464.00	133	255	265	61	62	72	68	7.5	
End	180.0	—	—	469.060	—	—	—	—	—	—	—	—	End 1742

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 0023A (D/F)
Run Number	Three - R3 C2-R3
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 19, 2010
Operator	Crowley
Stack Dia. - in.	48
Start Time	1758 1930
Stop Time	1928 2100

Barometric Pressure	29.75
Static Pressure (+/-)	+0.35
Probe/Pitot Number	MS-5-H
Pitot Coefficient	0.84
Filter Box No.	HB-1
Meter Box No.	80612
Orifice Coefficient (Y)	0.971
Delta H @	1.914
Nozzle Size/No.	0.216
XAD Thermocouple ID:	XAD-1
Imp Outlet TC ID:	LF-27

LEAK CHECKS in "Hg

INITIAL VAC. 15 in. CFM 0.009

MID VAC. ____ in. CFM ____

FINAL VAC. 8 in. CFM 0.012

\+ -

INIT. PITOT ✓✓ FINAL PITOT ✓✓

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
SG		
SILICA GEL		Final Purge Rate
294.2		Final PH

Orsat	
CO2	O2

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in.we	ORIFICE METER VOL. DeltaH, in.we	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT	PUMP VACUUM in. Hg	COMMENTS
1A	0	0.87	1.4	469.411	132	262	271	60	54	65	64	4.0	Start 1758
	7.5	0.87	1.4	474.12	132	256	267	62	57	66	63	6.0	
2	15.0	0.78	1.3	478.92	132	256	263	46	60	69	62	5.0	
	22.5	0.74	1.2	483.83	132	255	266	42	52	69	62	5.0	
3	30.0	1.1	1.8	487.94	133	256	265	42	47	69	62	6.5	
	37.5	1.1	1.8	492.38	133	255	266	44	46	70	62	6.5	
4	45.0	1.1	1.8	498.58	133	255	266	44	46	70	62	6.5	
	52.5	1.1	1.8	503.96	132	254	265	45	46	70	62	6.5	
5	60.0	1.1	1.8	509.31	132	255	267	46	48	71	62	6.5	
	67.5	1.1	1.8	514.68	132	255	265	45	48	71	62	6.5	
6	75.0	0.98	1.6	520.05	132	255	263	45	48	70	62	6.0	
	82.5	0.98	1.6	525.13	133	254	268	45	48	69	63	6.0	Port ΔP 28
1B	90.0	0.92	1.5	530.17	133	255	268	46	49	65	62	6.0	Restart 1930
	97.5	0.94	1.6	534.99	133	256	263	47	49	67	61	7.0	
2	105.0	0.97	1.6	539.99	132	253	264	46	48	68	60	7.0	
	112.5	0.97	1.6	544.97	132	256	264	47	49	67	59	7.0	
3	120.0	0.97	1.6	550.02	132	256	266	47	49	68	60	7.0	
	127.5	1.1	1.8	555.06	132	256	266	47	49	68	61	7.5	
4	135.0	1.1	1.8	560.40	132	256	262	46	50	69	60	7.0	
	142.5	1.1	1.8	565.68	132	255	266	47	50	68	61	7.0	
5	150.0	1.0	1.7	570.98	132	255	265	47	50	68	60	7.0	
	157.5	1.0	1.7	576.16	132	255	264	47	49	68	60	7.0	
6	165.0	0.90	1.5	581.35	132	256	262	48	50	68	60	7.0	
	172.5	0.92	1.5	586.18	133	256	263	48	50	68	60	6.5	
END	180.0	—	—	591.041	—	—	—	—	—	—	—	—	End 2100

924

AECOM

SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train : M0023A - PCDDs/PCDFs CPT

Recovered by: F. Sanguedolce				Recovered by: F. Sanguedolce				Recovered by: F. Sanguedolce			
Run No. C2-R1 Date: 10/19/2016				Run No. C2-R2 Date: 10/19/2016				Run No. C2-R3 Date: 10/19/2016			
XAD Module No.: ST17415				XAD Module No.: ST17415				XAD Module No.: ST17415			
Filter #: N/A Tare: N/A				Filter #: N/A Tare: N/A				Filter #: N/A Tare: N/A			
Impinger No. and Volume				Impinger No. and Volume				Impinger No. and Volume			
No.	Initial (mL)	Final (mL)	Rinse (mL)	No.	Initial (mL)	Final (mL)	Rinse (mL)	No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	242 86	N/A	1	0	250 98	N/A	1	0	250 84	N/A
2	100	98		2	100	98		2	100	98	
3	100	98		3	100	98		3	100	100	
4	0	0		4	0	0		4	0	1	
5	SG		↓	5	SG		↓	5	SG		↓
6				6				6			
7				7				7			
			DIFF:				DIFF:				DIFF:
Totals	200	524	324	Totals	200	544	344	Totals	200	533	333
	Initial (g)	Final (g)	DIFF:		Initial (g)	Final (g)	DIFF:		Initial (g)	Final (g)	DIFF:
Silica Gel	229.3	255.5	26.2	Silica Gel	229.0	257.9	28.9	Silica Gel	227.9	253.0	25.1
XAD Trap	310.8	326.0	15.2	XAD Trap	306.8	319.3	12.5	XAD Trap	294.2	306.8	12.6
Final Net Moisture Gain:			365.4	Final Net Moisture Gain:			385.4	Final Net Moisture Gain:			370.7

*HPLC H_2O — Fisher Chemical — Lot 102949

Acetone — Fisher Chemical — Lot 102868

Methylene Chloride — Fisher Chemical — Lot 102647

Toluene — Fisher Chemical — Lot 105615

AECOM

ORSAT ANALYSIS (EPA METHOD 3)

PLANT : Norlite Corp. - Cohoes, NY	**PRE-LEAK CHECK :** ✓
DATE : 10/19/2010	**POST-LEAK CHECK :** ✓
LOCATION : Kiln 1 Exhaust Stack	**NOTE:**
SAMPLE TYPE : Tedlar Bag *	Valid Leak Check : Liquid level must not fall below bottom of capillary tubing in 4 minutes and meniscus must not change by more than 0.2 mL in 4 minutes.
OPERATOR : Fred Sanguedolce	
* Multi-Point Integrated (M23)	

NOTES / DATA CRITERIA --

CO_2 : When greater than 4%, difference between readings shall be 0.3% or less.
When less than 4%, difference between readings shall be 0.2% or less.

O_2 : When greater than or equal to 15%, difference between readings shall be 0.2% or less.
When less than 15%, difference between readings shall be 0.3% or less.

Test Condition: 2

Run: C2-R1	Reading A		Reading B		Reading C		Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO_2	3.9	3.9	3.9	3.9	3.9	3.9	3.9
O_2 *	17.2	13.3	17.3	13.4	17.3	13.4	13.4

Run: C2-R2	Reading A		Reading B		Reading C		Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO_2	4.0	4.0	4.0	4.0	4.0	4.0	4.0
O_2 *	19.8	15.8	19.8	15.8	19.8	15.8	15.8

Run: C2-R3	Reading A		Reading B		Reading C		Avg.
GAS	Actual	Net	Actual	Net	Actual	Net	Net Volume
CO_2	4.0	4.0	4.0	4.0	4.0	4.0	4.0
O_2 *	19.8	15.8	19.8	15.8	19.8	15.8	15.8

* Net O_2 is actual O_2 minus actual CO_2 reading.

Method 29 Sampling Parameters Norlite MACT CPT - Test Condition 2					
Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	**Units**	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	**AVGS**
Nozzle Diameter	inches	0.225	0.225	0.225	0.225
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Net Sampling Time	min.	120.0	120.0	120.0	120.0
Volume Metered	dcf	92.568	94.763	94.637	93.989
Avg. DGM Temp.	°F	63.7	70.4	68.2	67.4
Avg Delta H	in H_2O	2.03	2.10	2.11	2.08
Avg Delta H	in. Hg	0.1492	0.1547	0.1550	0.1530
DGM Calibration Factor	--	0.9900	0.9900	0.9900	0.9900
Gas Sample Volume	**dscf**	**92.518**	**93.539**	**93.610**	**93.222**
Total Water Collected	mL	281.7	286.4	311.9	293.3
Volume of Water Vapor	scf	13.282	13.504	14.706	13.831
Moisture (measured)	% v/v	12.6	12.6	13.6	12.9
Moisture (@ saturation)	% v/v	15.2	16.0	16.5	15.9
Dry Mole Fraction, 100-%M	--	0.8745	0.8738	0.8642	0.8708
CO_2 at Stack	% dry	3.90	4.00	4.00	3.97
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
CO + N_2	% dry	82.73	80.20	80.20	81.04
Dry Molecular Weight	lb/lb-mole	29.16	29.27	29.27	29.23
Wet Molecular Weight	lb/lb-mole	27.76	27.85	27.74	27.78
Excess Air at Stack	%	157.7	294.1	294.1	248.6
Stack Diameter	inches	48.0	48.0	48.0	48.0
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6
Static Pressure	in H_2O	0.45	0.45	0.45	0.45
Stack Pressure	in. Hg	29.84	29.84	29.78	29.82
Avg. Stack Temp.	°F	130.5	132.7	133.5	132.2
Avg. Sqroot of Delta P	--	1.0250	1.0320	1.0340	1.0303
SDE Average	--	24.908	25.124	25.190	25.074
Pitot Coefficient	--	0.84	0.84	0.84	0.84
Stack Gas Velocity	afpm	3,729	3,755	3,776	3,754
Stack Flowrate	wet acfm	46,863	47,190	47,455	47,169
Stack Flowrate	wet scfm	41,798	41,930	42,027	41,919
Stack Flowrate	**dscfm**	**36,551**	**36,641**	**36,321**	**36,504**
Isokinetics	**%**	**96**	**97**	**98**	**97**
Meter Box No.	--	80102	80102	80102	--
Delta H @	in H_2O	1.902	1.902	1.902	--
Field QA Yqc	--	0.997	0.996	0.997	0.997
[Deviation] Pre-Y	%	0.72%	0.62%	0.75%	0.70%

QC DATE INIT

10/25/10 CC

Norlite MACT CPT - Test Condition 2

PT	C2-R1 AVGS -- METALS						C2-R2 AVGS -- METALS						C2-R3 AVGS -- METALS					
	Delta P	SQRT Delta P	DGM IN	DGM OUT	Delta H	STACK TEMP	Delta P	SQRT Delta P	DGM IN	DGM OUT	Delta H	STACK TEMP	Delta P	SQRT Delta P	DGM IN	DGM OUT	Delta H	STACK TEMP
a1	1.00	1.0000	52	51	1.90	129	0.94	0.9695	63	61	1.80	132	1.10	1.0488	65	65	2.10	132
	1.00	1.0000	55	51	1.90	128	0.94	0.9695	65	62	1.80	130	1.10	1.0488	65	64	2.10	133
a2	1.10	1.0488	56	52	2.10	130	1.10	1.0488	66	62	2.10	132	1.10	1.0488	66	63	2.10	133
	1.10	1.0488	59	53	2.10	131	1.10	1.0488	68	62	2.10	133	1.10	1.0488	68	63	2.10	133
a3	1.10	1.0488	60	53	2.10	130	1.10	1.0488	70	63	2.10	133	1.10	1.0488	69	63	2.10	133
	1.10	1.0488	62	54	2.10	131	1.10	1.0488	71	63	2.20	133	1.10	1.0488	71	63	2.20	134
a4	1.10	1.0488	64	55	2.10	130	1.10	1.0488	73	64	2.20	132	1.20	1.0954	71	63	2.40	133
	1.10	1.0488	65	56	2.10	130	1.10	1.0488	74	65	2.20	133	1.20	1.0954	72	64	2.40	134
a5	1.10	1.0488	65	57	2.10	131	1.10	1.0488	75	66	2.20	133	1.10	1.0488	73	65	2.20	134
	1.10	1.0488	66	57	2.10	130	1.10	1.0488	76	67	2.20	133	1.10	1.0488	73	65	2.20	134
a6	0.90	0.9487	68	58	1.70	130	0.95	0.9747	77	68	1.80	132	0.93	0.9644	73	65	1.80	134
	0.85	0.9220	67	59	1.60	130	0.95	0.9747	76	68	1.80	132	0.94	0.9695	74	66	1.80	134
b1	0.95	0.9747	64	60	1.80	131	1.10	1.0488	72	69	2.20	132	0.98	0.9899	70	66	1.90	133
	0.95	0.9747	70	62	1.80	130	1.10	1.0488	75	69	2.20	133	0.94	0.9695	73	66	1.80	133
b2	1.10	1.0488	71	63	2.10	130	1.10	1.0488	76	69	2.20	133	1.00	1.0000	73	66	2.00	133
	1.10	1.0488	72	63	2.10	130	1.10	1.0488	76	69	2.20	133	1.10	1.0488	74	66	2.20	132
b3	1.10	1.0488	74	63	2.10	130	1.10	1.0488	77	69	2.20	133	1.10	1.0488	74	66	2.20	133
	1.10	1.0488	74	65	2.10	131	1.10	1.0488	77	70	2.20	133	1.10	1.0488	73	66	2.20	134
b4	1.10	1.0488	75	65	2.20	132	1.10	1.0488	72	70	2.20	133	1.10	1.0488	73	67	2.20	134
	1.10	1.0488	76	66	2.20	132	1.10	1.0488	78	70	2.20	133	1.10	1.0488	73	66	2.20	134
b5	1.10	1.0488	76	67	2.20	131	1.10	1.0488	78	70	2.20	134	1.10	1.0488	72	66	2.20	134
	1.10	1.0488	77	68	2.20	131	1.10	1.0488	78	70	2.20	134	1.10	1.0488	72	66	2.20	134
b6	1.00	1.0000	77	69	2.00	132	1.00	1.0000	79	70	2.00	133	1.00	1.0000	72	66	2.00	134
	1.00	1.0000	76	69	2.00	131	1.00	1.0000	79	70	2.00	133	1.00	1.0000	72	66	2.00	134
AVG	1.05	1.0250	63.7		2.03	130	1.07	1.0320	70.4		2.10	133	1.07	1.0340	68.2		2.11	133

10/25/10 cc

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 29 (Metals)
Run Number	C2 - R1
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 19, 2010
Operator	R. Burns
Stack Dia. - in.	48"
Start Time	1058 1204
Stop Time	1158 1304

Barometric Pressure	29.86
Static Pressure	+0.45
Probe/Pitot Number	MS-5-F
Pitot Coefficient	0.84
Filter Box No.	H8-19
Meter Box No.	80102
Orifice Coefficient (Y)	0.990
Delta H @	1.702
Nozzle Size/No.	0.225
XAD Thermocouple ID:	N/A
Imp Outlet TC ID:	AUX-3400

LEAK CHECKS in "Hg

INITIAL VAC. 15 in. CFM 0.004

MID VAC. ____ in. CFM ____

FINAL VAC. 8 in. CFM 0.002

\+ - + -

INIT. PITOT ✓ ✓ FINAL PITOT ✓ ✓

FILTER DATA

NUMBER	TARE
Quartz	

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
100		
100		
SG		

Orsat	
CO2	O2

SILICA GEL	
222.5	

Final Purge Rate

Final PH

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
E 1	0	1.0	1.9	956.257	129	246	251	N/A	48	52	51	5.0	
	5	1.0	1.9	959.9	128	258	253		48	55	51	5.0	
2	10	1.1	2.1	963.6	130	246	246		43	56	52	5.0	
	15	1.1	2.1	967.4	131	244	246		43	59	53	6.0	
3	20	1.1	2.1	971.3	130	244	249		43	60	53	6.0	
	25	1.1	2.1	975.2	131	258	247		44	62	54	6.0	
4	30	1.1	2.1	979.1	130	252	263		44	64	55	6.5	
	35	1.1	2.1	983.0	130	259	265		44	65	56	6.5	
5	40	1.1	2.1	986.9	131	253	260		44	65	57	7.0	
	45	1.1	2.1	990.8	130	246	253		45	66	57	7.0	
6	50	0.90	1.7	995.0	130	260	248		45	68	58	7.0	
	55	0.85	1.6	998.3	130	240	245		46	67	59	6.5	
5 1	60	0.95	1.8	1001.768	131	253	247		51	64	60	6.0	
	65	0.95	1.8	1005.4	130	258	243		47	70	62	6.0	
2	70	1.1	2.1	1009.1	130	244	244		46	71	63	6.5	
	75	1.1	2.1	1013.0	130	246	247		46	72	63	7.0	
3	80	1.1	2.1	1016.9	130	243	264		46	74	63	7.0	
	85	1.1	2.1	1021.0	131	244	253		47	74	65	7.0	
4	90	1.1	2.2	1024.9	132	246	256		47	75	65	7.0	
	95	1.1	2.2	1029.0	132	248	259		49	76	66	7.0	
5	100	1.1	2.2	1033.0	131	242	257		49	76	67	7.0	
	105	1.1	2.2	1037.0	131	240	260		50	77	68	7.0	
6	110	1.0	2.0	1041.1	132	250	258		49	77	69	7.0	
	115	1.0	2.0	1045.0	131	254	249	↓	49	76	69	7.0	
End	120	—	—	1048.825	—	—	—	—	—	—	—	—	

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 29 (Metals)
Run Number	C2-R2
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October , 2010
Operator	Ryan Burns
Stack Dia. - in.	48"
Start Time	1440 1545
Stop Time	1540 1645

Barometric Pressure	29.81
Static Pressure (in)	-0.45
Probe/Pitot Number	NS-S-F
Pitot Coefficient	0.84
Filter Box No.	HB-19
Meter Box No.	~~80612~~ 80102
Orifice Coefficient (Y)	0.990
Delta H @	1.902
Nozzle Size/No.	0.225
XAD Thermocouple ID:	N/A
Imp Outlet TC ID:	AUX-3400

LEAK CHECKS in "Hg

INITIAL VAC. 15 in. CFM 0.009

MID VAC. in. CFM

FINAL VAC. 8 in. CFM 0.005

+ - + -

INIT. PITOT ✓ ✓ FINAL PITOT ✓✓

FILTER DATA

NUMBER	TARE
Quartz	

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
100		
100		
SG		

SILICA GEL	
223.3	

Final Purge Rate

Final PH

Orsat	
CO2	O2

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
S 1	0	0.94	1.8	49.116	132	248	247	N/A	55	63	61	3.5	
	5	0.94	1.8	53.2	130	243	244		45	65	62	4.0	
2	10	1.1	2.1	56.4	132	253	263		45	66	62	4.0	
	15	1.1	2.1	60.3	133	246	248		45	68	62	4.5	
3	20	1.1	2.1	64.2	133	254	242		45	70	63	5.0	
	25	1.1	2.2	68.1	133	259	244		46	71	63	5.0	
4	30	1.1	2.2	72.1	132	254	252		47	73	64	5.0	
	35	1.1	2.2	76.2	133	246	263		47	74	65	5.0	
5	40	1.1	2.2	80.2	133	255	260		48	75	66	5.5	
	45	1.1	2.2	84.3	133	250	256		49	76	67	6.0	
6	50	0.95	1.8	88.2	132	250	245		49	77	68	5.5	
	55	0.95	1.8	92.0	132	247	248		49	76	68	5.5	
W 1	60	1.1	2.2	95.570	132	249	256		54	72	69	6.0	
	65	1.1	2.2	99.6	133	259	264		49	75	69	6.0	
2	70	1.1	2.2	103.6	133	253	257		50	76	69	6.0	
	75	1.1	2.2	107.7	133	245	252		50	76	69	6.5	
3	80	1.1	2.2	111.7	133	255	244		51	77	69	6.5	
	85	1.1	2.2	115.9	133	254	243		52	77	70	6.5	
4	90	1.1	2.2	119.9	133	247	254		52	77	70	6.5	
	95	1.1	2.2	124.0	133	257	253		52	78	70	7.0	
5	100	1.1	2.2	128.2	134	246	251		51	78	70	7.0	
	105	1.1	2.2	132.1	134	256	254		51	78	70	7.0	
6	110	1.0	2.0	136.1	133	251	246		51	79	70	7.0	
	115	1.0	2.0	140.0	133	255	249	✓	51	79	70	7.0	
End	120	—	—	143879	—	—	—	—	—	—	—	—	

17

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 29 (Metals)
Run Number	C2-R3
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 19, 2010
Operator	R. Burns
Stack Dia. - in.	48"
Start Time	1758 1902
Stop Time	1858 2002

Barometric Pressure	29.75
Static Pressure (Ps)	+ 0.45
Probe/Pitot Number	NS-5-F
Pitot Coefficient	0.84
Filter Box No.	HB-19
Meter Box No.	~~8564B~~ 8010Z
Orifice Coefficient (Y)	0.990
Delta H @	1.902
Nozzle Size/No.	0.225
XAD Thermocouple ID:	N/A
Imp Outlet TC ID:	AUX-5400

LEAK CHECKS in "Hg

INITIAL VAC. 15 in. CFM 0.003

MID VAC. ____ in. CFM ____

FINAL VAC. 5 in. CFM 0.001

+ - + -

INIT. PITOT ✓✓ FINAL PITOT ✓✓

FILTER DATA

NUMBER	TARE
Quartz	

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
0		
100		
100		
0		
100		
100		
SG		

SILICA GEL	
224.6	

Final Purge Rate

Final PH

Orsat	
CO2	O2

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in.wc	ORIFICE METER VOL. DeltaH, in.wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT	PUMP VACUUM in. Hg	COMMENTS
E 1	0	1.1	2.1	144.168	132	256	244	N/A	57	65	65	4.0	
	5	1.1	2.1	148.1	133	251	265		49	65	64	4.0	
2	10	1.1	2.1	152.0	133	258	257		47	66	63	4.0	
	15	1.1	2.1	155.9	133	245	247		47	68	63	4.0	
3	20	1.1	2.1	159.9	133	256	242		47	69	63	4.0	
	25	1.1	2.2	163.8	134	254	244		47	71	63	4.5	
4	30	1.2	2.4	167.9	133	255	261		47	71	63	5.0	
	35	1.2	2.4	172.1	134	244	259		47	72	64	5.0	
5	40	1.1	2.2	176.3	134	254	263		46	73	65	5.0	
	45	1.1	2.2	180.4	134	245	264		46	73	65	5.0	
6	50	0.93	1.8	184.4	134	248	247		45	73	65	5.0	
	55	0.94	1.8	188.0	134	258	241		46	74	66	5.0	
1	60	0.98	1.9	191.638	133	249	243		58	70	66	5.0	
	65	0.94	1.8	196.4	133	260	249		46	73	66	5.0	
2	70	1.0	2.0	199.1	133	249	249		46	73	66	5.0	
	75	1.1	2.2	202.9	132	247	250		46	74	66	5.0	
3	80	1.1	2.2	207.0	133	244	263		47	74	66	5.0	
	85	1.1	2.2	211.1	134	248	263		48	73	66	5.0	
4	90	1.1	2.2	215.1	134	258	259		48	73	67	5.0	
	95	1.1	2.2	219.0	134	243	253		48	73	66	5.0	
5	100	1.1	2.2	223.1	134	249	242		47	72	66	5.0	
	105	1.1	2.2	227.1	134	249	243		47	72	66	5.0	
6	110	1.0	2.0	231.2	134	245	252		47	72	66	5.0	
	115	1.0	2.0	235.1	134	248	258		48	72	66	5.0	
End	120	—	—	238.805	—	—	—		—	—	—	—	

AECOM

SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train :	M29 - Metals	CPT
Recovered by : F. Sanguedolce	Recovered by : F. Sanguedolce	Recovered by : F. Sanguedolce
Run No. C2-R1 Date : 10/19/2010	Run No. C2-R2 Date : 10/19/2010	Run No. C2-R3 Date : 10/19/2010
XAD Module No. : N/A	XAD Module No. : N/A	XAD Module No. : N/A
Filter # : N/A Tare: N/A	Filter # : N/A Tare: N/A	Filter # : N/A Tare: N/A

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	202	
2	100	156	
3	100	108	100
4	0	1	100
5	100	100	100
6	100	100	
7	SG		
			DIFF :
Totals	400	667	267
	Initial (g)	Final (g)	DIFF :
Silica Gel	222.5	237.2	14.7
Final Net Moisture Gain:			281.7

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	212	
2	100	152	
3	100	106	100
4	0	1	100
5	100	100	100
6	100	100	100
7	SG		
			DIFF :
Totals	400	671	271
	Initial (g)	Final (g)	DIFF :
Silica Gel	223.3	238.7	15.4
Final Net Moisture Gain:			286.4

Impinger No. and Volume

No.	Initial (mL)	Final (mL)	Rinse (mL)
1	0	215	
2	100	165	
3	100	114	100
4	0	4	100
5	100	100	100
6	100	100	100
7	SG		
			DIFF :
Totals	400	648	298
	Initial (g)	Final (g)	DIFF :
Silica Gel	224.6	238.5	13.9
Final Net Moisture Gain:			311.9

5% HNO_3 / 10% H_2O_2 — Ricca Chemical — Lot 2009817 — exp. 9/2011

0.1N HNO_3 — Fisher Chemical — Lot 102519 — exp. 05/2012

10% H_2SO_4 — Ricca Chemical — Lot 2008321 — exp. 07/2012

8.0N HCl — Ricca Chem. — Lot. 2009675 — exp. 09/2011

$KMnO_4$ — Fisher C — Lot 1006

Method 26A Sampling Parameters
Norlite MACT CPT - Test Condition 2

Run No.		C2-R1	C2-R2	C2-R3	
Date		19-Oct-10	19-Oct-10	19-Oct-10	
Start Time	**Units**	10:58	14:40	17:58	
Stop Time		13:04	16:45	20:02	**AVGS**
Nozzle Diameter	inches	0.218	0.218	0.218	0.218
Barometric Pressure	in. Hg	29.81	29.81	29.75	29.79
Net Sampling Time	min.	120.0	120.0	120.0	120.0
Volume Metered	dcf	89.567	90.510	90.284	90.120
Avg. DGM Temp.	°F	61.0	68.2	66.3	65.2
Avg Delta H	in H_2O	1.74	1.76	1.77	1.76
Avg Delta H	in. Hg	0.1281	0.1293	0.1299	0.1291
DGM Calibration Factor	--	1.0160	1.0160	1.0160	1.0160
Gas Sample Volume	**dscf**	**92.271**	**91.981**	**91.896**	**92.049**
Total Water Collected	mL	276.1	262.8	308.2	282.4
Volume of Water Vapor	scf	13.018	12.391	14.532	13.314
Moisture (measured)	% v/v	12.4	11.9	13.7	12.6
Moisture (@ saturation)	% v/v	14.8	15.2	15.6	15.2
Dry Mole Fraction, 100-%M	--	0.8764	0.8813	0.8635	0.8737
CO_2 at Stack	% dry	3.90	4.00	4.00	3.97
O_2 at Stack	% dry	13.37	15.80	15.80	14.99
CO + N_2	% dry	82.73	80.20	80.20	81.04
Dry Molecular Weight	lb/lb-mole	29.16	29.27	29.27	29.23
Wet Molecular Weight	lb/lb-mole	27.78	27.93	27.73	27.82
Excess Air at Stack	%	157.7	294.1	294.1	248.6
Stack Diameter	inches	48.0	48.0	48.0	48.0
Stack Area	sq. in.	1809.6	1809.6	1809.6	1809.6
Static Pressure	in H_2O	0.45	0.45	0.45	0.45
Stack Pressure	in. Hg	29.84	29.84	29.78	29.82
Avg. Stack Temp.	°F	129.1	130.9	131.8	130.6
Avg. Sqroot of Delta P	--	1.0311	1.0330	1.0315	1.0319
SDE Average	--	25.027	25.111	25.092	25.077
Pitot Coefficient	--	0.84	0.84	0.84	0.84
Stack Gas Velocity	afpm	3,746	3,748	3,762	3,752
Stack Flowrate	wet acfm	47,069	47,096	47,279	47,148
Stack Flowrate	wet scfm	42,077	41,973	41,989	42,013
Stack Flowrate	**dscfm**	**36,874**	**36,990**	**36,256**	**36,707**
Isokinetics	**%**	**101**	**100**	**102**	**101**
Meter Box No.	--	808028	808028	808028	--
Delta H @	in H_2O	1.834	1.834	1.834	--
Field QA Yqc	--	0.970	0.969	0.973	0.971
[Deviation] Pre-Y	%	4.51%	4.59%	4.20%	4.43%

QC DATE INIT

10/25/10 CC

Norlite MACT CPT - Test Condition 2

PT	C2-R1 AVGS -- PM / HCl / Cl_2						C2-R2 AVGS -- PM / HCl / Cl_2						C2-R3 AVGS -- PM / HCl / Cl_2					
	Delta P	SQRT Delta P	DGM IN	DGM OUT	Delta H	STACK TEMP	Delta P	SQRT Delta P	DGM IN	DGM OUT	Delta H	STACK TEMP	Delta P	SQRT Delta P	DGM IN	DGM OUT	Delta H	STACK TEMP
a1	0.98	0.9899	50		1.60	129	1.00	1.0000	58		1.60	131	0.94	0.9695	63		1.60	127
	0.98	0.9899	50		1.60	127	1.00	1.0000	58		1.60	131	0.94	0.9695	63		1.50	132
a2	1.10	1.0488	50		1.80	128	1.10	1.0488	60		1.80	131	1.10	1.0488	63		1.80	132
	1.10	1.0488	51		1.80	129	1.10	1.0488	60		1.80	131	1.10	1.0488	63		1.80	132
a3	1.20	1.0954	52		1.90	129	1.10	1.0488	62		1.80	131	1.10	1.0488	64		1.80	131
	1.20	1.0954	53		1.90	129	1.10	1.0488	63		1.80	131	1.20	1.0954	64		2.00	132
a4	1.10	1.0488	55		1.80	128	1.20	1.0954	65		2.00	131	1.10	1.0488	65		1.80	132
	1.10	1.0488	56		1.80	129	1.20	1.0954	66		2.00	131	1.10	1.0488	65		1.80	132
a5	1.00	1.0000	57		1.60	129	1.10	1.0488	68		1.80	131	1.10	1.0488	68		1.80	132
	1.00	1.0000	58		1.60	129	1.10	1.0488	68		1.80	131	1.10	1.0488	67		1.80	132
a6	0.98	0.9899	60		1.60	129	0.93	0.9644	70		1.60	131	1.00	1.0000	68		1.70	132
	0.96	0.9798	60		1.60	129	0.93	0.9644	70		1.60	131	1.00	1.0000	68		1.70	132
b1	0.88	0.9381	62		1.50	127	0.96	0.9798	70		1.60	129	0.95	0.9747	67		1.60	132
	0.88	0.9381	62		1.50	128	0.97	0.9849	70		1.60	131	0.94	0.9695	68		1.60	131
b2	1.10	1.0488	64		1.80	130	1.10	1.0488	71		1.80	131	1.00	1.0000	68		1.70	132
	1.10	1.0488	65		1.80	130	1.10	1.0488	71		1.80	131	1.10	1.0488	68		1.80	132
b3	1.10	1.0488	66		1.80	130	1.20	1.0954	71		2.00	131	1.10	1.0488	68		1.80	132
	1.20	1.0954	68		2.00	130	1.20	1.0954	71		2.00	131	1.10	1.0488	68		1.80	133
b4	1.10	1.0488	69		1.80	131	1.10	1.0488	72		1.80	131	1.10	1.0488	68		1.80	133
	1.10	1.0488	70		1.80	130	1.10	1.0488	73		1.80	131	1.20	1.0954	68		2.00	132
b5	1.10	1.0488	71		1.80	129	1.00	1.0000	74		1.60	131	1.20	1.0954	67		2.00	132
	1.10	1.0488	72		1.80	130	1.10	1.0488	75		1.80	131	1.10	1.0488	67		1.80	132
b6	1.10	1.0488	72		1.80	130	0.98	0.9899	75		1.60	131	1.00	1.0000	67		1.70	132
	1.10	1.0488	72		1.80	130	0.98	0.9899	76		1.60	131	1.00	1.0000	67		1.70	132
AVG	1.07	1.0311	61		1.74	129	1.07	1.0330	68		1.76	131	1.07	1.0315	66		1.77	132

10/25/10 cc

AECOM EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 26A (PM, HCl & Cl2)
Run Number	C2-R1
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 19, 2010
Operator	J. Handley
Stack Dia. - in.	48
Start Time	1058 1204
Stop Time	1155 1304

Barometric Pressure	29.81
Static Pressure (+/-)	+0.45
Probe/Pitot Number	PS-5-2
Pitot Coefficient	.84
Filter Box No.	NB-3
Meter Box No.	808028
Orifice Coefficient (Y)	1.416
Delta H @	1.834
Nozzle Size/No.	0.318
XAD Thermocouple ID:	AUX-11#8
Imp Outlet TC ID:	T-26

LEAK CHECKS in "Hg

INITIAL VAC. 15 in. CFM 0.010

MID VAC. ____ in. CFM

FINAL VAC. 8 in. CFM 0.017

\+ - + -

INIT. PITOT ✓ ✓ FINAL PITOT ✓ ✓

FILTER DATA

NUMBER	TARE
FI8444	0.3431 g

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
50		
100		
100		
0		
100		
100		
SG		
SILICA GEL		Final Purge Rate
223.3		Final PH

Orsat	
CO2	O2

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1 q	0	0.96	1.6	301,297	129	258	259	206	42	50	N/A	3	
s	5	0.98	1.6	305.12	127	257	258	244	37	50		3	
2 q	10	1.1	1.8	308.72	128	255	256	246	37	50		4	
s	15	1.1	1.8	312.44	129	256	257	246	37	51		4	
3 q	20	1.2	1.9	316.21	129	256	259	246	38	52		5	
s	25	1.2	1.9	320.07	129	256	257	241	38	53		5	
4 q	30	1.1	1.8	323.87	128	257	259	240	38	55		4.5	
s	35	1.1	1.8	327.64	129	256	259	239	38	56		4.5	
5 q	40	1.0	1.6	331.40	129	256	258	240	39	57		3.5	
s	45	1.0	1.6	334.95	129	256	258	240	40	58		3.5	
6 q	50	0.98	1.6	338.58	129	256	259	239	41	60		3.5	
s	55	0.96	1.6	342.03	129	257	259	240	41	60		4	
1 q	60	0.88	1.5	345.64	127	258	258	209	45	62		3.5	
s	65	0.88	1.5	349.05	128	255	259	232	39	62		3.5	
2 q	70	1.0	1.8	352.58	130	255	258	237	40	64		5	
s	75	1.1	1.8	356.32	130	254	259	237	40	65		5	
3 q	80	1.1	1.8	360.12	130	258	260	240	42	66		5.5	
s	85	1.2	2.0	364.06	130	256	260	237	43	68		7	
4 q	90	2.1	1.8	368.00	131	254	257	237	44	69		6	
s	95	1.1	1.8	371.78	130	257	259	236	44	70		6	
5 q	100	1.1	1.8	375.60	129	255	259	236	45	71		6	
s	105	1.1	1.8	379.54	130	255	259	233	45	72		6	
6 q	110	1.0	1.8	383.25	130	252	260	238	45	72		6	
s	115	1.1	1.8	387.06	130	256	260	239	46	72		6	
end	120			390.864							✓		

27

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 26A (PM, HCl & Cl2)
Run Number	C2 - R2
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Exhaust Stack
Date	October 19, 2010
Operator	J. Hendley
Stack Dia. - in.	48
Start Time	1440 1545
Stop Time	1540 1645

Barometric Pressure	29.81
Static Pressure (+/-)	-0.45
Probe/Pitot Number	MS-5-2
Pitot Coefficient	0.84
Filter Box No.	HB-3
Meter Box No.	808028
Orifice Coefficient (Y)	1.016
Delta H @	1.834
Nozzle Size/No.	0.218
XAD Thermocouple ID:	AUX 2036
Imp Outlet TC ID:	LI-26

LEAK CHECKS in "Hg

INITIAL VAC.	15	in.	CFM	0.016	
MID VAC.		in.	CFM		
FINAL VAC.	7	in.	CFM	0.002	
	+	-		+	-
INIT. PITOT	✓	✓	FINAL PITOT	✓	✓

FILTER DATA

NUMBER	TARE

IMPINGER VOL'S.		
INIT.	FINAL	RINSE
50		
100		
100		
0		
100		
100		
SG		

SILICA GEL	
223.1	

Final Purge Rate

Final PH

Orsat	
CO2	O2

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	TEMPERATURE READINGS, °F							PUMP VACUUM in. Hg	COMMENTS
					STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT		
1 a	0	1.0	1.6	391.721	131	254	260	204	48	58	N/A	4	
b	5	1.0	1.6	394.85	131	259	259	238	40	58		4	
2 a	10	1.1	1.8	398.41	131	251	259	249	40	60		5	
b	15	1.1	1.8	402.12	131	256	259	250	41	60		5	
3 a	20	1.1	1.8	405.93	131	257	259	247	41	62		5.5	
b	25	1.1	1.8	408.92	131	257	260	245	41	63		5.5	
4 a	30	1.2	2.0	413.59	131	257	260	242	41	65		7	
b	35	1.2	2.0	417.58	131	254	259	244	42	66		7	
5 a	40	1.1	1.8	421.59	131	253	259	247	43	68		6	
b	45	1.1	1.8	425.39	131	252	259	247	44	68		6	
6 a	50	0.93	1.6	429.25	131	258	259	247	44	70		4.5	
b	55	0.93	1.6	432.88	131	257	259	255	44	70		4.5	
1 a	60	0.96	1.6	436.512	129	257	258	224	46	70		4.5	
b	65	0.97	1.6	440.09	131	257	258	237	44	70		4.5	
2 a	70	1.1	1.8	443.71	131	256	259	240	44	71		5.5	
b	75	1.1	1.8	447.52	131	257	258	239	45	71		6	
3 a	80	1.2	2.0	451.35	131	254	258	237	46	71		7	
b	85	1.2	2.0	455.41	131	255	260	232	46	71		7	
4 a	90	1.1	1.8	459.37	131	257	258	232	47	72		6.5	
b	95	1.1	1.8	463.41	131	256	258	234	49	73		6.5	
5 a	100	1.0	1.6	467.31	131	259	256	232	49	74		6	
b	105	1.1	1.8	470.64	131	251	259	229	49	75		6.5	
6 a	110	0.98	1.6	474.50	131	255	259	234	49	75		5.5	
b	115	0.98	1.6	478.08	131	256	258	235	50	76		5.5	
end	120			481.731									

27

AECOM

EPA ISOKINETIC SAMPLING - FIELD DATA SHEET

Sampling Train	Method 26A (PM, HCl & Cl2)
Run Number	3 C2-R3
Client	Norlite Corporation
Facility Location	Cohoes, NY
Source	Kiln 1 Baghouse Outlet
Date	October 19, 2010
Operator	J. Hendley
Stack Dia. - in.	52
Start Time	1758 1902
Stop Time	1858

Barometric Pressure	29.85
Static Pressure (+/-)	+0.45
Probe/Pitot Number	MS-5-2
Pitot Coefficient	0.84
Filter Box No.	HB-3
Meter Box No.	808028
Orifice Coefficient (Y)	1.016
Delta H @	1.834
Nozzle Size/No.	0.218
XAD Thermocouple ID	XX148
Imp Outlet TC ID:	LI-26

LEAK CHECKS in "Hg

INITIAL VAC.	15	in.	CFM	0.011
MID VAC.		in.	CFM	
FINAL VAC.	9	in.	CFM	0.003

INIT. PITOT + ✓ - ✓ FINAL PITOT + ✓ - ✓

FILTER DATA

NUMBER	TARE
T1846	0.32695

IMPINGER VOL'S. INIT.	FINAL	RINSE
50		
100		
100		
0		
100		
100		
SG		

SILICA GEL: 223.8

Orsat CO2	O2

Final Purge Rate

Final PH

SAMPLE POINT	CLOCK TIME	VELOCITY HEAD DeltaP, in wc	ORIFICE METER VOL. DeltaH, in wc	GAS METER VOLUME ft³	STACK	PROBE	OVEN	ORGANIC MODULE	IMPINGER	GAS METER IN	GAS METER OUT	PUMP VACUUM in. Hg	COMMENTS
1a	0	0.94	1.6	482.888	127	259	261	225	53	63	N/A	4	
b	5	0.94	1.5	486.48	132	259	259	237	49	63		3	
2a	10	1.1	1.8	489.95	132	257	259	246	48	63		4.5	
b	15	1.1	1.8	493.69	132	257	260	247	49	63		5	
3a	20	1.1	1.8	497.45	131	257	258	247	51	64		5	
b	25	1.2	2.0	501.23	132	257	259	248	52	64		6.5	
4a	30	1.1	1.8	505.20	132	254	259	246	53	65		5.5	
b	35	1.1	1.8	568.99	132	257	259	246	53	65		5.5	
5a	40	1.1	1.8	512.78	132	255	258	247	53	66		5.5	
b	45	1.1	1.8	516.57	132	256	260	248	51	67		5.5	
6a	50	1.0	1.7	520.38	132	256	260	249	48	68		5	
b	55	1.0	1.7	524.10	132	257	259	248	46	68		5	
1a	60	0.95	1.6	527.815	132	256	259	236	48	67		5	
b	65	0.94	1.6	531.37	131	257	259	244	45	68		4.5	
2a	70	1.0	1.7	535.01	132	257	259	246	45	68		5	
b	75	1.1	1.8	538.63	132	256	261	245	45	68		5.5	
3a	80	1.1	1.8	542.48	132	256	258	243	45	68		5.5	
b	85	1.1	1.8	546.29	133	256	259	241	45	68		6	
4a	90	1.1	1.8	550.10	132	256	258	241	45	68		6	
b	95	1.2	2.0	553.89	132	257	258	241	45	68		7	
5a	100	1.2	2.0	557.94	132	257	258	242	46	67		7	
b	105	1.1	1.8	561.96	132	257	259	243	45	67		6	
6a	110	1.0	1.7	565.79	132	256	258	246	45	67		5.5	
b	115	1.0	1.7	569.47	132	255	260	246	45	67		5	
end	120			573.172									

JJ

AECOM

SAMPLE TRAIN MOISTURE RECOVERY DATA SHEET

Reference Method / Sampling Train : M26A - PM, HCl and Cl_2 CPT

Recovered by: Sanguedolce/Roeck				Recovered by: Roeck				Recovered by: Roeck/Sanguedolce			
Run No. C2-R1 Date: 10/19/2010				Run No. C2-R2 Date: 10/19/2010				Run No. C2-R3 Date: 10/19/2010			
XAD Module No.: N/A				XAD Module No.: N/A				XAD Module No.: N/A			
Filter #: Teflon 1844 Tare: 0.3431g				Filter #: Teflon 1845 Tare: 0.3482g				Filter #: Teflon 1846 Tare: 0.3269g			
Impinger No. and Volume				Impinger No. and Volume				Impinger No. and Volume			
No.	Initial (mL)	Final (mL)	Rinse (mL)	No.	Initial (mL)	Final (mL)	Rinse (mL)	No.	Initial (mL)	Final (mL)	Rinse (mL)
1	50	220 50	} 130	1	50	207 48	} 125	1	50	248 16	↓
2	100	135		2	100	138		2	100	162	↓
3	100	104		3	100	106		3	100	113	105
4	0	8		4	0	2		4	0	3	20
5	100	98	} 16	5	100	98	} 11	5	100	100	↓
6	100	97		6	100	99		6	100	100	66
7	SG		DIFF:	7	SG		DIFF:	7	SG		DIFF:
Totals	450	712	262.0	Totals	450	698	248	Totals	450	742	292
	Initial (g)	Final (g)	DIFF:		Initial (g)	Final (g)	DIFF:		Initial (g)	Final (g)	DIFF:
Silica Gel	223.3	237.4	14.1	Silica Gel	223.1	237.9	14.8	Silica Gel	223.8	240.0	16.2
Final Net Moisture Gain:			276.1	Final Net Moisture Gain:			262.8	Final Net Moisture Gain:			308.2

0.1N H_2SO_4 — Fisher Scientific — Lot 1006565 — exp. 6/2012 — Ricca Chemical

0.1N NaOH — Fisher Scientific — Lot 2008229 — exp. 7/2012 — Ricca Chemical

Acetone — Fisher Scientific — Lot 102868

1.0N Sodium Thiosulfate — Ricca Chemical — Lot 2005627 — exp. 11/2011

Sample Shipment Documentation (October 2010 Test)

Sample Shipment Summary - Norlite Corporation
MACT CPT & WS Inlet Testing - October 2010

Sample Description (Laboratory)	Analyses	Packages / Comments	FedEx Airbill #	Date Shipped
Method 29	Metals	FHR + Imp 4 + Imp1-3 FB		
(TA-Sacramento)		1-DOT(9)	8739 6577 0093	21-Oct-10
Method 29	Metals	Imp 1-3 (5% / 10%)		
(TA-Sacramento)		1-DOT(4)	8739 6577 0108	21-Oct-10
Method 29	Metals	FHR FB + Filters		
(TA-Sacramento)		1-DOT(4)	8739 6577 0119	21-Oct-10
Method 29	Mercury	Imp 5-6 (KMnO4)		
(TA-Sacramento)		1-DOT(4)	8739 6577 0130	21-Oct-10
Method 29	Mercury	HCl Rinse + FB + $KMnO_4$ FB		
(TA-Sacramento)		1-DOT(9)	8739 6577 0120	21-Oct-10
Method 26A	HCl	Imp 1-4 (H_2SO_4)		
(TA-Sacramento)		1-DOT(4)	8739 6577 0050	21-Oct-10
Method 26A	HCl & Cl_2	Field Blanks		
(TA-Sacramento)		1-DOT(4)	8739 6577 0060	21-Oct-10
Method 26A	Cl_2	Imp 5-6 (NaOH)		
(TA-Sacramento)		1-DOT(4)	8739 6577 0071	21-Oct-10
Method 0023A	D/F	FHR / BHR + FB	8739 6577 0038	
(Vista Analytical)		2-DOT(9)	8739 6577 0049	21-Oct-10
Method 0023A	D/F	XAD + Filters	8739 6577 0016	
(Vista Analytical)		2 - Coolers	8739 6577 0027	21-Oct-10
			Page 1 of 2	

Dangerous Goods Shipment Details - Norlite Corporation
MACT CPT & WS Inlet Testing - October 2010

Sample Train	Reagent / Fraction	DOT Box Type	Description of Contents
Method 29	0.1 N HNO_3	1-DOT(9)	4 - 250-mL FHR (CPT & WS)
			4 - 250-mL Imp 4 (CPT & WS)
			1 - 200-mL Imp 1-3 FB
	5% HNO_3 / 10% H_2O_2	1-DOT(4)	3 - 950-mL Imp 1-3 (CPT)
			1 - 950-mL Imp 1-2 (WS)
	0.1 N HNO_3	1-DOT(4)	1 - 300-mL FHR FB
			5 - Filters (CPT & WS)
	10% H_2SO_4 /	1-DOT(4)	3 - 500-mL Imp 5-6 (CPT)
	$KMnO_4$		1 - 500-mL Imp 4-5 (WS)
	8 N HCl	1-DOT(9)	4 - 250-mL Imp 5-6 (CPT & WS)
			1 - 225-mL HCl FB
			1 - 100-mL DI FB
			1 - 100-mL $KMNO_4$ FB
Method 26A	0.1N H_2SO_4	1-DOT(4)	3 - 950-mL Imp 1-4 (CPT)
			1 - 950-mL Imp 1-3 (WS)
	0.1N H_2SO_4	1-DOT(4)	1 - 250-mL H_2SO_4 FB
			1 - 250-mL NaOH FB
			1 - 250-mL DI FB
	0.1N NaOH	1-DOT(4)	3 - 500-mL Imp 5-6 (CPT)
			1 - 500-mL Imp 4-5 (WS)
Method 0023A	Acetone / MeCl / Toluene	1-DOT(9)	6 - 250-mL FHR (CPT)
			1 - 250-mL FHR/BHR (WS)
		1-DOT(9)	6 - 250-mL BHR (CPT)
			1 - 250-mL FB
			Page 2 of 2

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770050 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	6.0 lbs/2.7 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 07:12	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 07:08	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx Express **US Airbill**

FedEx Tracking Number 8739 6577 0050

Form I.D. No. 0200 — **Sender's Copy**

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street Dept/Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name Mr. Robert Weidenfeld Phone (916) 374-4333

Company TestAmerica Sacramento

Address 880 Riverside Parkway Dept/Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

☐ HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

☐ HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

City West Sacramento State CA ZIP 95605

M26A
0.1 N H_2SO_4 Pkg 1

4a Express Package Service *To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service **To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* (Includes FedEx Small Pak and FedEx Large Pak.) ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☐ No ☒ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender (Acct. No. in Section 1 will be billed.) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages 1 Total Weight 6 lbs. Total Declared Value† $____.00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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RETAIN THIS COPY FOR YOUR RECORDS.

Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0050 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure:

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1760	Corrosive Liquid, n.o.s. (Sulfuric Acid in Solution)	8	III	One 4G Fiberboard Box x 0.6 L	818	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770060 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	10.0 lbs/4.5 kg	Reference	60163411 200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx® US Airbill Express

FedEx Tracking Number 8739 6577 0060

Form ID No. 0200 — Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street

Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference 60163411-200
First 24 characters will appear on invoice.

3 To

Recipient's Name Mr. Robert Weidenfeld Phone (916) 374-4333

Company TestAmerica Sacramento

Address 880 Riverside Parkway
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address ~~West Sacramento~~
Use this line for the HOLD location address or for continuation of your shipping address.

City West Sacramento State CA ZIP 95605

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

M26A 0.1N H_2SO_4 PKg 2

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 (FedEx 1Day Freight Booking No.)
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

- [ ] No
- [X] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	10 lbs.	$ ____ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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RETAIN THIS COPY FOR YOUR RECORDS.

Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0060 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1760	Corrosive Liquid, n.o.s. (Sulfuric Acid in Solution)	8	III	One 4G Fiberboard Box x 3.6 L	818	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770071 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	7.0 lbs/3.2 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx Express US Airbill

FedEx Tracking Number 8739 6577 0071

Form ID No. 0200 — Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street

Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name Mr. Robert Weidenfeld Phone (916) 374-4333

Company TestAmerica Sacramento

Address 880 Riverside Parkway

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight. ☐

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations. ☐

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City West Sacramento State CA ZIP 95605

1426A 0.1N NaOH Pkg 1

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 — FedEx 1Day Freight Booking No.
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

☐ No ☒ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	1 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper	AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047
Consignee	TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605
Attn:	Mr. Robert Weidenfeld, (916)-374-4333

Air Waybill No. 8739 6577 0071

Page 1 of 1 Pages

Shipper's Reference Number 60163411, Task 200

Fed Ex

Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1824	Sodium Hydroxide Solution	8	III	One 4G Fiberboard Box x 2.0 L	819	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770093 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	10.0 lbs/4.5 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx® US Airbill
Express

FedEx Tracking Number 8739 6577 0093

0200 Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936 (FEDEX USE ONLY)

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street

Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-2.00

3 To

Recipient's Name Mr. Robert Weidenfeld Phone (916) 374-4333

Company TestAmerica Sacramento

Address 880 Riverside Parkway

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City West Sacramento State CA ZIP 95605

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

M29 0.1 N HNO3 (FHR + IMPF)

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

- [ ] No
- [X] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	10 lbs.	$ ____ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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RETAIN THIS COPY FOR YOUR RECORDS.

Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0093 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure:

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1760	Corrosive Liquid, n.o.s. (Nitric Acid in Solution)	8	III	One 4G Fiberboard Box x 1.8 L	818	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770108 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	13.0 lbs/5.9 kg	Reference	6016 3411 200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 08:16	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx Express US Airbill

FedEx Tracking Number 8739 6577 0108

0200 Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street

Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name Mr. Robert Weidenfeld Phone (916) 374-4333

Company Test America Sacramento

Address 880 Riverside Parkway

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City West Sacramento State CA ZIP 95605

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

M29 5%/10%

Ship on the go at mobile.fedex.com
Tap into all our FedEx® shipping tools with FedEx® Mobile.

4a Express Package Service *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging *Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

- [ ] No
- [X] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:*

- [X] Sender — Acct. No. in Section will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

Enter FedEx Acct. No. or Credit Card No. below.

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	13 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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Project file

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0108 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure:

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1760	Corrosive Liquid, n.o.s. (Nitric Acid in Solution)	8	III	One 4G Fiberboard Box x 3.6 L	818	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** — [X] ICAO / IATA

AECOM Account Number **74984** — [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT. THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770119 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	5.0 lbs/2.3 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 08:11	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:08	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx Express US Airbill

FedEx Tracking Number 8739 6577 0119

Form ID No. 0200 — Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1 [illegible] ONLY

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name Mr. Robert Weidenfeld Phone (916) 374-4333

Company TestAmerica Sacramento

Address 880 Riverside Parkway Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City West Sacramento State CA ZIP 95605

M29 0.1 N HNO_3 (FHRFB + FIL)

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0607 FedEx 1Day Freight Booking No.
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

☐ No ☒ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

☒ Sender Acct. No. in Section 1 will be billed. Enter FedEx Acct. No. or Credit Card No. below. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. or Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	5 lbs.	$ ____ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper	AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. Page 1 of 1 Pages Shipper's Reference Number	8739 6577 0119 60163411, Task 200
Consignee	TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333	Fed Ex Express	

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1760	Corrosive Liquid, n.o.s. (Nitric Acid in Solution)	8	III	One 4G Fiberboard Box x 0.3 L	818	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770120 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	9.0 lbs/4.1 kg	Reference	60163411 200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 08:11	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:08	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx Express **US Airbill**

FedEx Tracking Number: 8739 6577 0120

1 From *Please print and press hard.*

Date: 10/21/10 Sender's FedEx Account Number: 2336-1936-1

Sender's Name: Douglas R. Roeck Phone: (978) 589-3255

Company: AECOM c/o Norlite Corp.

Address: 628 South Saratoga Street Dept/Floor/Suite/Room

City: Cohoes State: NY ZIP: 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name: Mr. Robert Weidenfeld Phone: (916) 374-4333

Company: TestAmerica Sacramento

Address: 880 Riverside Parkway Dept/Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address: Use this line for the HOLD location address or for continuation of your shipping address.

City: West Sacramento State: CA ZIP: 95605

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

M29 HCl Rinse + FB

0200 **Sender's Copy**

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx 1Day Freight Booking No.: CALL 1.800.332.0807
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

- [ ] No
- [X] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section 1 will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. ____ Credit Card No. ____ Exp. Date ____

Total Packages	Total Weight	Total Declared Value†
1	9 lbs.	$ ____ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0120 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure:

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1789	Hydrochloric Acid	8	III	One 4G Fiberboard Box x 1.4 L	819	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** — [X] ICAO / IATA

AECOM Account Number **74984** — [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R. Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770130 Select time format: **24H**

Delivered

Delivered
Signed for by: C.VUE

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 09:04	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	10.0 lbs/4.5 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 09:04	**Delivered**		
Oct 22, 2010 08:19	On FedEx vehicle for delivery	SACRAMENTO, CA	
Oct 22, 2010 08:09	At local FedEx facility	SACRAMENTO, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx® US Airbill
Express

FedEx Tracking Number 8739 6577 0130

Form ID No. 0200 — Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1 [illegible]

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name Mr. Robert Weidenfeld Phone (916) 374-4333

Company TestAmerica Sacramento

Address 880 Riverside Parkway Dept./Floor/Suite/Room
We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address
Use this line for the HOLD location address or for continuation of your shipping address.

City West Sacramento State CA ZIP 95605

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight. ☐

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations. ☐

M29 KM104

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.
☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

☐ No ☒ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	10 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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RETAIN THIS COPY FOR YOUR RECORDS.

Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper	AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. Page 1 of 1 Pages Shipper's Reference Number	8739 6577 0130 60163411, Task 200
Consignee	TestAmerica Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333		Fed Ex Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1760	Corrosive Liquid, n.o.s. (Sulfuric Acid in Solution)	8	III	One 4G Fiberboard Box x 2.0 L	818	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** [X] ICAO / IATA

AECOM Account Number **74984** [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770038 Select time format: **24H**

Delivered

Delivered
Signed for by: R.BURNELL

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 08:45	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	8.0 lbs/3.6 kg	Reference	60163411 200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 08:45	**Delivered**		
Oct 22, 2010 07:38	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Oct 22, 2010 06:28	At local FedEx facility	RANCHO CORDOVA, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx Express **US Airbill**

FedEx Tracking Number 8739 6577 0038

Form ID No. 0200 — **Sender's Copy**

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street

Dept/Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411 - 200

3 To

Recipient's Name Ms. Martha Maier Phone (916) 673-0114

Company Vista Analytical Laboratory Inc.

Address 1104 Windfield Way

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City El Dorado Hills State CA ZIP 95762

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight. ☐

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations. ☐

M23 FHR/BHR PKg 1

Learn to pack like a pro at fedex.com/packaging
Or let our pros pack for you with FedEx Office℠ Pack & Ship.

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx 1Day Freight Booking No. CALL 1.800.332.0807
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

- ☐ No Signature Required — Package may be left without obtaining a signature for delivery.
- ☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- ☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

☐ No ☒ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:*

☒ Sender — Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Enter FedEx Acct. No. or Credit Card No. below.

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	8 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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RETAIN THIS COPY FOR YOUR RECORDS.

Project File

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0038 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Ms. Martha Maier, (916)-673-0114	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure:

Airport of Destination:

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1993	Flammable Liquid, n.o.s. (Acetone in Solution)	3	II	One 4G Fiberboard Box x 1.4 L	305	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

CHECK ONE:

Emergency Telephone Number **1-800-535-5053** — [X] ICAO / IATA

AECOM Account Number **74984** — [ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager
Place and Date
Cohoes, NY
October 21, 2010
Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT. THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770049 Select time format: **24H**

Delivered

Delivered
Signed for by: R.BURNELL

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 08:45	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	9.0 lbs/4.1 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 08:45	**Delivered**		
Oct 22, 2010 07:38	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Oct 22, 2010 06:28	At local FedEx facility	RANCHO CORDOVA, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:34	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx® US Airbill
Express

FedEx Tracking Number 8739 6577 0049

0200 Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street Dept./Floor/Suite/Room

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name Ms. Martha Maier Phone (916) 673-0114

Company Vista Analytical Laboratory Inc.

Address 1104 Windfield Way Dept./Floor/Suite/Room
We cannot deliver to P.O. boxes or P.O. ZIP codes.

HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Address
Use this line for the HOLD location address or for continuation of your shipping address.

City El Dorado Hills State CA ZIP 95762

M23 FHR/BHR PKG 2

Ship and track packages at fedex.com
Simplify your shipping. Manage your account. Access all the tools you need.

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- [X] FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations.*
- [ ] FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- [ ] FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. CALL 1.800.332.0807 FedEx 1Day Freight Booking No.
- [ ] FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [ ] FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak and FedEx Large Pak.
- [ ] FedEx Box
- [ ] FedEx Tube
- [X] Other

6 Special Handling and Delivery Signature Options

- [ ] SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.
- [ ] No Signature Required — Package may be left without obtaining a signature for delivery.
- [ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- [ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

- [ ] No
- [X] Yes — As per attached Shipper's Declaration.
- [ ] Yes — Shipper's Declaration not required.
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg.
- [ ] Cargo Aircraft Only

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [X] Sender — Acct. No. in Section will be billed.
- [ ] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	9 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

606

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Project file

SHIPPER'S DECLARATION FOR DANGEROUS GOODS

(Provide at least three copies to the airline)

Shipper: AECOM c/o Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047	Air Waybill No. 8739 6577 0049 Page 1 of 1 Pages Shipper's Reference Number 60163411, Task 200
Consignee: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Ms. Martha Maier, (916)-673-0114	**Fed Ex** Express

Two completed and signed copies of this declaration must be handed to the operator.

TRANSPORT DETAILS

This shipment is within the limitations prescribed for: (delete non-applicable)

PASSENGER AND CARGO AIRCRAFT [redacted]

Airport of Departure:

Airport of Destination:

WARNING

Failure to comply with all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.

Shipment type: (delete non-applicable)

NON-RADIOACTIVE [redacted]

NATURE AND QUANTITY OF DANGEROUS GOODS

Dangerous Goods Identification				Quantity and type of packaging	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Packing Group			
UN 1993	Flammable Liquid, n.o.s. (Acetone in Solution)	3	II	One 4G Fiberboard Box x 1.4 L	305	

Additional Handling Information

I declare that all of the applicable air transport requirements have been met.

Emergency Telephone Number **1-800-535-5053**

AECOM Account Number **74984**

CHECK ONE:

[X] ICAO / IATA

[ ] 49 CFR

I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable International and National Governmental Regulations.

Name / Title of Signatory
Douglas R. Roeck
Project Manager

Place and Date
Cohoes, NY
October 21, 2010

Signature (see warning above)
Douglas R Roeck

FOR RADIOACTIVE MATERIAL SHIPMENT ACCEPTABLE FOR PASSENGER AIRCRAFT, THE SHIPMENT CONTAINS RADIOACTIVE MATERIAL INTENDED FOR USE IN OR INCIDENT TO RESEARCH, MEDICAL DIAGNOSIS, OR TREATMENT. ADR EUROPEAN TRANSPORT STATEMENT: CARRIAGE IN ACCORDANCE WITH 1.1.4.2.1

LOGOS #157295 6/01 WCS

Print page | Close

FedEx

Detailed Results

Tracking no.: 873965770016 Select time format: **24H**

Delivered

Delivered
Signed for by: R.BURNELL

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 08:45	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	43.0 lbs/19.5 kg	Reference	60163411 200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 08:45	**Delivered**		
Oct 22, 2010 07:45	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Oct 22, 2010 07:37	At local FedEx facility	RANCHO CORDOVA, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 19:15	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx Express US Airbill

FedEx Tracking Number 8739 6577 0016

Form 0200 **Sender's Copy**

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336-1936-1

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street

Dept/Floor/Suite/Room

City Cohoes. State NY ZIP 12047

2 Your Internal Billing Reference 60163411-0200
First 24 characters will appear on invoice.

3 To

Recipient's Name Ms. Martha Maier Phone (916) 673-0114

Company Vista Analytical Laboratory Inc.

Address 1104 Windfield Way

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room

☐ HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

☐ HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

City El Dorado Hills State CA ZIP 95762

XAD PKS 1

4a Express Package Service *To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service **To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

CALL 1.800.332.0807

FedEx 1Day Freight Booking No.

- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* (Includes FedEx Small Pak and FedEx Large Pak.) ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery — NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender (Acct. No. in Section 1 will be billed.) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	43 lbs.	$ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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FedEx

Detailed Results

Tracking no.: 873965770027 Select time format: **24H**

Delivered

Delivered
Signed for by: R.BURNELL

Shipment Dates	Destination
Ship date Oct 21, 2010	Signature Proof of Delivery
Delivery date Oct 22, 2010 08:45	

Shipment Options

Hold at FedEx Location
Hold at FedEx Location service is not available for this shipment.

Shipment Facts

Service type	Priority Overnight	Delivered to	Shipping/Receiving
Weight	14.0 lbs/6.4 kg	Reference	60163411-200

Shipment Travel History

Select time zone: Local Scan Time

All shipment travel activity is displayed in local time for the location

Date/Time	Activity	Location	Details
Oct 22, 2010 08:45	**Delivered**		
Oct 22, 2010 07:45	On FedEx vehicle for delivery	RANCHO CORDOVA, CA	
Oct 22, 2010 07:37	At local FedEx facility	RANCHO CORDOVA, CA	
Oct 22, 2010 04:39	At dest sort facility	SACRAMENTO, CA	
Oct 22, 2010 03:16	Departed FedEx location	MEMPHIS, TN	
Oct 21, 2010 23:02	Arrived at FedEx location	MEMPHIS, TN	
Oct 21, 2010 20:09	Left FedEx origin facility	MENANDS, NY	
Oct 21, 2010 15:03	Picked up	MENANDS, NY	

FedEx. US Airbill
Express

FedEx Tracking Number 8739 6577 0027

Form ID No. 0200 — Sender's Copy

1 From *Please print and press hard.*

Date 10/21/10 Sender's FedEx Account Number 2336 1936 (NUMBER ONLY)

Sender's Name Douglas R. Roeck Phone (978) 589-3255

Company AECOM c/o Norlite Corp.

Address 628 South Saratoga Street (Dept./Floor/Suite/Room)

City Cohoes State NY ZIP 12047

2 Your Internal Billing Reference First 24 characters will appear on invoice. 60163411-200

3 To

Recipient's Name Ms. Martha Maier Phone (916) 673-0114

Company Vista Analytical Laboratory Inc.

Address 1104 Windfield Way (Dept./Floor/Suite/Room)
We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address
Use this line for the HOLD location address or for continuation of your shipping address.

City El Dorado Hills State CA ZIP 95762

HOLD Weekday — FedEx location address REQUIRED. NOT available for FedEx First Overnight. ☐

HOLD Saturday — FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations. ☐

XAD PKG 2

4a Express Package Service * To most locations. *Packages up to 150 lbs.*

- ☒ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.
- ☐ FedEx First Overnight — Earliest next business morning delivery to select locations.*
- ☐ FedEx 2Day — Second business day.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

4b Express Freight Service ** To most locations. *Packages over 150 lbs.*

- ☐ FedEx 1Day Freight — Next business day.** Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected. FedEx 1Day Freight Booking No. CALL 1.866.332.0807
- ☐ FedEx 2Day Freight — Second business day.** Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- ☐ FedEx 3Day Freight — Third business day.** Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* Includes FedEx Small Pak and FedEx Large Pak. ☐ FedEx Box ☐ FedEx Tube ☒ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx Express Saver, or FedEx 3Day Freight.

- ☐ No Signature Required — Package may be left without obtaining a signature for delivery.
- ☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
- ☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods? One box must be checked.

☒ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box. ☐ Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

☒ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

FedEx Acct. No. / Credit Card No. Exp. Date

Total Packages	Total Weight	Total Declared Value†
1	14 lbs.	$ ____ .00

†Our liability is limited to $100 unless you declare a higher value. See back for details. By using this Airbill you agree to the service conditions on the back of this Airbill and in the current FedEx Service Guide, including terms that limit our liability.

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RETAIN THIS COPY FOR YOUR RECORDS.

Equipment Calibration Data (October 2010 Test)

AECOM

NOZZLE CALIBRATION FORM

Client: Norlite Corp. Project #: 60163411, Task 200

Date: 10/18-19/2010 Calibrated by: Fred Sanguedolce

Nozzle ID #	D_1, in.	D_2, in.	D_3, in.	Delta D, in.	D_{avg}, in.
M23-1	.226	.224	.226	.002	.225
M23-2	.252	.252	.252	—	.252
M29-1	.218	.218	.218	—	.218
M29-2	.253	.253	.253	—	.253
M26A-1	.216	.216	.216	—	.216
M26A-2	.254	.254	.254	—	.254

Where:

$D_{1,2,3}$ = Nozzle diameter measured on a different diameter to the nearest 0.001 in.

Delta D = Maximum difference between any two measurements, in.
Tolerance = 0.004 in.

D_{avg} = Average of $D_{1,2,3}$

G:\Personal\Work\[NozzleCalibFormNorlite.xlsx]A

AECOM Air Laboratory - Clean M5/M201 Filter Data Sheet

Balance Used: Mettler 3 **Page # 100**

Analysis Method: 24-hour desiccation

or

Oven Dried Method

Conditioning	Day	Date	Time	R.H.(%)	R.T. (F)	Analyst
Start	Wednesday	10/13/10	11:14	34	73	AC
Weight 1	Thursday	10/14/10	11:57	34	74	AC
Weight 2	Friday	10/15/10	09:13	36	72	AC
Weight 3						
Weight 4						

Filter #	Filter Size	1st Wt Grams	2nd Wt Grams	Δ1&2 Wt Grams	3rd Wt Grams	Δ 2&3 Wt Grams	4th Wt Grams	Δ 3&4 Wt Grams	Final Weight Grams	
T1844	90 mm	0.3431	0.3431	0.0000					0.3431	
T1845	90 mm	0.3482	0.3482	0.0000					0.3482	TD
T1846	90 mm	0.3269	0.3269	0.0000					0.3269	
T1847	90 mm	0.3474	0.3475	0.0001					0.3475	NORLITE
T1848	90 mm	0.3380	0.3380	0.0000					0.3380	
*T1849	90 mm	0.3098	0.3096	-0.0002					0.3097	
*T1850	90 mm	0.3076	0.3076	0.0000					0.3076	
T1851	90 mm	0.3429	0.3429	0.0000					0.3429	
T1852	90 mm	0.3446	0.3445	-0.0001					0.3446	TD
T1853	90 mm	0.3442	0.3442	0.0000					0.3442	
T1854	90 mm	0.3478	0.3478	0.0000					0.3478	NORLITE
T1855	90 mm	0.3398	0.3399	0.0001					0.3399	
T1856	90 mm	0.3474	0.3474	0.0000					0.3474	
T1857	90 mm	0.3364	0.3362	-0.0002					0.3363	

Filter Type Glass Teflon Quartz

Batch/Lot Number: T12418BW Manufacturer: Pallflex

Inspected by: A. Carpenito

1. Filters must be free of pin holes, tears, lumps, or creases.
2. Filters must be properly conditioned (24-hour desiccation period; further conditioning ≥6 hours).
3. For oven-dried method, filters are put into a 105°C oven for 3 hrs followed by 2 hours in desiccator.
4. Filters must be weighed under proper room conditions (R.H.= 25-50% and Temp.= 59-78°F).
5. Δweight tolerance = ±0.0005 g between consecutive weights for each filter.

* Lot Number for T1849, T1850 = T9902CW

Desiccator #3 (indicator: purple)

QC'd 10/15/10 AC

AECOM

DRY GAS METER CALIBRATION

Meter Box No.: 80612

Check one:

Annual Calibration X Recalibration

Date:	1/9/2010	
Operator:	Jarrod Hendley	
Barometric Pressure:	29.60	(in Hg)
Theoretical Critical Vacuum:	13.96	(in Hg)

Pretest Leak Checks		
	Allowable	Actual
Positive (at 5 - 7 in. H_2O)	0 in. H_2O per min.	0.00
Negative (at 3 in. Hg)	0 cfm	0.000 cfm

Manufacturer: Anderson NUTECH

Date Received/Placed in service: Pre 1990

Serial No.: 80612

DRY GAS METER DATA							CRITICAL ORIFICE DATA					
		Volume			Temp		Critical	K' Orifice	Actual	Ambient Temperature		
ΔH (in H_2O)	Time (min)	Initial (ft^3)	Final (ft^3)	Total (ft^3)	Initial °F	Final °F	Orifice Serial #	Calibration Coefficient	Vacuum (in Hg)	Initial °F	Final °F	Average °F
0.28	20	790.900	797.038	6.138	70	71	40	0.225	15	66	66	66
1.00	15	803.500	812.129	8.629	74	75	52	0.427	15	66	66	66
1.90	15	819.300	830.705	11.405	77	77	63	0.562	15	66	66	66
3.90	10	843.800	855.131	11.331	78	79	76	0.831	15	66	66	66

CORRECTED VOLUME	
Dry Gas Meter Vm (std ft^3)	Critical Orifice Vcr (std ft^3)
6.046	5.813
8.450	8.266
11.142	10.882
11.093	10.724

DRY GAS METER CALIBRATION FACTOR Y	
0.962	-0.009
0.978	0.01
0.977	0.01
0.967	0.00

DRY GAS METER CALIBRATION FACTOR ΔH@	
1.864	-0.049
1.852	-0.062
2.031	0.117
1.908	-0.01

Avg. Y 0.971

Avg. ΔH@ 1.914

Notes:

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

2) The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((in.Hg)*(min)).

3) The minimum number of sample volume required per orifice is 5 cubic feet.

4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the av

5) For Orifice Calibration Factor ΔH@, the orifice differential pressure in inches of H_2O that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is ± 0.2.

Dry Gas Meter Thermocouple Calibration					
Ref. TC ID#	HH81	Inlet ID# : 80612-IN		Outlet ID# : 80612-OUT	
Ref. Source	Ref, °F	°F	Δ	°F	Δ
Amb. Air	66	66	0	66	0
Hot Water	111	11	100	110	-1

Potentiometer Calibration		
Low	50 °F	51
Mid	450 °F	451
High	950 °F	949

Notes:

1) Hot Water to be in the range of 104 - 122 °F.

2) Tolerance allowed for all thermocouple individual readings : ± 5.4 °F

3) Tolerance allowed for all potentiometer individual readings : ± 2 °F

$$V_{m(std)} = 17.64 \left(V_m\right) \frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(std)} = K' \cdot \frac{P_b \theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_@ = \Delta H \left(\frac{.75\theta}{V_{cr(std)}}\right)^2$$

AECOM

DRY GAS METER CALIBRATION

Meter Box No.: 80102

Check one:

Annual Calibration X Recalibration ____

Date:	1/6/2010	
Operator:	Jarrod Hendley	
Barometric Pressure:	29.30	(in Hg)
Theoretical Critical Vacuum:	13.82	(in Hg)

Pretest Leak Checks		
	Allowable	Actual
Positive (at 5 - 7 in. H_2O)	0 in. H_2O per min.	0.00
Negative (at 3 in. Hg)	0 cfm	0.000 cfm

Manufacturer: Anderson NUTECH

Date Received/Placed in service: Pre 1990

Serial No.: 80102

DRY GAS METER DATA							CRITICAL ORIFICE DATA					
		Volume			Temp					Ambient Temperature		
ΔH (in H_2O)	Time (min)	Initial (ft^3)	Final (ft^3)	Total (ft^3)	Initial °F	Final °F	Critical Orifice Serial #	K' Orifice Calibration Coefficient	Actual Vacuum (in Hg)	Initial °F	Final °F	Average °F
0.26	20	780.700	786.750	6.050	73	75	40	0.225	15	66	67	67
0.99	15	766.600	775.033	8.433	75	75	52	0.427	15	66	67	67
1.80	15	860.500	871.778	11.278	78	79	63	0.562	15	67	67	67
4.00	11	837.000	849.140	12.140	75	78	76	0.831	15	67	67	67

CORRECTED VOLUME	
Dry Gas Meter Vm (std ft^3)	Critical Orifice Vcr (std ft^3)
5.860	5.751
8.167	8.179
10.874	10.761
11.813	11.666

DRY GAS METER CALIBRATION FACTOR Y	
0.982	-0.009
1.001	0.01
0.990	0.00
0.988	0.00

DRY GAS METER CALIBRATION FACTOR ΔH@	
1.769	-0.134
1.873	-0.029
1.967	0.065
2.001	0.10

Avg. Y 0.990

Avg. ΔH@ 1.902

Notes:

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

2) The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((in.Hg)*(min)).

3) The minimum number of sample volume required per orifice is 5 cubic feet.

4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is ±0.

5) For Orifice Calibration Factor ΔH@, the orifice differential pressure in inches of H_20 that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is ± 0.2.

Dry Gas Meter Thermocouple Calibration					
Ref. TC ID#	HH81	Inlet ID# :	80102-IN	Outlet ID# :	80102-OUT
Ref. Source	Ref, °F	°F	Δ	°F	Δ
Amb. Air	67	66	1	66	-1
Hot Water	112	111	1	112	0

Potentiometer Calibration		
Low	50 °F	49
Mid	450 °F	450
High	950 °F	951

Notes:

1) Hot Water to be in the range of 104 - 122 °F.

2) Tolerance allowed for all thermocouple individual readings : ± 5.4 °F

3) Tolerance allowed for all potentiometer individual readings : ± 2 °F

$$V_{m(std)} = 17.64\,(V_m)\frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(std)} = K'\frac{P_b\theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_@ = \Delta H\left(\frac{.75\theta}{V_{cr(std)}}\right)^2$$

AECOM

DRY GAS METER CALIBRATION

Meter Box No.: 0808028

Check one:

Annual Calibration X Recalibration

Date:	12/22/2009	
Operator:	Ryan Burns	
Barometric Pressure:	29.65	(in Hg)
Theoretical Critical Vacuum:	13.99	(in Hg)

Pretest Leak Checks		
	Allowable	Actual
Positive	0	0.00
(at 5 - 7 in. H_2O)	in. H_2O per min.	
Negative	0	0.00
(at 3 in. Hg)	cfm	cfm

Manufacturer: Apex Inst.

Date Received/Placed in service: 2008

Serial No.: 0808028

DRY GAS METER DATA							CRITICAL ORIFICE DATA					
		Volume			Temp		Critical	K' Orifice	Actual	Ambient Temperature		
ΔH (in H_2O)	Time (min)	Initial (ft^3)	Final (ft^3)	Total (ft^3)	Initial °F	Final °F	Orifice Serial #	Calibration Coefficient	Vacuum (in Hg)	Initial °F	Final °F	Average °F
0.29	20	204.100	209.978	5.878	71	74	40	0.225	15	65	65	65
0.98	15	216.800	225.130	8.330	77	80	52	0.427	15	65	65	65
1.70	15	233.200	244.247	11.047	82	83	63	0.562	15	65	65	65
3.70	10	255.700	266.684	10.984	85	86	76	0.831	15	65	65	65

CORRECTED VOLUME	
Dry Gas Meter Vm (std ft^3)	Critical Orifice Vcr (std ft^3)
5.778	5.828
8.110	8.288
10.695	10.911
10.628	10.752

DRY GAS METER CALIBRATION FACTOR Y	
1.009	-0.007
1.022	0.01
1.020	0.00
1.012	0.00

DRY GAS METER CALIBRATION FACTOR ΔH@	
1.921	0.087
1.806	-0.028
1.807	-0.026
1.800	-0.03

Avg. Y 1.016

Avg. ΔH@ 1.834

Notes:

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

2) The Critical Orifice Coefficient, K', must be entered in English units, (ft)^3*(deg R)^0.5/((in.Hg)*(min)).

3) The minimum number of sample volume required per orifice is 5 cubic feet.

4) For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is ±0.02

5) For Orifice Calibration Factor ΔH@, the orifice differential pressure in inches of H_20 that equates to 0.75 cfm of air at 68 F and 29.92 inches of Hg, acceptable tolerance of individual values from the average is ± 0.2.

Dry Gas Meter Thermocouple Calibration					
Ref. TC ID#	2131035	Inlet ID# : 0808028-IN		Outlet ID# :	
Ref. Source	Ref, °F	°F	Δ	°F	Δ
Amb. Air	70	70	0		
Hot Water	110	110	0		

Potentiometer Calibration		
Low	50 °F	50
Mid	450 °F	448
High	950 °F	950

Notes:

1) Hot Water to be in the range of 104 - 122 °F.

2) Tolerance allowed for all thermocouple individual readings : ± 5.4 °F

3) Tolerance allowed for all potentiometer individual readings : ± 2 °F

$$V_{m(std)} = 17.64\,(V_m)\frac{P_b + \frac{\Delta H}{13.6}}{t_m + 460}$$

$$V_{cr(std)} = K'\frac{P_b\theta}{\sqrt{t_{amb} + 460}}$$

$$Y = \frac{V_{cr(std)}}{V_{m(std)}}$$

$$\Delta H_@ = \Delta H\left(\frac{.75\theta}{V_{cr(std)}}\right)^2$$

AECOM

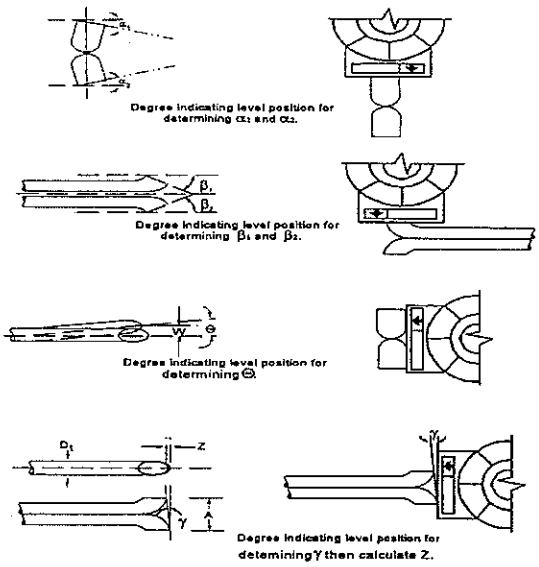
SAMPLE PROBE CALIBRATION DATA FORM

TYPE "S" PITOT TUBE ASSEMBLY AND NOZZLE

Thermocouple Calibration

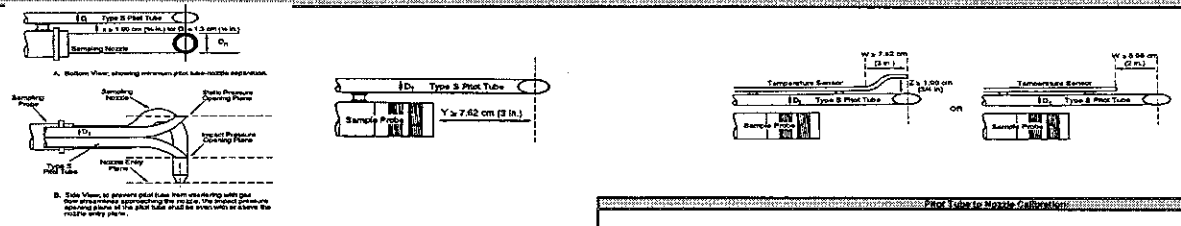
PROBE ID:	Reference Thermometer ID #:	Omega HH-81					Omega CI1000, #06022200					Omega CI1000, #06022200				
		Ice Bath					Boiling Water					Tube Furnace (300° - 500° F)				
M5-5-F	Thermocouple ID#	Reference TC	Reference TC	TC Temp	TC Temp	Temp Difference	Reference TC	Reference TC	TC Temp	TC Temp	Temp Difference	Reference TC	Reference TC	TC Temp	TC Temp	Temp Difference
Date: 1/21/2010	M5-5-F	33	274	34	274	1	212	373	210	372	-0.3	450	505	449	505	-0.1
		33	274	34	274	1	212	373	210	372	-0.3	450	505	448	504	-0.2
Ambient Temperature (°F): 67		33	274	34	274	1	212	373	211	373	-0.1	450	505	448	504	-0.2
Barometric Pressure (in Hg): 29.85	Average	33	274	34	274	1	212	373	210	372	-0.2	450	505	448	504	-0.2

Type "S" Pitot Tube Calibration:



Level and Perpendicular	Yes
Obstruction	No
Damaged	No
α_1 ($-10° \le \alpha_1 \le +10°$)	2
α_2 ($-10° \le \alpha_2 \le +10°$)	0
β_1 ($-5° \le \beta_1 \le +5°$)	0
β_2 ($-5° \le \beta_2 \le +5°$)	0
γ	1
Θ	1
$z = A \tan\gamma$ ($\pm \le 0.125$")	0.015
$W = A \tan\Theta$ ($\pm \le 0.03125$")	0.015
D_t ($3/16 \le D_t \le 3/8$")	0.374
A	0.84
$A/2D_t$ ($1.05 \le P_A/D_t \le 1.5$)	1.123

Pitot Tube to Nozzle Calibration:



Pitot Tube to Nozzle Calibration:			
1) Pitot to nozzle separation	X	>3/4" (w/.500 nozzle)	0.875
2) Thermocouple to pitot separ	Z	>3/4"	2.232
3) Pitot end to probe union dis	Y	>3.0"	3.320

Probe Information

Manufacturer: Apex

Date Received and placed In Service: pre-1995

Condition of Probe when placed in service: NEW USED RECONDITIONED (circle one)

QA/QC Check

Completeness _X_ Legibility _X_ Accuracy _X_ Specifications _X_ Reasonableness _X_

I certify that the Type S pitot tube/probe ID# M5-5-F meets or exceeds all Specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor C_p of 0.84

Certified by: Ryan Burns 1-21-10 Ryan Burns 1-21-10

Personnel (Signature/Date) Team Leader (Signature/Date)

All construction criteria for an isolated "S" type pitot are within given tolerances prescribed in Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III, Stationary Source-Specific Methods. EPA/600/R-94/038c, September 1994

rev 06/PS

NOTES:

AECOM

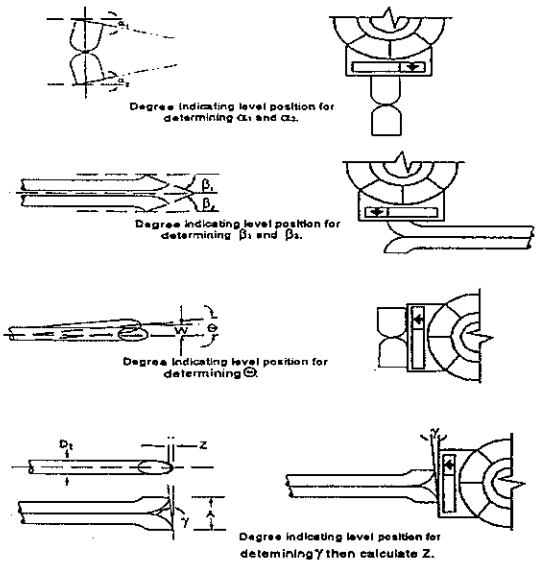
SAMPLE PROBE CALIBRATION DATA FORM

TYPE "S" PITOT TUBE ASSEMBLY AND NOZZLE

Thermocouple Calibration

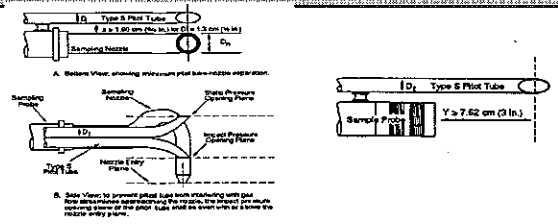
PROBE ID:	Reference Thermometer ID #:	Omega HH-81					Omega CI1000, #06022200					Omega CI1000, #06022200				
		Ice Bath					Boiling Water					Tube Furnace [300° - 500° F]				
M5-5-H	Thermocouple ID#	Reference TC °F	Reference TC °F	TC Temp °F	TC Temp °F	Temp Difference °F	Reference TC °F	Reference TC °F	TC Temp °F	TC Temp °F	Temp Difference °F	Reference TC °F	Reference TC °F	TC Temp °F	TC Temp °F	Temp Difference °F
Date: 1/26/2010	M5-5-H	33	274	34	274	1	212	373	213	374	0.1	450	505	448	504	-0.2
		33	274	34	274	1	212	373	213	374	0.1	450	505	448	504	-0.2
Ambient Temperature (°F): 67		33	274	34	274	1	212	373	213	374	0.1	450	505	449	505	-0.1
Barometric Pressure (in Hg): 29.3	Average	33	274	34	274	1	212	373	213	374	0.1	450	505	448	504	-0.2

Type "S" Pitot Tube Calibration:



Level and Perpendicular	Yes
Obstruction	No
Damaged	No
α_1 ($-10° \le \alpha_1 \le +10°$)	2
α_2 ($-10° \le \alpha_2 \le +10°$)	0
β_1 ($-5° \le \beta_1 \le +5°$)	3
β_2 ($-5° \le \beta_2 \le +5°$)	0
γ	1
Θ	0
$z = A \tan\gamma$ ($\pm \le 0.125$")	0.016
$W = A \tan\Theta$ ($\pm \le 0.03125$")	0.000
D_t ($3/16 \le D_t \le 3/8$")	0.375
A	0.93
$A/2D_t$ ($1.05 \le P_A/D_t \le 1.5$)	1.240

Pitot Tube to Nozzle Calibration:



Pitot Tube to Nozzle Calibration:			
1) Pitot to nozzle separation	X	>3/4" (w/.500 nozzle)	1.1
2) Thermocouple to pitot separ	Z	>3/4"	1.463
3) Pitot end to probe union dis	Y	>3.0"	3.569

Probe Information

Manufacturer: Apex

Date Received and placed In Service: pre-1995

Condition of Probe when placed in service: **NEW** USED RECONDITIONED (circle one)

QA/QC Check

Completeness _X_ Legibility _X_ Accuracy _X_ Specifications _X_ Reasonableness _X_

I certify that the Type S pitot tube/probe ID# M5-5-H meets or exceeds all Specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor C_p of 0.84

Certified by: Ryan Burns 1-28-10 Ryan Burns 1-29-10

Personnel (Signature/Date) Team Leader (Signature/Date)

All construction criteria for an isolated "S" type pitot are within given tolerances prescribed in Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III, Stationary Source-Specific Methods. EPA/600/R-94/038c, September 1994

rev 06/PS

NOTES:

AECOM

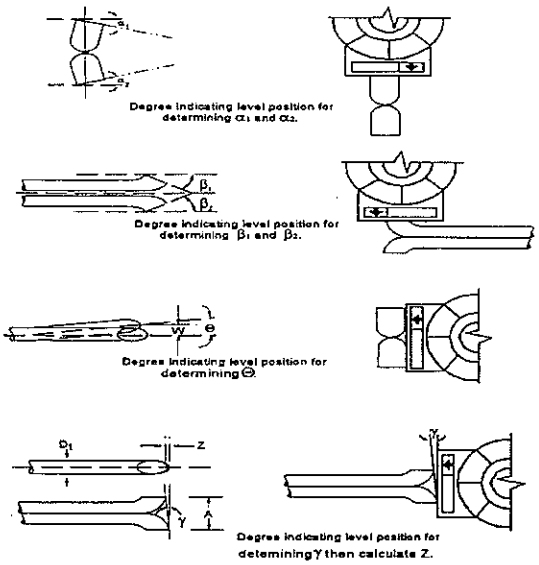
SAMPLE PROBE CALIBRATION DATA FORM

TYPE "S" PITOT TUBE ASSEMBLY AND NOZZLE

Thermocouple Calibration

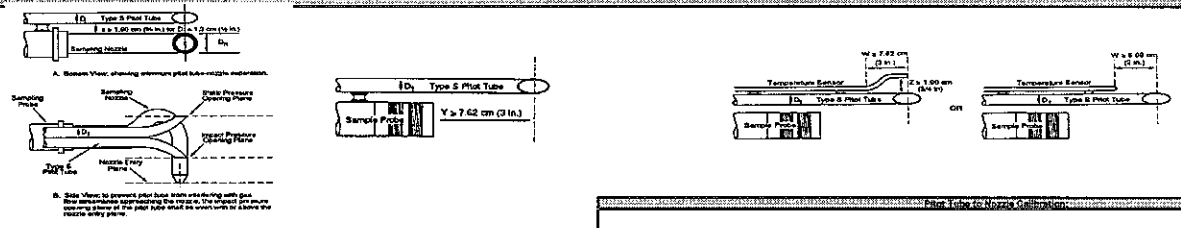
PROBE ID:	Reference Thermometer ID #:	Omega HH-81					Omega CI1000, #06022200					Omega CI1000, #06022200				
		Ice Bath					Boiling Water					Tube Furnace (300° - 500° F)				
M5-5-Z	Thermocouple ID#	Reference °F	Reference °C	TC °F	TC °C	Temp. Difference °F	Reference °F	Reference °C	TC °F	TC °C	Temp. Difference °F	Reference °F	Reference °C	TC °F	TC °C	Temp. Difference °F
Date: 1/21/2010	M5-5-Z	32	273	33	274	1	212	373	211	373	-0.1	450	505	449	505	-0.1
		32	273	33	274	1	212	373	212	373	0.0	450	505	449	505	-0.1
Ambient Temperature (°F): 67		32	273	33	274	1	212	373	211	373	-0.1	450	505	449	505	-0.1
Barometric Pressure (in Hg): 29.85	Average	32	273	33	274	1	212	373	211	373	-0.1	450	505	449	505	-0.1

Type "S" Pitot Tube Calibration:



Level and Perpendicular	Yes
Obstruction	No
Damaged	No
α_1 $(-10° \le \alpha_1 \le +10°)$	0
α_2 $(-10° \le \alpha_2 \le +10°)$	0
β_1 $(-5° \le \beta_1 \le +5°)$	1
β_2 $(-5° \le \beta_2 \le +5°)$	0
γ	0
Θ	0
$z = A \tan\gamma$ $(\pm \le 0.125")$	0.000
$W = A \tan\Theta$ $(\pm \le 0.03125")$	0.000
D_t $(3/16 \le D_t \le 3/8")$	0.375
A	0.935
$A/2D_t$ $(1.05 \le P_N/D_t \le 1.5)$	1.247

Pitot Tube to Nozzle Calibration:



Pitot Tube to Nozzle Calibration:			
1) Pitot to nozzle separation	X	>3/4" (w/.500 nozzle)	0.95
2) Thermocouple to pitot separ	Z	>3/4"	1.57
3) Pitot end to probe union dis	Y	>3.0"	3.400

Probe Information

Manufacturer: Apex

Date Received and placed In Service: pre-1995

Condition of Probe when placed in service: **NEW** USED RECONDITIONED (circle one)

QA/QC Check

Completeness _X_ Legibility _X_ Accuracy _X_ Specifications _X_ Reasonableness _X_

I certify that the Type S pitot tube/probe ID# M5-5-Z meets or exceeds all Specifications, criteria and/or applicable design features and is hereby assigned a pitot tube calibration factor C_p of 0.84

Certified by: Ryan Burns 1-21-10 Ryan Burns 1-21-10

Personnel (Signature/Date) Team Leader (Signature/Date)

All construction criteria for an isolated "S" type pitot are within given tolerances prescribed in Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III, Stationary Source-Specific Methods. EPA/600/R-94/038c, September 1994

rev 06/PS

NOTES:

AECOM

Method 5 Filter Thermocouple Calibration

Calibrator: Jarrod Hendley **Reference Thermometer:** **Fluke RTD Serial # 2131035**

Calibration Date:1-11-10 OMEGA CL 1000

Date Received/placed in Service: 10/31/03 PO: 2014950

Serial No.: N/A

Manufacturer's Name: Apex Instruments Part No.: GN8-15K

Thermocouple ID	Ice Bath			Boiling Water		
(Part ID)	Actual	Reference	Difference	Actual	Reference	Difference
M5TC-1	33	32	1	213	212	1
M5TC-2	33	32	1	212	212	0
M5TC-3	33	32	1	213	212	1
M5TC -4	32	32	0	213	212	1
M5TC-5/AUX-90	33	32	1	212	212	0
M5TC-6/AUX-79	33	32	1	213	212	1
M5TC-7/AUX-81			0			0
M5TC-8/AUX-86			0			0
M5TC-9/AUX-84	32	32	0	212	212	0
AUX-85			0			0
AUX-451	33	32	1	214	212	2
AUX-452	33	32	1	213	212	1
AUX-455			0			0
AUX-457			0			0
AUX-460			0			0
AUX-464			0			0
AUX-465			0			0
AUX-728	33	32	1	212	212	0
AUX-730	32	32	0	213	212	1
AUX-1146	33	32	1	211	212	-1
AUX-1147	34	32	2	211	212	-1
AUX-1148	33	32	1	212	212	0
AUX-1151			0			0
AUX-1154	32	32	0	212	212	0
AUX-1156	33	32	1	210	212	-2
AUX-2086	33	32	1	213	212	1
AUX-2807	33	32	1	211	212	-1
AUX-2808	33	32	1	210	212	-2
AUX-2809	33	32	1	210	212	-2
AUX-2124	33	32	1	212	212	0
M5-1	33	32	1	213	212	1
M5-2	33	32	1	213	212	1

NOTES:

Replaced heat shrink tubbing on M5TC-1-3, Feb 05
Replaced M5TC-1 Plug on 11/14/05 at BASF
M5TC-8/AUX-86 not available (possibl;y missing)

AECOM

XAD Thermocouple Calibrations

Date: 1-12-10
BP: 29.93
Reference Thermometer ID#:
Manufacture:
Date placed in Service:

Calibrator: Jarrod Hendley
Ambient Temp (F): 67
HH-81
Omega
Pre 1980

	Ice Bath			Ambient		
Thermocouple ID#	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F	Reference Temp	XAD Temp	Temp Difference Tol = +- 2 F
XAD-1	32	33	1	66	67	1
XAD-2	32	33	1	66	67	1
XAD-3	32	32	0	66	67	1
XAD-4	32	33	1	66	66	0
XAD-5			0			0
XAD-6	32	33	1	66	68	2
XAD-7			0			0
XAD-8	32	33	1	66	67	1
XAD-9	32	32	0	65	65	0
XAD-10	32	33	1	66	67	1
XAD-11	32	33	1	66	68	2
XAD-12	32	32	0	66	67	1

AECOM

Calibrator: Jarrod Hendley Reference Thermometer: HH-81

Filter Box Calibration

Hot Box #1			Hot Box #2			Hot Box #3		
Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH	
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**		**Calibration Date:**			**Calibration Date:**	**30-Dec-09**	
	Ambient	**Hot**		**Ambient**	**Hot**		**Ambient**	**Hot**
Reference Temperatures	69	252	Reference Temperatures	72	255	Reference Temperatures	69	249
Actual Temperatures	68	250	Actual Temperatures	71	254	Actual Temperatures	68	248
Temp Difference (tol. = +-2)	1	2	Temp Difference (tol. = +-2)	1	1	Temp Difference (tol. = +-2)	1	1
Hot Box #4			**Hot Box #5**			**Hot Box #6**		
Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH	
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**		**Calibration Date:**	**5-Jan-10**		**Calibration Date:**		
	Ambient	**Hot**		**Ambient**	**Hot**		**Ambient**	**Hot**
Reference Temperatures	67	245	Reference Temperatures	69	252	Reference Temperatures		
Actual Temperatures	67	245	Actual Temperatures	67	250	Actual Temperatures		
Temp Difference (tol. = +-2)	0	0	Temp Difference (tol. = +-2)	2	2	Temp Difference (tol. = +-2)	0	0
Hot Box #7			**Hot Box #8**			**Hot Box #9**		
Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH	
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	**29-Dec-09**		**Calibration Date:**	**5-Jan-10**		**Calibration Date:**	**5-Jan-10**	
	Ambient	**Hot**		**Ambient**	**Hot**		**Ambient**	**Hot**
Reference Temperatures	68	248	Reference Temperatures	70	245	Reference Temperatures	65	250
Actual Temperatures	69	247	Actual Temperatures	70	244	Actual Temperatures	66	248
Temp Difference (tol. = +-2)	-1	1	Temp Difference (tol. = +-2)	0	1	Temp Difference (tol. = +-2)	-1	2
Hot Box #10			**Hot Box #11**			**Hot Box #12**		
Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH	
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**		**Calibration Date:**			**Calibration Date:**		
	Ambient	**Hot**		**Ambient**	**Hot**		**Ambient**	**Hot**
Reference Temperatures	68	248	Reference Temperatures			Reference Temperatures		
Actual Temperatures	69	248	Actual Temperatures			Actual Temperatures		
Temp Difference (tol. = +-2)	-1	0	Temp Difference (tol. = +-2)	0	0	Temp Difference (tol. = +-2)	0	0
Hot Box #13			**Hot Box #14**			**Hot Box #15**		
Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH	
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**		**Calibration Date:**	**5-Jan-10**		**Calibration Date:**		
	Ambient	**Hot**		**Ambient**	**Hot**		**Ambient**	**Hot**
Reference Temperatures	69	241	Reference Temperatures	67	244	Reference Temperatures		
Actual Temperatures	68	243	Actual Temperatures	68	245	Actual Temperatures		
Temp Difference (tol. = +-2)	1	-2	Temp Difference (tol. = +-2)	-1	-1	Temp Difference (tol. = +-2)	0	0
Hot Box #16			**Hot Box #17**			**Hot Box #18**		
Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH	
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	**29-Dec-09**		**Calibration Date:**	**29-Dec-09**		**Calibration Date:**		
	Ambient	**Hot**		**Ambient**	**Hot**		**Ambient**	**Hot**
Reference Temperatures	65	246	Reference Temperatures	65	246	Reference Temperatures		
Actual Temperatures	64	245	Actual Temperatures	65	245	Actual Temperatures		
Temp Difference (tol. = +-2)	1	-2	Temp Difference (tol. = +-2)	0	1	Temp Difference (tol. = +-2)	0	0
Hot Box #19			**Hot Box #20**			**Hot Box #21**		
Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH		Manufacturer:	Anderson NUTECH	
Serial No.:	N/A		Serial No.:	N/A		Serial No.:	N/A	
Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995		Date received/placed in service:	Pre 1995	
Calibration Date:	**5-Jan-10**		**Calibration Date:**			**Calibration Date:**		
	Ambient	**Hot**		**Ambient**	**Hot**		**Ambient**	**Hot**
Reference Temperatures	67	244	Reference Temperatures			Reference Temperatures		
Actual Temperatures	67	245	Actual Temperatures			Actual Temperatures		
Temp Difference (tol. = +-2)	0	-1	Temp Difference (tol. = +-2)	0	0	Temp Difference (tol. = +-2)	0	0

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Calibrator: Jarrod Hendley Reference Thremometer ID: HH-81

Date: 12/28/2009

Last Impinger Thermocouple Calibration 2009

		Thermocouple	Reference	Difference (+/- 2°)			Thermocouple	Reference	Difference (+/- 2°)
LI-2	Hot	213	212	1	LI-21	Hot			0
	Cold	33	32	1		Cold			0
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-4	Hot	214	212	2	LI-22	Hot			0
	Cold	33	32	1		Cold			0
Manufacturer:		Anderson NUTECH			Manufacturer:				
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-6	Hot			0	LI-23	Hot	211	211	0
	Cold			0		Cold	34	33	1
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-7	Hot	214	212	2	LI-24	Hot			0
	Cold	34	32	2		Cold			0
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-7 has no check valve used for Impinger Inlet									
LI-8	Hot	213	212	1	LI-25	Hot	213	212	1
	Cold	33	32	1		Cold	33	32	1
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-9	Hot	213	212	1	LI-26	Hot	211	211	0
	Cold	33	32	-1		Cold	34	33	1
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-10	Hot	213	212	1	LI-27	Hot	213	212	1
	Cold	33	32	1		Cold	33	32	1
Manufacturer:					Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-11	Hot			0	LI-28	Hot	213	212	1
	Cold			0		Cold	33	33	0
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-12	Hot	213	212	1	LI-29	Hot	212	210	2
	Cold	33	33	0		Cold	34	33	1
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-13	Hot	211	212	-1	LI-5	Hot	211	210	1
	Cold	33	32	1		Cold	34	33	1
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-20	Hot	213	212	1	LI-14	Hot	212	211	1
	Cold	34	34	0		Cold	35	33	2
Manufacturer:		Anderson NUTECH			Manufacturer:		Anderson NUTECH		
Serial No.:					Serial No.:				
Date received/placed in service:		Pre 1990			Date received/placed in service:		Pre 1990		
LI-20 has no check valve used for Impinger Inlet									

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BAROMETER CALIBRATION DATA FORM

Field Barometer ID# : **Serial No. 51111291**

Reference Barometer ID # : **Serial No. 188841**

Pre-Test Calibration data

Calibration Performed By : **Ryan Burns**

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg
14-Jan-10	29.93	29.93	≤ +/- 0.10 in. Hg

Post-Test Calibration data

Calibration Performed By :

Date	Reference Barometer in. Hg	Field Barometer in. Hg	Accuracy in. Hg
			≤ +/- 0.10 in. Hg

Note: The field barometer is adjusted to agree with the reference barometer after each calibration. The reference barometer is checked and re-calibrated by the vendor on an annual basis.

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DRY GAS METER ANNUAL CALIBRATION - VOST / M6

Meter Box No. : VO14

Operator : Ryan Burns
Date : 17-Mar-11
Barometric Pressure : 29.80 in. Hg
Wet Test Meter
Calibration Coefficient : 1.0066
Manufacturer:
Date Received/Placed in service:
Serial No.:

Pretest Leak Check :		
	Allowed	Actual
Negative	< 0.02	0.00
(at 10 in. Hg)	Lpm	Lpm

INITIAL CALIBRATION :

Q Vw Vd Tw Tdi Tdo Tm ϕ Dm γ

Meter Flow Rate (Lpm)	Volume Wet Meter (L)	Volume Dry Meter (L)	Meter Temperature Readings Wet Meter (°C)	Meter Temperature Readings Dry Meter In (°C)	Meter Temperature Readings Dry Meter Out (°C)	Meter Temperature Readings Dry Meter Avg (°C)	Time ϕ (min.)	Press. Wet Meter (in. H_2O)	Calib. Coeff. γ --
1.0	20.88	20.23	19	n/a	23.0	23.0	20.00	1.7	1.0576
1.0	20.95	20.28	19	n/a	24.0	24.0	20.00	1.7	1.0621
1.0	20.74	20.10	19	n/a	25.0	25.0	20.00	1.7	1.0644
								AVG :	**1.0614**

POST-TEST CHECK :

N/A		#DIV/0!
N/A		#DIV/0!
Date:	**Pb =** in. Hg	**AVG:** **#DIV/0!**

γ = Ratio of reading of wet test meter to dry test meter (dimensionless);
Tolerance for individual values is ±0.02 from the average.

Deviation = **#DIV/0!**
(Post-Test to Initial)
Tolerance = ±5 % of Initial Y

Potentiometer Calibration :		
Low	0° F	2
Mid	450° F	451
High	950° F	952

Dry Gas Meter Thermocouple Calibration					
		TC ID# :		TC ID# :	
Ref	Ref, ° F	Temp., ° F	Δ	Temp., ° F	Δ
Amb. Air	68	68	0		
Hot Water	110	110	0		

Note: Hot water to be in the range of 104 –122 °F
Tolerance allowed for all individual readings: ± 5.4 °F

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DRY GAS METER ANNUAL CALIBRATION - VOST / M6

Meter Box No. : VO14

Operator : Ryan Burns
Date : 05-Jan-11
Barometric Pressure : 29.46 in. Hg
Wet Test Meter
Calibration Coefficient : 1.0066
Manufacturer:
Date Received/Placed in service:
Serial No.:

Pretest Leak Check :		
	Allowed	Actual
Negative	< 0.02	0.00
(at 10 in. Hg)	Lpm	Lpm

INITIAL CALIBRATION :

Q Vw Vd Tw Tdi Tdo Tm ϕ Dm γ

Meter Flow Rate (Lpm)	Volume: Wet Meter (L)	Volume: Dry Meter (L)	Meter Temperature Readings: Wet Meter (°C)	Dry Meter In (°C)	Dry Meter Out (°C)	Dry Meter Avg (°C)	Time ϕ (min.)	Press. Wet Meter (in. H_2O)	Calib. Coeff. γ --
1.0	20.97	20.00	17.5	n/a	20.0	20.0	20.00	1.7	1.0690
1.0	20.75	20.58	17.5	n/a	24.0	24.0	20.00	1.7	1.0420
1.0	20.36	19.58	17.5	n/a	20.5	20.5	20.00	1.7	1.0620
								AVG :	1.0577

POST-TEST CHECK :

N/A			#DIV/0!
N/A			#DIV/0!
Date:	Pb =	in. Hg	AVG: #DIV/0!

γ = Ratio of reading of wet test meter to dry test meter (dimensionless);
Tolerance for individual values is ±0.02 from the average.

Deviation = #DIV/0!
(Post-Test to Initial)
Tolerance = ±5 % of Initial Y

Potentiometer Calibration :		
Low	0° F	0
Mid	450° F	450
High	950° F	950

Dry Gas Meter Thermocouple Calibration					
		TC ID# :		TC ID# :	
Ref	Ref, ° F	Temp., ° F	Δ	Temp., ° F	Δ
Amb. Air	66	67	1		
Hot Water	110	110	0		

Note: Hot water to be in the range of 104 – 122 °F
Tolerance allowed for all individual readings: ± 5.4 °F

Appendix F

Analytical Data Reports Associated with Stack Gas Sampling

Gravimetric Analysis for Particulate Matter (AECOM)

Norlite Corp. - 2010 MACT CPT
Particulate Filter and Acetone Rinse Results

ACETONE FRONT HALF RINSE RESULTS

Sample ID #	Sample Volume (mL)	Tare Weight (g)	Gross Sample Weight (g)	Net Sample Weight (g)	Blank-Corrected Net Sample Weight (g)	Blank-Corrected Net Sample Weight (mg)
Lab Blank	50	93.4371	93.4366	-0.0005		
PM-FHACE-FB	106	90.0837	90.0816	-0.0021		
PM-FHACE-C2-R1	80	94.0734	94.0793	0.0059	0.0059	5.9
PM-FHACE-C2-R2	52	116.2615	116.2715	0.0100	0.0100	10.0
PM-FHACE-C2-R3	62	115.2152	115.2193	0.0041	0.0041	4.1

Density of Acetone	=	0.7908	g/mL	
			mg/g	**g/mL**
PM conc. in acetone (LB # 1)	=		0.000	0.00E+00
PM conc. in acetone (FB # 1)	=		0.000	0.00E+00
Max. Acetone Blank Correction	=		0.010	7.91E-06

PARTICULATE FILTER RESULTS

Run #	Tare Weight (g)	Gross Sample Weight (g)	Net Sample Weight (g)	Net Sample Weight (mg)
Lab Blank	0.3474	0.3474	0.0000	0.0
PM-PF-FB	0.3475	0.3476	0.0001	0.1
PM-PF-C2-R1	0.3431	0.3508	0.0077	7.7
PM-PF-C2-R2	0.3482	0.3973	0.0491	49.1
PM-PF-C2-R3	0.3269	0.3390	0.0121	12.1

NOTE :
No blank filter correction is necessary if blank filter is within ± 5 mg of initial tare weight or 2 % of sample weight, whichever is greater.

AECOM Gravimetric Laboratory
Analytical Report

Client: Doug Roeck
AECOM
2 Technology Park Drive
Westford, MA 01886

Client ID: 60163411

Laboratory ID: 10-121

Date(s) Received: 10/22/10

All work contained in this report has been done in accordance with laboratory standard operating procedures. AECOM's Gravimetric Laboratory follows methodologies based upon standard EPA/NIOSH/OSHA Methods. Data contained herein should be considered accurate and complete to the best of our knowledge. This report cannot be duplicated in part without the written permission of AECOM.

Arthur Carpenito

November 16, 2010

Arthur Carpenito
Laboratory Analyst
AECOM Gravimetric Laboratory

Date

Case Narrative

Re.: Gravimetric Analysis of Filter and Front Half Probe Rinse Samples – Norlite Corp. (2010 MACT CPT), Cohoes, NY

Project #: **60163411**

LAB ID #: **10-121**

ANALYTICAL PROCEDURE:

Four (4) Teflon® type filter samples and 4 front half acetone rinse samples were analyzed via EPA Method 5 as governed by AECOM's SOP 2629-300.

Consecutive gravimetric weights of filters and beaker residues were taken with an annually calibrated Mettler balance, and weighed within specified limits as outlined in EPA Method 5 as well as AECOM's SOP 2629-300.

QUALITY CONTROL:

1. One field filter blank and one field acetone blank were analyzed as specified by EPA Method 5 and AECOM's SOP 2629-300.
2. Laboratory blanks of both filter and acetone were also analyzed per the same Methods and SOP.

DISCUSSION:

1. Gravimetric results of the filter and acetone field blanks were lowest detectable limit (LDL).
2. Gravimetric results of the laboratory blanks were also LDL.
3. One filter sample, **PM-PF-C2-R2**, was received slightly frayed along its edge.

Date Samples Received by the Laboratory: 10/22/10
Date Analysis Started: 10/22/10

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Method 5 Exposed Filter Data Sheet

Project Manager: Doug Roeck
Project Name: Norlite
Project Number: 60163411-300
Analysis Method: 24 hour Desiccation Oven Dried

Balance Used: Mettler 3

	Day	Date	Time	R.H.(%)	R.T. (°F)	Analyst
Start	Friday	10/22/2010	11:18	33	71	AC
Wt. 1	Tuesday	10/26/2010	10:58	36	74	AC
Wt. 2	Thursday	10/28/2010	11:12	37	74	AC
Wt. 3						
Wt. 4						

QA Sheet	Initial Weight		Filter #	Sample Run Date	Sample ID	Filter Type/Size	1st Wt. Grams	2nd Wt. Grams	Δ 1&2 Wt. Grams	3rd Wt. Grams	Δ 2&3 Wt. Grams	4th Wt. Grams	Δ 3&4 Wt. Grams	Final Wt. Grams	Δ FW-IW Total Milligrams
Page #	Date	Grams													
100	10/15/10	0.3474	T1856	N/A	LAB FILTER BLANK	T/90 mm	0.3474	0.3474	0.0000	ok by Wt.				0.3474	0.3
100	10/15/10	0.3475	T1847	10/19/10	PM-PF-FB	T/90 mm	0.3475	0.3476	0.0001	ok by Wt.				0.3476	0.3
100	10/15/10	0.3431	T1844	10/19/10	PM-PF-C2-R1	T/90 mm	0.3508	0.3507	0.0001	ok by Wt.				0.3508	7.7
100	10/15/10	0.3482	T1845	10/19/10	PM-PF-C2-R2	T/90 mm	0.3973	0.3972	0.0001	ok by Wt.				0.3973	49.1
100	10/15/10	0.3269	T1846	10/19/10	PM-PF-C2-R3	T/90 mm	0.3390	0.3390	0.0000	ok by Wt.				0.3390	12.1

Filter Type: G=Glass T=Teflon Q=Quartz

1. Delta Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight.
2. Filters must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)
3. Filters must be properly conditioned (24 hour desiccation; Further Conditioning 6 hours).
4. Conditioning for oven method: Oven dried at 105 deg c fo 2-3 hours; Further conditioning 6 hours.
5. Total milligrams below or equal to 0.5 (lowest detectable limit (LDL)) is presented as 0.3.

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Method 5 Front Half Acetone Probe Rinse Data Sheet

Project Manager: Doug Roeck
Project Name: Norlite
Project Number: 60163411-300
Analysis Method: Natural Evaporation

Heat Application

Balance Used: Mettler 3

	Day	Date	Time	R.H.(%)	R.T. (°F)	Analyst
Start	Monday	11/1/2010	14:51	30	73	DW
Wt. 1	Wednesday	11/3/2010	15:58	32	71	AC
Wt. 2	Thursday	11/4/2010	9:23	36	70	PW
Wt. 3	Thursday	11/4/2010	16:20	34	72	AC
Wt. 4						

QA Sheet Page #	Initial Wt. Date	Initial Wt. Grams	Beaker #	Sample Run Date	Sample ID	Field mL	Lab mL	1st Wt. Grams	2nd Wt. Grams	Δ 1&2 Wt. Grams	3rd Wt. Grams	Δ 2&3 Wt. Grams	4th Wt. Grams	Δ 3&4 Wt. Grams	Final Wt. Grams	Δ FW-IW Total Milligrams
496	10/13/10	93.4371	302	N/A	LAB ACETONE BLANK	—	50	93.4356	93.4363	0.0007	93.4368	0.0005	ok by Wt.		93.4366	0.3
496	10/13/10	90.0837	332	10/19/10	PM-FHACE-FB	106	50	90.0814	90.0818	0.0004	ok by Wt.				90.0816	0.3
496	10/13/10	94.0734	2010	10/19/10	PM-FHACE-C2-R1	80	50	94.0777	94.0790	0.0013	94.0795	0.0005	ok by Wt.		94.0793	5.9
496	10/13/10	116.2615	2234	10/19/10	PM-FHACE-C2-R2	52	50	116.2716	116.2714	0.0002	ok by Wt.				116.2715	10.0
496	10/13/10	115.2152	2502	10/19/10	PM-FHACE-C2-R3	62	50	115.2195	115.2191	0.0004	ok by Wt.				115.2193	4.1

Acetone Manufacturer/Lot No.: Fisher/097173

Acetone Rinse = 25 mls twice - (50 mls total)

1. Delta Weight tolerance +/- 0.0005g of total weight less tare weight between two consecutive weightings or average weight.
2. Beakers must be weighed with the proper conditions (RH = 25 - 50 % and RT = 59-78 deg f)
3. Beakers must be properly conditioned (24 hour desiccation; Further Conditioning ≥ 6 hours).
4. Natural Evaporation Method = Evaporate to dryness at room temperature under a hood / watch glass cover
5. Heat Application = Under a hood and watch glass over sample, apply heat below the boiling point of sample until evaporated to 25 mls; then follow step 4 (above) for remaining portion.
6. Total milligrams below or equal to 0.5 (lowest detectable limit (LDL)) is presented as 0.3.

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	**Sample Date:**	10/19/10	**Project Location:**	Cohoes, NY
Type of Program:	2010 MACT CPT	**Date Shipped:**	DRIVEN	**Laboratory:**	AECOM
Project #:	60163411	**Shipper /**	**Doug Roeck /**	**Test Conditions:**	C2 = Condition 2
Program Office:	Westford, MA	**Recovery:**	**Fred Sanguedolce**		
Program Contact:	Doug Roeck			**FedEx Air Bill #:**	**Hand Delivered**

P.O. #: N/A

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	**PM-FHACE-C2-R1**	Acetone	Acetone Rinse, C2 Run 1	Gravimetric Analysis	10-121-1
2	**PM-FHACE-C2-R2**	Acetone	Acetone Rinse, C2 Run 2	Gravimetric Analysis	2
3	**PM-FHACE-C2-R3**	Acetone	Acetone Rinse, C2 Run 3	Gravimetric Analysis	3
4	**PM-PF-C2-R1**	Filter	Particulate Filter, C2 Run 1	Gravimetric Analysis	4
5	**PM-PF-C2-R2**	Filter	Particulate Filter, C2 Run 2	Gravimetric Analysis	5
6	**PM-PF-C2-R3**	Filter	Particulate Filter, C2 Run 3	Gravimetric Analysis	6
7					
8	**PM-FHACE-FB**	Acetone	Acetone, Field Blank	Gravimetric Analysis	10-121-7
9	**PM-PF-FB**	Filter	Part. Filter, Field Blank	Gravimetric Analysis	10-121-8
10					
11					
12					
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16					
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18					
19					
20					

10-121

Field Notes/ Comments 1. Sampling for particulate matter (PM) performed during **Condition 2** only.

Page 1 of 1

Relinquished By (print): **Douglas R. Roeck** Date: 10/21/10	Relinquished By (print): Date:	Relinquished By (print): Date:	Received by Lab (print): Arthur Carpenito Date: 10/22/10
Signature: Douglas R Roeck Time: 16:00	Signature: Time:	Signature: Time:	Signature: Arthur Carpenito Time: 10:35
Received By (print): Date:	Received By (print): Date:	Received By (print): Date:	**Analytical Laboratory Destination:** AECOM Gravimetric Laboratory 325 Ayer Road Harvard, MA 01451 Attn: Paul Taverna, (978)-772-2345, x 32
Signature: Time:	Signature: Time:	Signature: Time:	

SAMPLE LOG-IN & RECEIPT CHECKLIST

Client/Proj# Norlite/ 60163411-300

Project Mgr: Doug Roeck Lab Pool #: 10-121

Inspected & Logged in by: A. Carpenito Date & Time: 10/22/10, 10:35

Sample Matrix	Number of Samples	Analysis Requested	Hold Time & Due by(date)	Storage Location	Disposal Date
Filter	5	Gravimetric	HT: 11/5/10 Due: 11/5/10	TSP Lab	
Acetone	5	Gravimetric	HT: 11/5/10 Due: 11/5/10	TSP Lab	
			HT: Due:		

Circle the appropriate response:

1) Shipped / (Hand delivered)

2) COC (present) / not present on receipt

3) Samples broken / leaking / (intact) on receipt

4) Samples (ambient) / chilled on receipt

5) Samples preserved correctly / incorrectly / (none recommended)

6) Received (within) / outside holding time

7) COC tapes present / not present on samples / (NA)

9) Discrepancies / (NO discrepancies) noted between COCs and samples

Additional Comments: _____

_____

_____

R:\Air_Tox\LAB\Lab forms\samplog.xls
1/4/2007

HRGC/HRMS Analysis for PCDDs/PCDFs (Vista Analytical)

PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.	C1-R1		C1-R2		C1-R3	
	Date	20-Oct-10		20-Oct-10		21-Oct-10	
	Start Time	09:30		13:00		09:04	
	Stop Time	12:32		16:02		12:07	
	Units						
Sample Volume	dscf	117.866		123.649		114.675	
Sample Volume	m^3	3.34		3.50		3.25	
Moisture Content	% v/v	13.9		13.8		14.0	
O_2 Concentration	% v/v (dry)	15.60		15.90		15.40	
CO_2 Concentration	% v/v (dry)	4.20		4.00		4.20	
Isokinetics	%	97		97		97	
Stack Flowrate	dscfm	33,283		34,813		32,531	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	(1.21)	0.0E+00	(3.27)	0.0E+00	(1.90)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(5.60)	0.0E+00	(5.63)	0.0E+00	(4.29)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(6.05)	0.0E+00	(5.36)	0.0E+00	(6.14)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(5.64)	0.0E+00	(4.99)	0.0E+00	(5.72)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(5.50)	0.0E+00	(4.87)	0.0E+00	(5.58)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	15.1	4.5E-05	19.0	5.4E-05	11.2	3.4E-05
OCDD	0.001	22.9	6.9E-06	32.3	9.2E-06	17.3	5.3E-06
2,3,7,8-TCDF	0.10	13.2	4.0E-04	16.8	4.8E-04	14.1	4.3E-04
1,2,3,7,8-PeCDF	0.05	10.4	1.6E-04	16.7	2.4E-04	11.4	1.8E-04
2,3,4,7,8-PeCDF	0.50	22.3	3.3E-03	36.0	5.1E-03	25.8	4.0E-03
1,2,3,4,7,8-HxCDF	0.10	10.6	3.2E-04	19.7	5.6E-04	12.0	3.7E-04
1,2,3,6,7,8-HxCDF	0.10	11.4	3.4E-04	21.6	6.2E-04	12.6	3.9E-04
2,3,4,6,7,8-HxCDF	0.10	14.7	4.4E-04	27.3	7.8E-04	16.3	5.0E-04
1,2,3,7,8,9-HxCDF	0.10	(4.43)	0.0E+00	7.30	2.1E-04	(6.12)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	22.3	6.7E-05	44.9	1.3E-04	22.9	7.1E-05
1,2,3,4,7,8,9-HpCDF	0.01	(4.75)	0.0E+00	(8.29)	0.0E+00	3.64	1.1E-05
OCDF	0.001	4.74	1.4E-06	14.5	4.1E-06	9.26	2.9E-06
TOTAL TEQs (ng/m^3)		=	5.1E-03		8.2E-03		6.0E-03
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**1.3E-02**		**2.3E-02**		**1.5E-02**
TOTAL TEQs (g/s)		=	8.0E-11		1.4E-10		9.2E-11

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.	C1-R1		C1-R2		C1-R3	
	Date	20-Oct-10		20-Oct-10		21-Oct-10	
	Start Time	09:30		13:00		09:04	
	Stop Time	12:32		16:02		12:07	
	Units						
Sample Volume	dscf	117.866		123.649		114.675	
Sample Volume	m^3	3.34		3.50		3.25	
Moisture Content	% v/v	13.9		13.8		14.0	
O_2 Concentration	% v/v (dry)	15.60		15.90		15.40	
CO_2 Concentration	% v/v (dry)	4.20		4.00		4.20	
Isokinetics	%	97		97		97	
Stack Flowrate	dscfm	33,283		34,813		32,531	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	51.6	1.5E-02	36.3	1.0E-02	37.4	1.2E-02
1,2,3,7,8-PeCDD	0.50	29.6	4.4E-03	19.4	2.8E-03	18.1	2.8E-03
1,2,3,4,7,8-HxCDD	0.10	5.80	1.7E-04	3.89	1.1E-04	(6.27)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	12.0	3.6E-04	7.09	2.0E-04	(5.85)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(5.10)	0.0E+00	3.29	9.4E-05	(5.07)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	26.1	7.8E-05	9.64	2.8E-05	8.01	2.5E-05
OCDD	0.001	15.4	4.6E-06	9.38	2.7E-06	11.0	3.4E-06
2,3,7,8-TCDF	0.10	1,000	3.0E-02	622	1.8E-02	597	1.8E-02
1,2,3,7,8-PeCDF	0.05	346	5.2E-03	208	3.0E-03	193	3.0E-03
2,3,4,7,8-PeCDF	0.50	584	8.7E-02	385	5.5E-02	321	4.9E-02
1,2,3,4,7,8-HxCDF	0.10	113	3.4E-03	74.1	2.1E-03	62.6	1.9E-03
1,2,3,6,7,8-HxCDF	0.10	112	3.4E-03	70.7	2.0E-03	59.1	1.8E-03
2,3,4,6,7,8-HxCDF	0.10	75.6	2.3E-03	52.8	1.5E-03	41.9	1.3E-03
1,2,3,7,8,9-HxCDF	0.10	23.9	7.2E-04	16.0	4.6E-04	14.4	4.4E-04
1,2,3,4,6,7,8-HpCDF	0.01	47.1	1.4E-04	32.4	9.3E-05	28.8	8.9E-05
1,2,3,4,7,8,9-HpCDF	0.01	5.24	1.6E-05	(3.34)	0.0E+00	(8.10)	0.0E+00
OCDF	0.001	3.89	1.2E-06	(5.07)	0.0E+00	(4.37)	0.0E+00
TOTAL TEQs (ng/m^3)		=	0.1530		0.0955		0.0907
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**0.3967**		**0.2621**		**0.2267**
TOTAL TEQs (g/s)		=	2.4E-09		1.6E-09		1.4E-09

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.	C2-R1		C2-R2		C2-R3	
	Date	19-Oct-10		19-Oct-10		19-Oct-10	
	Start Time	10:58		14:40		17:58	
	Stop Time	14:00		17:42		21:00	
	Units						
Sample Volume	dscf	118.515		122.108		118.610	
Sample Volume	m^3	3.36		3.46		3.36	
Moisture Content	% v/v	12.7		13.0		12.8	
O_2 Concentration	% v/v (dry)	13.37		15.80		15.80	
CO_2 Concentration	% v/v (dry)	3.90		4.00		4.00	
Isokinetics	%	93		94		93	
Stack Flowrate	dscfm	34,972		35,776		35,136	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	(2.55)	0.0E+00	(1.61)	0.0E+00	(1.83)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(5.33)	0.0E+00	(2.52)	0.0E+00	(4.04)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(5.49)	0.0E+00	(4.70)	0.0E+00	(6.26)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	6.78	2.0E-04	(4.38)	0.0E+00	(5.84)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(6.36)	0.0E+00	(4.27)	0.0E+00	(5.69)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	55.0	1.6E-04	18.2	5.3E-05	12.7	3.8E-05
OCDD	0.001	113	3.4E-05	49.7	1.4E-05	26.5	7.9E-06
2,3,7,8-TCDF	0.10	5.04	1.5E-04	6.95	2.0E-04	6.86	2.0E-04
1,2,3,7,8-PeCDF	0.05	4.70	7.0E-05	5.63	8.1E-05	6.10	9.1E-05
2,3,4,7,8-PeCDF	0.50	12.0	1.8E-03	13.4	1.9E-03	14.2	2.1E-03
1,2,3,4,7,8-HxCDF	0.10	7.09	2.1E-04	8.63	2.5E-04	9.19	2.7E-04
1,2,3,6,7,8-HxCDF	0.10	7.78	2.3E-04	9.24	2.7E-04	10.2	3.0E-04
2,3,4,6,7,8-HxCDF	0.10	10.9	3.2E-04	13.5	3.9E-04	14.1	4.2E-04
1,2,3,7,8,9-HxCDF	0.10	(2.18)	0.0E+00	4.48	1.3E-04	(1.96)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	21.8	6.5E-05	27.5	8.0E-05	27.9	8.3E-05
1,2,3,4,7,8,9-HpCDF	0.01	3.61	1.1E-05	3.85	1.1E-05	3.81	1.1E-05
OCDF	0.001	13.7	4.1E-06	11.7	3.4E-06	7.96	2.4E-06
TOTAL TEQs (ng/m^3)		=	3.3E-03		3.4E-03		3.5E-03
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**6.0E-03**		**9.2E-03**		**9.6E-03**
TOTAL TEQs (g/s)		=	5.4E-11		5.8E-11		5.9E-11

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.	C2-R1		C2-R2		C2-R3	
	Date	19-Oct-10		19-Oct-10		19-Oct-10	
	Start Time	10:58		14:40		17:58	
	Stop Time	14:00		17:42		21:00	
	Units						
Sample Volume	dscf	118.515		122.108		118.610	
Sample Volume	m^3	3.36		3.46		3.36	
Moisture Content	% v/v	12.7		13.0		12.8	
O_2 Concentration	% v/v (dry)	13.37		15.80		15.80	
CO_2 Concentration	% v/v (dry)	3.90		4.00		4.00	
Isokinetics	%	93		94		93	
Stack Flowrate	dscfm	34,972		35,776		35,136	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	20.8	6.2E-03	16.8	4.9E-03	14.9	4.4E-03
1,2,3,7,8-PeCDD	0.50	14.1	2.1E-03	10.8	1.6E-03	8.72	1.3E-03
1,2,3,4,7,8-HxCDD	0.10	2.96	8.8E-05	(3.81)	0.0E+00	2.35	7.0E-05
1,2,3,6,7,8-HxCDD	0.10	5.90	1.8E-04	5.00	1.4E-04	4.23	1.3E-04
1,2,3,7,8,9-HxCDD	0.10	(5.98)	0.0E+00	(4.56)	0.0E+00	(3.41)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	12.4	3.7E-05	10.5	3.0E-05	9.23	2.7E-05
OCDD	0.001	11.7	3.5E-06	9.69	2.8E-06	(7.91)	0.0E+00
2,3,7,8-TCDF	0.10	391	1.2E-02	291	8.4E-03	248	7.4E-03
1,2,3,7,8-PeCDF	0.05	158	2.4E-03	122	1.8E-03	97.3	1.4E-03
2,3,4,7,8-PeCDF	0.50	277	4.1E-02	217	3.1E-02	176	2.6E-02
1,2,3,4,7,8-HxCDF	0.10	57.7	1.7E-03	50.3	1.5E-03	39.9	1.2E-03
1,2,3,6,7,8-HxCDF	0.10	58.4	1.7E-03	46.9	1.4E-03	38.5	1.1E-03
2,3,4,6,7,8-HxCDF	0.10	40.6	1.2E-03	37.9	1.1E-03	30.7	9.1E-04
1,2,3,7,8,9-HxCDF	0.10	14.2	4.2E-04	13.5	3.9E-04	(3.20)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	32.5	9.7E-05	31.2	9.0E-05	27.0	8.0E-05
1,2,3,4,7,8,9-HpCDF	0.01	3.74	1.1E-05	3.19	9.2E-06	(3.79)	0.0E+00
OCDF	0.001	(4.29)	0.0E+00	(6.47)	0.0E+00	(5.17)	0.0E+00
TOTAL TEQs (ng/m^3)		=	0.0691		0.0526		0.0443
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**0.1267**		**0.1415**		**0.1193**
TOTAL TEQs (g/s)		=	1.1E-09		8.9E-10		7.3E-10

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.	C1RT-R1		C1RT-R2		C1RT-R3	
	Date	11-Jan-11		11-Jan-11		12-Jan-11	
	Start Time	08:49		12:35		09:03	
	Stop Time	11:50		15:37		12:04	
	Units						
Sample Volume	dscf	116.829		121.178		114.948	
Sample Volume	m^3	3.31		3.43		3.26	
Moisture Content	% v/v	13.1		13.0		12.6	
O_2 Concentration	% v/v (dry)	15.00		15.02		14.56	
CO_2 Concentration	% v/v (dry)	4.76		4.69		4.38	
Isokinetics	%	101		101		99	
Stack Flowrate	dscfm	29,857		30,910		29,979	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	(2.71)	0.0E+00	(1.80)	0.0E+00	(1.61)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(3.53)	0.0E+00	(4.46)	0.0E+00	(3.73)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(5.02)	0.0E+00	(4.45)	0.0E+00	(5.90)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(4.68)	0.0E+00	(4.15)	0.0E+00	(5.50)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(4.56)	0.0E+00	(4.04)	0.0E+00	(5.36)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	5.15	1.6E-05	(6.40)	0.0E+00	(8.34)	0.0E+00
OCDD	0.001	11.5	3.5E-06	6.16	1.8E-06	(12.0)	0.0E+00
2,3,7,8-TCDF	0.10	(3.86)	0.0E+00	(2.85)	0.0E+00	(3.32)	0.0E+00
1,2,3,7,8-PeCDF	0.05	(2.97)	0.0E+00	(3.03)	0.0E+00	(2.99)	0.0E+00
2,3,4,7,8-PeCDF	0.50	(2.04)	0.0E+00	(3.26)	0.0E+00	1.42	2.2E-04
1,2,3,4,7,8-HxCDF	0.10	(2.31)	0.0E+00	(2.02)	0.0E+00	(2.20)	0.0E+00
1,2,3,6,7,8-HxCDF	0.10	(2.17)	0.0E+00	(1.89)	0.0E+00	(2.07)	0.0E+00
2,3,4,6,7,8-HxCDF	0.10	2.17	6.6E-05	1.54	4.5E-05	1.40	4.3E-05
1,2,3,7,8,9-HxCDF	0.10	(2.76)	0.0E+00	(2.41)	0.0E+00	(2.63)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	4.12	1.2E-05	(2.48)	0.0E+00	(3.69)	0.0E+00
1,2,3,4,7,8,9-HpCDF	0.01	(3.49)	0.0E+00	(3.66)	0.0E+00	(2.85)	0.0E+00
OCDF	0.001	(14.3)	0.0E+00	(9.41)	0.0E+00	(17.5)	0.0E+00
TOTAL TEQs (ng/m^3)		=	9.7E-05		4.7E-05		2.6E-04
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**2.3E-04**		**1.1E-04**		**5.7E-04**
TOTAL TEQs (g/s)		=	1.4E-12		6.8E-13		3.7E-12

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

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PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.	C1RT-R1		C1RT-R2		C1RT-R3	
	Date	11-Jan-11		11-Jan-11		12-Jan-11	
	Start Time	08:49		12:35		09:03	
	Stop Time	11:50		15:37		12:04	
	Units						
Sample Volume	dscf	116.829		121.178		114.948	
Sample Volume	m^3	3.31		3.43		3.26	
Moisture Content	% v/v	13.1		13.0		12.6	
O_2 Concentration	% v/v (dry)	15.00		15.02		14.56	
CO_2 Concentration	% v/v (dry)	4.76		4.69		4.38	
Isokinetics	%	101		101		99	
Stack Flowrate	dscfm	29,857		30,910		29,979	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	5.98	1.8E-03	6.08	1.8E-03	5.98	1.8E-03
1,2,3,7,8-PeCDD	0.50	9.70	1.5E-03	9.80	1.4E-03	(4.51)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(5.32)	0.0E+00	(5.14)	0.0E+00	(6.30)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	4.74	1.4E-04	5.13	1.5E-04	(5.87)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(4.83)	0.0E+00	(4.91)	0.0E+00	(5.72)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	10.9	3.3E-05	13.3	3.9E-05	8.35	2.6E-05
OCDD	0.001	(16.1)	0.0E+00	(23.7)	0.0E+00	(17.2)	0.0E+00
2,3,7,8-TCDF	0.10	69.8	2.1E-03	88.2	2.6E-03	37.1	1.1E-03
1,2,3,7,8-PeCDF	0.05	32.4	4.9E-04	41.2	6.0E-04	17.1	2.6E-04
2,3,4,7,8-PeCDF	0.50	55.0	8.3E-03	71.4	1.0E-02	31.2	4.8E-03
1,2,3,4,7,8-HxCDF	0.10	13.2	4.0E-04	18.2	5.3E-04	8.13	2.5E-04
1,2,3,6,7,8-HxCDF	0.10	15.8	4.8E-04	19.0	5.5E-04	8.58	2.6E-04
2,3,4,6,7,8-HxCDF	0.10	12.7	3.8E-04	15.4	4.5E-04	7.94	2.4E-04
1,2,3,7,8,9-HxCDF	0.10	(3.17)	0.0E+00	3.08	9.0E-05	(2.81)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	11.4	3.4E-05	13.5	3.9E-05	(6.66)	0.0E+00
1,2,3,4,7,8,9-HpCDF	0.01	(3.63)	0.0E+00	(3.72)	0.0E+00	(1.50)	0.0E+00
OCDF	0.001	(5.81)	0.0E+00	(6.14)	0.0E+00	(6.67)	0.0E+00
TOTAL TEQs (ng/m^3)		=	0.0157		0.0186		0.0088
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**0.0365**		**0.0436**		**0.0192**
TOTAL TEQs (g/s)		=	2.2E-10		2.7E-10		1.2E-10

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

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PCDD / PCDF Emission Results - TEQ Basis - Front Half

	Run No.	C1A-R1		C1A-R2		C1A-R3	
	Date	12-Jan-11		13-Jan-11		13-Jan-11	
	Start Time	13:33		08:33		12:00	
	Stop Time	16:35		11:35		15:30	
	Units						
Sample Volume	dscf	141.163		148.628		142.208	
Sample Volume	m^3	4.00		4.21		4.03	
Moisture Content	% v/v	12.6		12.5		12.0	
O_2 Concentration	% v/v (dry)	15.57		16.13		16.09	
CO_2 Concentration	% v/v (dry)	3.87		3.93		3.98	
Isokinetics	%	99		100		99	
Stack Flowrate	dscfm	36,658		38,197		36,831	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	(1.79)	0.0E+00	(1.94)	0.0E+00	(1.42)	0.0E+00
1,2,3,7,8-PeCDD	0.50	(2.60)	0.0E+00	(2.39)	0.0E+00	(2.94)	0.0E+00
1,2,3,4,7,8-HxCDD	0.10	(4.72)	0.0E+00	(4.76)	0.0E+00	(3.80)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(4.40)	0.0E+00	(4.44)	0.0E+00	(3.54)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(4.29)	0.0E+00	(4.33)	0.0E+00	(3.45)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	(6.04)	0.0E+00	(6.01)	0.0E+00	(6.80)	0.0E+00
OCDD	0.001	5.79	1.4E-06	(17.9)	0.0E+00	(11.6)	0.0E+00
2,3,7,8-TCDF	0.10	(2.14)	0.0E+00	(2.45)	0.0E+00	(2.60)	0.0E+00
1,2,3,7,8-PeCDF	0.05	(2.98)	0.0E+00	(2.36)	0.0E+00	(2.41)	0.0E+00
2,3,4,7,8-PeCDF	0.50	(3.38)	0.0E+00	(2.47)	0.0E+00	(2.48)	0.0E+00
1,2,3,4,7,8-HxCDF	0.10	(1.70)	0.0E+00	(1.76)	0.0E+00	(1.54)	0.0E+00
1,2,3,6,7,8-HxCDF	0.10	(1.60)	0.0E+00	(1.65)	0.0E+00	(1.44)	0.0E+00
2,3,4,6,7,8-HxCDF	0.10	(1.73)	0.0E+00	(1.79)	0.0E+00	(1.56)	0.0E+00
1,2,3,7,8,9-HxCDF	0.10	(2.03)	0.0E+00	(2.10)	0.0E+00	(1.84)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	(3.98)	0.0E+00	(3.54)	0.0E+00	(3.56)	0.0E+00
1,2,3,4,7,8,9-HpCDF	0.01	(3.03)	0.0E+00	(2.75)	0.0E+00	(1.63)	0.0E+00
OCDF	0.001	(5.86)	0.0E+00	(6.02)	0.0E+00	(6.00)	0.0E+00
TOTAL TEQs (ng/m^3)		=	1.4E-06		0.0E+00		0.0E+00
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**3.7E-06**		**0.0E+00**		**0.0E+00**
TOTAL TEQs (g/s)		=	2.5E-14		0.0E+00		0.0E+00

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

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PCDD / PCDF Emission Results - TEQ Basis - Back Half

	Run No.	C1A-R1		C1A-R2		C1A-R3	
	Date	12-Jan-11		13-Jan-11		13-Jan-11	
	Start Time	13:33		08:33		12:00	
	Stop Time	16:35		11:35		15:30	
	Units						
Sample Volume	dscf	141.163		148.628		142.208	
Sample Volume	m^3	4.00		4.21		4.03	
Moisture Content	% v/v	12.6		12.5		12.0	
O_2 Concentration	% v/v (dry)	15.57		16.13		16.09	
CO_2 Concentration	% v/v (dry)	3.87		3.93		3.98	
Isokinetics	%	99		100		99	
Stack Flowrate	dscfm	36,658		38,197		36,831	
PCDD / PCDF Parameters	TEF (a)	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ	pg	ng/m^3 TEQ
2,3,7,8-TCDD	1.00	5.64	1.4E-03	3.59	8.5E-04	7.50	1.9E-03
1,2,3,7,8-PeCDD	0.50	9.79	1.2E-03	6.79	8.1E-04	7.00	8.7E-04
1,2,3,4,7,8-HxCDD	0.10	(10.3)	0.0E+00	(6.47)	0.0E+00	(7.75)	0.0E+00
1,2,3,6,7,8-HxCDD	0.10	(9.64)	0.0E+00	(6.03)	0.0E+00	(7.22)	0.0E+00
1,2,3,7,8,9-HxCDD	0.10	(9.40)	0.0E+00	(5.87)	0.0E+00	(7.04)	0.0E+00
1,2,3,4,6,7,8-HpCDD	0.01	13.7	3.4E-05	13.4	3.2E-05	11.0	2.7E-05
OCDD	0.001	(26.7)	0.0E+00	13.0	3.1E-06	11.0	2.7E-06
2,3,7,8-TCDF	0.10	50.4	1.3E-03	38.6	9.2E-04	40.7	1.0E-03
1,2,3,7,8-PeCDF	0.05	26.5	3.3E-04	18.9	2.2E-04	18.8	2.3E-04
2,3,4,7,8-PeCDF	0.50	47.6	6.0E-03	27.7	3.3E-03	32.2	4.0E-03
1,2,3,4,7,8-HxCDF	0.10	(9.56)	0.0E+00	7.55	1.8E-04	8.75	2.2E-04
1,2,3,6,7,8-HxCDF	0.10	12.0	3.0E-04	(6.75)	0.0E+00	8.90	2.2E-04
2,3,4,6,7,8-HxCDF	0.10	9.54	2.4E-04	7.14	1.7E-04	7.64	1.9E-04
1,2,3,7,8,9-HxCDF	0.10	(5.16)	0.0E+00	(3.19)	0.0E+00	(3.18)	0.0E+00
1,2,3,4,6,7,8-HpCDF	0.01	10.5	2.6E-05	7.45	1.8E-05	6.92	1.7E-05
1,2,3,4,7,8,9-HpCDF	0.01	(7.83)	0.0E+00	(4.64)	0.0E+00	(4.66)	0.0E+00
OCDF	0.001	(16.5)	0.0E+00	(11.1)	0.0E+00	(8.93)	0.0E+00
TOTAL TEQs (ng/m^3)		=	0.0108		0.0065		0.0086
TOTAL TEQs (ng/m^3 @ 7 % O_2)		=	**0.0278**		**0.0187**		**0.0247**
TOTAL TEQs (g/s)		=	1.9E-10		1.2E-10		1.5E-10

(a) U.S.EPA (1989) Toxic Equivalency Factor [as per 40 CFR 63.1201(a)]

Note: "Non-detect" values are shown in parentheses and treated as zero in the calculation of concentration on a TEQ basis.

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Risk-Based Emission Results for PCDDs/PCDFs - Condition 1

	Run No.	C1-R1		C1-R2		C1-R3	
	Date	20-Oct-10		20-Oct-10		21-Oct-10	
	Start Time	09:30		13:00		09:04	
	Stop Time	12:32		16:02		12:07	
	Units						
Sample Volume	dscf	117.866		123.649		114.675	
Sample Volume	m^3	3.34		3.50		3.25	
Moisture Content	% v/v	13.9		13.8		14.0	
O_2 Concentration	% v/v (dry)	15.60		15.90		15.40	
CO_2 Concentration	% v/v (dry)	4.20		4.00		4.20	
Isokinetics	%	97		97		97	
Stack Flowrate	dscfm	33,283		34,813		32,531	
PCDD / PCDF Parameters		pg	g/sec	pg	g/sec	pg	g/sec
2,3,7,8-TCDD		52.81	2.5E-10	39.57	1.9E-10	39.3	1.9E-10
1,2,3,7,8-PeCDD		35.2	1.7E-10	25.03	1.2E-10	22.39	1.1E-10
1,2,3,4,7,8-HxCDD		11.85	5.6E-11	9.25	4.3E-11	12.41	5.9E-11
1,2,3,6,7,8-HxCDD		17.64	8.3E-11	12.08	5.7E-11	11.57	5.5E-11
1,2,3,7,8,9-HxCDD		10.60	5.0E-11	8.16	3.8E-11	10.65	5.0E-11
1,2,3,4,6,7,8-HpCDD		41.20	1.9E-10	28.6	1.3E-10	19.21	9.1E-11
OCDD		38.3	1.8E-10	41.7	2.0E-10	28.3	1.3E-10
2,3,7,8-TCDF		1,013	4.8E-09	639	3.0E-09	611	2.9E-09
1,2,3,7,8-PeCDF		356	1.7E-09	224.7	1.1E-09	204	9.7E-10
2,3,4,7,8-PeCDF		606	2.9E-09	421.0	2.0E-09	347	1.6E-09
1,2,3,4,7,8-HxCDF		123.6	5.8E-10	93.8	4.4E-10	74.6	3.5E-10
1,2,3,6,7,8-HxCDF		123.4	5.8E-10	92.3	4.3E-10	71.7	3.4E-10
2,3,4,6,7,8-HxCDF		90.3	4.2E-10	80.1	3.8E-10	58.2	2.8E-10
1,2,3,7,8,9-HxCDF		28.33	1.3E-10	23.30	1.1E-10	20.52	9.7E-11
1,2,3,4,6,7,8-HpCDF		69.4	3.3E-10	77.3	3.6E-10	51.7	2.4E-10
1,2,3,4,7,8,9-HpCDF		9.99	4.7E-11	11.63	5.5E-11	11.74	5.6E-11
OCDF		8.63	4.1E-11	19.57	9.2E-11	13.63	6.4E-11

Risk-Based Emission Results for PCDDs/PCDFs - Condition 2

	Run No.	C2-R1		C2-R2		C2-R3	
	Date	19-Oct-10		19-Oct-10		19-Oct-10	
	Start Time	10:58		14:40		17:58	
	Stop Time	14:00		17:42		21:00	
	Units						
Sample Volume	dscf	118.515		122.108		118.610	
Sample Volume	m^3	3.36		3.46		3.36	
Moisture Content	% v/v	12.7		13.0		12.8	
O_2 Concentration	% v/v (dry)	13.37		15.80		15.80	
CO_2 Concentration	% v/v (dry)	3.90		4.00		4.00	
Isokinetics	%	93		94		93	
Stack Flowrate	dscfm	34,972		35,776		35,136	
PCDD / PCDF Parameters		pg	g/sec	pg	g/sec	pg	g/sec
2,3,7,8-TCDD		23.35	1.1E-10	18.41	9.0E-11	16.7	8.3E-11
1,2,3,7,8-PeCDD		19.4	9.6E-11	13.32	6.5E-11	12.76	6.3E-11
1,2,3,4,7,8-HxCDD		8.45	4.2E-11	8.51	4.2E-11	8.61	4.3E-11
1,2,3,6,7,8-HxCDD		12.68	6.2E-11	9.38	4.6E-11	10.07	5.0E-11
1,2,3,7,8,9-HxCDD		12.34	6.1E-11	8.83	4.3E-11	9.10	4.5E-11
1,2,3,4,6,7,8-HpCDD		67.40	3.3E-10	28.7	1.4E-10	21.93	1.1E-10
OCDD		124.7	6.1E-10	59.4	2.9E-10	34.4	1.7E-10
2,3,7,8-TCDF		396	1.9E-09	298	1.5E-09	255	1.3E-09
1,2,3,7,8-PeCDF		163	8.0E-10	127.6	6.2E-10	103	5.1E-10
2,3,4,7,8-PeCDF		289	1.4E-09	230.4	1.1E-09	190	9.4E-10
1,2,3,4,7,8-HxCDF		64.8	3.2E-10	58.9	2.9E-10	49.1	2.4E-10
1,2,3,6,7,8-HxCDF		66.2	3.3E-10	56.1	2.7E-10	48.7	2.4E-10
2,3,4,6,7,8-HxCDF		51.5	2.5E-10	51.4	2.5E-10	44.8	2.2E-10
1,2,3,7,8,9-HxCDF		16.38	8.1E-11	17.98	8.8E-11	5.16	2.5E-11
1,2,3,4,6,7,8-HpCDF		54.3	2.7E-10	58.7	2.9E-10	54.9	2.7E-10
1,2,3,4,7,8,9-HpCDF		7.35	3.6E-11	7.04	3.4E-11	7.60	3.8E-11
OCDF		17.99	8.8E-11	18.17	8.9E-11	13.13	6.5E-11

Risk-Based Emission Results for PCDDs/PCDFs - Condition 1RT

	Run No.	C1RT-R1		C1RT-R2		C1RT-R3	
	Date	11-Jan-11		11-Jan-11		12-Jan-11	
	Start Time	08:49		12:35		09:03	
	Stop Time	11:50		15:37		12:04	
	Units						
Sample Volume	dscf	116.829		121.178		114.948	
Sample Volume	m^3	3.31		3.43		3.26	
Moisture Content	% v/v	13.1		13.0		12.6	
O_2 Concentration	% v/v (dry)	15.00		15.02		14.56	
CO_2 Concentration	% v/v (dry)	4.76		4.69		4.38	
Isokinetics	%	101		101		99	
Stack Flowrate	dscfm	29,857		30,910		29,979	
PCDD / PCDF Parameters		pg	g/sec	pg	g/sec	pg	g/sec
2,3,7,8-TCDD		8.69	3.7E-11	7.88	3.4E-11	7.6	3.3E-11
1,2,3,7,8-PeCDD		13.2	5.6E-11	14.26	6.1E-11	8.24	3.6E-11
1,2,3,4,7,8-HxCDD		10.34	4.4E-11	9.59	4.1E-11	12.20	5.3E-11
1,2,3,6,7,8-HxCDD		9.42	4.0E-11	9.28	3.9E-11	11.37	4.9E-11
1,2,3,7,8,9-HxCDD		9.39	4.0E-11	8.95	3.8E-11	11.08	4.8E-11
1,2,3,4,6,7,8-HpCDD		16.05	6.8E-11	19.7	8.4E-11	16.69	7.3E-11
OCDD		27.6	1.2E-10	29.9	1.3E-10	29.2	1.3E-10
2,3,7,8-TCDF		74	3.1E-10	91	3.9E-10	40	1.8E-10
1,2,3,7,8-PeCDF		35	1.5E-10	44.2	1.9E-10	20	8.7E-11
2,3,4,7,8-PeCDF		57	2.4E-10	74.7	3.2E-10	33	1.4E-10
1,2,3,4,7,8-HxCDF		15.5	6.6E-11	20.2	8.6E-11	10.3	4.5E-11
1,2,3,6,7,8-HxCDF		18.0	7.7E-11	20.9	8.9E-11	10.7	4.6E-11
2,3,4,6,7,8-HxCDF		14.9	6.3E-11	16.9	7.2E-11	9.3	4.1E-11
1,2,3,7,8,9-HxCDF		5.93	2.5E-11	5.49	2.3E-11	5.44	2.4E-11
1,2,3,4,6,7,8-HpCDF		15.5	6.6E-11	16.0	6.8E-11	10.4	4.5E-11
1,2,3,4,7,8,9-HpCDF		7.12	3.0E-11	7.38	3.1E-11	4.35	1.9E-11
OCDF		20.11	8.6E-11	15.55	6.6E-11	24.17	1.1E-10

Risk-Based Emission Results for PCDDs/PCDFs - Condition 1A

	Run No.	C1A-R1		C1A-R2		C1A-R3	
	Date	12-Jan-11		13-Jan-11		13-Jan-11	
	Start Time	13:33		08:33		12:00	
	Stop Time	16:35		11:35		15:30	
	Units						
Sample Volume	dscf	141.163		148.628		142.208	
Sample Volume	m^3	4.00		4.21		4.03	
Moisture Content	% v/v	12.6		12.5		12.0	
O_2 Concentration	% v/v (dry)	15.57		16.13		16.09	
CO_2 Concentration	% v/v (dry)	3.87		3.93		3.98	
Isokinetics	%	99		100		99	
Stack Flowrate	dscfm	36,658		38,197		36,831	
PCDD / PCDF Parameters		pg	g/sec	pg	g/sec	pg	g/sec
2,3,7,8-TCDD		7.43	3.2E-11	5.53	2.4E-11	8.9	3.9E-11
1,2,3,7,8-PeCDD		12.4	5.4E-11	9.18	3.9E-11	9.94	4.3E-11
1,2,3,4,7,8-HxCDD		15.02	6.5E-11	11.23	4.8E-11	11.55	5.0E-11
1,2,3,6,7,8-HxCDD		14.04	6.1E-11	10.47	4.5E-11	10.76	4.6E-11
1,2,3,7,8,9-HxCDD		13.69	5.9E-11	10.20	4.4E-11	10.49	4.5E-11
1,2,3,4,6,7,8-HpCDD		19.74	8.5E-11	19.4	8.3E-11	17.80	7.7E-11
OCDD		32.5	1.4E-10	30.9	1.3E-10	22.6	9.8E-11
2,3,7,8-TCDF		53	2.3E-10	41	1.8E-10	43	1.9E-10
1,2,3,7,8-PeCDF		29	1.3E-10	21.3	9.1E-11	21	9.2E-11
2,3,4,7,8-PeCDF		51	2.2E-10	30.2	1.3E-10	35	1.5E-10
1,2,3,4,7,8-HxCDF		11.3	4.9E-11	9.3	4.0E-11	10.3	4.4E-11
1,2,3,6,7,8-HxCDF		13.6	5.9E-11	8.4	3.6E-11	10.3	4.5E-11
2,3,4,6,7,8-HxCDF		11.3	4.9E-11	8.9	3.8E-11	9.2	4.0E-11
1,2,3,7,8,9-HxCDF		7.19	3.1E-11	5.29	2.3E-11	5.02	2.2E-11
1,2,3,4,6,7,8-HpCDF		14.5	6.3E-11	11.0	4.7E-11	10.5	4.5E-11
1,2,3,4,7,8,9-HpCDF		10.86	4.7E-11	7.39	3.2E-11	6.29	2.7E-11
OCDF		22.36	9.7E-11	17.12	7.3E-11	14.93	6.4E-11

Vista
Analytical Laboratory

January 21, 2011

Vista Project I.D.: 33016

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

Enclosed are the amended results for the seven MM5 samples received at Vista Analytical Laboratory on January 14, 2011 under your Project Name "Norlite Corp.". This work was authorized under your Purchase Order No. 10272ACM. These samples were extracted and analyzed using Method 0023A-8290A for tetra-through-octa chlorinated dioxins and furans. The front and back halves of each sample train, except the field blank, were extracted and analyzed separately. A rush turnaround time was provided for this work. Unnecessary data qualifiers listed in the original report were removed from sample datasheets.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha M. Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.

Section I: Sample Inventory Report

Date Received: 1/14/2011
Project No.: 33016
Project Name: Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1RT-R1	BHR
		XAD
002	M23-PF-C1RT-R1	FHR
		FILTER
003	M23-XAD-C1RT-R2	BHR
		XAD
004	M23-PF-C1RT-R2	FHR
		FILTER
005	M23-XAD-C1RT-R3	BHR
		XAD
006	M23-PF-C1RT-R3	FHR
		FILTER
007	M23-XAD-C1A-R1	BHR
		XAD
008	M23-PF-C1A-R1	FHR
		FILTER
009	M23-XAD-C1A-R2	BHR
		XAD
010	M23-PF-C1A-R2	FHR
		FILTER
011	M23-XAD-C1A-R3	BHR
		XAD
012	M23-PF-C1A-R3	FHR
		FILTER
013	M23-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnmm5.rpt

SECTION II

Vista

Method Blank **Method 0023A-8290A**

Matrix: MM5 QC Batch No.: 3547

Sample Size: Sample Date Extracted: 16-Jan-11

Lab Sample: 0-MB001

Date Analyzed DB-5: 18-Jan-11 Date Analyzed DB-225: NA

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.55		
1,2,3,7,8-PeCDD	ND	4.98		
1,2,3,4,7,8-HxCDD	ND	3.93		
1,2,3,6,7,8-HxCDD	ND	3.66		
1,2,3,7,8,9-HxCDD	ND	3.57		
1,2,3,4,6,7,8-HpCDD	ND	5.80		
OCDD	ND	9.46		
2,3,7,8-TCDF	ND	1.18		
1,2,3,7,8-PeCDF	ND	1.77		
2,3,4,7,8-PeCDF	ND	1.79		
1,2,3,4,7,8-HxCDF	ND	1.52		
1,2,3,6,7,8-HxCDF	ND	1.42		
2,3,4,6,7,8-HxCDF	ND	1.54		
1,2,3,7,8,9-HxCDF	ND	1.81		
1,2,3,4,6,7,8-HpCDF	ND	2.36		
1,2,3,4,7,8,9-HpCDF	ND	3.24		
OCDF	ND	8.16		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	79.1	40 - 135	
	13C-1,2,3,7,8-PeCDD	92.5	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	71.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	70.1	40 - 135	
	13C-OCDD	60.5	40 - 135	
	13C-2,3,7,8-TCDF	74.7	40 - 135	
	13C-1,2,3,7,8-PeCDF	81.8	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	73.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	69.3	40 - 135	
	13C-OCDF	58.0	40 - 135	
PS	37Cl-2,3,7,8-TCDD	101	70 - 130	
	13C-2,3,4,7,8-PeCDF	98.6	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	108	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	101	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	96.6	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	79.3	40 - 135	

Totals			
Total TCDD	ND	1.58	
Total PeCDD	ND	3.23	
Total HxCDD	ND	3.71	
Total HpCDD	ND	5.50	
Total TCDF	ND	1.40	
Total PeCDF	ND	1.76	
Total HxCDF	ND	1.56	
Total HpCDF	ND	2.64	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 9.10

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 20-Jan-2011 13:15

OPR Results **Method 0023A-8290A**

Matrix:	MM5	QC Batch No.:	3547	Lab Sample:	0-OPR001
Sample Size:	Sample	Date Extracted:	16-Jan-11	Date Analyzed DB-5:	18-Jan-11
				Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits
2,3,7,8-TCDD	2.50	2.77	1.75 - 3.25
1,2,3,7,8-PeCDD	12.5	13.1	8.75 - 16.25
1,2,3,4,7,8-HxCDD	12.5	13.0	8.75 - 16.25
1,2,3,6,7,8-HxCDD	12.5	12.7	8.75 - 16.25
1,2,3,7,8,9-HxCDD	12.5	13.9	8.75 - 16.25
1,2,3,4,6,7,8-HpCDD	12.5	11.9	8.75 - 16.25
OCDD	25.0	24.5	17.5 - 32.5
2,3,7,8-TCDF	2.50	2.47	1.75 - 3.25
1,2,3,7,8-PeCDF	12.5	11.8	8.75 - 16.25
2,3,4,7,8-PeCDF	12.5	11.8	8.75 - 16.25
1,2,3,4,7,8-HxCDF	12.5	12.5	8.75 - 16.25
1,2,3,6,7,8-HxCDF	12.5	13.3	8.75 - 16.25
2,3,4,6,7,8-HxCDF	12.5	13.0	8.75 - 16.25
1,2,3,7,8,9-HxCDF	12.5	13.6	8.75 - 16.25
1,2,3,4,6,7,8-HpCDF	12.5	12.6	8.75 - 16.25
1,2,3,4,7,8,9-HpCDF	12.5	11.3	8.75 - 16.25
OCDF	25.0	24.8	17.5 - 32.5

	Labeled Standard	%R	LCL-UCL	Qualifier
IS	13C-2,3,7,8-TCDD	73.6	40 - 135	
	13C-1,2,3,7,8-PeCDD	85.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	65.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	66.1	40 - 135	
	13C-OCDD	57.8	40 - 135	
	13C-2,3,7,8-TCDF	66.2	40 - 135	
	13C-1,2,3,7,8-PeCDF	77.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	67.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	66.5	40 - 135	
	13C-OCDF	54.6	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	80.1	40 - 135	

Analyst: ANP

Approved By: William J. Luksemburg 20-Jan-2011 13:15

Vista

Sample ID: **M23-XAD-C1RT-R1** **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix.	MM5	Lab Sample:	33016-001	Date Received:	14-Jan-11
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547	Date Extracted:	16-Jan-11
Date Collected:	13-Jan-11			Date Analyzed DB-5:	18-Jan-11	Dates Analyzed DB-225:	19-Jan-11
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	5.98			J
1,2,3,7,8-PeCDD	9.70			J
1,2,3,4,7,8-HxCDD	ND	5.32		
1,2,3,6,7,8-HxCDD	4.74			J
1,2,3,7,8,9-HxCDD	ND	4.83		
1,2,3,4,6,7,8-HpCDD	10.9			J
OCDD	ND	16.1		
2,3,7,8-TCDF	69.8			
1,2,3,7,8-PeCDF	32.4			J
2,3,4,7,8-PeCDF	55.0			
1,2,3,4,7,8-HxCDF	13.2			J
1,2,3,6,7,8-HxCDF	15.8			J
2,3,4,6,7,8-HxCDF	12.7			J
1,2,3,7,8,9-HxCDF	ND	3.17		
1,2,3,4,6,7,8-HpCDF	11.4			J
1,2,3,4,7,8,9-HpCDF	ND	3.63		
OCDF	ND	5.81		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	77.9	40 - 135	
	13C-1,2,3,7,8-PeCDD	98.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	79.6	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	84.1	40 - 135	
	13C-OCDD	78.1	40 - 135	
	13C-2,3,7,8-TCDF	71.2	40 - 135	
	13C-1,2,3,7,8-PeCDF	83.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	80.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	79.2	40 - 135	
	13C-OCDF	76.1	40 - 135	
PS	37Cl-2,3,7,8-TCDD	100	70 - 130	
	13C-2,3,4,7,8-PeCDF	96.4	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	102	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	94.4	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	91.6	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	87.0	40 - 135	

Totals		
Total TCDD	154	163
Total PeCDD	123	
Total HxCDD	92.1	
Total HpCDD	22.4	
Total TCDF	2780	
Total PeCDF	640	
Total HxCDF	117	120
Total HpCDF	11.4	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 45.0 - 46.4

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: MAS

Approved By: William J. Luksemburg 20-Jan-2011 13:15

Vista

Sample ID: M23-PF-C1RT-R1 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	33016-002	Date Received:	14-Jan-11
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547	Date Extracted:	16-Jan-11
Date Collected:	13-Jan-11			Date Analyzed DB-5:	18-Jan-11	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.71		
1,2,3,7,8-PeCDD	ND	3.53		
1,2,3,4,7,8-HxCDD	ND	5.02		
1,2,3,6,7,8-HxCDD	ND	4.68		
1,2,3,7,8,9-HxCDD	ND	4.56		
1,2,3,4,6,7,8-HpCDD	5.15			J
OCDD	11.5			J
2,3,7,8-TCDF	ND	3.86		
1,2,3,7,8-PeCDF	ND	2.97		
2,3,4,7,8-PeCDF	ND		2.04	
1,2,3,4,7,8-HxCDF	ND	2.31		
1,2,3,6,7,8-HxCDF	ND	2.17		
2,3,4,6,7,8-HxCDF	2.17			J
1,2,3,7,8,9-HxCDF	ND	2.76		
1,2,3,4,6,7,8-HpCDF	4.12			J
1,2,3,4,7,8,9-HpCDF	ND	3.49		
OCDF	ND	14.3		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	82.5	40 - 135	
	13C-1,2,3,7,8-PeCDD	91.8	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	73.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	79.9	40 - 135	
	13C-OCDD	71.4	40 - 135	
	13C-2,3,7,8-TCDF	75.6	40 - 135	
	13C-1,2,3,7,8-PeCDF	79.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	74.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	75.3	40 - 135	
	13C-OCDF	69.1	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	81.4	40 - 135	

Totals			
Total TCDD	ND	2.36	
Total PeCDD	ND	4.14	
Total HxCDD	ND		3.71
Total HpCDD	5.15		
Total TCDF	9.88		
Total PeCDF	4.08		8.15
Total HxCDF	7.16		
Total HpCDF	4.12		

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.313 - 9.83

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 21-Jan-2011 11:25

Vista

Sample ID: M23-XAD-C1RT-R2 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	33016-003	Date Received:	14-Jan-11
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547	Date Extracted:	16-Jan-11
Date Collected:	13-Jan-11			Date Analyzed DB-5:	18-Jan-11	Dates Analyzed DB-225:	19-Jan-11
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	6.08			J
1,2,3,7,8-PeCDD	9.80			J
1,2,3,4,7,8-HxCDD	ND	5.14		
1,2,3,6,7,8-HxCDD	5.13			J
1,2,3,7,8,9-HxCDD	ND	4.91		
1,2,3,4,6,7,8-HpCDD	13.3			J
OCDD	ND	23.7		
2,3,7,8-TCDF	88.2			
1,2,3,7,8-PeCDF	41.2			J
2,3,4,7,8-PeCDF	71.4			
1,2,3,4,7,8-HxCDF	18.2			J
1,2,3,6,7,8-HxCDF	19.0			J
2,3,4,6,7,8-HxCDF	15.4			J
1,2,3,7,8,9-HxCDF	3.08			J
1,2,3,4,6,7,8-HpCDF	13.5			J
1,2,3,4,7,8,9-HpCDF	ND	3.72		
OCDF	ND	6.14		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	81.9	40 - 135	
	13C-1,2,3,7,8-PeCDD	94.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	75.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	80.2	40 - 135	
	13C-OCDD	72.6	40 - 135	
	13C-2,3,7,8-TCDF	72.4	40 - 135	
	13C-1,2,3,7,8-PeCDF	78.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	74.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	75.4	40 - 135	
	13C-OCDF	70.4	40 - 135	
PS	37Cl-2,3,7,8-TCDD	94.9	70 - 130	
	13C-2,3,4,7,8-PeCDF	91.1	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	91.6	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	87.5	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	80.7	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	88.4	40 - 135	

Totals		
Total TCDD	182	193
Total PeCDD	108	126
Total HxCDD	110	
Total HpCDD	30.3	
Total TCDF	3350	3370
Total PeCDF	811	
Total HxCDF	162	
Total HpCDF	13.5	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 53.7 - 54.7

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: MAS

Approved By: William J. Luksemburg 20-Jan-2011 13:15

Vista

Sample ID: M23-PF-C1RT-R2 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	33016-004	Date Received:	14-Jan-11
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547	Date Extracted:	16-Jan-11
Date Collected:	13-Jan-11			Date Analyzed DB-5:	18-Jan-11	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.80		
1,2,3,7,8-PeCDD	ND	4.46		
1,2,3,4,7,8-HxCDD	ND	4.45		
1,2,3,6,7,8-HxCDD	ND	4.15		
1,2,3,7,8,9-HxCDD	ND	4.04		
1,2,3,4,6,7,8-HpCDD	ND	6.40		
OCDD	6.16			J
2,3,7,8-TCDF	ND	2.85		
1,2,3,7,8-PeCDF	ND	3.03		
2,3,4,7,8-PeCDF	ND	3.26		
1,2,3,4,7,8-HxCDF	ND	2.02		
1,2,3,6,7,8-HxCDF	ND	1.89		
2,3,4,6,7,8-HxCDF	1.54			J
1,2,3,7,8,9-HxCDF	ND	2.41		
1,2,3,4,6,7,8-HpCDF	ND		2.48	
1,2,3,4,7,8,9-HpCDF	ND	3.66		
OCDF	ND	9.41		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	83.9	40 - 135	
	13C-1,2,3,7,8-PeCDD	99.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	76.4	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	79.2	40 - 135	
	13C-OCDD	72.0	40 - 135	
	13C-2,3,7,8-TCDF	75.0	40 - 135	
	13C-1,2,3,7,8-PeCDF	87.9	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	78.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	76.0	40 - 135	
	13C-OCDF	67.4	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	86.0	40 - 135	

Totals				
Total TCDD	ND	2.29		
Total PeCDD	ND	3.69		
Total HxCDD	3.62			
Total HpCDD	ND	6.89		
Total TCDF	ND		1.86	
Total PeCDF	ND	3.57		
Total HxCDF	3.23			
Total HpCDF	ND		2.48	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.156 - 9.79

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 21-Jan-2011 11:25

Vista

Sample ID: M23-XAD-C1RT-R3 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	33016-005	Date Received:	14-Jan-11
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547	Date Extracted:	16-Jan-11
Date Collected:	13-Jan-11			Date Analyzed DB-5:	18-Jan-11	Dates Analyzed DB-225:	19-Jan-11
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	5.98			J
1,2,3,7,8-PeCDD	ND		4.51	
1,2,3,4,7,8-HxCDD	ND	6.30		
1,2,3,6,7,8-HxCDD	ND	5.87		
1,2,3,7,8,9-HxCDD	ND	5.72		
1,2,3,4,6,7,8-HpCDD	8.35			J
OCDD	ND	17.2		
2,3,7,8-TCDF	37.1			
1,2,3,7,8-PeCDF	17.1			J
2,3,4,7,8-PeCDF	31.2			J
1,2,3,4,7,8-HxCDF	8.13			J
1,2,3,6,7,8-HxCDF	8.58			J
2,3,4,6,7,8-HxCDF	7.94			J
1,2,3,7,8,9-HxCDF	ND	2.81		
1,2,3,4,6,7,8-HpCDF	ND		6.66	
1,2,3,4,7,8,9-HpCDF	ND	1.50		
OCDF	ND	6.67		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	84.4	40 - 135	
	13C-1,2,3,7,8-PeCDD	95.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	77.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	81.6	40 - 135	
	13C-OCDD	74.2	40 - 135	
	13C-2,3,7,8-TCDF	79.9	40 - 135	
	13C-1,2,3,7,8-PeCDF	83.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	77.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	76.0	40 - 135	
	13C-OCDF	72.1	40 - 135	
PS	37Cl-2,3,7,8-TCDD	103	70 - 130	
	13C-2,3,4,7,8-PeCDF	99.5	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	104	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	101	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	98.1	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	87.1	40 - 135	

Totals		
Total TCDD	91.0	103
Total PeCDD	61.7	70.2
Total HxCDD	45.6	
Total HpCDD	17.0	
Total TCDF	1430	1430
Total PeCDF	323	338
Total HxCDF	56.8	
Total HpCDF	ND	6.66

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 22.1 - 28.8

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: MAS

Approved By: William J. Luksemburg 20-Jan-2011 13:15

Vista

Sample ID:	M23-PF-C1RT-R3			Method 0023A-8290A
Client Data		**Sample Data**	**Laboratory Data**	
Name:	AECOM, Inc.	Matrix: MM5	Lab Sample: 33016-006	Date Received: 14-Jan-11
Project:	Norlite Corp.	Sample Size: 1 Sample	QC Batch No.: 3547	Date Extracted: 16-Jan-11
Date Collected:	13-Jan-11		Date Analyzed DB-5: 18-Jan-11	Date Analyzed DB-225: NA
Time Collected:	NA			

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.61		
1,2,3,7,8-PeCDD	ND	3.73		
1,2,3,4,7,8-HxCDD	ND	5.90		
1,2,3,6,7,8-HxCDD	ND	5.50		
1,2,3,7,8,9-HxCDD	ND	5.36		
1,2,3,4,6,7,8-HpCDD	ND	8.34		
OCDD	ND	12.0		
2,3,7,8-TCDF	ND	3.32		
1,2,3,7,8-PeCDF	ND	2.99		
2,3,4,7,8-PeCDF	1.42			J
1,2,3,4,7,8-HxCDF	ND	2.20		
1,2,3,6,7,8-HxCDF	ND	2.07		
2,3,4,6,7,8-HxCDF	1.40			J
1,2,3,7,8,9-HxCDF	ND	2.63		
1,2,3,4,6,7,8-HpCDF	ND	3.69		
1,2,3,4,7,8,9-HpCDF	ND	2.85		
OCDF	ND	17.5		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	88.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	101	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	73.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	79.9	40 - 135	
	13C-OCDD	69.0	40 - 135	
	13C-2,3,7,8-TCDF	80.5	40 - 135	
	13C-1,2,3,7,8-PeCDF	86.5	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	78.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	74.8	40 - 135	
	13C-OCDF	66.4	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	85.7	40 - 135	

Totals			
Total TCDD	4.71		
Total PeCDD	ND	3.21	
Total HxCDD	3.34		
Total HpCDD	ND	8.34	
Total TCDF	ND		1.28
Total PeCDF	1.42		
Total HxCDF	3.39		
Total HpCDF	ND	2.88	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.566 - 8.85

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 21-Jan-2011 11:25

Vista

Sample ID:	M23-XAD-C1A-R1				Method 0023A-8290A
Client Data		**Sample Data**		**Laboratory Data**	
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	33016-007
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547
Date Collected:	13-Jan-11			Date Analyzed DB-5:	19-Jan-11
Time Collected:	NA			Date Received:	14-Jan-11
				Date Extracted:	16-Jan-11
				Dates Analyzed DB-225:	19-Jan-11

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	5.64			J
1,2,3,7,8-PeCDD	9.79			J
1,2,3,4,7,8-HxCDD	ND	10.3		
1,2,3,6,7,8-HxCDD	ND	9.64		
1,2,3,7,8,9-HxCDD	ND	9.40		
1,2,3,4,6,7,8-HpCDD	13.7			J
OCDD	ND	26.7		
2,3,7,8-TCDF	50.4			
1,2,3,7,8-PeCDF	26.5			J
2,3,4,7,8-PeCDF	47.6			J
1,2,3,4,7,8-HxCDF	ND		9.56	
1,2,3,6,7,8-HxCDF	12.0			J
2,3,4,6,7,8-HxCDF	9.54			J
1,2,3,7,8,9-HxCDF	ND	5.16		
1,2,3,4,6,7,8-HpCDF	10.5			J
1,2,3,4,7,8,9-HpCDF	ND	7.83		
OCDF	ND	16.5		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	81.9	40 - 135	
	13C-1,2,3,7,8-PeCDD	91.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	73.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	81.2	40 - 135	
	13C-OCDD	77.8	40 - 135	
	13C-2,3,7,8-TCDF	76.0	40 - 135	
	13C-1,2,3,7,8-PeCDF	88.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	82.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	74.6	40 - 135	
	13C-OCDF	77.0	40 - 135	
PS	37Cl-2,3,7,8-TCDD	100	70 - 130	
	13C-2,3,4,7,8-PeCDF	97.9	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	103	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	95.1	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	102	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	90.6	40 - 135	

Totals		
Total TCDD	157	167
Total PeCDD	104	135
Total HxCDD	87.1	
Total HpCDD	28.4	
Total TCDF	1660	
Total PeCDF	470	477
Total HxCDF	73.6	83.2
Total HpCDF	10.5	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 38.0 - 42.5

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 20-Jan-2011 13:15

Vista

Sample ID: M23-PF-C1A-R1 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	33016-008	Date Received:	14-Jan-11
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547	Date Extracted:	16-Jan-11
Date Collected:	13-Jan-11			Date Analyzed DB-5:	18-Jan-11	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.79		
1,2,3,7,8-PeCDD	ND	2.60		
1,2,3,4,7,8-HxCDD	ND	4.72		
1,2,3,6,7,8-HxCDD	ND	4.40		
1,2,3,7,8,9-HxCDD	ND	4.29		
1,2,3,4,6,7,8-HpCDD	ND	6.04		
OCDD	5.79			J
2,3,7,8-TCDF	ND	2.14		
1,2,3,7,8-PeCDF	ND	2.98		
2,3,4,7,8-PeCDF	ND	3.38		
1,2,3,4,7,8-HxCDF	ND	1.70		
1,2,3,6,7,8-HxCDF	ND	1.60		
2,3,4,6,7,8-HxCDF	ND	1.73		
1,2,3,7,8,9-HxCDF	ND	2.03		
1,2,3,4,6,7,8-HpCDF	ND	3.98		
1,2,3,4,7,8,9-HpCDF	ND	3.03		
OCDF	ND	5.86		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	89.0	40 - 135	
	13C-1,2,3,7,8-PeCDD	101	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	79.7	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	85.0	40 - 135	
	13C-OCDD	76.2	40 - 135	
	13C-2,3,7,8-TCDF	82.3	40 - 135	
	13C-1,2,3,7,8-PeCDF	88.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	83.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	80.4	40 - 135	
	13C-OCDF	73.6	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	88.8	40 - 135	

Totals				
Total TCDD	ND	2.22		
Total PeCDD	ND	3.46		
Total HxCDD	2.96			
Total HpCDD	ND	6.04		
Total TCDF	2.17			
Total PeCDF	ND	2.59		
Total HxCDF	ND		1.73	
Total HpCDF	ND	3.09		

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0.00174 - 7.88

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 21-Jan-2011 11:25

Vista

Sample ID:	M23-XAD-C1A-R2			Method 0023A-8290A
Client Data		**Sample Data**		**Laboratory Data**
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample: 33016-009
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.: 3547
Date Collected:	13-Jan-11			Date Analyzed DB-5: 19-Jan-11
Time Collected:	NA			Date Received: 14-Jan-11
				Date Extracted: 16-Jan-11
				Dates Analyzed DB-225: 19-Jan-11

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	3.59			J
1,2,3,7,8-PeCDD	6.79			J
1,2,3,4,7,8-HxCDD	ND	6.47		
1,2,3,6,7,8-HxCDD	ND	6.03		
1,2,3,7,8,9-HxCDD	ND	5.87		
1,2,3,4,6,7,8-HpCDD	13.4			J
OCDD	13.0			J
2,3,7,8-TCDF	38.6			
1,2,3,7,8-PeCDF	18.9			J
2,3,4,7,8-PeCDF	27.7			J
1,2,3,4,7,8-HxCDF	7.55			J
1,2,3,6,7,8-HxCDF	ND		6.75	
2,3,4,6,7,8-HxCDF	7.14			J
1,2,3,7,8,9-HxCDF	ND	3.19		
1,2,3,4,6,7,8-HpCDF	7.45			J
1,2,3,4,7,8,9-HpCDF	ND	4.64		
OCDF	ND	11.1		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	87.1	40 - 135	
	13C-1,2,3,7,8-PeCDD	96.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	78.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	86.5	40 - 135	
	13C-OCDD	85.1	40 - 135	
	13C-2,3,7,8-TCDF	81.0	40 - 135	
	13C-1,2,3,7,8-PeCDF	91.1	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	87.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	78.4	40 - 135	
	13C-OCDF	83.9	40 - 135	
PS	37Cl-2,3,7,8-TCDD	98.9	70 - 130	
	13C-2,3,4,7,8-PeCDF	97.9	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	101	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	93.7	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	105	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	87.5	40 - 135	

Totals	
Total TCDD	126
Total PeCDD	80.2
Total HxCDD	45.0
Total HpCDD	26.3
Total TCDF	1340
Total PeCDF	301
Total HxCDF	44.6
Total HpCDF	7.45

Toxic Equivalent Quotient (TEQ) Data [e]	
TEQ (Min-Max):	24.8 - 27.7

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 20-Jan-2011 13:15

Vista

Sample ID:	M23-PF-C1A-R2			Method 0023A-8290A
Client Data		**Sample Data**	**Laboratory Data**	
Name:	AECOM, Inc.	Matrix: MM5	Lab Sample: 33016-010	Date Received: 14-Jan-11
Project:	Norlite Corp.	Sample Size: 1 Sample	QC Batch No.: 3547	Date Extracted: 16-Jan-11
Date Collected:	13-Jan-11		Date Analyzed DB-5: 18-Jan-11	Date Analyzed DB-225: NA
Time Collected:	NA			

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.94		
1,2,3,7,8-PeCDD	ND	2.39		
1,2,3,4,7,8-HxCDD	ND	4.76		
1,2,3,6,7,8-HxCDD	ND	4.44		
1,2,3,7,8,9-HxCDD	ND	4.33		
1,2,3,4,6,7,8-HpCDD	ND	6.01		
OCDD	ND	17.9		
2,3,7,8-TCDF	ND	2.45		
1,2,3,7,8-PeCDF	ND	2.36		
2,3,4,7,8-PeCDF	ND	2.47		
1,2,3,4,7,8-HxCDF	ND	1.76		
1,2,3,6,7,8-HxCDF	ND	1.65		
2,3,4,6,7,8-HxCDF	ND	1.79		
1,2,3,7,8,9-HxCDF	ND	2.10		
1,2,3,4,6,7,8-HpCDF	ND	3.54		
1,2,3,4,7,8,9-HpCDF	ND	2.75		
OCDF	ND	6.02		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	90.5	40 - 135	
	13C-1,2,3,7,8-PeCDD	102	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	80.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	87.4	40 - 135	
	13C-OCDD	79.6	40 - 135	
	13C-2,3,7,8-TCDF	87.1	40 - 135	
	13C-1,2,3,7,8-PeCDF	94.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	82.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	81.6	40 - 135	
	13C-OCDF	77.4	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	89.6	40 - 135	

Totals		
Total TCDD	ND	2.26
Total PeCDD	ND	3.40
Total HxCDD	2.60	
Total HpCDD	ND	6.83
Total TCDF	ND	1.91
Total PeCDF	ND	2.87
Total HxCDF	1.69	
Total HpCDF	ND	2.39

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 7.60

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 21-Jan-2011 11:25

Vista

Sample ID:	M23-XAD-C1A-R3			Method 0023A-8290A
Client Data		**Sample Data**		**Laboratory Data**
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample: 33016-011
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.: 3547
Date Collected:	13-Jan-11			Date Analyzed DB-5: 19-Jan-11
Time Collected:	NA			Date Received: 14-Jan-11
				Date Extracted: 16-Jan-11
				Dates Analyzed DB-225: 19-Jan-11

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	7.50			J
1,2,3,7,8-PeCDD	7.00			J
1,2,3,4,7,8-HxCDD	ND	7.75		
1,2,3,6,7,8-HxCDD	ND	7.22		
1,2,3,7,8,9-HxCDD	ND	7.04		
1,2,3,4,6,7,8-HpCDD	11.0			J
OCDD	11.0			J
2,3,7,8-TCDF	40.7			
1,2,3,7,8-PeCDF	18.8			J
2,3,4,7,8-PeCDF	32.2			J
1,2,3,4,7,8-HxCDF	8.75			J
1,2,3,6,7,8-HxCDF	8.90			J
2,3,4,6,7,8-HxCDF	7.64			J
1,2,3,7,8,9-HxCDF	ND	3.18		
1,2,3,4,6,7,8-HpCDF	6.92			J
1,2,3,4,7,8,9-HpCDF	ND	4.66		
OCDF	ND	8.93		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	87.4	40 - 135	
	13C-1,2,3,7,8-PeCDD	102	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	79.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	86.0	40 - 135	
	13C-OCDD	87.7	40 - 135	
	13C-2,3,7,8-TCDF	79.7	40 - 135	
	13C-1,2,3,7,8-PeCDF	97.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	88.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	81.1	40 - 135	
	13C-OCDF	86.2	40 - 135	
PS	37Cl-2,3,7,8-TCDD	104	70 - 130	
	13C-2,3,4,7,8-PeCDF	100	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	109	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	100	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	103	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	92.2	40 - 135	

Totals		
Total TCDD	140	145
Total PeCDD	96.7	103
Total HxCDD	16.7	67.5
Total HpCDD	25.3	
Total TCDF	1510	
Total PeCDF	341	353
Total HxCDF	63.3	
Total HpCDF	6.92	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 31.5 - 34.1

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 20-Jan-2011 13:15

Vista

Sample ID:	M23-PF-C1A-R3			Method 0023A-8290A
Client Data		**Sample Data**	**Laboratory Data**	
Name:	AECOM, Inc.	Matrix: MM5	Lab Sample: 33016-012	Date Received: 14-Jan-11
Project:	Norlite Corp.	Sample Size: 1 Sample	QC Batch No.: 3547	Date Extracted: 16-Jan-11
Date Collected:	13-Jan-11		Date Analyzed DB-5: 18-Jan-11	Date Analyzed DB-225: NA
Time Collected:	NA			

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.42		
1,2,3,7,8-PeCDD	ND	2.94		
1,2,3,4,7,8-HxCDD	ND	3.80		
1,2,3,6,7,8-HxCDD	ND	3.54		
1,2,3,7,8,9-HxCDD	ND	3.45		
1,2,3,4,6,7,8-HpCDD	ND	6.80		
OCDD	ND	11.6		
2,3,7,8-TCDF	ND	2.60		
1,2,3,7,8-PeCDF	ND	2.41		
2,3,4,7,8-PeCDF	ND	2.48		
1,2,3,4,7,8-HxCDF	ND	1.54		
1,2,3,6,7,8-HxCDF	ND	1.44		
2,3,4,6,7,8-HxCDF	ND	1.56		
1,2,3,7,8,9-HxCDF	ND	1.84		
1,2,3,4,6,7,8-HpCDF	ND	3.56		
1,2,3,4,7,8,9-HpCDF	ND	1.63		
OCDF	ND	6.00		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	90.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	102	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	78.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	85.3	40 - 135	
	13C-OCDD	75.6	40 - 135	
	13C-2,3,7,8-TCDF	83.1	40 - 135	
	13C-1,2,3,7,8-PeCDF	92.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	82.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	80.5	40 - 135	
	13C-OCDF	73.2	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	87.8	40 - 135	

Totals		
Total TCDD	2.17	
Total PeCDD	ND	2.94
Total HxCDD	3.36	
Total HpCDD	ND	8.49
Total TCDF	ND	2.60
Total PeCDF	ND	2.44
Total HxCDF	ND	1.58
Total HpCDF	ND	3.89

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 7.28

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: MAS

Approved By: William J. Luksemburg 21-Jan-2011 11:25

Vista

Sample ID: M23-FB **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	33016-013	Date Received:	14-Jan-11
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3547	Date Extracted:	16-Jan-11
Date Collected:	13-Jan-11			Date Analyzed DB-5:	18-Jan-11	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.69		
1,2,3,7,8-PeCDD	ND	2.44		
1,2,3,4,7,8-HxCDD	ND	4.15		
1,2,3,6,7,8-HxCDD	ND	3.87		
1,2,3,7,8,9-HxCDD	ND	3.77		
1,2,3,4,6,7,8-HpCDD	ND	5.45		
OCDD	ND	14.5		
2,3,7,8-TCDF	ND	2.13		
1,2,3,7,8-PeCDF	ND	1.70		
2,3,4,7,8-PeCDF	ND	2.02		
1,2,3,4,7,8-HxCDF	ND	1.35		
1,2,3,6,7,8-HxCDF	ND	1.27		
2,3,4,6,7,8-HxCDF	ND	1.38		
1,2,3,7,8,9-HxCDF	ND	1.62		
1,2,3,4,6,7,8-HpCDF	ND	2.35		
1,2,3,4,7,8,9-HpCDF	ND	2.60		
OCDF	ND	7.62		
Totals				
Total TCDD	ND	2.36		
Total PeCDD	ND	2.20		
Total HxCDD	ND	3.92		
Total HpCDD	ND	4.72		
Total TCDF	ND	1.67		
Total PeCDF	ND	2.02		
Total HxCDF	ND	1.39		
Total HpCDF	ND	2.35		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	83.4	40 - 135	
	13C-1,2,3,7,8-PeCDD	97.0	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	74.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	78.7	40 - 135	
	13C-OCDD	70.8	40 - 135	
	13C-2,3,7,8-TCDF	78.3	40 - 135	
	13C-1,2,3,7,8-PeCDF	87.4	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	79.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	75.1	40 - 135	
	13C-OCDF	66.9	40 - 135	
PS	37Cl-2,3,7,8-TCDD	100	70 - 130	
	13C-2,3,4,7,8-PeCDF	103	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	108	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	97.6	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	94.2	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	85.1	40 - 135	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 6.85

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (2005) World Health Organization Toxic Equivalent Factors.(WHO)

Analyst: ANP

Approved By: William J. Luksemburg 20-Jan-2011 13:15

APPENDIX

Vista

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

AECOM

Sample Packing and Traceability List

33016 2.7°C Ambient x 2

Site of Program:	Norlite Corp.	Sample Date: 1/11-13/11	Project Location:	Cohoes, NY	P.O. #: 10272ACM
Type of Program:	2010 MACT CPT	Date Shipped: 1/13/11	Laboratory:	Vista Analytical	
Project #:	60163411	Shipper / Doug Roeck /	Test Conditions:	C1RT = Condition 1 Retest	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C1A = Condition 1 Revised	
Program Contact:	Doug Roeck		FedEx Air Bill #:	8739 6577 0163; 8739 6577 0174 & 8739 6577 0185	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C1RT-R1	XAD RESIN	XAD Resin Trap, C1RT, Run 1	PCDDs / PCDFs	
2	M23-PF-C1RT-R1	FILTER	PM Filter, C1RT, Run 1	PCDDs / PCDFs	
3	M23-XAD-C1RT-R2	XAD RESIN	XAD Resin Trap, C1RT, Run 2	PCDDs / PCDFs	
4	M23-PF-C1RT-R2	FILTER	PM Filter, C1RT, Run 2	PCDDs / PCDFs	
5	M23-XAD-C1RT-R3	XAD RESIN	XAD Resin Trap, C1RT, Run 3	PCDDs / PCDFs	
6	M23-PF-C1RT-R3	FILTER	PM Filter, C1RT, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-C1A-R1	XAD RESIN	XAD Resin Trap, C1A, Run 1	PCDDs / PCDFs	
9	M23-PF-C1A-R1	FILTER	PM Filter, C1A, Run 1	PCDDs / PCDFs	
10	M23-XAD-C1A-R2	XAD RESIN	XAD Resin Trap, C1A, Run 2	PCDDs / PCDFs	
11	M23-PF-C1A-R2	FILTER	PM Filter, C1A, Run 2	PCDDs / PCDFs	
12	M23-XAD-C1A-R3	XAD RESIN	XAD Resin Trap, C1A, Run 3	PCDDs / PCDFs	
13	M23-PF-C1A-R3	FILTER	PM Filter, C1A, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both C1RT and C1A

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 1/13/11	Relinquished By (print): Date:	Relinquished By (print): Date:	Received by Lab (print): Date:
Signature: DouglasRRoeck Time: 18:00	Signature: Time:	Signature: Time:	Signature: Time:
Received By (print): Bettina Benedict Date: 1/14/11	Received By (print): Date:	Received By (print): Date:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc.
Signature: Bettina Benedict Time: 1528	Signature: Time:	Signature: Time:	1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

AECOM

Sample Packing and Traceability List 33016

Site of Program:	Norlite Corp.	Sample Date:	1/11-13/11	Project Location:	Cohoes, NY	P.O. #:	10272ACM
Type of Program:	2010 MACT CPT	Date Shipped:	1/13/11	Laboratory:	Vista Analytical		
Project #:	60163411	Shipper / Recovery:	Doug Roeck / Fred Sanguedolce	Test Conditions:	C1RT = Condition 1 Retest C1A = Condition 1 Revised		
Program Office:	Westford, MA						
Program Contact:	Doug Roeck			FedEx Air Bill #:	8739 6577 0163; 8739 6577 0174 & 8739 6577 0185		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	M23-FHR-C1RT-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1RT, Run 1	PCDDs / PCDFs	
22	M23-FHR-C1RT-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1RT, Run 2	PCDDs / PCDFs	
23	M23-FHR-C1RT-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1RT, Run 3	PCDDs / PCDFs	
24					
25	M23-BHR-C1RT-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1RT, Run 1	PCDDs / PCDFs	
26	M23-BHR-C1RT-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1RT, Run 2	PCDDs / PCDFs	
27	M23-BHR-C1RT-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1RT, Run 3	PCDDs / PCDFs	
28					
29	M23-FHR-C1A-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1A, Run 1	PCDDs / PCDFs	
30	M23-FHR-C1A-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1A, Run 2	PCDDs / PCDFs	
31	M23-FHR-C1A-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1A, Run 3	PCDDs / PCDFs	
32					
33	M23-BHR-C1A-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1A, Run 1	PCDDs / PCDFs	
34	M23-BHR-C1A-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1A, Run 2	PCDDs / PCDFs	
35	M23-BHR-C1A-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1A, Run 3	PCDDs / PCDFs	
36					
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both C1RT and C1A

Page 1 of 1

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	1/13/11						
Signature: Douglas R Roeck	Time: 18:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print): Bettina Benedict	Date: 1/14/11	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640	
Signature: Bettina Benedict	Time: 1528	Signature:	Time:	Signature:	Time:		

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 33016 TAT unspecified

Samples Arrival:	**Date/Time** 1/14/11 1219		**Initials:** YBB		**Location:** WR-2 **Shelf/Rack:** N/A	
Logged In:	**Date/Time** 1/14/11 1527		**Initials:** YBB		**Location:** R1 **Shelf/Rack:** N/A	
Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	(Blue Ice)	Dry Ice	None		
Temp °C 2.7°C	**Time:** 1227		**Thermometer ID:** IR-2			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8739 6577 0163	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	(None)	
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Comments:

Filters / XAD's

3 unused XAD's 2 unused ~~Filters~~ Petri dishes

YBB 1/14/11

Sample Login 3/2007 rmh

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 33016 TAT Unspecified

Samples Arrival:	**Date/Time** 1/14/11 1219	**Initials:** JBB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 1/14/11 1514	**Initials:** JBB	**Location:** R1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 1223	**Thermometer ID:** IR-2				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8739 6577 0185	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)	
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

M23-BHR-C1A-R1 -R2 -R3 → M23-BHR-C1RT-R1 -R2 -R3

ACE/MeCl/Toluene →

Sample Login 3/2007 rmh

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 33016 **TAT** unspecified

Samples Arrival:	**Date/Time** 1/14/11 1219	**Initials:** YSB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 1/14/11 1508	**Initials:** YSB	**Location:** ~~WR-2~~ ~~YSB~~ R1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 1225	**Thermometer ID:** IR-2				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill / Trk # 873965770174	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None		
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

M23-FHR-C1RT-R1 ACE/MeCl/Toluene
-R2
-R3
↓
M23-FHR-C1A-R1
-R2
-R3
↓

M23-FHR/BHR-FB ACE/MeCl/Toluene

Sample Login 3/2007 rmh

Vista
Analytical Laboratory

1/14/2011

Vista Project ID: 33016

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886
USA

Dear Mr. Roeck,

The samples listed in the sample inventory were received by Vista Analytical Laboratory on 1/14/2011.

Please find attached:

- Terms and Conditions (reverse side of letter)
- Sample Inventory Report
- Chain-of-Custody
- Additional sample documentation (if applicable).
- Sample Log-In Checklist

Analytical results are scheduled to be reported to you on: 2/4/2011. All sample containers and their contents will be disposed of 90 days subsequent to issuance of a final report.

If you have any questions regarding the status of the work associated with these samples, please contact me at (916) 673-1520.

Sincerely,

Martha M. Maier
Laboratory Director

TERMS AND CONDITIONS

ACCEPTANCE

These terms and conditions are incorporated into, and made a part of, every agreement for services between **Vista Analytical Laboratory, Inc.** ("Vista") and its client ("Client"). The Client accepts these terms and conditions by agreeing to purchase services from Vista or by sending samples to Vista.

PAYMENT

The Client shall pay in full within 30 days after the date that Vista invoices it for services rendered. No payment terms or conditions of purchase orders different from the terms of Vista will become part of any sales agreement, purchase order, or other document unless specifically approved in writing by Vista. Should suit be instituted to collect any debts of the undersigned, the client is responsible to pay all actual costs of collection and attorney's fees and interests on the past due amount at the highest rate legally available.

TURNAROUND TIME

Standard turnaround time is 21 days unless a shorter turnaround time is expressly agreed to by Vista. Turnaround time is defined as the number of calendar days between the first business day after Vista receives a sample or is authorized by the Client to perform an analysis on a sample, whichever occurs last, and the date that Vista transmits the final report for that sample to the Client. Rush orders, i.e., those that the Client requests to have analyzed in less than the standard turnaround time, will be subject to the additional charges set forth in the applicable quotation. Delays caused by acts of God, natural disasters, governmental actions, fires, floods and accidents, and other circumstances for which Vista is not responsible, shall not be counted in determining turnaround time.

SHIPPING

The Client is responsible for delivering its samples to Vista in good condition and the Client shall bear the risk of any loss of or damage to its samples during shipping. Vista reserves the right to refuse to accept delivery of, to refuse to analyze and/or to return any sample to the Client that is not delivered to Vista in good condition or that poses a health or safety risk. The Client shall pay the cost of returning such samples to it.

LIMITATION OF LIABILITY

Vista makes no representations, guarantees or warranties, express or implied, regarding the fitness of its reports for any particular use or purpose and Vista shall not be liable for consequential damages under any circumstance. The client's sole remedy is a refund of the amount that is paid Vista to analyze the sample in question. If Vista loses or damages a sample, after accepting it for analysis, Vista's liability shall not exceed the lessor of $50 or the amount that the Client expended to obtain the sample.

INDEMNITY

The Client agrees to indemnify and defend Vista, and to hold Vista harmless, against any and all claims, actions, lawsuits, arbitration awards, judgements, damages, liabilities, expenses and costs, including attorneys' fees and court costs, arising out of, or related in any way to, the use to Vista's reports by the Client or by any third party who obtains Vista's reports from the Client.

Effective: 2/14/2007

Vista

Section I: Sample Inventory Report

Date Received: 1/14/2011
Project No.: 33016
Project Name: Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1RT-R1	BHR
		XAD
002	M23-PF-C1RT-R1	FHR
		FILTER
003	M23-XAD-C1RT-R2	BHR
		XAD
004	M23-PF-C1RT-R2	FHR
		FILTER
005	M23-XAD-C1RT-R3	BHR
		XAD
006	M23-PF-C1RT-R3	FHR
		FILTER
007	M23-XAD-C1A-R1	BHR
		XAD
008	M23-PF-C1A-R1	FHR
		FILTER
009	M23-XAD-C1A-R2	BHR
		XAD
010	M23-PF-C1A-R2	FHR
		FILTER
011	M23-XAD-C1A-R3	BHR
		XAD
012	M23-PF-C1A-R3	FHR
		FILTER
013	M23-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnmm5.rpt

EXACT COPY OF ORIGINAL
Init BAB 1/14/11

AECOM

Sample Packing and Traceability List

33016 2.7°C Ambient x 2

Site of Program:	Norlite Corp.	Sample Date: 1/11-13/11	Project Location:	Cohoes, NY	P.O. #: 10272ACM
Type of Program:	2010 MACT CPT	Date Shipped: 1/13/11	Laboratory:	Vista Analytical	
Project #:	60163411	Shipper / Doug Roeck /	Test Conditions:	C1RT = Condition 1 Retest	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C1A = Condition 1 Revised	
Program Contact:	Doug Roeck		FedEx Air Bill #:	8739 6577 0163; 8739 6577 0174 & 8739 6577 0185	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C1RT-R1	XAD RESIN	XAD Resin Trap, C1RT, Run 1	PCDDs / PCDFs	
2	M23-PF-C1RT-R1	FILTER	PM Filter, C1RT, Run 1	PCDDs / PCDFs	
3	M23-XAD-C1RT-R2	XAD RESIN	XAD Resin Trap, C1RT, Run 2	PCDDs / PCDFs	
4	M23-PF-C1RT-R2	FILTER	PM Filter, C1RT, Run 2	PCDDs / PCDFs	
5	M23-XAD-C1RT-R3	XAD RESIN	XAD Resin Trap, C1RT, Run 3	PCDDs / PCDFs	
6	M23-PF-C1RT-R3	FILTER	PM Filter, C1RT, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-C1A-R1	XAD RESIN	XAD Resin Trap, C1A, Run 1	PCDDs / PCDFs	
9	M23-PF-C1A-R1	FILTER	PM Filter, C1A, Run 1	PCDDs / PCDFs	
10	M23-XAD-C1A-R2	XAD RESIN	XAD Resin Trap, C1A, Run 2	PCDDs / PCDFs	
11	M23-PF-C1A-R2	FILTER	PM Filter, C1A, Run 2	PCDDs / PCDFs	
12	M23-XAD-C1A-R3	XAD RESIN	XAD Resin Trap, C1A, Run 3	PCDDs / PCDFs	
13	M23-PF-C1A-R3	FILTER	PM Filter, C1A, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both C1RT and C1A

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 1/13/11	Relinquished By (print): Date:	Relinquished By (print): Date:	Received by Lab (print): Date:
Signature: DouglasRRoeck Time: 18:00	Signature: Time:	Signature: Time:	Signature: Time:
Received By (print): Bettina Benedict Date: 1/14/11	Received By (print): Date:	Received By (print): Date:	**Analytical Laboratory Destination:** Vista Analytical Laboratories, Inc.
Signature: BettinaABenedict Time: 1528	Signature: Time:	Signature: Time:	1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

EXACT COPY OF ORIGINAL
Init BLB 1/14/11

AECOM

Sample Packing and Traceability List 32016

Site of Program:	Norlite Corp.	**Sample Date:** 1/11-13/11	**Project Location:**	Cohoes, NY	**P.O. #:** 10272ACM
Type of Program:	2010 MACT CPT	**Date Shipped:** 1/13/11	**Laboratory:**	Vista Analytical	
Project #:	60163411	**Shipper /** Doug Roeck /	**Test Conditions:**	C1RT = Condition 1 Retest	
Program Office:	Westford, MA	**Recovery:** Fred Sanguedolce		C1A = Condition 1 Revised	
Program Contact:	Doug Roeck		**FedEx Air Bill #:**	8739 6577 0163; 8739 6577 0174 & 8739 6577 0185	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	M23-FHR-C1RT-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1RT, Run 1	PCDDs / PCDFs	
22	M23-FHR-C1RT-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1RT, Run 2	PCDDs / PCDFs	
23	M23-FHR-C1RT-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1RT, Run 3	PCDDs / PCDFs	
24					
25	M23-BHR-C1RT-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1RT, Run 1	PCDDs / PCDFs	
26	M23-BHR-C1RT-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1RT, Run 2	PCDDs / PCDFs	
27	M23-BHR-C1RT-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1RT, Run 3	PCDDs / PCDFs	
28					
29	M23-FHR-C1A-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1A, Run 1	PCDDs / PCDFs	
30	M23-FHR-C1A-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1A, Run 2	PCDDs / PCDFs	
31	M23-FHR-C1A-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1A, Run 3	PCDDs / PCDFs	
32					
33	M23-BHR-C1A-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1A, Run 1	PCDDs / PCDFs	
34	M23-BHR-C1A-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1A, Run 2	PCDDs / PCDFs	
35	M23-BHR-C1A-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1A, Run 3	PCDDs / PCDFs	
36					
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments

1. **Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)**
2. **Testing for PCDDs/PCDFs performed during both C1RT and C1A**

Page 1 of 1

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	1/13/11						
Signature: Douglas R Roeck	Time: 18:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print):	**Date:**	**Received By (print):**	**Date:**	**Received By (print):**	**Date:**	**Analytical Laboratory Destination:**	
Bettina Benedict	1/14/11					Vista Analytical Laboratories, Inc.	
Signature:	**Time:**	**Signature:**	**Time:**	**Signature:**	**Time:**	1104 Windfield Way	
Bettina Benedict	1528					El Dorado Hills, CA 95762	
						Attn: Martha Maier, (916)-933-1640	

EXACT COPY OF ORIGINAL

Init BJB 1/14/11

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 33016 **TAT** unspecified

Samples Arrival:	**Date/Time** 1/14/11 1219		**Initials:** BJB		**Location:** WR-2 **Shelf/Rack:** N/A		
Logged In:	**Date/Time** 1/14/11 1527		**Initials:** BJB		**Location:** R1 **Shelf/Rack:** N/A		
Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other	
Preservation:	Ice	(Blue Ice)	Dry Ice	None			
Temp °C 2.7°C	**Time:** 1227		**Thermometer ID:** IR-2				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill / Trk # 8739 6577 0163	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓	✓	
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	(None)	
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Comments:

Filters / XAD's

3 unused XAD's 2 unused ~~Filters~~ Petri dishes

BJB 1/14/11

EXACT COPY OF ORIGINAL
Init MBB 1/14/11

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 33016 **TAT** Unspecified

Samples Arrival:	**Date/Time** 1/14/11 1219	**Initials:** MBB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 1/14/11 1514	**Initials:** MBB	**Location:** R1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 1223		**Thermometer ID:** IR-2			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill / Trk # 8739 6577 0185	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)		
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

M23-BHR-C1A-R1 -R2 -R3 ↓

M23-BHR-C1RT -R1 -R2 -R3 ↓

ACE/MeCl/Toluene ↓

Sample Login 3/2007 rmh

EXACT COPY OF ORIGINAL
Init BSB 1/14/11

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 33016 **TAT** unspecified

Samples Arrival:	**Date/Time** 1/14/11 1219	**Initials:** BSB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 1/14/11 1508	**Initials:** BSB	**Location:** ~~WR-2~~ ~~BSB~~ R1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	On Trac	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 1225	**Thermometer ID:** IR-2				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill / Trk # 873965770174	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	None		
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

M23-FHR-C1RT-R1 ACE/MeCl/Toluene
-R2
-R3
↓
M23-FHR-C1A-R1
-R2
-R3
↓
M23-FHR/BHR-FB ACE/MeCl/Toluene

Vista
Analytical Laboratory

January 4, 2011

Mr. Doug Roeck
AECOM Inc.
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

Enclosed are ten cleaned and pre-spiked XAD cartridges. Each cartridge has been prepared for the analysis of polychlorinated dioxins/furans (PCDDs/PCDFs) by EPA Method 0023A using HRMS. Also enclosed are ten cleaned 90mm glass fiber filters and ten cleaned petri dish sets.

If you have any questions regarding the enclosed items, please do not hesitate to contact me at (916) 673-1520 or cvredevoe@vista-analytical.com.

Sincerely,

Christina Vredevoe
Scientist
Vista Analytical Laboratory, Inc.

Vista
Analytical Laboratory

November 11, 2010

Vista Project I.D.: 32881

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

Enclosed are the results for the seven MM5 samples received at Vista Analytical Laboratory on October 22, 2010 under your Project Name "Norlite Corp.". This work was authorized under your Purchase Order No. 10272ACM. These samples were extracted and analyzed using Method 0023A-8290A for tetra-through-octa chlorinated dioxins and furans. The front and back halves of each sample train, except the field blank, were extracted and analyzed separately. A standard turnaround time was provided for this work.

The following report consists of a Sample Inventory (Section I), Analytical Results (Section II) and the Appendix, which contains the chain-of-custody, a list of data qualifiers and abbreviations, Vista's current certifications, and copies of the raw data (if requested).

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com. Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier

Martha M. Maier
Laboratory Director

Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAC for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista Analytical Laboratory.

Vista

Section I: Sample Inventory Report

Date Received: 10/22/2010
Project No.: 32881
Project Name: Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1-R1	BHR
		XAD
002	M23-PF-C1-R1	FHR
		FILTER
003	M23-XAD-C1-R2	BHR
		XAD
004	M23-PF-C1-R2	FHR
		FILTER
005	M23-XAD-C1-R3	BHR
		XAD
006	M23-PF-C1-R3	FHR
		FILTER
007	M23-XAD-C2-R1	BHR
		XAD
008	M23-PF-C2-R1	FHR
		FILTER
009	M23-XAD-C2-R2	BHR
		XAD
010	M23-PF-C2-R2	FHR
		FILTER
011	M23-XAD-C2-R3	BHR
		XAD
012	M23-PF-C2-R3	FHR
		FILTER
013	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnmm5.rpt

SECTION II

Vista

Method Blank — **Method 0023A-8290A**

Matrix:	MM5	QC Batch No.:	3395	Lab Sample:	0-MB001
Sample Size:	Sample	Date Extracted:	27-Oct-10	Date Analyzed DB-5:	1-Nov-10
				Date Analyzed DB-225:	NA

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.64		
1,2,3,7,8-PeCDD	ND	3.50		
1,2,3,4,7,8-HxCDD	ND	4.22		
1,2,3,6,7,8-HxCDD	ND	3.93		
1,2,3,7,8,9-HxCDD	ND	3.83		
1,2,3,4,6,7,8-HpCDD	ND	3.29		
OCDD	ND	4.41		
2,3,7,8-TCDF	ND	0.879		
1,2,3,7,8-PeCDF	ND	1.33		
2,3,4,7,8-PeCDF	ND	1.37		
1,2,3,4,7,8-HxCDF	ND	1.22		
1,2,3,6,7,8-HxCDF	ND	1.15		
2,3,4,6,7,8-HxCDF	ND	1.24		
1,2,3,7,8,9-HxCDF	ND	1.46		
1,2,3,4,6,7,8-HpCDF	ND	1.69		
1,2,3,4,7,8,9-HpCDF	ND	2.04		
OCDF	ND	3.51		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	105	40 - 135	
	13C-1,2,3,7,8-PeCDD	113	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	99.3	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	101	40 - 135	
	13C-OCDD	88.9	40 - 135	
	13C-2,3,7,8-TCDF	99.4	40 - 135	
	13C-1,2,3,7,8-PeCDF	99.3	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	96.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	84.2	40 - 135	
	13C-OCDF	82.4	40 - 135	
PS	37Cl-2,3,7,8-TCDD	95.9	70 - 130	
	13C-2,3,4,7,8-PeCDF	91.9	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	91.4	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	90.5	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	90.4	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	95.7	40 - 135	

Totals			
Total TCDD	ND	1.64	
Total PeCDD	ND	3.50	
Total HxCDD	ND	3.99	
Total HpCDD	ND	3.29	
Total TCDF	ND	0.879	
Total PeCDF	ND	1.35	
Total HxCDF	ND	1.26	
Total HpCDF	ND	1.85	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 6.01

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

OPR Results — **Method 0023A-8290A**

Matrix:	MM5	QC Batch No.:	3395	Lab Sample:	0-OPR001		
Sample Size:	Sample	Date Extracted:	27-Oct-10	Date Analyzed DB-5:	1-Nov-10	Date Analyzed DB-225:	NA

Analyte	Spike Conc.	Conc. (ng/mL)	OPR Limits
2,3,7,8-TCDD	2.50	2.65	1.75 - 3.25
1,2,3,7,8-PeCDD	12.5	12.5	8.75 - 16.25
1,2,3,4,7,8-HxCDD	12.5	11.5	8.75 - 16.25
1,2,3,6,7,8-HxCDD	12.5	13.0	8.75 - 16.25
1,2,3,7,8,9-HxCDD	12.5	12.8	8.75 - 16.25
1,2,3,4,6,7,8-HpCDD	12.5	10.9	8.75 - 16.25
OCDD	25.0	22.3	17.5 - 32.5
2,3,7,8-TCDF	2.50	2.21	1.75 - 3.25
1,2,3,7,8-PeCDF	12.5	10.9	8.75 - 16.25
2,3,4,7,8-PeCDF	12.5	10.7	8.75 - 16.25
1,2,3,4,7,8-HxCDF	12.5	11.1	8.75 - 16.25
1,2,3,6,7,8-HxCDF	12.5	12.6	8.75 - 16.25
2,3,4,6,7,8-HxCDF	12.5	11.8	8.75 - 16.25
1,2,3,7,8,9-HxCDF	12.5	11.6	8.75 - 16.25
1,2,3,4,6,7,8-HpCDF	12.5	11.4	8.75 - 16.25
1,2,3,4,7,8,9-HpCDF	12.5	10.8	8.75 - 16.25
OCDF	25.0	22.6	17.5 - 32.5

	Labeled Standard	%R	LCL-UCL	Qualifier
IS	13C-2,3,7,8-TCDD	103	40 - 135	
	13C-1,2,3,7,8-PeCDD	108	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	97.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	100	40 - 135	
	13C-OCDD	91.1	40 - 135	
	13C-2,3,7,8-TCDF	96.1	40 - 135	
	13C-1,2,3,7,8-PeCDF	95.5	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	95.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	85.8	40 - 135	
	13C-OCDF	81.9	40 - 135	
AS	13C-1,2,3,7,8,9-HxCDF	97.2	40 - 135	

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-XAD-C1-R1 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-001	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	20-Oct-10			Date Analyzed DB-5:	2-Nov-10	Dates Analyzed DB-225:	3-Nov-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	51.6			
1,2,3,7,8-PeCDD	29.6			J
1,2,3,4,7,8-HxCDD	5.80			J
1,2,3,6,7,8-HxCDD	12.0			J
1,2,3,7,8,9-HxCDD	ND		5.10	
1,2,3,4,6,7,8-HpCDD	26.1			J
OCDD	15.4			J
2,3,7,8-TCDF	1000			
1,2,3,7,8-PeCDF	346			
2,3,4,7,8-PeCDF	584			
1,2,3,4,7,8-HxCDF	113			
1,2,3,6,7,8-HxCDF	112			
2,3,4,6,7,8-HxCDF	75.6			
1,2,3,7,8,9-HxCDF	23.9			J
1,2,3,4,6,7,8-HpCDF	47.1			J
1,2,3,4,7,8,9-HpCDF	5.24			J
OCDF	3.89			J

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	108	40 - 135	
	13C-1,2,3,7,8-PeCDD	121	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	109	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	113	40 - 135	
	13C-OCDD	99.9	40 - 135	
	13C-2,3,7,8-TCDF	101	40 - 135	
	13C-1,2,3,7,8-PeCDF	105	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	95.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	85.2	40 - 135	
	13C-OCDF	90.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	96.6	70 - 130	
	13C-2,3,4,7,8-PeCDF	93.4	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	88.9	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	92.8	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	97.7	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	96.9	40 - 135	

Totals	
Total TCDD	1320
Total PeCDD	439
Total HxCDD	230
Total HpCDD	59.1
Total TCDF	40000
Total PeCDF	8010
Total HxCDF	1020
Total HpCDF	71.7

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 511 - 511

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-PF-C1-R1 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-002	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	20-Oct-10			Date Analyzed DB-5:	1-Nov-10	Dates Analyzed DB-225:	8-Nov-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.21		
1,2,3,7,8-PeCDD	ND	5.60		
1,2,3,4,7,8-HxCDD	ND	6.05		
1,2,3,6,7,8-HxCDD	ND	5.64		
1,2,3,7,8,9-HxCDD	ND	5.50		
1,2,3,4,6,7,8-HpCDD	15.1			J
OCDD	22.9			J
2,3,7,8-TCDF	13.2			
1,2,3,7,8-PeCDF	10.4			J
2,3,4,7,8-PeCDF	22.3			J
1,2,3,4,7,8-HxCDF	10.6			J
1,2,3,6,7,8-HxCDF	11.4			J
2,3,4,6,7,8-HxCDF	14.7			J
1,2,3,7,8,9-HxCDF	ND	4.43		
1,2,3,4,6,7,8-HpCDF	22.3			J
1,2,3,4,7,8,9-HpCDF	ND	4.75		
OCDF	4.74			J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	107	40 - 135	
	13C-1,2,3,7,8-PeCDD	109	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	99.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	117	40 - 135	
	13C-OCDD	99.1	40 - 135	
	13C-2,3,7,8-TCDF	104	40 - 135	
	13C-1,2,3,7,8-PeCDF	97.5	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	99.1	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	91.5	40 - 135	
	13C-OCDF	91.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	105	40 - 135	

Totals			
Total TCDD	10.2		
Total PeCDD	4.61	10.3	
Total HxCDD	18.1		
Total HpCDD	31.0		
Total TCDF	284	286	
Total PeCDF	178		
Total HxCDF	79.5	82.5	
Total HpCDF	22.3		

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 17.1 - 23.3

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-XAD-C1-R2 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-003	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	20-Oct-10			Date Analyzed DB-5:	2-Nov-10	Dates Analyzed DB-225:	3-Nov-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	36.3			
1,2,3,7,8-PeCDD	19.4			J
1,2,3,4,7,8-HxCDD	3.89			J
1,2,3,6,7,8-HxCDD	7.09			J
1,2,3,7,8,9-HxCDD	3.29			J
1,2,3,4,6,7,8-HpCDD	9.64			J
OCDD	9.38			J
2,3,7,8-TCDF	622			
1,2,3,7,8-PeCDF	208			
2,3,4,7,8-PeCDF	385			
1,2,3,4,7,8-HxCDF	74.1			
1,2,3,6,7,8-HxCDF	70.7			
2,3,4,6,7,8-HxCDF	52.8			
1,2,3,7,8,9-HxCDF	16.0			J
1,2,3,4,6,7,8-HpCDF	32.4			J
1,2,3,4,7,8,9-HpCDF	ND		3.34	
OCDF	ND	5.07		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	120	40 - 135	
	13C-1,2,3,7,8-PeCDD	134	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	117	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	122	40 - 135	
	13C-OCDD	109	40 - 135	
	13C-2,3,7,8-TCDF	115	40 - 135	
	13C-1,2,3,7,8-PeCDF	113	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	105	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	92.3	40 - 135	
	13C-OCDF	98.1	40 - 135	
PS	37Cl-2,3,7,8-TCDD	101	70 - 130	
	13C-2,3,4,7,8-PeCDF	98.2	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	94.7	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	95.0	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	102	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	104	40 - 135	

Totals	
Total TCDD	998
Total PeCDD	273
Total HxCDD	122
Total HpCDD	24.3
Total TCDF	26800
Total PeCDF	5030
Total HxCDF	673
Total HpCDF	45.4

Total TCDD	1000
Total HxCDD	125
Total HpCDF	48.7

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 334 - 334

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-PF-C1-R2 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-004	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No..	3395	Date Extracted:	27-Oct-10
Date Collected:	20-Oct-10			Date Analyzed DB-5:	1-Nov-10	Dates Analyzed DB-225:	8-Nov-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	3.27		
1,2,3,7,8-PeCDD	ND	5.63		
1,2,3,4,7,8-HxCDD	ND	5.36		
1,2,3,6,7,8-HxCDD	ND	4.99		
1,2,3,7,8,9-HxCDD	ND	4.87		
1,2,3,4,6,7,8-HpCDD	19.0			J
OCDD	32.3			J
2,3,7,8-TCDF	16.8			
1,2,3,7,8-PeCDF	16.7			J
2,3,4,7,8-PeCDF	36.0			J
1,2,3,4,7,8-HxCDF	19.7			J
1,2,3,6,7,8-HxCDF	21.6			J
2,3,4,6,7,8-HxCDF	27.3			J
1,2,3,7,8,9-HxCDF	7.30			J
1,2,3,4,6,7,8-HpCDF	44.9			J
1,2,3,4,7,8,9-HpCDF	ND	8.29		
OCDF	14.5			J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	120	40 - 135	
	13C-1,2,3,7,8-PeCDD	122	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	109	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	130	40 - 135	
	13C-OCDD	113	40 - 135	
	13C-2,3,7,8-TCDF	116	40 - 135	
	13C-1,2,3,7,8-PeCDF	110	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	112	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	107	40 - 135	
	13C-OCDF	106	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	113	40 - 135	

Totals		
Total TCDD	9.74	
Total PeCDD	6.80	13.3
Total HxCDD	33.9	
Total HpCDD	37.8	
Total TCDF	371	377
Total PeCDF	276	
Total HxCDF	181	
Total HpCDF	64.8	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 28.8 - 36.5

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID:	M23-XAD-C1-R3			Method 0023A-8290A
Client Data		**Sample Data**		**Laboratory Data**
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample: 32881-005
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.: 3395
Date Collected:	21-Oct-10			Date Analyzed DB-5: 2-Nov-10
Time Collected:	NA			Date Received: 22-Oct-10
				Date Extracted: 27-Oct-10
				Date Analyzed DB-225: NA

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	37.4			
1,2,3,7,8-PeCDD	18.1			J
1,2,3,4,7,8-HxCDD	ND	6.27		
1,2,3,6,7,8-HxCDD	ND	5.85		
1,2,3,7,8,9-HxCDD	ND	5.07		
1,2,3,4,6,7,8-HpCDD	8.01			J
OCDD	11.0			J
2,3,7,8-TCDF	597			
1,2,3,7,8-PeCDF	193			
2,3,4,7,8-PeCDF	321			
1,2,3,4,7,8-HxCDF	62.6			
1,2,3,6,7,8-HxCDF	59.1			
2,3,4,6,7,8-HxCDF	41.9			J
1,2,3,7,8,9-HxCDF	14.4			J
1,2,3,4,6,7,8-HpCDF	28.8			J
1,2,3,4,7,8,9-HpCDF	ND	8.10		
OCDF	ND	4.37		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	85.6	40 - 135	
	13C-1,2,3,7,8-PeCDD	97.8	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	87.7	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	87.1	40 - 135	
	13C-OCDD	80.0	40 - 135	
	13C-2,3,7,8-TCDF	82.3	40 - 135	
	13C-1,2,3,7,8-PeCDF	84.2	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	77.9	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	67.6	40 - 135	
	13C-OCDF	72.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	121	70 - 130	
	13C-2,3,4,7,8-PeCDF	107	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	97.9	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	99.7	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	99.7	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	102	40 - 135	

Totals	
Total TCDD	881
Total PeCDD	226
Total HxCDD	58.7
Total HpCDD	18.9
Total TCDF	25400
Total PeCDF	4530
Total HxCDF	556
Total HpCDF	41.9

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 294 - 296

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID:	M23-PF-C1-R3			Method 0023A-8290A
Client Data		**Sample Data**		**Laboratory Data**
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample: 32881-006
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.: 3395
Date Collected:	21-Oct-10			Date Analyzed DB-5: 1-Nov-10
Time Collected:	NA			Date Received: 22-Oct-10
				Date Extracted: 27-Oct-10
				Dates Analyzed DB-225: 8-Nov-10

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.90		
1,2,3,7,8-PeCDD	ND	4.29		
1,2,3,4,7,8-HxCDD	ND	6.14		
1,2,3,6,7,8-HxCDD	ND	5.72		
1,2,3,7,8,9-HxCDD	ND	5.58		
1,2,3,4,6,7,8-HpCDD	11.2			J
OCDD	17.3			J
2,3,7,8-TCDF	14.1			
1,2,3,7,8-PeCDF	11.4			J
2,3,4,7,8-PeCDF	25.8			J
1,2,3,4,7,8-HxCDF	12.0			J
1,2,3,6,7,8-HxCDF	12.6			J
2,3,4,6,7,8-HxCDF	16.3			J
1,2,3,7,8,9-HxCDF	ND	6.12		
1,2,3,4,6,7,8-HpCDF	22.9			J
1,2,3,4,7,8,9-HpCDF	3.64			J
OCDF	9.26			J

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	99.3	40 - 135	
	13C-1,2,3,7,8-PeCDD	104	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	92.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	106	40 - 135	
	13C-OCDD	92.6	40 - 135	
	13C-2,3,7,8-TCDF	99.2	40 - 135	
	13C-1,2,3,7,8-PeCDF	95.8	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	89.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	87.7	40 - 135	
	13C-OCDF	86.6	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	91.3	40 - 135	

Totals		
Total TCDD	2.95	
Total PeCDD	5.29	9.04
Total HxCDD	12.0	
Total HpCDD	22.1	
Total TCDF	311	316
Total PeCDF	204	
Total HxCDF	94.3	96.2
Total HpCDF	32.7	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 19.4 - 25.8

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID:	M23-XAD-C2-R1			Method 0023A-8290A
Client Data		**Sample Data**		**Laboratory Data**
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample: 32881-007
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.: 3395
Date Collected:	19-Oct-10			Date Analyzed DB-5: 2-Nov-10
Time Collected:	NA			Date Received: 22-Oct-10
				Date Extracted: 27-Oct-10
				Dates Analyzed DB-225: 9-Nov-10

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	20.8			
1,2,3,7,8-PeCDD	14.1			J
1,2,3,4,7,8-HxCDD	2.96			J
1,2,3,6,7,8-HxCDD	5.90			J
1,2,3,7,8,9-HxCDD	ND	5.98		
1,2,3,4,6,7,8-HpCDD	12.4			J
OCDD	11.7			J
2,3,7,8-TCDF	391			
1,2,3,7,8-PeCDF	158			
2,3,4,7,8-PeCDF	277			
1,2,3,4,7,8-HxCDF	57.7			
1,2,3,6,7,8-HxCDF	58.4			
2,3,4,6,7,8-HxCDF	40.6			J
1,2,3,7,8,9-HxCDF	14.2			J
1,2,3,4,6,7,8-HpCDF	32.5			J
1,2,3,4,7,8,9-HpCDF	3.74			J
OCDF	ND		4.29	

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	111	40 - 135	
	13C-1,2,3,7,8-PeCDD	128	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	111	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	115	40 - 135	
	13C-OCDD	104	40 - 135	
	13C-2,3,7,8-TCDF	106	40 - 135	
	13C-1,2,3,7,8-PeCDF	108	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	101	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	87.7	40 - 135	
	13C-OCDF	93.0	40 - 135	
PS	37Cl-2,3,7,8-TCDD	98.1	70 - 130	
	13C-2,3,4,7,8-PeCDF	95.0	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	91.2	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	91.8	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	101	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	97.0	40 - 135	

Totals	
Total TCDD	543
Total PeCDD	188
Total HxCDD	90.1
Total HpCDD	26.2
Total TCDF	17200
Total PeCDF	3840
Total HxCDF	536
Total HpCDF	51.1

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 231 - 232

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-PF-C2-R1 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-008	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	19-Oct-10			Date Analyzed DB-5:	1-Nov-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	2.55		
1,2,3,7,8-PeCDD	ND	5.33		
1,2,3,4,7,8-HxCDD	ND	5.49		
1,2,3,6,7,8-HxCDD	6.78			J
1,2,3,7,8,9-HxCDD	ND	6.36		
1,2,3,4,6,7,8-HpCDD	55.0			
OCDD	113			
2,3,7,8-TCDF	5.04			J
1,2,3,7,8-PeCDF	4.70			J
2,3,4,7,8-PeCDF	12.0			J
1,2,3,4,7,8-HxCDF	7.09			J
1,2,3,6,7,8-HxCDF	7.78			J
2,3,4,6,7,8-HxCDF	10.9			J
1,2,3,7,8,9-HxCDF	ND	2.18		
1,2,3,4,6,7,8-HpCDF	21.8			J
1,2,3,4,7,8,9-HpCDF	3.61			J
OCDF	13.7			J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	109	40 - 135	
	13C-1,2,3,7,8-PeCDD	118	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	103	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	114	40 - 135	
	13C-OCDD	100	40 - 135	
	13C-2,3,7,8-TCDF	106	40 - 135	
	13C-1,2,3,7,8-PeCDF	107	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	99.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	93.7	40 - 135	
	13C-OCDF	92.1	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	99.7	40 - 135	

Totals		
Total TCDD	13.8	
Total PeCDD	49.3	51.9
Total HxCDD	119	
Total HpCDD	104	
Total TCDF	127	131
Total PeCDF	93.9	
Total HxCDF	55.9	58.2
Total HpCDF	37.9	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 10.9 - 17.5

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-XAD-C2-R2 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-009	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	19-Oct-10			Date Analyzed DB-5:	2-Nov-10	Dates Analyzed DB-225:	9-Nov-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	16.8			
1,2,3,7,8-PeCDD	10.8			J
1,2,3,4,7,8-HxCDD	ND	3.81		
1,2,3,6,7,8-HxCDD	5.00			J
1,2,3,7,8,9-HxCDD	ND	4.56		
1,2,3,4,6,7,8-HpCDD	10.5			J
OCDD	9.69			J
2,3,7,8-TCDF	291			
1,2,3,7,8-PeCDF	122			
2,3,4,7,8-PeCDF	217			
1,2,3,4,7,8-HxCDF	50.3			
1,2,3,6,7,8-HxCDF	46.9			J
2,3,4,6,7,8-HxCDF	37.9			J
1,2,3,7,8,9-HxCDF	13.5			J
1,2,3,4,6,7,8-HpCDF	31.2			J
1,2,3,4,7,8,9-HpCDF	3.19			J
OCDF	ND	6.47		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	96.2	40 - 135	
	13C-1,2,3,7,8-PeCDD	108	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	94.0	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	98.7	40 - 135	
	13C-OCDD	91.4	40 - 135	
	13C-2,3,7,8-TCDF	92.0	40 - 135	
	13C-1,2,3,7,8-PeCDF	92.1	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	87.7	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	74.3	40 - 135	
	13C-OCDF	79.3	40 - 135	
PS	37Cl-2,3,7,8-TCDD	97.5	70 - 130	
	13C-2,3,4,7,8-PeCDF	95.0	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	92.2	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	89.2	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	93.9	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	84.9	40 - 135	

Totals	
Total TCDD	409
Total PeCDD	154
Total HxCDD	82.1
Total HpCDD	24.5
Total TCDF	13000
Total PeCDF	2900
Total HxCDF	451
Total HpCDF	48.3

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 181 - 182

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-PF-C2-R2 — **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-010	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	19-Oct-10			Date Analyzed DB-5:	2-Nov-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.61		
1,2,3,7,8-PeCDD	ND	2.52		
1,2,3,4,7,8-HxCDD	ND	4.70		
1,2,3,6,7,8-HxCDD	ND	4.38		
1,2,3,7,8,9-HxCDD	ND	4.27		
1,2,3,4,6,7,8-HpCDD	18.2			J
OCDD	49.7			J
2,3,7,8-TCDF	6.95			J
1,2,3,7,8-PeCDF	5.63			J
2,3,4,7,8-PeCDF	13.4			J
1,2,3,4,7,8-HxCDF	8.63			J
1,2,3,6,7,8-HxCDF	9.24			J
2,3,4,6,7,8-HxCDF	13.5			J
1,2,3,7,8,9-HxCDF	4.48			J
1,2,3,4,6,7,8-HpCDF	27.5			J
1,2,3,4,7,8,9-HpCDF	3.85			J
OCDF	11.7			J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	112	40 - 135	
	13C-1,2,3,7,8-PeCDD	118	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	102	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	119	40 - 135	
	13C-OCDD	107	40 - 135	
	13C-2,3,7,8-TCDF	108	40 - 135	
	13C-1,2,3,7,8-PeCDF	102	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	96.5	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	91.8	40 - 135	
	13C-OCDF	96.6	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	98.0	40 - 135	

Totals	
Total TCDD	6.94
Total PeCDD	3.04
Total HxCDD	25.9
Total HpCDD	36.3
Total TCDF	159
Total PeCDF	113
Total HxCDF	78.0
Total HpCDF	42.9

	EMPC [b]
Total PeCDD	13.3
Total HxCDD	32.2

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 11.8 - 16.0

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-XAD-C2-R3 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-011	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	19-Oct-10			Date Analyzed DB-5:	2-Nov-10	Dates Analyzed DB-225:	9-Nov-10
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	14.9			
1,2,3,7,8-PeCDD	8.72			J
1,2,3,4,7,8-HxCDD	2.35			J
1,2,3,6,7,8-HxCDD	4.23			J
1,2,3,7,8,9-HxCDD	ND	3.41		
1,2,3,4,6,7,8-HpCDD	9.23			J
OCDD	ND		7.91	
2,3,7,8-TCDF	248			
1,2,3,7,8-PeCDF	97.3			
2,3,4,7,8-PeCDF	176			
1,2,3,4,7,8-HxCDF	39.9			J
1,2,3,6,7,8-HxCDF	38.5			J
2,3,4,6,7,8-HxCDF	30.7			J
1,2,3,7,8,9-HxCDF	ND		3.20	
1,2,3,4,6,7,8-HpCDF	27.0			J
1,2,3,4,7,8,9-HpCDF	ND	3.79		
OCDF	ND	5.17		

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	112	40 - 135	
	13C-1,2,3,7,8-PeCDD	124	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	110	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	114	40 - 135	
	13C-OCDD	106	40 - 135	
	13C-2,3,7,8-TCDF	109	40 - 135	
	13C-1,2,3,7,8-PeCDF	109	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	96.8	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	85.9	40 - 135	
	13C-OCDF	92.0	40 - 135	
PS	37Cl-2,3,7,8-TCDD	97.4	70 - 130	
	13C-2,3,4,7,8-PeCDF	91.3	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	87.2	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	87.9	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	96.3	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	97.6	40 - 135	

Totals		
Total TCDD	369	
Total PeCDD	128	
Total HxCDD	71.9	
Total HpCDD	21.6	
Total TCDF	11400	
Total PeCDF	2240	
Total HxCDF	351	366
Total HpCDF	40.0	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 149 - 150

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-PF-C2-R3 **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-012	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	19-Oct-10			Date Analyzed DB-5:	2-Nov-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC [b]	Qualifiers
2,3,7,8-TCDD	ND	1.83		
1,2,3,7,8-PeCDD	ND	4.04		
1,2,3,4,7,8-HxCDD	ND	6.26		
1,2,3,6,7,8-HxCDD	ND	5.84		
1,2,3,7,8,9-HxCDD	ND	5.69		
1,2,3,4,6,7,8-HpCDD	12.7			J
OCDD	26.5			J
2,3,7,8-TCDF	6.86			J
1,2,3,7,8-PeCDF	6.10			J
2,3,4,7,8-PeCDF	14.2			J
1,2,3,4,7,8-HxCDF	9.19			J
1,2,3,6,7,8-HxCDF	10.2			J
2,3,4,6,7,8-HxCDF	14.1			J
1,2,3,7,8,9-HxCDF	ND	1.96		
1,2,3,4,6,7,8-HpCDF	27.9			J
1,2,3,4,7,8,9-HpCDF	3.81			J
OCDF	7.96			J

	Labeled Standard	%R	LCL-UCL [d]	Qualifiers
IS	13C-2,3,7,8-TCDD	113	40 - 135	
	13C-1,2,3,7,8-PeCDD	123	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	101	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	114	40 - 135	
	13C-OCDD	101	40 - 135	
	13C-2,3,7,8-TCDF	104	40 - 135	
	13C-1,2,3,7,8-PeCDF	106	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	94.2	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	88.8	40 - 135	
	13C-OCDF	92.5	40 - 135	
PS	37Cl-2,3,7,8-TCDD	NA	70 - 130	
	13C-2,3,4,7,8-PeCDF	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	NA	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	NA	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	NA	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	99.8	40 - 135	

Totals		
Total TCDD	4.37	
Total PeCDD	3.60	6.78
Total HxCDD	21.3	
Total HpCDD	12.7	22.6
Total TCDF	170	171
Total PeCDF	120	
Total HxCDF	81.0	82.9
Total HpCDF	43.4	

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 11.9 - 17.7

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

Vista

Sample ID: M23-XAD/PF-FB **Method 0023A-8290A**

Client Data		Sample Data		Laboratory Data			
Name:	AECOM, Inc.	Matrix:	MM5	Lab Sample:	32881-013	Date Received:	22-Oct-10
Project:	Norlite Corp.	Sample Size:	1 Sample	QC Batch No.:	3395	Date Extracted:	27-Oct-10
Date Collected:	19-Oct-10			Date Analyzed DB-5:	1-Nov-10	Date Analyzed DB-225:	NA
Time Collected:	NA						

Analyte	Conc. (pg/Sample)	DL [a]	EMPC[b]	Qualifiers
2,3,7,8-TCDD	ND	1.34		
1,2,3,7,8-PeCDD	ND	2.49		
1,2,3,4,7,8-HxCDD	ND	5.18		
1,2,3,6,7,8-HxCDD	ND	4.82		
1,2,3,7,8,9-HxCDD	ND	4.70		
1,2,3,4,6,7,8-HpCDD	ND	3.82		
OCDD	ND	3.85		
2,3,7,8-TCDF	ND	0.697		
1,2,3,7,8-PeCDF	ND	1.24		
2,3,4,7,8-PeCDF	ND	1.28		
1,2,3,4,7,8-HxCDF	ND	1.05		
1,2,3,6,7,8-HxCDF	ND	0.989		
2,3,4,6,7,8-HxCDF	ND	1.07		
1,2,3,7,8,9-HxCDF	ND	1.26		
1,2,3,4,6,7,8-HpCDF	ND	1.65		
1,2,3,4,7,8,9-HpCDF	ND	1.98		
OCDF	ND	3.41		

	Labeled Standard	%R	LCL-UCL[d]	Qualifiers
IS	13C-2,3,7,8-TCDD	101	40 - 135	
	13C-1,2,3,7,8-PeCDD	106	40 - 135	
	13C-1,2,3,6,7,8-HxCDD	105	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDD	106	40 - 135	
	13C-OCDD	93.4	40 - 135	
	13C-2,3,7,8-TCDF	97.1	40 - 135	
	13C-1,2,3,7,8-PeCDF	93.6	40 - 135	
	13C-1,2,3,6,7,8-HxCDF	101	40 - 135	
	13C-1,2,3,4,6,7,8-HpCDF	89.6	40 - 135	
	13C-OCDF	87.7	40 - 135	
PS	37Cl-2,3,7,8-TCDD	101	70 - 130	
	13C-2,3,4,7,8-PeCDF	95.2	70 - 130	
	13C-1,2,3,4,7,8-HxCDD	87.0	70 - 130	
	13C-1,2,3,4,7,8-HxCDF	89.4	70 - 130	
	13C-1,2,3,4,7,8,9-HpCDF	91.4	70 - 130	
AS	13C-1,2,3,7,8,9-HxCDF	96.0	40 - 135	

Totals		
Total TCDD	ND	1.34
Total PeCDD	ND	2.49
Total HxCDD	ND	4.89
Total HpCDD	ND	3.82
Total TCDF	ND	0.697
Total PeCDF	ND	1.26
Total HxCDF	ND	1.08
Total HpCDF	ND	1.80

Toxic Equivalent Quotient (TEQ) Data [e]

TEQ (Min-Max): 0 - 5.34

a. Sample specific estimated detection limit.

b. Estimated maximum possible concentration.

c. Method detection limit.

d. Lower control limit - upper control limit.

e. TEQ based on (1989) International Toxic Equivalent Factors (ITEF).

Analyst: MAS

Approved By: Martha M. Maier 11-Nov-2010 09:41

APPENDIX

Vista

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank.
D	Dilution
E	The amount detected is above the High Calibration Limit.
P	The amount reported is the maximum possible concentration due to possible chlorinated diphenylether interference.
H	Recovery was outside laboratory acceptance limits.
I	Chemical Interference
J	The amount detected is below the Low Calibration Limit.
*	See Cover Letter
Conc.	Concentration
DL	Sample-specific estimated detection limit
MDL	The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero in the matrix tested.
EMPC	Estimated Maximum Possible Concentration
NA	Not applicable
RL	Reporting Limit – concentrations that correspond to low calibration point
ND	Not Detected
TEQ	Toxic Equivalency

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

CERTIFICATIONS

Accrediting Authority	Certificate Number
State of Alaska, DEC	CA413-2008
State of Arizona	AZ0639
State of Arkansas, DEQ	08-043-0
State of Arkansas, DOH	Reciprocity through CA
State of California – NELAP Primary AA	02102CA
State of Colorado	N/A
State of Connecticut	PH-0182
State of Florida, DEP	E87777
State of Indiana Department of Health	C-CA-02
Commonwealth of Kentucky	90063
State of Louisiana, Health and Hospitals	LA08000
State of Louisiana, DEQ	01977
State of Maine	2008024
State of Michigan	9932
State of Mississippi	Reciprocity through CA
Naval Facilities Engineering Service Center	NFESC413
State of Nevada	CA004132007A
State of New Jersey	CA003
State of New Mexico	Reciprocity through CA
State of New York, DOH	11411
State of North Carolina	06700
State of North Dakota, DOH	R-078
State of Oklahoma	D9919
State of Oregon	CA200001-006
State of Pennsylvania	68-00490
State of South Carolina	87002001
State of Tennessee	TN02996
State of Texas	T104704189-08-TX
U.S. Army Corps of Engineers	N/A
State of Utah	CA16400
Commonwealth of Virginia	00013
State of Washington	C1285
State of Wisconsin	998036160
State of Wyoming	8TMS-Q

AECOM

Sample Packing and Traceability List

32881, 9.9°C, Ambient

Site of Program:	Norlite Corp.	**Sample Date:** 10/19-21/10	**Project Location:**	Cohoes, NY	**P.O. #:** 10272ACM
Type of Program:	2010 MACT CPT	**Date Shipped:** 10/21/10	**Laboratory:**	Vista Analytical	
Project #:	60163411	**Shipper /** Doug Roeck /	**Test Conditions:**	C1 = Condition 1	
Program Office:	Westford, MA	**Recovery:** Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		**FedEx Air Bill #:**	8739 6577 0016/0027	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C1-R1	XAD RESIN	XAD Resin Trap, C1, Run 1	PCDDs / PCDFs	
2	M23-PF-C1-R1	FILTER	PM Filter, C1, Run 1	PCDDs / PCDFs	
3	M23-XAD-C1-R2	XAD RESIN	XAD Resin Trap, C1, Run 2	PCDDs / PCDFs	
4	M23-PF-C1-R2	FILTER	PM Filter, C1, Run 2	PCDDs / PCDFs	
5	M23-XAD-C1-R3	XAD RESIN	XAD Resin Trap, C1, Run 3	PCDDs / PCDFs	
6	M23-PF-C1-R3	FILTER	PM Filter, C1, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-C2-R1	XAD RESIN	XAD Resin Trap, C2, Run 1	PCDDs / PCDFs	
9	M23-PF-C2-R1	FILTER	PM Filter, C2, Run 1	PCDDs / PCDFs	
10	M23-XAD-C2-R2	XAD RESIN	XAD Resin Trap, C2, Run 2	PCDDs / PCDFs	
11	M23-PF-C2-R2	FILTER	PM Filter, C2, Run 2	PCDDs / PCDFs	
12	M23-XAD-C2-R3	XAD RESIN	XAD Resin Trap, C2, Run 3	PCDDs / PCDFs	
13	M23-PF-C2-R3	FILTER	PM Filter, C2, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments

1. **Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)**
2. **Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2**

Page 1 of 1

Relinquished By (print): **Douglas R. Roeck** Date: 10/21/10	Relinquished By (print): Date:	Relinquished By (print): Date:	Received by Lab (print): Date:
Signature: Douglas R Roeck Time: 16:00	Signature: Time:	Signature: Time:	Signature: Time:
Received By (print): Ronda Burrell Date: 10/22/10	Received By (print): Date:	Received By (print): Date:	**Analytical Laboratory Destination:** Vista Analytical Laboratories, Inc.
Signature: Ronda Burrell Time: 1055	Signature: Time:	Signature: Time:	1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640

AECOM

Sample Packing and Traceability List

32881

Site of Program:	Norlite Corp.	**Sample Date:**	10/19-21/10	**Project Location:**	Cohoes, NY	**P.O. #:**	10272ACM
Type of Program:	2010 MACT CPT	**Date Shipped:**	10/21/10	**Laboratory:**	Vista Analytical		
Project #:	60163411	**Shipper /**	**Doug Roeck /**	**Test Conditions:**	C1 = Condition 1		
Program Office:	Westford, MA	**Recovery:**	**Fred Sanguedolce**		C2 = Condition 2		
Program Contact:	Doug Roeck			**FedEx Air Bill #:**	8739 6577 0038/0049		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	**M23-FHR-C1-R1**	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 1	PCDDs / PCDFs	
22	**M23-FHR-C1-R2**	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 2	PCDDs / PCDFs	
23	**M23-FHR-C1-R3**	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 3	PCDDs / PCDFs	
24					
25	**M23-BHR-C1-R1**	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 1	PCDDs / PCDFs	
26	**M23-BHR-C1-R2**	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 2	PCDDs / PCDFs	
27	**M23-BHR-C1-R3**	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 3	PCDDs / PCDFs	
28					
29	**M23-FHR-C2-R1**	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 1	PCDDs / PCDFs	
30	**M23-FHR-C2-R2**	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 2	PCDDs / PCDFs	
31	**M23-FHR-C2-R3**	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 3	PCDDs / PCDFs	
32					
33	**M23-BHR-C2-R1**	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 1	PCDDs / PCDFs	
34	**M23-BHR-C2-R2**	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 2	PCDDs / PCDFs	
35	**M23-BHR-C2-R3**	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 3	PCDDs / PCDFs	
36					
37	**M23-FHR/BHR-FB**	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)

2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 1

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	10/21/10						
Signature: Douglas R Roeck	Time: 16:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print):	Date:	Received By (print):	Date:	Received By (print):	Date:	**Analytical Laboratory Destination:**	
Ronda Burrell	10/22/10					Vista Analytical Laboratories, Inc.	
Signature: Ronda Burrell	Time: 1055	Signature:	Time:	Signature:	Time:	1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maler, (916)-933-1640	

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 **TAT** not specified

Samples Arrival:	**Date/Time** 10/22/10 0845		**Initials:** RB		**Location:** WR-2 **Shelf/Rack:** N/A	
Logged In:	**Date/Time** 10/22/10 1106		**Initials:** RB		**Location:** R-1 **Shelf/Rack:** N/A	
Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice		Dry Ice	(None)	
Temp °C Ambient	**Time:** 0931			**Thermometer ID:** IR-1		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill / Trk # 8739 6577 0038	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?		COC	Sample Container	(None)	
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

	date
M23-FHR-C1-R1	10/20/2010
-R2	10/20/10
-R3	10/21/10
-C2-R1	10/19/10
-R2	10/19/10
-R3	10/19/10
M23-FHR/BHR-FB	10/19/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 **TAT** not specified

Samples Arrival:	**Date/Time** 10/22/10 0845	**Initials:** RB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 10/22/10 1106	**Initials:** RB	**Location:** R-1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 0928	**Thermometer ID:** IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill / Trk # 8739 6577 0049	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)	
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

	date	
M23-BHR-C1-R1	10/20/2010	(32881)
-R2	10/20/2010	
-R3	10/21/2010	
C2-R1		
R2		
R3		

M23-PHR/BHR-WS INLET-R1 10/21/2010 (32886)

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 **TAT** not specified

Samples Arrival:	**Date/Time** 10/22/10 0845	**Initials:** RB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 10/22/10 1106	**Initials:** RB	**Location:** R-1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	(Blue Ice)	Dry Ice	None		
Temp °C 9.9	**Time:** 0932		**Thermometer ID:** IR-1			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill — Trk # 8739 6577 0016	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)	
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Comments:

M23-XAD-C1-R1
-R2
-R3
-C2-R1
-R2
-R3
(32881)
-WSI-R1 (32886) AB 10/22/10
-FB (32881)

M23-PF-C1-R1
R2
R3
-C2-R1
R2
R3
(32881)
-WSI-R2* OUTER LABEL-R2
INNER LABEL-R1
(32886)
RB 10/22/10
-FB (32881)

~~1 unused XAD~~ RB 10/22/10
~~1 unused filter~~ RB 10/22/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 **TAT** not specified

Samples Arrival:	**Date/Time** 10/22/10 0845	**Initials:** RB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 10/25/10 1106	**Initials:** RB	**Location:** R-1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 0926		**Thermometer ID:** IR-1			

	YES	NO	NA
Adequate Sample Volume Received?			✓
Holding Time Acceptable?			✓
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8739 6577 0027	✓		
Sample Container Intact?			✓
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?			✓
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)		
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Comments:

4 unused XADs
4 unused Filters

Vista
Analytical Laboratory

10/22/2010

Vista Project ID: 32881

Mr. Doug Roeck
AECOM, Inc.
2 Technology Park Drive
Westford, MA 01886
USA

Dear Mr. Roeck,

The samples listed in the sample inventory were received by Vista Analytical Laboratory on 10/22/2010.

Please find attached:

- Terms and Conditions (reverse side of letter)
- Sample Inventory Report
- Chain-of-Custody
- Additional sample documentation (if applicable).
- Sample Log-In Checklist

Analytical results are scheduled to be reported to you on: 11/12/2010. All sample containers and their contents will be disposed of 90 days subsequent to issuance of a final report.

If you have any questions regarding the status of the work associated with these samples, please contact me at (916) 673-1520.

Sincerely,

Martha M. Maier
Laboratory Director

TERMS AND CONDITIONS

ACCEPTANCE

These terms and conditions are incorporated into, and made a part of, every agreement for services between **Vista Analytical Laboratory, Inc.** ("Vista") and its client ("Client"). The Client accepts these terms and conditions by agreeing to purchase services from Vista or by sending samples to Vista.

PAYMENT

The Client shall pay in full within 30 days after the date that Vista invoices it for services rendered. No payment terms or conditions of purchase orders different from the terms of Vista will become part of any sales agreement, purchase order, or other document unless specifically approved in writing by Vista. Should suit be instituted to collect any debts of the undersigned, the client is responsible to pay all actual costs of collection and attorney's fees and interests on the past due amount at the highest rate legally available.

TURNAROUND TIME

Standard turnaround time is 21 days unless a shorter turnaround time is expressly agreed to by Vista. Turnaround time is defined as the number of calendar days between the first business day after Vista receives a sample or is authorized by the Client to perform an analysis on a sample, whichever occurs last, and the date that Vista transmits the final report for that sample to the Client. Rush orders, i.e., those that the Client requests to have analyzed in less than the standard turnaround time, will be subject to the additional charges set forth in the applicable quotation. Delays caused by acts of God, natural disasters, governmental actions, fires, floods and accidents, and other circumstances for which Vista is not responsible, shall not be counted in determining turnaround time.

SHIPPING

The Client is responsible for delivering its samples to Vista in good condition and the Client shall bear the risk of any loss of or damage to its samples during shipping. Vista reserves the right to refuse to accept delivery of, to refuse to analyze and/or to return any sample to the Client that is not delivered to Vista in good condition or that poses a health or safety risk. The Client shall pay the cost of returning such samples to it.

LIMITATION OF LIABILITY

Vista makes no representations, guarantees or warranties, express or implied, regarding the fitness of its reports for any particular use or purpose and Vista shall not be liable for consequential damages under any circumstance. The client's sole remedy is a refund of the amount that is paid Vista to analyze the sample in question. If Vista loses or damages a sample, after accepting it for analysis, Vista's liability shall not exceed the lessor of $50 or the amount that the Client expended to obtain the sample.

INDEMNITY

The Client agrees to indemnify and defend Vista, and to hold Vista harmless, against any and all claims, actions, lawsuits, arbitration awards, judgements, damages, liabilities, expenses and costs, including attorneys' fees and court costs, arising out of, or related in any way to, the use to Vista's reports by the Client or by any third party who obtains Vista's reports from the Client.

Effective: 2/14/2007

Vista

Section I: Sample Inventory Report

Date Received: 10/22/2010
Project No.: 32881
Project Name: Norlite Corp.

Lab. Sample ID	Client Sample ID	Component ID
001	M23-XAD-C1-R1	BHR
		XAD
002	M23-PF-C1-R1	FHR
		FILTER
003	M23-XAD-C1-R2	BHR
		XAD
004	M23-PF-C1-R2	FHR
		FILTER
005	M23-XAD-C1-R3	BHR
		XAD
006	M23-PF-C1-R3	FHR
		FILTER
007	M23-XAD-C2-R1	BHR
		XAD
008	M23-PF-C2-R1	FHR
		FILTER
009	M23-XAD-C2-R2	BHR
		XAD
010	M23-PF-C2-R2	FHR
		FILTER
011	M23-XAD-C2-R3	BHR
		XAD
012	M23-PF-C2-R3	FHR
		FILTER
013	M23-XAD/PF-FB	FHR/BHR
		FILTER
		XAD

Smpinvgnmm5.rpt

EXACT COPY OF ORIGINAL
Init RR 10/25/10

AECOM

Sample Packing and Traceability List

32881, 9.9°C, Ambient

Site of Program:	Norlite Corp.	**Sample Date:** 10/19-21/10	**Project Location:**	Cohoes, NY	**P.O. #:** 10272ACM
Type of Program:	2010 MACT CPT	**Date Shipped:** 10/21/10	**Laboratory:**	Vista Analytical	
Project #:	60163411	**Shipper /** Doug Roeck /	**Test Conditions:**	C1 = Condition 1	
Program Office:	Westford, MA	**Recovery:** Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		**FedEx Air Bill #:**	8739 6577 0016/0027	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M23-XAD-C1-R1	XAD RESIN	XAD Resin Trap, C1, Run 1	PCDDs / PCDFs	
2	M23-PF-C1-R1	FILTER	PM Filter, C1, Run 1	PCDDs / PCDFs	
3	M23-XAD-C1-R2	XAD RESIN	XAD Resin Trap, C1, Run 2	PCDDs / PCDFs	
4	M23-PF-C1-R2	FILTER	PM Filter, C1, Run 2	PCDDs / PCDFs	
5	M23-XAD-C1-R3	XAD RESIN	XAD Resin Trap, C1, Run 3	PCDDs / PCDFs	
6	M23-PF-C1-R3	FILTER	PM Filter, C1, Run 3	PCDDs / PCDFs	
7					
8	M23-XAD-C2-R1	XAD RESIN	XAD Resin Trap, C2, Run 1	PCDDs / PCDFs	
9	M23-PF-C2-R1	FILTER	PM Filter, C2, Run 1	PCDDs / PCDFs	
10	M23-XAD-C2-R2	XAD RESIN	XAD Resin Trap, C2, Run 2	PCDDs / PCDFs	
11	M23-PF-C2-R2	FILTER	PM Filter, C2, Run 2	PCDDs / PCDFs	
12	M23-XAD-C2-R3	XAD RESIN	XAD Resin Trap, C2, Run 3	PCDDs / PCDFs	
13	M23-PF-C2-R3	FILTER	PM Filter, C2, Run 3	PCDDs / PCDFs	
14					
15	M23-XAD-FB	XAD RESIN	XAD Resin Trap, Field Blank	PCDDs / PCDFs	
16	M23-PF-FB	FILTER	PM Filter, Field Blank	PCDDs / PCDFs	
17					
18					
19					
20					

Field Notes/ Comments

1. Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)
2. Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2

Page 1 of 1

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	10/21/10						
Signature: Douglas R Roeck	Time: 16:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print): Ronda Burrell	Date: 10/22/10	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination: Vista Analytical Laboratories, Inc. 1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640	
Signature: Ronda Burrell	Time: 1055	Signature:	Time:	Signature:	Time:		

EXACT COPY OF ORIGINAL
Init RB 10/25/10

AECOM

Sample Packing and Traceability List

32881

Site of Program:	Norlite Corp.	Sample Date: 10/19-21/10	Project Location:	Cohoes, NY	P.O. #: 10272ACM
Type of Program:	2010 MACT CPT	Date Shipped: 10/21/10	Laboratory:	Vista Analytical	
Project #:	60163411	Shipper / Doug Roeck /	Test Conditions:	C1 = Condition 1	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce		C2 = Condition 2	
Program Contact:	Doug Roeck		FedEx Air Bill #:	8739 6577 0038/0049	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	M23-FHR-C1-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 1	PCDDs / PCDFs	
22	M23-FHR-C1-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 2	PCDDs / PCDFs	
23	M23-FHR-C1-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C1, Run 3	PCDDs / PCDFs	
24					
25	M23-BHR-C1-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 1	PCDDs / PCDFs	
26	M23-BHR-C1-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 2	PCDDs / PCDFs	
27	M23-BHR-C1-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C1, Run 3	PCDDs / PCDFs	
28					
29	M23-FHR-C2-R1	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 1	PCDDs / PCDFs	
30	M23-FHR-C2-R2	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 2	PCDDs / PCDFs	
31	M23-FHR-C2-R3	Acetone/MeCl/Toluene	M23 Front Half Rinse, C2, Run 3	PCDDs / PCDFs	
32					
33	M23-BHR-C2-R1	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 1	PCDDs / PCDFs	
34	M23-BHR-C2-R2	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 2	PCDDs / PCDFs	
35	M23-BHR-C2-R3	Acetone/MeCl/Toluene	M23 Back Half Rinse, C2, Run 3	PCDDs / PCDFs	
36					
37	M23-FHR/BHR-FB	Acetone/MeCl/Toluene	M23 FH / BH Rinse Field Blank	PCDDs / PCDFs	
38					
39					
40					

Field Notes/ Comments

1. **Separate front-half and back-half analysis for PCDDs/PCDFs (except blanks and audit samples)**
2. **Testing for PCDDs/PCDFs performed during both Condition 1 and Condition 2**

Page 1 of 1

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	10/21/10						
Signature: Douglas R Roeck	Time: 16:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print):	**Date:**	**Received By (print):**	**Date:**	**Received By (print):**	**Date:**	**Analytical Laboratory Destination:**	
Ronda Burrell	10/22/10					Vista Analytical Laboratories, Inc.	
Signature: Ronda Burrell	Time: 1055	Signature:	Time:	Signature:	Time:	1104 Windfield Way El Dorado Hills, CA 95762 Attn: Martha Maier, (916)-933-1640	

EXACT COPY OF ORIGINAL
Init RB 10/25/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 **TAT** not specified

Samples Arrival:	**Date/Time** 10/22/10 0845		**Initials:** RB		**Location:** WR-2 **Shelf/Rack:** N/A	
Logged In:	**Date/Time** 10/22/10 1106		**Initials:** RB		**Location:** R-1 **Shelf/Rack:** N/A	
Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice		Dry Ice	(None)	
Temp °C Ambient	**Time:** 0931			**Thermometer ID:** IR-1		

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill / Trk # 8739 6577 0038	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)		
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

	date
M23-FHR-C1-R1	10/20/2010
-R2	10/20/10
-R3	10/21/10
-C2-R1	10/19/10
-R2	10/19/10
-R3	10/19/10
M23-FHR/BHR-FB	10/19/10

EXACT COPY OF ORIGINAL
Init RB 10/25/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 **TAT** not specified

Samples Arrival:	**Date/Time** 10/22/10 0845	**Initials:** RB	**Location:** WR-3 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 10/22/10 1106	**Initials:** RB	**Location:** R-1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 0928	**Thermometer ID:** IR-1				

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill — Trk # 8739 6577 0049	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?	✓		
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)		
Shipping Container	Vista	Client	Retain	Return	(Dispose)

Comments:

	date	
M23-BHR-C1-R1	10/20/2010	(32881)
-R2	10/20/2010	
-R3	10/21/2010	
C2-R1		
R2		
R3		

M23-PHR/BHR-WS INLET-R1 10/21/2010 (32886)

EXACT COPY OF ORIGINAL
Init RB 10/22/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 **TAT** not specified

Samples Arrival:	**Date/Time** 10/22/10 0845		**Initials:** RB		**Location:** WR-2 **Shelf/Rack:** N/A	
Logged In:	**Date/Time** 10/22/10 1106		**Initials:** RB		**Location:** R-1 **Shelf/Rack:** N/A	
Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	(Blue Ice)	Dry Ice	None		
Temp °C 9.9	**Time:** 0932		**Thermometer ID:** IR-1			

	YES	NO	NA
Adequate Sample Volume Received?	✓		
Holding Time Acceptable?	✓		
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill — Trk # 8739 6577 0016	✓		
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?	✓		
COC Anomaly/Sample Acceptance Form completed?	✓		
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)		
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Comments:

M23-XAD-C1-R1
-R2
-R3
-C2-R1
-R2
-R3
} (32881)
-WSI-R1 (32886) RB 10/22/10
-FB (32881)

M23-PF-C1-R1
R2
R3
-C2-R1
R2
R3
} (32881)
-WSI-R2 * OUTER LABEL-R2 INNER LABEL-R1 (32886) RB 10/22/10
-FB (32881)

~~Unused XAD~~ RB 10/22/10
~~Unused Filter~~ RB 10/22/10

EXACT COPY OF ORIGINAL
Init RB 10/25/10

SAMPLE LOG-IN CHECKLIST

Vista Analytical Laboratory

Vista Project #: 32881 TAT not specified

Samples Arrival:	**Date/Time** 10/22/10 0845	**Initials:** RB	**Location:** WR-2 **Shelf/Rack:** N/A
Logged In:	**Date/Time** 10/25/10 1106	**Initials:** RB	**Location:** R-1 **Shelf/Rack:** N/A

Delivered By:	(FedEx)	UPS	Cal	DHL	Hand Delivered	Other
Preservation:	Ice	Blue Ice	Dry Ice	(None)		
Temp °C Ambient	**Time:** 0926		**Thermometer ID:** IR-1			

	YES	NO	NA
Adequate Sample Volume Received?			✓
Holding Time Acceptable?			✓
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?			✓
Shipping Documentation Present?	✓		
Airbill Trk # 8739 6577 0027	✓		
Sample Container Intact?			✓
Sample Custody Seals Intact?			✓
Chain of Custody / Sample Documentation Present?			✓
COC Anomaly/Sample Acceptance Form completed?		✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

$Na_2S_2O_3$ Preservation Documented?	COC	Sample Container	(None)		
Shipping Container	(Vista)	Client	(Retain)	Return	Dispose

Comments:

4 unused XADs
4 unused Filters

Vista
Analytical Laboratory

October 13, 2010

Mr. Doug Roeck
AECOM Air Lab
325 Ayer Road
Harvard, MA 01451

Dear Mr. Roeck,

Enclosed are twelve cleaned and pre-spiked XAD cartridges. Each cartridge has been prepared for the analysis of polychlorinated dioxins/furans (PCDDs/PCDFs) by EPA Method 0023A using HRMS. Also enclosed are twelve cleaned 90mm glass fiber filters and twelve cleaned petri dish sets.

If you have any questions regarding the enclosed items, please do not hesitate to contact me at (916) 673-1520 or fbishop@vista-analytical.com.

Sincerely,

Francie Bishop
Scientist
Vista Analytical Laboratory, Inc.

VOST Analysis for Monochlorobenzene (Air Toxics, Ltd.)

Method 0031 (VOST) - MCB (POHC) Quantities Detected

POHC: MCB

Cond 1A - Run 1

VOST Pair	Units	Qty
A-TX1 & TX2	µg	0.2200
A-ANASORB	µg	0.0050
B-TX1 & TX2	µg	0.2600
B-ANASORB	µg	0.0050
C-TX1 & TX2	µg	HOLD
C-ANASORB	µg	HOLD
D-TX1 & TX2	µg	0.2700
D-ANASORB	µg	0.0050
Condensate	µg	0.0400
TOTAL =	µg	**0.8050**

Cond 1A - Run 2

VOST Pair	Units	Qty
A-TX1 & TX2	µg	0.2400
A-ANASORB	µg	0.0050
B-TX1 & TX2	µg	0.2200
B-ANASORB	µg	0.0050
C-TX1 & TX2	µg	HOLD
C-ANASORB	µg	HOLD
D-TX1 & TX2	µg	0.2300
D-ANASORB	µg	0.0050
Condensate	µg	0.0400
TOTAL =	µg	**0.7450**

Cond 1A - Run 3

VOST Pair	Units	Qty
A-TX1 & TX2	µg	0.2200
A-ANASORB	µg	0.0050
B-TX1 & TX2	µg	0.2400
B-ANASORB	µg	0.0050
C-TX1 & TX2	µg	HOLD
C-ANASORB	µg	HOLD
D-TX1 & TX2	µg	0.2600
D-ANASORB	µg	0.0050
Condensate	µg	0.0400
TOTAL =	µg	**0.7750**

= ND value

Air Toxics LTD.
Laboratory Services Since 1989

1/25/2011
Mr. Doug Roeck
AECOM Environment
2 Technology Drive

Westford MA 01886-3140

Project Name: Norlite Corp.
Project #: 60163411
Workorder #: 1101209A

Dear Mr. Doug Roeck

The following report includes the data for the above referenced project for sample(s) received on 1/14/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified VOST 5041A/8260B are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Ausha Scott
Project Manager

WORK ORDER #: 1101209A

Work Order Summary

CLIENT:	Mr. Doug Roeck AECOM Environment 2 Technology Drive Westford, MA 01886-3140	**BILL TO:**	Accounts Payable AECOM Environment 2 Technology Drive Westford, MA 01886-3140
PHONE:	978-589-3000	**P.O. #**	25540ACM
FAX:	978-589-3100	**PROJECT #**	60163411 Norlite Corp.
DATE RECEIVED:	01/14/2011	**CONTACT:**	Ausha Scott
DATE COMPLETED:	01/18/2011		

FRACTION #	NAME	TEST
01AB	VOST-TX1/2-C1A-R1A	Modified VOST 5041A/8260
01C	VOST-ANS-C1A-R1A	Modified VOST 5041A/8260
02AB	VOST-TX1/2-C1A-R1B	Modified VOST 5041A/8260
02C	VOST-ANS-C1A-R1B	Modified VOST 5041A/8260
03AB(on hold)	VOST-TX1/2-C1A-R1C	Modified VOST 5041A/8260
03C(on hold)	VOST-ANS-C1A-R1C	Modified VOST 5041A/8260
04AB	VOST-TX1/2-C1A-R1D	Modified VOST 5041A/8260
04C	VOST-ANS-C1A-R1D	Modified VOST 5041A/8260
05A	VOST-COND-C1A-R1	Modified VOST 5041A/8260
06AB	VOST-TX1/2-FB#1	Modified VOST 5041A/8260
06C	VOST-ANS-FB#1	Modified VOST 5041A/8260
07AB	VOST-TX1/2-C1A-R2A	Modified VOST 5041A/8260
07C	VOST-ANS-C1A-R2A	Modified VOST 5041A/8260
08AB	VOST-TX1/2-C1A-R2B	Modified VOST 5041A/8260
08C	VOST-ANS-C1A-R2B	Modified VOST 5041A/8260
09AB(on hold)	VOST-TX1/2-C1A-R2C	Modified VOST 5041A/8260
09C(on hold)	VOST-ANS-C1A-R2C	Modified VOST 5041A/8260

Continued on next page

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1101209A

Work Order Summary

CLIENT:	Mr. Doug Roeck AECOM Environment 2 Technology Drive Westford, MA 01886-3140	**BILL TO:**	Accounts Payable AECOM Environment 2 Technology Drive Westford, MA 01886-3140
PHONE:	978-589-3000	**P.O. #**	25540ACM
FAX:	978-589-3100	**PROJECT #**	60163411 Norlite Corp.
DATE RECEIVED:	01/14/2011	**CONTACT:**	Ausha Scott
DATE COMPLETED:	01/18/2011		

FRACTION #	NAME	TEST
10AB	VOST-TX1/2-C1A-R2D	Modified VOST 5041A/8260
10C	VOST-ANS-C1A-R2D	Modified VOST 5041A/8260
11A	Lab Blank	Modified VOST 5041A/8260
11B	Lab Blank	Modified VOST 5041A/8260
12A	LCS	Modified VOST 5041A/8260
12AA	LCSD	Modified VOST 5041A/8260
12B	LCS	Modified VOST 5041A/8260
12BB	LCSD	Modified VOST 5041A/8260

CERTIFIED BY: Linda S. Fuimaro DATE: 01/25/11

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
VOST 5041A
AECOM Environment
Workorder# 1101209A

Eighteen VOST 0031 Tube Set and one VOA Vial-40 mL samples were received on January 14, 2011. The laboratory performed the analysis via EPA SW-846 Method 5041A using GC/MS in the full scan mode. VOST sorbent tubes are thermally desorbed for eleven minutes by UHP helium carrier gas. The gas stream is then bubbled through 5 mL of organic free water and trapped on the sorbent trap of the purge and trap system. The trap is thermally desorbed to elute the components into the GC/MS system for further separation. See the data sheets for the reporting limits for each compound.

Requirement	*VOST 5041A*	*ATL Modifications*
Batch Certification	Blanks from the same media as samples	Analysis of set of cartridges prior to onset of any project; Sampling media provided by the client is batch certified ahead of time, only if client provides blank cartridges.
Method blank	Cartridges from the same media batches as the samples	Media batch is certified prior to use in the field. Method Blank is used to certify instrument is contaminant free
Connection between cartridge thermal desorption apparatus & sample purge vessel	PTFE 1/16" Teflon tubing	Heated, 1/16" silica lined stainless steel tubing
Calibration Criteria for non-CCCs	RSD +- 15 % for all non-CCCs	RSD </= 30 % for some compounds: Acetone, Bromoform, Vinyl Acetate, Bromomethane, Chloromethane, 1,1,2,2-Tetracholoroethane, & 1,2,3-Trichloropropane

Receiving Notes

Samples VOST-TX1/2-C1A-R1C and VOST-ANS-C1A-R1C, VOST-TX1/2-C1A-R2C and VOST-ANS-C1A-R2C were placed on hold per the client's request.

Analytical Notes

Per client request, Chlorobenzene, a compound that is not validated under Method 0031 collection protocols was reported in this work order. This compound may not be suitable for collection by Method 0031 due to elevated boiling point (> 121 degrees C.), polar water solubility or reactivity. The laboratory analytical method 5041A/8260B is validated for all target analytes.

Chlorobenzene, a compound other than those listed in method 0031 section 1.1, may exhibit poor recovery from the Anasorb. In addition the laboratory method has not been validated for recovery of these additional compounds from Anasorb and the values are semi-quantitative in nature and reported as estimated.

The recovery of surrogate Toluene-d8 in samples VOST-ANS-C1A-R1A, VOST-ANS-C1A-R1B, VOST-ANS-C1A-R1D, VOST-ANS-FB#1, VOST-TX1/2-C1A-R2A, VOST-ANS-C1A-R2A, VOST-ANS-C1A-R2B, and VOST-ANS-C1A-R2D was outside control limits. It is not possible to re-run to confirm matrix or dilute for matrix using sorbent tube media. Data is reported as qualified.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank or tube certification greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-TX1/2-C1A-R1A

Lab ID#: 1101209A-01AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	220

Client Sample ID: VOST-ANS-C1A-R1A

Lab ID#: 1101209A-01C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R1B

Lab ID#: 1101209A-02AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	260

Client Sample ID: VOST-ANS-C1A-R1B

Lab ID#: 1101209A-02C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R1D

Lab ID#: 1101209A-04AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	270

Client Sample ID: VOST-ANS-C1A-R1D

Lab ID#: 1101209A-04C

No Detections Were Found.

Client Sample ID: VOST-COND-C1A-R1

Lab ID#: 1101209A-05A

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-TX1/2-FB#1

Lab ID#: 1101209A-06AB

No Detections Were Found.

Client Sample ID: VOST-ANS-FB#1

Lab ID#: 1101209A-06C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R2A

Lab ID#: 1101209A-07AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	240

Client Sample ID: VOST-ANS-C1A-R2A

Lab ID#: 1101209A-07C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R2B

Lab ID#: 1101209A-08AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	220

Client Sample ID: VOST-ANS-C1A-R2B

Lab ID#: 1101209A-08C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R2D

Lab ID#: 1101209A-10AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	230

Air Toxics LTD.
Laboratory Services Since 1980

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-ANS-C1A-R2D

Lab ID#: 1101209A-10C

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R1A

Lab ID#: 1101209A-01AB

MODIFIED VOST 5041A/8260B

File Name:	**4011413**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 06:03 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	220

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R1A

Lab ID#: 1101209A-01C

MODIFIED VOST 5041A/8260B

File Name:	**4011410**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 03:55 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	25 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R1B

Lab ID#: 1101209A-02AB

MODIFIED VOST 5041A/8260B

File Name:	**4011414**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 06:39 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	260

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R1B

Lab ID#: 1101209A-02C

MODIFIED VOST 5041A/8260B

File Name:	**4011412**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 05:27 PM**	

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	38 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R1D

Lab ID#: 1101209A-04AB

MODIFIED VOST 5041A/8260B

File Name:	4011416	Date of Collection:	1/13/11
Dil. Factor:	1.00	Date of Analysis:	1/14/11 09:13 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	270

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	111	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R1D

Lab ID#: 1101209A-04C

MODIFIED VOST 5041A/8260B

File Name:	**4011409**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 03:20 PM**	

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	46 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-COND-C1A-R1

Lab ID#: 1101209A-05A

MODIFIED VOST 5041A/8260B

File Name:	**4011715**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 01:59 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	40	Not Detected

Container Type: VOA Vial-40 mL

Surrogates	%Recovery	Method Limits
Toluene-d8	113	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-FB#1

Lab ID#: 1101209A-06AB

MODIFIED VOST 5041A/8260B

File Name:	**4011721**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 05:55 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	112	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-FB#1

Lab ID#: 1101209A-06C

MODIFIED VOST 5041A/8260B

File Name:	**4011716**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 03:34 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	23 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R2A

Lab ID#: 1101209A-07AB

MODIFIED VOST 5041A/8260B

File Name:	**4011722**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 06:37 PM**	

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	5.0	240

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	131 Q	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R2A

Lab ID#: 1101209A-07C

MODIFIED VOST 5041A/8260B

File Name:	**4011717**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 04:06 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	39 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R2B

Lab ID#: 1101209A-08AB

MODIFIED VOST 5041A/8260B

File Name:	4011723	Date of Collection:	1/13/11
Dil. Factor:	1.00	Date of Analysis:	1/17/11 07:08 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	220

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	124	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R2B

Lab ID#: 1101209A-08C

MODIFIED VOST 5041A/8260B

File Name:	**4011718**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 04:31 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	32 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R2D

Lab ID#: 1101209A-10AB

MODIFIED VOST 5041A/8260B

File Name:	4011725	Date of Collection: 1/13/11	
Dil. Factor:	1.00	Date of Analysis: 1/17/11 08:24 PM	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	230

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	110	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R2D

Lab ID#: 1101209A-10C

MODIFIED VOST 5041A/8260B

File Name:	**4011720**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 05:24 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	31 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1101209A-11A

MODIFIED VOST 5041A/8260B

File Name:	**4011406a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 01:04 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	111	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1101209A-11B

MODIFIED VOST 5041A/8260B

File Name:	4011714	Date of Collection: NA	
Dil. Factor:	1.00	Date of Analysis: 1/17/11 01:12 PM	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	109	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1101209A-12A

MODIFIED VOST 5041A/8260B

File Name:	**4011403a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 11:02 AM**	

Compound	%Recovery
Chlorobenzene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	107	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1101209A-12AA

MODIFIED VOST 5041A/8260B

File Name:	**4011404a**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/14/11 11:43 AM**	

Compound	%Recovery
Chlorobenzene	109

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	110	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1101209A-12B

MODIFIED VOST 5041A/8260B

File Name:	**4011710**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 11:56 AM**	

Compound	**%Recovery**
Chlorobenzene	110

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	106	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1101209A-12BB

MODIFIED VOST 5041A/8260B

File Name:	**4011711**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/17/11 12:21 PM**	

Compound	%Recovery
Chlorobenzene	112

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130

1101209

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date: 1/12-13/11	Project Location:	Cohoes, NY	P.O. #: 25540ACM
Type of Program:	2010 MACT CPT	Date Shipped: 1/13/11	Laboratory:	Air Toxics, Ltd.	
Project #:	60163411	Shipper / Doug Roeck /	Test Condition:	C1A = Condition 1 Revised	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce			
Program Contact:	Doug Roeck		FedEx Air Bill #:	8739 6577 0196 & 8739 6577 0200	

	Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
01A	1	VOST-TX1-C1A-R1A	Culture Tube	Tenax Tube #1, Pair A, C1A, Run 1	Monochlorobenzene only	Codesorb Tenax Tubes
01B	2	VOST-TX2-C1A-R1A	Culture Tube	Tenax Tube #2, Pair A, C1A, Run 1	Monochlorobenzene only	Codesorb Tenax Tubes
01C	3	VOST-ANS-C1A-R1A	Culture Tube	Anasorb Tube #3, Pair A, C1A, Run 1	Monochlorobenzene only	Analyze Individually
02A	4	VOST-TX1-C1A-R1B	Culture Tube	Tenax Tube #1, Pair B, C1A, Run 1	Monochlorobenzene only	Codesorb Tenax Tubes
02B	5	VOST-TX2-C1A-R1B	Culture Tube	Tenax Tube #2, Pair B, C1A, Run 1	Monochlorobenzene only	Codesorb Tenax Tubes
02C	6	VOST-ANS-C1A-R1B	Culture Tube	Anasorb Tube #3, Pair B, C1A, Run 1	Monochlorobenzene only	Analyze Individually
03A	7	VOST-TX1-C1A-R1C	Culture Tube	Tenax Tube #1, Pair C, C1A, Run 1	Monochlorobenzene only	Archive / Hold
03B	8	VOST-TX2-C1A-R1C	Culture Tube	Tenax Tube #2, Pair C, C1A, Run 1	Monochlorobenzene only	Archive / Hold
03C	9	VOST-ANS-C1A-R1C	Culture Tube	Anasorb Tube #3, Pair C, C1A, Run 1	Monochlorobenzene only	Archive / Hold
04A	10	VOST-TX1-C1A-R1D	Culture Tube	Tenax Tube #1, Pair D, C1A, Run 1	Monochlorobenzene only	Codesorb Tenax Tubes
04B	11	VOST-TX2-C1A-R1D	Culture Tube	Tenax Tube #2, Pair D, C1A, Run 1	Monochlorobenzene only	Codesorb Tenax Tubes
04C	12	VOST-ANS-C1A-R1D	Culture Tube	Anasorb Tube #3, Pair D, C1A, Run 1	Monochlorobenzene only	Analyze Individually
	13					
05A	14	VOST-COND-C1A-R1	Water	Condensate, C1A, Run 1	Monochlorobenzene only	
	15					
06A	16	VOST-TX1-FB#1	Culture Tube	Tenax Tube #1, Field Blank #1	Monochlorobenzene only	Codesorb Tenax Tubes
06B	17	VOST-TX2-FB#1	Culture Tube	Tenax Tube #2, Field Blank #1	Monochlorobenzene only	Codesorb Tenax Tubes
06C	18	VOST-ANS-FB#1	Culture Tube	Anasorb Tube #3, Field Blank #1	Monochlorobenzene only	Analyze Individually
	19					
	20					

Field Notes/ Comments

1. Analyze VOST tube sets A, B and D and hold set C. Analyze set C only if necessary.
2. Target Analyte - monochlorobenzene only
3. VOST sampling during test condition C1A only

Fedex

CUSTODY SEAL INTACT? Y N NA 6.0°C

Page 1 of 3

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	1/13/11						
Signature: Douglas R Roeck	Time: 18:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print):	**Date:**	**Received By (print):**	**Date:**	**Received By (print):**	**Date:**	**Analytical Laboratory Destination:**	
Maisie L. Watson	1/14/11					Air Toxics, Ltd.	
Signature: ATL Maisie L. Watson	Time: 1150	Signature:	Time:	Signature:	Time:	180 Blue Ravine Road, Suite B Folsom, CA 95630 Attn: Ausha Scott, (800)-985-5955, x 1044	

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date: 1/12-13/11	Project Location:	Cohoes, NY	P.O. #: 25540ACM
Type of Program:	2010 MACT CPT	Date Shipped: 1/13/11	Laboratory:	Air Toxics, Ltd.	
Project #:	60163411	Shipper / Doug Roeck /	Test Condition:	C1A = Condition 1 Revised	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce			
Program Contact:	Doug Roeck		FedEx Air Bill #:	8739 6577 0196 & 8739 6577 0200	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
07A 21	VOST-TX1-C1A-R2A	Culture Tube	Tenax Tube #1, Pair A, C1A, Run 2	Monochlorobenzene only	Codesorb Tenax Tubes
07B 22	VOST-TX2-C1A-R2A	Culture Tube	Tenax Tube #2, Pair A, C1A, Run 2	Monochlorobenzene only	Codesorb Tenax Tubes
07C 23	VOST-ANS-C1A-R2A	Culture Tube	Anasorb Tube #3, Pair A, C1A, Run 2	Monochlorobenzene only	Analyze Individually
08A 24	VOST-TX1-C1A-R2B	Culture Tube	Tenax Tube #1, Pair B, C1A, Run 2	Monochlorobenzene only	Codesorb Tenax Tubes
08B 25	VOST-TX2-C1A-R2B	Culture Tube	Tenax Tube #2, Pair B, C1A, Run 2	Monochlorobenzene only	Codesorb Tenax Tubes
08C 26	VOST-ANS-C1A-R2B	Culture Tube	Anasorb Tube #3, Pair B, C1A, Run 2	Monochlorobenzene only	Analyze Individually
09A 27	VOST-TX1-C1A-R2C	Culture Tube	Tenax Tube #1, Pair C, C1A, Run 2	Monochlorobenzene only	Archive / Hold
09B 28	VOST-TX2-C1A-R2C	Culture Tube	Tenax Tube #2, Pair C, C1A, Run 2	Monochlorobenzene only	Archive / Hold
09C 29	VOST-ANS-C1A-R2C	Culture Tube	Anasorb Tube #3, Pair C, C1A, Run 2	Monochlorobenzene only	Archive / Hold
10A 30	VOST-TX1-C1A-R2D	Culture Tube	Tenax Tube #1, Pair D, C1A, Run 2	Monochlorobenzene only	Codesorb Tenax Tubes
10B 31	VOST-TX2-C1A-R2D	Culture Tube	Tenax Tube #2, Pair D, C1A, Run 2	Monochlorobenzene only	Codesorb Tenax Tubes
10C 32	VOST-ANS-C1A-R2D	Culture Tube	Anasorb Tube #3, Pair D, C1A, Run 2	Monochlorobenzene only	Analyze Individually
33					
11A 34	VOST-COND-C1A-R2	Water	Condensate, C1A, Run 2	Monochlorobenzene only	
35					
12A 36	VOST-TX1-TB#1	Culture Tube	Tenax Tube #1, Trip Blank #1	Monochlorobenzene only	Codesorb Tenax Tubes
12B 37	VOST-TX2-TB#1	Culture Tube	Tenax Tube #2, Trip Blank #1	Monochlorobenzene only	Codesorb Tenax Tubes
12C 38	VOST-ANS-TB#1	Culture Tube	Anasorb Tube #3, Trip Blank #1	Monochlorobenzene only	Analyze Individually
39					
40					

MW 1/14/11

Field Notes/ Comments

1. Analyze VOST tube sets A, B and D and hold set C. Analyze set C only if necessary. Felix
2. Target Analyte - monochlorobenzene only
3. VOST sampling during test condition C1A only

CUSTODY SEAL INTACT? Y N NONE TEMP 6.0C

Relinquished By (print): Douglas R. Roeck Date: 1/13/11	Relinquished By (print): Date:	Relinquished By (print): Date:	Received by Lab (print): Date:
Signature: Douglas R Roeck Time: 18:00	Signature: Time:	Signature: Time:	Signature: Time:
Received By (print): Melissa L Watson Date: 1/14/11	Received By (print): Date:	Received By (print): Date:	**Analytical Laboratory Destination:** Air Toxics, Ltd.
Signature: Melissa L Watson Time: 1150	Signature: Time:	Signature: Time:	180 Blue Ravine Road, Suite B Folsom, CA 95630 Attn: Ausha Scott, (800)-985-5955, x 1044

Air Toxics LTD.
Laboratory Services Since 1989

1/25/2011
Mr. Doug Roeck
AECOM Environment
2 Technology Drive

Westford MA 01886-3140

Project Name: Norlite Corp.
Project #: 60163411
Workorder #: 1101209B

Dear Mr. Doug Roeck

The following report includes the data for the above referenced project for sample(s) received on 1/14/2011 at Air Toxics Ltd.

The data and associated QC analyzed by Modified VOST 5041A/8260B are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Ausha Scott at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

A Scott

Ausha Scott
Project Manager

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 1101209B

Work Order Summary

CLIENT:	Mr. Doug Roeck AECOM Environment 2 Technology Drive Westford, MA 01886-3140	**BILL TO:**	Accounts Payable AECOM Environment 2 Technology Drive Westford, MA 01886-3140
PHONE:	978-589-3000	**P.O. #**	25540ACM
FAX:	978-589-3100	**PROJECT #**	60163411 Norlite Corp.
DATE RECEIVED:	01/14/2011	**CONTACT:**	Ausha Scott
DATE COMPLETED:	01/19/2011		

FRACTION #	NAME	TEST
11A	VOST-COND-C1A-R2	Modified VOST 5041A/8260
12AB	VOST-TX1/2-TB #1	Modified VOST 5041A/8260
12C	VOST-ANS-TB #1	Modified VOST 5041A/8260
13AB	VOST-TX1/2-C1A-R3A	Modified VOST 5041A/8260
13C	VOST-ANS-C1A-R3A	Modified VOST 5041A/8260
14AB	VOST-TX1/2-C1A-R3B	Modified VOST 5041A/8260
14C	VOST-ANS-C1A-R3B	Modified VOST 5041A/8260
15AB(on hold)	VOST-TX1/2-C1A-R3C	Modified VOST 5041A/8260
15C(on hold)	VOST-ANS-C1A-R3C	Modified VOST 5041A/8260
16AB	VOST-TX1/2-C1A-R3D	Modified VOST 5041A/8260
16C	VOST-ANS-C1A-R3D	Modified VOST 5041A/8260
17A	VOST-COND-C1A-R3	Modified VOST 5041A/8260
18AB	VOST-TX1/2-FB#2	Modified VOST 5041A/8260
18C	VOST-ANS-FB#2	Modified VOST 5041A/8260
19A	Lab Blank	Modified VOST 5041A/8260
20A	LCS	Modified VOST 5041A/8260
20AA	LCSD	Modified VOST 5041A/8260

CERTIFIED BY: Linda J. Fruman DATE: 01/25/11

Laboratory Director

Certfication numbers: CA NELAP - 02110CA, LA NELAP/LELAP- AI 30763,
NY NELAP - 11291, UT NELAP - 9166389892, AZ Licensure AZ0719
Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act,
Accreditation number: E87680, Effective date: 07/01/09, Expiration date: 06/30/11
Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
VOST 5041A
AECOM Environment
Workorder# 1101209B

Two VOA Vial-40 mL and twelve VOST 0031 Tube Set samples were received on January 14, 2011. The laboratory performed the analysis via EPA SW-846 Method 5041A using GC/MS in the full scan mode. VOST sorbent tubes are thermally desorbed for eleven minutes by UHP helium carrier gas. The gas stream is then bubbled through 5 mL of organic free water and trapped on the sorbent trap of the purge and trap system. The trap is thermally desorbed to elute the components into the GC/MS system for further separation. See the data sheets for the reporting limits for each compound.

Requirement	*VOST 5041A*	*ATL Modifications*
Batch Certification	Blanks from the same media as samples	Analysis of set of cartridges prior to onset of any project; Sampling media provided by the client is batch certified ahead of time, only if client provides blank cartridges.
Method blank	Cartridges from the same media batches as the samples	Media batch is certified prior to use in the field. Method Blank is used to certify instrument is contaminant free
Connection between cartridge thermal desorption apparatus & sample purge vessel	PTFE 1/16" Teflon tubing	Heated, 1/16" silica lined stainless steel tubing
Calibration Criteria for non-CCCs	RSD +- 15 % for all non-CCCs	RSD </= 30 % for some compounds: Acetone, Bromoform, Vinyl Acetate, Bromomethane, Chloromethane, 1,1,2,2-Tetracholoroethane, & 1,2,3-Trichloropropane

Receiving Notes

Samples VOST-TX1/2-C1A-R3C and VOST-ANS-C1A-R3C were placed on hold per the client's request.

Analytical Notes

Per client request, Chlorobenzene, a compound that is not validated under Method 0031 collection protocols was reported in this work order. This compound may not be suitable for collection by Method 0031 due to elevated boiling point (> 121 degrees C.), polar water solubility or reactivity. The laboratory analytical method 5041A/8260B is validated for all target analytes.

Chlorobenzene, a compound other than those listed in method 0031 section 1.1, may exhibit poor recovery from the Anasorb. In addition the laboratory method has not been validated for recovery of these additional compounds from Anasorb and the values are semi-quantitative in nature and reported as estimated.

The recovery of surrogate Toluene-d8 in samples VOST-ANS-TB #1, VOST-ANS-C1A-R3A, VOST-ANS-C1A-R3B, VOST-ANS-C1A-R3D, and VOST-ANS-FB#2 was outside control limits. It is not possible to re-run to confirm matrix or dilute for matrix using sorbent tube media. Data is reported as qualified.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank or tube certification greater than reporting limit (background subtraction not performed).
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-COND-C1A-R2

Lab ID#: 1101209B-11A

No Detections Were Found.

Client Sample ID: VOST-TX1/2-TB #1

Lab ID#: 1101209B-12AB

No Detections Were Found.

Client Sample ID: VOST-ANS-TB #1

Lab ID#: 1101209B-12C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R3A

Lab ID#: 1101209B-13AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	220

Client Sample ID: VOST-ANS-C1A-R3A

Lab ID#: 1101209B-13C

No Detections Were Found.

Client Sample ID: VOST-TX1/2-C1A-R3B

Lab ID#: 1101209B-14AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	240

Client Sample ID: VOST-ÅNS-C1A-R3B

Lab ID#: 1101209B-14C

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Summary of Detected Compounds
MODIFIED VOST 5041A/8260B

Client Sample ID: VOST-TX1/2-C1A-R3D

Lab ID#: 1101209B-16AB

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	260

Client Sample ID: VOST-ANS-C1A-R3D

Lab ID#: 1101209B-16C

No Detections Were Found.

Client Sample ID: VOST-COND-C1A-R3

Lab ID#: 1101209B-17A

No Detections Were Found.

Client Sample ID: VOST-TX1/2-FB#2

Lab ID#: 1101209B-18AB

No Detections Were Found.

Client Sample ID: VOST-ANS-FB#2

Lab ID#: 1101209B-18C

No Detections Were Found.

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-COND-C1A-R2

Lab ID#: 1101209B-11A

MODIFIED VOST 5041A/8260B

File Name:	**4011808**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 11:36 AM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	40	Not Detected

Container Type: VOA Vial-40 mL

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-TB #1

Lab ID#: 1101209B-12AB

MODIFIED VOST 5041A/8260B

File Name:	**4011815**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 03:14 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-TB #1

Lab ID#: 1101209B-12C

MODIFIED VOST 5041A/8260B

File Name:	**4011810**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 12:37 PM**	

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	23 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R3A

Lab ID#: 1101209B-13AB

MODIFIED VOST 5041A/8260B

File Name:	4011816	Date of Collection:	1/13/11
Dil. Factor:	1.00	Date of Analysis:	1/18/11 03:42 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	220

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R3A

Lab ID#: 1101209B-13C

MODIFIED VOST 5041A/8260B

File Name:	**4011811**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 01:16 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	24 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R3B

Lab ID#: 1101209B-14AB

MODIFIED VOST 5041A/8260B

File Name:	**4011817**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 04:10 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	240

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	72	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R3B

Lab ID#: 1101209B-14C

MODIFIED VOST 5041A/8260B

File Name:	**4011812**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 01:42 PM**	

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	21 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-C1A-R3D

Lab ID#: 1101209B-16AB

MODIFIED VOST 5041A/8260B

File Name:	**4011818**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 04:37 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	260

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	89	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-C1A-R3D

Lab ID#: 1101209B-16C

MODIFIED VOST 5041A/8260B

File Name:	**4011813**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 02:10 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	29 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-COND-C1A-R3

Lab ID#: 1101209B-17A

MODIFIED VOST 5041A/8260B

File Name:	**4011809**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 12:05 PM**	

Compound	**Rpt. Limit (ng)**	**Amount (ng)**
Chlorobenzene	40	Not Detected

Container Type: VOA Vial-40 mL

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	104	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-TX1/2-FB#2

Lab ID#: 1101209B-18AB

MODIFIED VOST 5041A/8260B

File Name:	4011819	Date of Collection:	1/13/11
Dil. Factor:	1.00	Date of Analysis:	1/18/11 05:05 PM

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	91	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: VOST-ANS-FB#2

Lab ID#: 1101209B-18C

MODIFIED VOST 5041A/8260B

File Name:	**4011814**	**Date of Collection: 1/13/11**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 02:47 PM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Q = Exceeds Quality Control limits.

Container Type: VOST 0031 Tube Set

Surrogates	%Recovery	Method Limits
Toluene-d8	33 Q	50-150

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: Lab Blank

Lab ID#: 1101209B-19A

MODIFIED VOST 5041A/8260B

File Name:	**4011807**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 11:07 AM**	

Compound	Rpt. Limit (ng)	Amount (ng)
Chlorobenzene	5.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCS

Lab ID#: 1101209B-20A

MODIFIED VOST 5041A/8260B

File Name:	**4011804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 09:31 AM**	

Compound	%Recovery
Chlorobenzene	109

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	106	70-130

Air Toxics LTD.
Laboratory Services Since 1989

Client Sample ID: LCSD

Lab ID#: 1101209B-20AA

MODIFIED VOST 5041A/8260B

File Name:	**4011805**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 1/18/11 09:57 AM**	

Compound	**%Recovery**
Chlorobenzene	100

Container Type: NA - Not Applicable

Surrogates	**%Recovery**	**Method Limits**
Toluene-d8	100	70-130

Method 29 Metals Analysis and Method 26A Hydrogen Chloride / Chlorine Analysis (TestAmerica Sacramento)

AECOM

Multi-Metals Blank Correction

	FRONT HALF					BACK HALF					TOTAL
Element	Sample µg	Fld Blk µg	Default Value (a) µg	5% of Sample µg	Corrected Front Half µg	Sample µg	Fld Blk µg	Default Value µg	5% of Sample µg	Corrected Back Half µg	Corrected FH + BH µg
Arsenic (As)	1.40	(0.30)	13.78	0.07	1.40	0.08	0.13 *	1.00	0.00	(0.08)	**1.40**
Beryllium (Be)	0.06	(0.15)	13.78	0.00	0.06	(0.15)	(0.15)	1.00	--	(0.15)	**0.06**
Cadmium (Cd)	4.20	0.04 *	13.78	0.21	4.16	0.05	(0.15)	1.00	0.00	0.05	**4.20**
Chromium (Cr)	33.70	0.84 *	13.78	1.69	32.86	0.24	(0.30)	1.00	0.01	0.24	**33.1**
Lead (Pb)	43.20	0.27 *	13.78	2.16	42.93	0.42	0.24 *	1.00	0.02	0.18	**43.1**

If FHB is between 0 to 13.78 µg use blank value to correct
If FHB > 13.78 µg then use the greater of 13.78 µg or the lesser value between FHB or 5% of FHS .

If BHB is >0 but <=1 µg then use the BHB value to correct
If BHB is >1 µg use the greater of either 1 µg or 5% of BH

* - value used for blank correction (a) - based on a 3.54 - in. filter size ( ) Not Detected / Reportable Detection Limit

MERCURY :

Mercury Fraction	Sample µg	Fld Blk µg	Default Value µg	5% of Sample µg	Corrected Amount Hg µg
FRONT HALF	2.70	(0.03)	0.60	0.14	2.70
BACK HALF	33.69	0.18 *	0.60	1.68	33.51
				TOTAL Hg	**36.2**

CLIENT : **Norlite Corporation**

PROGRAM : **MACT CPT 2010**

RUN NO. **C2-R1**

If FB is >0 but <=0.6 µg then use the FB value to correct
If FB is >0.6 µg use the greater of either 0.6 µg or 5% of FH

( ) Not Detected / Reportable Detection Limit
* Indicates value used for blank correction

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AECOM

Multi-Metals Blank Correction

Element	FRONT HALF Sample µg	Fld Blk µg	Default Value (a) µg	5% of Sample µg	Corrected Front Half µg	BACK HALF Sample µg	Fld Blk µg	Default Value µg	5% of Sample µg	Corrected Back Half µg	TOTAL Corrected FH + BH µg
Arsenic (As)	1.30	(0.30)	13.78	0.07	1.30	0.08	0.13 *	1.00	0.00	(0.08)	**1.30**
Beryllium (Be)	0.05	(0.15)	13.78	0.00	0.05	(0.15)	(0.15)	1.00	--	(0.15)	**0.05**
Cadmium (Cd)	4.80	0.04 *	13.78	0.24	4.76	0.05	(0.15)	1.00	0.00	0.05	**4.80**
Chromium (Cr)	48.60	0.84 *	13.78	2.43	47.76	5.20	(0.30)	1.00	0.26	5.20	**53.0**
Lead (Pb)	52.70	0.27 *	13.78	2.64	52.43	0.32	0.24 *	1.00	0.02	0.08	**52.5**

If FHB is between 0 to 13.78 µg use blank value to correct
If FHB > 13.78 µg then use the greater of 13.78 µg or the lesser value between FHB or 5% of FHS .

If BHB is >0 but <=1 µg then use the BHB value to correct
If BHB is >1 µg use the greater of either 1 µg or 5% of BH

* - value used for blank correction (a) - based on a 3.54 - in. filter size

( ) Not Detected / Reportable Detection Limit

MERCURY :

Mercury Fraction	Sample µg	Fld Blk µg	Default Value µg	5% of Sample µg	Corrected Amount Hg µg
FRONT HALF	6.10	(0.03)	0.60	0.31	6.10
BACK HALF	34.14	0.18 *	0.60	1.71	33.96
				TOTAL Hg	**40.1**

If FB is >0 but <=0.6 µg then use the FB value to correct
If FB is >0.6 µg use the greater of either 0.6 µg or 5% of FH

( ) Not Detected / Reportable Detection Limit
* Indicates value used for blank correction

CLIENT : **Norlite Corporation**

PROGRAM : **MACT CPT 2010**

RUN NO. **C2-R2**

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AECOM

Multi-Metals Blank Correction

	FRONT HALF					BACK HALF					TOTAL
Element	Sample µg	Fld Blk µg	Default Value (a) µg	5% of Sample µg	Corrected Front Half µg	Sample µg	Fld Blk µg	Default Value µg	5% of Sample µg	Corrected Back Half µg	Corrected FH + BH µg
Arsenic (As)	1.50	(0.30)	13.78	0.08	1.50	(0.30)	0.13	1.00	--	(0.30)	**1.50**
Beryllium (Be)	0.05	(0.15)	13.78	0.00	0.05	(0.15)	(0.15)	1.00	--	(0.15)	**0.05**
Cadmium (Cd)	5.40	0.04 *	13.78	0.27	5.36	(0.15)	(0.15)	1.00	--	(0.15)	**5.36**
Chromium (Cr)	29.00	0.84 *	13.78	1.45	28.16	(0.30)	(0.30)	1.00	--	(0.30)	**28.2**
Lead (Pb)	65.90	0.27 *	13.78	3.30	65.63	0.13	0.24 *	1.00	0.01	(0.13)	**65.6**

If FHB is between 0 to 13.78 µg use blank value to correct
If FHB > 13.78 µg then use the greater of 13.78 µg or the lesser value between FHB or 5% of FHS .

If BHB is >0 but <=1 µg then use the BHB value to correct
If BHB is >1 µg use the greater of either 1 µg or 5% of BH

* - value used for blank correction (a) - based on a 3.54 - in. filter size

( ) Not Detected / Reportable Detection Limit

MERCURY :

Mercury Fraction	Sample µg	Fld Blk µg	Default Value µg	5% of Sample µg	Corrected Amount Hg µg
FRONT HALF	2.90	(0.03)	0.60	0.15	2.90
BACK HALF	31.39	0.18 *	0.60	1.57	31.21
				TOTAL Hg	**34.1**

If FB is >0 but <=0.6 µg then use the FB value to correct
If FB is >0.6 µg use the greater of either 0.6 µg or 5% of FH

( ) Not Detected / Reportable Detection Limit
* Indicates value used for blank correction

CLIENT : **Norlite Corporation**

PROGRAM : **MACT CPT 2010**

RUN NO. **C2-R3**

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

November 15, 2010

TestAmerica Project Number: G0J230417
PO/Contract: 10271ACM

Doug Roeck
AECOM, Inc
2 Technology Park Drive
Westford, MA 01886

Dear Mr. Roeck,

This report contains the analytical results for the samples received under chain of custody by TestAmerica on October 22, 2010. These samples are associated with your 60163411 Norlite project.

The test results in this report meet all NELAC requirements for parameters that accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The case narrative is an integral part of this report.

If you have any questions, please feel free to call me at (916) 374-4333.

Sincerely,

Robert Weidenfeld
Project Manager

Table of Contents

TestAmerica West Sacramento Project Number G0J230417

Case Narrative

TestAmerica West Sacramento Project Number G0J230417

AIR, M29 Metals
The duplicate analysis performed on sample -002 back half has an RPD of 16 for chromium which is above the upper limit of 15. Both components have results below the reporting limit.

There were no other anomalies associated with this project.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ACCREDITED IN ACCORDANCE WITH nelac

TestAmerica Laboratories West Sacramento Certifications/Accreditations

Certifying State	Certificate #	Certifying State	Certificate #
Alaska	UST-055	New York*	11666
Arizona	AZ0708	Oregon*	CA 200005
Arkansas	88-0691	Pennsylvania	68-1272
California*	01119CA	South Carolina	87014
Colorado	NA	Texas	T104704399-08-TX
Connecticut	PH-0691	Utah*	QUAN1
Florida*	E87570	Virginia	00178
Georgia	960	Washington	C1281
Hawaii	NA	West Virginia	9930C, 334
Illinois	200060	Wisconsin	998204680
Kansas*	E-10375	NFESC	NA
Louisiana*	30612	USACE	NA
Michigan	9947	USDA Foreign Plant	37-82605
Nevada	CA44	USDA Foreign Soil	P330-09-00055
New Jersey*	CA005	US Fish & Wildlife	LE148388-0
New Mexico	NA	Guam	09-014r

*NELAP accredited. A more detailed parameter list is available upon request. Updated 3/25/2009

QC Parameter Definitions

QC Batch: The QC batch consists of a set of up to 20 field samples that behave similarly (i.e., same matrix) and are processed using the same procedures, reagents, and standards at the same time.

Method Blank: An analytical control consisting of all reagents, which may include internal standards and surrogates, and is carried through the entire analytical procedure. The method blank is used to define the level of laboratory background contamination.

Laboratory Control Sample and Laboratory Control Sample Duplicate (LCS/LCSD): An aliquot of blank matrix spiked with known amounts of representative target analytes. The LCS (and LCSD as required) is carried through the entire analytical process and is used to monitor the accuracy of the analytical process independent of potential matrix effects. If an LCSD is performed, it may also be used to evaluate the precision of the process.

Duplicate Sample (DU): Different aliquots of the same sample are analyzed to evaluate the precision of an analysis.

Surrogates: Organic compounds not expected to be detected in field samples, which behave similarly to target analytes. These are added to every sample within a batch at a known concentration to determine the efficiency of the sample preparation and analytical process.

Matrix Spike and Matrix Spike Duplicate (MS/MSD): An MS is an aliquot of a matrix fortified with known quantities of specific compounds and subjected to an entire analytical procedure in order to indicate the appropriateness of the method for a particular matrix. The percent recovery for the respective compound(s) is then calculated. The MSD is a second aliquot of the same matrix as the matrix spike, also spiked, in order to determine the precision of the method.

Isotope Dilution: For isotope dilution methods, isotopically labeled analogs (internal standards) of the native target analytes are spiked into the sample at time of extraction. These internal standards are used for quantitation, and monitor and correct for matrix effects. Since matrix effects on method performance can be judged by the recovery of these analogs, there is little added benefit of performing MS/MSD for these methods. MS/MSD are only performed for client or QAPP requirements.

Control Limits: The reported control limits are either based on laboratory historical data, method requirements, or project data quality objectives. The control limits represent the estimated uncertainty of the test results.

Sample Summary

TestAmerica West Sacramento Project Number G0J230417

WO#	Sample #	Client Sample ID	Sampling Date	Received Date
L81NH	1	M29-C2-R1-FH	10/19/2010	10/22/2010 09:10 AM
L81NH	1	M29-C2-R1-FH DUP	10/19/2010	10/22/2010 09:10 AM
L81NK	2	M29-C2-R1-BH	10/19/2010	10/22/2010 09:10 AM
L81NK	2	M29-C2-R1-BH DUP	10/19/2010	10/22/2010 09:10 AM
L81NM	3	M29-C2-R2-FH	10/19/2010	10/22/2010 09:10 AM
L81NN	4	M29-C2-R2-BH	10/19/2010	10/22/2010 09:10 AM
L81NP	5	M29-C2-R3-FH	10/19/2010	10/22/2010 09:10 AM
L81NQ	6	M29-C2-R3-BH	10/19/2010	10/22/2010 09:10 AM
L81NR	7	M29-C2-FB-FH	10/19/2010	10/22/2010 09:10 AM
L81NT	8	M29-C2-FB-BH	10/19/2010	10/22/2010 09:10 AM
L81N4	10	M26A-C2-R1-H2S04	10/19/2010	10/22/2010 09:10 AM
L81N6	11	M26A-C2-R2-H2S04	10/19/2010	10/22/2010 09:10 AM
L81N7	12	M26A-C2-R3-H2S04	10/19/2010	10/22/2010 09:10 AM
L81N9	13	M26A-C2-FB-H2S04	10/19/2010	10/22/2010 09:10 AM
L81PV	14	M26A-DIH20-FB	10/19/2010	10/22/2010 09:10 AM
L81QL	16	M26A-C2-R1-NAOH	10/19/2010	10/22/2010 09:10 AM
L81QP	17	M26A-C2-R2-NAOH	10/19/2010	10/22/2010 09:10 AM
L81QQ	18	M26A-C2-R3-NAOH	10/19/2010	10/22/2010 09:10 AM
L81QR	19	M26A-C2-FB-NAOH	10/19/2010	10/22/2010 09:10 AM

Notes(s):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity, pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	**Sample Date:** 10/19/10	**Project Location:**	Cohoes, NY	**P.O. #:** 10271ACM
Type of Program:	2010 MACT CPT	**Date Shipped:** 10/21/10	**Laboratory:**	TestAmerica	
Project #:	60163411	**Shipper /** Doug Roeck /	**Test Conditions:**	C2 = Condition 2	
Program Office:	Westford, MA	**Recovery:** Fred Sanguedolce			
Program Contact:	Doug Roeck		**FedEx Air Bill #:**	8739 6577 0093/0108/0119/0120	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M29-PF-C2-R1	Solid/Filter	Filter, C2, Run 1	All Metals	
2	M29-FHR-C2-R1	0.1N HNO_3	FH HNO_3 rinse, C2, Run 1	All Metals	
3	M29-BHIMP13-C2-R1	5% HNO_3/10%H_2O_2	Imp 1-3, C2, Run 1	All Metals	
4	M29-IMP4-C2-R1	0.1N HNO_3	Imp 4, HNO_3 rinse, C2, Run 1	Hg only	
5	M29-HCl-C2-R1	8N HCl	8N HCl rinse, C2, Run 1	Hg only	
6					
7					
8	M29-PF-C2-R2	Solid/Filter	Filter, C2, Run 2	All Metals	
9	M29-FHR-C2-R2	0.1N HNO_3	FH HNO_3 rinse, C2, Run 2	All Metals	
10	M29-BHIMP13-C2-R2	5% HNO_3/10%H_2O_2	Imp 1-3, C2, Run 2	All Metals	
11	M29-IMP4-C2-R2	0.1N HNO_3	Imp 4, HNO_3 rinse, C2, Run 2	Hg only	
12	M29-HCl-C2-R2	8N HCl	8N HCl rinse, C2, Run 2	Hg only	
13					
14					
15	M29-PF-C2-R3	Solid/Filter	Filter, C2, Run 3	All Metals	
16	M29-FHR-C2-R3	0.1N HNO_3	FH HNO_3 rinse, C2, Run 3	All Metals	
17	M29-BHIMP13-C2-R3	5% HNO_3/10%H_2O_2	Imp 1-3, C2, Run 3	All Metals	
18	M29-IMP4-C2-R3	0.1N HNO_3	Imp 4, HNO_3 rinse, C2, Run 3	Hg only	
19	M29-HCl-C2-R3	8N HCl	8N HCl rinse, C2, Run 3	Hg only	
20					

Field Notes/ Comments

1. **Sampling for metals performed during Condition 2 only.**
2. **Separate front-half / back-half analysis for all metals.**
3. **Target metals: arsenic, beryllium, cadmium, chromium, lead and mercury.**

Page 1 of 2

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	10/21/10						
Signature: Douglas R. Roeck	Time: 16:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print):	**Date:**	**Received By (print):**	**Date:**	**Received By (print):**	**Date:**	**Analytical Laboratory Destination:**	
JOSEPH C SAUER	22OCT10					TestAmerica, Inc.	
Signature:	Time: 1845	Signature:	Time:	Signature:	Time:	880 Riverside Parkway	
						West Sacramento, CA 95605	
						Attn: Robert Weidenfeld, (916)-374-4333	

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date:	10/19/10	Project Location:	Cohoes, NY	P.O. #:	10271ACM
Type of Program:	2010 MACT CPT	Date Shipped:	10/21/10	Laboratory:	TestAmerica		
Project #:	60163411	Shipper / Recovery:	Doug Roeck / Fred Sanguedolce	Test Conditions:	C2 = Condition 2		
Program Office:	Westford, MA						
Program Contact:	Doug Roeck			FedEx Air Bill #:	8739 6577 0130 / 0120		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
41	M29-IMP56-C2-R1	10% H_2SO_4/ 4%$KMnO_4$	Imp 5 & 6, C2, Run 1	Hg only	
42	M29-IMP56-C2-R2	10% H_2SO_4/ 4%$KMnO_4$	Imp 5 & 6, C2, Run 2	Hg only	
43	M29-IMP56-C2-R3	10% H_2SO_4/ 4%$KMnO_4$	Imp 5 & 6, C2, Run 3	Hg only	
44	M29-IMP56-FB	10% H_2SO_4/ 4%$KMnO_4$	4%KMnO4 : 10% H2SO4, Field Blank	Hg only	100 mL
45					
46					
47					
48					
49					
50					
51					
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54					
55					
56					
57					
58					
59					
60					

Field Notes/ Comments

1. Sampling for metals performed during Condition 2 only.
2. Separate front-half / back-half analysis for all metals.
3. Target metals: arsenic, beryllium, cadmium, chromium, lead and mercury.

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 10/21/10 Signature: Douglas R Roeck Time: 16:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): Joseph C Sws [illegible] Date: 22OCT10 Signature: [illegible] Time: 1830	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	**Analytical Laboratory Destination:** TestAmerica, Inc. 880 Riverside Parkway West Sacramento, CA 95605 Attn: Robert Weidenfeld, (916)-374-4333

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date:	10/19/10	Project Location:	Cohoes, NY	P.O. #:	10271ACM
Type of Program:	2010 MACT CPT	Date Shipped:	10/21/10	Laboratory:	TestAmerica		
Project #:	60163411	Shipper /	Doug Roeck /	Test Conditions:	C2 = Condition 2		
Program Office:	Westford, MA	Recovery:	Fred Sanguedolce				
Program Contact:	Doug Roeck			FedEx Air Bill #:	8739 6577 0093/0108/0119/0120		

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	**M29-PF-FB**	Solid/Filter	Filter, Field Blank	All Metals	
22	**M29-FHR-FB**	0.1N HNO_3	0.1N HNO_3, Field Blank	All Metals	300 mL
23	**M29-BHIMP13-FB**	5% HNO_3/10%H_2O_2	5%HNO3 : 10% H2O2, Field Blank	All Metals	200 mL
24	**M29-HCl-FB**	8N HCl	8N HCl rinse, Field Blank	Hg only	25 mL into 200 mL DI
25	**M29-DIWATER-FB**	Water	DI Water, Field Blank	All Metals	100 mL
26					
27	**M29-AUDIT-1**	Unknown	EPA Audit Sample # 1	As per instructions	
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

Field Notes/ Comments

1. Sampling for metals performed during Condition 2 only.
2. Separate front-half / back-half analysis for all metals.
3. Target metals: arsenic, beryllium, cadmium, chromium, lead and mercury.

Page 2 of 2

Relinquished By (print): **Douglas R. Roeck** Date: 10/21/10 Signature: [signature] Time: 16:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): Joseph C. Swan Date: 22 OCT 10 Signature: [signature] Time: 0845	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	**Analytical Laboratory Destination:** TestAmerica, Inc. 880 Riverside Parkway West Sacramento, CA 95605 Attn: Robert Weidenfeld, (916)-374-4333

AECOM

Sample Packing and Traceability List

Site of Program:	Norlite Corp.	Sample Date: 10/19/10	Project Location:	E. Liverpool, OH	P.O. #: 10271ACM
Type of Program:	2010 MACT CPT	Date Shipped: 10/21/10	Laboratory:	TestAmerica	
Project #:	60163411	Shipper / Doug Roeck /	Test Conditions:	C2 = Condition 2	
Program Office:	Westford, MA	Recovery: Fred Sanguedolce			
Program Contact:	Doug Roeck		FedEx Air Bill #:	8739 6577 0050 / 0060	

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
1	M26A-IMP14-C2-R1	0.1N H2SO4	Impingers 1-4. C2, Run 1	Hydrogen Chloride	
2					
3	M26A-IMP14-C2-R2	0.1N H2SO4	Impingers 1-4, C2, Run 2	Hydrogen Chloride	
4					
5	M26A-IMP14-C2-R3	0.1N H2SO4	Impingers 1-4, C2, Run 3	Hydrogen Chloride	
6					
7					
8	M26A-H2SO4-FB	0.1N H2SO4	H2SO4 Field Blank	Hydrogen Chloride	
9	M26A-DIH2O-FB	DI H2O	DI Water Field Blank	Hydrogen Chloride & Chlorine	
10					
11	~~M26A-AUDIT-1~~	~~Unknown~~	~~EPA Audit Sample #1~~	~~As per Instructions~~	no audit samples provided
12					
13					
14					
15					
16					
17					
18					
19					
20					

Field Notes/ Comments

1. Sampling for hydrogen chloride and chlorine performed during Condition 2 only.
2. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.

Page 1 of 1

Relinquished By (print):	Date:	Relinquished By (print):	Date:	Relinquished By (print):	Date:	Received by Lab (print):	Date:
Douglas R. Roeck	10/21/10						
Signature: Douglas R Roeck	Time: 16:00	Signature:	Time:	Signature:	Time:	Signature:	Time:
Received By (print): JOSEPH C SANSOK	Date:	Received By (print):	Date:	Received By (print):	Date:	Analytical Laboratory Destination: TestAmerica, Inc. 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333	
Signature:	Time: 1820	Signature:	Time:	Signature:	Time:		

AECOM

Sample Packing and Traceability List

Site of Program: Norlite Corp.	Sample Date: 10/19/10	Project Location: E. Liverpool, OH	P.O. #: 10271ACM		
Type of Program: 2010 MACT CPT	Date Shipped: 10/21/10	Laboratory: TestAmerica			
Project #: 60163411	Shipper / Doug Roeck /	Test Conditions: C2 = Condition 2			
Program Office: Westford, MA	Recovery: Fred Sanguedolce				
Program Contact: Doug Roeck		FedEx Air Bill #: 8739 6577 0071			

Item	Sample ID Code	Sample Matrix	Sample Description	Analitical Parameters	Special Instructions
21	M26A-IMP56-C2-R1	0 1N NAOH	Impingers 5-6, C2, Run 1	Chlorine	
22	M26A-IMP56-C2-R2	0.1N NAOH	Impingers 5-6, C2, Run 2	Chlorine	
23	M26A-IMP56-C2-R3	0.1N NAOH	Impingers 5-6, C2, Run 3	Chlorine	
24					
25	M26A-NAOH-FB	0.1N NAOH	NAOH Field Blank	Chlorine	
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					

Field Notes/ Comments

1. Sampling for hydrogen chloride and chlorine performed during Condition 2 only.

2. Impingers 5 and 6 (for chlorine analysis) have been treated with sodium thiosulfate.

Page 1 of 1

Relinquished By (print): Douglas R. Roeck Date: 10/21/10 Signature: [signature] Time: 16:00	Relinquished By (print): Date: Signature: Time:	Relinquished By (print): Date: Signature: Time:	Received by Lab (print): Date: Signature: Time:
Received By (print): [illegible] Date: 22OCT10 Signature: [signature] Time: 1825	Received By (print): Date: Signature: Time:	Received By (print): Date: Signature: Time:	**Analytical Laboratory Destination:** TestAmerica, Inc. 880 Riverside Parkway West Sacramento, CA 95605 Attn: Mr. Robert Weidenfeld, (916)-374-4333

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

LOT RECEIPT CHECKLIST
TestAmerica West Sacramento

CLIENT Aecom PM RW LOG # 67752

LOT# (QUANTIMS ID) G0J230417 QUOTE# 87369 LOCATION EPA-1B W14B

Checked (✓)

DATE RECEIVED 10-22-10 TIME RECEIVED 910 ☑

DELIVERED BY ☑ FEDEX ☐ ON TRAC ☐ CLIENT
☐ GOLDENSTATE ☐ UPS ☐ GO-GETTERS ☐ OTHER
☐ TAL COURIER ☐ TAL SF ☐ VALLEY LOGISTICS ☑

CUSTODY SEAL STATUS ☐ INTACT ☐ BROKEN ☑ N/A ☑

CUSTODY SEAL #(S) ______

SHIPPPING CONTAINER(S) ☐ TAL ☑ ~~CLIENT~~ Boxes ☐ N/A ☑

COC #(S) ______ ☑

TEMPERATURE BLANK Observed: NA Corrected: ______

SAMPLE TEMPERATURE - (TEMPERATURES ARE IN °C)

Observed: Amb 10.0 RT Average ______ Corrected Average ______

LABORATORY THERMOMETER ID:

IR UNIT: #4 ☐ #5 ☐ ☑ OTHER NA ☑

Initials: [initials] Date: 10-22-10

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pH MEASURED ☐ YES ☐ ANOMALY ☑ N/A ☑

LABELED BY.. ☑

LABELS CHECKED BY.. ☑

PEER REVIEW ______ ☑ NA

SHORT HOLD TEST NOTIFICATION SAMPLE RECEIVING ☑

WETCHEM ☑ N/A ☑

VOA-ENCORES ☑ N/A ☑

☐ METALS NOTIFIED OF FILTER/PRESERVE VIA VERBAL & EMAIL ☑ N/A ☑

☑ COMPLETE SHIPMENT RECEIVED IN GOOD CONDITION WITH APPROPRIATE TEMPERATURES, CONTAINERS, PRESERVATIVES ☐ N/A ☑

☐ CLOUSEAU ☐ TEMPERATURE EXCEEDED (2 °C – 6 °C)*1 ☑ N/A

☐ WET ICE ☐ BLUE ICE ☐ GEL PACK ☐ NO COOLING AGENTS USED ☐ PM NOTIFIED

Initials: [initials] Date: 10-22-10

Notes: Did not receive M29-Audit-1
Samples # 7, 15, 20 were moved to G0J250427 -CU 10/25/10

*1 Acceptable temperature range for State of Wisconsin samples is ≤4°C.

TEST AMERICA
THE LEADER IN ENVIRONMENTAL TESTING

Bottle Lot Inventory

Lot ID: G0J230417

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VOA*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
VOAh*	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
AGB																				
AGBs																				
250AGB																				
250AGBs																				
250AGBn																				
500AGB																				
___AGJ		1		1		1			1											
500AGJ		1		1		1	1		1											
250AGJ	1	2	1	2	1	2		4	3											
125AGJ																				
___CGJ																				
500CGJ																				
250CGJ																				
125CGJ																				
PJ										1	1	1			1					
PJn																				
500PJ																1	1	1		1
500PJn																				
500PJna																				
500PJzn/na																				
250PJ													1	1					1	
250PJn																				
250PJna																				
250PJzn/na																				
Acetate Tube																				
____"CT																				
Encore																				
Folder/filter																				
PUF																				
Petri/Filter	1		1		1		1		1											
XAD Trap																				
Ziploc																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

h = hydrochloric acid **s** = sulfuric acid **na** = sodium hydroxide **n** = nitric acid **zn** = zinc acetate

Number of VOAs with air bubbles present / total number of VOA's

QA-185 5/05 EM

Page 3

M29 Metals by ICPMS/CVAA

AECOM, Inc

Client Sample ID: M29-C2-R1-FH

TOTAL Metals

Lot-Sample #...: G0J230417-001 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0309254						
Hg (FH)	2.7 RLA	0.090	ug	SW846 7470A	11/05/10	L81NH1AG
		Dilution Factor: 0.45		MDL.....: 0.022		
Prep Batch #...: 0313252						
Arsenic	1.4	0.30	ug	SW846 6020	11/04-11/10/10	L81NH1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	0.058 B	0.15	ug	SW846 6020	11/04-11/10/10	L81NH1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	4.2	0.15	ug	SW846 6020	11/04-11/10/10	L81NH1AD
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	33.7	0.30	ug	SW846 6020	11/04-11/10/10	L81NH1AE
		Dilution Factor: 1		MDL.....: 0.14		
Lead	43.2	0.15	ug	SW846 6020	11/04-11/10/10	L81NH1AF
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

RLA The reporting limit for this analyte is elevated due to sample dilution.

B Estimated result, Result is less than RL.

AECOM, Inc

Client Sample ID: M29-C2-R1-BH

TOTAL Metals

Lot-Sample #...: G0J230417-002 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0305398						
Hg (HNO3/H2O2)	29.9 G	1.1	ug	SW846 7470A	11/01-11/02/10	L81NK1AG
		Dilution Factor: 5.55		MDL.....: 0.27		
Prep Batch #...: 0305399						
Hg (KMnO4)	0.98	0.10	ug	SW846 7470A	11/01-11/02/10	L81NK1AH
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0305400						
Hg (Empty)	0.11 B,G	0.19	ug	SW846 7470A	11/01-11/02/10	L81NK1AJ
		Dilution Factor: 0.95		MDL.....: 0.047		
Prep Batch #...: 0309255						
Hg (HCl)	2.7	0.10	ug	SW846 7470A	11/05/10	L81NK1AK
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0313258						
Arsenic	0.082 B	0.30	ug	SW846 6020	11/08-11/10/10	L81NK1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NK1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	0.045 B	0.15	ug	SW846 6020	11/08-11/10/10	L81NK1AD
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	0.24 B	0.30	ug	SW846 6020	11/08-11/10/10	L81NK1AE
		Dilution Factor: 1		MDL.....: 0.14		
Lead	0.42 J	0.15	ug	SW846 6020	11/08-11/10/10	L81NK1AF
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

AECOM, Inc

Client Sample ID: M29-C2-R2-FH

TOTAL Metals

Lot-Sample #...: G0J230417-003 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0309254						
Hg (FH)	6.1 RLA	0.24	ug	SW846 7470A	11/05/10	L81NM1AG
		Dilution Factor: 1.2		MDL.....: 0.059		
Prep Batch #...: 0313252						
Arsenic	1.3	0.30	ug	SW846 6020	11/04-11/10/10	L81NM1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	0.050 B	0.15	ug	SW846 6020	11/04-11/10/10	L81NM1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	4.8	0.15	ug	SW846 6020	11/04-11/10/10	L81NM1AD
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	48.6	0.30	ug	SW846 6020	11/04-11/10/10	L81NM1AE
		Dilution Factor: 1		MDL.....: 0.14		
Lead	52.7	0.15	ug	SW846 6020	11/04-11/10/10	L81NM1AF
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

RLA The reporting limit for this analyte is elevated due to sample dilution.

B Estimated result. Result is less than RL.

AECOM, Inc

Client Sample ID: M29-C2-R2-BH

TOTAL Metals

Lot-Sample #...: G0J230417-004 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0305398						
Hg (HNO3/H2O2)	28.9 G	1.1	ug	SW846 7470A	11/01-11/02/10	L81NN1AG
		Dilution Factor: 5.54		MDL.....: 0.27		
Prep Batch #...: 0305399						
Hg (KMnO4)	2.5	0.10	ug	SW846 7470A	11/01-11/02/10	L81NN1AH
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0305400						
Hg (Empty)	0.14 B,G	0.19	ug	SW846 7470A	11/01-11/02/10	L81NN1AJ
		Dilution Factor: 0.93		MDL.....: 0.046		
Prep Batch #...: 0309255						
Hg (HCl)	2.6	0.10	ug	SW846 7470A	11/05/10	L81NN1AK
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0313258						
Arsenic	0.076 B	0.30	ug	SW846 6020	11/08-11/10/10	L81NN1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NN1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	0.046 B	0.15	ug	SW846 6020	11/08-11/10/10	L81NN1AD
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	5.2	0.30	ug	SW846 6020	11/08-11/10/10	L81NN1AE
		Dilution Factor: 1		MDL.....: 0.14		
Lead	0.32 J	0.15	ug	SW846 6020	11/08-11/10/10	L81NN1AF
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

AECOM, Inc

Client Sample ID: M29-C2-R3-FH

TOTAL Metals

Lot-Sample #...: G0J230417-005 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0309254						
Hg (FH)	2.9 RLA	0.090	ug	SW846 7470A	11/05/10	L81NP1AG
		Dilution Factor: 0.45		MDL.....: 0.022		
Prep Batch #...: 0313252						
Arsenic	1.5	0.30	ug	SW846 6020	11/04-11/10/10	L81NP1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	0.048 B	0.15	ug	SW846 6020	11/04-11/10/10	L81NP1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	5.4	0.15	ug	SW846 6020	11/04-11/10/10	L81NP1AD
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	29.0	0.30	ug	SW846 6020	11/04-11/10/10	L81NP1AE
		Dilution Factor: 1		MDL.....: 0.14		
Lead	65.9	0.15	ug	SW846 6020	11/04-11/10/10	L81NP1AF
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

RLA The reporting limit for this analyte is elevated due to sample dilution.

B Estimated result. Result is less than RL.

AECOM, Inc

Client Sample ID: M29-C2-R3-BH

TOTAL Metals

Lot-Sample #...: G0J230417-006 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0305398						
Hg (HNO3/H2O2)	26.5 G	1.2	ug	SW846 7470A	11/01-11/02/10	L81NQ1AG
		Dilution Factor: 5.86		MDL.....: 0.29		
Prep Batch #...: 0305399						
Hg (KMnO4)	0.89	0.10	ug	SW846 7470A	11/01-11/02/10	L81NQ1AH
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0305400						
Hg (Empty)	0.10 B,G	0.20	ug	SW846 7470A	11/01-11/02/10	L81NQ1AJ
		Dilution Factor: 0.98		MDL.....: 0.048		
Prep Batch #...: 0309255						
Hg (HCl)	3.9	0.10	ug	SW846 7470A	11/05/10	L81NQ1AK
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0313258						
Arsenic	ND	0.30	ug	SW846 6020	11/08-11/10/10	L81NQ1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NQ1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NQ1AD
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	ND	0.30	ug	SW846 6020	11/08-11/10/10	L81NQ1AE
		Dilution Factor: 1		MDL.....: 0.14		
Lead	0.13 B,J	0.15	ug	SW846 6020	11/08-11/10/10	L81NQ1AF
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

AECOM, Inc

Client Sample ID: M29-C2-FB-FH

TOTAL Metals

Lot-Sample #...: G0J230417-007 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0309254						
Hg (FH)	ND	0.030	ug	SW846 7470A	11/05/10	L81NR1AG
		Dilution Factor: 0.15		MDL.....: 0.0074		
Prep Batch #...: 0313252						
Arsenic	ND	0.30	ug	SW846 6020	11/04-11/10/10	L81NR1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	ND	0.15	ug	SW846 6020	11/04-11/10/10	L81NR1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	**0.043 B**	**0.15**	**ug**	**SW846 6020**	**11/04-11/10/10**	**L81NR1AD**
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	**0.84**	**0.30**	**ug**	**SW846 6020**	**11/04-11/10/10**	**L81NR1AE**
		Dilution Factor: 1		MDL.....: 0.14		
Lead	**0.27**	**0.15**	**ug**	**SW846 6020**	**11/04-11/10/10**	**L81NR1AF**
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

B Estimated result. Result is less than RL.

AECOM, Inc

Client Sample ID: M29-C2-FB-BH

TOTAL Metals

Lot-Sample #...: G0J230417-008 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0305398						
Hg (HNO3/H2O2)	ND G	0.60	ug	SW846 7470A	11/01-11/02/10	L81NT1AG
		Dilution Factor: 3		MDL.....: 0.15		
Prep Batch #...: 0305399						
Hg (KMnO4)	0.082 B	0.10	ug	SW846 7470A	11/01-11/02/10	L81NT1AH
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0305400						
Hg (Empty)	0.098 B,G	0.20	ug	SW846 7470A	11/01-11/02/10	L81NT1AJ
		Dilution Factor: 1		MDL.....: 0.049		
Prep Batch #...: 0309255						
Hg (HCl)	ND	0.10	ug	SW846 7470A	11/05/10	L81NT1AK
		Dilution Factor: 0.5		MDL.....: 0.024		
Prep Batch #...: 0313258						
Arsenic	0.13 B	0.30	ug	SW846 6020	11/08-11/10/10	L81NT1AA
		Dilution Factor: 1		MDL.....: 0.075		
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NT1AC
		Dilution Factor: 1		MDL.....: 0.012		
Cadmium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L81NT1AD
		Dilution Factor: 1		MDL.....: 0.011		
Chromium	ND	0.30	ug	SW846 6020	11/08-11/10/10	L81NT1AE
		Dilution Factor: 1		MDL.....: 0.14		
Lead	0.24 J	0.15	ug	SW846 6020	11/08-11/10/10	L81NT1AF
		Dilution Factor: 1		MDL.....: 0.0099		

NOTE(S):

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

QC DATA ASSOCIATION SUMMARY

G0J230417

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
001	AIR	SW846 6020		0313252	0313131
	AIR	SW846 7470A		0309254	
002	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AIR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	
003	AIR	SW846 6020		0313252	0313131
	AIR	SW846 7470A		0309254	
004	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AIR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	
005	AIR	SW846 6020		0313252	0313131
	AIR	SW846 7470A		0309254	
006	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AIR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	
007	AIR	SW846 6020		0313252	0313131
	AIR	SW846 7470A		0309254	
008	AIR	SW846 6020		0313258	0313134
	AIR	SW846 7470A		0305398	0314135
	AIR	SW846 7470A		0305399	
	AIR	SW846 7470A		0305400	
	AIR	SW846 7470A		0309255	

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: G0J230417 **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: G0I170000-399 **Prep Batch #...:** 0305398						
Hg (HNO3/H2O2)	ND	0.20	ug	SW846 7470A	11/01-11/02/10	L66GD1AE
		Dilution Factor: 1				
MB Lot-Sample #: G0K010000-399 **Prep Batch #...:** 0305399						
Hg (KMnO4)	ND	0.20	ug	SW846 7470A	11/01-11/02/10	L9EC61AA
		Dilution Factor: 1				
MB Lot-Sample #: G0K010000-400 **Prep Batch #...:** 0305400						
Hg (Empty)	ND	0.20	ug	SW846 7470A	11/01-11/02/10	L9EC81AA
		Dilution Factor: 1				
MB Lot-Sample #: G0K050000-254 **Prep Batch #...:** 0309254						
Hg (FH)	ND	0.20	ug	SW846 7470A	11/05/10	L9L1H1AA
		Dilution Factor: 1				
MB Lot-Sample #: G0K050000-255 **Prep Batch #...:** 0309255						
Hg (HCl)	ND	0.20	ug	SW846 7470A	11/05/10	L9L1M1AA
		Dilution Factor: 1				
MB Lot-Sample #: G0K090000-252 **Prep Batch #...:** 0313252						
Arsenic	ND	0.30	ug	SW846 6020	11/04-11/10/10	L9QPJ1CA
		Dilution Factor: 1				
Beryllium	ND	0.15	ug	SW846 6020	11/04-11/10/10	L9QPJ1CC
		Dilution Factor: 1				
Cadmium	ND	0.15	ug	SW846 6020	11/04-11/10/10	L9QPJ1CD
		Dilution Factor: 1				
Chromium	ND	0.30	ug	SW846 6020	11/04-11/10/10	L9QPJ1CE
		Dilution Factor: 1				
Lead	ND	0.15	ug	SW846 6020	11/04-11/10/10	L9QPJ1CF
		Dilution Factor: 1				

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METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: G0J230417 **Matrix.....:** AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: G0K090000-258 **Prep Batch #...:** 0313258						
Arsenic	ND	0.30	ug	SW846 6020	11/08-11/10/10	L9QP71AA
		Dilution Factor: 1				
Beryllium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L9QP71AC
		Dilution Factor: 1				
Cadmium	ND	0.15	ug	SW846 6020	11/08-11/10/10	L9QP71AD
		Dilution Factor: 1				
Chromium	ND	0.30	ug	SW846 6020	11/08-11/10/10	L9QP71AE
		Dilution Factor: 1				
Lead	**0.032 B**	**0.15**	**ug**	**SW846 6020**	**11/08-11/10/10**	**L9QP71AF**
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Lot-Sample #...: G0J230417 **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hg (HNO3/H2O	1.00	1.00	ug	100		SW846 7470A	11/01-11/02/10	0305398
	1.00	1.05	ug	105	4.9	SW846 7470A	11/01-11/02/10	0305398
			Dilution Factor: 1					
Hg (KMnO4)	1.00	1.00	ug	100		SW846 7470A	11/01-11/02/10	0305399
	1.00	1.05	ug	105	4.9	SW846 7470A	11/01-11/02/10	0305399
			Dilution Factor: 1					
Hg (Empty)	1.00	1.00	ug	100		SW846 7470A	11/01-11/02/10	0305400
	1.00	1.05	ug	105	4.9	SW846 7470A	11/01-11/02/10	0305400
			Dilution Factor: 1					
Hg (FH)	1.00	1.02	ug	102		SW846 7470A	11/05/10	0309254
	1.00	0.940	ug	94	8.2	SW846 7470A	11/05/10	0309254
			Dilution Factor: 1					
Hg (HCl)	1.00	1.02	ug	102		SW846 7470A	11/05/10	0309255
	1.00	0.940	ug	94	8.2	SW846 7470A	11/05/10	0309255
			Dilution Factor: 1					
Arsenic	30.0	27.0	ug	90		SW846 6020	11/04-11/10/10	0313252
	30.0	26.8	ug	89	0.83	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Beryllium	30.0	26.2	ug	87		SW846 6020	11/04-11/10/10	0313252
	30.0	26.3	ug	88	0.56	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Cadmium	30.0	27.2	ug	91		SW846 6020	11/04-11/10/10	0313252
	30.0	27.1	ug	90	0.32	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Chromium	30.0	27.2	ug	91		SW846 6020	11/04-11/10/10	0313252
	30.0	26.9	ug	90	1.3	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Lead	30.0	28.1	ug	94		SW846 6020	11/04-11/10/10	0313252
	30.0	27.7	ug	92	1.4	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					

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LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Lot-Sample #...: G0J230417 **Matrix.....:** AIR

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Arsenic	30.0	26.0	ug	86		SW846 6020	11/08-11/10/10	0313258
	30.0	24.6	ug	82	5.4	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Beryllium	30.0	25.5	ug	85		SW846 6020	11/08-11/10/10	0313258
	30.0	24.3	ug	81	5.0	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Cadmium	30.0	26.6	ug	89		SW846 6020	11/08-11/10/10	0313258
	30.0	25.3	ug	84	5.0	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Chromium	30.0	30.0	ug	100		SW846 6020	11/08-11/10/10	0313258
	30.0	27.9	ug	93	7.2	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Lead	30.0	29.1	ug	97		SW846 6020	11/08-11/10/10	0313258
	30.0	27.3	ug	91	6.2	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Lot-Sample #...: G0J230417 **Matrix.....:** AIR

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP-BATCH #
Hg (HNO3/H2O	100	(86 - 110)			SW846 7470A	11/01-11/02/10	0305398
	105	(86 - 110)	4.9	(0-17)	SW846 7470A	11/01-11/02/10	0305398
		Dilution Factor: 1					
Hg (KMnO4)	100	(87 - 111)			SW846 7470A	11/01-11/02/10	0305399
	105	(87 - 111)	4.9	(0-17)	SW846 7470A	11/01-11/02/10	0305399
		Dilution Factor: 1					
Hg (Empty)	100	(85 - 111)			SW846 7470A	11/01-11/02/10	0305400
	105	(85 - 111)	4.9	(0-17)	SW846 7470A	11/01-11/02/10	0305400
		Dilution Factor: 1					
Hg (FH)	102	(87 - 110)			SW846 7470A	11/05/10	0309254
	94	(87 - 110)	8.2	(0-17)	SW846 7470A	11/05/10	0309254
		Dilution Factor: 1					
Hg (HCl)	102	(86 - 110)			SW846 7470A	11/05/10	0309255
	94	(86 - 110)	8.2	(0-17)	SW846 7470A	11/05/10	0309255
		Dilution Factor: 1					
Arsenic	90	(79 - 110)			SW846 6020	11/04-11/10/10	0313252
	89	(79 - 110)	0.83	(0-15)	SW846 6020	11/04-11/10/10	0313252
		Dilution Factor: 1					
Beryllium	87	(70 - 110)			SW846 6020	11/04-11/10/10	0313252
	88	(70 - 110)	0.56	(0-15)	SW846 6020	11/04-11/10/10	0313252
		Dilution Factor: 1					
Cadmium	91	(79 - 110)			SW846 6020	11/04-11/10/10	0313252
	90	(79 - 110)	0.32	(0-16)	SW846 6020	11/04-11/10/10	0313252
		Dilution Factor: 1					
Chromium	91	(84 - 110)			SW846 6020	11/04-11/10/10	0313252
	90	(84 - 110)	1.3	(0-15)	SW846 6020	11/04-11/10/10	0313252
		Dilution Factor: 1					
Lead	94	(86 - 110)			SW846 6020	11/04-11/10/10	0313252
	92	(86 - 110)	1.4	(0-15)	SW846 6020	11/04-11/10/10	0313252
		Dilution Factor: 1					

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LABORATORY CONTROL SAMPLE EVALUATION REPORT

TOTAL Metals

Lot-Sample #...: G0J230417 **Matrix.....:** AIR

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP-BATCH #
Arsenic	86	(79 - 110)			SW846 6020	11/08-11/10/10	0313258
	82	(79 - 110)	5.4	(0-15)	SW846 6020	11/08-11/10/10	0313258
		Dilution Factor: 1					
Beryllium	85	(70 - 110)			SW846 6020	11/08-11/10/10	0313258
	81	(70 - 110)	5.0	(0-15)	SW846 6020	11/08-11/10/10	0313258
		Dilution Factor: 1					
Cadmium	89	(79 - 110)			SW846 6020	11/08-11/10/10	0313258
	84	(79 - 110)	5.0	(0-16)	SW846 6020	11/08-11/10/10	0313258
		Dilution Factor: 1					
Chromium	100	(84 - 110)			SW846 6020	11/08-11/10/10	0313258
	93	(84 - 110)	7.2	(0-15)	SW846 6020	11/08-11/10/10	0313258
		Dilution Factor: 1					
Lead	97	(86 - 110)			SW846 6020	11/08-11/10/10	0313258
	91	(86 - 110)	6.2	(0-15)	SW846 6020	11/08-11/10/10	0313258
		Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

TOTAL Metals

Client Lot #...: G0J230417 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: G0J230417-002 Prep Batch #...: 0305398							
Hg (HNO3/H2O	103	(86 - 110)			SW846 7470A	11/01-11/02/10	L81NK1AL
	107	(86 - 110)	0.62	(0-17)	SW846 7470A	11/01-11/02/10	L81NK1AM

Dilution Factor: 5.55

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: G0J230417 **Matrix.....:** AIR
Date Sampled...: 10/19/10 **Date Received..:** 10/22/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: G0J230417-002 **Prep Batch #...:** 0305398									
Hg (HNO3/H2O2)									
	29.9	5.55	35.6	ug	103		SW846 7470A	11/01-11/02/10	L81NK1AL
	29.9	5.55	35.9	ug	107	0.62	SW846 7470A	11/01-11/02/10	L81NK1AM

Dilution Factor: 5.55

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

Metals

Client Lot #...: G0J230417 **Work Order #...:** L81NH-SMP L81NH-DUP **Matrix.....:** AIR

Date Sampled...: 10/19/10 **Date Received..:** 10/22/10

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Arsenic						SD Lot-Sample #: G0J230417-001		
	1.4	1.4	ug	2.2	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Beryllium						SD Lot-Sample #: G0J230417-001		
	0.058 B	0.056 B	ug	2.8	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Cadmium						SD Lot-Sample #: G0J230417-001		
	4.2	4.2	ug	1.2	(0-16)	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Chromium						SD Lot-Sample #: G0J230417-001		
	33.7	33.0	ug	2.2	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					
Lead						SD Lot-Sample #: G0J230417-001		
	43.2	42.1	ug	2.6	(0-15)	SW846 6020	11/04-11/10/10	0313252
			Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

SAMPLE DUPLICATE EVALUATION REPORT

Metals

Client Lot #...: G0J230417 **Work Order #...:** L81NK-SMP L81NK-DUP **Matrix.....:** AIR

Date Sampled...: 10/19/10 **Date Received..:** 10/22/10

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Arsenic						SD Lot-Sample #: G0J230417-002		
	0.082 B	ND	ug	11	(0-15)	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Beryllium						SD Lot-Sample #: G0J230417-002		
	ND	ND	ug	0	(0-15)	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Cadmium						SD Lot-Sample #: G0J230417-002		
	0.045 B	0.046 B	ug	0.89	(0-16)	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Chromium						SD Lot-Sample #: G0J230417-002		
	0.24 B	0.28 B	ug	16	(0-15)	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					
Lead						SD Lot-Sample #: G0J230417-002		
	0.42 J	0.42	ug	0.64	(0-15)	SW846 6020	11/08-11/10/10	0313258
			Dilution Factor: 1					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

HCl/Chlorine by M26A

AECOM, Inc

Client Sample ID: M26A-C2-R1-H2S04

General Chemistry

Lot-Sample #...: G0J230417-010 Work Order #...: L81N4 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	94.3 Q	3.3	mg	CFR60A 26A	11/05/10	0310123

Dilution Factor: 6.5 MDL.....: 1.7

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAMPLE VOLUME = 650 ML

AECOM, Inc

Client Sample ID: M26A-C2-R2-H2S04

General Chemistry

Lot-Sample #...: G0J230417-011 Work Order #...: L81N6 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	177 Q	6.5	mg	CFR60A 26A	11/05/10	0310123

Dilution Factor: 12.6 MDL.....: 3.2

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAMPLE VOLUME = 630 ML

AECOM, Inc

Client Sample ID: M26A-C2-R3-H2S04

General Chemistry

Lot-Sample #...: G0J230417-012 Work Order #...: L81N7 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	182 Q	6.8	mg	CFR60A 26A	11/05/10	0310123

Dilution Factor: 13.2 MDL.....: 3.4

NOTE(S):

RL Reporting Limit

Q Elevated reporting limit. The reporting limit is elevated due to high analyte levels.

SAMPLE VOLUME = 650 ML

AECOM, Inc

Client Sample ID: M26A-C2-FB-H2S04

General Chemistry

Lot-Sample #...: G0J230417-013 Work Order #...: L81N9 Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Hydrochloric acid	ND G	0.51	mg	CFR60A 26A	11/05/10	0310123

Dilution Factor: 1 MDL.....: 0.26

NOTE(S):

RL Reporting Limit

G Elevated reporting limit. The reporting limit is elevated due to matrix interference.

SAMPLE VOLUME = 200 ML

AECOM, Inc

Client Sample ID: M26A-DIH20-FB

General Chemistry

Lot-Sample #...: G0J230417-014 Work Order #...: L81PV Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine	ND	0.20	mg	CFR60A 26A	11/10/10	0315326
		Dilution Factor: 0.2		MDL.....: 0.050		
Hydrochloric acid	ND	0.10	mg	CFR60A 26A	11/06/10	0310123
		Dilution Factor: 0.2		MDL.....: 0.051		

NOTE(S):

RL Reporting Limit

SAMPLE VOLUME = 200 ML

AECOM, Inc

Client Sample ID: M26A-C2-R1-NAOH

General Chemistry

Lot-Sample #...: G0J230417-016 Work Order #...: L81QL Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine	1.5	0.28	mg	CFR60A 26A	11/10/10	0315326
	Dilution Factor: 0.28			MDL.....: 0.070		

NOTE(S):

RL Reporting Limit

Sample Volume= 280ml

AECOM, Inc

Client Sample ID: M26A-C2-R2-NAOH

General Chemistry

Lot-Sample #...: G0J230417-017 Work Order #...: L81QP Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine	1.7	0.28	mg	CFR60A 26A	11/10/10	0315326

Dilution Factor: 0.28 MDL.....: 0.070

NOTE(S):

RL Reporting Limit

Sample Volume= 280ml

AECOM, Inc

Client Sample ID: M26A-C2-R3-NAOH

General Chemistry

Lot-Sample #...: G0J230417-018 Work Order #...: L81QQ Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine	1.4	0.28	mg	CFR60A 26A	11/10/10	0315326

Dilution Factor: 0.28 MDL.....: 0.070

NOTE(S):

RL Reporting Limit

Sample Volume=280ml

AECOM, Inc

Client Sample ID: M26A-C2-FB-NAOH

General Chemistry

Lot-Sample #...: G0J230417-019 Work Order #...: L81QR Matrix.....: AIR
Date Sampled...: 10/19/10 Date Received..: 10/22/10

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine	ND	0.20	mg	CFR60A 26A	11/10/10	0315326

Dilution Factor: 0.2 MDL.....: 0.050

NOTE(S):

RL Reporting Limit

Sample Volume=200ml

QC DATA ASSOCIATION SUMMARY

G0J230417

Sample Preparation and Analysis Control Numbers

SAMPLE#	MATRIX	ANALYTICAL METHOD	LEACH BATCH #	PREP BATCH #	MS RUN#
010	AIR	CFR60A 26A		0310123	0310065
011	AIR	CFR60A 26A		0310123	0310065
012	AIR	CFR60A 26A		0310123	0310065
013	AIR	CFR60A 26A		0310123	0310065
014	AIR	CFR60A 26A		0310123	0310065
	AIR	CFR60A 26A		0315326	0315207
016	AIR	CFR60A 26A		0315326	0315207
017	AIR	CFR60A 26A		0315326	0315207
018	AIR	CFR60A 26A		0315326	0315207
019	AIR	CFR60A 26A		0315326	0315207

METHOD BLANK REPORT

General Chemistry

Client Lot #...: G0J230417 Matrix.....: AIR

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine		Work Order #: L9W3D1AA		MB Lot-Sample #:	G0K110000-326	
	ND	1.0	mg	CFR60A 26A	11/10/10	0315326
		Dilution Factor: 1				
Hydrochloric acid		Work Order #: L9NHX1AA		MB Lot-Sample #:	G0K060000-123	
	ND	0.51	mg	CFR60A 26A	11/05/10	0310123
		Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: G0J230417 Matrix.....: AIR

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine			Work Order #: L9W3D1AC LCS Lot-Sample#: G0K110000-326				
	25.0	24.7	mg	99	CFR60A 26A	11/10/10	0315326
			Dilution Factor: 1				
Hydrochloric acid			Work Order #: L9NHX1AC LCS Lot-Sample#: G0K060000-123				
	25.7	25.6	mg	100	CFR60A 26A	11/05/10	0310123
			Dilution Factor: 1				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #....: G0J230417 Matrix.....: AIR

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine		Work Order #: L9W3D1AC	LCS Lot-Sample#: G0K110000-326		
	99	(90 - 110)	CFR60A 26A	11/10/10	0315326
		Dilution Factor: 1			
Hydrochloric acid		Work Order #: L9NHX1AC	LCS Lot-Sample#: G0K060000-123		
	100	(90 - 110)	CFR60A 26A	11/05/10	0310123
		Dilution Factor: 1			

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: G0J230417 **Matrix.....:** AIR
Date Sampled...: 10/19/10 **Date Received..:** 10/22/10

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine			WO#: L81QL1AC-MS/L81QL1AD-MSD		MS Lot-Sample #: G0J230417-016				
	1.5	2.80	4.08	mg	93		CFR60A 26A	11/10/10	0315326
	1.5	2.80	4.11	mg	94	0.80	CFR60A 26A	11/10/10	0315326
			Dilution Factor: 1						
Hydrochloric acid			WO#: L81N41AC-MS/L81N41AD-MSD		MS Lot-Sample #: G0J230417-010				
	94.3	66.8	156	mg	93		CFR60A 26A	11/05/10	0310123
	94.3	66.8	156	mg	92	0.20	CFR60A 26A	11/05/10	0310123
			Dilution Factor: 6.5						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: G0J230417 **Matrix.....:** AIR
Date Sampled...: 10/19/10 **Date Received..:** 10/22/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Chlorine		WO#: L81QL1AC-MS/L81QL1AD-MSD				MS Lot-Sample #: G0J230417-016	
	93	(75 - 125)			CFR60A 26A	11/10/10	0315326
	94	(75 - 125)	0.80	(0-20)	CFR60A 26A	11/10/10	0315326
		Dilution Factor: 1					
Hydrochloric acid		WO#: L81N41AC-MS/L81N41AD-MSD				MS Lot-Sample #: G0J230417-010	
	93	(75 - 125)			CFR60A 26A	11/05/10	0310123
	92	(75 - 125)	0.20	(0-20)	CFR60A 26A	11/05/10	0310123
		Dilution Factor: 6.5					

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Appendix G

Sample Calculations

Facility Norlite Corp. Cohoes, NY
Source Kiln 1 Stack
Run CPT Retest C1RT-R2 (PCDDs/PCDFs)

Job No. 60163411
Date 30-MAR-2011
Calc/Review D. ROECK

SAMPLE CALCULATIONS

Particulate Isokinetic Sampling

I. Calculations for stack volume and Isokinetic Ratio

Time	Dry Gas Meter ft^3	Pitot ΔP, in. H_2O	Orifice ΔH, in. H_2O	Dry Gas Temp °F In	Dry Gas Temp °F Out	Stack Static Pressure in. H_2O	Stack Temp °F
T	VM	ΔP	PM	TMI	TMO	PST	TS

1. DN = Nozzle Diameter, inches = 0.223 in.
2. PB = Barometric Pressure, inches Hg = 30.20 in. Hg
3. TT = Net Sampling Time, minutes = 180 min.
4. VM = VM final - VM initial = Sample Gas Volume, ft^3 = 949.704 - 834.303 = 115.401 ft^3

4A. VML = Use only if any final or intermediate leak check rate is over 0.02 cfm
LI = Leak rate after any given sampling period, cfm
TLI = Total time of sampling period in which leak occurred, min.
VML = VM - [(L1 - 0.02) TL1 + (L2 - 0.02) TL2 + (L3 - 0.02) TL3 + (L4 - 0.02) TL4]
= N/A ft^3

5. TM = Average Dry Gas Temperature at Meter, °F

$$TM = \frac{\text{Avg. TMI + Avg. TMO}}{2}$$

= 40.0 °F

6. PM = Average Orifice Pressure Drop, inches H_2O

PM = Avg. Δ H = 1.35 / 13.6 = 0.0996 in. Hg

7. Volume of dry gas sampled at standard conditions, dscf[a]

$$VMSTD = \frac{528(Y)(VM)\left(PB + \frac{PM}{13.6}\right)}{29.92(TM+460)}$$

Y = dry gas meter calibration factor
Y = 0.982 = 121.178 ft^3

8. VW = Total Water Collected = gm H_2O Silica gel + mL Imp. H_2O + gm XAD trap = 384.4 mL

9. Volume of water vapor at standard conditions, scf[b]

VW gas = 0.04715 x VW = 18.124 ft^3

Run No. C1RT-R2 (PCDDs/PCDFs) Job No. 60163411

Date 30-MAR-2011

10. Percent moisture in stack gas

$$\%\,M = \frac{100 \times VW\ gas}{VMSTD + VW\ gas} =$$ = 13.0 %

11. Mole fraction of dry gas (dimensionless)

$$MD = \frac{100-\%M}{100} =$$ = 0.8699

12. Molecular weight of dry stack gas

$$MWD = \left(\%CO_2 \times \frac{44}{100}\right) + \left(\%O_2 \times \frac{32}{100}\right) + \left[(\%CO+\%N_2) \times \frac{28}{100}\right]$$ = 29.35 lb/lb mole dry

12A. %EA = %Excess Air =

$$\frac{[(\%O_2)-0.5(\%CO)]\times 100}{[(0.264)(\%N_2)]-(\%O_2)+0.5\%(CO)}$$ = 243.2 %

13. Molecular weight of wet stack gas

MW = MWD x MD + 18 (1-MD) = 27.87 lb/lb mole wet

14. AS = Stack Area, square inches 48.0-in.

Circular, = $\left(\frac{\text{stack diameter}}{2}\right)^2 \pi$ = 1,809.6 sq. in.

Rectangular, = Length x width = N/A sq. in.

15. PS = Stack Pressure, absolute, inches Hg = PB ± AV PST
PST = Stack static pressure +0.95

PST in. Hg = $\frac{\text{PST in. } H_2O}{13.6}$ = 0.07 in. Hg

PS = PB ± Avg. PST = 30.27 in. Hg

16. TS_{AV} = Average Stack Temperature = 131.0 °F

Run No. CIRT-R2 (PCDDs/PCDFs) Job No. 60163411

Date 30-MAR-2011

17. $SDE_{AV} = (\sqrt{\Delta P})_{AV} \times \sqrt{TS_{AV} + 460}$ (0.8675) = 21.089

18. Stack gas velocity at stack conditions, afpm

$$VS = 5130^{c} \times Cp \times SDE_{AV} \times \left[\frac{1}{PS \times MW}\right]^{1/2} = \text{afpm}$$

Cp = pitot tube coefficient
Cp = 0.84 = 3,129 afpm

19. Stack gas volumetric flow rate at stack conditions, acfm[d]

$$Q_a = \frac{VS \times AS}{144}$$ = 39,316 acfm

20. Stack gas volumetric flow rate at standard conditions, dscfm[e]

$$Q_s = \frac{Q_a \times 528 \times MD \times PS}{(29.92)(TS_{AV} + 460)}$$ = 30,910 dscfm

21. Percent isokinetics

$$\%\ I = \frac{1{,}039^{f} \times (TS_{AV} + 460) \times VMSTD}{VS \times TT \times PS \times MD \times (DN)^2}$$ = 101 %

---

[a]Dry standard cubic feet at 68°F (528R) and 29.92 in. Hg.

[b]Standard conditions at 68°F (528R) and 29.92 in. Hg.

$$^{c}5130 = 85.5 \ \frac{ft}{sec} \left[\frac{(lb/lb\ mole)(in.\ Hg)}{(°R)(in.\ H_2O)}\right] \times 60\ sec/min$$

[d]Actual cubic feet per minute

[e]Dry standard cubic feet per minute at 68°F (528R) and 29.92 in. Hg.

$$^{f}1039 = \frac{29.92\ in\ Hg}{528\ Deg\ R} \times \frac{144\ in.^2}{ft^2} \times \frac{4}{\pi} \times 100$$

Sample Calculation - PCDD / PCDF Emissions - For Comparison to MACT Standard
Run # C1RT-R2
11-Jan-11

Parameter	Symbol	Units	Value	Equation
Actual Volume Metered	Vm	dcf	115.401	Direct measurement
Meter Box Calib. Factor	Y	--	0.982	Direct measurement
Barometric Pressure	Pb	in. Hg	30.20	Direct measurement
Meter Box Pressure	DH	in. w.c.	1.35	Direct measurement
Meter Box Pressure	DH	in. Hg	0.0996	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	40.0	Direct measurement
Gas Sample Volume	SV	dscf	121.178	SV = [(Vm) x (Y) x (528) x (DH + Pb)] / [(29.92) x (Tm + 460)]
Gas Sample Volume	SV	m^3	3.431	SV = [(SV, dscf) / (35.314)]
2,3,7,8-TCDD Detected Front Half	FH	pg	(1.80)	Lab Result (ND, therfore treat as zero)
2,3,7,8-TCDD Detected Back Half	BH	pg	6.08	Lab Result
Total 2,3,7,8-TCDD Detected	DF total	pg	6.08	DF total = FH + BH
Toxic Equivalency for 2,3,7,8-TCDD	TEF	--	1.00	Toxic Equivalency Factor
2,3,7,8-TCDD Concentration (TEQ)	DF conc	ng/m^3	**1.8E-03**	DF conc = [(DF total) x (TEF)] / [(SV, m^3) x (1000)]

(Perform the same calculation for all 17 PCDD/PCDF congeners and sum the results.)

Conversion Factors Used:	Units	Value
Specific Gravity of Mercury	--	13.6
Standard Temperature	°R	528
Standard Pressure	in. Hg	29.92
Metric Conversion	ft^3 / m^3	35.314
Mass Conversion	pg / ng	1,000

Sample Calculation - PCDD / PCDF Emissions - For Risk Assessment
Run # C1RT-R2
11-Jan-11

Parameter	Symbol	Units	Value	Equation
Actual Volume Metered	Vm	dcf	115.401	Direct measurement
Meter Box Calib. Factor	Y	--	0.982	Direct measurement
Barometric Pressure	Pb	in. Hg	30.20	Direct measurement
Meter Box Pressure	DH	in. w.c.	1.35	Direct measurement
Meter Box Pressure	DH	in. Hg	0.0996	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	40.0	Direct measurement
Gas Sample Volume	SV	dscf	121.178	SV = [(Vm) x (Y) x (528) x (DH + Pb)] / [(29.92) x (Tm + 460)]
Stack Gas Flowrate	Qs	dscfm	30,910	See separate 3-page calculation for all C1RT-R2 parameters
2,3,7,8-TCDD Detected Front Half	FH	pg	1.80	Lab Result (ND, but treat as actual number)
2,3,7,8-TCDD Detected Back Half	BH	pg	6.08	Lab Result
Total 2,3,7,8-TCDD Detected	DF total	pg	7.88	DF total = FH + BH
2,3,7,8-TCDD Emission Rate	DF emiss	g/sec	**3.4E-11**	DF emiss = [(DF total) x (Qs)] / [(SV, dscf) x (1.0 E+12) x (60)]

(Perform the same calculation for all 17 PCDD/PCDF congeners. Results are treated individually in any subsequent risk assessment.)

Conversion Factors Used:	Units	Value
Specific Gravity of Mercury	--	13.6
Standard Temperature	°R	528
Standard Pressure	in. Hg	29.92
Mass Conversion	pg / g	1.0 E+12
Time Conversion	sec / min	60

Sample Calculations - Total Low Volatile Metal (LVM) Input
C2-R2
19-Oct-10

Parameter	Symbol	Units	Value	Equation
LLGF Feed Rate	LLGF fr	gpm	10.2	Direct measurement by Norlite
LLGF Density	LLGF den	g/cc	1.0754	Lab Result
Shale Feed Rate	SH fr	tph	22.8	Direct measurement by Norlite
Arsenic (As) Conc. in LLGF	As llgfconc	mg/kg	37.3	Lab Result
As Conc. in Shale	As shconc	mg/kg	12.0	Lab Result
As Feed Rate in LLGF	As llgf fr	lb/hr	0.205	As llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (As llgfconc)
As Feed Rate in Shale	As sh fr	lb/hr	0.545	As sh fr = (SH fr) x (2,000) x (1 E-06) x (As shconc)
Total Arsenic Input	As in	lb/hr	**0.75**	As in = (As llgf fr) + (As sh fr)
Beryllium (Be) Conc. in LLGF	Be llgfconc	mg/kg	0.56	Lab Result
Be Conc. in Shale	Be shaleconc	mg/kg	1.90	Lab Result
Be Feed Rate in LLGF	Be llgf fr	lb/hr	0.003	Be llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (Be llgfconc)
Be Feed Rate in Shale	Be llgf sh	lb/hr	0.087	Be sh fr = (SH fr) x (2,000) x (1 E-06) x (Be shconc)
Total Beryllium Input	Be in	lb/hr	**0.090**	Be in = (Be llgf fr) + (Be sh fr)
Chromium (Cr) Conc. in LLGF	Cr llgfconc	mg/kg	490	Lab Result
Cr Conc. in Shale	Cr shaleconc	mg/kg	64.7	Lab Result
Cr Feed Rate in LLGF	Cr llgf fr	lb/hr	2.69	Cr llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (1 E-06) x (Cr llgfconc)
Cr Feed Rate in Shale	Cr llgf sh	lb/hr	2.95	Cr sh fr = (SH fr) x (2,000) x (1 E-06) x (Cr shconc)
Total Chromium Input	Cr in	lb/hr	**5.64**	Cr in = (Cr llgf fr) + (Cr sh fr)
Total LVM Feed Rate	LVM fr	lb/hr	**6.48**	LVM fr = (As in) + (Be in) + (Cr in)
Total Pumpable LVM Feed Rate	PLVM fr	lb/hr	**2.90**	PLVM fr = (As llgf fr) + (Be llgf fr) + (Cr llgf fr)

Conversion Factors Used:	Units	Value
Density of Water	lb/gal	8.34
Time Conversion	min/hr	60
Weight Conversion	mg/g	1,000
Weight Conversion	g/kg	1,000
Weight Conversion	lb/ton	2,000

Sample Calculation - Metals Extrapolation
Semivolatile Metals (SVM) = Cadmium and Lead
Surrogate Metal Used = Lead (Pb)
Using Test Condition 2 (October 2010) Averages for Three (3) Runs

Parameter	Symbol	Units	Value	Equation
MACT Standard	SVM std	µg/m³	250	Regulatory definition
90% of MACT Standard	SVM 90	µg/m³	225	SVM 90 = [(SVM std) x(0.90)]
Total Pb Feed Rate	Pb input	lb/hr	6.20	Pb input = Pb native + Pb spike
Pb Emission Rate (conc. basis)	Pb ER conc	µg/m³	54.5	Direct measurement by AECOM
Pb Emission Rate (mass basis)	Pb ER mass	lb/hr	3.03E-03	Direct measurement by AECOM
System Removal Efficiency	SRE	%	99.955%	SRE = [(Pb input - Pb ER mass) / (Pb input)] x 100
Stack Gas Flowrate	Qs	dscfm	36,504	Direct measurement by AECOM
Stack Gas Oxygen Conc.	O2 Conc	%	14.99	Direct measurement by AECOM
Extrapolated Feed Rate Limit	EFRL	lb/hr	**29.3**	EFRL = [(60) x (Qs) x (21-O2 Conc) x (SVM 90)] ÷ [(1-%SRE) x (453.6) x (1.0E + 06) x (35.314) x (14)]
Minimum SRE to Meet MACT	SRE min	%	99.763%	SRE min = 1 - [{(60) x (Qs) x (21-O2 Conc) x SVM std} ÷ {(Pb input) x (453.6) x (1.0E + 06) x (35.314) x (14)}]

Conversion Factors Used:	Units	Value
Metric Conversion	ft^3 / m^3	35.314
Time Conversion	min / hr	60
Mass Conversion	µg / g	1.0 E+6
Mass Conversion	g / lb	453.6

Sample Calculations - Total Chlorine Input
C2-R3
19-Oct-10

Parameter	Symbol	Units	Value	Equation
LLGF Feed Rate	LLGF fr	gpm	10.2	Direct measurement by Norlite
LLGF Density	LLGF den	g/cc	1.0767	Lab Result
Shale Feed Rate	SH fr	tph	22.8	Direct measurement by Norlite
Chloride (Cl) Conc. in LLGF	Cl llgfconc	% wt	1.98%	Lab Result
Cl Conc. in Shale	Cl shconc	mg/kg	0.023%	Lab Result
Cl Feed Rate in LLGF	Cl llgf fr	lb/hr	108.8	Cl llgf fr = (LLGF fr) x (8.34) x (LLGF den) x (60) x (Cl llgfconc)
Cl Feed Rate in Shale	Cl sh fr	lb/hr	10.7	Cl sh fr = (SH fr) x (2,000) x (Cl shconc)
Total Chloride Input	Cl in	lb/hr	**119.5**	Cl in = (Cl llgf fr) + (Cl sh fr)

Conversion Factors Used:	Units	Value
Density of Water	lb/gal	8.34
Time Conversion	min/hr	60
Weight Conversion	lb/ton	2,000

Sample Calculation - Mercury (Hg) Emissions
C2-R3
19-Oct-10

Parameter	Symbol	Units	Value	Equation
Actual Volume Metered	Vm	dcf	94.637	Direct measurement
Meter Box Calib. Factor	Y	--	0.9900	Direct measurement
Barometric Pressure	Pb	in. Hg	29.75	Direct measurement
Meter Box Pressure	DH	in. w.c.	2.11	Direct measurement
Meter Box Pressure	DH	in. Hg	0.1550	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	68.2	Direct measurement
Gas Sample Volume	SV	dscf	93.610	SV = [(Vm) x (Y) x (528) x (DH + Pb)] / [(29.92) x (Tm + 460)]
Mercury Quantity Detected	Qd	µg	34.1	Lab Result
Stack Oxygen Level	O_2	%	15.80	Direct measurement
Hg Concentration @ 7% O_2	HG conc	µg/m³	**34.6**	HG conc = [(Qd) x (35.314) x (14)] / [(SV) x (21 - O_2)]

Conversion Factors Used:	Units	Value
Specific Gravity of Mercury	--	13.6
Standard Temperature	°R	528
Standard Pressure	in. Hg	29.92
Metric Conversion	ft^3 / m^3	35.314

Sample Calculations - HCl and Cl_2 Emissions

Run # C2-R3

19-Oct-10

Parameter	Symbol	Units	Value	Equation
Actual Volume Metered	Vm	dcf	90.284	Direct measurement
Meter Box Calib. Factor	Y	--	1.0160	Direct measurement
Barometric Pressure	Pb	in. Hg	29.75	Direct measurement
Meter Box Pressure	DH	in. w.c.	1.77	Direct measurement
Meter Box Pressure	DH	in. Hg	0.1299	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	84.0	Direct measurement
Gas Sample Volume	SV	dscf	91.896	SV = [(Vm) x (Y) x (528) x (DH + Pb)] / [(29.92) x (Tm + 460)]
Stack Gas Flowrate	Qs	dscfm	36,256	Separate calculation. See example for PCDDs/PCDFs C1RT-R2.
HCl Quantity Detected	Qd HCl	µg	182,000	Lab Result
Stack Oxygen Level	O_2	%	15.80	Direct measurement
HCl Concentration @ 7% O_2	HCl conc	ppm	**123.81**	HCl conc = [(Qd HCl) x (35.314) x (0.024) x (14)] / [(SV) x (36.5) x (21 - O_2)]
HCl Emission Rate	HCl mass	lb/hr	**9.498**	HCl mass = [(Qd HCl) x (1.0 E-06) x (Qs) x (60)] / [(SV) x (453.6)]
Cl_2 Quantity Detected	Qd Cl_2	µg	1,400	Lab Result
Cl_2 Concentration @ 7% O_2	Cl_2 conc	ppm	**0.50**	Cl_2 conc = [(Qd Cl_2) x (35.314) x (0.024) x (14)] / [(SV) x (70) x (21 - O_2)]
Cl_2 Emission Rate	Cl_2 mass	lb/hr	**0.073**	Cl_2 mass = [(Qd Cl_2) x (1.0 E-06) x (Qs) x (60)] / [(SV) x (453.6)]
Total Chloride Equivalents @ 7% O_2	Tot Cl Eq	ppm	**125.0**	Tot Cl Eq = [(HCl mass + Cl_2 mass) x (385.3) x (1.0 E-06) x (14)] / [(Qs) x (36.5) x (60) x (21-%O_2)]

Conversion Factors Used:	Units	Value
Specific Gravity of Mercury	--	13.6
Standard Temperature	°R	528
Standard Pressure	in. Hg	29.92
Mass Conversion	g / lb	453.6
Mass Conversion	µg / g	1.0 E+06
Uuniversal Gas Constant	m^3 / g-mole	0.024
HCl Molecular Weight	g / g-mole	36.5
Cl_2 Molecular Weight	g / g-mole	70

Sample Calculation - Particulate Matter (PM) Emissions
Run # C2-R1
19-Oct-10

Parameter	Symbol	Units	Value	Equation
Actual Volume Metered	Vm	dcf	89.567	Direct measurement
Meter Box Calib. Factor	Y	--	1.016	Direct measurement
Barometric Pressure	Pb	in. Hg	29.81	Direct measurement
Meter Box Pressure	DH	in. w.c.	1.74	Direct measurement
Meter Box Pressure	DH	in. Hg	0.1281	DH (in. Hg) = DH (in. w.c.) / 13.6
Meter Box Temperature	Tm	°F	61.0	Direct measurement
Gas Sample Volume	SV	dscf	92.271	SV = [(Vm) x (Y) x (528) x (DH + Pb)] / [(29.92) x (Tm + 460)]
PM Detected Front Half Rinse	FHR	mg	5.9	Lab Result
PM Detected Filter	FIL	mg	7.7	Lab Result
Total PM Detected	PM total	mg	13.6	PM total = FHR + FIL
Stack Oxygen Level	O_2	%	13.37	Direct measurement
PM Concentration (actual)	PM act	gr / dscf	0.0023	PM act = [(0.0154) x (PM total) / (SV)]
PM Concentration @ 7% O_2	PM conc	gr / dscf	**0.0042**	PM conc = [(PM act) x (14)] / [(21 - O_2)]

Conversion Factors Used:	Units	Value
Specific Gravity of Mercury	--	13.6
Standard Temperature	°R	528
Standard Pressure	in. Hg	29.92
Mass Conversion	grains / lb	7,000
Mass Conversion	grains / mg	0.0154

Sample Calculation - MCB Destruction / Removal Efficiency
C1A-R1
12-Jan-11

Parameter	Symbol	Units	Value	Equation
Actual Volume Metered (VOST Pair a)	Vm	aL	20.040	Direct measurement
Meter Box Calib. Factor	Y	--	1.0577	Direct measurement
Barometric Pressure	Pb	in. Hg	29.60	Direct measurement
Meter Box Temperature	Tm	°C	0.4	Direct measurement
Gas Sample Volume (VOST Pair a)	SV	dsL	22.473	SV = [(Vm) x (Y) x (293) x (Pb)] / [(29.92) x (Tm + 273)]
Sample Volume (Pairs a,b & d)	SV total	dsL	66.450	SV for Pair a + Pair b + Pair d
Stack Gas Flowrate	Qs	dscfm	36,658	Direct measurement - Separate Sampling Train
Quantity Detected Pair a Tenax 1&2	a TX	µg	0.220	Lab Result
Quantity Detected Pair a Anasorb	a ANS	µg	0.005	Lab Result (ND, but using full RL)
Quantity Detected Pair b Tenax 1&2	b TX	µg	0.260	Lab Result
Quantity Detected Pair b Anasorb	b ANS	µg	0.005	Lab Result (ND, but using full RL)
Quantity Detected Pair d Tenax 1&2	d TX	µg	0.270	Lab Result
Quantity Detected Pair d Anasorb	d ANS	µg	0.005	Lab Result (ND, but using full RL)
Quantity Detected in Condensate	COND	µg	0.040	Lab Result (ND, but using full RL)
Total Quantity Detected	Qd	µg	0.805	Qd = Sum of all fractions
MCB Emission Rate	MCB er	lb/hr	**1.66E-03**	MCB er = [(Qd)x(28.316)x(Qs)x(60)] / [(SV total)x(1.0 E+6)x(453.6)]
Waste Feed Rate	WFR	lb/hr	0.0	Ignored so as to be conservative
MCB Conc. in Waste Streams	MCB conc	%	0.00%	Ignored so as to be conservative
Native MCB Feed Rate	MCB wf	lb/hr	0.00	MCB wf = [(WFR) x (MCB conc)]
MCB Spiking Rate	MCB sp	lb/hr	60.03	Direct measurement provided by Triad
Total MCB Feed Rate	MCB tot	lb/hr	60.03	MCB tot = MCB wf + MCB sp
Destruction / Removal Efficiency	DRE	%	**99.9972%**	DRE = [(MCB tot - MCB er) / (MCB tot)] x 100

Conversion Factors Used:	Units	Value
Standard Temperature	°K	293
Standard Pressure	in. Hg	29.92
Metric Conversion	L / ft^3	28.316
Time Conversion	min / hr	60
Mass Conversion	µg / g	1.0 E+6
Mass Conversion	g / lb	453.6