NSR
J. Blank

UTAH DEPARTMENT OF
ENVIRONMENTAL QUALITY

NOV 26 2014

DIVISION OF AIR QUALITY

Stericycle
Protecting People. Reducing Risk.

November 26, 2014

Sent via UPS – 1Z A12 61E 22 1000 642 6

Ms. Cynthia Reynolds
Unites States Environmental Protection Agency
Region 8
Air and Toxics Technical Enforcement Program
8ENF-AT
1595 Wynkoop Street
Denver, CO 80202-1129

Subject: Stericycle, Inc. Initial Performance Test Submittal Pursuant to 40 CFR Part 62, Subpart HHH

Dear Ms. Reynolds:

Stericycle, Inc. (Stericycle) owns and operates a hospital, medical, and infectious waste incinerator (HMIWI) facility in North Salt Lake, Utah (NSL facility). The NSL facility is subject to the Federal Operating Permit Program (40 CFR Part 70) and Utah's Title V Permit Regulations (R307-415). The NSL facility operates pursuant to Title V Operating Permit Source I.D. No. 1100055002. Stericycle is subject to the Title V permitting program due to being subject to Utah's HMIWI regulation (R307-222) and the U.S. Environmental Protection Agency's (U.S. EPA's) HMIWI Emission Guidelines at 40 CFR Part 60, Subpart Ce. U.S. EPA promulgated amendments to 40 CFR Part 60, Subpart Ce on October 6, 2009 that, among other requirements, contain more stringent emission limitations. At this time, Utah's updated State Plan pursuant to R307-222 has not been approved by U.S. EPA; therefore, the NSL Facility is subject to 40 CFR Part 62, Subpart HHH (Federal Plan Requirements for Hospital/Medical/Infectious Waste Incinerators Constructed on or Before December 1, 2008) pursuant to §62.14400(a).

Stericycle conducted an initial performance test to demonstrate compliance with the new emission limitations on September 30 and October 1, 2014. Stericycle is submitting the following information within 60 days following the initial performance test pursuant to 40 CFR §62.14464(a):

- Initial performance test report;
- Values for the site-specific operating parameters;
- Waste Management Plan; and
- Bag leak detection system documentation.

Each component is discussed in more detail below.

Document Date 11/26/2014

DAQ-2014-017233

Initial Performance Test Report

The initial performance test report is included in Attachment A. TRC Environmental Corporation completed the initial performance test on September 30 and October 1, 2014 and developed the associated test report. The results of the initial performance test demonstrate that Stericycle is in compliance with the newly applicable emissions limits. The test program was conducted in accordance with 40 CFR §62.14452.

Site-Specific Operating Parameter Values

Pursuant to §62.14453(b), the owner or operator of an affected facility using an air pollution control device other than a dry scrubber followed by a fabric filter, a wet scrubber, a dry scrubber followed by a fabric filter and a wet scrubber, or selective non-catalytic reduction (SNCR) to comply with the emissions limits of §62.14411 shall petition the Administrator for site-specific operating parameters to be established during the initial performance test and continuously monitored thereafter. The NSL Facility is equipped with SNCR and a dry scrubber followed by a fabric filter and a wet scrubber to comply with the applicable emission limits, as well as a carbon bed system for additional mercury (Hg) control. Stericycle petitioned and received conditional approval from U.S. EPA Region 8 for site-specific operating parameters for the carbon bed system. The conditional approval is included in Attachment B.

Table 1 provides a summary of the site-specific operating parameter values that were established during the initial performance test. Maximum values were calculated to be 110% of the lowest 3-hour average value recorded during the test, and minimum values were calculated to be 90% of the highest 3-hour average value recorded during the test.

Table 1
Summary of Site-Specific Operating Parameter Values
Initial Performance Test (September 30 and October 1, 2014)

Operating Parameter	Initial Performance Test Value	Calculated Operating Parameter Value
Maximum charge rate (pounds per hour)	1779	**1956.9**
Maximum fabric filter inlet temperature (deg F)	334.68	**368.1**
Maximum flue gas temperature (at the inlet to the carbon bed system) (deg F)*	138	**151.8**
Minimum secondary chamber temperature (deg F)	1996.34	**1796.7**
Minimum dioxin/furan sorbent flow rate (pounds per hour)	3.1	**2.8**
Minimum HCl sorbent flow rate (pounds per hour)	61.22	**55.1**
Minimum mercury (Hg) sorbent flow rate (pounds per hour)	3.1	**2.8**

Minimum pressure drop across the wet scrubber (in. water)	3.33	**3.0**
Minimum scrubber liquor flow rate (gpm)	146.9	**132.21**
Minimum scrubber liquor pH	5.46	**4.91**
Minimum reagent flow rate (ammonia) (gph)	1.0	**0.90**
Minimum reagent flow rate (urea) (gph)	1.01	**0.91**

* Stericycle established the minimum flue gas temperature at the inlet to the carbon bed system using the temperature data obtained at the carbon bed system outlet from TRC pursuant to U.S. EPA Reference Method 29. This temperature data was used due to problems with the instrumentation used to measure temperature at the carbon bed inlet that occurred during the performance test. Stericycle intends to reset this parameter value by conducting a retest in accordance with §62.14455(e) as discussed with UDAQ on November 21, 2014 and as described in a November 24, 2014 letter to U.S. EPA Region 8.

Waste Management Plan

Stericycle is required to prepare a Waste Management Plan pursuant to §62.14431 that identifies the feasibility and the approach to separate certain components of solid waste from the health care waste stream in order to reduce the amount of toxic emissions from incinerated waste.

A copy of the Waste Management Plan is included in Attachment C.

Bag Leak Detection System Documentation

Stericycle is utilizing a fabric filter and demonstrating compliance with the PM emissions limit using a bag leak detection system. Therefore, Stericycle is required to submit documentation demonstrating conformance with the EPA guidance and specifications for bag leak detection systems in §62.14454(e) pursuant to §62.14463(a)(4).

The bag leak detection system documentation is included in Attachment D.

Stericycle believes that this submittal satisfies the requirements of 40 CFR §62.14464(a). Thank you for your attention to this submittal. If you have any questions, please contact me at (801) 936-1260, ext. 17.

Sincerely,
Stericycle, Inc.

Jay Vance

Jay Vance
Environmental Quality Manager

cc: Scott Patefield – U.S. EPA Region 8
Jon Black – UDAQ
Al Burson – Stericycle
Dale Rich – Stericycle
Lindsey Kroos – ALL4

Attachment A – Initial Performance Test Report
September 30 and October 1, 2014

Attachment B – Site Specific Operating Parameters Conditional Approval

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

SEP 2 5 2014

Ref: 8 ENF-AT

Jay Vance
Environmental Quality Manager
Stericycle, Inc.
90 Foxboro Drive
North Salt Lake, Utah 84054

RE: Conditional Approval of Petition for Proposed Site-Specific Operating Parameters under 40 C.F.R. Part 62, Subpart HHH, Federal Plan Requirements for Hospital/Medical/Infectious Waste Incinerators Constructed on or Before December 1, 2008

Dear Mr. Vance:

This letter responds to your August 1, 2014, petition, submitted pursuant to 40 C.F.R. § 62.14453(b) and § 62.14495(c), for proposed site-specific operating parameters for the retrofitted air pollution control device[1] being installed at the Stericycle facility in North Salt Lake, Utah (NSL facility).[2] The retrofitted air pollution control device at the NSL facility is being installed to assure compliance with the Federal Plan Requirements for Hospital/Medical/Infections Waste Incinerators (HMIWI) Constructed on or Before December 1, 2008, 40 C.F.R. Part 62, Subpart HHH, that were promulgated on May 13, 2013. Based on the information provided in your letter and follow-up communication, the Environmental Protection Agency (EPA) is conditionally approving the site-specific operating parameters, as outlined below. In addition to the site-specific operating parameters suggested in your petition, the EPA is also requiring additional site-specific operating parameters for the carbon bed, as outlined below. Finally, your petition requests a waiver of the requirement to measure the pressure drop across the wet scrubber. As discussed below, the EPA is denying that request. Following the review of the initial performance test results and other pertinent information, the EPA will approve final site-specific operating parameters. Information pertaining the required performance testing is enclosed.

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[1]The retrofitted air pollution control device consists of the following units, in order of alignment: (1) two stage combustion system; (2) selective non-catalytic reduction (SNCR) system; (3) dry scrubber; (4) fabric filter (FF); (5) wet scrubber; and (6) carbon beds.

[2]On August 26, 2014 letter to the EPA, Stericycle requested the EPA to waive performance testing when the NSL facility is in startup/shutdown mode and to also approve site-specific operating parameters for the startup/shutdown mode. The EPA has requested additional information and will address the August 26, 2014 letter separately.

Site-specific operating parameters for the retrofitted air pollution control device[3]:

- •Maximum waste charge rate
- •Minimum secondary chamber temperature
- •Minimum SNCR reagent flow rate
- •Maximum fabric filter inlet temperature
- •Maximum flue gas temperature at the inlet to the carbon bed system
- •Minimum absorber liquor recirculation flow rate
- •Minimum absorber liuqor pH
- •Minimum pressure drop across the absorber or minimum horsepower or amperage to the absorber
- •Minimum dioxin/furan/mercury sorbent flow rate[4]
- •Minimum HCl sorbent flow rate
- •Bypass stack position

With respect to the carbon beds:

•The carbon beds shall be designed and operated with two beds in series, with the second bed serving as a guard bed. Stericycle shall operate and maintain the affected carbon bed system in accordance with written Operating and Maintenance Procedures developed by Stericycle, which procedures shall, at a minimum, address the following:

1. Replace each carbon bed or the carbon bed in each bed before it has reached the end of its useful life. For the replacement of the carbon in the primary bed, the secondary bed may be rotated into the primary bed position and new carbon shall be used in the secondary bed position;
2. Use the brand (i.e., manufacturer) and type of carbon used during the most recent performance test that demonstrated compliance with the Hg emission limit or the following notification as described below, a different brand or type of carbon with equivalent or improved properties compared to the carbon used in the performance test.
   (i) Stericycle shall notify the UDAQ at least ten days prior to changing the brand or type of activated carbon for the carbon bed systems. This notification shall identify the new brand or type of carbon, the reason for the change, a demonstration that the substitute carbon will provide an equivalent or improved level of control of Hg as compared to the carbon used in the previous performance test, with supporting documentation, and the expected results for control of mercury emissions.
3. In order to ensure that the carbon in each bed has not reached the end of its useful life to control mercury emissions to comply with the 40 C.F.R. Part 62, Subpart HHH mercury limits, Stericycle shall:
   (i) Conduct monitoring of carbon beds consistent with the manufacturer's written specifications and recommendations;

---

[3]Consistent with Subpart HHH, § 62.14453(a)(2), all of the site-specific operating parameters will be established on a 3-hour hourly rolling average basis (3-hr HRA).

[4]In a conversation with Laurie Ostrand, EPA, on September 19, 2014, Stericycle indicated that the same sorbent used for dioxin/furan is also used for mercury. Therefore, although Stericycle's August 1, 2014 petition did not suggest a site-specific operating parameter for the mercury sorbent flow rate (as required by Subpart HHH), the mercury sorbent flow rate would be the same as the dioxin/furan sorbent flow rate.

(ii) Document the monitoring procedures in the Stericycle Operating and Maintenance Procedures; and

(iii) Keep records of the performance monitoring.

•Laboratory analysis of carbon media sampled at the 50 percent bed level within the adsorber unit every (2) years. Should such analysis indicate the carbon media at that level to be no longer viable, the total carbon media will be replaced; and

•Full replacement of carbon bed media every six (6) years.

In addition to site-specific operating parameters mentioned above, the EPA has determined that the pressure drop across the carbon beds (based on inlet and outlet pressures at the carbon beds) should be recorded during the initial performance test and monitored periodically (no less frequently than weekly) to ensure that the carbon beds function as intended and are operated in accordance with manufacture's specifications. The value measured during the initial performance test will be considered the baseline pressure drop.

Your August 1, 2014 letter also requests the EPA to waive the requirement to measure pressure drop across the wet scrubber. The EPA is denying this waiver request. Table 3 in 40 C.F.R. Part 62, Subpart HHH is clear in requiring a HMIWI with a dry scrubber, followed by a fabric filter and wet scrubber (the same system that is being installed at Stericycle) to establish a minimum operating parameter for the pressure drop across the wet scrubber (or a minimum horsepower or amperage to the wet scrubber). Therefore, the EPA does not agree that it is appropriate to waive this requirement.

The NSL facility must achieve compliance with the requirements of Subpart HHH by October 6, 2014. As provided in § 62.14470(b)(3), the NSL facility must conduct the initial performance test, required by § 62.14451(a), within 180 days of October 6, 2014, or by April 6, 2015. You have already developed and submitted a test plan protocol to the EPA. Performance testing must be conducted in accordance with Subpart HHH, § 62.14452. The results of the initial performance test must be submitted within 60 days following the test pursuant to § 62.14470(b)(4). Performance testing must also meet the requirements in the enclosure to this letter.

Final EPA approval of the NSL facility's site specific operating parameters will be based on the site-specific operating parameters established from evaluation of the results of the performance testing. This conditional approval is site-specific to the Stericycle facility in North Salt Lake, Utah. If you have any questions about this conditional approval, please contact Laurie Ostrand of my staff, at 303-312-6437, or at ostrand.laurie@epa.gov.

Sincerely,

Cynthia J. Reynolds, Director
Technical Enforcement Program

Enclosure

cc: Jon Black, UT DAQ, jlblack@utah.gov

ENCLOSURE

Conditional Approval of Petition for Proposed Site-Specific Operating Parameters under 40 C.F.R. Part 62, Subpart HHH, Federal Plan Requirements for Hospital/Medical/Infectious Waste Incinerators Constructed on or Before December 1, 2008

Performance Testing

As part of our conditional approval, the EPA requires a performance test in accordance with 40 C.F.R. § 62.14451 and § 60.8 and the following conditions, in order for the EPA to provide final approval of the site-specific operating parameters:

1. The performance test must be conducted under representative operating conditions (see § 62.14452(a)). Please note that page 15 of the EPA's National Stack Testing Guidance (found at the following link: http://www.epa.gov/compliance/resources/policies/monitoring/caa/stacktesting.pdf) indicates:

> The EPA recommends that performance tests be performed under those representative (normal) conditions that:
> -represent the range of combined process and control measure conditions under which the facility expects to operate (regardless of the frequency of the conditions); and
> -are likely to most challenge the emissions control measures of the facility with regard to meeting the applicable emission standards, but without creating an unsafe condition.
>
> The following are factors that should be considered in developing the plan for a performance test that challenges to the fullest extent possible a facility's ability to meet emissions limits.
>
> For a facility operating under an emission rate standard (e.g., lb/hr) or concentration standard (e.g., μg/m3), normal process operating conditions producing the highest emissions or loading to a control device would generally constitute the most challenging conditions with regard to the emissions standard. If operating at maximum capacity would result in the highest levels of emissions, operating at this level would not create an unsafe condition, and the facility expects to operate at that level at least some of the time, the EPA recommends that the facility should conduct a stack test at maximum capacity or the allowable/permitted capacity.

2. Parameters to be measured in the performance test will include, but not be limited to, those site-specific operating parameters outlined in this conditional approval for the retrofitted air pollution system.

3. Calculations for any necessary surrogate parameters (i.e., parameters calculated in place of direct measurements required) must be provided for the same testing period in order to demonstrate correlations for final site-specific operating parameter evaluation and approval.

4. Subsequent to the performance testing, Stericycle will submit to the EPA and the UDAQ a complete copy of the performance test report, including all attachments, appendices and information on the operating conditions during the testing, within 60 days following the testing. With the copy of the performance test report and operating data submitted to the EPA and the UDAQ, Stericycle will furnish the numeric proposed limits for each site-specific operating parameter.

Attachment C – Waste Management Plan

Stericycle®

Waste Management Plan

(Rev. November 2014)

1. FORWARD

Stericycle, Inc. owns and operates commercial HMIWI facilities. Additionally, Stericycle owns and operates hospital/medical/infectious waste treatment facilities utilizing steam sterilization and Electro-thermal deactivation technologies.

As a commercial HMIWI, Stericycle's role in the waste minimization plan requirements is to assist the generators with education, waste minimization, and systems aimed at reducing potentially harmful emissions from incineration of hospital infectious medical waste.

Programs, policies, and practices are utilized by Stericycle to assist and educate customers regarding the reduction and recycling of hospital/medical/infectious waste. Stericycle's Sales and Marketing Professionals supply these programs, policies, and practices to our generators.

The following sections identify those actions Stericycle has taken to assist in the minimization of waste materials that create excess emissions during incineration. In addition, many states have taken the initiative to implement regulations further reducing the use of mercury, lead, and other toxic elements by setting standards for amounts, if any, that can be used in products. Advances in technology have reduced amounts of mercury in items such as blood pressure equipment and thermometers.

As the generator of hospital/medical/infectious waste, it is incumbent upon you to look at and further reduce toxics in the waste stream. Stericycle is committed to assisting our customers with waste reduction and recycling efforts.

2. EFFORTS STERICYCLE IS TAKING TO REDUCE EMISSIONS

Stericycle is committed to operating our facilities in and environmentally responsible manner. We have dedicated large resources to upgrading our facilities to meet or exceed Title V emission limits. In addition, we are constantly looking for ways to further reduce the potential harmful products that could get into the waste stream. From our perspective, the following are some of the actions we are taking on an on-going basis to assist in this effort:

2.1 REUSABLE CONTAINERS

Where feasible, Stericycle markets the use of DOT-compliant reusable containers for packaging of hospital/medical/infectious waste. Reusable containers greatly reduce the amount of material combusted at Stericycle's HMIWI facilities by eliminating the combustion of the outer package.

2.2 FIBERBOARD CONTAINERS

In situations where the use of reusable containers is not feasible, fiberboard containers are used. Opportunities to use recycled product in our containers are evaluated to be given priority, and the ink used in the labeling of the containers has been formulated to significantly reduce or eliminate metals in the dye.

2.3 CUSTOMER IN SERVICE PROGRAMS

As an offered service to Stericycle's large quantity generators, our professional sales and marketing staff perform waste audit and in-service training aimed at reducing the amount of waste generated by the facility. During these audits, proper segregation and packaging are discussed. Stericycle's unique per-piece pricing program promotes optimal container utilization. In addition to cost savings realized by the customer, reduction in the number of containers used results in less corrugated material and inner liner usage.

2.4 WASTE ACCEPTANCE PROTOCOL

Stericycle's Waste Acceptance Protocol, which is part of the contractual agreement between Stericycle and the Customer, strictly prohibits hazardous and unacceptable materials from waste sent to Stericycle's treatment facility. Materials such as hazardous pharmaceuticals, hazardous chemo-therapy waste, batteries, mercury, lead materials, etc. are prohibited in the red bag waste.

2.5 CONTINUING EDUCATION

Stericycle is committed to waste reduction and prohibits unacceptable waste in hospital/medical/infectious waste received at the treatment facilities, therefore continual education and training is provided as a part of Stericycle's total Customer Satisfaction program.

Periodic interaction, waste-management suggestions, and information alerts provided to Stericycle's customers, either through personal contact or mailings, reinforce to the customers that the reduction of hospital/medical/infectious waste through segregation and recycling is in everyone's best interest.

3. GENERATOR RESPONSIBILITIES AND ACTIONS NECESSARY TO REDUCE TOXIC EMISSIONS

40 CFR 60.55c requires that a Waste Management Plan be developed to "identify both the feasibility and the approach to separate certain components of solid waste from the health care waste stream in order to reduce the amount of toxic emissions from incinerated waste."

As a part of our compliance with this requirement, we are asking our customers to assist in reduction of potential toxic materials by following proper segregation of wastes packaged in red bags. Proper segregation begins with the prohibitions outlined in the Waste Acceptance Protocol and contract. In addition, we encourage customers to look at materials being used and placed in

the medical waste containers with emphasis on identifying other means of disposal for non-medical waste.

The regulations also reference the American Hospital Association's publication "An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities". Generators are encouraged to utilize this publication when considering means to further reduce wastes.

4. SUMMARY

Stericycle, Inc. is committed to reduction of toxic emissions. Our state-of-the-art air pollution control systems are designed and operated to maximize removal of toxics from the incinerator. To be more effective in controlling emissions, Stericycle and the generators work together to reduce toxics at the source. By using techniques listed above, suggestions in "An Ounce of Prevention", and ensuring that materials are eliminated via purchasing of products that do not contain toxic materials, we can further reduce harmful emissions.

Attachment D – Bag Leak Detection System Documentation

Stericycle

Rev. Nov. 26, 2014

Bag Leak Detection System Plan
Calibration, Operation & Maintenance

Section 1.0 – Applicability

Stericycle is required to maintain and operate a Bag Leak Detection System (BLDS) downstream of the new baghouse installation in North Salt Lake, in accordance with 40 C.F.R. § 62.14454(e). The installation shall conform to the "Fabric Filter Bag Leak Detection Guidance," (EPA-454/R-98-015, September 1997) in accordance with §62.14454(e)(1).

Section 2.0 – Emission Source and Control Device

Stericycle Inc is located at 90 Foxboro Drive, North Salt Lake Utah. The facility maintains and operates an air pollution control system to control emissions from a permitted Health/Medical/Infectious Waste Incinerator (HMIWI) in accordance with 40 C.F.R. Part 62, Subpart HHH. The air pollution control facility is equipped with a fabric filter baghouse to control particulates. This device is required to have a BLDS pursuant to § 62.14454(e).

Section 3.0 – Monitoring System

3.1 The BLDS is an Auburn Triboelectric Model U3400-11-455N. It is equipped with a hastelloy probe, and remote electronics enclosure.

3.2 In accordance with 40 C.F.R. § 62.14454 (e)(3)-(5), the triboelectric monitor outputs to the onsite Continuous Monitoring System (CMS) where data is recorded continuously. The system is also equipped with an audible alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm is located where it is easily heard by plant operating personnel.

3.3 In accordance with 40 C.F.R. § 62.14454 (e)(2), the BLDS is capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

Stericycle

Section 4.0 – System Material Selection and Location

To prevent corrosion, the sensor is fabricated of hastelloy C and uses a high temperature PFA insulator.

In accordance with 40 C.F.R. § 62.14454 (e)(7) for negative pressure systems, the sensor is located in the ductwork downstream of the baghouse. It is positioned in the center of the ductwork to enhance particulate monitoring.

The tribolectric monitor outputs a 4-20 mA signal to the plant's CMS. Electronics are located in a remote electronics enclosure to avoid exposure to high temperature or other environmental hazards.

Section 5.0 – Monitoring System Operation

5.1 Baseline and Alarm Levels

The baseline output has been established in accordance with § 62.14454(e)(9) using data obtained during the particulate matter performance test on October 1, 2014. During this testing, all but six of the 6 second readings were within the range of -0.3% to 0.3%. The six (6) readings out of this range corresponded to pulse cleaning events and were 9.2%, 34.6%, 44.5%, 46.8%, 55.8%, and 85.9% with an average of 46%. Following regulatory approval of Stericycle's site-specific operating parameters, a 30-day trial period will be conducted to further verify that the set up of the BLDS is appropriate. Adjustments to settings may be made based on the results of this trial period.

Pre-Alarm Set Point: The CMS is equipped with a pre-alarm intended to alert operators to an abnormally high BLDS reading that could occur during a pulse-cleaning event. Such a high instantaneous reading could indicate an impending bag issue and so require operator attention. Based on the readings above, this is set in the range 60 to 90% at the discretion of the operators.

Alarm Set Point: The CMS requires a 48-second continuous reading to initiate a BLDS alarm. The BLDS alarm causes automatic suspension of waste charging, and intiates corrective action procedures to determine if a bag is damaged. Per the "Fabric Filter Bag Leak Detection Guidance" document, this should be set at 2x the BLDS output during a typical pulse event. Since the pulse cleaning cycles showed an average of 46% from above, Stericycle has elected to set this value at 2x46=92%. This alarm

only activates when the signal remains above the alarm level for the full delay period of 48 seconds, indicating a bag break.

Section 6.0 – Quality Assurance Procedures

6.1 The BLDS sensor will be removed and cleaned/inspected semi-annually.

6.2 The response of the BLDS particulate monitor probe will be tested monthly with a homogeneous, finely divided material such as talc. A small amount of talc will be introduced upstream of the BLDS probe, and the response in the CMS will be noted and the test result recorded accordingly. Operators shall use a similar amount of this dusty material would be used each time (e.g., ¼ cup or 150 g) so that the response to the monthly test may be compared to prior results, if desired.

6.3 The Auburn Model U3400 does not require drift adjustment per the manufacturer.

6.4 Corrective Action

In accordance with 40 C.F.R. § 62.14454 (e)(12), the plant will be operated such that the alarm will not be engaged for more than 5% of the total operating time in a 6 month block reporting period. Also, corrective action is to initiate within one (1) hour of a bag leak detection system alarm. Corrective action includes but is not limited to:

- Stop feeding waste (automatically initiated by the CMS in the event of an alarm)
- Inspection of the BLDS installation
- Inspection of the absorber recirculated liquor for signs of bag leakage.

If the BLDS output drops below the alarm value after corrective action has been initiated, and if there is no sign of BLDS malfunction or bag leakage after inspection, operators will be instructed to perform a response test per Section 6.2, above, and record the result. If the result of the response test is acceptable, operators will document the result and resume waste feeding and the time in alarm will not be counted.

If there is a sign of leakage and/or the alarm remains continuous, inspection of the fabric filter is required. Operators will be instructed to shutdown in order to inspect the bags for leakage. If the inspection demonstrates that no corrective action is required, waste processing operation may resume, and

the time is alarm is not counted as the amount of time required to initiate corrective action. If inspection reveals a leaking bag or other problem, the plant will remain idle until the damaged fabric filter is repaired or replaced, and the time will be counted toward the time required to initiate corrective action.

TRC
Results you can rely on

Emissions Test Report

**Particulate Matter, Hydrogen Chloride,
Visible Emissions, Nitrogen Oxides, Carbon Monoxide,
Sulfur Dioxide, Dioxin / Furans, Mercury, Cadmium and Lead
on the
Unit No. 1 Stack**

**STERICYCLE, INC.
NORTH SALT LAKE, UTAH**

Date of Test: September 30 - October 1, 2014

Prepared for:

**Stericycle, Inc.
North Salt Lake, UT**

Prepared by:

**TRC Environmental Corporation
5540 Centerview Drive, Suite 100
Raleigh, North Carolina 27606**

TRC Project No. 223797

September/October 2014

TRC
Results you can rely on

EMISSION TEST REPORT

TRC PROJECT NO:	**223797.0000.0000**
TEST DATES:	**September 30 – October 1, 2014**
TYPE OF TEST:	**Particulate Matter, Hydrogen Chloride, Visible Emissions, Nitrogen Oxides, Carbon Monoxide, Sulfur Dioxide, Dioxin / Furan, Mercury, Cadmium, and Lead**
TEST LOCATION:	**Unit No. 1 Stack**
TEST SITE:	**Stericycle – North Salt Lake 90 North 1100 West (Foxboro Dr.) North Salt Lake, UT**
FACILITY CONTACT:	**Jay Vance Environmental Manager (810) 971-2042**
TRC CONTACT:	**Derek Brewster Project Manager (919) 256-6233**

REPORT CERTIFICATION

EMISSION TEST REPORT

Stericycle, Inc.
North Salt Lake, UT

Unit No. 1

TRC Reference Number 223797

I certify that to the best of my knowledge:

- Testing data and all corresponding information have been checked for accuracy and completeness.
- Sampling and analysis have been conducted in accordance with the approved protocol and applicable reference methods (as applicable).
- All deviations, method modifications, or sampling and analytical anomalies are summarized in the appropriate report narrative(s).

Derek Brewster
TRC Project Manager

11-18-2014
Date

TRC was operating in conformance with the requirements of ASTM D7036-04 during this test program.

Jeffrey W. Burdette
TRC Air Measurements Technical Director

TABLE OF CONTENTS

SECTION		PAGE
1	INTRODUCTION	1-1
2	SUMMARY OF TEST RESULTS	2-1
3	SOURCE DESCRIPTION	3-1
3.1	SOURCE DESCRIPTION	3-1
3.2	SOURCE AIR FLOW	3-1
3.3	TEST LOCATION DESCRIPTION	3-1
4	SAMPLING AND ANALYTICAL PROCEDURES	4-1
4.1	GENERAL	4-1
4.2	SAMPLE POINTS	4-2
4.3	CYCLONIC FLOW CHECK	4-2
4.4	VOLUMETRIC AIR FLOW RATES	4-2
4.4.1	FLUE GAS VELOCITY	4-2
4.4.2	FLUE GAS COMPOSITION	4-2
4.4.3	FLUE GAS MOISTURE CONTENT	4-2
4.5	HYDROGEN CHLORIDE	4-3
4.6	DIOXIN/FURANS	4-3
4.7	INSTRUMENTAL REFERENCE METHODS	4-5
4.8	PARTICULATE MATTER	4-5
4.9	MERCURY AND METALS	4-6
4.10	VISIBLE EMISSIONS and FUGITIVE EMISSIONS	4-7
4.11	EQUIPMENT CALIBRATION	4-7
5	QA/QC PROCEDURES AND RESULTS	5-1
5.1	BAROMETER	5-1
5.2	PITOT TUBES	5-1
5.3	DIFFERENTIAL PRESSURE INDICATORS	5-2
5.4	THERMOCOUPLES AND DIGITAL INDICATORS	5-2
5.5	CALIBRATION METER AND METERING SYSTEM	5-2
5.6	POST-TEST METER CALIBRATION CHECK	5-2

LIST OF TABLES AND FIGURES

TABLE	TITLE	PAGE
2-1	Summary of Results	2-2

FIGURE	TITLE	
3-1	Air Flow Schematic – Unit No. 1	3-2
3-2	Stack Test Location	3-3

LIST OF APPENDICES

APPENDIX A SUMMARY OF RESULTS AND CALCULATIONS

APPENDIX B FIELD DATA SHEETS
1. Unit No. 1
2. Reference Method CEM

APPENDIX C LABORATORY REPORTS
1. Mercury and Metals
2. Dioxin / Furan
3. Particulate and Hydrogen Chloride

APPENDIX D CALIBRATION DATA

APPENDIX E FACILITY PROCESS DATA

APPENDIX F QUALIFIED INDIVIDUAL DOCUMENTATION

SECTION 1
INTRODUCTION

Stericycle, Inc. retained TRC Environmental Corporation (TRC) to perform an initial performance test to quantify selected Hazardous Air Pollutant (HAP) emissions from Unit No. 1 located at the Stericycle, Inc. facility in North Salt Lake, Utah. The objective of this test program was to measure the emissions of Particulate Matter (PM), Hydrogen Chloride (HCl), Sulfur Dioxide (SO_2), Nitrogen Oxides (NOx), Carbon Monoxide (CO), Visible Emissions (VE), Dioxin / Furan (PCDD / PCDF), Mercury (Hg), Cadmium (Cd), and Lead (Pb).

Jay Vance of Stericycle – North Salt Lake coordinated the scheduling for the test program. Emission tests were performed on September 30 and October 1, 2014, by Derek Brewster, Bryce Morgan, Greg Byrd, Neal Afflerbach and Matt Brooks of TRC's Emission Measurement Group.

A summary and discussion of the emission test results and emission rates are provided in Section 2. The source description, test procedures and quality assurance activities are described in the subsequent sections. All supporting field data and calibration records are provided in appendices.

SECTION 2
SUMMARY OF TEST RESULTS

Table 2-1 provides a summary of the results. Detailed summaries of the results and calculations are in **Appendix A**. Field data is in **Appendix B**, and laboratory reports can be found in **Appendix C**. **Appendix D** contains relevant calibration data and facility operating data can be found in **Appendix E**. Qualified Individual documentation is in **Appendix F**.

Nitrogen oxide emission testing was conducted while the facility utilized two different reagents. One series of test runs were conducted while anhydrous ammonia was injected and a second series of test runs was conducted using urea as the reagent. The results summary includes the results from both reagents.

A fourth test run was conducted for mercury and metals. The isokinetic variation from EPA Method 29 Run 1 was 109.7%. The results for all four test runs is being presented in the results summary.

TABLE 2-1
SUMMARY OF RESULTS
UNIT NO. 1
SEPTEMBER/OCTOBER 2014

	Rep 1	Rep 2	Rep 3	Average	Permit Limit
PARTICULATE MATTER					
mg/dscm @ 7% O_2	4.37	3.71	3.87	3.98	25
gr/dscf @ 7% O_2	0.00191	0.00162	0.00169	0.00174	0.011
VISIBLE EMISSIONS					
% opacity	0.0	0.0	0.0	0.0	6
HYDROGEN CHLORIDE					
ppm @ 7% O_2	< 0.128	< 0.0705	< 0.0941	< 0.0975	6.6
DIOXIN / FURAN					
Total ng/dscm @ 7% O_2	< 0.241	< 0.270	< 0.575	< 0.362	9.3
TEQ ng/dscm @ 7% O_2	0.00595	0.00598	0.0107	0.00753	0.054
NITROGEN OXIDES					
ppm @ 7% O_2 – Ammonia Reagent	169.2	84.9	95.6	116.6	140
ppm @ 7% O_2 – Urea Reagent	107.7	132.1	88.3	109.4	140
CARBON MONOXIDE					
ppm @ 7% O_2	0.57	0.64	1.75	0.99	11
SULFUR DIOXIDE					
ppm @ 7% O_2	< 0.14	< 0.14	< 0.14	< 0.14	9.0

	REP 1	REP 2	REP 3	REP 4	Average	Permit Limit
MERCURY						
mg/dscm @ 7% O_2	< 0.00121	< 0.00131	< 0.000923	< 0.00109	< 0.00113	0.018
CADMIUM						
mg/dscm @ 7% O_2	< 0.000219	< 0.000357	< 0.000163	< 0.000455	< 0.000298	0.009
LEAD						
mg/dscm @ 7% O_2	< 0.000584	< 0.000476	< 0.000217	< 0.000273	< 0.000388	0.036

SECTION 3
SOURCE DESCRIPTION

3.1 SOURCE DESCRIPTION

Stericycle – North Salt Lake operates one medical waste incinerator. The incinerator has primary and secondary combustion chambers. To control emissions, exhaust gases from the secondary combustion chamber are sent through a control process. The control process consists of a selective non-catalytic reduction (SNCR) system followed in series by an evaporator, carbon injection, fabric filter house, wet gas absorber and carbon beds prior to the exhaust gases being discharged to the atmosphere through an individual exhaust.

3.2 SOURCE AIR FLOW

Figure 3-1 is a schematic diagram of the airflow for Unit No. 1.

3.3 TEST LOCATION DESCRIPTION

The test location consists of two test ports on a vertical stack. Two ports oriented at 90 degrees and on the same plain were used for the sampling traverses. A diagram of the test location is shown in **Figure 3-2**.

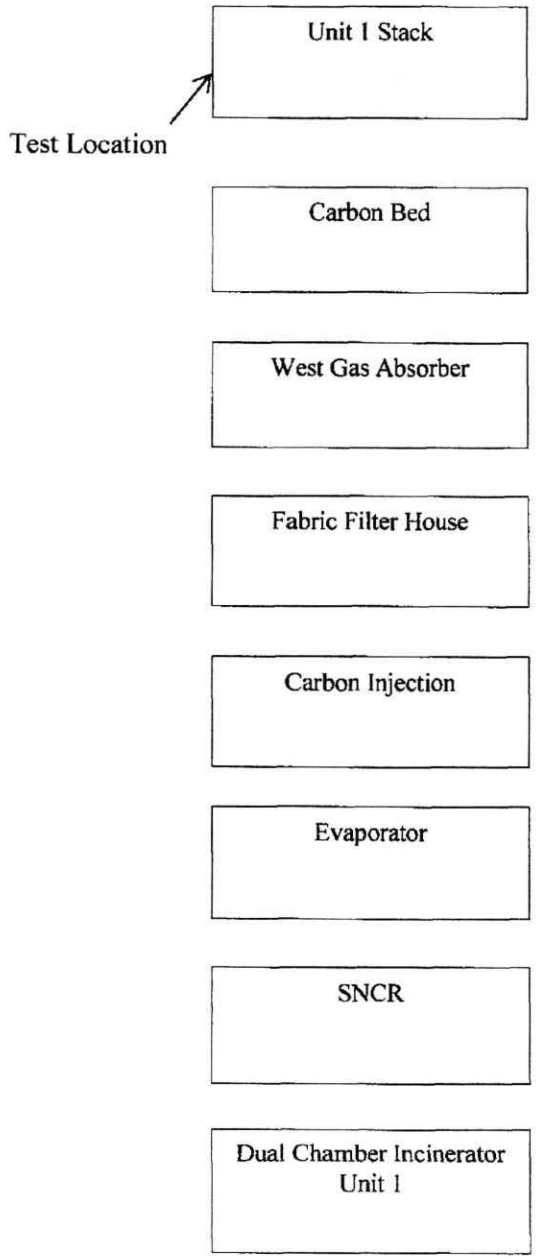

FIGURE 3-1. AIR FLOW SCHEMATIC – UNIT NO. 1

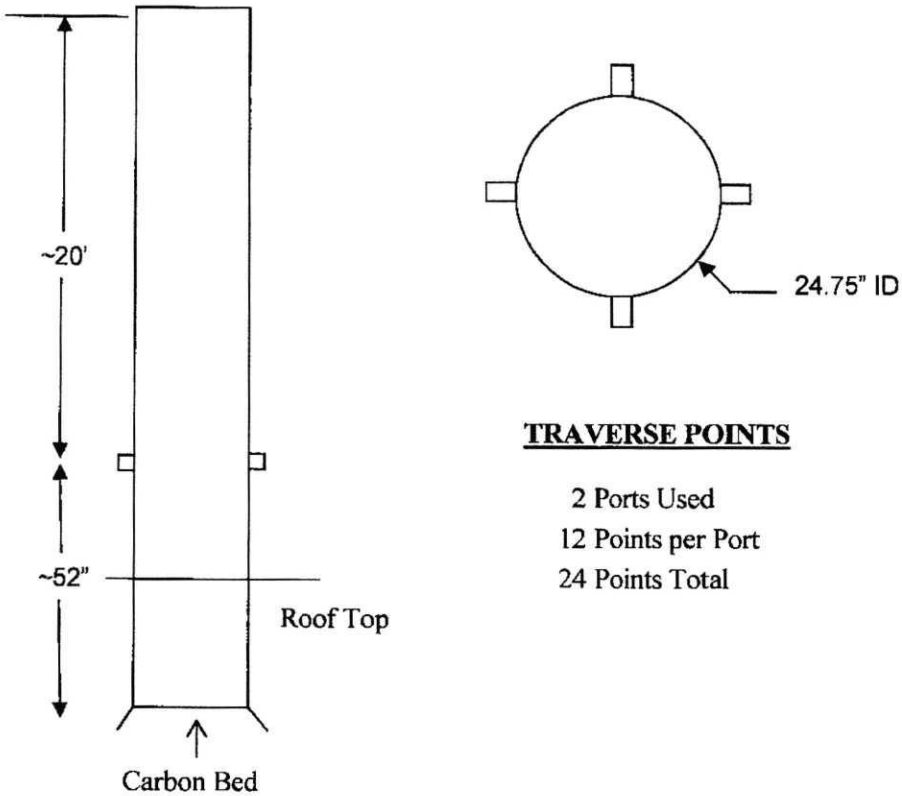

FIGURE 3-2. STACK TEST LOCATION

SECTION 4
SAMPLING AND ANALYTICAL PROCEDURES

All sampling and analytical procedures used in this test program were based on procedures in 40 CFR 60, Appendix A published by the Environmental Protection Agency (EPA). Copies of these EPA methods are available from the EPA EMC electronic bulletin board or the Code of Federal Regulations.

The TRC test team used the following EPA Reference Methods:

Method 1	Sample and Velocity Traverses for Stationary Sources
Method 2	Determination of Stack Gas Velocity and Volumetric Flow Rate
Method 3A	Determination of Oxygen and Carbon Dioxide from Stationary Sources (Instrumental Method)
Method 4	Determination of Moisture Content in Stack Gas
Method 5	Determination of Particulate Matter Emissions from Stationary Sources
Method 6C	Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Method)
Method 7E	Determination of Nitrogen Oxide Emissions from Stationary Sources (Instrumental Method)
Method 9	Determination of Visible Emissions from Stationary Sources
Method 10	Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Method)
Method 22	Determination for Fugitive Emissions from Material Sources
Method 23	Determination of Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans from Municipal Waste Combustors
Method 26A	Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources Isokinetic Method
Method 29	Determination of Metals Emissions from Stationary Sources

4.1 GENERAL

All sampling and analytical procedures were those recommended by the United States Environmental Protection Agency and the Utah Department of Environmental Quality. This section provides brief descriptions of the sampling and analytical procedures.

4.2 SAMPLING POINTS

The number and location of the sampling points were determined according to the procedures outlined in EPA Method 1. Twelve sampling points on each of two axes were sampled equally for the duration of the run. The stack meets the minimum requirements of Method 1.

4.3 CYCLONIC FLOW CHECK

A Type S Pitot tube assembly, incline/oil manometer, and a universal protractor (angle finder) were used to determine the flow angles at each of the sampling or velocity traverse points. At each point, the Pitot tube was positioned at a right angle to the air flow. The angles were determined by rotating the Pitot tube until a null reading was obtained on the manometer. When the null reading was obtained, the angle of the Pitot tube was recorded. The average angle measured was within the twenty degrees allowed by EPA Method 1.

4.4 VOLUMETRIC AIR FLOW RATES

4.4.1 FLUE GAS VELOCITY

The flue gas velocity and volumetric flow rate were determined according to the procedures outlined in EPA Method 2. Velocity head measurements (delta P) were made using Type S Pitot tubes conforming to the geometric specifications outlined in EPA Method 2. Accordingly, each has been assigned a coefficient of 0.84. Differential pressures were measured with inclined/oil manometers of appropriate range. Flue gas temperatures were measured with chromel-alumel thermocouples equipped with digital readouts.

4.4.2 FLUE GAS COMPOSITION

Flue gas samples were collected using EPA Method 3A. Instrumental reference method test runs were collected concurrent with the isokinetic test method. The analytical results were used to determine the flue gas composition and molecular weight.

4.4.3 FLUE GAS MOISTURE CONTENT

The moisture content was determined in conjunction with the various isokinetic sampling methods discussed in the following sections.

4.5 HYDROGEN CHLORIDE

Sample Collection. Samples were withdrawn isokinetically from the source using an EPA Method 26A sampling train. The sampling train consists of a glass nozzle, a heated glass probe with a Type S Pitot tube attached, a heated filter, five chilled impingers, and a metering console. A Teflon filter maintained at a temperature of 248-273 °F was located between the probe and first impinger. The first two impingers each contain 100 ml of 0.1N sulfuric acid (H_2SO_4) reagent, the third and fourth each contain 100 ml of 0.1N sodium hydroxide (NaOH) reagent, and the fifth contains pre-weighed silica gel. Each point was be sampled for 2.5 minutes, resulting in net run times of 60 minutes.

Sample Recovery. The filter was removed from the filter holder and discarded. The impingers were weighed prior to sample train recovery. The silica gel was returned to the original container. The volume of water vapor condensed in the impingers and the volume of water vapor collected in the silica gel were summed and entered into moisture content calculations. The first through third impingers were emptied into a reagent jar. The back-half of the filter holder through the third impinger were then rinsed with DI water into the same jar. The fourth and fifth impingers were emptied into a separate jar and rinsed with DI water into the same jar.

Sample Analysis. EPA Method 26A analytical procedures are used to analyze the 0.1N H_2SO_4 reagent and DI rinse for hydrogen chloride using ion chromatography. Reagent blanks collected during the sampling program were analyzed along with the samples as well as a Stationary Source Audit Sample.

4.6 DIOXIN/FURAN

Sample Collection. Samples for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/PCDF) were withdrawn isokinetically from the source using an EPA Method 23 sampling train. The sampling train consists of a glass nozzle, a heated borosilicate glass probe, a treated glass fiber filter maintained at a temperature of 248°F ± 25°F, a water-cooled condenser, a sorbent trap containing XAD-2 resin, five chilled impingers, and a metering console. The water-cooled condenser and sorbent trap are arranged in a manner that allows the condensate to drain vertically through the trap. Gas entering the trap is maintained at or below 68°F. The first impinger was empty, the second and third impingers each contained 100 mL of DI water, the fourth was empty, and the fifth contained silica gel.

Sample Train Component Preparation:

Glassware. All glass parts of the sample train including the sorbent trap, are pre-cleaned prior to sampling according to the following procedures.

1. Soak in hot soapy water (Alconox) at 50°C or higher
2. Rinse three times with tap H_2O
3. Rinse three times with DI H_2O
4. Rinse three times with pesticide grade acetone
5. Rinse three times with pesticide grade methylene chloride
6. Bake at 450°F for 2 hours
7. Cap with clean Teflon tape

The glassware was capped with Teflon tape until sample train assembly. Following sample recovery, the glassware was reused at the same sampling location.

XAD-2 Traps. The XAD-2 traps are provided and spiked by the analytical laboratory. Each sorbent trap was charged with 20 to 30 grams of XAD-2 resin. Care is taken to ensure that the resin is kept at temperatures below 120°F before and after sample collection to prevent resin decomposition. The period of time between charging the trap and use in the field was minimized.

Sample Recovery. Recovery of the samples and assembly of the sample trains for reuse was conducted in a mobile laboratory located at the job site. Each impinger and the XAD trap were weighed at the completion of the sampling run. The volume of water vapor condensed in the impingers and the volume of water vapor collected in the XAD resin and silica gel were summed and entered into moisture content calculations. The sample exposed components of the sampling train up to the impingers were rinsed with acetone, toluene, and again with acetone (which is discarded). All samples were stored at ≤40°F until analyzed. One field blank was recovered for the sampling program. The field blank consisted of a complete sampling train that was assembled as though to collect a sample, but flue gas was not pulled through the train. The field blank was obtained using a train that has previously been used to collect at least one actual sample from the test site.

Sample Analysis. The filter, XAD-2 resin, and acetone and toluene rinses were analyzed for tetra-octa (4-8) PCDD/PCDF, according to EPA Alternative Method 052.

All extracts from one run were combined and the volume reduced to 1 mL resulting in one extract per run from which an aliquot was taken for analysis.

4.7 INSTRUMENTAL REFERENCE METHODS FOR O_2, CO_2, SO_2, NO_x, AND CO

Emission testing was conducted for oxygen (EPA Method 3A), carbon dioxide (EPA Method 3A), sulfur dioxide (EPA Method 6C), nitrogen oxides (EPA Method 7E), and carbon monoxide (EPA Method 10) at the Unit No. 1 exhaust stack.

The CEMS sampling train consisted of a stainless-steel sampling probe. The sample stream was then drawn through a heated glass fiber filter, heated Teflon sample line, and a sample conditioner to remove the moisture and particulate from the gas stream.

The sample was then drawn through Teflon tubing by a leak-free Teflon coated pump to a stainless-steel sample manifold with atmospheric by-pass rotameter. The O_2, CO_2, SO_2, NO_x, and CO analyzers withdrew samples from this manifold.

All CEMS data was recorded as averages by a digital data logger designed to receive and log instrument signals. The results were recorded as ppmvd for SO_2, NO_x, and CO, and in percent for O_2 and CO_2.

4.8 PARTICULATE MATTER

Sample Collection. The sampling train consisted of a nozzle, a heated glass probe with a Type S Pitot tube attached, a heated particulate filter, four back-half impingers, and a metering console. The first two impingers were charged with 100 ml of DI water, the third impinger was left empty and the fourth contained silica gel. Each of the impingers were weighed prior to assembly of the sample train. Each of the 24 traverse points was sampled for 2.5 minutes, resulting in a net run time of one hour.

Sample Recovery. The front-half filter was removed from the filter holder and placed in a Petri dish. The nozzle, probe, and front-half filter holder were rinsed with acetone into a glass jar as the filterable sample fraction. Each of the impingers was weighed to determine the post-test weight. The weight of water vapor condensed in the impingers and the weight of water vapor collected in the silica gel were summed, and subsequently entered into the moisture content calculations.

Sample Analysis. EPA Method 5 analytical procedures were used to analyze the filter and front-half acetone rinse for filterable particulate.

4.9 MERCURY AND METALS

Sample Collection. Samples were withdrawn isokinetically from the stack using an EPA Method 29 sampling train. The sampling train consisted of a glass nozzle, a heated glass probe with a Type S Pitot tube attached, a heated filter, seven chilled impingers, and a metering console. The particulate sample was collected on a quartz fiber filter maintained at a temperature of 248°F ± 25°F. The first impinger was empty, the next two impingers each contained 100 ml of 5% nitric acid (HNO_3) / 10% hydrogen peroxide (H_2O_2) reagent, the fourth remained empty, the fifth and sixth each contains 100 ml of 4% potassium permanganate ($KMnO_4$) / 10% sulfuric acid (H_2SO_4) reagent, and the seventh contains pre-weighed silica gel. Each point was sampled for ten minutes, resulting in net run times of 240 minutes.

Sample Recovery. The filter was removed from the filter holder and placed in a petri dish. The impingers were weighed prior to sample train recovery. The silica gel was returned to the original container. The volume of water vapor condensed in the impingers and the volume of water vapor collected in the silica gel were summed and entered into moisture content calculations. All front-half components of the sampling train including the nozzle, probe, and filter holder were rinsed with 100 ml of 0.1N nitric acid (HNO_3) into a reagent jar. The first through third impingers were emptied into a 1000 ml reagent jar. The back-half of the filter holder through the third impinger were then rinsed with 100 ml 0.1N HNO_3 into the same jar. The fourth impinger was emptied into a separate reagent jar and rinsed with 100 ml 0.1N HNO_3 into the same jar. The fifth and sixth impingers were emptied into a separate jar and rinsed with 100 ml of $KMnO_4$ followed by 100 ml of DI water into the same jar. To remove residual brown deposits, the fifth and sixth impingers were then rinsed with 25 ml of 8N HCl into a glass jar containing 200 ml of DI water. Three unused filters from the same lot and treated in the same manner as above were designated as blanks. A spike was added to one run during analysis to obtain the recovery efficiency.

Sample Analysis. EPA Method 29 analytical procedures were used to analyze the sample train for mercury, cadmium, and lead. Method 29 front and back half fractions are analyzed separately. Duplicate metals analysis is performed for approximately 10% of the samples for metals except for mercury. All mercury samples are analyzed in duplicate.

4.10 VISIBLE EMISSIONS and FUGITIVE EMISSIONS

The procedures in EPA Method 9 were used for the determination of the visible plume opacity. Each run consisted of the VE observer reading the plume opacity every 15 seconds for the duration of each of three 60-minute test runs. The visible plume opacity was conducted during the same time frame as the collection of particulate samples. Fugitive emissions from the ash handling system were observed following EPA Method 22. Three one hour observation periods were performed ash handling system. Readings were performed in 20 minute intervals with a minimum of a five minute break between each interval until a total of 180 minutes was collected.

4.11 EQUIPMENT CALIBRATION

Pertinent calibration data are provided in **Appendix D**.

SECTION 5
QA/QC PROCEDURES AND RESULTS

The objective of a QA/QC program is to assure that the precision and accuracy of all data generated is scientifically sound and documented to be "in control". To accomplish this, standardized methods or procedures were used. They must be validated for their intended use, rigorously followed, and data reported with quality indicators (precision, accuracy, completeness, representativeness, etc.).

As a guide, TRC uses the EPA document *Quality Assurance Handbook for Air Pollution Measurement System*, Volume III (EPA-600/4-77-027b). TRC's QA/QC plan has incorporated certain considerations to the production of quality data in all of its sampling work regardless of the scope and purpose of the testing. These considerations include:

- Planning the testing program;
- Using reliable and well-maintained equipment;
- Using appropriate forms for recording sampling data;
- Using calibration and audit gases traceable to the National Institute of Standards and Technology (NIST);
- Controlling errors by checking data inputs and performing redundant calculations;
- Adhering to established protocol.

5.1 BAROMETER

Barometric pressure values for the testing period were recorded from a digital barometer on-site. The barometer is periodically checked by comparison to the National Weather Service readings or to a mercury barometer located in the TRC Field Office in Raleigh, NC. The field barometer reading was corrected for the elevation difference between the barometer location and the test port elevation, if necessary.

5.2 PITOT TUBES

Each Pitot tube used in sampling met the design specifications for Type S Pitot tubes in EPA Method 2 and was assigned a baseline coefficient (C_p) of 0.84.

All pitot tubes were visually inspected at the completion of the test to insure structural integrity. The appropriate calibration form is included in Appendix D.

5.3 DIFFERENTIAL PRESSURE INDICATORS

Calibration was not required for inclined or inclined-vertical gauge-oil manometers. Electronic manometers readings were compared at more than 5 points against an oil manometer of appropriate ranges.

5.4 THERMOCOUPLES AND DIGITAL INDICATORS

Thermocouples were originally calibrated by comparing them against an ASTM-3F mercury-in-glass thermometer at approximately 32°F (ice water), ambient temperature and approximately 212°F (boiling water). A post-test calibration was conducted in accordance with EPA ALT-011 using a single point calibration against an ASTM mercury-in-glass thermometer in addition to a continuity check of the thermocouple. The calibration check is included in Appendix D.

Digital indicators were checked by introducing a series of millivolt signal strengths to the input and comparing the indicator reading with the actual signal strength. Acceptable calibration error does not exceed 0.5 percent when temperatures are expressed in °R.

5.5 CALIBRATION METER AND METERING SYSTEM

The calibration description for the dry gas metering system using critical orifices in lieu of the wet test meter is given in Section 16.2 of EPA Method 5. A leak check of the metering system before calibration was performed as shown in Figure 5.2 of EPA Method 5. The metering system's pump is operated for 5 minutes using the smallest orifice to heat up the pump and system to stabilize the meter inlet and outlet temperatures. Values for the orifice meter setting (delta H), corresponding dry test meter volume (V_d), dry test meter inlet and outlet gas temperatures (t_{di} and t_{dn}), and time were recorded for the initial calibration. The ratio of the critical orifice volume to the dry test meter volume (γ or gamma) and the orifice pressure differential that equates to 0.75 cfm at standard conditions (delta H@) were then calculated. A copy of the metering system calibration is included in Appendix D of this Test Report.

5.6 POST-TEST METER CALIBRATION CHECK

Post-test meter calibrations to determine the γ (or Yqa) were conducted on the dry gas to check their accuracy against the original pretest calibration. This posttest calibration was made using the alternative procedure defined by EPA as ALT-009.

This procedure is performed on-site using the data collected for each of the test runs. It is preferred by EPA because it eliminates the questions about possible meter damage during transport *after* the emission test and, because the calibration data is available in the field immediately following the test, it eliminates the costly travel, remobilization, and scheduling of a retest should the meter fail the posttest calibration. Additionally, the metering system passed the leak check procedure defined in Method 5 Item 5.6. This leak check was performed prior to the metering system use in the field and again at the end of the test program. A copy of the posttest calibration is included in Appendix D of this Test Report. A complete copy of EPA ALT-009 is available from EPA from the EMC website at *http://www.epa.gov/ttn/emc/*.

APPENDIX A
SUMMARY OF RESULTS AND CALCULATIONS

METALS TEST RESULTS
Stericycle - North Salt Lake
Unit 1 Stack
North Salt Lake, UT

	RUN NUMBER	1-M29-1	1-M29-2	1-M29-3	1-M29-4	
	RUN DATE	9/30/2014	9/30/2014	10/1/2014	10/1/2014	AVERAGE
	RUN TIME	920-1342	1435-1853	927-1338	2018-0025	
	MEASURED DATA					
(Y)	Meter Box Y	0.9926	0.9926	0.9926	0.9926	0.9926
(DeltaH)	Avg Delta H, inches H_2O	1.30	1.08	2.18	1.91	1.62
(Pbar)	Barometric Pressure, inches Hg	25.27	25.27	25.34	25.34	25.31
(Vm)	Meter Volume, ft^3	176.820	161.689	222.609	208.427	192.386
(Tm)	Avg Meter Temp, deg F	77	84	75	77	78
(Pg)	Static Pressure, inches H_2O	-0.15	-0.15	-0.15	-0.15	-0.15
(Ts)	Avg Stack Temp, deg F	138	141	146	144	142
(Vlc)	Water Collected, mL	791.9	737.7	805.9	881.6	804.3
(%CO_2)	Carbon Dioxide, %	7.5	7.7	7.9	7.5	7.6
(%O_2)	Oxygen, %	11.7	11.5	11.2	11.6	11.5
(%N_2)	Nitrogen, %	80.8	80.8	81.0	81.0	80.9
(Cp)	Pitot Tube Coefficient	0.84	0.84	0.84	0.84	0.84
(DeltaP)	Avg Sqrt Delta P, (inches H2O)½	0.653	0.626	0.521	0.575	0.594
(Theta)	Sample Time, min	240	240	240	240	240
(Dn)	Nozzle Diameter, inches	0.256	0.256	0.335	0.310	0.289
	CALCULATED DATA					
(An)	Nozzle Area, square feet	3.57E-04	3.57E-04	6.12E-04	5.24E-04	4.63E-04
(Vmstd)	Standard Meter Volume, ft^3	146.282	131.827	185.713	173.274	159.274
(Ps)	Stack Pressure, inches Hg	25.26	25.26	25.33	25.33	25.29
(%H_2O)	Moisture (gravimetrically), %	20.3	20.9	17.0	19.3	19.39
(%H_2Osat)	Moisture (at saturation), %	22.2	23.7	26.7	25.5	24.54
(Bws)	Moisture (actual)	20.3	20.9	17.0	19.3	19.4
(Vwstd)	Standard Water Vapor Volume, ft^3	37.338	34.783	37.998	41.567	37.922
(Mfd)	Dry Mole Fraction	0.797	0.791	0.830	0.807	0.806
(Md)	Molecular Weight-dry, lb/lb-mole	29.67	29.69	29.70	29.66	29.68
(Ms)	Molecular Weight-wet, lb/lb-mole	27.30	27.25	27.71	27.40	27.42
(Vs)	Velocity, ft/s	43.7	42.0	34.8	38.5	39.7
(A)	Stack Area, ft^2	3.34	3.34	3.34	3.34	3.34
(Qa)	Volumetric flow, acfm	8,754	8,425	6,969	7,720	7,967
(Qs)	Volumetric flow, dscfm	5,194	4,945	4,268	4,607	4,754
(I)	Isokinetic Rate, %	109.7	103.9	99.0	99.9	103.1
	MERCURY EMISSIONS DATA					
(fwt)	Formula Weigh, lb/lb-mol	200.59	200.59	200.59	200.59	
(micrograms)	Total Mercury Catch, ug	< 3.3	< 3.3	< 3.4	< 3.6	< 3.4
(ug/dscm)	Concen., ug/dscm	< 0.80	< 0.884	< 0.646	< 0.734	< 0.765
(mg/dscm)	Concen., mg/dscm	< 0.00080	< 0.000884	< 0.000646	< 0.000734	< 0.000765
(mg/dscm@7%O_2)	Concen., mg/dscm@7%O_2	< 0.00121	< 0.00131	< 0.000923	< 0.00109	< 0.00113
(lb/hr)	Emission Rate, lb/hr	< 1.55E-05	< 1.64E-05	< 1.03E-05	< 1.27E-05	< 1.37E-05
	CADMIUM EMISSIONS DATA					
(fwt)	Formula Weigh, lb/lb-mol	112.41	112.41	112.41	112.41	
(micrograms)	Total Cadmium Catch, ug	< 0.6	< 0.9	< 0.6	< 1.5	< 0.900
(ug/dscm)	Concen., ug/dscm	< 0.145	< 0.241	< 0.114	< 0.306	< 0.201
(mg/dscm)	Concen., mg/dscm	< 0.000145	< 0.000241	< 0.000114	< 0.000306	< 0.000201
(mg/dscm@7%O_2)	Concen., mg/dscm@7%O_2	< 0.000219	< 0.000357	< 0.000163	< 0.000455	< 0.000298
(lb/hr)	Emission Rate, lb/hr	< 2.82E-06	< 4.47E-06	< 1.82E-06	< 5.28E-06	< 3.60E-06
	LEAD EMISSIONS DATA					
(fwt)	Formula Weigh, lb/lb-mol	207.19	207.19	207.19	207.19	
(micrograms)	Total Lead Catch, ug	< 1.6	< 1.2	< 0.8	< 0.9	< 1.1
(ug/dscm)	Concen., ug/dscm	< 0.386	< 0.321	< 0.152	< 0.183	< 0.261
(mg/dscm)	Concen., mg/dscm	< 0.000386	< 0.000321	< 0.000152	< 0.000183	< 0.000261
(mg/dscm@7%O_2)	Concen., mg/dscm@7%O_2	< 0.000584	< 0.000476	< 0.000217	< 0.000273	< 0.000388
(lb/hr)	Emission Rate, lb/hr	< 7.51E-06	< 5.95E-06	< 2.43E-06	< 3.17E-06	< 4.77E-06

Example Calculation Page

Stericycle - North Salt Lake
North Salt Lake, UT

SAMPLE CALCULATIONS FOR
METHOD 29

Unit 1 Stack

Test Date: 09/30/14 Test Number: 1-M29-1

1. Volume of dry gas sampled at standard conditions (68 deg F, 29.92 in. Hg), dscf.

$$Vm(std) = \frac{17.64 \times Y \times Vm \times \left(Pb + \frac{delta\ H}{13.6} \right)}{(Tm + 460)}$$

$$Vm(std) = \frac{17.64 \times 0.9926 \times 176.820 \times \left(25.27 + \frac{1.30}{13.6} \right)}{76.9 + 460}$$

$$= 146.282$$

Where:

Vm(std)	=	Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dscf.
Vm	=	Volume of gas sample measured by the dry gas meter at meter conditions, dcf.
Pb	=	Barometric Pressure, in Hg.
delta H	=	Average pressure drop across the orifice meter, in H_20.
Tm	=	Average dry gas meter temperature , deg F.
Y	=	Dry gas meter calibration factor.
17.64	=	Factor that includes ratio of standard temperature (528 deg R) to standard pressure (29.92 in. Hg), deg R/in. Hg.
13.6	=	Specific gravity of mercury.

2. Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vw(std) = 0.04715 x Vwc

Vw(std) = (0.04715 x 791.9)

= 37.338

Where:

Vw(std) = Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vwc = Volume of liquid condensed in impingers, ml.

0.04715 = Factor which includes the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), and 453.6 g/lb, ft^3/g.

3. Moisture content

$$Bws = \frac{Vw(std)}{Vw(std) + Vm(std)}$$

$$Bws = \frac{37.34}{37.34 + 146.282}$$

= 0.203 or 20.3 %

Where:

Bws = Proportion of water vapor, by volume, in the gas stream, dimensionless.

4. Mole fraction of dry gas.

Mfd	=	1 - Bws
Mfd	=	1 - 0.203
	=	0.797

Where:

Mfd	=	Mole fraction of dry gas, dimensionless.

5. Dry molecular weight of gas stream, lb/lb-mole.

Md	=	$(0.440 \times \% CO_2) + (0.320 \times \% O_2) + (0.280 \times (\% N_2 + \% CO))$
Md	=	$(0.440 \times 7.50) + (0.320 \times 11.71) + (0.280 \times (80.78))$
	=	29.67

Where:

Md	=	Dry molecular weight , lb/lb-mole.
$\% CO_2$	=	Percent carbon dioxide by volume, dry basis.
$\% O_2$	=	Percent oxygen by volume, dry basis.
$\% N_2$	=	Percent nitrogen by volume, dry basis.
% CO	=	Percent carbon monoxide by volume, dry basis.
0.440	=	Molecular weight of carbon dioxide, divided by 100.
0.320	=	Molecular weight of oxygen, divided by 100.
0.280	=	Molecular weight of nitrogen or carbon monoxide, divided by 100.

6. Actual molecular weight of gas stream (wet basis), lb/lb-mole.

$$Ms = (Mfd \times Md) + (18 \times (1 - Mfd))$$

$$Ms = (0.797 \times 29.669) + (18 (1 - 0.797))$$

$$= 27.30$$

Where:

Ms = Molecular weight of wet gas, lb/lb-mole.

18 = Molecular weight of water, lb/lb-mole.

7. Average velocity of gas stream at actual conditions, ft/sec.

$$Vs = 85.49 \times Cp \times ((delt\ p)^{1/2})avg \times \left(\frac{Ts\ (avg)}{Ps \times Ms}\right)^{1/2}$$

$$Vs = 85.49 \times 0.84 \times 0.65281 \times \left(\frac{598}{25.26 \times 27.30}\right)\text{^}1/2$$

$$= 43.7$$

Where:

Vs = Average gas stream velocity, ft/sec.

85.49 = Pitot tube constant, ft/sec x $\frac{(lb/lb\text{-}mole)(in.\ Hg)^{1/2}}{(deg\ R)(in\ H2O)}$

Cp = Pitot tube coefficient, dimensionless.

Ts = Absolute gas stream temperature, deg R = Ts, deg F + 460.

Ps = Absolute gas stack pressure, in. Hg. = Pb + $\frac{P(static)}{13.6}$

delt p = Velocity head of stack, in. H_2O.

8. Average gas stream volumetric flowrate at actual conditions, wacf/min.

$$Qa(act) = 60 \times Vs \times As$$

$$Qa(act) = 60 \times 43.67 \times 3.34$$

$$= 8{,}754$$

Where:

Qa(act) = Volumetric flowrate of wet stack gas at actual conditions, wacf/min.

As = Cross-sectional area of stack, ft^2.

60 = Conversion, sec/min

9. Average gas stream dry volumetric flowrate at standard conditions, dscf/min.

$$Qs(std) = 17.64 \times Mfd \times \frac{Ps}{Ts} \times Qa(act)$$

$$Qs(std) = 17.64 \times 0.797 \times \frac{25.26}{598} \times 8754$$

$$= 5{,}194$$

Where:

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/min.

10. Isokinetic variation calculated from intermediate values, percent.

$$I = \frac{17.327 \times Ts \times Vm(std)}{Vs \times \Theta \times Ps \times Mfd \times (Dn)^2}$$

$$I = \frac{17.327 \times 598 \times 146.282}{43.67 \times 240 \times 25.26 \times 0.797 \times (0.256)^2}$$

$$= 109.7$$

Where:

I	=	Percent of isokinetic sampling.
Θ	=	Total sampling time, minutes.
Dn	=	Diameter of nozzle, inches.
17.327	=	Factor which includes standard temperature (528 deg R), standard pressure (29.92 in. Hg), the formula for calculating area of circle $D^{2/4}$, conversion of square feet to square inches (144), conversion of seconds to minutes (60), and conversion to percent (100), $\frac{(in.\ Hg)(in^2)(min)}{(deg\ R)(ft^2)(sec)}$

11. Mercury Concentration, mg/dscm.

$$C\ (mg/dscm) = \frac{Mt/1000}{Vm(std) \times 0.02832}$$

$$C\ (mg/dscm) = \frac{3.30E\text{-}03}{146.282 \times 0.02832}$$

$$C\ (mg/dscm) = 0.000797$$

Where:

C (mg/dscm)	=	Total mercury concentration, mg/dscm.
Mt	=	Total mass of Mercury (Front-half and back-half fractions) caught by train, ug
0.02832	=	Conversion factor from cubic feet to cubic meters.

12. Corrected Mercury Concentration, mg/dscm@7% O_2

$$C\ (mg/dscm\ @\ 7\%) = mg/dscm \times \frac{20.9 - 7}{20.9 - \%O_2}$$

$$C\ (mg/dscm\ @\ 7\%) = 0.00080 \times \frac{13.9}{20.9 - 11.7}$$

$$C\ (mg/dscm\ @\ 7\%) = 0.00121$$

Where:

C (mg/dscm @ 7%) = Corrected mercury Concentration, mg/dscm @7% O_2

$\%O_2$ = Measured Concentration of Oxygen, %

Stericycle-North Salt Lake
North Salt Lake, UT

Unit 1 Stack

METHOD 23 RESULTS SUMMARY

TEST DATA:				
Run number	1-M23-1	1-M23-2	1-M23-3	AVERAGE
Date	9/30/2014	9/30/2014	10/1/2014	
Time period	919-1342	1435-1853	927-1338	
SAMPLING DATA:				
Sampling duration, min.	240	240	240	240
Nozzle diameter, in.	0.257	0.260	0.306	0.274
Cross sectional nozzle area, sq.ft.	3.60E-04	3.69E-04	5.11E-04	4.13E-04
Barometric pressure, in. Hg	25.27	25.27	25.34	25.29
Avg. orifice press. diff. Delta H, in H_2O	1.35	1.23	1.69	1.42
Avg. dry gas meter temp., F	72.0	78.8	70.9	73.9
Avg. abs. dry gas meter temp., R	532	539	531	534
Volume H_2O imp. (ml)	808.7	777.4	700.6	762.2
Std. vol. of H_2O vapor coll., cu.ft.	38.13	36.65	33.03	35.94
Dry gas meter calibration factor	0.9820	0.9820	0.9820	0.9820
Sample vol. at meter cond., dcf	174.338	164.424	189.527	176.096
Sample vol. at std. cond., dscf	144.008	134.052	157.485	145.182
Percent of isokinetic sampling	106.4	99.9	97.4	101.2
GAS STREAM COMPOSITION DATA:				
CO_2, % by volume, dry basis	7.5	7.7	7.9	7.7
O_2, % by volume, dry basis	11.7	11.5	11.2	11.5
N_2, % by volume, dry basis	80.8	80.8	81.0	80.9
Molecular wt. of dry gas, lb/lb mole	29.67	29.69	29.70	29.69
Moisture (gravimetrically), %	0.209	0.215	0.173	0.20
Moisture (at saturation), %	0.203	0.216	0.245	0.22
H_2O vapor in gas stream, prop. by vol.	0.203	0.215	0.173	0.197
Mole fraction of dry gas	0.797	0.785	0.827	0.803
Molecular wt. of wet gas, lb/lb mole	27.30	27.18	27.67	27.38
GAS STREAM VELOCITY AND VOLUMETRIC FLOW DATA:				
Sq. rt. delta P	0.66	0.64	0.54	0.61
Static pressure, in. H_2O	-0.15	-0.15	-0.15	-0.15
Static pressure, in. Hg	-0.011	-0.011	-0.011	-0.011
Absolute pressure, in. Hg	25.26	25.26	25.33	25.28
Avg. Stack temperature, F	135	137	142	138
Avg. absolute temperature, R	595	597	602	598
Pitot tube coefficient	0.84	0.84	0.84	0.84
Total number of traverse points	48	48	48	48
Avg. gas stream velocity, ft./sec.	43.7	43.1	35.9	40.9
Stack/duct cross sectional area, sq.ft.	3.34	3.34	3.34	3.34
Avg. gas stream volumetric flow, wacf/min.	8,770	8,650	7,190	8,203
Avg. gas stream volumetric flow, dscf/min.	5,230	5,070	4,410	4,903

Stericycle-North Salt Lake
SUMMARY - PCDD/PCDF RESULTS

Unit 1 Stack
North Salt Lake, UT

Run Number	1-M23-1	1-M23-2	1-M23-3	AVERAGE
Test Date	9/30/2014	9/30/2014	10/1/2014	
Run Time	919-1342	1435-1853	927-1338	
Test Data				
Volume Gas Sampled, dscf	144.008	134.052	157.485	145.182
Volume Gas Sampled, dscm	4.078	3.796	4.459	4.111
Temperature, Degrees F	135	137	142	138
Moisture, %	20.3	21.5	17.3	19.7
Volumetric Flow Rates				
Actual, acfm	8,770	8,650	7,190	8,203
Standard, dscfm	5,230	5,070	4,410	4,903
Percent Isokinetic, %	106.4	99.9	97.4	101.2
PCDD/PCDF Results, nanograms/cubic meter				
2,3,7,8-TCDD	< 0.00035	< 0.000285	~ 0.000500	< 0.00038
1,2,3,7,8-PeCDD	~ 0.00081	~ 0.000759	0.001343	~ 0.00097
1,2,3,4,7,8-HxCDD	< 0.00038	~ 0.000506	~ 0.000677	< 0.00052
1,2,3,6,7,8-HxCDD	0.00054	~ 0.00064	0.00090	~ 0.00070
1,2,3,7,8,9-HxCDD	~ 0.00074	~ 0.00071	0.00091	~ 0.00079
1,2,3,4,6,7,8-HpCDD	~ 0.00192	~ 0.0018	0.0026	~ 0.0021
OCDD	~ 0.0042	0.0069	0.0046	~ 0.0052
Total TCDD	0.0035	0.0028	0.0078	0.0047
Total PeCDD	0.0044	0.0058	0.0155	0.0086
Total HxCDD	0.0068	0.0071	0.0095	0.0078
Total HpCDD	0.0021	0.0023	0.0054	0.0033
2,3,7,8-TCDF	~ 0.00103	0.00138	0.00285	~ 0.00175
1,2,3,7,8-PeCDF	0.00346	0.00337	0.006436	0.00442
2,3,4,7,8-PeCDF	0.00500	0.00450	0.00805	0.00585
1,2,3,4,7,8-HxCDF	0.00459	0.00548	0.00673	0.00560
1,2,3,6,7,8-HxCDF	0.00422	0.00485	0.00706	0.00538
2,3,4,6,7,8-HxCDF	0.00309	0.00366	0.00522	0.00399
1,2,3,7,8,9-HxCDF	< 0.00042	< 0.000422	< 0.000433	< 0.000425
1,2,3,4,6,7,8-HpCDF	0.00360	0.00801	0.00749	0.00637
1,2,3,4,7,8,9-HpCDF	< 0.00053	~ 0.001370	0.000700	< 0.00087
OCDF	~ 0.00141	0.00614	0.00224	~ 0.00326
Total TCDF	0.031	0.0350	0.1415	0.069
Total PeCDF	0.0645	0.0577	0.1334	0.0852
Total HxCDF	0.0427	0.0479	0.0722	0.0543
Total HpCDF	0.00451	0.01164	0.0114	0.00918
Total PCDD/PCDF	< 0.160	< 0.183	< 0.404	< 0.249

< - indicates the compound was not detected; the value presented is a "less than" value

Stericycle-North Salt Lake
SUMMARY - PCDD/PCDF RESULTS

Unit 1 Stack
North Salt Lake, UT

Run Number	1-M23-1	1-M23-2	1-M23-3	AVERAGE
Test Date	9/30/2014	9/30/2014	10/1/2014	
Run Time	919-1342	1435-1853	927-1338	
Test Data				
Volume Gas Sampled, dscf	144.008	134.052	157.485	145.182
Volume Gas Sampled, dscm	4.078	3.796	4.459	4.111
Temperature, Degrees F	135	137	142	138
Moisture, %	20.3	21.5	17.3	19.7
Volumetric Flow Rates				
Actual, acfm	8,770	8,650	7,190	8,203
Standard, dscfm	5,230	5,070	4,410	4,903
Percent Isokinetic, %	106.4	99.9	97.4	101.2
PCDD/PCDF Results, nanograms/cubic meter @ 7% O_2				
2,3,7,8-TCDD	< 0.00052	< 0.00042	~ 0.000712	< 0.00055
1,2,3,7,8-PeCDD	~ 0.00122	~ 0.00112	0.00191	~ 0.00142
1,2,3,4,7,8-HxCDD	< 0.00058	~ 0.000746	~ 0.00096	< 0.00076
1,2,3,6,7,8-HxCDD	0.00082	~ 0.00094	0.00129	~ 0.00102
1,2,3,7,8,9-HxCDD	~ 0.00111	~ 0.00105	0.00129	~ 0.00115
1,2,3,4,6,7,8-HpCDD	~ 0.0029	~ 0.0027	0.0037	~ 0.0031
OCDD	~ 0.0064	0.0102	0.0065	~ 0.0077
Total TCDD	0.0053	0.0041	0.0112	0.0069
Total PeCDD	0.0066	0.0086	0.0220	0.0124
Total HxCDD	0.0102	0.0105	0.014	0.0114
Total HpCDD	0.0032	0.0033	0.0076	0.0047
2,3,7,8-TCDF	~ 0.00155	0.00204	0.00405	~ 0.00255
1,2,3,7,8-PeCDF	0.00521	0.00497	0.00916	0.00645
2,3,4,7,8-PeCDF	0.00754	0.00664	0.01146	0.00855
1,2,3,4,7,8-HxCDF	0.00691	0.00808	0.00958	0.00819
1,2,3,6,7,8-HxCDF	0.00636	0.00715	0.01006	0.00786
2,3,4,6,7,8-HxCDF	0.00466	0.00540	0.00744	0.00583
1,2,3,7,8,9-HxCDF	< 0.00063	< 0.000622	< 0.000616	< 0.00062
1,2,3,4,6,7,8-HpCDF	0.00543	0.01181	0.01066	0.00930
1,2,3,4,7,8,9-HpCDF	< 0.00080	~ 0.00202	0.000996	< 0.00127
OCDF	~ 0.00212	0.00905	0.00319	~ 0.00479
Total TCDF	0.047	0.052	0.201	0.100
Total PeCDF	0.0972	0.0851	0.1900	0.1241
Total HxCDF	0.0643	0.0707	0.1028	0.0793
Total HpCDF	0.00680	0.01717	0.01622	0.01340
Total PCDD/PCDF	< 0.241	< 0.270	< 0.575	< 0.362

< - indicates the compound was not detected; the value presented is a "less than" value

Stericycle-North Salt Lake
SUMMARY - PCDD/PCDF RESULTS

Unit 1 Stack
North Salt Lake, UT

Run Number	1-M23-1	1-M23-2	1-M23-3	AVERAGE
Test Date	9/30/2014	9/30/2014	10/1/2014	
Run Time	919-1342	1435-1853	927-1338	
Test Data				
Volume Gas Sampled, dscf	144.008	134.052	157.485	145.182
Volume Gas Sampled, dscm	4.078	3.796	4.459	4.111
Temperature, Degrees F	135	137	142	138
Moisture, %	20.3	21.5	17.3	19.7
Volumetric Flow Rates				
Actual, acfm	8,770	8,650	7,190	8,203
Standard, dscfm	5,230	5,070	4,410	4,903
Percent Isokinetic, %	106.4	99.9	97.4	101.2
PCDD/PCDF Results, lb/hr				
2,3,7,8-TCDD	< 6.8E-12	< 5.4E-12	~ 8.3E-12	< 6.8E-12
1,2,3,7,8-PeCDD	~ 1.6E-11	~ 1.4E-11	2.2E-11	~ 1.8E-11
1,2,3,4,7,8-HxCDD	< 7.5E-12	~ 9.6E-12	~ 1.1E-11	< 9.4E-12
1,2,3,6,7,8-HxCDD	1.1E-11	~ 1.2E-11	1.5E-11	~ 1.3E-11
1,2,3,7,8,9-HxCDD	~ 1.4E-11	~ 1.4E-11	1.5E-11	~ 1.4E-11
1,2,3,4,6,7,8-HpCDD	~ 3.8E-11	~ 3.5E-11	4.3E-11	~ 3.9E-11
OCDD	~ 8.3E-11	1.3E-10	7.5E-11	~ 9.7E-11
Total TCDD	6.9E-11	5.3E-11	1.3E-10	8.4E-11
Total PeCDD	8.6E-11	1.1E-10	2.6E-10	1.5E-10
Total HxCDD	1.3E-10	1.4E-10	1.6E-10	1.4E-10
Total HpCDD	4.2E-11	4.3E-11	8.9E-11	5.8E-11
2,3,7,8-TCDF	~ 2.0E-11	2.6E-11	4.7E-11	~ 3.1E-11
1,2,3,7,8-PeCDF	6.8E-11	6.4E-11	1.1E-10	7.9E-11
2,3,4,7,8-PeCDF	9.8E-11	8.6E-11	1.3E-10	1.1E-10
1,2,3,4,7,8-HxCDF	9.0E-11	1.0E-10	1.1E-10	1.0E-10
1,2,3,6,7,8-HxCDF	8.3E-11	9.2E-11	1.2E-10	9.7E-11
2,3,4,6,7,8-HxCDF	6.1E-11	7.0E-11	8.6E-11	7.2E-11
1,2,3,7,8,9-HxCDF	< 8.2E-12	< 8.0E-12	< 7.1E-12	< 7.8E-12
1,2,3,4,6,7,8-HpCDF	7.1E-11	1.5E-10	1.2E-10	1.2E-10
1,2,3,4,7,8,9-HpCDF	< 1.0E-11	~ 2.6E-11	1.2E-11	< 1.6E-11
OCDF	~ 2.8E-11	1.2E-10	3.7E-11	~ 6.0E-11
Total TCDF	6.1E-10	6.7E-10	2.3E-09	1.2E-09
Total PeCDF	1.3E-09	1.1E-09	2.2E-09	1.5E-09
Total HxCDF	8.4E-10	9.1E-10	1.2E-09	9.8E-10
Total HpCDF	8.8E-11	2.2E-10	1.9E-10	1.7E-10
Total PCDD/PCDF	< 3.1E-09	< 3.5E-09	< 6.7E-09	< 4.42E-09

< - indicates the compound was not detected; the value presented is a "less than" value

Stericycle-North Salt Lake
SUMMARY - PCDD/PCDF TEQ RESULTS

Unit 1 Stack
North Salt Lake, UT

Run Number	1-M23-1	1-M23-2	1-M23-3	AVERAGE
Test Date	9/30/2014	9/30/2014	10/1/2014	
Run Time	919-1342	1435-1853	927-1338	
Test Data				
Volume Gas Sampled, dscf	144.008	134.052	157.485	145.182
Volume Gas Sampled, dscm	4.078	3.796	4.459	4.111
Temperature, Degrees F	135	137	142	138
Moisture, %	20.3	21.5	17.3	19.7
Volumetric Flow Rates				
Actual, acfm	8,770	8,650	7,190	8,203
Standard, dscfm	5,230	5,070	4,410	4,903
Percent Isokinetic, %	106.4	99.9	97.4	101.2
PCDD/PCDF TEQ Results, nanograms/cubic meter				
Total PCDD/PCDF TEQ (ND = 0; EMPC = 0)	0.00395	0.00406	0.00749	0.00517
Total PCDD/PCDF TEQ (ND = DL; EMPC = EMPC)	0.00498	0.00498	0.00812	0.00603

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Stericycle-North Salt Lake
SUMMARY - PCDD/PCDF TEQ RESULTS

Unit 1 Stack
North Salt Lake, UT

Run Number	1-M23-1	1-M23-2	1-M23-3	AVERAGE
Test Date	9/30/2014	9/30/2014	10/1/2014	
Run Time	919-1342	1435-1853	927-1338	
Test Data				
Volume Gas Sampled, dscf	144.008	134.052	157.485	145.182
Volume Gas Sampled, dscm	4.078	3.796	4.459	4.111
Temperature, Degrees F	135	137	142	138
Moisture, %	20.3	21.5	17.3	19.7
Volumetric Flow Rates				
Actual, acfm	8,770	8,650	7,190	8,203
Standard, dscfm	5,230	5,070	4,410	4,903
Percent Isokinetic, %	106.4	99.9	97.4	101.2
PCDD/PCDF TEQ Results, nanograms/cubic meter @7%O2				
Total PCDD/PCDF TEQ (ND = 0; EMPC = 0)	0.00595	0.00598	0.0107	0.00753
Total PCDD/PCDF TEQ (ND = DL; EMPC = EMPC)	0.00751	0.00734	0.0116	0.00880

Stericycle-North Salt Lake
SUMMARY - PCDD/PCDF TEQ RESULTS

Unit 1 Stack
North Salt Lake, UT

Run Number	1-M23-1	1-M23-2	1-M23-3	AVERAGE
Test Date	9/30/2014	9/30/2014	10/1/2014	
Run Time	919-1342	1435-1853	927-1338	
Test Data				
Volume Gas Sampled, dscf	144.008	134.052	157.485	145.182
Volume Gas Sampled, dscm	4.078	3.796	4.459	4.111
Temperature, Degrees F	135	137	142	138
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Standard, dscfm	5,230	5,070	4,410	4,903
Percent Isokinetic, %	106.4	99.9	97.4	101.2
PCDD/PCDF Results, lb/hr				
Total PCDD/PCDF TEQ (ND = 0; EMPC = 0)	7.7E-11	7.7E-11	1.2E-10	9.3E-11
Total PCDD/PCDF TEQ (ND = DL; EMPC = EMPC)	9.8E-11	9.5E-11	1.3E-10	1.1E-10

< - indicates the compound was not detected; the value presented is a "less than" value

Example Calculation Page

Stericycle-North Salt Lake
North Salt Lake, UT

SAMPLE CALCULATIONS FOR METHOD 23 (Dioxins and Furans)

Unit 1 Stack

Test Date: 9/30/14 Test Number: 1-M23-1

1. Volume of dry gas sampled at standard conditions (68 deg F, 29.92 in. Hg), dscf.

$$Vm(std) = \frac{17.64 \times Y \times Vm \times \left(Pb + \frac{\text{delta H}}{13.6} \right)}{(Tm + 460)}$$

$$Vm(std) = \frac{17.64 \times 0.9820 \times 174.338 \times \left(25.27 + \frac{1.354}{13.6} \right)}{72.0 + 460}$$

$$= 144.008$$

Where:

Vm(std)	=	Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dscf.
Vm	=	Volume of gas sample measured by the dry gas meter at meter conditions, dcf.
Pb	=	Barometric Pressure, in Hg.
delta H	=	Average pressure drop across the orifice meter, in H_20.
Tm	=	Average dry gas meter temperature , deg F.
Y	=	Dry gas meter calibration factor.
17.64	=	Factor that includes ratio of standard temperature (528 deg R) to standard pressure (29.92 in. Hg), deg R/in. Hg.
13.6	=	Specific gravity of mercury.

2. Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vw(std) = 0.04715 x Vwc

Vw(std) = (0.04715 x 808.7)

= 38.130

Where:

Vw(std) = Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vwc = Volume of liquid condensed in impingers, ml.

Wwsg = Weight of water vapor collected in silica gel, g.

0.04707 = Factor which includes the density of water (0.002201 lb/ml), the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), ft^3/ml.

0.04715 = Factor which includes the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), and 453.6 g/lb, ft^3/g.

3. Moisture content

$$Bws = \frac{Vw(std)}{Vw(std) + Vm(std)}$$

$$Bws = \frac{38.13}{38.13 + 144.008}$$

= 0.209

= 0.203 (saturation)

Where:

Bws = Proportion of water vapor, by volume, in the gas stream, dimensionless.

4. Mole fraction of dry gas.

Mfd	=	1 - Bws
Mfd	=	1 - 0.203
	=	0.791

Where:

Mfd	=	Mole fraction of dry gas, dimensionless.

5. Dry molecular weight of gas stream, lb/lb-mole.

Md	=	$(0.440 \times \% CO_2) + (0.320 \times \% O_2) + (0.280 \times (\% N_2 + \% CO))$
Md	=	$(0.440 \times 7.50) + (0.320 \times 11.71) + (0.280 \times (80.78 + 0.00))$
	=	29.67

Where:

Md	=	Dry molecular weight , lb/lb-mole.
$\% CO_2$	=	Percent carbon dioxide by volume, dry basis.
$\% O_2$	=	Percent oxygen by volume, dry basis.
$\% N_2$	=	Percent nitrogen by volume, dry basis.
% CO	=	Percent carbon monoxide by volume, dry basis.
0.440	=	Molecular weight of carbon dioxide, divided by 100.
0.320	=	Molecular weight of oxygen, divided by 100.
0.280	=	Molecular weight of nitrogen or carbon monoxide, divided by 100.

6. Actual molecular weight of gas stream (wet basis), lb/lb-mole.

Ms	=	$(Md \times Mfd) + (18 \times (1 - Mfd))$
Ms	=	$(29.67 \times 0.797) + (18 (1 - 0.797))$
	=	27.23

Where:

Ms	=	Molecular weight of wet gas, lb/lb-mole.
18	=	Molecular weight of water, lb/lb-mole.

7. Average velocity of gas stream at actual conditions, ft/sec.

$$Vs = 85.49 \times Cp \times ((\text{delt } p)^{1/2})avg \times \left(\frac{Ts\ (avg)}{Ps \times Ms} \right)^{1/2}$$

$$Vs = 85.49 \times 0.84 \times 0.65581 \times \left(\frac{595}{25.26 \times 27.30} \right)^{1/2}$$

$$= 43.8$$

Where:

Vs = Average gas stream velocity, ft/sec.

85.49 = Pitot tube constant, ft/sec x $\frac{(\text{lb/lb-mole})(\text{in. Hg})^{1/2}}{(\text{deg R})(\text{in H2O})}$

Cp = Pitot tube coefficient, dimensionless.

Ts = Absolute gas stream temperature, deg R = Ts, deg F + 460.

Ps = Absolute gas stack pressure, in. Hg. = Pb + $\frac{P(\text{static})}{13.6}$

delt p = Velocity head of stack, in. H_2O.

8. Average gas stream volumetric flowrate at actual conditions, wacf/min.

$$Qs(act) = 60 \times Vs \times As$$

$$Qs(act) = 60 \times 43.75 \times 3.34$$

$$= 8{,}770$$

Where:

Qs(act) = Volumetric flowrate of wet stack gas at actual conditions, wacf/min.

As = Cross-sectional area of stack, ft^2.

60 = Conversion, sec/min

9. Average gas stream dry volumetric flowrate at standard conditions, dscf/min.

$$Qs(std) = 17.64 \times Mfd \times \frac{Ps}{Ts} \times Qs(act)$$

$$Qs(std) = 17.64 \times 0.797 \times \frac{25.26}{595} \times 8770$$

$$= 5{,}230$$

Where:

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/min.

10. Isokinetic variation calculated from intermediate values, percent.

$$I = \frac{17.327 \times Ts \times Vm(std)}{Vs \times O \times Ps \times Md \times (Dn)^2}$$

$$I = \frac{17.327 \times 595 \times 144.008}{43.75 \times 240 \times 25.26 \times 0.797 \times (0.257)^2} = 106.4$$

Where:

I = Percent of isokinetic sampling.

O = Total sampling time, minutes.

Dn = Diameter of nozzle, inches.

17.327 = Factor which includes standard temperature (528 deg R), standard pressure (29.92 in. Hg), the formula for calculating area of circle $D^{2/4}$, conversion of square feet to square inches (144), conversion of seconds to minutes (60), and conversion to percent (100), $\frac{(in.\ Hg)(in^2)(min)}{(deg\ R)(ft^2)(sec)}$

11. Total TCDD Concentration, ng/m^3.

$$C1 = \frac{Mt}{Vm(std) \times 0.028316}$$

$$C1 = \frac{1.43E+01}{144.008 \times 0.028316}$$

$$C1 = 3.507$$

Where:

C1	=	Total TCDD concentration, lb/dscf.
Mt	=	Total weight of Total TCDD caught by train,ng
0.028316	=	Conversion factor from ft^3 to m^3.

12. TCDD mass emission rate, lbs/hr.

$$PMRt = \frac{C1 \times 0.028316 \times Qs(std) \times 60}{453.59 \times 10^9}$$

$$PMRt = \frac{3.5069 \times 0.02832 \times 5230 \times 60}{453.59 \times 1000000000}$$

$$= 6.9E-08$$

Where:

PMRt	=	Total TCDD mass emission rate, lbs/hr.
0.028316	=	Conversion factor relating m^3 to ft^3
453.59	=	Conversion factor relating grams to pounds
1000000000	=	Conversion factor relating nanograms (ng) to grams

FILTERABLE PARTICULATE MATTER TEST RESULTS
Stericycle
Unit 1 Stack
North Salt Lake, UT

	RUN NUMBER	1-M5-1	1-M5-2	1-M5-3	
	RUN DATE	10/1/2014	10/1/2014	10/1/2014	AVERAGE
	RUN TIME	1435-1543	1635-1741	1813-1919	
	MEASURED DATA				
(Y)	Meter Box Y	0.9926	0.9926	0.9926	0.9926
(DeltaH)	Avg Delta H, inches H_2O	2.01	1.74	1.97	1.90
(Pbar)	Barometric Pressure, inches Hg	25.34	25.34	25.34	25.34
(Vm)	Meter Volume, ft^3	53.337	49.801	52.972	52.037
(Tm)	Avg Meter Temp, deg F	82	81	82	82
(Pg)	Static Pressure, inches H_2O	-0.15	-0.15	-0.15	-0.15
(Ts)	Avg Stack Temp, deg F	145	150	150	148
(Vlc)	Water Collected, mL	209.8	220.1	239.4	223.1
(%CO_2)	Carbon Dioxide, %	7.9	7.9	7.7	7.8
(%O_2)	Oxygen, %	10.9	10.9	11.3	11.0
(%N_2)	Nitrogen, %	81.1	81.2	81.0	81.1
(Cp)	Pitot Tube Coefficient	0.84	0.84	0.84	0.84
(DeltaP)	Avg Sqrt Delta P, (inches H2O)½	0.577	0.529	0.580	0.562
(Theta)	Sample Time, min	60	60	60	60
(Dn)	Nozzle Diameter, inches	0.310	0.310	0.310	0.310
	CALCULATED DATA				
(An)	Nozzle Area, square feet	5.24E-04	5.24E-04	5.24E-04	5.24E-04
(Vmstd)	Standard Meter Volume, ft^3	43.950	41.017	43.638	42.869
(Ps)	Stack Pressure, inches Hg	25.33	25.33	25.33	25.33
(Vwstd)	Standard Water Vapor Volume, ft^3	9.892	10.378	11.288	10.519
(%H_2O)	Moisture (gravimetrically), %	18.4	20.2	20.6	19.7
(%H_2Osat)	Moisture (at saturation), %	26.1	29.6	29.5	28.4
(Bws)	Moisture (actual)	18.4	20.2	20.6	19.7
(Mfd)	Dry Mole Fraction	0.816	0.798	0.794	0.803
(Md)	Molecular Weight-dry, lb/lb-mole	29.71	29.70	29.69	29.70
(Ms)	Molecular Weight-wet, lb/lb-mole	27.56	27.34	27.28	27.39
(Vs)	Velocity, ft/s	38.6	35.6	39.1	37.8
(A)	Stack Area, ft^2	3.34	3.34	3.34	3.34
(%EA)	Percent Excess Air	104.1	103.6	112.2	106.6
(Qa)	Volumetric flow, acfm	7,729	7,142	7,841	7,570
(Qs)	Volumetric flow, dscfm	4,662	4,177	4,566	4,468
(I)	Isokinetic Rate, %	100.2	104.3	101.6	102.0
	FILTERABLE PARTICULATE EMISSIONS DATA				
(grams)	Filter Catch, g	0.0025	0.0024	0.0026	0.0025
(grams)	Probe Wash Catch, g	0.0014	0.0007	0.0007	0.0009
(grams)	Total Filterable Particulate Catch, g	0.0039	0.0031	0.0033	0.0034
(mg/dscm)	Concen., mg/dscm	3.13	2.67	2.67	2.82
(mg/dscm@7%O2)	Concen., mg/dscm@7% Oxygen	4.37	3.71	3.87	3.98
(gr/dscf)	Concen., gr/dscf	0.00137	0.00117	0.00117	0.00123
(gr/dscf@7%O2)	Concen., gr/dscf@7% Oxygen	0.00191	0.00162	0.00169	0.00174
(lb/hr)	Emission Rate, lb/hr	0.0547	0.0418	0.0457	0.0474

Example Calculation Page

Stericycle
North Salt Lake, UT

SAMPLE CALCULATIONS FOR
METHOD 5/202

Unit 1 Stack

Test Date: 10/1/2014 Test Number: 1-M5-1

1. Volume of dry gas sampled at standard conditions (68 deg F, 29.92 in. Hg), dscf.

$$Vm(std) = \frac{17.64 \times Y \times Vm \times \left(Pb + \frac{delta\ H}{13.6} \right)}{(Tm + 460)}$$

$$Vm(std) = \frac{17.64 \times 0.9926 \times 53.337 \times \left(25.34 + \frac{1.74}{13.6} \right)}{81.6 + 460}$$

$$= 43.950$$

Where:

Vm(std)	=	Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dscf.
Vm	=	Volume of gas sample measured by the dry gas meter at meter conditions, dcf.
Pb	=	Barometric Pressure, in Hg.
delt H	=	Average pressure drop across the orifice meter, in H_2O.
Tm	=	Average dry gas meter temperature , deg F.
Y	=	Dry gas meter calibration factor.
17.64	=	Factor that includes ratio of standard temperature (528 deg R) to standard pressure (29.92 in. Hg), deg R/in. Hg.
13.6	=	Specific gravity of mercury.

2. Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vw(std) = 0.04715 x Vwc

Vw(std) = (0.04715 x 209.8)

= 9.892

Where:

Vw(std) = Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vwc = Volume of liquid condensed in impingers, ml.

0.04715 = Factor which includes the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), and 453.6 g/lb, ft^3/g.

3. Moisture content

$$Bws = \frac{Vw(std)}{Vw(std) + Vm(std)}$$

$$Bws = \frac{9.89}{9.89 + 43.950}$$

= 0.184 or 18.4 %

Where:

Bws = Proportion of water vapor, by volume, in the gas stream, dimensionless.

4. Mole fraction of dry gas.

Mfd = 1 - Bws

Mfd = 1 - 0.184

= 0.816

Where:

Mfd = Mole fraction of dry gas, dimensionless.

5. Dry molecular weight of gas stream, lb/lb-mole.

$$Md = (0.440 \times \% CO_2) + (0.320 \times \% O_2) + (0.280 \times (\% N_2 + \% CO))$$

$$Md = (0.440 \times 7.93) + (0.320 \times 10.93) + (0.280 \times (81.14))$$

$$= 29.71$$

Where:

Md	=	Dry molecular weight , lb/lb-mole.
$\% CO_2$	=	Percent carbon dioxide by volume, dry basis.
$\% O_2$	=	Percent oxygen by volume, dry basis.
$\% N_2$	=	Percent nitrogen by volume, dry basis.
% CO	=	Percent carbon monoxide by volume, dry basis.
0.440	=	Molecular weight of carbon dioxide, divided by 100.
0.320	=	Molecular weight of oxygen, divided by 100.
0.280	=	Molecular weight of nitrogen or carbon monoxide, divided by 100.

6. Actual molecular weight of gas stream (wet basis), lb/lb-mole.

$$Ms = (Mfd \times Md) + (18 \times (1 - Mfd))$$

$$Ms = (0.816 \times 29.706) + (18 (1 - 0.816))$$

$$= 27.56$$

Where:

Ms	=	Molecular weight of wet gas, lb/lb-mole.
18	=	Molecular weight of water, lb/lb-mole.

7. Average velocity of gas stream at actual conditions, ft/sec.

$$Vs = 85.49 \times Cp \times ((delt\ p)^{1/2})avg \times \left(\frac{Ts\ (avg)}{Ps \times Ms}\right)^{1/2}$$

$$Vs = 85.49 \times 0.84 \times 0.577 \times \left(\frac{605}{25.33 \times 27.56}\right)^{\wedge}1/2$$

$$= 38.6$$

Where:

Vs = Average gas stream velocity, ft/sec.

85.49 = Pitot tube constant, ft/sec x $\frac{(lb/lb\text{-}mole)(in.\ Hg)^{1/2}}{(deg\ R)(in\ H2O)}$

Cp = Pitot tube coefficient, dimensionless.

Ts = Absolute gas stream temperature, deg R = Ts, deg F + 460.

Ps = Absolute gas stack pressure, in. Hg. = Pb + $\frac{P(static)}{13.6}$

delt p = Velocity head of stack, in. H_2O.

8. Average gas stream volumetric flowrate at actual conditions, wacf/min.

$$Qa(act) = 60 \times Vs \times As$$

$$Qa(act) = 60 \times 38.55 \times 3.34$$

$$= 7{,}729$$

Where:

Qa(act) = Volumetric flowrate of wet stack gas at actual conditions, wacf/min.

As = Cross-sectional area of stack, ft^2.

60 = Conversion, sec/min

9. Average gas stream dry volumetric flowrate at standard conditions, dscf/min.

$$Qs(std) = 17.64 \times Mfd \times \frac{Ps}{Ts} \times Qa(act)$$

$$Qs(std) = 17.64 \times 0.816 \times \frac{25.33}{605} \times 7729$$

$$= 4{,}662$$

Where:

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/min.

10. Isokinetic variation calculated from intermediate values, percent.

$$I = \frac{17.327 \times Ts \times Vm(std)}{Vs \times \Theta \times Ps \times Mfd \times (Dn)^2}$$

$$I = \frac{17.327 \times 605 \times 43.950}{38.55 \times 60 \times 25.33 \times 0.816 \times (0.310)^2} = 100.2$$

Where:

I = Percent of isokinetic sampling.

Θ = Total sampling time, minutes.

Dn = Diameter of nozzle, inches.

17.327 = Factor which includes standard temperature (528 deg R), standard pressure (29.92 in. Hg), the formula for calculating area of circle $D^{2/4}$, conversion of square feet to square inches (144), conversion of seconds to minutes (60), and conversion to percent (100), $\frac{(in.\ Hg)(in^2)(min)}{(deg\ R)(ft^2)(sec)}$

11. Filterable Particulate Concentration, lb/dscf.

$$C\ (lb/dscf) = \frac{Mt}{Vm(std) \times 453.59}$$

$$C\ (lb/dscf) = \frac{3.90E\text{-}03}{43.950 \times 453.59}$$

C (lb/dscf) = 1.96E-07

Where:

C (lb/dscf)	=	Total Particulate concentration, lb/dscf.
Mt	=	Total mass of Particulate (both filterable and condensible) caught by train, g
453.59	=	Conversion factor from grams to pounds.

12. Filterable Particulate Concentration, gr/dscf.

$$C\ (gr/dscf) = \frac{Mt \times 15.432}{Vm(std)}$$

$$C\ (gr/dscf) = \frac{0.0039 \times 15.432}{43.950}$$

C (gr/dscf) = 0.00137

Where:

C (gr/dscf)	=	Total Particulate concentration, grains/dscf.
Mt	=	Total mass of Particulate (both filterable and condensible) caught by train, g
15.432	=	Conversion factor from grams to grains.

13. Filterable Particulate Concentration, mg/dscm.

$$C\ (mg/dscm) = \frac{Mt \times 1000}{Vmstd \times 0.02832 \times 1000}$$

$$C\ (mg/dscm) = \frac{3.9}{43.950 \times 0.02832}$$

= 3.13

Where:

C (mg/dscm)	=	Total Particulate concentration, milligrams/dry standard cubic meter.

HYDROGEN CHLORIDE TEST RESULTS
Stericycle-North Salt Lake
Unit 1 Stack
North Salt Lake, UT

	RUN NUMBER	1-M26A-1	1-M26A-2	1-M26A-3	AVERAGE
	RUN DATE	10/1/2014	10/1/2014	10/1/2014	
	RUN TIME	1435-1543	1635-1741	1813-1919	
	MEASURED DATA				
(Y)	Meter Box Y	0.9820	0.9820	0.9820	0.9820
(DeltaH)	Avg Delta H, inches H_2O	2.16	1.74	2.00	1.96
(Pbar)	Barometric Pressure, inches Hg	25.34	25.34	25.34	25.34
(Vm)	Meter Volume, ft^3	53.014	47.712	51.475	50.734
(Tm)	Avg Meter Temp, deg F	80	81	81	81
(Pg)	Static Pressure, inches H_2O	-0.15	-0.13	-0.15	-0.14
(Ts)	Avg Stack Temp, deg F	147	148	146	147
(Vlc)	Water Collected, mL	211.2	220.0	234.0	221.7
(%CO_2)	Carbon Dioxide, %	7.9	7.9	7.7	7.8
(%O_2)	Oxygen, %	10.9	10.9	11.3	11.0
(%N_2)	Nitrogen, %	81.1	81.2	81.0	81.1
(Cp)	Pitot Tube Coefficient	0.84	0.84	0.84	0.84
(DeltaP)	Avg Sqrt Delta P, (inches H2O)½	0.597	0.538	0.583	0.573
(Theta)	Sample Time, min	60	60	60	60
(Dn)	Nozzle Diameter, inches	0.306	0.306	0.306	0.306
	CALCULATED DATA				
(An)	Nozzle Area, square feet	5.11E-04	5.11E-04	5.11E-04	5.11E-04
(Vmstd)	Standard Meter Volume, ft^3	43.353	38.919	41.978	41.417
(Ps)	Stack Pressure, inches Hg	25.33	25.33	25.33	25.33
(%H_2O)	Moisture (gravimetrically), %	18.7	21.0	20.8	20.2
(%H_2Osat)	Moisture (at saturation), %	27.3	28.3	27.3	27.6
(Bws)	Moisture (actual)	18.7	21.0	20.8	20.2
(Vwstd)	Standard Water Vapor Volume, ft^3	9.958	10.373	11.033	10.455
(Mfd)	Dry Mole Fraction	0.813	0.790	0.792	0.798
(Md)	Molecular Weight-dry, lb/lb-mole	29.71	29.70	29.69	29.70
(Ms)	Molecular Weight-wet, lb/lb-mole	27.52	27.24	27.25	27.34
(Vs)	Velocity, ft/s	40.0	36.2	39.3	38.5
(A)	Stack Area, ft^2	3.34	3.34	3.34	3.34
(Qa)	Volumetric flow, acfm	8,019	7,265	7,869	7,718
(Qs)	Volumetric flow, dscfm	4,804	4,217	4,591	4,537
(I)	Isokinetic Rate, %	98.4	100.7	99.7	99.6
	HYDROGEN CHLORIDE EMISSION DATA				
(Fwt)	Formula Weight, g/g-mol	36.46	36.46	36.46	
(milligrams)	Hydrogen Chloride Catch, mg	< 0.171	< 0.0846	< 0.117	< 0.124
(ppm)	Concentration, ppm	< 0.0919	< 0.0506	< 0.0649	< 0.0692
(ppm@7%)	Concentration, ppm @ 7% O_2	< 0.128	< 0.0705	< 0.0941	< 0.0975
(lb/hr)	Emission Rate, lb/hr	< 0.00251	< 0.00121	< 0.00169	< 0.00180

Example Calculation Page

Stericycle-North Salt Lake
North Salt Lake, UT

SAMPLE CALCULATIONS FOR
EPA Method 26A

Unit 1 Stack

Test Date: 10/1/2014 Test Number: 1-M26A-1

1. Volume of dry gas sampled at standard conditions (68 deg F, 29.92 in. Hg), dscf.

$$Vm(std) = \frac{17.64 \times Y \times Vm \times \left(Pb + \frac{delta\ H}{13.6} \right)}{(Tm + 460)}$$

$$Vm(std) = \frac{17.64 \times 0.9820 \times 53.014 \times \left(25.34 + \frac{2.156}{13.6} \right)}{80.1 + 460}$$

$$= 43.353$$

Where:

Vm(std)	=	Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dscf.
Vm	=	Volume of gas sample measured by the dry gas meter at meter conditions, dcf.
Pb	=	Barometric Pressure, in Hg.
delta H	=	Average pressure drop across the orifice meter, in H_2O.
Tm	=	Average dry gas meter temperature , deg F.
Y	=	Dry gas meter calibration factor.
17.64	=	Factor that includes ratio of standard temperature (528 deg R) to standard pressure (29.92 in. Hg), deg R/in. Hg.
13.6	=	Specific gravity of mercury.

2. Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vw(std) = 0.04715 x Vwc

Vw(std) = (0.04715 x 211.2)

= 9.958

Where:

Vw(std) = Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vwc = Volume of liquid condensed in impingers, ml.

Wwsg = Weight of water vapor collected in silica gel, g.

0.04715 = Factor which includes the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), and 453.6 g/lb, ft^3/g.

3. Moisture content

$$Bws = \frac{Vw(std)}{Vw(std) + Vm(std)}$$

$$Bws = \frac{9.96}{9.96 + 43.353}$$

= 0.187 or 18.7 %

Where:

Bws = Proportion of water vapor, by volume, in the gas stream, dimensionless.

4. Mole fraction of dry gas.

Mfd = 1 - Bws

Mfd = 1 - 0.187

= 0.813

Where:

Mfd = Mole fraction of dry gas, dimensionless.

5. Dry molecular weight of gas stream, lb/lb-mole.

$$Md = (0.440 \times \%CO_2) + (0.320 \times \%O_2) + (0.280 \times (\%N_2 + \%CO))$$

$$Md = (0.440 \times 7.93) + (0.320 \times 10.93) + (0.280 \times (81.14))$$

$$= 29.71$$

Where:

Md	=	Dry molecular weight , lb/lb-mole.
$\%CO_2$	=	Percent carbon dioxide by volume, dry basis.
$\%O_2$	=	Percent oxygen by volume, dry basis.
$\%N_2$	=	Percent nitrogen by volume, dry basis.
% CO	=	Percent carbon monoxide by volume, dry basis.
0.440	=	Molecular weight of carbon dioxide, divided by 100.
0.320	=	Molecular weight of oxygen, divided by 100.
0.280	=	Molecular weight of nitrogen or carbon monoxide, divided by 100.

6. Actual molecular weight of gas stream (wet basis), lb/lb-mole.

$$Ms = (Mfd \times Md) + (18 \times (1 - Mfd))$$

$$Ms = (0.813 \times 29.71) + (18 (1 - 0.813))$$

$$= 27.52$$

Where:

Ms	=	Molecular weight of wet gas, lb/lb-mole.
18	=	Molecular weight of water, lb/lb-mole.

7. Average velocity of gas stream at actual conditions, ft/sec.

$$Vs = 85.49 \times Cp \times ((delt\ p)^{1/2})avg \times \left(\frac{Ts\ (avg)}{Ps \times Ms}\right)^{1/2}$$

$$Vs = 85.49 \times 0.84 \times 0.597 \times \left(\frac{607}{25.33 \times 27.52}\right)\text{^}1/2$$

$$= 40.00$$

Where:

Vs = Average gas stream velocity, ft/sec.

85.49 = Pitot tube constant, ft/sec x $\frac{(\text{lb/lb-mole})(\text{in. Hg})^{1/2}}{(\text{deg R})(\text{in H2O})}$

Cp = Pitot tube coefficient, dimensionless.

Ts = Absolute gas stream temperature, deg R = Ts, deg F + 460.

Ps = Absolute gas stack pressure, in. Hg. = Pb + $\frac{\text{P(static)}}{13.6}$

delt p = Velocity head of stack, in. H_2O.

8. Average gas stream volumetric flowrate at actual conditions, wacf/min.

Qa(act) = 60 x Vs x As

Qa(act) = 60 x 40.00 x 3.34

= 8,019

Where:

Qa(act) = Volumetric flowrate of wet stack gas at actual conditions, wacf/min.

As = Cross-sectional area of stack, ft^2.

60 = Conversion, sec/min

9. Average gas stream dry volumetric flowrate at standard conditions, dscf/min.

Qs(std) = $17.64 \times \text{Mfd} \times \frac{\text{Ps}}{\text{Ts}} \times \text{Qa(act)}$

Qs(std) = $17.64 \times 0.813 \times \frac{25.33}{607} \times 8019$

= 4,804

Where:

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/min.

10. Isokinetic variation calculated from intermediate values, percent.

$$I = \frac{17.327 \times Ts \times Vm(std)}{Vs \times \Theta \times Ps \times Mfd \times (Dn)^2}$$

$$I = \frac{17.327 \times 607 \times 43.353}{40.00 \times 60 \times 25.33 \times 0.813 \times (0.306)^2} = 98.41$$

Where:

I	=	Percent of isokinetic sampling.
Θ	=	Total sampling time, minutes.
Dn	=	Diameter of nozzle, inches.
17.327	=	Factor which includes standard temperature (528 deg R), standard pressure (29.92 in. Hg), the formula for calculating area of circle $D^{2/4}$, conversion of square feet to square inches (144), conversion of seconds to minutes (60), and conversion to percent (100), $\frac{(in.\ Hg)(in^2)(min)}{(deg\ R)(ft^2)(sec)}$

11. Hydrogen Chloride Concentration, ppm

$$C\ (ppm) = \frac{385.3 \times mg/10^3}{Vm(std) \times 453.592 \times fwt} \times 10^6$$

$$C\ (ppm) = \frac{385.3 \times 0.17/10^3}{43.353 \times 453.592 \times 36.46} \times 10^6$$

C (ppm) = 0.092

Where:

C (ppm)	=	Hydrogen Chloride Concentration, ppm
mg	=	Hydrogen Chloride catch in sample, mg
453.592	=	Conversion factor from grams to pounds.
385.3	=	Conversion Factor of molar volume
fwt	=	Formula Weight of Compound, lb/lb-mole

12. Hydrogen Chloride Emission Rate, lb/hr

$$Rt\ (lb/hr) = \frac{ppmvd \times fwt \times 60}{385.3 \times 10^6} \times Qsd$$

$$Rt\ (lb/hr) = \frac{0.092 \times 36.46 \times 60}{385.3 \times 10^6} \times 4804$$

Rt (lb/hr) = 0.0025

Where:

Rt (lb/hr) = Hydrogen Chloride Emission Rate, lb/hr

ppmvd = Concentration measured, parts per million

INTRUMENTAL REFERENCE METHOD TEST RESULTS
Stericycle-North Salt Lake
Unit 1 Stack
North Salt Lake, UT

	RUN NUMBER	1-CEM-1	1-CEM-2	1-CEM-3	AVERAGE
	RUN DATE	10/1/2014	10/1/2014	10/1/2014	
	RUN TIME	1435-1535	1635-1735	1813-1913	
	MEASURED DATA				
(Y)	Meter Box Y	0.9820	0.9820	0.9820	0.9820
(DeltaH)	Avg Delta H, inches H_2O	2.16	1.74	2.00	1.96
(Pbar)	Barometric Pressure, inches Hg	25.34	25.34	25.34	25.34
(Vm)	Meter Volume, ft^3	53.014	47.712	51.475	50.734
(Tm)	Avg Meter Temp, deg F	80	81	81	81
(Pg)	Static Pressure, inches H_2O	-0.15	-0.13	-0.15	-0.14
(Ts)	Avg Stack Temp, deg F	147	148	146	147
(Vlc)	Water Collected, mL	211.2	220.0	234.0	221.7
(%CO_2)	Carbon Dioxide, %	7.9	7.9	7.7	7.8
(%O_2)	Oxygen, %	10.9	10.9	11.3	11.0
(%N_2)	Nitrogen, %	81.1	81.2	81.0	81.1
(Cp)	Pitot Tube Coefficient	0.84	0.84	0.84	0.84
(DeltaP)	Avg Sqrt Delta P, (inches H2O)½	0.597	0.538	0.583	0.573
(Theta)	Sample Time, min	60	60	60	60
	CALCULATED DATA				
(Vmstd)	Standard Meter Volume, ft^3	43.353	38.919	41.978	41.417
(Ps)	Stack Pressure, inches Hg	25.33	25.33	25.33	25.33
(%H_2O)	Moisture (gravimetrically), %	18.7	21.0	20.8	20.2
(%H_2Osat)	Moisture (at saturation), %	27.3	28.3	27.3	NA
(Bws)	Moisture (actual)	18.7	21.0	20.8	20.2
(Vwstd)	Standard Water Vapor Volume, ft^3	9.958	10.373	11.033	10.455
(Mfd)	Dry Mole Fraction	0.813	0.790	0.792	0.798
(Md)	Molecular Weight-dry, lb/lb-mole	29.71	29.70	29.69	29.70
(Ms)	Molecular Weight-wet, lb/lb-mole	27.52	27.24	27.25	27.34
(Vs)	Velocity, ft/s	40.0	36.2	39.3	38.5
(A)	Stack Area, ft^2	3.34	3.34	3.34	3.34
(Qa)	Volumetric flow, acfm	8,019	7,265	7,869	7,718
(Qs)	Volumetric flow, dscfm	4,804	4,217	4,591	4,537
	SULFUR DIOXIDE EMISSIONS DATA				
(Fwt)	Formula Weight, g/g-mol	64.06	64.06	64.06	64.06
(ppmvd)	Concentration, ppmvd	< 0.10	< 0.10	< 0.10	< 0.10
(ppmvd@7%)	Concentration, ppmvd @ 7% O_2	< 0.139	< 0.139	< 0.145	< 0.141
(lb/hr)	Emission Rate, lb/hr	< 0.00479	< 0.00421	< 0.00458	< 0.00453
	NITROGEN OXIDES EMISSIONS DATA				
(Fwt)	Formula Weight, g/g-mol	46.01	46.01	46.01	46.01
(ppmvd)	Concentration, ppmvd	121.4	61.1	66.0	82.8
(ppmvd@7%)	Concentration, ppmvd @ 7% O_2	169.2	84.9	95.6	116.6
(lb/hr)	Emission Rate, lb/hr	4.18	1.84	2.17	2.73
	CARBON MONOXIDE EMISSIONS DATA				
(Fwt)	Formula Weight, g/g-mol	28.01	28.01	28.01	28.01
(ppmvd)	Concentration, ppmvd	0.41	0.46	1.21	0.69
(ppmvd@7%)	Concentration, ppmvd @ 7% O_2	0.572	0.640	1.75	0.988
(lb/hr)	Emission Rate, lb/hr	0.00859	0.00846	0.0242	0.0138

Testing Notes
Stericycle - North Salt lake
North Salt Lake, UT
223797

ALL TIMES MDT

10/1/2014			O2	CO2	CO	NOx	SO2	CO	NOx	SO2
Start	Stop		%	%	ppm	ppm	ppm	@7%	@7%	@7%
		Ammonia								
1435	1543	M5 and 26A 1	10.928	7.929	0.41	121.36	< 0.10	0.57	169.2	< 0.14
1635	1741	M5 and 26A 2	10.908	7.889	0.46	61.06	< 0.10	0.64	84.9	< 0.14
1813	1919	M5 and 26A 3	11.304	7.711	1.21	66.02	< 0.10	1.75	95.6	< 0.14
								0.99	**116.6**	**< 0.14**
2030	2130	Urea-1	11.714	7.34	3.70	71.19		5.60	107.7	
2148	2248	Urea-2	11.724	7.353	4.46	87.22		6.76	132.1	
2308	0008	Urea-3	11.223	7.716	3.82	61.47		5.49	88.3	
								5.95	**109.4**	

Example Calculation Page

Stericycle-North Salt Lake
North Salt Lake, UT

SAMPLE CALCULATIONS FOR
Method 7E

Unit 1 Stack

Test Date: 10/1/14 Test Number: 1-CEM-1

1. Volume of dry gas sampled at standard conditions (68 deg F, 29.92 in. Hg), dscf.

$$Vm(std) = \frac{17.64 \times Y \times Vm \times \left(Pb + \frac{\text{delta H}}{13.6} \right)}{(Tm + 460)}$$

$$Vm(std) = \frac{17.64 \times 0.9820 \times 53.014 \times \left(25.34 + \frac{2.156}{13.6} \right)}{80.1 + 460}$$

$$= 43.353$$

Where:

Vm(std)	=	Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dscf.
Vm	=	Volume of gas sample measured by the dry gas meter at meter conditions, dcf.
Pb	=	Barometric Pressure, in Hg.
delt H	=	Average pressure drop across the orifice meter, in H_20.
Tm	=	Average dry gas meter temperature , deg F.
Y	=	Dry gas meter calibration factor.
17.64	=	Factor that includes ratio of standard temperature (528 deg R) to standard pressure (29.92 in. Hg), deg R/in. Hg.
13.6	=	Specific gravity of mercury.

2. Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vw(std) = 0.04715 x Vwc

Vw(std) = (0.04715 x 211.2)

= 9.958

Where:

Vw(std) = Volume of water vapor in the gas sample corrected to standard conditions, scf.

Vwc = Volume of liquid condensed in impingers, ml.

Wwsg = Weight of water vapor collected in silica gel, g.

0.04715 = Factor which includes the molecular weight of water (18.0 lb/lb-mole), the ideal gas constant 21.85 (in. Hg) (ft^3)/lb-mole)(deg R); absolute temperature at standard conditions (528 deg R), absolute pressure at standard conditions (29.92 in. Hg), and 453.6 g/lb, ft^3/g.

3. Moisture content

$$Bws = \frac{Vw(std)}{Vw(std) + Vm(std)}$$

$$Bws = \frac{9.96}{9.96 + 43.353}$$

= 0.187 or 18.7 %

Where:

Bws = Proportion of water vapor, by volume, in the gas stream, dimensionless.

4. Mole fraction of dry gas.

Mfd	=	1 - Bws
Mfd	=	1 - 0.187
	=	0.813

Where:

Mfd	=	Mole fraction of dry gas, dimensionless.

5. Dry molecular weight of gas stream, lb/lb-mole.

Md	=	$(0.440 \times \% CO_2) + (0.320 \times \% O_2) + (0.280 \times (\% N_2 + \% CO))$
Md	=	$(0.440 \times 7.93) + (0.320 \times 10.93) + (0.280 \times (81.14))$
	=	29.71

Where:

Md	=	Dry molecular weight , lb/lb-mole.
$\% CO_2$	=	Percent carbon dioxide by volume, dry basis.
$\% O_2$	=	Percent oxygen by volume, dry basis.
$\% N_2$	=	Percent nitrogen by volume, dry basis.
% CO	=	Percent carbon monoxide by volume, dry basis.
0.440	=	Molecular weight of carbon dioxide, divided by 100.
0.320	=	Molecular weight of oxygen, divided by 100.
0.280	=	Molecular weight of nitrogen or carbon monoxide, divided by 100.

6. Actual molecular weight of gas stream (wet basis), lb/lb-mole.

$$Ms = (Mfd \times Md) + (18 \times (1 - Mfd))$$

$$Ms = (0.813 \times 29.706) + (18 (1 - 0.813))$$

$$= 27.52$$

Where:

Ms = Molecular weight of wet gas, lb/lb-mole.

18 = Molecular weight of water, lb/lb-mole.

7. Average velocity of gas stream at actual conditions, ft/sec.

$$Vs = 85.49 \times Cp \times ((delt\ p)^{1/2})avg \times \left(\frac{Ts\ (avg)}{Ps \times Ms}\right)^{1/2}$$

$$Vs = 85.49 \times 0.84 \times 0.59719 \times \left(\frac{607}{25.33 \times 27.52}\right)\text{^}1/2$$

$$= 40.0$$

Where:

Vs = Average gas stream velocity, ft/sec.

85.49 = Pitot tube constant, ft/sec x $\frac{(lb/lb\text{-}mole)(in.\ Hg)^{1/2}}{(deg\ R)(in\ H2O)}$

Cp = Pitot tube coefficient, dimensionless.

Ts = Absolute gas stream temperature, deg R = Ts, deg F + 460.

Ps = Absolute gas stack pressure, in. Hg. = Pb + $\frac{P(static)}{13.6}$

delta p = Velocity head of stack, in. H_2O.

8. Average gas stream volumetric flowrate at actual conditions, wacf/min.

$$Qa(act) = 60 \times Vs \times As$$

$$Qa(act) = 60 \times 40.00 \times 3.34$$

$$= 8{,}019$$

Where:

Qa(act) = Volumetric flowrate of wet stack gas at actual conditions, wacf/min.

As = Cross-sectional area of stack, ft^2.

60 = Conversion, sec/min

9. Average gas stream dry volumetric flowrate at standard conditions, dscf/min.

$$Qs(std) = 17.64 \times Md \times \frac{Ps}{Ts} \times Qa(act)$$

$$Qs(std) = 17.64 \times 29.706 \times \frac{25.33}{607} \times 8019$$

$$= 4{,}804$$

Where:

Qs(std) = Volumetric flowrate of dry stack gas at standard conditions, dscf/min.

10. NOx mass emission rate, lbs/hr

$$NOxRt = \frac{NOx(ppm) \times Qs(std) \times 60 \times Fwt}{385.3 \times 1{,}000{,}000}$$

$$NOxRt = \frac{121.4 \times 4804 \times 60 \times 46.01}{385.3 \times 1{,}000{,}000}$$

$$= 4.18$$

Where:

NOxRt	=	NOx mass emission rate, lbs/hr.
NOx(ppm)	=	NOx concentration, ppm
Qs(std)	=	Volumetric flowrate of dry stack gas at standard conditions, dscf/min.
Fwt	=	Formula Weight of NOx, g/g-mol
385.3	=	Molar volume, cubic feet per pound-mole at standard conditions
1000000	=	Conversion factor

APPENDIX B
FIELD DATA SHEETS

1. **Unit No. 1**
2. **Reference Method CEM**

B-1
Unit No. 1

ISOKINETIC FIELD DATA SHEET

METHOD(S) M29

Page 1 of 2

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M29-1
Plant Name	Stericycle- Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	9/30/14
Sampling Location	Unit 1 Stack	Start Time	920
Test Personnel	BEM, NA — Operator Signature	Stop Time	1342

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.27	-0.15	1444	1.604	0.9926	6-5-146	0.256	S1308	0.84	N/A	GLASS

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Time	%O2	%CO2	Orsat Check
X Pitot, pretest	Vacuum, in Hg	15"	8"	7"	7"						
X Pitot, post-test	Leak Rate, cfm	0.002	0.001	0.001	0.001						
X Positive DGM, pretest			Start Volume	804.892	804.955						Bag ID
X Positive DGM, post-test			Stop Volume	804.955	805.328						

Sample Train Leak Check — Fyrites

K Factor Setup Data		K = 3.00									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	A-12	920	0	716.280	0.37	1.11	63	135	255	258	5	58	N/A	N/A
2	12		5	720.35	0.35	1.05	68	135	256	255	4	59		
3	11		10	723.58	0.35	1.05	68	135	258	256	4	59		
4	11		15	726.94	0.32	0.96	68	135	257	256	4	54		
5	10		20	729.82	0.35	1.05	68	135	258	255	5	55		
6	10		25	733.77	0.32	0.96	69	136	256	258	5	53		
7	9		30	736.75	0.37	1.11	69	137	254	256	5	55		
8	9		35	740.25	0.35	1.05	70	136	257	255	5	56		
9	8		40	743.66	0.39	1.17	70	137	256	258	5	59		
10	8		45	746.95	0.39	1.17	71	137	255	256	5	60		
11	7		50	750.72	0.41	1.23	72	136	254	256	5	60		
12	7		55	754.14	0.41	1.23	72	136	255	257	5	61		
13	6		60	757.96	0.85	2.55	73	137	259	260	7	64		
14	6		65	762.85	0.77	2.31	74	136	261	261	7	64		
15	5		70	767.41	0.52	1.56	74	137	259	258	6	64		
16	5		75	771.75	0.60	1.80	75	138	257	258	6	60		
17	4		80	775.77	0.41	1.23	75	138	256	256	6	59		
18	4		85	779.62	0.43	1.29	76	138	256	255	6	59		
19	3		90	782.94	0.43	1.29	76	139	257	256	6	58		
20	3		95	786.67	0.39	1.17	77	139	256	256	6	58		
21	2		100	790.22	0.46	1.38	77	138	255	257	6	57		
22	2		105	794.34	0.43	1.29	77	137	257	256	6	58		
23	1		110	798.62	0.37	1.11	77	138	256	257	6	58		
24	1		115	801.35	0.37	1.11	78	139	257	256	6	58		
25	B-12	1120 / 1142	120	805.328	0.32	0.96	79	140	258	256	6	59		
				805.328										

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
240	176.820	0.653	1.30	77	138

Checked By: _____ (sign) 10-19-14 (print)
(Project Manager or QA Manager)

RAL-ISO1.xls

ISOKINETIC FIELD DATA SHEET

METHOD(S) M29

Page 2 of 2

TRC Environmental Corporation

Plant Name	Stericycle - Salt Lake City	Run Number	5-M29-1
Sampling Location	Unit 1 Stack	Job Number	223797
Test Personnel	BEM, NA	Test Date	9/30/14

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (In. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp. Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
26	B-12	1142	125	808.62	0.32	0.96	79	138	254	255	6	59	N/A	N/A
27	11		130	811.64	0.30	0.90	79	138	255	259	6	58		
28	11		135	814.05	0.36	0.90	79	139	259	258	6	58		
29	10		140	817.34	0.32	0.96	79	139	257	257	6	58		
30	10		145	821.12	0.43	1.29	79	140	254	258	7	59		
31	9		150	824.73	0.43	1.29	80	141	256	255	7	60		
32	9		155	827.84	0.45	1.35	80	141	258	257	7	57		
33	8		160	831.88	0.45	1.35	80	139	260	255	7	57		
34	8		165	835.65	0.43	1.29	81	139	255	255	7	55		
35	7		170	839.38	0.38	1.14	81	139	257	258	7	55		
36	7		175	842.48	0.32	0.96	81	139	256	259	7	56		
37	6		180	846.26	0.32	0.96	82	141	255	257	7	56		
38	6		185	849.64	0.49	1.47	82	140	256	259	7	56		
39	5		190	853.75	0.72	2.16	82	140	260	260	7	55		
40	5		195	858.11	0.65	1.95	82	140	258	259	8	55		
41	4		200	862.89	0.55	1.65	83	139	255	257	7	56		
42	4		205	866.88	0.50	1.50	83	140	256	258	7	56		
43	3		210	870.95	0.55	1.65	83	141	256	260	7	57		
44	3		215	874.45	0.50	1.50	83	141	255	257	7	55		
45	2		220	878.35	0.45	1.35	83	140	259	258	7	55		
46	2		225	882.63	0.38	1.14	84	140	258	256	7	56		
47	1		230	886.12	0.43	1.29	84	141	257	258	7	56		
48	1		235	889.74	0.39	1.17	84	140	258	260	7	57		
49	END	1342	240	893.538	–	–	–	–	–	–	–	–		
50														
51														
52														
53														
54														
55														
56														
57														
58														
59														
60														
61														
62														

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg

Checked By: [signature] (sign) 10-19-14 (print)
(Project Manager or QA Manager)

RAL-ISO2.xls

ISOKINETIC FIELD DATA SHEET

METHOD(S) M29

Page 1 of 2

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M29-2
Plant Name	Stericycle - Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	9/30/14
Sampling Location	Unit 1 Stack	Start Time	1435
Test Personnel	BEM, NA — Operator Signature	Stop Time	1853

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.27	-0.6	1444	1.604	0.9926	6-5-146	0.256	51308	0.84	N/A	GLASS

Sample Train Leak Check		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Fyrites Time	Fyrites %O2	Fyrites %CO2	Orsat Check
Equipment Leak Checks											
X Pitot, pretest	Vacuum, in Hg	15"	10"	8"	8"						
X Pitot, post-test	Leak Rate, cfm	0.000	0.000	0.000	0.001						Bag ID
X Positive DGM, pretest	Start Volume			976.190	976.234						
X Positive DGM, post-test	Stop Volume			976.234	976.288						

K Factor Setup Data											
		K = 2.9									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	B-12	1435	0	893.708	0.40	1.16	83	141	258	256	6	58	N/A	N/A
2	12		5	897.34	0.35	1.02	83	141	256	259	6	59		
3	11		10	900.54	0.35	0.95	83	141	257	258	6	58		
4	11		15	903.70	0.32	0.86	82	141	256	255	6	57		
5	10		20	906.90	0.38	1.03	82	141	258	258	6	57		
6	10		25	910.40	0.38	1.03	83	141	257	256	6	54		
7	9		30	913.72	0.44	1.19	83	141	256	260	6	54		
8	9		35	917.12	0.44	1.19	83	141	258	257	6	55		
9	8		40	920.14	0.52	1.40	83	141	257	256	6	55		
10	8		45	924.81	0.52	1.40	84	141	255	258	7	56		
11	7		50	928.43	0.58	1.68	84	140	256	257	7	56		
12	7		55	932.78	0.58	1.68	84	139	255	258	7	58		
13	6		60	936.34	0.42	1.13	85	141	257	259	7	56		
14	6		65	940.15	0.32	0.86	85	139	256	257	6	56		
15	5		70	943.24	0.32	0.86	85	139	258	259	6	57		
16	5		75	946.40	0.68	1.83	85	140	257	259	7	58		
17	4		80	950.35	0.45	1.22	85	141	258	256	7	58		
18	4		85	954.36	0.35	0.95	85	140	259	256	7	59		
19	3		90	956.99	0.35	0.95	86	139	260	257	7	60		
20	3		95	959.25	0.30	0.81	86	139	257	261	6	58		
21	2		100	963.18	0.30	0.81	86	139	258	259	6	51		
22	2		105	966.68	0.32	0.86	86	140	259	260	6	52		
23	1		110	969.85	0.40	1.08	86	139	256	258	7	53		
24	1		115	973.11	0.35	0.95	86	140	255	259	7	50		
25	A-12	1435	120	976.288	0.30	0.81	86	140	256	258	6	51		
		1453												

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
240	161.689	0.626	1.08	84	141

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M23

Page 2 of 2

TRC Environmental Corporation

Plant Name	Stericycle- Salt Lake City	Run Number	5-M29-2
Sampling Location	Unit 1 Stack	Job Number	223797
Test Personnel	BEM, NA	Test Date	9/30/14

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
26	A12	1653	105	979.37	0.30	0.81	85	143	258	255	6	55	N/A	N/A
27	11		130	981.65	0.35	0.95	85	142	255	258	6	56		
28	11		135	985.35	0.30	0.81	85	141	256	260	6	56		
29	10		140	988.23	0.32	0.86	85	142	257	258	6	54		
30	10		145	991.22	0.32	0.86	84	142	256	260	6	54		
31	9		150	994.57	0.38	1.03	84	140	255	255	6	54		
32	9		155	998.00	0.38	1.03	84	141	256	258	7	53		
33	8		160	1001.23	0.40	1.08	84	142	258	257	7	54		
34	8		165	1004.53	0.42	1.13	84	141	256	255	7	55		
35	7		170	1007.99	0.52	1.40	84	141	258	257	7	54		
36	7		175	1011.75	0.52	1.40	84	142	255	260	7	55		
37	6		180	1015.20	0.55	1.49	85	142	256	258	7	56		
38	6		185	1019.94	0.56	1.68	84	143	255	259	7	56		
39	5		190	1023.60	0.45	1.22	84	142	256	258	8	56		
40	5		195	1027.30	0.45	1.22	84	141	258	257	8	57		
41	4		200	1030.81	0.38	1.03	84	141	256	259	8	57		
42	4		205	1034.58	0.35	0.95	85	140	255	256	7	54		
43	3		210	1037.50	0.35	0.95	84	139	256	259	7	54		
44	3		215	1040.74	0.35	0.95	85	140	257	256	7	55		
45	2		220	1044.33	0.32	0.81	85	140	256	258	7	54		
46	2		225	1047.03	0.32	0.81	85	142	257	259	7	54		
47	1		230	1049.83	0.32	0.81	85	140	258	256	7	55		
48	1		235	1052.59	0.32	0.81	84	142	259	260	7	52		
49	END	1853	240	1055.495	—	—	—	—	—	—	—	—		
50														
51														
52														
53														
54														
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56														
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62														

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M29

Page 1 of 2

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M29-3
Plant Name	Stericycle - Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10/1/14
Sampling Location	Unit 1 Stack	Start Time	927
Test Personnel	BEM, NA	Operator Signature	[signature]
		Stop Time	1338

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.15	1444	1.604	0.9926	6-9-38	0.335	51308	0.84	N/A	GLASS

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Time	%O2	%CO2	Orsat Check
				Sample Train Leak Check				Fyrites			
✓ Pitot, pretest	Vacuum, in Hg	15"	10"	9"	9"						
✓ Pitot, post-test	Leak Rate, cfm	0.000	0.000	0.000	0.000						Bag ID
✓ Positive DGM, pretest			Start Volume	163.960	164.010						
✓ Positive DGM, post-test			Stop Volume	164.010	164.070						

K Factor Setup Data		K = 7.9									
Delta H@	Meter Y	Nozzle Dia	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	B-12	927	0	~~47.32~~ 55.65	0.15	1.19	64	138	255	258	4	58	N/A	N/A
2	12		5	58.84	0.15	1.19	64	140	256	255	4	58		
3	11		10	62.62	0.18	1.42	62	133	258	255	4	58		
4	11		15	65.94	0.15	1.19	65	135	256	255	5	58		
5	10		20	69.65	0.17	1.34	65	136	255	256	4	59		
6	10		25	74.50	0.26	1.58	66	140	255	258	5	57		
7	9		30	76.61	0.15	1.19	69	148	254	256	5	56		
8	9		35	81.80	0.17	1.34	67	148	253	255	5	56		
9	8		40	84.45	0.26	2.05	67	147	256	254	5	56		
10	8		45	89.04	0.30	2.37	68	145	255	256	6	55		
11	7		50	93.69	0.26	2.05	69	146	258	255	6	55		
12	7		55	98.50	0.33	2.60	70	144	259	257	6	55		
13	6		60	103.35	0.33	2.60	70	143	256	259	7	56		
14	6		65	108.45	0.36	2.84	71	144	258	256	7	56		
15	5		70	113.90	0.48	3.80	71	145	257	255	7	57		
16	5		75	119.84	0.45	3.55	72	146	255	256	8	57		
17	4		80	126.11	0.33	2.60	73	147	255	254	8	57		
18	4		85	131.75	0.30	2.37	73	147	259	258	7	57		
19	3		90	135.80	0.30	2.37	74	148	255	256	7	57		
20	3		95	140.45	0.26	2.05	74	147	256	258	8	60		
21	2		100	145.18	0.26	2.05	75	148	258	259	7	60		
22	2		105	150.81	0.30	2.37	75	145	257	260	7	61		
23	1		110	154.78	0.30	2.37	75	143	258	255	7	62		
24	1		115	159.30	0.26	2.05	76	145	257	256	7	63		
25	A-12	1127	120	164.010	0.30	2.37	76	149	258	257	7	63		
		1134												

35 → reading

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
240	222.609	0.521	2.18	75	146

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M 29

Page 2 of 2

Plant Name	Stericycle- Salt Lake City	Run Number	S-M29-3
Sampling Location	Unit 1 Stack	Job Number	223797
Test Personnel	BEM, NA	Test Date	10/1/14

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
26	A-12	1138	125	169.05	0.28	2.21	77	149	258	257	6	58	N/A	N/A
27	11		130	173.60	0.28	2.21	78	149	256	259	6	59		
28	11		135	178.55	0.26	2.05	78	149	255	258	6	58		
29	10		140	182.95	0.26	2.05	78	148	259	259	6	58		
30	10		145	187.60	0.28	2.21	79	147	259	258	6	57		
31	9		150	191.98	0.30	2.37	79	147	258	250	7	57		
32	9		155	197.55	0.30	2.37	80	147	259	253	7	57		
33	8		160	201.89	0.36	2.84	80	147	255	259	7	56		
34	8		165	206.58	0.33	2.60	81	146	254	258	7	56		
35	7		170	212.38	0.40	3.16	81	146	255	259	8	55		
36	7		175	219.03	0.40	3.16	81	146	256	258	8	56		
37	6		180	223.73	0.26	2.05	81	146	255	256	8	57		
38	6		185	228.18	0.26	2.05	82	149	256	258	6	57		
39	5		190	232.94	0.33	2.60	82	146	258	255	7	57		
40	5		195	237.84	0.28	2.21	82	149	256	255	7	55		
41	4		200	242.92	0.28	2.21	82	149	255	256	7	55		
42	4		205	247.60	0.20	1.58	82	148	258	260	7	55		
43	3		210	251.35	0.20	1.58	82	147	259	256	7	55		
44	3		215	255.57	0.20	1.58	83	146	255	259	7	56		
45	2		220	259.53	0.26	2.05	82	156	256	259	7	56		
46	2		225	265.82	0.26	2.05	83	147	256	258	7	56		
47	1		230	268.94	0.30	2.37	83	147	258	257	7	57		
48	1		235	273.72	0.30	2.37	83	147	255	258	7	58		
49	END	1338	240	278.354	-	-	-	-	-	-	-	-		
50														
51														
52														
53														
54														
55														
56														
57														
58														
59														
60														
61														
62														

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M29

Page 1 of 2

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M29-4
Plant Name	Stericycle-Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10/1/14
Sampling Location	Unit 1 Stack	Start Time	2018
Test Personnel	BEM, NA, MGB	Operator Signature	[signature]
		Stop Time	2425

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.15	1444	1.604	0.9926	G-7-52	0.310	051308	0.84	N/A	GLASS

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Fyrites Time	Fyrites %O2	Fyrites %CO2	Orsat Check
X Pitot, pretest	Vacuum, in Hg	15"	10"	10"	10"						
X Pitot, post-test	Leak Rate, cfm	0.001	0.001	0.002	0.002						Bag ID
X Positive DGM, pretest	Start Volume			545.120	545.214						
X Positive DGM, post-test	Stop Volume			545.214	545.307						

K Factor Setup Data: K = 5.75, 5.60

Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	B-12	2018	0	435.509	0.30	1.73	78	144	255	258	6	58	N/A	N/A
2	12		5	439.90	0.30	1.73	77	146	258	259	6	58		
3	11		10	443.90	0.28	1.61	77	146	259	256	6	55		
4	11		15	447.62	0.25	1.44	76	146	255	260	6	55		
5	10		20	452.05	0.18	1.04	76	145	258	259	6	55		
6	10		25	455.05	0.18	1.04	76	147	255	260	5	57		
7	9		30	458.55	0.30	1.73	76	148	254	258	5	58		
8	9		35	462.57	0.25	1.44	76	148	259	255	5	58		
9	8		40	466.28	0.36	2.07	77	148	257	259	7	58		
10	8		45	470.741	0.44	2.53	77	144	257	257	7	60		
11	7		50	475.691	0.55	3.16	78	145	260	258	9	62		
12	7		55	481.350	0.55	3.16	77	145	259	257	9	63		
13	6		60	487.013	0.64	3.68	78	145	258	256	9	63		
14	6		65	493.085	0.64	3.58	78	145	259	256	9	63		
15	5		70	499.083	0.50	2.80	78	145	260	256	8	63		
16	5		75	504.400	0.53	2.97	78	144	258	256	8	63		
17	4		80	509.959	0.40	2.24	78	144	256	256	7	64		
18	4		85	514.901	0.38	2.13	78	144	260	256	7	61		
19	3		90	519.371	0.28	1.57	78	142	260	257	6	58		
20	3		95	523.443	0.34	1.90	78	142	260	258	6	58		
21	2		100	527.792	0.33	1.85	78	142	260	257	6	56		
22	2		105	532.060	0.32	1.79	78	143	260	258	7	57		
23	1		110	536.320	0.35	1.96	78	144	259	259	7	56		
24	1		115	540.820	0.34	1.90	78	143	258	260	7	56		
25		2214	120	545.120	-	-	-	-	-	-	-	-		

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
240	208.427	0.575	1.91	77	144

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M29

Page 2 of 2

TRC Environmental Corporation

Plant Name	Stericycle	Run Number	225-M29-4
Sampling Location	Unit 1 Stack	Job Number	223797
Test Personnel	BEM, NA, MGB	Test Date	10-1-2014

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (In. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
26	A-12	2225	120	545.307	0.28	1.57	77	143	259	258	7	60	N/A	N/A
27	12		125	549.35	0.30	1.68	77	145	258	257	7	58		
28	11		130	552.85	0.28	1.57	77	148	255	259	7	57		
29	11		135	557.54	0.25	1.40	76	146	256	259	7	57		
30	10		140	560.81	0.20	1.12	76	144	256	258	7	56		
31	10		145	565.18	0.28	1.57	76	144	255	257	7	56		
32	9		150	568.23	0.35	1.96	76	143	254	256	7	48		
33	9		155	572.94	0.38	2.13	76	142	255	258	7	49		
34	8		160	577.38	0.40	2.24	76	141	256	255	7	48		
35	8		165	582.18	0.30	1.68	76	140	255	256	8	48		
36	7		170	586.27	0.32	1.79	76	142	256	258	7	49		
37	7		175	590.44	0.40	2.24	76	142	255	259	7	52		
38	6		180	594.86	0.25	1.40	76	144	255	260	8	54		
39	6		185	598.34	0.32	1.79	76	144	258	257	7	54		
40	5		190	603.82	0.50	2.80	76	145	256	258	7	54		
41	5		195	608.98	0.50	2.80	76	143	258	259	8	55		
42	4		200	614.20	0.30	1.68	76	140	259	255	8	56		
43	4		205	618.04	0.25	1.40	76	143	258	255	7	56		
44	3		210	622.10	0.22	1.23	77	142	257	258	7	57		
45	3		215	625.34	0.22	1.23	75	142	258	256	7	58		
46	2		220	628.99	0.30	1.68	75	142	259	258	7	59		
47	2		225	633.28	0.25	1.40	75	141	258	257	7	60		
48	1		230	636.95	0.22	1.23	75	141	258	260	7	55		
49	1		235	640.70	0.22	1.23	75	141	259	260	7	55		
50	END	2425	240	644.123	-	-	-	-	-	-	-	-		
51														
52														
53														
54														
55														
56														
57														
58														
59														
60														
61														
62														

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg

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METHOD 4 - MOISTURE ANALYSIS DATA SHEET

Client Name	Stericycle	Project Number	223797
Plant Name	Salt Lake City	Sample Method	M29
City / State	Salt Lake City	Recovery Location	TRC Trailer
Test Location	Unit 1 Stack	Analyst Signature	

Run Number	S-M29.1	S-M29.2	S-M29.3	
Test Date	9.30.14	9.30.14	10-1-14	
Recovery Date	9.30.14	9.30.14	10-1-14	
Recovered By	G. Byrd	G. Byrd	DMB	
Impinger 1 MT				
Final Weight, g	979.5	1003.6	948.7	
Initial Weight, g	622.0	660.1	624.7	
Net weight, g	357.5	343.5	324.0	
Impinger 2 5%/10%				S-M29-1(Silica)
Final Weight, g	980.9	934.5	959.5	874.4
Initial Weight, g	743.1	656.1	745.6	854.5
Net weight, g	237.8	278.4	213.9	19.9
Impinger 3 5%/10%				S-M29-2(Silica)
Final Weight, g	807.7	815.7	849.3	876.2
Initial Weight, g	688.9	735.1	682.4	864.7
Net weight, g	118.8	80.6	166.9	11.5
Impinger 4 MT				S-M29-3(Silica)
Final Weight, g	660.7	598.6	670.5	865.3
Initial Weight, g	636.6	592.5	638.8	844.1
Net weight, g	24.1	6.1	31.7	21.2
Impinger 5 KMnO4				
Final Weight, g	762.9	745.8	767.0	
Initial Weight, g	747.3	742.7	745.5	
Net weight, g	15.6	3.1	21.5	
Impinger 6 KMnO4				
Final Weight, g	720.4	731.3	718.3	
Initial Weight, g	717.0	729.3	712.8	
Net weight, g	3.4	2.0	5.5	
Impinger 7 Silica Gel				
Final Weight, g	919.5	875.8	882.7	
Initial Weight, g	904.7	863.3	862.2	
Net weight, g	14.8	12.5	20.5	
Total Catch, g	791.9	737.7	805.2	
	P	O	P	

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(Project Manager or QA Manager)

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METHOD 4 - MOISTURE ANALYSIS DATA SHEET

Client Name	Sterkycle	Project Number	223797
Plant Name	Salt Lake City	Sample Method	M29
City / State	Salt Lake City	Recovery Location	TRC Trailer
Test Location	Unit 1 Stack	Analyst Signature	

Run Number	S-M29-4			
Test Date	10-1-14			
Recovery Date	10-2-2014			
Recovered By	MGB			
Impinger 1 MT				
Final Weight, g	948.2			
Initial Weight, g	661.3			
Net weight, g	286.9			
Impinger 2 5% / 10%				
Final Weight, g	923.5			
Initial Weight, g	657.0			
Net weight, g	266.5			
Impinger 3 5% / 10%		S-M29-4 Sil Gel (2)		
Final Weight, g	921.6	862.2		
Initial Weight, g	737.4	847.0		
Net weight, g	184.2	15.2		
Impinger 4 MT				
Final Weight, g	694.0			
Initial Weight, g	591.2			
Net weight, g	102.8			
Impinger 5 KMnO4				
Final Weight, g	745.3			
Initial Weight, g	741.7			
Net weight, g	3.6			
Impinger 6 KMnO4				
Final Weight, g	731.3			
Initial Weight, g	730.4			
Net weight, g	0.9			
Impinger 7 Sil Gel				
Final Weight, g	898.7			
Initial Weight, g	877.2			
Net weight, g	21.5			
Total Catch, g	881.6			

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M23

Page 1 of 2

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S.M23-1
Plant Name	Stericycle-Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	9/30/14
Sampling Location	Unit 1 Stack	Start Time	919
Test Personnel	BEM, NA	Operator Signature	[signature]
		Stop Time	1342

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.27	-0.15	1459	1.664	0.9820	65-148	0.257	31643	0.84	N/A	6 CAS

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Time	%O2	%CO2	Orsat Check
		Sample Train Leak Check						Fyrites			
X Pitot, pretest	Vacuum, In Hg	15"	6"	5"	5"						
X Pitot, post-test	Leak Rate, cfm	0.001	0.001	0.001	0.001						Bag ID
X Positive DGM, pretest			Start Volume	618.270	618.460						
X Positive DGM, post-test			Stop Volume	618.460	618.528						

K Factor Setup Data											
		K = 3.17									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pilot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	B-12	919	0	531.208	0.30	0.95	63	135	257	258	3.0	59	58	N/A
2	12		5	533.85	0.30	0.95	64	131	258	255	3	58	57	
3	11		10	537.13	0.39	1.24	64	131	259	257	3	57	47	
4	11		15	540.55	0.42	1.33	64	133	258	256	3	57	45	
5	10		20	543.52	0.42	1.33	64	132	255	258	3	57	45	
6	10		25	548.10	0.45	1.43	64	132	258	255	3	53	46	
7	9		30	551.30	0.43	1.36	64	134	256	250	3	53	46	
8	9		35	555.38	0.45	1.43	64	135	257	255	3	52	40	
9	8		40	558.48	0.40	1.27	66	134	258	256	3	52	39	
10	8		45	562.33	0.40	1.27	66	134	257	258	3	51	38	
11	7		50	565.75	0.43	1.36	67	132	256	257	3	51	38	
12	7		55	569.35	0.43	1.36	68	133	255	256	3	51	37	
13	6		60	572.98	0.71	2.25	68	134	255	250	3.5	52	38	
14	6		65	577.71	0.70	2.22	69	133	253	242	3.5	52	39	
15	5		70	582.57	0.50	1.59	69	132	256	258	3.5	54	39	
16	5		75	585.65	0.55	1.74	70	135	257	252	3	54	39	
17	4		80	589.55	0.45	1.43	72	134	255	256	3	54	42	
18	4		85	593.75	0.39	1.24	71	135	256	258	3	55	42	
19	3		90	596.78	0.39	1.24	73	136	258	260	3	55	41	
20	3		95	600.86	0.45	1.43	71	135	256	258	3	54	40	
21	2		100	604.42	0.45	1.43	72	135	258	260	3	54	39	
22	2		105	608.13	0.37	1.17	72	135	257	258	3	54	38	
23	1		110	611.38	0.37	1.17	73	136	256	259	3	54	38	
24	1		115	615.00	0.35	1.11	73	138	254	255	3	54	39	
25	A-12	1119 / 1142	120	618.578	0.43	1.36	73	134	256	255	3	55	41	

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
240	14.338	0.656	1.35	72	135

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M23

Page 2 of 2

TRC Environmental Corporation

Plant Name	Stericycle - Salt Lake City	Run Number	S-M23-1
Sampling Location	Unit 1 Stack	Job Number	223797
Test Personnel	BEM, NA	Test Date	9/30/14

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (In. H2O)	Delta H Actual (In. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
26	A-12	1142	125	621.98	0.37	1.17	74	133	255	257	3	54	47	N/A
27	11		130	624.82	0.30	0.95	73	132	254	256	3	55	46	
28	11		135	628.28	0.30	0.95	73	134	254	258	3	55	48	
29	10		140	631.34	0.32	1.01	74	133	256	259	3	55	48	
30	10		145	634.65	0.40	1.27	75	135	258	257	3	58	49	
31	9		150	638.90	0.40	1.27	75	135	255	255	3	59	51	
32	9		155	641.60	0.45	1.43	75	138	257	256	3	58	52	
33	8		160	644.51	0.50	1.59	75	139	256	260	3	57	50	
34	8		165	649.24	0.50	1.59	76	135	258	261	3	57	50	
35	7		170	653.09	0.45	1.43	76	136	255	259	3	57	51	
36	7		175	657.11	0.37	1.17	76	135	254	258	3	58	51	
37	6		180	660.25	0.37	1.17	76	136	256	259	3	58	50	
38	6		185	664.00	0.55	1.74	75	138	257	258	4	56	48	
39	5		190	667.80	0.75	2.38	77	137	258	260	4	55	49	
40	5		195	672.50	0.60	1.90	77	136	255	257	5	56	50	
41	4		200	677.12	0.60	1.90	77	136	256	259	5	58	51	
42	4		205	681.22	0.40	1.27	78	139	255	259	5	58	52	
43	3		210	685.61	0.45	1.43	78	138	258	255	4	56	50	
44	3		215	688.65	0.45	1.43	78	136	257	257	3	56	50	
45	2		220	691.92	0.40	1.27	78	136	259	261	3	55	50	
46	2		225	696.12	0.37	1.17	79	136	258	259	3	55	49	
47	1		230	699.10	0.35	1.11	78	137	259	260	3	53	44	
48	1		235	704.50	0.32	1.01	80	136	258	259	3	53	43	
49	END	1342	240	705.74	—	—	—	—	—	—	—	—	—	
50														
51														
52														
53														
54														
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58														
59														
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62														

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M29

Page 1 of 2

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M23-2
Plant Name	Stericycle- Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	9/30/14
Sampling Location	Unit 1 Stack	Start Time	1435
Test Personnel	BEM, NA — Operator Signature	Stop Time	1853

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.27	-0.15	1459	1.664	0.9620	G-5-149	0.260	31643	0.84	N/A	GLASS

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4
X Pitot, pretest	Vacuum, in Hg	15"	8"	7"	7"		
X Pitot, post-test	Leak Rate, cfm	0.001	0.000	0.001	0.000		
X Positive DGM, pretest	Start Volume			789.038	789.119		
X Positive DGM, post-test	Stop Volume			789.119	789.195		

Sample Train Leak Check

Fyrites Time	%O2	%CO2	Orsat Check

Bag ID

K Factor Setup Data		K = ~~327~~ 2.9									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	A-12	1435	0	706.250	0.50	1.59	77	135	258	258	3	58	45	N/A
2	12		5	710.72	0.45	1.47	77	134	259	260	3	58	47	
3	11		10	713.44	0.35	1.02	77	133	257	255	3	57	45	
4	11		15	716.64	0.35	1.02	78	135	259	256	3	56	45	
5	10		20	720.15	0.40	1.16	77	135	258	255	3	56	45	
6	10		25	723.40	0.40	1.16	77	136	257	256	3	54	42	
7	9		30	726.50	0.42	1.22	78	136	259	257	3	54	41	
8	9		35	730.00	0.45	1.31	78	138	259	252	3	54	39	
9	8		40	733.32	0.52	1.51	78	138	256	260	3	54	38	
10	8		45	737.48	0.52	1.51	79	139	254	258	4	54	37	
11	7		50	740.93	0.60	1.74	79	137	256	257	4	55	39	
12	7		55	745.40	0.48	1.39	79	137	259	261	5	56	40	
13	6		60	748.73	0.42	1.22	79	138	257	262	5	56	41	
14	6		65	752.48	0.35	1.02	79	138	256	259	4	57	42	
15	5		70	755.40	0.40	1.16	80	138	257	255	4	58	43	
16	5		75	759.03	0.70	2.03	81	138	255	258	4	58	44	
17	4		80	763.11	0.60	1.74	80	139	255	259	6	59	45	
18	4		85	767.30	0.40	1.16	80	137	256	260	5	59	46	
19	3		90	770.34	0.35	1.02	80	137	257	258	5	60	48	
20	3		95	774.21	0.28	0.84	80	136	258	257	4	58	45	
21	2		100	776.94	0.28	0.84	81	136	257	258	4	58	49	
22	2		105	779.85	0.32	0.93	80	137	256	255	3	57	45	
23	1		110	782.72	0.32	0.93	80	136	257	254	3	56	46	
24	1		115	785.99	0.35	1.02	80	137	256	255	3	55	43	
25	B-12	1635	120	789.195	0.29	0.84	80	135	257	258	3	55	48	
		1653												

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
240	164.424	0.644	1.23	79	137

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METHOD(S) M23

Page 2 of 2

TRC Environmental Corporation

Plant Name	Stericycle - Salt Lake City	Run Number	S-M23-2
Sampling Location	Unit 1 Stack	Job Number	223797
Test Personnel	BEM, NA	Test Date	9/30/14

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
26	B-12	1653	125	792.22	0.32	0.93	80	135	255	260	3	58	49	N/A
27	11		130	795.03	0.35	1.02	79	136	259	259	3	59	52	
28	11		135	798.20	0.35	1.02	80	135	260	255	3	58	48	
29	10		140	801.55	0.38	1.10	79	136	258	258	4	57	38	
30	10		145	804.60	0.38	1.10	79	138	259	253	4	57	38	
31	9		150	808.00	0.42	1.22	79	139	257	254	4	56	39	
32	9		155	811.62	0.42	1.22	79	139	258	255	4	53	39	
33	8		160	815.10	0.40	1.16	79	137	257	256	5	53	39	
34	8		165	818.59	0.42	1.22	79	140	258	257	5	53	39	
35	7		170	821.88	0.50	1.45	78	139	259	256	5	53	38	
36	7		175	825.49	0.55	1.60	78	139	258	255	5	53	38	
37	6		180	828.98	0.55	1.60	77	139	255	259	5	53	39	
38	6		185	832.0	0.60	1.74	78	140	256	260	5	54	40	
39	5		190	837.00	0.58	1.68	78	139	258	259	6	55	40	
40	5		195	840.84	0.50	1.45	79	139	260	258	6	57	43	
41	4		200	844.55	0.38	1.10	79	138	259	259	5	57	43	
42	4		205	848.32	0.35	1.02	78	137	258	259	5	59	44	
43	3		210	851.56	0.35	1.02	78	136	256	260	5	61	48	
44	3		215	854.90	0.32	0.93	79	136	257	261	5	62	49	
45	2		220	857.94	0.39	1.13	80	137	256	258	5	60	48	
46	2		225	861.43	0.39	1.13	79	138	256	258	5	59	49	
47	1		230	864.14	0.35	1.02	78	136	259	261	5	58	45	
48	1		235	867.53	0.41	1.19	78	138	254	263	5	59	45	
49	END	1853	240	870.831	—	—	—	—	—	—	—	—	—	
50														
51														
52														
53														
54														
55														
56														
57														
58														
59														
60														
61														
62														

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M23

Page 1 of 2

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M23-3
Plant Name	Stericycle- Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10/1/14
Sampling Location	Unit 1 Stack	Start Time	927
Test Personnel	Ben NA / Operator Signature	Stop Time	1338

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.15	1459	1.664	0.9820	6-7-76	0.306	31643	0.84	N/A	GLASS

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4
X Pitot, pretest	Vacuum, in Hg	15"	6"	5"	5"		
X Pitot, post-test	Leak Rate, cfm	0.001	0.000	0.000	0.000		
X Positive DGM, pretest			Start Volume	964.674	964.750		
X Positive DGM, post-test			Stop Volume	964.750	964.800		

Sample Train Leak Check

Fyrites Time	%O2	%CO2	Orsat Check

Bag ID

K Factor Setup Data		K = .57									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	A-12	927	0	873.272	0.15	0.86	61	138	255	260	2	58	45	N/A
2	12		5	875.92	0.15	0.86	61	131	258	259	2	58	46	
3	11		10	878.22	0.19	1.08	61	133	255	258	2	59	48	
4	11		15	881.75	0.19	1.08	62	133	258	255	2	58	48	
5	10		20	884.82	0.17	0.97	62	133	255	256	2	58	47	
6	10		25	888.09	0.25	1.43	62	141	256	258	2	58	46	
7	9		30	891.15	0.17	0.97	63	141	255	255	2	57	42	
8	9		35	894.64	0.19	1.08	64	143	256	257	2	57	39	
9	8		40	897.50	0.25	1.43	64	142	258	256	2	56	38	
10	8		45	901.48	0.30	1.71	65	142	255	257	3	56	39	
11	7		50	905.38	0.30	1.71	65	142	256	258	3	55	38	
12	7		55	909.54	0.33	1.88	67	141	255	257	3	55	37	
13	6		60	913.48	0.35	2.00	66	140	258	256	3	55	38	
14	6		65	918.00	0.40	2.28	67	140	255	255	3	56	39	
15	5		70	922.30	0.60	3.42	67	141	254	260	3	58	38	
16	5		75	928.00	0.45	2.57	68	143	255	260	3	58	37	
17	4		80	932.85	0.35	2.00	68	143	256	258	5	58	37	
18	4		85	937.32	0.30	1.71	68	144	257	259	4	59	38	
19	3		90	940.18	0.30	1.71	69	145	258	254	4	60	38	
20	3		95	945.35	0.30	1.71	70	145	257	255	3	61	39	
21	2		100	949.60	0.28	1.60	70	145	256	258	3	62	39	
22	2		105	954.75	0.25	1.43	70	143	258	256	3	62	40	
23	1		110	957.25	0.25	1.43	70	143	256	258	3	63	41	
24	1		115	960.53	0.28	1.60	70	144	258	255	3	64	41	
25		1127	120	964.800	0.30	1.71	72	140	260	258	3	62	45	
		1138												

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
240	189.527	0.539	1.69	71	142

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(Project Manager or QA Manager)

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M23 Page____of____

TRC Environmental Corporation

Plant Name	Stericycle- Salt Lake City	Run Number	S-M23-3
Sampling Location	Unit 1 Stack	Job Number	223227
Test Personnel	BEM, NA	Test Date	10/1/14

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
26	B12	1138	125	968.60	0.32	1.82	72	141	258	255	3	58	49	N/A
27	11		130	972.55	0.32	1.82	72	142	258	255	3	59	48	
28	11		135	977.05	0.28	1.60	73	141	255	258	3	58	48	
29	10		140	980.98	0.28	1.60	73	140	258	255	3	58	47	
30	10		145	984.85	0.35	2.00	74	140	255	258	3	58	48	
31	9		150	988.94	0.35	2.00	76	142	256	258	3	58	47	
32	9		155	994.28	0.32	1.82	76	142	258	259	3	58	43	
33	8		160	998.03	0.40	2.28	76	142	256	255	3	57	43	
34	8		165	1002.34	0.40	2.28	75	143	255	258	4	57	42	
35	7		170	1006.90	0.42	2.39	76	142	256	259	4	57	42	
36	7		175	1011.82	0.42	2.39	76	144	257	258	5	56	48	
37	6		180	1016.42	0.32	1.82	77	143	256	260	5	56	45	
38	6		185	1020.61	0.32	1.82	77	146	258	255	3	55	48	
39	5		190	1025.11	0.35	2.00	77	146	255	256	3	55	38	
40	5		195	1029.18	0.35	2.00	77	146	256	258	4	55	39	
41	4		200	1033.23	0.28	1.60	77	146	258	255	4	54	37	
42	4		205	1037.80	0.25	1.43	77	146	255	256	3	54	37	
43	3		210	1041.30	0.25	1.43	78	146	255	258	3	54	38	
44	3		215	1045.11	0.19	1.08	78	148	256	256	3	55	37	
45	2		220	1048.33	0.19	1.08	78	149	255	256	3	56	38	
46	2		225	1052.65	0.19	1.08	78	146	256	258	3	56	43	
47	1		230	1055.20	0.32	1.82	78	146	256	259	3	56	44	
48	1		235	1059.13	0.32	1.82	78	145	255	256	3	56	44	
49	END	1338	240	1062.925	—	—	—	—	—	—	—	—	—	
50														
51														
52														
53														
54														
55														
56														
57														
58														
59														
60														
61														
62														

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg

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(Project Manager or QA Manager)

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METHOD 4 - MOISTURE ANALYSIS DATA SHEET

Client Name	Stericycle	Project Number	223797
Plant Name		Sample Method	M23
City / State	Salt Lake City, UT	Recovery Location	TRC Mobile Lab
Test Location	Unit 1 Stack	Analyst Signature	

	(M)	(E)	(M)	
Run Number	S-M23-1	S-M23-2	S-M23-3	
Test Date	9.30.2014	9.30.2014	9.30.2014	
Recovery Date	9.30.2014	9.30.2014	9.30.2014	
Recovered By	MGB	MGB	MGB	
Impinger 1 Empty				
Final Weight, g	964.6	958.8	988.8	
Initial Weight, g	345.3	354.0	346.1 ~~346.7~~ MGB	
Net weight, g	619.3	604.8	602.7	
Impinger 2 DI				
Final Weight, g	804.2	828.1	~~75~~ 728.6	
Initial Weight, g	695.8	725.9	699.2	
Net weight, g	108.4	102.2	29.4	
Impinger 3 DI				
Final Weight, g	~~804.9~~ 762.8	732.5	762.7	
Initial Weight, g	761.6	733.7	762.8	
Net weight, g	1.2	-1.2	(-0.1)	
Impinger 4 Empty				
Final Weight, g	633.6	526.8	635.2	
Initial Weight, g	630.5	525.8	633.2	
Net weight, g	3.1	1.0	2.0	
Impinger 5 Si Gel				
Final Weight, g	896.0	914.5	898.6	
Initial Weight, g	883.4	900.7	880.3	
Net weight, g	12.6	13.8	18.3	
Impinger 6 XAD	T2119-003	T2119-006	T2119-001	
Final Weight, g	316.8	363.0	340.3	
Initial Weight, g	276.4	324.1	314.9	
Net weight, g	40.4	38.9	25.4	
Impinger 7 Si Gel (2)				
Final Weight, g	909.8	920.8	908.8	
Initial Weight, g	886.1	902.9	885.9	
Net weight, g	23.7	17.9	22.9	
Total Catch, g	808.7	777.4	700.6	

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M5

Page 1 of 1

TRC Environmental Corporation

Client Name	Stericycle	Run Number	5-M5-1
Plant Name	Stericycle - Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10/1/14
Sampling Location	Unit 1 Stack	Start Time	1435
Test Personnel	BEM	Operator Signature	[signature]
		Stop Time	1543

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.15	1444	1.604	0.9926	6-7-52	~~0.84~~ 0.310	059308	0.84	N/A	GLASS

Sample Train Leak Check								Fyrites			Orsat
Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Time	%O2	%CO2	Check
X Pitot, pretest	Vacuum, in Hg	15"	12"								
X Pitot, post-test	Leak Rate, cfm	0.000	0.000								Bag ID
X Positive DGM, pretest			Start Volume								
X Positive DGM, post-test			Stop Volume								

K Factor Setup Data		K = 5.85									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Filter exit Temp (°F)
1	A-1	1435	0	278.478	0.25	~~1.46~~ 1.80	80	147	255	258	5	59	N/A	250
2	2		2.5	280.43	0.30	1.76	80	148	256	258	5	58		251
3	3		5	282.40	0.22	1.29	80	146	258	257	5	58		255
4	4		7.5	284.22	0.20	1.17	80	148	257	256	5	57		253
5	5		10	286.05	0.22	1.29	80	148	255	259	5	57		250
6	6		12.5	287.95	0.25	1.46	80	150	258	257	5	57		251
7	7		15	290.00	0.30	1.76	81	151	257	259	5	56		250
8	8		17.5	292.23	0.36	2.11	81	151	255	258	5	56		250
9	9		20	294.25	0.40	2.34	81	151	254	257	5	56		251
10	10		22.5	296.45	0.22	1.29	81	151	256	258	6	56		252
11	11		25	298.48	0.18	1.05	81	150	256	257	5	56		251
12	12		27.5	300.40	0.30	1.76	81	150	258	255	5	56		250
13	B-1	1505 / 1507	30	302.350	0.30	1.76	82	143	255	258	5	55		252
14	2		32.5	304.40	0.36	2.11	82	144	256	256	5	55		250
15	3		35	306.75	0.40	2.34	82	145	258	257	6	54		252
16	4		37.5	309.33	0.42	2.45	82	149	258	256	6	54		251
17	5		40	312.00	0.48	2.81	82	150	256	259	7	55		251
18	6		42.5	314.77	0.65	3.80	83	150	255	258	7	55		252
19	7		45	317.05	0.60	3.51	83	150	256	255	8	56		253
20	8		47.5	320.08	0.50	2.93	83	150	257	258	8	56		255
21	9		50	322.74	0.40	2.34	83	150	256	254	8	57		251
22	10		52.5	325.35	0.36	2.11	83	150	257	255	7	57		250
23	11		55	327.45	0.30	1.76	83	150	256	254	7	56		250
24	12		57.5	329.83	0.25	1.46	84	149	255	256	6	57		248
25	END	1543	60	331.815	-	-	-	-	-	-	-	-		-

Delta H 1.46 →

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
60	53.337	0.577	2.01	82	145

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M5

Page 1 of 1

TRC Environmental Corporation

Client Name	Steriacycle	Run Number	S-M5-2
Plant Name	Steriacycle - Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10/1/14
Sampling Location	Unit 1 Stack	Start Time	1635
Test Personnel	BEM, NA	Operator Signature	[signature]
		Stop Time	1741

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.15	1444	1.604	0.9926	G-7-52	0.310	051308	0.84	N/A	GLASS

Sample Train Leak Check		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Fyrites Time	Fyrites %O2	Fyrites %CO2	Orsat Check
Equipment Leak Checks											
X Pitot, pretest	Vacuum, in Hg	15"	6"								
X Pitot, post-test	Leak Rate, cfm	0.001	0.000								Bag ID
X Positive DGM, pretest			Start Volume								
X Positive DGM, post-test			Stop Volume								

K Factor Setup Data		K = 5.85									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Filtered Temp (°F)
1	B-1	1635	0	331.972	0.25	1.46	81	144	255	258	4	58	N/A	250
2	2		2.5	333.96	0.30	1.76	81	148	257	255	5	59		255
3	3		5	336.10	0.25	1.46	81	149	256	258	5	54		256
4	4		7.5	338.04	0.32	1.87	81	153	257	258	5	54		250
5	5		10	340.00	0.40	2.34	81	153	258	259	5	54		251
6	6		12.5	342.60	0.51	2.98	81	154	255	254	5	54		250
7	7		15	345.35	0.55	3.21	81	154	259	258	5	54		252
8	8		17.5	348.26	0.30	1.76	81	153	258	259	5	55		252
9	9		20	350.18	0.20	1.17	81	152	257	260	5	56		252
10	10		22.5	351.92	0.30	1.76	81	152	258	255	5	56		250
11	11		25	354.30	0.17	1.00	81	152	255	260	5	57		251
12	12		27.5	356.08	0.17	1.00	81	152	258	259	5	59		250
13	A-1	1705/1711	30	357.340	0.30	1.76	81	145	258	256	5	60		252
14	2		32.5	359.24	0.17	1.00	81	142	258	255	5	60		250
15	3		35	361.00	0.38	2.22	81	146	260	255	5	59		250
16	4		37.5	363.38	0.25	1.46	82	149	256	258	5	59		248
17	5		40	365.18	0.25	1.46	82	149	256	257	5	58		250
18	6		42.5	367.19	0.45	2.63	82	151	255	259	5	56		251
19	7		45	369.43	0.32	1.87	82	152	254	255	5	56		247
20	8		47.5	371.87	0.20	1.17	82	152	258	260	5	56		247
21	9		50	373.65	0.32	1.87	82	153	259	257	5	57		250
22	10		52.5	375.58	0.20	1.17	82	149	255	256	5	58		250
23	11		55	377.62	0.28	1.64	82	144	258	255	5	55		251
24	12		57.5	380.11	0.28	1.64	83	149	255	256	5	55		252
25	END	1741	60	381.773	—	—	—	—	—	—	—	—		—

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
60	49.801	0.529	1.74	81	150

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M5

Page 1 of 1

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M5-3
Plant Name	Stericycle-Salt Lake City	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10/1/14
Sampling Location	Unit 1 Stack	Start Time	1813
Test Personnel	BEM, NA	Operator Signature	[signature]
		Stop Time	1919

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.15	144	1.604	0.9926	6-7-52	0.310	051308	084	N/A	GLASS

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Sample Train Leak Check	Fyrites Time	Fyrites %O2	Fyrites %CO2	Orsat Check
X Pitot, pretest	Vacuum, in Hg	15"	8"									
X Pitot, post-test	Leak Rate, cfm	0.001	0.000									Bag ID
X Positive DGM, pretest	Start Volume											
X Positive DGM, post-test	Stop Volume											

K Factor Setup Data											
		K = 585 - 5.75									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Filter exit Temp (°F)
1	A-1	1813	0	381.893	0.23	1.35	81	144	258	256	5	58	N/A	248
2	2		2.5	383.77	0.23	1.35	81	143	256	258	5	59		250
3	3		5	385.70	0.30	1.73	81	144	258	257	5	59		251
4	4		7.5	387.69	0.27	1.55	81	145	257	256	5	57		251
5	5		10	389.92	0.27	1.55	81	150	257	252	5	57		250
6	6		12.5	392.02	0.38	2.19	81	152	258	258	5	54		250
7	7		15	394.28	0.45	2.59	81	152	255	259	6	54		251
8	8		17.5	396.64	0.45	2.59	81	152	257	260	6	53		252
9	9		20	398.85	0.55	3.16	82	152	255	258	6	53		250
10	10		22.5	401.92	0.50	2.88	82	152	256	259	7	54		251
11	11		25	404.28	0.38	2.19	82	152	257	255	7	54		252
12	12		27.5	406.60	0.38	2.19	82	151	256	258	7	54		253
13	B-1	1843 / 1849	30	409.221	0.32	1.84	82	143	258	257	6	54		252
14	2		32.5	411.35	0.32	1.84	82	147	258	255	6	54		247
15	3		35	413.84	0.35	2.00	82	150	257	256	6	55		250
16	4		37.5	415.96	0.30	1.73	82	152	256	254	6	55		251
17	5		40	417.77	0.30	1.73	82	153	256	258	6	56		252
18	6		42.5	419.82	0.23	1.35	82	150	257	256	6	56		256
19	7		45	421.94	0.45	2.59	82	152	255	259	6	56		248
20	8		47.5	424.60	0.28	1.61	82	152	257	256	7	57		246
21	9		50	426.25	0.32	1.84	82	151	255	260	7	57		249
22	10		52.5	428.38	0.35	2.00	82	152	258	255	6	58		251
23	11		55	430.83	0.30	1.73	82	150	257	256	6	59		255
24	12		57.5	432.67	0.28	1.61	82	150	258	256	6	59		250
25	END	1919	60	434.865	–	–	–	–	–	–	–	–		–

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
60	52.972	0.580	1.97	82	150

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METHOD 4 - MOISTURE ANALYSIS DATA SHEET

Client Name	Stericycle	Project Number	223797
Plant Name	Salt Lake City	Sample Method	M5
City / State	Salt Lake City, UT	Recovery Location	TRC Mobile Lab
Test Location	Unit 1 Stack	Analyst Signature	[illegible]

		(E)		
Run Number	S-M5-1	S-M5-2	S-M5-3	
Test Date	10-1-2014	10-1-2014	10-1-14	
Recovery Date	10-1-2014	10-1-2014	10-1-14	
Recovered By	DMB	MGB	GB	
Impinger 1 DI				
Final Weight, g	866.7	897.6	885.7	
Initial Weight, g	713.1	726.4	711.3	
Net weight, g	153.6	171.2	174.4	
Impinger 2 DI				
Final Weight, g	722.9	761.3	744.9	
Initial Weight, g	683.6	728.0	697.7	
Net weight, g	39.3	33.3	47.2	
Impinger 3 ~~MT~~ Empty				
Final Weight, g	670.2	532.2	676.5	
Initial Weight, g	665.6	527.3	670.2	
Net weight, g	4.6	4.9	6.3	
Impinger 4 SilGel				
Final Weight, g	895.3	889.8	848.8	
Initial Weight, g	883.0	879.1	837.3	
Net weight, g	12.3	10.7	11.5	
Impinger 5				
Final Weight, g				
Initial Weight, g				
Net weight, g				
Impinger 6				
Final Weight, g				
Initial Weight, g				
Net weight, g				
Impinger 7				
Final Weight, g				
Initial Weight, g				
Net weight, g				
Total Catch, g	209.8	220.1	239.4	

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M26A

Page 1 of 1

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M26A-1
Plant Name	Stericycle - SLC	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10.1.14
Sampling Location	Unit 1 Stack	Start Time	1455
Test Personnel	GPB	Operator Signature	
		Stop Time	1543

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.15	1459	1.664	0.9820	G-7-76	0.306	0.84	N/A	GL

Sample Train Leak Check Pitot ID: 65 1413164B

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Fyrites Time	Fyrites %O2	Fyrites %CO2	Orsat Check
✓ Pitot, pretest	Vacuum, in Hg	15"	12"	7"							
✓ Pitot, post-test	Leak Rate, cfm	0.001	0.001	0.000							
✓ Positive DGM, pretest			Start Volume	87.663							Bag ID
✓ Positive DGM, post-test			Stop Volume	87.755							

K Factor Setup Data: K = 5.76

Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	B-12	1435	0	63.398	0.24	1.38	78	148	258	265	1	66	—	—
2	11		2.5	65.255	0.31	1.79	77	148	260	262	1	66	—	—
3	10		5	67.275	0.18	1.04	77	151	260	261	1	67	—	—
4	9		7.5	68.885	0.19	1.09	78	147	256	263	1	67	—	—
5	8		10	70.475	0.24	1.38	78	147	257	262	1	67	—	—
6	7		12.5	72.265	0.30	1.73	79	147	258	262	1	66	—	—
7	6		15	74.310	0.43	2.48	79	148	257	262	2	66	—	—
8	5		17.5	76.750	0.42	2.42	79	147	253	263	2	66	—	—
9	4		20	79.075	0.40	2.30	79	147	258	263	2	65	—	—
10	3		22.5	81.430	0.34	1.96	80	147	255	263	1.5	65	—	—
11	2		25	83.645	0.22	1.27	80	146	254	264	1	65	—	—
12	1		27.5	85.365	0.40	2.30	80	147	255	263	2	65	—	—
13	A-12	1505 / 1513	30	87.663	0.22	1.27	81	142	259	263	1	66	—	—
14	11		32.5	89.530	0.27	1.56	81	145	255	262	1	63	—	—
15	10		35	91.430	0.37	2.13	83	147	256	265	1.5	62	—	—
16	9		37.5	93.640	0.44	2.53	81	146	261	264	2	61	—	—
17	8		40	96.075	0.54	3.11	81	147	260	263	3	61	—	—
18	7		42.5	98.760	0.58	3.34	81	147	256	263	3	60	—	—
19	6		45	101.930	0.63	3.63	81	147	254	263	4	61	—	—
20	5		47.5	104.465	0.55	3.17	81	146	254	262	3	63	—	—
21	4		50	107.215	0.47	2.71	82	146	258	264	3	64	—	—
22	3		52.5	109.760	0.40	2.30	82	146	257	263	2	65	—	—
23	2		55	112.135	0.35	2.02	83	144	252	264	1.5	65	—	—
24	1		57.5	114.330	0.32	1.84	82	143	254	263	1.5	65	—	—
25	END	1543	60	116.412										

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
60	53.014	0.597	2.16	80	147

Checked By: _____ (sign) 10-19-14 (print)
(Project Manager or QA Manager)

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M26A

Page 1 of 1

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M26A-2
Plant Name	Stericycle-SLC	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10.1.14
Sampling Location	Unit 1 stack	Start Time	1635
Test Personnel	GPB	Stop Time	1741

Operator Signature

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.16	1459	1.664	0.9820	G-7-76	0.306	U	0.84	N/A	GL

Sample Train Leak Check Pitot ID: 05141316 43

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Fyrites Time	%O2	%CO2	Orsat Check
✓ Pitot, pretest	Vacuum, in Hg	14"	10"								
✓ Pitot, post-test	Leak Rate, cfm	0.005	0.009								Bag ID
✓ Positive DGM, pretest	Start Volume										
✓ Positive DGM, post-test	Stop Volume										

K Factor Setup Data		K = 5.76									
Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	A-12	1635	0	118.306	0.22	1.27	79	147	256	259	1	64	—	—
2	11		2.5	120.100	0.22	1.27	79	148	261	258	1	59	—	—
3	10		5	121.845	0.24	1.38	82	148	262	261	1	57	—	—
4	9		7.5	123.630	0.27	1.56	80	149	258	260	1	54	—	—
5	8		10	125.620	0.43	2.48	81	150	257	261	2	55	—	—
6	7		12.5	127.900	0.59	3.40	81	150	258	264	3.5	54	—	—
7	6		15	130.700	0.55	3.17	80	150	259	262	3.5	55	—	—
8	5		17.5	133.450	0.33	1.90	80	149	253	261	2	57	—	—
9	4		20	135.600	0.26	1.50	82	149	257	262	1	58	—	—
10	3		22.5	137.510	0.42	2.42	81	149	255	261	2	58	—	—
11	2		25	139.885	0.17	0.98	81	148	258	263	1	59	—	—
12	1	1705	27.5	141.475	0.17	0.98	80	147	255	262	1	59	—	—
13	B-12	1711	30	143.011	0.25	1.44	81	145	258	266	1	63	—	—
14	11		32.5	144.780	0.18	1.04	80	146	256	265	1	62	—	—
15	10		35	146.380	0.30	1.73	81	147	259	264	1	63	—	—
16	9		37.5	148.385	0.17	0.98	81	147	254	263	1	64	—	—
17	8		40	149.950	0.18	1.04	81	147	254	264	1	63	—	—
18	7		42.5	151.540	0.48	2.76	82	146	257	263	3	64	—	—
19	6		45	154.050	0.50	2.88	82	148	253	263	3	65	—	—
20	5		47.5	156.670	0.34	1.96	81	149	254	262	2	66	—	—
21	4		50	158.835	0.34	1.96	81	149	253	262	2	66	—	—
22	3		52.5	160.975	0.25	1.44	81	149	256	265	1.5	66	—	—
23	2		55	162.800	0.20	1.15	81	147	255	263	1	65	—	—
24	1		57.5	164.475	0.17	0.98	82	145	258	263	1	66	—	—
25	END	1741	60	166.018										

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
60	47.712	0.538	1.74	81	148

Checked By: _____ (sign) 10-19-14 (print)
(Project Manager or QA Manager)

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ISOKINETIC FIELD DATA SHEET

METHOD(S) M26A

Page 1 of 1

TRC Environmental Corporation

Client Name	Stericycle	Run Number	S-M26A-3
Plant Name	Stericycle - SLC	Job Number	223797
City / State	Salt Lake City, UT	Test Date	10.1.14
Sampling Location	Unit 1 Stack	Start Time	1813
Test Personnel	GMB	Operator Signature	Stop Time 1919

Filter/XAD	Tare	P barometer (in. Hg)	P static (in H2O)	Meterbox ID #	Meterbox Delta H@	Meterbox Y (Gamma)	Nozzle ID #	Nozzle Diameter	Pitot Tube ID #	Pitot Tube Cp	Probe ID #	Liner Material
		25.34	-0.16	1459	1.664	0.9820	G-7-76	0.306	K	0.84	N/A	GL

Sample Train Leak Check P: 7 30.05 14 31 16 43 Fyrites

Equipment Leak Checks		Initial	Final	Interm 1	Interm 2	Interm 3	Interm 4	Time	%O2	%CO2	Orsat Check
✓ Pitot, pretest	Vacuum, in Hg	13"	10"								
✓ Pitot, post-test	Leak Rate, cfm	0.001	0.001								Bag ID
✓ Positive DGM, pretest		668 Start Volume									
✓ Positive DGM, post-test		710.1 Stop Volume									

K Factor Setup Data K = 5.86

Delta H@	Meter Y	Nozzle Dia.	Avg DeltaP	% H2O	T stack	T meter	Pbar	Pstatic	% O2	%CO2	Cp

Line	Point No.	Time Clock (24-hr)	Time Test (min)	Dry Gas Meter Reading (cu. ft.)	Pitot Reading (in. H2O)	Delta H Actual (in. H2O)	DGM Temp (°F)	Stack Temp (°F)	Probe Temp (°F)	Filter/Box Temp (°F)	Gauge Vacuum (in. Hg)	Imp Exit Temp (°F)	XAD Temp (°F)	Temp (°F)
1	B-12	1813	0	166.263	0.21	1.21	80	145	255	261	1	65	—	—
2	11		2.5	168.130	0.16	0.92	81	145	254	261	1	59	—	—
3	10		5	169.645	0.28	1.58	81	144	255	260	1	55	—	—
4	9		7.5	171.545	0.19	1.08	81	145	253	261	1	52	—	—
5	8		10	173.150	0.23	1.30	81	147	251	261	1	53	—	—
6	7		12.5	174.900	0.34	1.92	81	148	255	263	1	54	—	—
7	6		15	177.050	0.55	3.11	80	150	251	262	2	54	—	—
8	5		17.5	179.750	0.74	4.19	81	149	251	263	4	54	—	—
9	4		20	183.155	0.63	3.57	80	149	252	262	3.5	55	—	—
10	3		22.5	185.835	0.48	2.72	81	149	250	262	2	57	—	—
11	2		25	188.380	0.40	2.26	81	148	256	261	2	58	—	—
12	1	1843	27.5	190.725	0.40	2.26	82	148	253	264	2	58	—	—
13	A-12	1844	30	193.057	0.30	1.70	81	146	255	261	1	62	—	—
14	11		32.5	195.085	0.25	1.42	82	147	258	262	1	59	—	—
15	10		35	196.895	0.28	1.58	81	147	256	262	1	57	—	—
16	9		37.5	198.830	0.25	1.42	82	148	257	263	1	57	—	—
17	8		40	200.660	0.22	1.25	81	149	253	263	1	57	—	—
18	7		42.5	202.410	0.28	1.58	82	138	253	264	1	58	—	—
19	6		45	204.275	0.47	2.66	81	138	252	262	2.5	59	—	—
20	5		47.5	206.760	0.34	1.92	83	148	255	262	2	60	—	—
21	4		50	208.980	0.38	2.15	81	148	255	261	2	60	—	—
22	3		52.5	211.210	0.41	2.32	83	148	254	264	2	61	—	—
23	2		55	213.510	0.35	1.98	84	146	252	263	2	62	—	—
24	1		57.5	215.670	0.32	1.81	82	145	255	269	2	63	—	—
25	END	1919	60	217.738										

Run Time	Total Volume	RMS Delta P	Delta H	Tmeter Avg	Tstack Avg
60	51.475	0.583	2.00	81	146

Checked By: _____ (sign) 10-19-14 (print)
(Project Manager or QA Manager)

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TRC
Environmental Corporation

METHOD 4 - MOISTURE ANALYSIS DATA SHEET

Client Name	Stericycle	Project Number	223797
Plant Name	Salt Lake City	Sample Method	M26A
City / State	Salt Lake City	Recovery Location	TRC Trailer
Test Location	Unit 1 Stack	Analyst Signature	MGB

Run Number	S-M26A-1	S-26A-2	S-26A-3	
Test Date	10-1-14	10-1-14	10-1-14	
Recovery Date	10-1-14	10-1-14	10-1-14	
Recovered By	DMB	MGB	MGB	
Impinger 1 0.1N H_2SO_4				
Final Weight, g	748.7	871.8	855.9	
Initial Weight, g	692.6	724.1	701.2	
Net weight, g	56.1	147.7	154.7	
Impinger 2 0.1N H_2SO_4				
Final Weight, g	709.2	762.5	696.8	
Initial Weight, g	635.9	713.4	641.9	
Net weight, g	73.3	49.1	54.9	
Impinger 3 0.1N NaOH				
Final Weight, g	729.1	727.5	683.5	
Initial Weight, g	684.0	717.9	670.9	
Net weight, g	45.1	9.6	12.6	
Impinger 4 0.1N NaOH				
Final Weight, g	773.4	696.5	739.0	
Initial Weight, g	753.4	692.3	737.0	
Net weight, g	20	4.2	2.0	
Impinger 5 Silgel				
Final Weight, g	852.3	821.7	808.3	
Initial Weight, g	835.6	812.3	798.5	
Net weight, g	16.7	9.4	9.8	
Impinger 6 _____				
Final Weight, g				
Initial Weight, g				
Net weight, g				
Impinger 7 _____				
Final Weight, g				
Initial Weight, g				
Net weight, g				
Total Catch, g	211.2	~~367.7~~ 220	234.0	
	X	Z	PLV	

Checked By: [signature] (sign) 10-19-14 (print)
(Project Manager or QA Manager)

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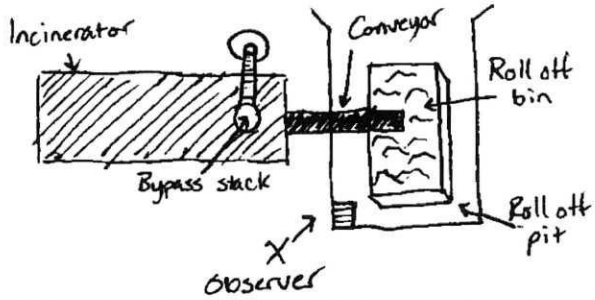
Fugitive or Smoke Emission Inspection
Outdoor Location
EPA Method 22

Company Stericycle	**Observer** Matt Brooks
Location Salt Lake City	**Affiliation** TRC
Process Unit Bottom Ash Conveyer	**Date** 9-30-2014
Sky Conditions N/A	**Wind Direction** N/A
Precipitation N/A	**Wind Speed** N/A

Sketch process unit: indicate observer position relative to source and sun; indicate potential emission points and/or actual emission points.



Observations

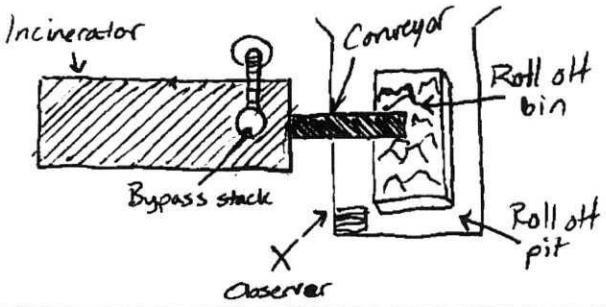
	Clock time	Observation period duration (min:sec)	Accumulated emission time (min:sec)
Begin Observation	16:03		
	16:23	20:00	00:00
	16:36		
	16:50	20:00	00:00
	16:55		
	17:15	20:00	00:00
End Observation			

TRC

Fugitive or Smoke Emission Inspection
Outdoor Location
EPA Method 22

Company Stericycle	**Observer** Matt Brooks
Location Salt Lake City	**Affiliation** TRC
Process Unit Bottom Ash Conveyer	**Date** 9-30-2014
Sky Conditions N/A	**Wind Direction** N/A
Precipitation N/A	**Wind Speed** N/A

Sketch process unit: Indicate observer position relative to source and sun; indicate potential emission points and/or actual emission points.



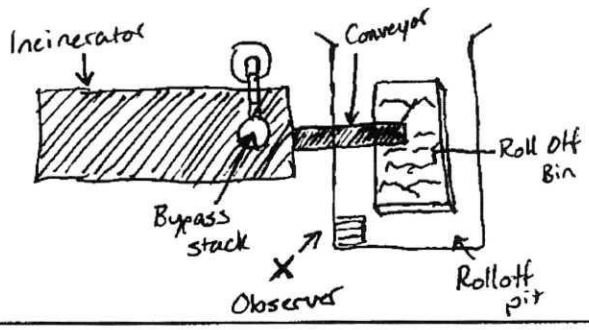
Observations

	Clock time	Observation period duration (min:sec)	Accumulated emission time (min:sec)
Begin Observation	11:40		
	12:00	20:00	00:00
	12:05		
	12:25	20:00	00:00
	12:30		
	12:50	20:00	00:00
End Observation			

Fugitive or Smoke Emission Inspection
Outdoor Location
EPA Method 22

Company Stericycle	**Observer** Matt Brooks
Location Salt Lake City	**Affiliation** TRC
Process Unit Bottom Ash Conveyor	**Date** 9.30.2014
Sky Conditions N/A	**Wind Direction** N/A
Precipitation N/A	**Wind Speed** N/A

Sketch process unit: indicate observer position relative to source and sun; indicate potential emission points and/or actual emission points.



Observations

	Clock time	Observation period duration (min:sec)	Accumulated emission time (min:sec)
Begin Observation	10:15		
	10:35	20:00	00:00
	10:42		
	11:02	20:00	00:00
	11:12		
	11:32	20:00	00:00
End Observation			

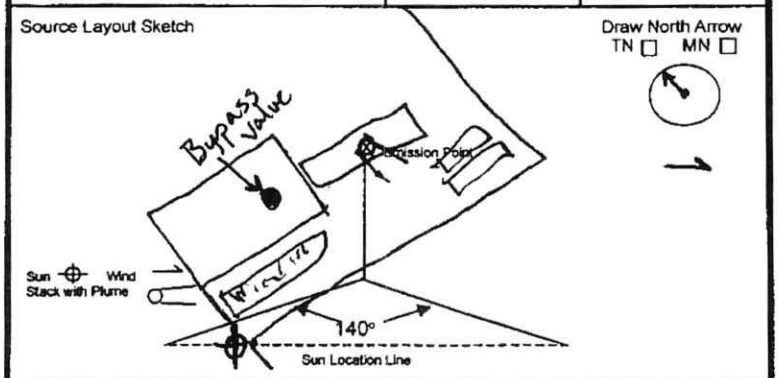
Visible Emission Observation Form

TRC

FACILITY NAME: Stericycle	
STREET ADDRESS: 90N 1100W	
CITY: North Salt Lake	STATE: UT / ZIP: 84054
SOURCE NAME: Unit 1 Stack	ID #: 1
PROCESS EQUIPMENT: HMWI	OPERATING MODE: >90%
CONTROL EQUIPMENT: Absorber/Baghouse/Scrubber	OPERATING MODE: Normal
DESCRIBE EMISSION POINT: Brown cylindrical vertical stack	
HEIGHT ABOVE GROUND LEVEL: START ~45ft STOP same	HEIGHT RELATIVE TO OBSERVER: START ~45ft STOP same
DISTANCE FROM OBSERVER: START ~150ft STOP same	DIRECTION FROM OBSERVER: START ~15°N STOP same
DESCRIBE EMISSIONS: START None visible	STOP same
EMISSION COLOR: START N/A STOP same	PLUME TYPE: CONTINUOUS ☑ FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT: NO ☐ YES ☑	IF WATER DROPLET PLUME: ATTACHED ☐ DETACHED ☑
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED: START ~1 ft beyond stack exit	STOP same
DESCRIBE BACKGROUND: START sky	STOP same
BACKGROUND COLOR: START Blue STOP Blue	SKY CONDITIONS: START partly cloudy STOP clear
WIND SPEED: START 12 mph STOP 9mph	WIND DIRECTION: START WNW STOP NE
AMBIENT TEMP: START 55°F STOP 54°F	WET BULB TEMP: / / RH PERCENT: 45%

Source Layout Sketch

Draw North Arrow TN ☐ MN ☐



COMMENTS

PROJECT NUMBER: 223797		
OBSERVATION DATE: 10-1-2014	START TIME: 18:13	STOP TIME: 19:13

MIN \ SEC	0	15	30	45	MIN \ SEC	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

AVERAGE OPACITY FOR HIGHEST 60 MINUTE PERIOD: 0	NUMBER OF READINGS ABOVE 20 % WERE: 0
RANGE OF OPACITY READINGS: 0 MINIMUM	0 MAXIMUM
OBSERVER'S NAME (PRINT): Matt Brooks	
OBSERVER'S SIGNATURE: [signature]	DATE: 10-1-2014
ORGANIZATION: TRC	
CERTIFIED BY: ETA	DATE: 8-27-2014

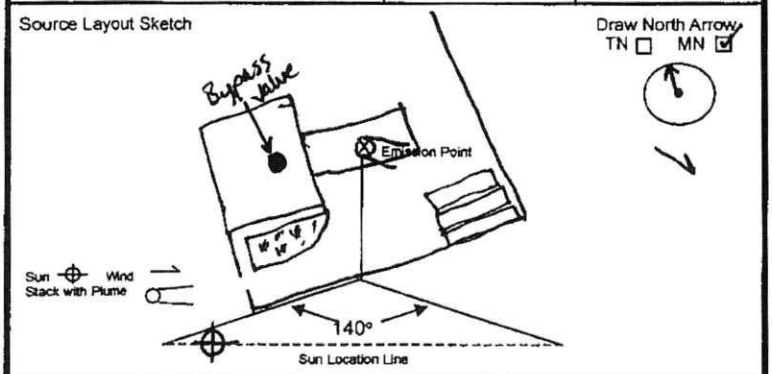
Visible Emission Observation Form

TRC

FACILITY NAME	Stericycle - Salt Lake City
STREET ADDRESS	90N 1100 W
CITY	North Salt Lake
STATE	UT
ZIP	84054
SOURCE NAME	Unit 1 Stack
ID #	1
PROCESS EQUIPMENT	HMWI
OPERATING MODE	>90%
CONTROL EQUIPMENT	Absorber / Baghouse / Scrubber
OPERATING MODE	Normal
DESCRIBE EMISSION POINT	Brown cylindrical vertical stack
HEIGHT ABOVE GROUND LEVEL	START ~45ft STOP same
HEIGHT RELATIVE TO OBSERVER	START ~45ft STOP same
DISTANCE FROM OBSERVER	START ~150ft STOP same
DIRECTION FROM OBSERVER	START ~ 50N STOP same
DESCRIBE EMISSIONS	START None Visible STOP same
EMISSION COLOR	START N/A STOP same
PLUME TYPE: CONTINUOUS ☑	FUGITIVE ☒ INTERMITTENT ☐
WATER DROPLETS PRESENT	NO ☐ YES ☑
IF WATER DROPLET PLUME	ATTACHED ☐ DETACHED ☑
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED	START ~1 ft beyond stack exit STOP same
DESCRIBE BACKGROUND	START sky STOP same
BACKGROUND COLOR	START blue STOP
SKY CONDITIONS	START partly cloudy STOP same
WIND SPEED	START 8mph STOP 12 mph
WIND DIRECTION	START NNW STOP NW
AMBIENT TEMP	START 54°F STOP 55°F
WET BULB TEMP	/
RH PERCENT	59%

Source Layout Sketch

Draw North Arrow TN ☐ MN ☑



COMMENTS

PROJECT NUMBER	223797
OBSERVATION DATE	10-1-2014
START TIME	16:35
STOP TIME	17:35

MIN \ SEC	0	15	30	45	MIN \ SEC	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

AVERAGE OPACITY FOR HIGHEST 6 MINUTE PERIOD: 0

NUMBER OF READINGS ABOVE 20 % WERE: 0

RANGE OF OPACITY READINGS

0 MINIMUM 0 MAXIMUM

OBSERVER'S NAME (PRINT)	Matt Brooks
OBSERVER'S SIGNATURE	[signature]
DATE	10-1-2014
ORGANIZATION	TRC
CERTIFIED BY	ETA
DATE	8-22-2014

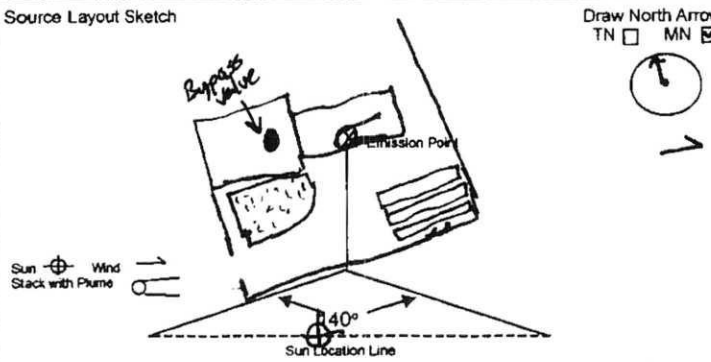
Visible Emission Observation Form

TRC

FACILITY NAME	Stericycle - Salt Lake City
STREET ADDRESS	90 N 1100 W ~~North Salt Lake~~
CITY	North Salt Lake
STATE	UT
ZIP	84054
SOURCE NAME	Unit 1 Stack
ID #	1
PROCESS EQUIPMENT	HMWI
OPERATING MODE	>90%
CONTROL EQUIPMENT	Absorber/Baghouse/Scrubber
OPERATING MODE	Normal
DESCRIBE EMISSION POINT	Brown cylindrical vertical stack
HEIGHT ABOVE GROUND LEVEL	START ~45 ft STOP same
HEIGHT RELATIVE TO OBSERVER	START ~45 ft STOP same
DISTANCE FROM OBSERVER	START ~150 ft STOP same
DIRECTION FROM OBSERVER	START ~5° N STOP same
DESCRIBE EMISSIONS	START None Visible STOP same
EMISSION COLOR	START N/A STOP same
PLUME TYPE: CONTINUOUS ☑	FUGITIVE ☐ INTERMITTENT ☐
WATER DROPLETS PRESENT	NO ☐ YES ☑
IF WATER DROPLET PLUME	ATTACHED ☒ DETACHED ☑
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED	START ~1 ft beyond stack exit STOP same
DESCRIBE BACKGROUND	START sky STOP ~~gray/white~~ same
BACKGROUND COLOR	START gray/white STOP blue/white
SKY CONDITIONS	START partly cloudy STOP partly cloudy
WIND SPEED	START 10 mph STOP 12 mph
WIND DIRECTION	START W STOP W
AMBIENT TEMP	START 55°F STOP 54°F
WET BULB TEMP	/
RH PERCENT	45%

Source Layout Sketch

Draw North Arrow TN ☐ MN ☑



COMMENTS

PROJECT NUMBER	223797
OBSERVATION DATE	10/1/2014
START TIME	14:35
STOP TIME	15:35

MIN \ SEC	0	15	30	45	MIN \ SEC	0	15	30	45
1	0	0	0	0	31	0	0	0	0
2	0	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

AVERAGE OPACITY FOR HIGHEST 6 MINUTE PERIOD: 0	NUMBER OF READINGS ABOVE 20 % WERE: 0
RANGE OF OPACITY READINGS	0 MINIMUM 0 MAXIMUM
OBSERVER'S NAME (PRINT)	Matt Brooks
OBSERVER'S SIGNATURE	[signature]
DATE	10/1/2014
ORGANIZATION	TRC
CERTIFIED BY	ETA
DATE	8-27-2014

TRC
Environmental Corporation

CYCLONIC FLOW DETERMINATION DATA SHEET
(WITH PRELIMINARY VELOCITY AND MOISTURE)

Client Name	Stericycle			Velocity Run No.	Prelim			
Plant Name	Stericycle - North Salt Lake			Moisture Run No.	N/A			
City/State	Salt Lake City, UT			Project Number	223797			
Test Location	Unit 1 Stack			Test Date	9/29/14			
Personnel	BEM, NA			Time:	Start	1500	Stop	1520
Pitot I.D	051308	Pitot Coeff.	0.84	P barometer, "Hg	~~-0.15~~ (bm) 25.34			
Meter Box ID	1444	Gas Meter Y	0.9926	P static, " H_2O	-0.15			
Pressure Gauge ID	1444	TC ID	N/A	Tester Signature	[signature]			

Cyclonic Flow / Velocity Traverse

	Point No.	Yaw Angle (deg)	Delta P in. H_2O	Temp Deg. F
1	A-12	0	0.11	133
2	11	5	0.14	133
3	10	5	0.16	133
4	9	10	0.21	133
5	8	5	0.25	133
6	7	5	0.25	133
7	6	0	0.22	133
8	5	0	0.25	133
9	4	5	0.21	133
10	3	10	0.17	133
11	2	10	0.15	133
12	1	5	0.13	133
13	B-12	5	0.21	133
14	11	5	0.19	133
15	10	10	0.23	133
16	9	15	0.17	133
17	8	15	0.18	133
18	7	0	0.20	133
19	6	0	0.19	133
20	5	5	0.17	133
21	4	0	0.16	133
22	3	0	0.14	133
23	2	5	0.12	133
24	1	5	0.12	133
25				
26				
27				
28				
Avg		5.2	0.18	133

Flow increase *

-low decrease *

Location is acceptable if avg of ABS(Yaw) ≤ 20°

Preliminary Moisture Sample Data

Test Time	DGM Reading Cubic Feet	Avg DGM Temp (F)	Delta H in. H_2O	Vac. in. Hg	Imp Exit Temp (F)
0/					
5					
10					
15					
20					
25					
30/					
35					
40					
45					
50					
55					
60/					

Gas Parameters

Moisture Analytical Results

	# 1	# 2	# 3	# 4	Sil Gel
Final Wt. / Vol					
Initial Wt. / Vol					
Moisture Gain					

Total Catch

Balance No. _____

O_2 / CO_2 Data	Fyrite	Orsat	CEM	Leak Check Data	Pre	Post
O_2 %				Meter in. Hg		
CO_2%				cfm		
				Pitot	✓	✓

Delta P avg is square of the average of the individual square roots

Checked By: [signature] (sign) 10-19-14 (print)
(Project Manager or QA Manager)

RAL-M2CYC-4.XLS

METHOD 1 - TRAVERSE POINT LOCATIONS

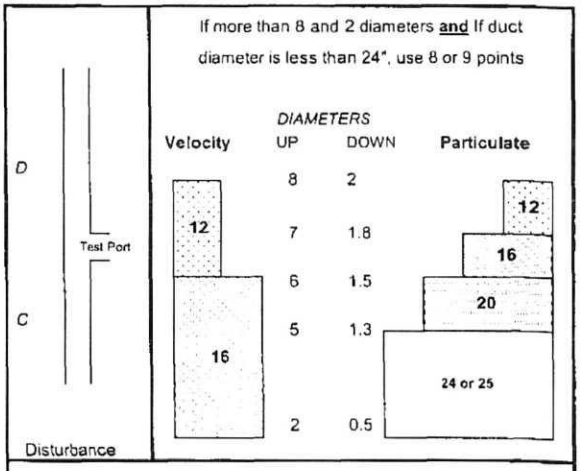
TRC
Environmental Corporation

Plant Name	Stericycle - North Salt Lake
City/State	North Salt Lake, UT
Test Location	Unit 1 Stack
Personnel / Date	NA/BEM 9/29/14

Stack / Ports	Type of Stack	Round	x	Rectangle	
	No. of Ports Available			2	
	No. of Ports Used			2	
	Port Inside Diameter, in			3	in

Dimensions			
	Far Wall to Outside of Port, in	30.75	in
	Port Length, in	6.00	in
Put diagram of test location(s) on back of this sheet	Stack Diameter or Depth, in	24.75	in
	Stack Width (if rectangle), in		in
	Equivalent Stack Diameter, in	24.75	in
	Area of Stack, ft^2	3.341	ft^2

Distance to Flow Disturbances	Distance ft	Distance in	Diameters
Upstream (C)	0	52.0	**2.101**
Downstream (D)	~ 20.0	0.0	**9.697**



DRAW HORIZONTAL LINES THROUGH UPSTREAM AND DOWNSTREAM DIAMETERS AND USE THE HIGHER NUMBER OF POINTS.

Number of Traverse Points			Minimum Required	Actual Number of Points Used	
		Particulate Traverse	24 or 25	24	x
		Velocity Traverse	16		
	# of Ports Used	2	# Points/Port	12	
		Number of Traverse Points Used		24	

Equivalent Diameter (for rectangular ducts):

De = 2 * Depth * Width / (Depth + Width)

De = 2 * ( ) * ( ) / ( ) + ( ) =

Point No.	Fraction of Stack Dia.	Dist. from Inside Wall	Port Length	Dist. From Edge of Port
1	0.021	1.00	6.0	**7**
2	0.067	1.66	6.0	**7 5/8**
3	0.118	2.92	6.0	**8 7/8**
4	0.177	4.38	6.0	**10 3/8**
5	0.250	6.19	6.0	**12 2/8**
6	0.356	8.81	6.0	**14 6/8**
7	0.644	15.94	6.0	**22**
8	0.750	18.56	6.0	**24 5/8**
9	0.823	20.37	6.0	**26 3/8**
10	0.882	21.83	6.0	**27 7/8**
11	0.933	23.09	6.0	**29 1/8**
12	0.979	23.75	6.0	**29 6/8**
13	Reference Method Points			
14	0.167	4.13	6.0	**10 1/4**
15	0.500	12.38	6.0	**18 3/8**
16	0.833	20.62	6.0	**26 5/8**

Note: When using 4 ports in a circular duct, the probe is marked with only the points for the first half of the full diameter traverse.

LOCATION OF POINTS IN CIRCULAR STACKS OR DUCTS
(Fraction of stack diameter from inside wall to traverse point)

	2	4	6	8	10	12	14	16	18	20
1	.146	.067	.044	.032	.026	.021	.018	.016	.014	.013
2	.854	.250	.146	.105	.082	.067	.057	.049	.044	.039
3		.750	.296	.194	.146	.118	.099	.085	.075	.067
4		.933	.704	.323	.226	.177	.146	.125	.109	.097
5			.854	.677	.342	.250	.201	.169	.146	.129
6			.956	.806	.658	.356	.269	.220	.188	.165
7				.895	.774	.644	.366	.283	.236	.204
8				.968	.854	.750	.634	.375	.296	.250
9					.918	.823	.731	.625	.382	.306
10					.974	.882	.799	.717	.618	.388
11						.933	.854	.780	.704	.612
12						.979	.901	.831	.764	.694
13							.943	.875	.812	.750
14							.982	.915	.854	.796
15								.951	.891	.835
16								.984	.925	.871
17									.956	.903
18									.986	.933
19										.951
20										.987

For 22 or 24 test points, see Method 1 table in CFR

LOCATION OF POINTS IN RECTANGULAR STACKS OR DUCTS
(Fraction of stack diameter from inside wall to traverse point)

	2	3	4	5	6	7	8	9	10	11	12
1	.250	.167	.125	.100	.083	.071	.063	.056	.050	.045	.042
2	.750	.500	.375	.300	.250	.214	.188	.167	.150	.136	.125
3		.833	.625	.500	.417	.357	.313	.278	.250	.227	.208
4			.875	.700	.583	.500	.438	.389	.350	.318	.292
5				.900	.750	.643	.563	.500	.450	.409	.375
6					.917	.786	.688	.611	.550	.500	.458
7						.929	.813	.722	.650	.591	.542
8							.938	.833	.750	.682	.625
9								.944	.850	.773	.708
10									.950	.864	.792
11										.955	.875
12											.958

Checked By: _____ (sign) D. Brewster (print)

B-2
Reference Method CEM

Calibration Error Test at Run 1

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Low-range	Mid-range	High-range
O2	CC157117		CC159269	CC198099
CO2	CC157117		CC159269	CC198099

Date/Time	9/29/2014	17:28:53	PASSED
Analyte	O2	CO2	
Units	%	%	
Zero Ref Cyl	0	0	
Zero Avg	-0.007	0.184	
Zero Error%	0	0.9	
Low Ref Cyl			
Low Avg			
Low Error%			
Mid Ref Cyl	9.787	10.15	
Mid Avg	10.137	9.948	
Mid Error%	1.8	1	
High Ref Cyl	19.41	19.96	
High Avg	19.475	19.741	
High Error%	0.3	1.1	

Initial System Bias Check for Run 1

Operator:	Derek Brewster	
Plant Name:	Stericycle - NSL	
Location:	Unit 1 Stack	
	Reference Cylinder Numbers	
	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269

Date/Time	9/29/2014	17:33:32 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Cal	-0.007	0.184
Zero Avg	0.221	0.288
Zero Bias%	1.2	0.5
Zero Drift%		
Span Ref Cyl	9.787	10.15
Span Cal	10.137	9.948
Span Avg	9.783	10.031
Span Bias%	1.8	0.4
Span Drift%		

Test Run 1 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Stratification Check

		O2 %	CO2 %
9/29/2014	17:38:03	13.034	6.324
9/29/2014	17:39:03	11.945	6.672
9/29/2014	17:40:03	14.232	5.441
9/29/2014	17:41:03	14.776	5.127
9/29/2014	17:42:03	12.713	5.973
9/29/2014	17:43:03	11.614	7.004
9/29/2014	17:44:03	13.084	6.434
9/29/2014	17:45:03	13.036	6.509
9/29/2014	17:46:03	13.039	6.444
9/29/2014	17:47:03	11.525	7.092
9/29/2014	17:48:03	13.043	6.292
9/29/2014	17:49:03	13.968	5.829
9/29/2014	17:50:03	11.945	7.513
9/29/2014	17:51:03	10.579	8.594
9/29/2014	17:52:03	10.925	8.357
9/29/2014	17:53:03	10.517	8.588
9/29/2014	17:54:03	10.617	8.542
9/29/2014	17:55:03	11.197	8.141
9/29/2014	17:56:03	11.311	7.984
9/29/2014	17:57:03	11.174	8.072
9/29/2014	17:58:03	11.072	8.126
9/29/2014	17:59:03	11.165	8.098
9/29/2014	18:00:03	11.728	7.684
9/29/2014	18:01:03	11.428	7.802
9/29/2014	18:02:03	9.73	9.045
9/29/2014	18:03:03	11.497	7.79
9/29/2014	18:04:03	11.755	7.511
9/29/2014	18:05:03	11.056	7.992
9/29/2014	18:06:03	12.027	7.178
9/29/2014	18:07:03	12.304	7.015
9/29/2014	18:08:03	13.272	6.355
9/29/2014	18:09:03	13.488	6.176
9/29/2014	18:10:03	13.298	6.35
9/29/2014	18:11:03	13.702	6.061
9/29/2014	18:12:03	13.774	5.943
9/29/2014	18:13:03	13.384	6.283
9/29/2014	18:14:03	13.433	6.257
9/29/2014	18:15:03	13.091	6.468
9/29/2014	18:16:03	12.201	7.175
9/29/2014	18:17:03	12.492	7.017
9/29/2014	18:18:03	12.665	6.872
9/29/2014	18:19:03	12.731	6.794
9/29/2014	18:20:03	12.876	6.704

9/29/2014	18:21:03	13.092	6.616
9/29/2014	18:22:03	13.826	5.922
9/29/2014	18:23:03	12.424	6.891
9/29/2014	18:24:03	11.15	7.937
9/29/2014	18:25:03	10.122	8.485
9/29/2014	18:26:03	10.453	8.043
9/29/2014	18:27:03	11.738	7.461
9/29/2014	18:28:03	13.518	6.299
9/29/2014	18:29:03	10.907	7.885
9/29/2014	18:30:03	8.57	9.321
9/29/2014	18:31:03	10.4	8.53
9/29/2014	18:32:03	10.118	8.885
9/29/2014	18:33:03	9.79	9.131
9/29/2014	18:34:03	10.725	8.524
9/29/2014	18:35:03	12.774	6.97
Average of Test Run		O2	CO2
		%	%
9/29/2014	18:35:27	12.044	7.246

Test Run 1 End

Final System Bias Check for Run 1

Operator:	Derek Brewster
Plant Name:	Stericycle - NSL
Location:	Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269

Date/Time	9/29/2014	18:51:21 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Cal	-0.007	0.184
Zero Avg	0.18	0.178
Zero Bias%	1	0
Zero Drift%	-0.2	-0.5
Span Ref Cyl	9.787	10.15
Span Cal	10.137	9.948
Span Avg	9.701	9.938
Span Bias%	2.2	0.1
Span Drift%	-0.4	-0.5
Ini Zero Avg	0.221	0.288
Ini Span Avg	9.783	10.031
Run Avg	12.044	7.246
Co	0.201	0.233
Cm	9.742	9.985
Correct Avg	12.149	7.299

Calibration Error Test at Run 2

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Low-range	Mid-range	High-range
O2	CC157117		CC159269	CC198099
CO2	CC157117		CC159269	CC198099

Date/Time	9/30/2014	7:30:13 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Avg	-0.073	0.194
Zero Error%	0.4	1
Low Ref Cyl		
Low Avg		
Low Error%		
Mid Ref Cyl	9.787	10.15
Mid Avg	10.003	10.45
Mid Error%	1.1	1.5
High Ref Cyl	19.41	19.96
High Avg	19.45	20.007
High Error%	0.2	0.2

Initial System Bias Check for Run 2

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269

Date/Time	9/30/2014	9:16:42 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Cal	-0.073	0.194
Zero Avg	0.139	0.274
Zero Bias%	1.1	0.4
Zero Drift%		
Span Ref Cyl	9.787	10.15
Span Cal	10.003	10.45
Span Avg	9.771	10.531
Span Bias%	1.2	0.4
Span Drift%		

Test Run 2 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

		O2 %	CO2 %
9/30/2014	9:22:15	11.576	8.084
9/30/2014	9:23:15	10.64	8.74
9/30/2014	9:24:15	11.627	8.042
9/30/2014	9:25:15	12.333	7.46
9/30/2014	9:26:15	11.834	7.875
9/30/2014	9:27:15	11.909	7.81
9/30/2014	9:28:15	11.909	7.756
9/30/2014	9:29:15	11.954	7.719
9/30/2014	9:30:15	12.687	7.106
9/30/2014	9:31:15	13.001	6.85
9/30/2014	9:32:15	9.793	9.186
9/30/2014	9:33:15	9.257	9.721
9/30/2014	9:34:15	10.453	8.861
9/30/2014	9:35:15	12.069	7.574
9/30/2014	9:36:15	13.095	6.736
9/30/2014	9:37:15	13.397	6.514
9/30/2014	9:38:15	13.896	6.21
9/30/2014	9:39:15	13.209	6.74
9/30/2014	9:40:15	13.038	6.885
9/30/2014	9:41:15	12.755	7.097
9/30/2014	9:42:15	12.458	7.32
9/30/2014	9:43:15	12.48	7.318
9/30/2014	9:44:15	13.319	6.784
9/30/2014	9:45:15	12.595	7.196
9/30/2014	9:46:15	10.886	8.533
9/30/2014	9:47:15	11.499	8.079
9/30/2014	9:48:15	12.002	7.635
9/30/2014	9:49:15	12.893	6.967
9/30/2014	9:50:15	13.291	6.667
9/30/2014	9:51:15	13.618	6.486
9/30/2014	9:52:15	12.511	7.269
9/30/2014	9:53:15	12.758	7.082
9/30/2014	9:54:15	12.908	6.947
9/30/2014	9:55:15	12.783	7.007
9/30/2014	9:56:15	13.016	6.812
9/30/2014	9:57:15	13.35	6.559
9/30/2014	9:58:15	12.225	7.489
9/30/2014	9:59:15	12.453	7.3
9/30/2014	10:00:15	12.517	7.24
9/30/2014	10:01:15	12.63	7.157
9/30/2014	10:02:15	12.619	7.135
9/30/2014	10:03:15	12.681	7.11
9/30/2014	10:04:15	12.781	7.024
9/30/2014	10:05:15	12.527	7.234
9/30/2014	10:06:15	12.722	7.072
9/30/2014	10:07:15	12.427	7.316
9/30/2014	10:08:15	12.496	7.269
9/30/2014	10:09:15	12.766	7.05
9/30/2014	10:10:15	12.574	7.207
9/30/2014	10:11:15	12.31	7.468
9/30/2014	10:12:15	12.302	7.412
9/30/2014	10:13:15	11.682	7.87
9/30/2014	10:14:15	11.515	8.049
9/30/2014	10:15:15	11.989	7.651
9/30/2014	10:16:15	11.962	7.699
9/30/2014	10:17:15	10.808	8.705
9/30/2014	10:18:15	10.659	8.83
9/30/2014	10:19:15	11.463	8.155
9/30/2014	10:20:15	11.911	7.818

		O2 %	CO2 %
9/30/2014	10:21:15	12.516	7.329
9/30/2014	10:22:15	12.819	7.06
9/30/2014	10:23:15	13.019	6.925
9/30/2014	10:24:14	12.761	7.131
9/30/2014	10:25:14	12.596	7.244
9/30/2014	10:26:14	12.887	7.018
9/30/2014	10:27:14	12.913	6.979
9/30/2014	10:28:14	12.476	7.331
9/30/2014	10:29:14	12.256	7.616
9/30/2014	10:30:14	12.494	7.616
9/30/2014	10:31:14	12.041	7.863
9/30/2014	10:32:14	11.35	8.434
9/30/2014	10:33:14	11.153	8.499
9/30/2014	10:34:14	11.172	8.455
9/30/2014	10:35:14	12.759	7.135
9/30/2014	10:36:14	13.482	6.537
9/30/2014	10:37:14	13.279	6.649
9/30/2014	10:38:14	13.028	6.87
9/30/2014	10:39:14	13.138	6.75
9/30/2014	10:40:14	13.178	6.712
9/30/2014	10:41:14	13.177	6.72
9/30/2014	10:42:14	12.355	7.35
9/30/2014	10:43:14	12.331	7.332
9/30/2014	10:44:14	10.943	8.424
9/30/2014	10:45:14	10.602	8.773
9/30/2014	10:46:14	11.342	8.174
9/30/2014	10:47:14	11.626	7.905
9/30/2014	10:48:14	12.02	7.633
9/30/2014	10:49:14	12.783	7.001
9/30/2014	10:50:14	12.084	7.495
9/30/2014	10:51:14	12.312	7.366
9/30/2014	10:52:14	12.921	6.891
9/30/2014	10:53:14	12.889	6.867
9/30/2014	10:54:14	12.318	7.339
9/30/2014	10:55:14	12.896	6.952
9/30/2014	10:56:14	12.061	7.539
9/30/2014	10:57:14	9.708	9.478
9/30/2014	10:58:14	10.614	8.884
9/30/2014	10:59:14	11.289	8.34
9/30/2014	11:00:14	12.166	7.593
9/30/2014	11:01:14	12.554	7.265
9/30/2014	11:02:14	12.677	7.134
9/30/2014	11:03:14	12.033	7.571
9/30/2014	11:04:14	12.507	7.182
9/30/2014	11:05:14	12.49	7.229
9/30/2014	11:06:14	12.874	6.916
9/30/2014	11:07:14	12.708	7.002
9/30/2014	11:08:14	12.52	7.21
9/30/2014	11:09:14	12.803	6.987
9/30/2014	11:10:14	11.358	8.137
9/30/2014	11:11:14	10.761	8.692
9/30/2014	11:12:14	11.081	8.422
9/30/2014	11:13:14	11.137	8.351
9/30/2014	11:14:14	12.135	7.57
9/30/2014	11:15:14	12.707	7.11
9/30/2014	11:16:14	12.221	7.458
9/30/2014	11:17:14	11.454	8.124
9/30/2014	11:18:14	11.175	8.362
9/30/2014	11:19:14	10.836	8.601
9/30/2014	11:20:14	11.485	8.093
9/30/2014	11:21:14	12.183	7.54
9/30/2014	11:22:14	11.363	8.099
9/30/2014	11:23:14	11.217	8.263

		O2 %	CO2 %
9/30/2014	11:24:14	12.077	7.549
Pause			
End Pause			
9/30/2014	11:42:14	11.581	7.863
9/30/2014	11:43:14	12.762	7.021
9/30/2014	11:44:14	12.039	7.603
9/30/2014	11:45:14	11.734	7.853
9/30/2014	11:46:14	12.053	7.604
9/30/2014	11:47:14	12.298	7.372
9/30/2014	11:48:14	12.378	7.275
9/30/2014	11:49:14	12.716	7.023
9/30/2014	11:50:14	13.087	6.766
9/30/2014	11:51:14	11.716	7.692
9/30/2014	11:52:14	10.76	8.488
9/30/2014	11:53:14	10.126	9.007
9/30/2014	11:54:14	9.907	9.222
9/30/2014	11:55:14	10.092	9.093
9/30/2014	11:56:14	9.834	9.307
9/30/2014	11:57:14	11.343	8.126
9/30/2014	11:58:14	10.007	9.089
9/30/2014	11:59:14	9.82	9.278
9/30/2014	12:00:14	10.215	9.032
9/30/2014	12:01:14	11.478	8.088
9/30/2014	12:02:14	11.712	7.803
9/30/2014	12:03:14	9.904	8.479
9/30/2014	12:04:14	8.046	9.816
9/30/2014	12:05:14	8.056	10.41
9/30/2014	12:06:14	7.317	11.098
9/30/2014	12:07:14	7.267	11.163
9/30/2014	12:08:14	7.682	10.805
9/30/2014	12:09:14	8.61	10.161
9/30/2014	12:10:14	10.753	8.573
9/30/2014	12:11:14	8.658	10.003
9/30/2014	12:12:14	7.606	10.763
9/30/2014	12:13:14	6.183	11.738
9/30/2014	12:14:14	6.933	11.401
9/30/2014	12:15:14	8.154	10.48
9/30/2014	12:16:14	10.933	8.45
9/30/2014	12:17:14	11.259	8.127
9/30/2014	12:18:14	11.068	8.311
9/30/2014	12:19:14	11.532	7.941
9/30/2014	12:20:14	11.917	7.582
9/30/2014	12:21:14	12.365	7.261
9/30/2014	12:22:14	13.018	6.75
9/30/2014	12:23:14	13.121	6.61
9/30/2014	12:24:14	12.075	7.472
9/30/2014	12:25:14	12.336	7.256
9/30/2014	12:26:14	11.827	7.674
9/30/2014	12:27:14	12.558	7.119
9/30/2014	12:28:14	12.715	6.977
9/30/2014	12:29:14	12.376	7.21
9/30/2014	12:30:14	12.658	7.017
9/30/2014	12:31:14	12.531	7.084
9/30/2014	12:32:14	11.405	7.986
9/30/2014	12:33:14	11.792	7.669
9/30/2014	12:34:14	11.658	7.767
9/30/2014	12:35:14	11.602	7.877
9/30/2014	12:36:14	11.713	7.751
9/30/2014	12:37:14	10.048	9.047
9/30/2014	12:38:14	8.715	10.009
9/30/2014	12:39:14	8.776	9.976
9/30/2014	12:40:14	8.37	10.221
9/30/2014	12:41:14	8.605	10.103

		O2 %	CO2 %
9/30/2014	12:42:14	11.104	8.328
9/30/2014	12:43:14	9.962	9.044
9/30/2014	12:44:14	9.138	9.694
9/30/2014	12:45:14	9.882	9.138
9/30/2014	12:46:14	9.823	9.15
9/30/2014	12:47:14	10.433	8.721
9/30/2014	12:48:14	11.312	8.059
9/30/2014	12:49:14	11.323	7.936
9/30/2014	12:50:14	10.298	8.804
9/30/2014	12:51:14	10.705	8.476
9/30/2014	12:52:14	10.873	8.377
9/30/2014	12:53:14	11.814	7.627
9/30/2014	12:54:14	11.945	7.493
9/30/2014	12:55:14	12.04	7.404
9/30/2014	12:56:14	11.489	7.841
9/30/2014	12:57:14	11.435	7.885
9/30/2014	12:58:14	10.947	8.233
9/30/2014	12:59:14	11.331	7.932
9/30/2014	13:00:14	11.328	7.913
9/30/2014	13:01:14	12.487	7.086
9/30/2014	13:02:14	12.942	6.692
9/30/2014	13:03:14	11.667	7.696
9/30/2014	13:04:14	10.254	8.785
9/30/2014	13:05:14	10.086	8.933
9/30/2014	13:06:14	9.667	9.255
9/30/2014	13:07:14	10.291	8.849
9/30/2014	13:08:14	11.201	8.138
9/30/2014	13:09:14	10.419	8.787
9/30/2014	13:10:14	10.24	8.93
9/30/2014	13:11:14	10.137	8.976
9/30/2014	13:12:14	10.994	8.359
9/30/2014	13:13:14	12.014	7.519
9/30/2014	13:14:14	12.534	7.102
9/30/2014	13:15:14	13.098	6.685
9/30/2014	13:16:14	12.779	6.971
9/30/2014	13:17:14	12.53	7.14
9/30/2014	13:18:14	13.479	6.424
9/30/2014	13:19:14	13.605	6.31
9/30/2014	13:20:14	13.015	6.765
9/30/2014	13:21:14	13.639	6.227
9/30/2014	13:22:14	12.857	6.801
9/30/2014	13:23:14	12.471	7.125
9/30/2014	13:24:14	12.577	6.996
9/30/2014	13:25:14	12.263	7.203
9/30/2014	13:26:14	12.336	7.235
9/30/2014	13:27:14	13.236	6.543
9/30/2014	13:28:14	12.199	7.152
9/30/2014	13:29:14	10.577	8.574
9/30/2014	13:30:14	11.011	8.278
9/30/2014	13:31:14	11.083	8.179
9/30/2014	13:32:14	11.688	7.721
9/30/2014	13:33:14	12.601	7.005
9/30/2014	13:34:14	12.753	6.815
9/30/2014	13:35:14	11.419	7.84
9/30/2014	13:36:14	11.444	7.894
9/30/2014	13:37:14	11.289	8.004
9/30/2014	13:38:14	11.786	7.613

Average of Test Run		O2 %	CO2 %
9/30/2014	13:39:06	11.654	7.854

Test Run 2 End

Final System Bias Check for Run 2

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269

Date/Time	9/30/2014	13:44:09 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Cal	-0.073	0.194
Zero Avg	0.162	0.307
Zero Bias%	1.2	0.6
Zero Drift%	0.1	0.2
Span Ref Cyl	9.787	10.15
Span Cal	10.003	10.45
Span Avg	9.753	10.512
Span Bias%	1.3	0.3
Span Drift%	-0.1	-0.1
Ini Zero Avg	0.139	0.274
Ini Span Avg	9.771	10.531
Run Avg	11.654	7.854
Co	0.151	0.291
Cm	9.762	10.522
Correct Avg	11.714	7.504

Test Run 3 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

		O2 %	CO2 %
9/30/2014	14:36:19	10.68	8.472
9/30/2014	14:37:19	10.884	8.334
9/30/2014	14:38:19	11.545	7.816
9/30/2014	14:39:19	11.537	7.816
9/30/2014	14:40:19	12.242	7.244
9/30/2014	14:41:19	13.284	6.465
9/30/2014	14:42:19	13.047	6.666
9/30/2014	14:43:19	12.368	7.184
9/30/2014	14:44:19	12.638	7.007
9/30/2014	14:45:19	12.577	7.039
9/30/2014	14:46:19	12.958	6.787
9/30/2014	14:47:19	12.464	7.11
9/30/2014	14:48:19	12.224	7.348
9/30/2014	14:49:19	12.264	7.322
9/30/2014	14:50:19	12.443	7.167
9/30/2014	14:51:19	12.018	7.52
9/30/2014	14:52:19	12.072	7.484
9/30/2014	14:53:19	12.28	7.298
9/30/2014	14:54:19	11.675	7.805
9/30/2014	14:55:19	11.376	8.119
9/30/2014	14:56:19	11.712	7.852
9/30/2014	14:57:19	11.435	8.065
9/30/2014	14:58:19	12.016	7.623
9/30/2014	14:59:19	12.146	7.507
9/30/2014	15:00:19	11.967	7.519
9/30/2014	15:01:19	10.122	9.025
9/30/2014	15:02:19	10.435	8.833
9/30/2014	15:03:19	11.254	8.182
9/30/2014	15:04:19	11.743	7.791
9/30/2014	15:05:19	12.092	7.481
9/30/2014	15:06:19	12.528	7.156
9/30/2014	15:07:19	12.123	7.488
9/30/2014	15:08:19	10.998	8.361
9/30/2014	15:09:19	11.123	8.319
9/30/2014	15:10:19	11.538	7.99
9/30/2014	15:11:19	11.187	8.264
9/30/2014	15:12:19	11.975	7.673
9/30/2014	15:13:19	12.28	7.267
9/30/2014	15:14:19	12.148	7.448
9/30/2014	15:15:19	11.741	7.783
9/30/2014	15:16:19	11.567	7.929
9/30/2014	15:17:19	12.268	7.402
9/30/2014	15:18:19	13.047	6.775
9/30/2014	15:19:19	13.172	6.634
9/30/2014	15:20:18	12.819	6.942
9/30/2014	15:21:18	12.321	7.347
9/30/2014	15:22:18	12.155	7.429
9/30/2014	15:23:18	12.047	7.551
9/30/2014	15:24:18	12.118	7.483
9/30/2014	15:25:18	11.708	7.826
9/30/2014	15:26:18	11.888	7.607
9/30/2014	15:27:18	10.748	8.543
9/30/2014	15:28:18	10.186	8.999
9/30/2014	15:29:18	9.839	9.226
9/30/2014	15:30:18	10.397	8.822
9/30/2014	15:31:18	10.614	8.667
9/30/2014	15:32:18	11.699	7.806
9/30/2014	15:33:18	11.279	8.092
9/30/2014	15:34:18	11.043	8.317

		O2 %	CO2 %
9/30/2014	15:35:18	11.601	7.89
9/30/2014	15:36:18	11.711	7.774
9/30/2014	15:37:18	11.129	8.223
9/30/2014	15:38:18	11.162	8.272
9/30/2014	15:39:18	11.694	7.795
9/30/2014	15:40:18	8.692	9.95
9/30/2014	15:41:18	8.14	10.431
9/30/2014	15:42:18	8.328	10.26
9/30/2014	15:43:18	9.182	9.766
9/30/2014	15:44:18	10.822	8.55
9/30/2014	15:45:18	11.863	7.698
9/30/2014	15:46:18	10.794	8.47
9/30/2014	15:47:18	10.024	9.076
9/30/2014	15:48:18	10.213	8.952
9/30/2014	15:49:18	11.024	8.354
9/30/2014	15:50:18	11.269	8.144
9/30/2014	15:51:18	11.526	7.989
9/30/2014	15:52:18	12.055	7.484
9/30/2014	15:53:18	11.624	7.867
9/30/2014	15:54:18	11.238	8.23
9/30/2014	15:55:18	11.8	7.735
9/30/2014	15:56:18	11.621	7.851
9/30/2014	15:57:18	11.238	8.198
9/30/2014	15:58:18	11.729	7.773
9/30/2014	15:59:18	11.604	7.827
9/30/2014	16:00:18	11.236	8.163
9/30/2014	16:01:18	11.118	8.254
9/30/2014	16:02:18	10.502	8.671
9/30/2014	16:03:18	9.785	9.22
9/30/2014	16:04:18	9.739	9.285
9/30/2014	16:05:18	8.807	9.805
9/30/2014	16:06:18	8.846	9.923
9/30/2014	16:07:18	9.589	9.388
9/30/2014	16:08:18	9.835	9.23
9/30/2014	16:09:18	10.215	8.957
9/30/2014	16:10:18	10.324	8.876
9/30/2014	16:11:18	10.18	8.98
9/30/2014	16:12:18	9.565	9.387
9/30/2014	16:13:18	9.941	9.157
9/30/2014	16:14:18	10.132	9.034
9/30/2014	16:15:18	8.375	10.188
9/30/2014	16:16:18	8.651	10.185
9/30/2014	16:17:18	9.276	9.701
9/30/2014	16:18:18	9.232	9.747
9/30/2014	16:19:18	10.546	8.809
9/30/2014	16:20:18	10.851	8.514
9/30/2014	16:21:18	12.286	7.413
9/30/2014	16:22:18	11.087	8.268
9/30/2014	16:23:18	10.051	9.075
9/30/2014	16:24:18	9.945	9.167
9/30/2014	16:25:18	9.964	9.146
9/30/2014	16:26:18	9.517	9.448
9/30/2014	16:27:18	10.959	8.442
9/30/2014	16:28:18	10.201	8.872
9/30/2014	16:29:18	8.086	10.419
9/30/2014	16:30:18	8.105	10.49
9/30/2014	16:31:18	9.41	9.581
9/30/2014	16:32:18	10.608	8.707
9/30/2014	16:33:18	12.217	7.397
9/30/2014	16:34:18	12.874	6.784
9/30/2014	16:35:18	11.403	7.95
9/30/2014	16:36:18	11.711	7.734

Pause

		O2 %	CO2 %
End Pause			
9/30/2014	16:53:18	10.574	8.609
9/30/2014	16:54:18	10.552	8.719
9/30/2014	16:55:18	11.037	8.331
9/30/2014	16:56:18	10.963	8.363
9/30/2014	16:57:18	10.328	8.823
9/30/2014	16:58:18	10.523	8.662
9/30/2014	16:59:18	12.156	7.435
9/30/2014	17:00:18	11.479	7.873
9/30/2014	17:01:18	10.827	8.448
9/30/2014	17:02:18	11.543	7.902
9/30/2014	17:03:18	11.327	8.052
9/30/2014	17:04:18	11.131	8.232
9/30/2014	17:05:18	12.073	7.526
9/30/2014	17:06:18	11.759	7.734
9/30/2014	17:07:18	10.893	8.466
9/30/2014	17:08:18	11.22	8.245
9/30/2014	17:09:18	10.932	8.442
9/30/2014	17:10:18	11.416	8.088
9/30/2014	17:11:18	12.274	7.357
9/30/2014	17:12:18	12.417	7.261
9/30/2014	17:13:18	11.974	7.581
9/30/2014	17:14:18	11.826	7.702
9/30/2014	17:15:18	11.798	7.722
9/30/2014	17:16:18	11.797	7.726
9/30/2014	17:17:18	12.119	7.453
9/30/2014	17:18:18	12.626	7.091
9/30/2014	17:19:18	12.71	7.027
9/30/2014	17:20:18	12.191	7.475
9/30/2014	17:21:18	12.212	7.433
9/30/2014	17:22:18	11.851	7.73
9/30/2014	17:23:18	12.143	7.461
9/30/2014	17:24:18	12.223	7.393
9/30/2014	17:25:18	12.946	6.846
9/30/2014	17:26:18	12.015	7.521
9/30/2014	17:27:18	12.126	7.45
9/30/2014	17:28:18	12.341	7.255
9/30/2014	17:29:18	12.208	7.321
9/30/2014	17:30:18	12.145	7.39
9/30/2014	17:31:18	12.848	6.904
9/30/2014	17:32:18	12.974	6.745
9/30/2014	17:33:18	11.532	7.908
9/30/2014	17:34:18	11.591	7.881
9/30/2014	17:35:18	11.622	7.857
9/30/2014	17:36:18	12.446	7.174
9/30/2014	17:37:18	12.599	7.052
9/30/2014	17:38:18	12.689	7.034
9/30/2014	17:39:18	12.561	7.05
9/30/2014	17:40:18	11.713	7.727
9/30/2014	17:41:18	10.395	8.79
9/30/2014	17:42:18	9.897	9.214
9/30/2014	17:43:18	10.613	8.654
9/30/2014	17:44:18	11.608	7.94
9/30/2014	17:45:18	11.911	7.599
9/30/2014	17:46:18	11.795	7.663
9/30/2014	17:47:18	12.537	7.194
9/30/2014	17:48:18	12.259	7.394
9/30/2014	17:49:18	11.638	7.879
9/30/2014	17:50:18	12.023	7.613
9/30/2014	17:51:18	12.746	7
9/30/2014	17:52:18	11.01	8.382
9/30/2014	17:53:18	11.361	8.127
9/30/2014	17:54:18	11.112	8.341

		O2	CO2
		%	%
9/30/2014	17:55:18	11.019	8.452
9/30/2014	17:56:18	11.509	8.044
9/30/2014	17:57:18	12.408	7.331
9/30/2014	17:58:18	12.499	7.246
9/30/2014	17:59:18	12.173	7.513
9/30/2014	18:00:18	12.403	7.31
9/30/2014	18:01:18	11.919	7.712
9/30/2014	18:02:18	11.843	7.784
9/30/2014	18:03:18	12.01	7.655
9/30/2014	18:04:18	12.414	7.324
9/30/2014	18:05:18	12.389	7.313
9/30/2014	18:06:18	12.484	7.2
9/30/2014	18:07:18	12.382	7.324
9/30/2014	18:08:18	12.468	7.22
9/30/2014	18:09:18	12.312	7.326
9/30/2014	18:10:18	12.831	6.995
9/30/2014	18:11:18	12.338	7.271
9/30/2014	18:12:18	11.416	8.053
9/30/2014	18:13:18	11.669	7.919
9/30/2014	18:14:18	12.124	7.526
9/30/2014	18:15:18	11.517	7.973
9/30/2014	18:16:18	11.4	8.118
9/30/2014	18:17:18	11.843	7.721
9/30/2014	18:18:18	9.738	9.232
9/30/2014	18:19:18	9.493	9.515
9/30/2014	18:20:18	10.014	9.156
9/30/2014	18:21:18	10.052	9.235
9/30/2014	18:22:18	11.485	8.121
9/30/2014	18:23:18	11.385	8.174
9/30/2014	18:24:18	12.874	6.949
9/30/2014	18:25:18	12.522	7.162
9/30/2014	18:26:18	11.582	7.9
9/30/2014	18:27:18	11.372	8.111
9/30/2014	18:28:18	11.357	8.142
9/30/2014	18:29:18	10.629	8.681
9/30/2014	18:30:18	11.339	8.127
9/30/2014	18:31:18	11.409	8.015
9/30/2014	18:32:18	11.201	8.24
9/30/2014	18:33:18	12.111	7.467
9/30/2014	18:34:18	12.146	7.406
9/30/2014	18:35:18	11.714	7.79
9/30/2014	18:36:18	12.736	6.982
9/30/2014	18:37:18	11.373	8.095
9/30/2014	18:38:18	11.193	8.337
9/30/2014	18:39:18	11.779	7.806
9/30/2014	18:40:18	11.708	7.796
9/30/2014	18:41:18	12.06	7.551
9/30/2014	18:42:18	12.536	7.127
9/30/2014	18:43:18	12.92	6.866
9/30/2014	18:44:18	11.976	7.539
9/30/2014	18:45:18	11.521	7.972
9/30/2014	18:46:18	11.156	8.231
9/30/2014	18:47:18	10.946	8.342
9/30/2014	18:48:18	11.364	8.019
9/30/2014	18:49:18	11.639	7.815
9/30/2014	18:50:18	12.643	6.97
9/30/2014	18:51:18	12.256	7.238
Average of Test Run		O2	CO2
		%	%
9/30/2014	18:52:00	11.423	8.014

Test Run 3 End

Final System Bias Check for Run 3

Operator:	Derek Brewster
Plant Name:	Stericycle - NSL
Location:	Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269

Date/Time	9/30/2014	19:07:46 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Cal	-0.073	0.194
Zero Avg	0.071	0.226
Zero Bias%	0.7	0.2
Zero Drift%	-0.5	-0.4
Span Ref Cyl	9.787	10.15
Span Cal	10.003	10.45
Span Avg	9.714	10.51
Span Bias%	1.5	0.3
Span Drift%	-0.2	0
Ini Zero Avg	0.162	0.307
Ini Span Avg	9.753	10.512
Run Avg	11.423	8.014
Co	0.116	0.266
Cm	9.733	10.511
Correct Avg	11.507	7.676

Calibration Error Test at Run 4

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Low-range	Mid-range	High-range
O2	CC157117		CC159269	CC198099
CO2	CC157117		CC159269	CC198099
NOx	CC159269		CC129531	cc123903
CO	CC159269		CC157117	CC129531
SO2	CC159269		CC268284	CC263596

Date/Time 10/1/2014 7:50:58 PASSED

Analyte	O2	CO2	NOx	CO	SO2
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0	0	0	0	0
Zero Avg	0.04	0.152	-0.32	-0.4	0.533
Zero Error%	0.2	0.8	0.2	0.4	0.5
Low Ref Cyl					
Low Avg					
Low Error%					
Mid Ref Cyl	9.787	10.15	97.1	50.09	51.29
Mid Avg	9.774	10.022	98.91	50.96	50.55
Mid Error%	0.1	0.6	0.9	0.9	0.7
High Ref Cyl	19.41	19.96	201.5	101	99.22
High Avg	19.363	19.819	199.23	101.76	97.679
High Error%	0.2	0.7	1.1	0.8	1.6

Initial System Bias Check for Run 4

Operator:	Derek Brewster
Plant Name:	Stericycle - NSL
Location:	Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269

Date/Time	10/1/2014	9:22:45 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Cal	0.04	0.152
Zero Avg	0.221	0.068
Zero Bias%	0.9	0.4
Zero Drift%		
Span Ref Cyl	9.787	10.15
Span Cal	9.774	10.022
Span Avg	9.831	9.861
Span Bias%	0.3	0.8
Span Drift%		

Test Run 4 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

		O2 %	CO2 %
10/1/2014	9:28:02	8.872	9.354
10/1/2014	9:29:02	9.391	8.889
10/1/2014	9:30:02	8.344	9.156
10/1/2014	9:31:02	10.465	8.11
10/1/2014	9:32:02	12.184	7.057
10/1/2014	9:33:02	10.812	7.687
10/1/2014	9:34:02	9.314	9.016
10/1/2014	9:35:02	9.253	9.045
10/1/2014	9:36:02	9.686	8.875
10/1/2014	9:37:02	10.717	8.095
10/1/2014	9:38:02	11.363	7.586
10/1/2014	9:39:02	12.254	6.774
10/1/2014	9:40:02	11.224	6.837
10/1/2014	9:41:02	12.93	6.235
10/1/2014	9:42:02	12.961	6.104
10/1/2014	9:43:02	9.684	7.762
10/1/2014	9:44:02	12.323	6.643
10/1/2014	9:45:02	11.644	6.919
10/1/2014	9:46:02	10.48	7.582
10/1/2014	9:47:01	13.971	5.516
10/1/2014	9:48:01	9.7	7.938
10/1/2014	9:49:01	8.779	8.834
10/1/2014	9:50:01	8.959	8.929
10/1/2014	9:51:01	7.17	10.329
10/1/2014	9:52:01	7.146	10.465
10/1/2014	9:53:01	9.861	8.781
10/1/2014	9:54:01	7.98	9.719
10/1/2014	9:55:01	7.129	10.479
10/1/2014	9:56:01	9.045	9.352
10/1/2014	9:57:01	9.791	8.718
10/1/2014	9:58:01	9.426	8.911
10/1/2014	9:59:01	10.595	8.246
10/1/2014	10:00:01	10.923	7.64
10/1/2014	10:01:01	8.914	9.107
10/1/2014	10:02:01	8.505	9.451
10/1/2014	10:03:01	8.541	9.499
10/1/2014	10:04:01	9.662	8.793
10/1/2014	10:05:01	11.443	7.489
10/1/2014	10:06:01	12.18	6.849
10/1/2014	10:07:01	11.593	7.333
10/1/2014	10:08:01	11.353	7.536
10/1/2014	10:09:01	11.219	7.628
10/1/2014	10:10:01	11.118	7.735
10/1/2014	10:11:01	11.253	7.616
10/1/2014	10:12:01	11.386	7.558
10/1/2014	10:13:01	11.105	7.762
10/1/2014	10:14:01	10.75	8.059
10/1/2014	10:15:01	10.753	8.08
10/1/2014	10:16:01	10.829	7.989
10/1/2014	10:17:01	11.044	7.826
10/1/2014	10:18:01	11.137	7.744
10/1/2014	10:19:01	12.154	7.017
10/1/2014	10:20:01	12.224	6.838
10/1/2014	10:21:01	11.466	7.467
10/1/2014	10:22:01	11.933	7.113
10/1/2014	10:23:01	12.141	6.931
10/1/2014	10:24:01	11.41	7.464
10/1/2014	10:25:01	12.584	6.716
10/1/2014	10:26:01	12.805	6.345
10/1/2014	10:27:01	12.286	6.843

		O2 %	CO2 %
10/1/2014	10:28:01	11.673	7.301
10/1/2014	10:29:01	11.339	7.537
10/1/2014	10:30:01	11.185	7.727
10/1/2014	10:31:01	11.543	7.462
10/1/2014	10:32:01	12.361	6.784
10/1/2014	10:33:01	11.173	7.668
10/1/2014	10:34:01	10.895	7.956
10/1/2014	10:35:01	11.425	7.593
10/1/2014	10:36:01	12.1	7.013
10/1/2014	10:37:01	11.882	7.128
10/1/2014	10:38:01	12.21	6.959
10/1/2014	10:39:01	11.602	7.319
10/1/2014	10:40:01	11.221	7.667
10/1/2014	10:41:01	11.661	7.368
10/1/2014	10:42:01	11.696	7.279
10/1/2014	10:43:01	11.833	7.158
10/1/2014	10:44:01	12.307	6.866
10/1/2014	10:45:01	12.167	6.859
10/1/2014	10:46:01	11.074	7.7
10/1/2014	10:47:01	11.65	7.279
10/1/2014	10:48:01	11.962	7.009
10/1/2014	10:49:01	11.501	7.324
10/1/2014	10:50:01	12.051	6.985
10/1/2014	10:51:01	12.953	6.334
10/1/2014	10:52:01	12.246	6.786
10/1/2014	10:53:01	11.625	7.298
10/1/2014	10:54:01	11.38	7.555
10/1/2014	10:55:01	11.28	7.669
10/1/2014	10:56:01	11.824	7.206
10/1/2014	10:57:01	11.86	7.149
10/1/2014	10:58:01	11.776	7.21
10/1/2014	10:59:01	11.92	7.092
10/1/2014	11:00:01	11.306	7.566
10/1/2014	11:01:01	11.579	7.445
10/1/2014	11:02:01	11.947	7.106
10/1/2014	11:03:01	11.293	7.553
10/1/2014	11:04:01	11.388	7.571
10/1/2014	11:05:01	11.285	7.656
10/1/2014	11:06:01	10.874	7.923
10/1/2014	11:07:01	10.828	7.965
10/1/2014	11:08:01	11.012	7.789
10/1/2014	11:09:01	11.029	7.823
10/1/2014	11:10:01	11.538	7.397
10/1/2014	11:11:01	11.999	7.06
10/1/2014	11:12:01	12.093	7.002
10/1/2014	11:13:01	12.524	6.709
10/1/2014	11:14:01	12.893	6.43
10/1/2014	11:15:01	13.144	6.236
10/1/2014	11:16:01	13.349	6.052
10/1/2014	11:17:01	13.162	6.229
10/1/2014	11:18:01	12.361	6.786
10/1/2014	11:19:01	11.641	7.429
10/1/2014	11:20:01	11.202	7.751
10/1/2014	11:21:01	11.486	7.575
10/1/2014	11:22:01	11.671	7.434
10/1/2014	11:23:01	11.607	7.477
10/1/2014	11:24:01	12.225	6.96
10/1/2014	11:25:01	11.619	7.432
10/1/2014	11:26:01	11.744	7.39
10/1/2014	11:27:01	11.631	7.468
10/1/2014	11:28:01	11.478	7.572
10/1/2014	11:29:01	11.397	7.682
10/1/2014	11:30:01	12.857	6.601
10/1/2014	11:31:01	12.838	6.425

		O2 %	CO2 %
10/1/2014	11:32:01	12.242	6.931
10/1/2014	11:33:01	11.64	7.415
10/1/2014	11:34:01	11.325	7.67
Pause			
End Pause			
10/1/2014	11:39:01	11.773	7.269
10/1/2014	11:40:01	11.798	7.303
10/1/2014	11:41:01	12.34	6.859
10/1/2014	11:42:01	12.537	6.706
10/1/2014	11:43:01	12.544	6.735
10/1/2014	11:44:01	12.029	7.054
10/1/2014	11:45:01	11.708	7.273
10/1/2014	11:46:01	11.491	7.553
10/1/2014	11:47:01	12.016	7.113
10/1/2014	11:48:01	11.93	7.141
10/1/2014	11:49:01	12.425	6.843
10/1/2014	11:50:01	12.505	6.657
10/1/2014	11:51:01	10.811	7.953
10/1/2014	11:52:01	10.958	7.964
10/1/2014	11:53:01	11.414	7.57
10/1/2014	11:54:01	11.311	7.624
10/1/2014	11:55:01	11.741	7.285
10/1/2014	11:56:01	11.988	7.093
10/1/2014	11:57:01	11.496	7.515
10/1/2014	11:58:01	11.202	7.777
10/1/2014	11:59:01	10.817	8.042
10/1/2014	12:00:01	11.147	7.837
10/1/2014	12:01:01	11.969	7.157
10/1/2014	12:02:01	12.085	7.014
10/1/2014	12:03:01	11.896	7.177
10/1/2014	12:04:01	11.657	7.355
10/1/2014	12:05:01	11.457	7.544
10/1/2014	12:06:01	11.18	7.726
10/1/2014	12:07:01	10.868	7.994
10/1/2014	12:08:01	11.157	7.774
10/1/2014	12:09:01	12.24	6.972
10/1/2014	12:10:01	12.042	7.067
10/1/2014	12:11:01	11.818	7.189
10/1/2014	12:12:01	10.845	8.006
10/1/2014	12:13:01	10.752	8.088
10/1/2014	12:14:01	10.187	8.509
10/1/2014	12:15:01	11.227	7.786
10/1/2014	12:16:01	12.35	6.866
10/1/2014	12:17:01	11.933	7.209
10/1/2014	12:18:01	12.972	6.453
10/1/2014	12:19:01	13.202	6.239
10/1/2014	12:20:01	13.05	6.378
10/1/2014	12:21:01	13.318	6.145
10/1/2014	12:22:01	13.126	6.241
10/1/2014	12:23:01	12.156	6.936
10/1/2014	12:24:01	11.948	7.128
10/1/2014	12:25:01	11.488	7.479
10/1/2014	12:26:01	11.513	7.484
10/1/2014	12:27:01	11.526	7.448
10/1/2014	12:28:01	11.559	7.43
10/1/2014	12:29:01	12.217	6.93
10/1/2014	12:30:01	11.849	7.186
10/1/2014	12:31:01	11.694	7.319
10/1/2014	12:32:01	11.151	7.721
10/1/2014	12:33:01	8.971	8.742
10/1/2014	12:34:01	10.322	8.13
10/1/2014	12:35:01	11.134	7.702
10/1/2014	12:36:01	8.953	9.106
10/1/2014	12:37:01	8.023	9.868

		O2	CO2
		%	%
10/1/2014	12:38:01	8.732	9.44
10/1/2014	12:39:01	9.862	8.602
10/1/2014	12:40:01	10.425	8.245
10/1/2014	12:41:01	11.603	7.377
10/1/2014	12:42:01	13.028	6.318
10/1/2014	12:43:01	13.361	6.077
10/1/2014	12:44:01	13.184	6.201
10/1/2014	12:45:01	12.346	6.765
10/1/2014	12:46:01	11.622	7.361
10/1/2014	12:47:01	11.951	7.075
10/1/2014	12:48:01	11.969	7.084
10/1/2014	12:49:01	12.241	6.881
10/1/2014	12:50:01	11.582	7.345
10/1/2014	12:51:01	11.124	7.755
10/1/2014	12:52:01	11.289	7.606
10/1/2014	12:53:01	10.971	7.829
10/1/2014	12:54:01	11.079	7.827
10/1/2014	12:55:01	12.499	6.705
10/1/2014	12:56:01	11.349	7.445
10/1/2014	12:57:01	10.535	8.124
10/1/2014	12:58:01	10.101	8.391
10/1/2014	12:59:01	8.699	9.032
10/1/2014	13:00:01	10.296	8.267
10/1/2014	13:01:01	12.158	7.016
10/1/2014	13:02:01	11.411	7.387
10/1/2014	13:03:01	10.336	8.261
10/1/2014	13:04:01	9.396	8.857
10/1/2014	13:05:01	8.879	9.244
10/1/2014	13:06:01	9.55	8.854
10/1/2014	13:07:01	9.628	8.765
10/1/2014	13:08:01	11.042	7.773
10/1/2014	13:09:01	10.007	8.392
10/1/2014	13:10:01	8.147	9.703
10/1/2014	13:11:01	7.869	9.97
10/1/2014	13:12:01	8.883	9.352
10/1/2014	13:13:01	9.209	9.129
10/1/2014	13:14:01	10.901	8.05
10/1/2014	13:15:01	11.049	7.746
10/1/2014	13:16:01	9.108	9.123
10/1/2014	13:17:01	7.73	9.994
10/1/2014	13:18:01	8.194	9.823
10/1/2014	13:19:01	9.256	9.088
10/1/2014	13:20:01	11.037	7.848
10/1/2014	13:21:01	12.108	6.886
10/1/2014	13:22:01	11.524	7.302
10/1/2014	13:23:01	11.535	7.342
10/1/2014	13:24:01	11.849	7.078
10/1/2014	13:25:01	11.571	7.324
10/1/2014	13:26:01	11.853	7.08
10/1/2014	13:27:01	12.425	6.629
10/1/2014	13:28:01	11.151	7.573
10/1/2014	13:29:01	11.168	7.632
10/1/2014	13:30:01	11.155	7.589
10/1/2014	13:31:01	10.844	7.882
10/1/2014	13:32:01	10.756	7.951
Average of Test Run		O2	CO2
		%	%
10/1/2014	13:32:01	11.205	7.625

Test Run 4 End

Final System Bias Check for Run 4

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269

Date/Time	10/1/2014	13:42:42 PASSED
Analyte	O2	CO2
Units	%	%
Zero Ref Cyl	0	0
Zero Cal	0.04	0.152
Zero Avg	0.14	0.031
Zero Bias%	0.5	0.6
Zero Drift%	-0.4	-0.2
Span Ref Cyl	9.787	10.15
Span Cal	9.774	10.022
Span Avg	9.855	9.828
Span Bias%	0.4	1
Span Drift%	0.1	-0.2
Ini Zero Avg	0.221	0.068
Ini Span Avg	9.831	9.861
Run Avg	11.205	7.625
Co	0.181	0.05
Cm	9.843	9.844
Correct Avg	11.167	7.85

Initial System Bias Check for Run 5

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269
NOx	CC159269	CC129531
CO	CC159269	CC157117
SO2	CC159269	CC268284

Date/Time 10/1/2014 14:13:11 PASSED

Analyte	O2	CO2	NOx	CO	SO2
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0	0	0	0	0
Zero Cal	0.04	0.152	-0.32	-0.4	0.533
Zero Avg	0.32	0.193	-0.38	-0.38	0.209
Zero Bias%	1.4	0.2	0	0	0.3
Zero Drift%					
Span Ref Cyl	9.787	10.15	97.1	50.09	51.29
Span Cal	9.774	10.022	98.91	50.96	50.55
Span Avg	9.787	9.876	93.29	49.67	47.743
Span Bias%	0.1	0.7	2.8	1.3	2.8
Span Drift%					

Test Run 5 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Nam Stericycle - NSL
Location: Unit 1 Stack

		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	14:36:02	9.831	7.999	66.93	-0.18	-0.636
10/1/2014	14:37:02	11.424	7.187	66.91	-0.07	-1.917
10/1/2014	14:38:02	12.139	6.835	49.69	0.19	-0.874
10/1/2014	14:39:02	11.986	6.939	46.35	0.11	-0.731
10/1/2014	14:40:02	10.553	7.897	63.06	-0.16	-1.148
10/1/2014	14:41:02	8.862	8.79	87.89	-0.3	-0.992
10/1/2014	14:42:02	10.641	7.976	89.29	-0.23	-1.199
10/1/2014	14:43:02	10.38	8.177	97.67	-0.24	-0.818
10/1/2014	14:44:02	10.655	8.004	88.18	-0.19	-1.195
10/1/2014	14:45:02	12.152	6.966	49.05	0.16	-1.122
10/1/2014	14:46:02	12.237	6.73	29.95	0.02	-0.969
10/1/2014	14:47:02	9.959	7.841	43.49	-0.23	-1.205
10/1/2014	14:48:02	11.673	6.969	37.53	-0.04	-0.764
10/1/2014	14:49:02	12.454	6.654	22.88	0.17	-0.705
10/1/2014	14:50:02	10.97	7.178	28.12	-0.14	-1.032
10/1/2014	14:51:02	11.488	6.917	36.44	0.47	-1.716
10/1/2014	14:52:02	14	5.496	26.55	0.27	-0.823
10/1/2014	14:53:02	9.122	8.475	73.31	-0.34	-1.396
10/1/2014	14:54:02	10.09	8.222	76.7	-0.22	-0.944
10/1/2014	14:55:02	11.337	7.694	43.65	-0.15	-0.604
10/1/2014	14:56:02	10.838	7.653	40.2	-0.3	-0.996
10/1/2014	14:57:02	9.761	8.104	52.32	-0.23	-0.898
10/1/2014	14:58:02	13.819	5.818	28.49	0.12	-1.428
10/1/2014	14:59:02	10.644	7.569	79.93	-0.19	-1.144
10/1/2014	15:00:02	8.333	9.145	164.54	-0.3	-1.078
10/1/2014	15:01:02	8.476	9.599	184.95	7.09	-0.748
10/1/2014	15:02:02	7.353	10.488	170.76	0.63	-1.324
10/1/2014	15:03:02	8.756	9.479	196.66	-0.34	-1.217
10/1/2014	15:04:02	11.154	7.775	171.82	-0.33	-1.16
10/1/2014	15:05:02	12.391	6.745	143.57	-0.26	-1.636
10/1/2014	15:06:02	12.453	6.798	152.14	-0.24	-1.194
10/1/2014	15:07:02	12.652	6.62	135.2	-0.27	-0.798
10/1/2014	15:08:02	11.852	7.137	153.97	-0.34	-1.401
10/1/2014	15:09:02	11.757	7.276	160.6	-0.36	-1.429
10/1/2014	15:10:02	12.387	6.77	119.58	-0.34	-1.32
10/1/2014	15:11:02	12.76	6.486	91.02	-0.27	-1.39
10/1/2014	15:12:02	11.508	7.221	108.33	-0.34	-1.115
10/1/2014	15:13:02	10.579	8.002	124.63	-0.37	-1.256
10/1/2014	15:14:02	9.851	8.555	161.44	-0.35	-1.535
10/1/2014	15:15:02	10.191	8.354	175.19	-0.4	-1.843
10/1/2014	15:16:02	10.502	8.113	164.36	-0.41	-1.441
10/1/2014	15:17:02	10.93	7.794	160.44	-0.32	-1.78
10/1/2014	15:18:02	11.731	7.173	148.32	-0.3	-0.992

		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	15:19:02	10.473	8.218	146.08	-0.39	-0.508
10/1/2014	15:20:02	10.237	8.441	126.88	-0.41	-0.96
10/1/2014	15:21:02	9.891	8.728	145.18	-0.46	-0.144
10/1/2014	15:22:02	9.583	8.933	144.52	-0.44	-0.849
10/1/2014	15:23:02	9.552	8.954	192.07	-0.44	-0.93
10/1/2014	15:24:02	10.984	7.879	150.14	-0.41	-0.754
10/1/2014	15:25:02	10.125	8.391	163.59	-0.45	-0.564
10/1/2014	15:26:02	10.002	8.564	174.46	-0.45	-0.579
10/1/2014	15:27:02	9.647	8.803	176.8	-0.43	-0.735
10/1/2014	15:28:02	9.254	9.068	180.34	-0.4	-0.947
10/1/2014	15:29:02	9.95	8.586	189.34	-0.39	-0.66
10/1/2014	15:30:02	10.921	7.88	168.79	-0.34	-0.372
10/1/2014	15:31:02	11.568	7.352	158.98	-0.33	-0.736
10/1/2014	15:32:02	11.554	7.393	168.1	-0.36	-0.66
10/1/2014	15:33:02	12.031	6.997	164.58	-0.34	-0.494
10/1/2014	15:34:02	12.292	6.826	156.56	-0.36	-1.131
10/1/2014	15:35:01	12.816	6.448	135.75	-0.37	-1.148
Average of Test Run		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	15:35:03	10.892	7.751	115.89	-0.1	-1.034

Test Run 5 End

Final System Bias Check for Run 5

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269
NOx	CC159269	CC129531
CO	CC159269	CC157117
SO2	CC159269	CC268284

Date/Time 10/1/2014 15:52:51 PASSED

Analyte	O2	CO2	NOx	CO	SO2
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0	0	0	0	0
Zero Cal	0.04	0.152	-0.32	-0.4	0.533
Zero Avg	0.184	0.115	-0.33	-0.64	1.217
Zero Bias%	0.7	0.2	0	0.2	0.7
Zero Drift%	-0.7	-0.4	0	-0.3	1
Span Ref Cyl	9.787	10.15	97.1	50.09	51.29
Span Cal	9.774	10.022	98.91	50.96	50.55
Span Avg	9.775	9.881	92.02	49.22	48.53
Span Bias%	0	0.7	3.4	1.7	2
Span Drift%	-0.1	0	-0.6	-0.4	0.8
Ini Zero Avg	0.32	0.193	-0.38	-0.38	0.209
Ini Span Avg	9.787	9.876	93.29	49.67	47.743
Run Avg	10.892	7.751	115.89	-0.1	-1.034
Co	0.252	0.154	-0.36	-0.51	0.713
Cm	9.781	9.879	92.66	49.44	48.137
Correct Avg	10.928	7.929	121.36	0.41	-1.89

Test Run 6 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Nam Stericycle - NSL
Location: Unit 1 Stack

		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	16:36:02	11.031	7.814	57.39	-0.17	-0.657
10/1/2014	16:37:02	11.146	7.689	45.77	-0.08	-0.512
10/1/2014	16:38:02	10.273	8.254	66.59	-0.15	-0.596
10/1/2014	16:39:02	10.365	8.285	65.39	-0.05	-0.839
10/1/2014	16:40:02	10.418	8.239	67.62	-0.2	-0.548
10/1/2014	16:41:02	10.226	8.422	91.73	-0.32	-0.511
10/1/2014	16:42:02	10.698	8.105	90.14	-0.36	-0.658
10/1/2014	16:43:02	10.663	8.138	91.19	-0.36	-0.278
10/1/2014	16:44:02	10.492	8.262	127.16	-0.41	-0.397
10/1/2014	16:45:02	10.22	8.47	127.87	-0.44	-0.406
10/1/2014	16:46:02	10.709	8.027	120.55	-0.46	0.011
10/1/2014	16:47:02	11.255	7.638	132.28	-0.5	-0.354
10/1/2014	16:48:02	12.111	6.923	97.49	-0.44	-0.289
10/1/2014	16:49:02	11.717	7.171	103.42	-0.39	0.014
10/1/2014	16:50:02	12.32	6.807	90.09	-0.36	-0.744
10/1/2014	16:51:02	12.636	6.49	64.03	-0.32	-0.429
10/1/2014	16:52:02	12.712	6.45	38.44	-0.04	-1.171
10/1/2014	16:53:02	12.804	6.317	27.23	0	-0.62
10/1/2014	16:54:02	12.008	6.869	28.06	0.01	-0.525
10/1/2014	16:55:02	9.633	8.259	62.45	-0.35	-0.962
10/1/2014	16:56:02	10.508	7.774	56.69	-0.34	-0.911
10/1/2014	16:57:02	11.562	7.221	32.02	-0.17	-0.813
10/1/2014	16:58:02	10.955	7.679	36.46	-0.04	-1.145
10/1/2014	16:59:02	10.846	7.167	30.98	-0.34	-1.3
10/1/2014	17:00:02	11.37	7.11	36.77	-0.05	-0.892
10/1/2014	17:01:02	10.42	8.052	63.25	0.01	-0.629
10/1/2014	17:02:02	8.812	9.301	94.43	-0.17	-0.824
10/1/2014	17:03:02	8.867	9.263	99.77	-0.02	-0.761
10/1/2014	17:04:02	8.758	9.326	118.58	-0.28	-0.171
10/1/2014	17:05:02	10.596	8.056	94.41	-0.35	-0.418
10/1/2014	17:06:02	11.502	7.283	57.15	-0.27	-0.562
10/1/2014	17:07:02	10.807	7.913	59.03	-0.29	-0.56
10/1/2014	17:08:02	11.269	7.579	39.92	-0.18	-0.411
10/1/2014	17:09:02	10.856	7.836	56.74	-0.27	-0.35
10/1/2014	17:10:02	10.518	8.143	51.59	-0.36	-0.242
10/1/2014	17:11:02	11.453	7.454	26.26	0.27	-0.724
10/1/2014	17:12:02	13.126	6.154	20.81	0.6	-0.816
10/1/2014	17:13:02	9.219	8.369	45.86	-0.35	-0.927
10/1/2014	17:14:02	11.338	7.354	32.14	-0.2	-0.303
10/1/2014	17:15:02	11.675	7.277	25.73	-0.06	-0.739
10/1/2014	17:16:02	10.735	7.491	24.51	-0.26	-0.66
10/1/2014	17:17:02	11.105	7.211	24.44	-0.1	-0.872
10/1/2014	17:18:02	13.748	5.748	16.18	1.21	-0.316

		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	17:19:02	10.696	7.208	38.48	-0.31	-0.63
10/1/2014	17:20:02	10.059	7.902	54.82	-0.34	-1.302
10/1/2014	17:21:02	11.498	7.415	38.72	0.01	0.084
10/1/2014	17:22:02	10.426	7.822	35.45	-0.26	-0.765
10/1/2014	17:23:02	10.451	7.687	35.17	-0.28	-0.679
10/1/2014	17:24:02	12.637	6.559	17.99	0.58	-0.631
10/1/2014	17:25:02	10.603	7.577	41.86	-0.24	-0.85
10/1/2014	17:26:02	9.942	8.035	62.09	-0.24	-0.57
10/1/2014	17:27:02	11.14	7.642	39.79	0.22	-0.774
10/1/2014	17:28:02	9.635	8.392	56.27	-0.22	-0.65
10/1/2014	17:29:02	9.131	8.63	68.96	-0.32	-0.903
10/1/2014	17:30:02	9.939	8.446	64.22	-0.23	-0.819
10/1/2014	17:31:02	10.687	8.053	52.88	0.14	-0.723
10/1/2014	17:32:02	11.948	6.995	27.84	0.07	-0.53
10/1/2014	17:33:02	9.223	8.344	36.51	-0.26	-0.047
10/1/2014	17:34:02	11.239	7.452	31.77	-0.07	-1.066
10/1/2014	17:35:02	11.04	7.7	34.58	-0.17	-1.012
Average of Test Run		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	17:35:23	10.89	7.69	57.82	-0.16	-0.628

Test Run 6 End

Final System Bias Check for Run 6

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269
NOx	CC159269	CC129531
CO	CC159269	CC157117
SO2	CC159269	CC268284

Date/Time 10/1/2014 17:47:13 PASSED

Analyte	O2	CO2	NOx	CO	SO2
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0	0	0	0	0
Zero Cal	0.04	0.152	-0.32	-0.4	0.533
Zero Avg	0.179	0.049	-0.39	-0.58	0.187
Zero Bias%	0.7	0.5	0	0.2	0.3
Zero Drift%	0	-0.3	0	0.1	-1
Span Ref Cyl	9.787	10.15	97.1	50.09	51.29
Span Cal	9.774	10.022	98.91	50.96	50.55
Span Avg	9.802	9.858	92.29	49.14	49.151
Span Bias%	0.1	0.8	3.3	1.8	1.4
Span Drift%	0.1	-0.1	0.1	-0.1	0.6
Ini Zero Avg	0.184	0.115	-0.33	-0.64	1.217
Ini Span Avg	9.775	9.881	92.02	49.22	48.53
Run Avg	10.89	7.69	57.82	-0.16	-0.628
Co	0.181	0.082	-0.36	-0.61	0.702
Cm	9.789	9.87	92.16	49.18	48.841
Correct Avg	10.908	7.889	61.06	0.46	-1.417

Test Run 7 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	18:14:10	12.082	7.064	41.47	-0.03	-0.59
10/1/2014	18:15:10	11.794	7.344	33.82	-0.07	-0.815
10/1/2014	18:16:10	11.959	7.202	24.13	0.08	-0.044
10/1/2014	18:17:10	11.712	7.35	22.74	0.11	-0.225
10/1/2014	18:18:10	10.975	7.772	19.52	0.04	-1.124
10/1/2014	18:19:10	10.62	7.68	21.51	0.54	-0.358
10/1/2014	18:20:09	12.821	6.455	24.11	1.49	-0.731
10/1/2014	18:21:09	8.93	9.056	59.91	2.43	-0.22
10/1/2014	18:22:09	9.342	8.883	57.35	0	-0.754
10/1/2014	18:23:09	9.888	8.744	88.86	-0.14	-0.212
10/1/2014	18:24:09	10.059	8.725	94.19	-0.22	-0.564
10/1/2014	18:25:09	10.56	8.314	88.49	-0.18	-0.45
10/1/2014	18:26:09	10.555	8.322	128.04	-0.22	-0.234
10/1/2014	18:27:09	10.972	7.975	100.96	-0.24	-0.295
10/1/2014	18:28:09	10.882	7.974	113.29	-0.25	-0.157
10/1/2014	18:29:09	10.585	8.245	165.38	-0.32	-0.23
10/1/2014	18:30:09	11.141	7.806	144.89	-0.33	-0.226
10/1/2014	18:31:09	11.44	7.517	137.49	-0.2	-0.39
10/1/2014	18:32:09	12.633	6.648	58.67	0.41	-0.614
10/1/2014	18:33:09	13.137	6.238	47.16	1.14	-0.707
10/1/2014	18:34:09	11.556	7.401	84.24	0.56	-0.585
10/1/2014	18:35:09	11.983	7.076	67.76	0.84	-0.578
10/1/2014	18:36:09	11.989	7.029	61.95	1.18	-0.271
10/1/2014	18:37:09	11.284	7.558	83	0.73	-0.578
10/1/2014	18:38:09	11.348	7.468	79.47	0.38	-0.151
10/1/2014	18:39:09	11.674	7.287	75.18	0.34	-0.943
10/1/2014	18:40:09	12.287	6.789	64.57	0.09	-0.91
10/1/2014	18:41:09	12.064	6.945	71.08	0.09	-0.804
10/1/2014	18:42:09	12.214	6.827	72.69	0.13	-1.145
10/1/2014	18:43:09	13.022	6.325	60.18	0.18	-0.704
10/1/2014	18:44:09	13.256	6.096	55.67	0.53	-0.168
10/1/2014	18:45:09	12.207	6.831	67.38	0.73	-1.255
10/1/2014	18:46:09	12.9	6.358	45.41	0.79	-0.436
10/1/2014	18:47:09	12.365	6.674	54.47	0.77	-0.902
10/1/2014	18:48:09	11.657	7.217	65.51	0.5	-0.387
10/1/2014	18:49:09	12.35	6.767	41.37	0.67	-0.62
10/1/2014	18:50:09	12.018	6.968	41.12	1.16	-0.504
10/1/2014	18:51:09	11.355	7.484	45.68	1.14	-0.749
10/1/2014	18:52:09	12.217	6.893	33.94	1.87	-0.54
10/1/2014	18:53:09	12.093	6.907	34.35	1.34	-0.33
10/1/2014	18:54:09	10.666	8.016	42.09	1.19	-0.51
10/1/2014	18:55:09	9.466	8.568	43.64	0.29	-0.887
10/1/2014	18:56:09	10.493	8.023	42.81	0.39	-0.747

		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	18:57:09	10.574	8.094	48.98	0.52	-0.572
10/1/2014	18:58:09	11.292	7.566	42.26	0.17	-0.458
10/1/2014	18:59:09	11.194	7.654	47.54	0.13	-0.316
10/1/2014	19:00:09	10.806	7.964	50.98	0.14	-0.68
10/1/2014	19:01:09	11.666	7.309	35.06	0.14	-0.888
10/1/2014	19:02:09	11.641	7.286	31.48	0.28	-0.629
10/1/2014	19:03:09	11.118	7.727	39.69	0.28	0.017
10/1/2014	19:04:09	12.076	6.993	24.66	0.36	-0.767
10/1/2014	19:05:09	10.5	7.678	35.05	0.16	-0.028
10/1/2014	19:06:09	11.425	7.195	23.76	0.28	-0.673
10/1/2014	19:07:09	13.491	5.921	19.94	2.31	2.058
10/1/2014	19:08:09	8.638	9.06	61.35	17.44	-0.488
10/1/2014	19:09:09	7.995	9.762	84.51	1.18	-0.142
10/1/2014	19:10:09	9.353	9.122	105.45	-0.1	-0.257
10/1/2014	19:11:09	10.205	8.518	133.16	-0.14	-0.702
10/1/2014	19:12:09	11.993	7.178	118.26	-0.14	-0.989
10/1/2014	19:13:09	12.867	6.535	98.27	-0.06	-0.902
Average of Test Run		O2	CO2	NOx	CO	SO2
		%	%	ppm	ppm	ppm
10/1/2014	19:13:13	11.358	7.505	63.48	0.71	-0.5

Test Run 7 End

Final System Bias Check for Run 7

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269
NOx	CC159269	CC129531
CO	CC159269	CC157117
SO2	CC159269	CC268284

Date/Time 10/1/2014 19:29:16 PASSED

Analyte	O2	CO2	NOx	CO	SO2
Units	%	%	ppm	ppm	ppm
Zero Ref Cyl	0	0	0	0	0
Zero Cal	0.04	0.152	-0.32	-0.4	0.533
Zero Avg	0.297	0.062	-0.42	-0.4	-0.416
Zero Bias%	1.3	0.5	0	0	1
Zero Drift%	0.6	0.1	0	0.2	-0.6
Span Ref Cyl	9.787	10.15	97.1	50.09	51.29
Span Cal	9.774	10.022	98.91	50.96	50.55
Span Avg	9.93	9.865	94.81	49.58	48.643
Span Bias%	0.8	0.8	2	1.4	1.9
Span Drift%	0.7	0	1.3	0.4	-0.5
Ini Zero Avg	0.179	0.049	-0.39	-0.58	0.187
Ini Span Avg	9.802	9.858	92.29	49.14	49.151
Run Avg	11.358	7.505	63.48	0.71	-0.5
Co	0.238	0.055	-0.4	-0.49	-0.115
Cm	9.866	9.862	93.55	49.36	48.897
Correct Avg	11.304	7.711	66.02	1.21	-0.403

Test Run 8 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Nam Stericycle - NSL
Location: Unit 1 Stack

		O2	CO2	NOx	CO
		%	%	ppm	ppm
10/1/2014	20:31:03	11.364	7.608	127.45	2.24
10/1/2014	20:32:03	11.658	7.369	129.79	2.35
10/1/2014	20:33:03	11.482	7.481	110.39	1.69
10/1/2014	20:34:03	11.477	7.477	106.92	3.44
10/1/2014	20:35:03	12.263	6.848	46.45	4.57
10/1/2014	20:36:03	12.487	6.695	43.31	4.19
10/1/2014	20:37:03	12.656	6.575	33.69	4.35
10/1/2014	20:38:03	12.39	6.793	28.56	4.69
10/1/2014	20:39:03	11.54	7.299	31.34	5.22
10/1/2014	20:40:03	8.853	8.785	58.22	4.39
10/1/2014	20:41:03	10.614	8.033	60.42	5.55
10/1/2014	20:42:03	10.67	8.037	59.33	5.22
10/1/2014	20:43:03	11.45	7.534	49.92	4.91
10/1/2014	20:44:03	10.561	8.153	57.86	5.81
10/1/2014	20:45:03	10.617	8.17	72.04	6.06
10/1/2014	20:46:03	11.133	7.787	72.2	5.91
10/1/2014	20:47:03	11.444	7.508	66.36	6
10/1/2014	20:48:03	11.21	7.658	71.05	5.9
10/1/2014	20:49:03	11.912	7.248	55.49	4.92
10/1/2014	20:50:03	11.426	7.465	65.45	6.42
10/1/2014	20:51:03	10.436	8.21	96.77	6.12
10/1/2014	20:52:03	11.166	7.669	83.19	5.43
10/1/2014	20:53:03	11.692	7.26	69.08	5.45
10/1/2014	20:54:03	11.718	7.258	63.74	5.16
10/1/2014	20:55:03	11.69	7.264	64.81	4.55
10/1/2014	20:56:03	11.823	7.142	56.94	4.65
10/1/2014	20:57:03	10.7	8.018	85.63	2.75
10/1/2014	20:58:03	10.988	7.823	96.38	1.94
10/1/2014	20:59:03	11.175	7.641	90.98	1.81
10/1/2014	21:00:03	11.647	7.311	97.32	1.47
10/1/2014	21:01:03	12.582	6.617	78.91	1.73
10/1/2014	21:02:03	13.034	6.284	62.35	2.11
10/1/2014	21:03:03	13.394	6.035	57.48	2.55
10/1/2014	21:04:03	12.778	6.494	69.13	2.52
10/1/2014	21:05:03	12.312	6.811	75.48	2.22
10/1/2014	21:06:03	12.947	6.386	68.67	2.4
10/1/2014	21:07:03	12.756	6.537	66.05	2.47
10/1/2014	21:08:03	12.209	6.943	70.86	2.33
10/1/2014	21:09:03	13.714	5.825	40.19	3.11
10/1/2014	21:10:03	12.942	6.362	46.77	3.3
10/1/2014	21:11:03	12.235	6.904	62	2.93
10/1/2014	21:12:03	11.575	7.438	65.41	2.66
10/1/2014	21:13:03	10.963	7.827	73.82	2.29

		O2	CO2	NOx	CO
		%	%	ppm	ppm
10/1/2014	21:14:03	11.305	7.577	67	2.13
10/1/2014	21:15:03	12.043	7.059	55.31	2.28
10/1/2014	21:16:03	11.389	7.511	67.21	2.05
10/1/2014	21:17:03	11.589	7.397	89.12	1.81
10/1/2014	21:18:03	12.012	7.017	87.69	1.82
10/1/2014	21:19:03	11.646	7.257	94.53	1.58
10/1/2014	21:20:03	12.369	6.772	78.79	1.82
10/1/2014	21:21:03	13.125	6.24	62.01	2.32
10/1/2014	21:22:03	13.009	6.25	57.53	2.37
10/1/2014	21:23:03	12.278	6.802	72.25	2.04
10/1/2014	21:24:03	12.547	6.644	67.11	2.07
10/1/2014	21:25:03	12.253	6.848	75.78	2.05
10/1/2014	21:26:03	12.733	6.549	73.26	2.1
10/1/2014	21:27:03	12.907	6.386	67	2.37
10/1/2014	21:28:03	12.694	6.556	64.35	2.45
10/1/2014	21:29:03	12.843	6.45	55.96	2.69
10/1/2014	21:30:03	12.792	6.481	55.63	2.82
Average of Test Run		O2	CO2	NOx	CO
		%	%	ppm	ppm
10/1/2014	21:30:03	11.887	7.14	69.66	3.38

Test Run 8 End

Final System Bias Check for Run 8

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269
NOx	CC159269	CC129531
CO	CC159269	CC157117

Date/Time 10/1/2014 21:40:31 PASSED

Analyte	O2	CO2	NOx	CO
Units	%	%	ppm	ppm
Zero Ref Cyl	0	0	0	0
Zero Cal	0.04	0.152	-0.32	-0.4
Zero Avg	0.207	0.085	-0.39	-0.25
Zero Bias%	0.9	0.3	0	0.1
Zero Drift%	-0.5	0.1	0	0.1
Span Ref Cyl	9.787	10.15	97.1	50.09
Span Cal	9.774	10.022	98.91	50.96
Span Avg	10.015	9.824	95.51	50
Span Bias%	1.2	1	1.7	1
Span Drift%	0.4	-0.2	0.3	0.4
Ini Zero Avg	0.297	0.062	-0.42	-0.4
Ini Span Avg	9.93	9.865	94.81	49.58
Run Avg	11.887	7.14	69.66	3.38
Co	0.252	0.074	-0.4	-0.32
Cm	9.973	9.845	95.16	49.79
Correct Avg	11.714	7.34	71.19	3.7

Test Run 9 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

		O2 %	CO2 %	NOx ppm	CO ppm
10/1/2014	21:49:02	12.287	6.815	76.9	2.49
10/1/2014	21:50:02	11.684	7.252	92.44	2.21
10/1/2014	21:51:02	11.642	7.338	97.39	2.13
10/1/2014	21:52:02	11.93	7.127	86.96	2.3
10/1/2014	21:53:02	11.851	7.161	85.15	2.37
10/1/2014	21:54:02	11.942	7.167	77.11	2.26
10/1/2014	21:55:02	11.755	7.221	77.83	2.26
10/1/2014	21:56:02	11.481	7.409	88.4	2.14
10/1/2014	21:57:02	11.35	7.536	89.28	2.04
10/1/2014	21:58:02	11.589	7.335	90.88	1.92
10/1/2014	21:59:02	11.697	7.242	111.13	1.66
10/1/2014	22:00:02	12.224	6.873	110.33	1.86
10/1/2014	22:01:02	12.27	6.935	77.15	3.54
10/1/2014	22:02:02	11.548	7.486	82.54	4.86
10/1/2014	22:03:02	11.99	7.078	103.19	4.98
10/1/2014	22:04:02	12.146	6.903	117.44	5.01
10/1/2014	22:05:02	12.082	6.983	118.2	5.2
10/1/2014	22:06:02	12.758	6.495	101.89	5.76
10/1/2014	22:07:02	12.986	6.379	64.41	5.42
10/1/2014	22:08:02	12.082	7.002	66.53	5.45
10/1/2014	22:09:02	10.814	7.922	78.63	4.59
10/1/2014	22:10:02	11.277	7.641	76.03	4.4
10/1/2014	22:11:02	12.216	6.907	70.51	4.62
10/1/2014	22:12:02	12.102	6.973	68.34	4.61
10/1/2014	22:13:02	12.598	6.64	63.79	4.54
10/1/2014	22:14:02	13.336	6.073	57.69	5.44
10/1/2014	22:15:02	11.285	7.6	89.19	5.14
10/1/2014	22:16:02	11.972	7.137	90.85	4.9
10/1/2014	22:17:02	12.502	6.717	99.39	4.97
10/1/2014	22:18:02	11.953	7.081	99.33	4.68
10/1/2014	22:19:02	11.624	7.355	98.47	4.3
10/1/2014	22:20:02	12.666	6.618	81.61	4.63
10/1/2014	22:21:02	13.159	6.241	71.97	4.78
10/1/2014	22:22:02	13.615	5.926	50.48	4.68
10/1/2014	22:23:02	12.362	6.798	68.58	5.17
10/1/2014	22:24:02	11.394	7.587	79.64	4.68
10/1/2014	22:25:02	11.989	7.132	73.33	4.49
10/1/2014	22:26:02	12.535	6.739	68.98	4.55
10/1/2014	22:27:02	12.171	6.991	77.85	4.91
10/1/2014	22:28:02	11.362	7.628	80.14	4.77
10/1/2014	22:29:02	12.039	7.054	68.67	4.73
10/1/2014	22:30:02	12.129	7.005	59.09	5.12
10/1/2014	22:31:02	12.234	6.933	58.16	5.36

		O2	CO2	NOx	CO
		%	%	ppm	ppm
10/1/2014	22:32:02	12.048	7.261	69.15	4.67
10/1/2014	22:33:02	12.362	6.936	51.53	4.94
10/1/2014	22:34:02	10.63	8.202	112.56	4.69
10/1/2014	22:35:02	11.936	7.221	95.8	4.78
10/1/2014	22:36:02	11.478	7.452	87.03	5.64
10/1/2014	22:37:02	11.272	7.63	100.12	5.96
10/1/2014	22:38:02	11.682	7.283	95.36	6.12
10/1/2014	22:39:02	11.212	7.647	105.48	5.51
10/1/2014	22:40:02	12.54	6.698	74.1	6.09
10/1/2014	22:41:02	12.609	6.688	62.19	5.45
10/1/2014	22:42:02	12.22	6.966	78.45	3.5
10/1/2014	22:43:02	11.888	7.381	54.67	4.2
10/1/2014	22:44:02	11.425	7.681	59.69	4.57
10/1/2014	22:45:02	9.25	9.065	130.12	3.12
10/1/2014	22:46:02	10.06	8.59	148.49	2.21
10/1/2014	22:47:02	10.458	8.318	154.2	1.87
10/1/2014	22:48:02	11.142	7.85	152.98	1.8

Average of Test Run

		O2	CO2	NOx	CO
		%	%	ppm	ppm
10/1/2014	22:48:02	11.881	7.188	86.29	4.18

Test Run 9 End

Final System Bias Check for Run 9

Operator:	Derek Brewster
Plant Name:	Stericycle - NSL
Location:	Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269
NOx	CC159269	CC129531
CO	CC159269	CC157117

Date/Time	10/1/2014	22:58:54 PASSED		
Analyte	O2	CO2	NOx	CO
Units	%	%	ppm	ppm
Zero Ref Cyl	0	0	0	0
Zero Cal	0.04	0.152	-0.32	-0.4
Zero Avg	0.124	0.035	-0.36	-0.4
Zero Bias%	0.4	0.6	0	0
Zero Drift%	-0.4	-0.3	0	-0.1
Span Ref Cyl	9.787	10.15	97.1	50.09
Span Cal	9.774	10.022	98.91	50.96
Span Avg	9.874	9.975	96.72	50.61
Span Bias%	0.5	0.2	1.1	0.3
Span Drift%	-0.7	0.8	0.6	0.6
Ini Zero Avg	0.207	0.085	-0.39	-0.25
Ini Span Avg	10.015	9.824	95.51	50
Run Avg	11.881	7.188	86.29	4.18
Co	0.165	0.06	-0.37	-0.33
Cm	9.945	9.9	96.11	50.3
Correct Avg	11.724	7.353	87.22	4.46

Test Run 10 Begin. STRATA Version 3.2
Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

		O2 %	CO2 %	NOx ppm	CO ppm
10/1/2014	23:09:02	12.674	6.745	42.64	4.47
10/1/2014	23:10:01	12.033	6.933	37.96	3.7
10/1/2014	23:11:01	10.24	7.797	41.04	2.7
10/1/2014	23:12:01	12.676	6.507	26.16	4.31
10/1/2014	23:13:01	12.102	6.946	21.87	4.24
10/1/2014	23:14:01	9.794	8.076	29.1	3.26
10/1/2014	23:15:01	13.178	6.255	25.7	4.34
10/1/2014	23:16:01	11.039	7.73	49.3	4.38
10/1/2014	23:17:01	8.863	8.928	63.91	3.01
10/1/2014	23:18:01	11.173	7.807	52.4	4.66
10/1/2014	23:19:01	10.495	8.325	53.7	5.33
10/1/2014	23:20:01	10.227	8.485	46.05	5.67
10/1/2014	23:21:01	10.442	8.39	44.28	4.83
10/1/2014	23:22:01	11.375	7.691	37.38	4.8
10/1/2014	23:23:01	9.422	8.613	47.83	3.5
10/1/2014	23:24:01	10.1	8.315	46.65	3.68
10/1/2014	23:25:01	10.775	8.104	41.19	5.11
10/1/2014	23:26:01	9.958	8.687	47.57	5.95
10/1/2014	23:27:01	9.81	8.767	47.4	5.5
10/1/2014	23:28:01	12.519	6.908	26.15	4.34
10/1/2014	23:29:01	10.891	7.581	25.68	4.04
10/1/2014	23:30:01	8.415	9.228	63.62	3.18
10/1/2014	23:31:01	9.446	9.085	77.79	3.42
10/1/2014	23:32:01	9.775	8.86	69.26	3.47
10/1/2014	23:33:01	9.629	8.971	73.69	2.49
10/1/2014	23:34:01	11.644	7.491	56.32	2.37
10/1/2014	23:35:01	11.957	7.185	63.75	2.35
10/1/2014	23:36:01	11.052	7.945	90.85	1.79
10/1/2014	23:37:01	11.381	7.713	94.05	1.65
10/1/2014	23:38:01	11.913	7.243	89.49	1.86
10/1/2014	23:39:01	13.017	6.397	70.1	2.36
10/1/2014	23:40:01	12.994	6.364	64.11	2.78
10/1/2014	23:41:01	13.435	6.071	56.68	3.37
10/1/2014	23:42:01	13.121	6.274	52.57	3.7
10/1/2014	23:43:01	12.416	6.778	53.98	3.83
10/1/2014	23:44:01	11.864	7.168	57.01	3.6
10/1/2014	23:45:01	12.074	7.035	42.03	4.01
10/1/2014	23:46:01	12.217	6.957	31.73	4.39
10/1/2014	23:47:01	12.37	6.88	31.51	6.79
10/1/2014	23:48:01	13.353	6.071	20.5	7.06
10/1/2014	23:49:01	8.763	8.776	39.3	2.91
10/1/2014	23:50:01	10.759	7.945	76.62	3
10/1/2014	23:51:01	9.965	8.696	111.66	3.18

		O2	CO2	NOx	CO
		%	%	ppm	ppm
10/1/2014	23:52:01	10.136	8.558	114.85	2.63
10/1/2014	23:53:01	10.553	8.279	137.74	2.1
10/1/2014	23:54:01	12.504	6.863	85.12	2.48
10/1/2014	23:55:01	12.275	6.875	78.01	2.83
10/1/2014	23:56:01	11.398	7.626	96.94	2.89
10/1/2014	23:57:01	11.48	7.576	78.72	3.1
10/1/2014	23:58:01	11.279	7.678	87.22	2.94
10/1/2014	23:59:01	11.639	7.395	76.87	2.86
10/2/2014	0:00:02	12.318	6.855	60.11	2.96
10/2/2014	0:01:01	11.723	7.269	70.53	2.88
10/2/2014	0:02:01	10.849	7.968	84.03	2.76
10/2/2014	0:03:01	10.556	8.13	92	2.27
10/2/2014	0:04:01	10.824	7.974	96.35	1.88
10/2/2014	0:05:01	11.924	7.1	84.25	2.06
10/2/2014	0:06:01	12.018	7.031	70.27	2.14
10/2/2014	0:07:01	12.387	6.822	68.91	2.34
10/2/2014	0:08:01	13.026	6.326	46.77	2.85

Average of Test Run

		O2	CO2	NOx	CO
		%	%	ppm	ppm
10/2/2014	0:08:01	11.304	7.584	61.15	3.49

Test Run 10 End

Final System Bias Check for Run 10

Operator: Derek Brewster
Plant Name: Stericycle - NSL
Location: Unit 1 Stack

Reference Cylinder Numbers

	Zero	Span
O2	CC157117	CC159269
CO2	CC157117	CC159269
NOx	CC159269	CC129531
CO	CC159269	CC157117

Date/Time 10/2/2014 0:17:50 PASSED

Analyte	O2	CO2	NOx	CO
Units	%	%	ppm	ppm
Zero Ref Cyl	0	0	0	0
Zero Cal	0.04	0.152	-0.32	-0.4
Zero Avg	0.132	0.032	-0.38	-0.41
Zero Bias%	0.5	0.6	0	0
Zero Drift%	0	0	0	0
Span Ref Cyl	9.787	10.15	97.1	50.09
Span Cal	9.774	10.022	98.91	50.96
Span Avg	9.873	9.957	96.91	50.6
Span Bias%	0.5	0.3	1	0.4
Span Drift%	0	-0.1	0.1	0
Ini Zero Avg	0.124	0.035	-0.36	-0.4
Ini Span Avg	9.874	9.975	96.72	50.61
Run Avg	11.304	7.584	61.15	3.49
Co	0.128	0.033	-0.37	-0.41
Cm	9.874	9.966	96.82	50.6
Correct Avg	11.223	7.716	61.47	3.82

APPENDIX C
LABORATORY REPORTS

1. **Mercury and Metals**
2. **Dioxin / Furan**
3. **Particulate and Hydrogen Chloride**

C-1
Mercury and Metals

FIRST ANALYTICAL

ANALYSIS REPORT

NELAP Cert. No. 04053

Method 29: Multi-metals

Project ID: Stericycle, Inc. – North Salt Lake, UT

Prepared for:

TRC Environmental Corporation
5540 Centerview Dr. Ste. 100
Raleigh, NC 27606

FIRST ANALYTICAL

Reviewed by:

Matt Loftis
Laboratory Manager

October 14, 2014

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This report meets the requirements of LAC33/NELAP.

FAL FIRST ANALYTICAL

CASE NARRATIVE

Project #: 141009 and 141018 **Report Date**: 10-14-14
Client:TRC Environmental Corporation
Client Project ID: Stericycle, Inc. – North Salt Lake, UT

Samples:

Originally four sets of samples, including one reagent blank, were submitted for analysis via Method 29 for metals on 10-03-14 and reported on 10-06-14. An additional run and an SSAP audit sample were submitted on 10-07-14 for analysis via Method 29 for metals and were added to the original report. The target elements for Method 29 were cadmium, lead, and mercury. The samples were received in good condition with the leak check levels indicating no apparent leakage. All of the remaining amounts of the samples and digestates will be retained by the laboratory for six months and then discarded.

Preparation:

The metals samples were prepared and analyzed according to EPA Method 29, *Determination of Metals Emissions from Stationary Sources*.The front and back halves were analyzed separately.

Analysis:

All elements, except mercury, were determined by Inductively Coupled Plasma -Mass Spectrometry (ICP-MS). Mercury was determined by Cold Vapor Atomic Absorption Spectrometry (CVAA).

Results:

The Method 29 metals results for all elements are presented as total micrograms of each element present in the whole analytical fraction indicated.

Quality Control:

All target elements were below detection limits in the method blank.All of the elements for the Laboratory Control Spikes were within the acceptance limits

FIRST ANALYTICAL

of 80% to 120%. All of theMatrix Spike recoveries were within the acceptance range of 75% to 125%. All of the required duplicate samples had a relative percent difference of 20% or were less than five times the limit of quantitation. All of the samples were analyzed at least in duplicate.

FIRST ANALYTICAL LABORATORIES
billing PO Box 110372 - Research Triangle Park, NC 27709
shipping 7517 Precision Drive, Suite 101 - Raleigh, NC 27617
TEL 919 942 8607
FAX 919 882 1603
www.firstanalyticallabs.com

ANALYSIS REPORT

FAL Project #: 141009 + 141018
Client: TRC Environmental Corp.
Client Project ID: Stericycle, Inc. - North Salt Lake, UT

Report Date: 10-14-14
Date Received: 10-03-14

Total Micrograms in Sample

Sample	Cd µg	Pb µg
Unit 1 Stack (001) - R1-FH	< 0.5	< 0.5
Unit 1 Stack (001) - R1-BH	< 0.1	1.1
Unit 1 Stack (001) - R2-FH	< 0.5	< 0.5
Unit 1 Stack (001) - R2-BH	0.4	0.7
Unit 1 Stack (001) - R3-FH	< 0.5	< 0.5
Unit 1 Stack (001) - R3-BH	< 0.1	0.3
Unit 1 Stack (001) - R4-FH	< 0.5	< 0.5
Unit 1 Stack (001) - R4-BH	1.0	0.4
M29-RB - FH	< 0.5	< 0.5
M29-RB - BH	< 0.1	< 0.1

QC SUMMARY

	Cd	Pb
Spike, %Rec. Front	100%	110%
Spike, %Rec. Back	98%	106%
Duplicate, %RPD Front	N/A	N/A
Duplicate, %RPD Back	N/A	9.6%
Spike, %Rec. Front	106%	108%
Spike, %Rec. Back	91%	106%
Duplicate, %RPD Front	1.7%	3.9%
Duplicate, %RPD Back	3.8%	4.9%

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ANALYSIS REPORT

FAL Project #: 141009 / 141018
Client: TRC Environmental Corp.
Client Project ID: Stericycle, Inc. - North Salt Lake, UT

Report Date: 10-14-14
Date Received: 10-03-14

Total Micrograms of Mercury in Sample

Sample	Frac 1B µg	Frac 2B µg	Frac 3A µg	Frac 3B µg	Frac 3C µg
Unit 1 Stack (001) - R1	< 0.2	< 2.0	< 0.2	< 0.4	< 0.5
Unit 1 Stack (001) - R2	< 0.2	< 2.0	< 0.2	< 0.4	< 0.5
Unit 1 Stack (001) - R3	< 0.2	< 2.0	< 0.3	< 0.4	< 0.5
Unit 1 Stack (001) - R4	< 0.2	< 2.1	< 0.4	< 0.4	< 0.5
Reagent Blank	< 0.2	< 0.4	< 0.6	< 0.1	< 0.5

QC SUMMARY

Matrix Spike, % Recovery	86% (R1)	
Duplicate, RPD	N/A*	N/A*
Matrix Spike, % Recovery	104% (R4)	

*Duplicate and Sample were less than 5 times the report limit

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ANALYSIS REPORT

FAL Project #: 141009 / 141018
Client: TRC Environmental Corp.
Client Project ID: Method 29 Audit Sample (SSAP 236)

Report Date: 10-14-14
Date Received: 10-03-14

Audit Sample Concentration

Sample ID	Metals on Filter	Metals in Impinger
	µg/Filter	µg/mL
Cd	28.6	0.141
Pb	60.3	0.246
	µg/Filter	ng/mL
Hg	5.63	8.85

Method 29 Analysis Run Summary Calculations

Element	Cd 111	Methodology	ICP-MS		
Client	TRC-NC	LOQ	1.0	µg/L	
FAL Project No.	141009	Postdig'n Spike Conc.	50	µg/L	
Analysis Date	10/05/14	Analyst(s)	JDN		

Client ID	FAL ID		Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor				Total (µg)
FRONT HALVES										
M29-1	141009.1	-1A	0.1	0.4	100	5			<	0.5
M29-2	141009.2	-1A	0.3	1.4	100	5			<	0.5
M29-3	141009.3	-1A	0.1	0.3	100	5			<	0.5
Reagent Blank	141009.4	-1A	0.1	0.3	100	5			<	0.5
Lab Blank Front	141009.LB	-1A	0.0	0.0	100	1			<	0.1
LCS Front	141009.LCS	-1A	22.6	113.0	100	5		% REC =		113.0%
Spike Front	141009.1 MS	-1A	49.8	248.8	100	5		% REC =		99.5%
Duplicate Front	141009.2 DUP	-1A	0.3				RPD =	N/A		

Client ID	FAL ID			Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor	Total Volume (mL)	Volume Dig'd (mL)		Total (µg)
BACK HALVES										
M29-1	141009.1	-2A	0.6	0.6	100	1	1001	951	<	0.11
M29-2	141009.2	-2A	3.9	3.9	100	1	1015	965		0.41
M29-3	141009.3	-2A	0.2	0.2	100	1	992	942	<	0.11
Reagent Blank	141009.4	-2A	0.1	0.1	100	1	194	144	<	0.13
Lab Blank Back	141009.LB	-2A	0.0	0.0	100	1			<	0.1
LCS Back	141009.LCS	-2A	11.0	109.9	100	10		% REC =		109.9%
Spike Back	141009.1 MS	-2A	48.9	97.9	100	2		% REC =		97.9%
Duplicate Back	141009.2 DUP	-2A	3.6				RPD =	N/A		

Method 29 Analysis Run Summary Calculations

Element	Pb 208	Methodology	ICP-MS
Client	TRC-NC	LOQ	1.0 µg/L
FAL Project No.	141009	Postdig'n Spike Conc.	50 µg/L
Analysis Date	10/05/14	Analyst(s)	JDN

Client ID	FAL ID		Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor				Total (µg)
FRONT HALVES										
M29-1	141009.1	-1A	0.3	1.4	100	5			<	0.5
M29-2	141009.2	-1A	0.6	3.2	100	5			<	0.5
M29-3	141009.3	-1A	0.3	1.4	100	5			<	0.5
Reagent Blank	141009.4	-1A	0.2	0.9	100	5			<	0.5
Lab Blank Front	141009.LB	-1A	0.1	0.1	100	1			<	0.1
LCS Front	141009.LCS	-1A	23.0	115.2	100	5		% REC =		115.2%
Spike Front	141009.1 MS	-1A	55.1	275.5	100	5		% REC =		110.2%
Duplicate Front	141009.2 DUP	-1A	0.6				RPD =	N/A		

Client ID	FAL ID			Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor	Total Volume (mL)	Volume Dig'd (mL)		Total (µg)
BACK HALVES										
M29-1	141009.1	-2A	10.1	10.1	100	1	1001	951		1.06
M29-2	141009.2	-2A	6.5	6.5	100	1	1015	965		0.69
M29-3	141009.3	-2A	3.2	3.2	100	1	992	942		0.34
Reagent Blank	141009.4	-2A	0.9	0.9	100	1	194	144	<	0.13
Lab Blank Back	141009.LB	-2A	0.1	0.1	100	1			<	0.1
LCS Back	141009.LCS	-2A	12.0	120.0	100	10		% REC =		120.0%
Spike Back	141009.1 MS	-2A	57.8	115.6	100	2		% REC =		105.5%
Duplicate Back	141009.2 DUP	-2A	5.9				RPD =	9.6%		

Method 29 Analysis Run Summary Calculations

Element Cd 111 | Methodology ICP-MS

Client TRC-NC | LOQ 1.0 µg/L
FAL Project No. 141018 | Postdig'n Spike Conc. 50 µg/L
Analysis Date 10/13/14 | Analyst(s) JDN

Client ID	FAL ID		Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor				Total (µg)
FRONT HALVES										
M29-4	141018.1	-1A	0.2	0.9	100	5			<	0.5
SSAP 236	141018.2	-1A	57.1	285.7	100	5				28.6
Lab Blank Front	141018.LB	-1A	0.0	0.0	100	1			<	0.1
LCS Front	141018.LCS	-1A	19.9	99.3	100	5		% REC =		99.3%
Spike Front	141018.1 MS	-1A	53.0	264.8	100	5		% REC =		105.9%
Duplicate Front	141018.2 DUP	-1A	58.1				RPD =	1.7%		

Client ID	FAL ID		Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor	Total Volume (mL)	Volume Dig'd (mL)		Total (µg)
BACK HALVES									
M29-4	141018.1	-2A	1.9	9.4	100	5	1028	978	0.99
SSAP 236	141018.2	-2A	7.0	140.7	100	20	100	100	14.07
Lab Blank Back	141018.LB	-2A	0.0	0.0	100	1			< 0.1
LCS Back	141018.LCS	-2A	19.3	96.3	100	5		% REC =	96.3%
Spike Back	141018.1 MS	-2A	47.6	238.0	100	5		% REC =	91.4%
Duplicate Back	141018.2 DUP	-2A	6.8				RPD =	3.8%	

Method 29 Analysis Run Summary Calculations

Element Pb 208

Methodology ICP-MS

Client TRC-NC
FAL Project No. 141018
Analysis Date 10/13/14

LOQ	1.0	µg/L
Postdig'n Spike Conc.	50	µg/L
Analyst(s)	JDN	

Client ID	FAL ID		Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor				Total (µg)
FRONT HALVES										
M29-4	141018.1	-1A	0.2	0.9	100	5			<	0.5
SSAP 236	141018.2	-1A	60.3	602.6	100	10				60.3
Lab Blank Front	141018.LB	-1A	0.2	0.2	100	1			<	0.1
LCS Front	141018.LCS	-1A	21.1	105.3	100	5		% REC =		105.3%
Spike Front	141018.1 MS	-1A	53.8	269.2	100	5		% REC =		107.7%
Duplicate Front	141018.2 DUP	-1A	62.7				RPD =	3.9%		

Client ID	FAL ID			Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor	Total Volume (mL)	Volume Dig'd (mL)		Total (µg)
BACK HALVES										
M29-4	141018.1	-2A	3.6	3.6	100	1	1028	978		0.37
SSAP 236	141018.2	-2A	12.3	245.7	100	20	100	100		24.57
Lab Blank Back	141018.LB	-2A	0.4	0.4	100	1			<	0.1
LCS Back	141018.LCS	-2A	20.6	103.0	100	5		% REC =		103.0%
Spike Back	141018.1 MS	-2A	54.8	109.7	100	2		% REC =		106.1%
Duplicate Back	141018.2 DUP	-2A	11.7				RPD =	4.9%		

METHOD 29 MERCURY

CVAA ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: TRC Environmental Corporation — RL = 0.20 µg/L
Proj. #: 1401009 — Postdig'n spike conc. = 5.00 µg/L
Analysis Date: 10-5-14

Sample ID Client	FAL	Test Sol'n µg/L	Dig'te Conc µg/L	FV ml	Dil'n Factor	Total Volume ml	Volume Dig'd ml		Total µg
FRACTION 1B									
1-M29-R1	141009.1 -1B	0.04	0.04	50	1	100	5.0	<	0.20
1-M29-R2	141009.2 -1B	0.04	0.04	50	1	100	5.0	<	0.20
1-M29-R3	141009.3 -1B	0.05	0.05	50	1	100	5.0	<	0.20
Reagent Blank	141009.5 -1B	0.04	0.04	50	1	100	5.0	<	0.20
Matrix Spike	141009.1 MS -1B	4.30				% REC =	86.0%		
Duplicate	141009.2 DUP -1B	0.04				% RPD =	N/A		
FRACTION 2B									
1-M29-R1	141009.1 -2B	0.05	0.05	50	1	1001	5.0	<	2.00
1-M29-R2	141009.2 -2B	0.05	0.05	50	1	1015	5.0	<	2.03
1-M29-R3	141009.3 -2B	0.18	0.18	50	1	992	5.0	<	1.98
Reagent Blank	141009.4 -2B	0.04	0.04	50	1	194	5.0	<	0.39
FRACTION 3A									
1-M29-R1	141009.1 -3A	0.04	0.04	50	1	121	5.0	<	0.24
1-M29-R2	141009.2 -3A	0.04	0.04	50	1	107	5.0	<	0.21
1-M29-R3	141009.3 -3A	0.05	0.05	50	1	132	5.0	<	0.26
Reagent Blank	141009.4 -3A	0.04	0.04	50	1	290	5.0	<	0.58
FRACTION 3B									
1-M29-R1	141009.1 -3B	0.02	0.02	50	1	385	10.0	<	0.39
1-M29-R2	141009.2 -3B	0.01	0.01	50	1	370	10.0	<	0.37
1-M29-R3	141009.3 -3B	0.04	0.04	50	1	390	10.0	<	0.39
Reagent Blank	141009.4 -3B	0.01	0.01	50	1	90	10.0	<	0.09
FRACTION 3C									
1-M29-R1	141009.1 -3C	0.04	0.04	50	1	247	5.0	<	0.49
1-M29-R2	141009.2 -3C	0.03	0.03	50	1	250	5.0	<	0.50
1-M29-R3	141009.3 -3C	0.04	0.04	50	1	240	5.0	<	0.48
Reagent Blank	141009.4 -3C	0.02	0.02	50	1	250	5.0	<	0.50
Batch Quality Control									
Lab Blank	141009.LB	0.04	0.04	50	1	50	20	<	0.03
Lab Control Sample	141009.LCS	4.51				% REC =	90.2%		

METHOD 29 MERCURY

CVAA ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: TRC Environmental Corporation — RL = 0.20 µg/L
Proj. #: 141018 — Postdig'n spike conc. = 5.00 µg/L
Analysis Date: 10-10-14

Sample ID Client	FAL	Test Sol'n µg/L	Dig'te Conc µg/L	FV ml	Dil'n Factor	Total Volume ml	Volume Dig'd ml		Total µg
FRACTION 1B									
1-M29-R4	141018.1 -1B	0.01	0.01	50	1	100	5.0	<	0.20
Matrix Spike	141018.1 MS -1B	5.21				% REC =	104.2%		
FRACTION 2B									
1-M29-R4	141018.1 -2B	-0.01	-0.01	50	1	1028	5.0	<	2.06
Duplicate	141018.1 DUP -2B	-0.01				% RPD =	N/A		
FRACTION 3A									
1-M29-R4	141018.1 -3A	-0.02	-0.02	50	1	209	5.0	<	0.42
FRACTION 3B									
1-M29-R4	141018.1 -3B	-0.03	-0.03	50	1	362	10.0	<	0.36
FRACTION 3C									
1-M29-R4	141018.1 -3C	0.00	0.00	50	1	259	5.0	<	0.52
Batch Quality Control									
Lab Blank	141018.LB	-0.03	-0.03	50	1	50	20	<	0.03
Lab Control Sample	141018.LCS	5.10				% REC =	102.0%		

Lead 208

ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: TRC Environmental Corp. - SSAP Audit Sample
FAL Project #: 141018
Analysis Date: 10-13-14

RL = 1.0 µg/L
LCS = 100.0 µg/L

Sample ID		Test Sol'n µg/L	Dig'te Conc µg/L	FV ml	Dilution Factor	Int. Vol ml	Total µg	Conc µg/mL
Client	FAL							
Metals on Filter	141018.2-1A	60.3	602.6	100	10	100	60.3	
	141018.2-1A Dup	62.7	626.7	100	10	100	62.7	
Metals in Impinger	141018.2-2A	12.3	245.7	100	20	100	24.6	0.246
	141018.2-2A Dup	11.7	234.0	100	20	100	23.4	0.234

Cadmium 111

ICP-MS ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: TRC Environmental Corp. - SSAP Audit Sample
FAL Project #: 141018
Analysis Date: 10-13-14

RL = 1.0 µg/L
LCS = 100.0 µg/L

Sample ID		Test Sol'n	Dig'te Conc	FV	Dilution	Int. Vol	Total	Conc
Client	FAL	µg/L	µg/L	ml	Factor	ml	µg	µg/mL
Metals on Filter	141018.2-1A	57.1	285.7	100	5	100	28.6	
	141018.2-1A Dup	58.1	290.7	100	5	100	29.1	
Metals in Impinger	141018.2-2A	7.0	140.7	100	20	100	14.1	0.141
	141018.2-2A Dup	6.8	135.5	100	20	100	13.5	0.135

METHOD M29 MERCURY
CVAA ANALYSIS RUN SUMMARY AND CALCULATION WORKSHEET

Client: TRC-NC
FAL Proj. #: 141009 / 141018
Analysis Date: 10/10/2014

RL = 0.20 µg/L
Spike conc. = 5.00 µg/L

Client	Sample ID FAL	Test Sol'n (µg/L)	Dig'te Conc (µg/L)	FV (mL)	Dil'n Factor	Total Volume (mL)	Volume Dig'd (mL)	Total Hg	
Hg on Filter	141018.2-1B	4.5	22.5	100	5	50	20	5.63	ug/filter
Hg in Impinger	141018.2-2B	3.54	3.54		1	50	20	8.85	ng/mL

141009

SAMPLE LOG and CHAIN OF CUSTODY RECORD

Client: TRC Environmental Corporation
Location: Raleigh, NC

Project Name : Stericycle, Inc.
North Salt Lake, UT

TRC Project Manager : Derek Brewster
Telephone No. (919) 256-6233

TRC Project No. 223797

Carrier or Delivery: Delivered by TRC
Date Delivered to Lab: October 3, 2014
Results Due Date: EXPEDITED AFAP

First Analytical Laboratory, Inc.
(919) 942-8607

Sample I.D. No. and Description

Location :	Method	Run #	Fraction :	Sample Date :	Sample Type :	Type of Container :	Analysis Requested
Unit 1 Stack (001)	M29	1-M5/29-1	Filter	9/30/14	Filter	Petri	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-1	FH HNO_3 Rinse	9/30/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-1	HNO_3/H_2O_2	9/30/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-1	HNO_3/H_2O_2	9/30/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-1	Impinger 4	9/30/14	HNO_3	250 ml Glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-1	$KMnO_4$	9/30/14	$KMnO_4$	500 ml glass	Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-1	HCl	9/30/14	HCl in H_2O	500 ml glass	Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-2	Filter	9/30/14	Filter	Petri	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-2	FH HNO_3 Rinse	9/30/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-2	HNO_3/H_2O_2	9/30/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-2	HNO_3/H_2O_2	9/30/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-2	Impinger 4	9/30/14	HNO_3	250 ml Glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-2	$KMnO_4$	9/30/14	$KMnO_4$	500 ml glass	Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-2	HCl	9/30/14	HCl in H_2O	500 ml glass	Hg by M29

Released by TRC [signature] Signature 10-3-14 Date

Accepted by Laboratory [signature] Signature and Date 10-3-14 1744

pg 1 of 2

141009

SAMPLE LOG and CHAIN OF CUSTODY RECORD

Client: TRC Environmental Corporation
Location: Raleigh, NC

Project Name : Stericycle, Inc.
North Salt Lake, UT

TRC Project Manager : Derek Brewster
Telephone No. (919) 256-6233

TRC Project No. 223797

Carrier or Delivery: Delivered by TRC
Date Delivered to Lab: October 3, 2014
Results Due Date: EXPEDITED AFAP

First Analytical Laboratory, Inc.
(919) 942-8607

Sample I.D. No. and Description

Location :	Method	Run #	Fraction :	Sample Date :	Sample Type :	Type of Container :	Analysis Requested
Unit 1 Stack (001)	M29	1-M5/29-3	Filter	10/1/14	Filter	Petri	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	FH HNO_3 Rinse	10/1/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	HNO_3/H_2O_2	10/1/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	HNO_3/H_2O_2	10/1/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	Impinger 4	10/1/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	$KMnO_4$	10/1/14	$KMnO_4$	500 ml glass	Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	HCl	10/1/14	HCl in H_2O	500 ml glass	Hg by M29
	M29	M5/29-RB	Filter	9/30/14	Filter (3)	Petri	CD, Pb, Hg by M29
	M29	M5/29-RB	HNO_3 Blank	9/30/14	HNO_3	500 ml glass	CD, Pb, Hg by M29
	M29	M5/29-RB	DI Water	9/30/14	DI Water	250 ml glass	CD, Pb, Hg by M29
	M29	M5/29-RB	HNO_3/H_2O_2 Blank	9/30/14	HNO_3/H_2O_2	250 ml glass	CD, Pb, Hg by M29
	M29	M5/29-RB	$KMnO_4$ Blank	9/30/14	$KMnO_4$	500 ml glass	Hg by M29
	M29	M5/29-RB	HCl Blank	9/30/14	HCl in H_2O	500 ml glass	Hg by M29
*	M29	SSAS	Metals on Filter		Filter	Petri	CD, Pb, Hg by M29
*	M29	SSAS	Metals in impinger		Aqueous	Vile	CD, Pb, Hg by M29
*	M29	SSAS	Hg on Filter		Filter	Petri	Hg by M29
*	M29	SSAS	Hg in impinger		Aqueous	Vile	Hg by M29
*	M29	SSAS	Hg in Solution		Aqueous	Ampule	Hg by M29

Released by TRC [signature] 10-3-14
Signature Date

Accepted by Laboratory [signature] 10-3-14 1744
Signature and Date

* Per client conversation will analyze SSAP samples at a later date. Shipment did not have these samples.
JN 10-3-14

pg 2 of 2

141018

SAMPLE LOG and CHAIN OF CUSTODY RECORD

Client: TRC Environmental Corporation
Location: Raleigh, NC

Project Name: Stericycle, Inc.
North Salt Lake, UT

TRC Project Manager: Derek Brewster
Telephone No.: (919) 256-6233

TRC Project No.: 223797

Carrier or Delivery: PU Enthalpy Houston
Date Delivered to Lab: October 6, 2014
Results Due Date: EXPEDITED 5-day

First Analytical Laboratory, Inc.
(919) 942-8607

Sample I.D. No. and Description

Location:	Method	Run #	Fraction:	Sample Date:	Sample Type:	Type of Container:	Analysis Requested
Unit 1 Stack (001)	M29	1-M5/29-4	Filter	10/1/14	Filter	Petri	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-4	FH HNO_3 Rinse	10/1/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-4	HNO_3/H_2O_2	10/1/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-4	HNO_3/H_2O_2	10/1/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-4	Impinger 4	10/1/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-4	$KMnO_4$	10/1/14	$KMnO_4$	500 ml glass	Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-4	KMnO4	10/1/14	KMnO4	500 ml glass	Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-4	HCl	10/1/14	HCl in H_2O	500 ml glass	Hg by M29

Released by TRC: Neal Hillenbach 10/6/14 (Signature, Date) — Accepted by Laboratory: [signature] Signature and Date 10/6/14

RELINQUISHED BY [signature] 10/6/14 1730
Danny Speer

Received by [signature] 10/7/14 19 of 20 1223

Pg 1 of 2

141018

SAMPLE LOG and CHAIN OF CUSTODY RECORD

Client: TRC Environmental Corporation
Location: Raleigh, NC

Project Name : Stericycle, Inc.
North Salt Lake, UT

TRC Project Manager : Derek Brewster
Telephone No. (919) 256-6233

TRC Project No. 223797

Carrier or Delivery: Delivered by TRC
Date Delivered to Lab: October 3, 2014
Results Due Date: EXPEDITED AFAP

Page # 1 of 1
First Analytical Laboratory, Inc.
(919) 942-8607

Sample I.D. No. and Description

Location :	Method	Run #	Fraction :	Sample Date :	Sample Type :	Type of Container :	Analysis Requested
~~Unit 1 Stack (001)~~	~~M29~~	~~1-M5/29-3~~	~~Filter~~	~~10/1/14~~	~~Filter~~	~~Petri~~	~~CD, Pb, Hg by M29~~
Unit 1 Stack (001)	M29	1-M5/29-3	FH HNO_3 Rinse	10/1/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	HNO_3/H_2O_2	10/1/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	HNO_3/H_2O_2	10/1/14	HNO_3/H_2O_2	950 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	Impinger 4	10/1/14	HNO_3	250 ml glass	CD, Pb, Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	$KMnO_4$	10/1/14	$KMnO_4$	500 ml glass	Hg by M29
Unit 1 Stack (001)	M29	1-M5/29-3	HCl	10/1/14	HCl in H_2O	500 ml glass	Hg by M29
	M29	M5/29-RB	Filter	9/30/14	Filter (3)	Petri	CD, Pb, Hg by M29
	M29	M5/29-RB	HNO_3 Blank	9/30/14	HNO_3	500 ml glass	CD, Pb, Hg by M29
	M29	M5/29-RB	DI Water	9/30/14	DI Water	250 ml glass	CD, Pb, Hg by M29
	M29	M5/29-RB	HNO_3/H_2O_2 Blank	9/30/14	HNO_3/H_2O_2	250 ml glass	CD, Pb, Hg by M29
	M29	M5/29-RB	$KMnO_4$ Blank	9/30/14	$KMnO_4$	500 ml glass	Hg by M29
	~~M29~~	~~M5/29-RB~~	~~HCl Blank~~	~~9/30/14~~	~~HCl in H_2O~~	~~500 ml glass~~	~~Hg by M29~~
	M29	SSAS	Metals on Filter		Filter	Petri	CD, Pb, Hg by M29
	M29	SSAS	Metals in impinger		Aqueous	Vile	CD, Pb, Hg by M29
.2	M29	SSAS	Hg on Filter		Filter	Petri	Hg by M29
	M29	SSAS	Hg in impinger		Aqueous	Vile	Hg by M29
	M29	SSAS	Hg in Solution		Aqueous	Ampule	Hg by M29

Released by TRC _____ Signature _____ Date

Accepted by Laboratory [signature] 10/7/14 1223
Signature and Date

pg 2 of 2

ERA
A Waters Company

October 14, 2014

Derek Brewster
TRC Environmental
5540 Centerview Drive
Suite 100
Raleigh, NC 27606

Enclosed is your final report for ERA's Stationary Source Audit Sample (SSAS) Program. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All analytes in ERA's SSAS Program have been evaluated comparing the reported result to the acceptance limits generated using the criteria contained in the TNI SSAS Table.

For any "Not Acceptable" results, please contact your state regulator for any corrective action requirements.

Thank you for your participation in ERA's SSAS Program. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122.

Sincerely,

Kristina Sanchez
Quality Officer

cc: Project File Number 091714N

ERA
A Waters Company

Recipient Type	Report Recipient	Contact
Agency	UT Dept Air Quality (SSAS) 150 North 1950 West Salt Lake City, UT 84116 USA	Rob Leishman rleishman@utah.gov Phone: 801-536-4173
Facility	Stericycle Inc 90 North 11 West Salt Lake City, UT 84054 USA	Jay Vance jay.vance@stericycle.com Phone: 801-971-2042
Lab	First Analytical Labs 7517 Precision Dr Suite 101 Raleigh, NC 27617 USA	Steve Hunter steve@firstanalyticallabs.com Phone: 919-942-8607
Tester	TRC Environmental 5540 Centerview Drive Suite 100 Raleigh, NC 27606 USA	Derek Brewster dbrewster@trcsolutions.com Phone: 919-256-6233

091714N Laboratory Exception Report

A Waters Company

Steve Hunter
First Analytical Labs
7517 Precision Dr
Suite 101
Raleigh, NC 27617
919-942-8607

EPA ID: **Not Reported**
ERA Customer Number: **F289838**

Evaluation Checks

There are no values reported with < where the assigned value was greater than 0.

Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.

16341 Table Mountain Pkwy • Golden, CO 80403 • 800.372.0122 • 303.431.8454 • fax 303.421.0159 • www.eraqc.com

ERA

A Waters Company

Final Report Results For Laboratory First Analytical Labs

16341 Table Mountain Pkwy • Golden, CO 80403 • 800.372.0122 • 303.431.8454 • fax 303.421.0159 • www.eraqc.com

ERA

A Waters Company

SSAP Evaluation Report

Project Number: **091714N**

ERA Customer Number: **F289838**

Laboratory Name: **First Analytical Labs**

Inorganic Results

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091714N Evaluation Final Complete Report

ERA
A Waters Company

Steve Hunter
First Analytical Labs
7517 Precision Dr
Suite 101
Raleigh, NC 27617
919-942-8607

EPA ID: Not Reported
ERA Customer Number: F289838

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Analyst Name
SSAP Metals on Filter Paper (cat# 1125) Study Dates: 09/17/14 - 10/14/14									
1005	Antimony	µg/Filter		46.0	34.5 - 57.5	Not Reported			
1010	Arsenic	µg/Filter		26.5	19.9 - 33.1	Not Reported			
1015	Barium	µg/Filter		48.8	36.6 - 61.0	Not Reported			
1020	Beryllium	µg/Filter		21.0	15.8 - 26.2	Not Reported			
1030	Cadmium	µg/Filter	28.6	28.6	22.9 - 34.3	Acceptable	EPA Method 29 2000	10/13/2014	
1040	Chromium	µg/Filter		29.0	23.2 - 34.8	Not Reported			
1050	Cobalt	µg/Filter		30.5	22.9 - 38.1	Not Reported			
1055	Copper	µg/Filter		27.4	20.6 - 34.2	Not Reported			
1075	Lead	µg/Filter	60.3	63.0	50.4 - 75.6	Acceptable	EPA Method 29 2000	10/13/2014	
1090	Manganese	µg/Filter		20.1	16.1 - 24.1	Not Reported			
1105	Nickel	µg/Filter		37.1	29.7 - 44.5	Not Reported			
1140	Selenium	µg/Filter		34.8	26.1 - 43.5	Not Reported			
1150	Silver	µg/Filter		73.5	51.4 - 95.6	Not Reported			
1165	Thallium	µg/Filter		53.6	40.2 - 67.0	Not Reported			
1190	Zinc	µg/Filter		36.8	27.6 - 46.0	Not Reported			

091714N Evaluation Final Complete Report

ERA
A Waters Company

Steve Hunter
First Analytical Labs
7517 Precision Dr
Suite 101
Raleigh, NC 27617
919-942-8607

EPA ID: Not Reported
ERA Customer Number: F289838

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Analyst Name
SSAP Metals in Impinger Solution (cat# 1126) Study Dates: 09/17/14 - 10/14/14									
1005	Antimony	µg/mL		0.285	0.214 - 0.356	Not Reported			
1010	Arsenic	µg/mL		0.233	0.175 - 0.291	Not Reported			
1015	Barium	µg/mL		0.614	0.460 - 0.768	Not Reported			
1020	Beryllium	µg/mL		0.154	0.108 - 0.200	Not Reported			
1030	Cadmium	µg/mL	0.141	0.136	0.109 - 0.163	Acceptable	EPA Method 29 2000	10/13/2014	
1040	Chromium	µg/mL		0.227	0.182 - 0.272	Not Reported			
1050	Cobalt	µg/mL		0.144	0.108 - 0.180	Not Reported			
1055	Copper	µg/mL		0.219	0.164 - 0.274	Not Reported			
1075	Lead	µg/mL	0.246	0.218	0.164 - 0.272	Acceptable	EPA Method 29 2000	10/13/2014	
1090	Manganese	µg/mL		0.120	0.0900 - 0.150	Not Reported			
1105	Nickel	µg/mL		0.195	0.156 - 0.234	Not Reported			
1140	Selenium	µg/mL		0.370	0.278 - 0.462	Not Reported			
1150	Silver	µg/mL		0.599	0.449 - 0.749	Not Reported			
1165	Thallium	µg/mL		0.174	0.130 - 0.218	Not Reported			
1190	Zinc	µg/mL		0.223	0.167 - 0.279	Not Reported			
SSAP Mercury on Filter Paper (cat# 1127) Study Dates: 09/17/14 - 10/14/14									
1095	Mercury	µg/Filter	5.63	4.92	3.69 - 6.15	Acceptable	EPA Method 29 2000	10/10/2014	
SSAP Mercury in Impinger Solution (cat# 1128) Study Dates: 09/17/14 - 10/14/14									
1095	Mercury	ng/mL	8.85	8.62	6.46 - 10.8	Acceptable	EPA Method 29 2000	10/10/2014	

C-2
Dioxin / Furan

SGS

9 OCTOBER 2014

DEREK BREWSTER
TRC ENVIRONMENTAL
5540 Centerview Drive, Suite 100
Raleigh, NC 27606
t. 919-256-6233
e. dbrewster@trcsolutions.com

SUBJECT: CERTIFICATE OF RESULTS

Dear Derek;

Attached to this narrative are the analytical results for sample(s) submitted for the determination of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans. The insert below summarizes information about the project. If applicable, QC annotations below highlight specific analytical observations and assessments made during the sample handling and data interpretation phases.

Results reported relate only to the items tested.

PROJECT INFORMATION SUMMARY *(When applicable, see QC Annotations for details)*

Client Project	223797 Stericycle
SGS Project #	A7199
Analytical Protocol(s)	Method 23
No. Samples Submitted	4
Additional QC Sample(s)	0
No. Laboratory Method Blanks	1
No. OPRs / Batch CS3	1
Date Received	6-Oct-14
Condition Received	good
Temperature upon Receipt (C)	5 (Traps & Filters), 20 (Solvents)
Extraction within Holding Time	yes
Analysis within Holding Time	yes

SGS

QC ANNOTATIONS:

1. Please see Appendices attached for data qualifier/attribute and lab identifier descriptions which may be contained in the project.

SGS remains committed to serving you in the most effective manner. Should you have any questions or need additional information and technical support, please do not hesitate to contact us.

The management and staff of SGS welcomes customer feedback, both positive and negative, as we continually improve our services. Please visit our web site at www.sgs.com/ultratrace and click on the 'Email Us' link or go to our survey here. Thank you for choosing SGS.

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm.

Sincerely,

Amy J. Boehm
Senior Project Manager

SGS

APPENDIX A: GENERAL DATA QUALIFIERS / DATA ATTRIBUTES

B	The analyte was found in the method blank, at a concentration that was at least 10% of the concentration in the sample.
C	Two or more congeners co-elute. In EDDs, C denotes the lowest IUPAC congener in a co-elution group and additional co-eluters for the group are shown with the number of the lowest IUPAC co-eluter.
E	The reported concentration exceeds the calibration range (upper point of the calibration curve) and is an estimated value.
EMPC	Represents an Estimated Maximum Possible Concentration. EMPCs arise in cases where the signal/noise ratio is not sufficient for peak identification (the determined ion-abundance ratio is outside the allowed theoretical range), or where there is a co-eluting interference.
H/h	If the standard recovery is below the method or SOP specified value "H" is assigned. If the obtained value is less than half the specified value "h" is assigned.
J	Indicates that an analyte has a concentration below the reporting limit (lowest point of the calibration curve) and is an estimated value.
ND	Indicates a non-detect.
NR	Indicates a value that is not reportable.
PR	Due to interference, the associated congener is poorly resolved.
QI	Indicates the presence of a quantitative interference.
SI	Denotes "Single Ion Mode" and is utilized for PCBs where the secondary ion trace has a significantly elevated noise level due to background PFK. Responses for such peaks are calculated using an EMPC approach based solely on the primary ion area(s) and may be considered estimates.
U	The analyte was not detected. The estimated detection limit (EDL) may be reported for this analyte.
V	The labeled standard recovery was found to be outside of the method control limits.

APPENDIX B: DRBC/TMDL SPECIFIC DATA QUALIFIERS / DATA ATTRIBUTES

J	The reported result is an estimate. The value is less than the minimum calibration level but greater than the estimated detection limit (EDL).
U	The analyte was not detected in the sample at the estimated detection limit (EDL).
E	The reported concentration is an estimate. The value exceeds the upper calibration range (upper point of the calibration curve).
D	Dilution Data. Result was obtained from the analysis of a dilution.
B	Analyte found in the sample and associated method blank.
C	Co-eluting congener
Cxx	Co-elutes with the indicated congener, data is reported under the lowest IUPAC congener. 'Xx' denotes the IUPAC number with the lowest numerical designated congener.
NR	Analyte is not reportable because of problems in sample preparation or analysis.
V	Labeled standard recovery is not within method control limits.
X	Results from re-injection/repeat/second-column analysis.
EMPC	Estimated maximum possible concentration. Indicates that a peak is identified but did not meet the method specified ion-abundance ratio.

APPENDIX C: LAB IDENTIFIERS

AR	Indicates use of the archived portion of the sample extract.
CU	Indicates a sample that required additional clean-up prior to MS injection/processing.
D	Indicates a dilution of the sample extract. The number that follows the "D" indicates the dilution factor.
DE	Indicates a dilution performed with the addition of ES (extraction standard) solution.
DUP	Designation for a duplicate sample.
MS	Designation for a matrix spike.
MSD	Designation for a matrix spike duplicate.
RJ	Indicates a reinjection of the sample extract.
S	Indicates a sample split. The number that follows the "S" indicates the split factor.

SGS

SGS CERTIFICATIONS

California	07255CA
Connecticut	PH-0258
Florida (primary NELAP)	E87634
ISO17025	2726.01
Kansas	E-10330
Louisiana	04115
Maryland (DW only)	299
New Jersey	NC100
New York	11685
North Carolina DENR	481
North Carolina DHHS (DW only)	37776
North Dakota	R-197
Oregon	NC200002
Pennsylvania	68-03675
South Carolina	99029
Texas	T104704260-13-5
Utah	NC009192013-3
Virginia (DW only)	00235
Virginia	460214
Washington State	C913
West Virginia	293

A7199 - TEQ

Project ID: 223797 Stericycle

Sample Summary
Part 1

SGS

Method 23

Analyte	Method Blank A7199_12612	Unit 1 Stack 1-M23-FB	Unit 1 Stack 1-M23-1	Unit 1 Stack 1-M23-2	Unit 1 Stack 1-M23-3
	pg	pg	pg	pg	pg
2,3,7,8-TCDD	(1.29)	(1.29)	(1.41)	(1.08)	[2.23]
1,2,3,7,8-PeCDD	(1.74)	(2.08)	[3.31]	[2.88]	5.99
1,2,3,4,7,8-HxCDD	(1.38)	(1.25)	(1.56)	[1.92]	[3.02]
1,2,3,6,7,8-HxCDD	(1.49)	(1.34)	2.22	[2.42]	4.03
1,2,3,7,8,9-HxCDD	(1.56)	2.04	[3.01]	[2.71]	4.05
1,2,3,4,6,7,8-HpCDD	(1.95)	[5.43]	[7.83]	[7.02]	11.6
OCDD	3.56	31.3	[17.3]	26.3	20.3
2,3,7,8-TCDF	(0.948)	(1.05)	[4.18]	5.25	12.7
1,2,3,7,8-PeCDF	(0.869)	(0.951)	14.1	12.8	28.7
2,3,4,7,8-PeCDF	(0.99)	(1.05)	20.4	17.1	35.9
1,2,3,4,7,8-HxCDF	(1.15)	(1.02)	18.7	20.8	30
1,2,3,6,7,8-HxCDF	(0.931)	(0.891)	17.2	18.4	31.5
2,3,4,6,7,8-HxCDF	(1.06)	1.7	12.6	13.9	23.3
1,2,3,7,8,9-HxCDF	(1.72)	(1.21)	(1.71)	(1.6)	(1.93)
1,2,3,4,6,7,8-HpCDF	[0.887]	[2.19]	14.7	30.4	33.4
1,2,3,4,7,8,9-HpCDF	(1.49)	(1.65)	(2.16)	[5.2]	3.12
OCDF	(4.56)	[7.24]	[5.73]	23.3	9.98
ITEF TEQ (ND=0; EMPC=0)	**0.00356**	**0.405**	**16.1**	**15.4**	**33.4**
ITEF TEQ (ND=0; EMPC=EMPC)	**0.0124**	**0.488**	**18.6**	**17.6**	**36**
ITEF TEQ (ND=DL/2; EMPC=0)	**1.89**	**2.22**	**17.6**	**16.6**	**34.4**
ITEF TEQ (ND=DL/2; EMPC=EMPC)	**1.89**	**2.29**	**19.5**	**18.3**	**36.1**
ITEF TEQ (ND=DL; EMPC=EMPC)	**3.77**	**4.08**	**20.3**	**18.9**	**36.2**
Checkcode	612-216-YKR	596-634-RHW	748-159-VNY	146-988-TCK	101-935-TGJ
Lab ID	MB1_12612_DF_SDS	A7199_12612_DF_001	A7199_12612_DF_002	A7199_12612_DF_003	A7199_12612_DF_004

( ) = DL
[ ] = EMPC

A7199 - WHO-2005-TEQ

Project ID: 223797 Stericycle

Sample Summary Part 1 SGS **Method 23**

Analyte	Method Blank A7199_12612	Unit 1 Stack 1-M23-FB	Unit 1 Stack 1-M23-1	Unit 1 Stack 1-M23-2	Unit 1 Stack 1-M23-3
	pg	pg	pg	pg	pg
2,3,7,8-TCDD	(1.29)	(1.29)	(1.41)	(1.08)	[2.23]
1,2,3,7,8-PeCDD	(1.74)	(2.08)	[3.31]	[2.88]	5.99
1,2,3,4,7,8-HxCDD	(1.38)	(1.25)	(1.56)	[1.92]	[3.02]
1,2,3,6,7,8-HxCDD	(1.49)	(1.34)	2.22	[2.42]	4.03
1,2,3,7,8,9-HxCDD	(1.56)	2.04	[3.01]	[2.71]	4.05
1,2,3,4,6,7,8-HpCDD	(1.95)	[5.43]	[7.83]	[7.02]	11.6
OCDD	3.56	31.3	[17.3]	26.3	20.3
2,3,7,8-TCDF	(0.948)	(1.05)	[4.18]	5.25	12.7
1,2,3,7,8-PeCDF	(0.869)	(0.951)	14.1	12.8	28.7
2,3,4,7,8-PeCDF	(0.99)	(1.05)	20.4	17.1	35.9
1,2,3,4,7,8-HxCDF	(1.15)	(1.02)	18.7	20.8	30
1,2,3,6,7,8-HxCDF	(0.931)	(0.891)	17.2	18.4	31.5
2,3,4,6,7,8-HxCDF	(1.06)	1.7	12.6	13.9	23.3
1,2,3,7,8,9-HxCDF	(1.72)	(1.21)	(1.71)	(1.6)	(1.93)
1,2,3,4,6,7,8-HpCDF	[0.887]	[2.19]	14.7	30.4	33.4
1,2,3,4,7,8,9-HpCDF	(1.49)	(1.65)	(2.16)	[5.2]	3.12
OCDF	(4.56)	[7.24]	[5.73]	23.3	9.98
WHO-2005 TEQ (ND=0; EMPC=0)	**0.00107**	**0.383**	**11.8**	**11.7**	**28.7**
WHO-2005 TEQ (ND=0; EMPC=EMPC)	**0.00994**	**0.461**	**15.9**	**15.4**	**31.2**
WHO-2005 TEQ (ND=DL/2; EMPC=0)	**2.21**	**2.6**	**13.7**	**13.3**	**29.6**
WHO-2005 TEQ (ND=DL/2; EMPC=EMPC)	**2.21**	**2.66**	**16.7**	**16**	**31.3**
WHO-2005 TEQ (ND=DL; EMPC=EMPC)	**4.42**	**4.87**	**17.6**	**16.6**	**31.4**
Checkcode	612-216-YKR	596-634-RHW	748-159-VNY	146-988-TCK	101-935-TGJ
Lab ID	MB1_12612_DF_SDS	A7199_12612_DF_001	A7199_12612_DF_002	A7199_12612_DF_003	A7199_12612_DF_004

( ) = DL
[ ] = EMPC

A7199 - Totals

Project ID: 223797 Stericycle

Sample Summary Part 2 SGS **Method 23**

Analyte	Method Blank A7199_12612	Unit 1 Stack 1-M23-FB	Unit 1 Stack 1-M23-1	Unit 1 Stack 1-M23-2	Unit 1 Stack 1-M23-3
	pg	pg	pg	pg	pg
Totals					
TCDDs	3.26	11.5	14.3	10.6	35
PeCDDs	0	0	17.8	22.2	68.9
HxCDDs	0	4.83	27.7	27.1	42.3
HpCDDs	0	0	8.75	8.55	23.9
OCDD	3.56	31.3	0	26.3	20.3
TCDFs	0	20.9	127	133	631
PeCDFs	0	0	263	219	595
HxCDFs	0	1.7	174	182	322
HpCDFs	0	3.25	18.4	44.2	50.8
OCDF	0	0	0	23.3	9.98
Total PCDD/Fs (ND=0; EMPC=0)	**6.82**	**73.4**	**651**	**695**	**1800**
Total PCDD/Fs (ND=0; EMPC=EMPC)	**10.4**	**107**	**780**	**790**	**1860**
Total PCDD/Fs (2378-X ND=DL; EMPC=EMPC)	**33.5**	**121**	**786**	**792**	**1860**
Total 2378s (ND=0; EMPC=0)	**3.56**	**35**	**100**	**168**	**255**
Total 2378s (ND=0.5; EMPC=0)	**15.5**	**44.9**	**110**	**173**	**257**
Total 2378s (ND=1; EMPC=0)	**27.5**	**54.7**	**121**	**179**	**260**
Total 2378s (ND=0; EMPC=1)	**4.45**	**49.9**	**141**	**190**	**260**
Total 2378s (ND=0.5; EMPC=1)	**16**	**56.7**	**145**	**192**	**261**
Total 2378s (ND=1; EMPC=1)	**27.6**	**63.6**	**148**	**193**	**262**
Checkcode	612-216-YKR	596-634-RHW	748-159-VNY	146-988-TCK	101-935-TGJ
Lab ID	MB1_12612_DF_SDS	A7199_12612_DF_001	A7199_12612_DF_002	A7199_12612_DF_003	A7199_12612_DF_004

( ) = DL
[ ] = EMPC

A7199 - Others

Project ID: 223797 Stericycle

Sample Summary Part 3 SGS **Method 23**

Analyte	Method Blank A7199_12612	Unit 1 Stack 1-M23-FB	Unit 1 Stack 1-M23-1	Unit 1 Stack 1-M23-2	Unit 1 Stack 1-M23-3
	pg	pg	pg	pg	pg
Other PCDD/Fs (ND=0, EMPC=0)					
Other TCDD	3.26	11.5	14.3	10.6	35
Other PeCDD	0	0	17.8	22.2	62.9
Other HxCDD	0	2.79	25.5	27.1	34.3
Other HpCDD	0	0	8.75	8.55	12.3
Other TCDF	0	20.9	127	128	618
Other PeCDF	0	0	228	189	530
Other HxCDF	0	0	126	129	238
Other HpCDF	0	3.25	3.65	13.9	14.3
Other PCDD/Fs (ND=0, EMPC=EMPC)					
Other TCDD	3.26	11.5	15.7	13.4	50.5
Other PeCDD	0	0	38.9	35.6	67.1
Other HxCDD	0	2.79	25.5	30.1	47.3
Other HpCDD	2.65	4.84	8.75	8.55	12.3
Other TCDF	0	33.5	163	149	622
Other PeCDF	0	1.03	238	204	538
Other HxCDF	0	0	142	145	245
Other HpCDF	0	3.25	6.7	13.9	14.3
Checkcode	612-216-YKR	596-634-RHW	748-159-VNY	146-988-TCK	101-935-TGJ
Lab ID	MB1_12612_DF_SDS	A7199_12612_DF_001	A7199_12612_DF_002	A7199_12612_DF_003	A7199_12612_DF_004

( ) = DL
[ ] = EMPC

A7199 - DLs

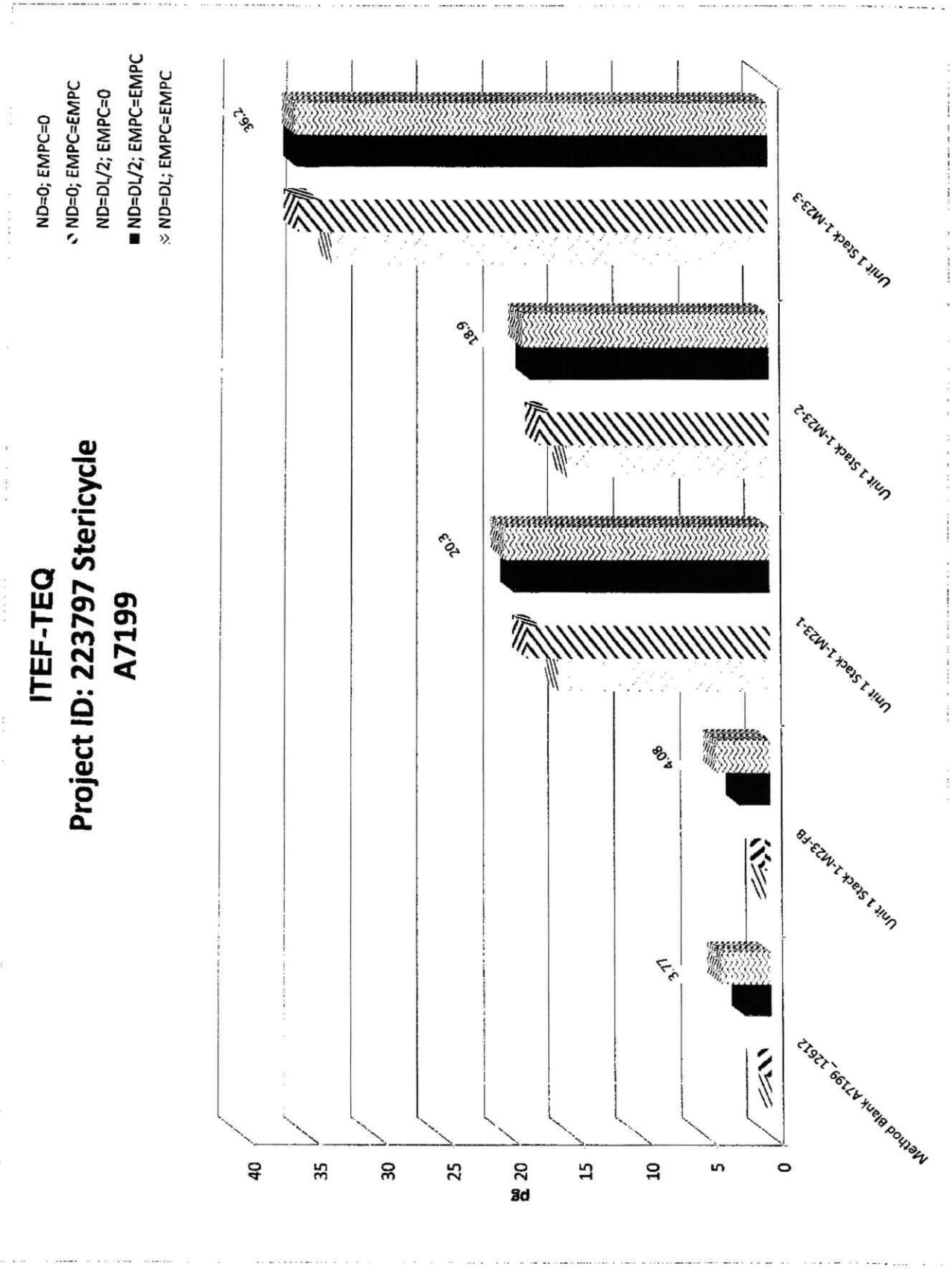
Project ID: 223797 Stericycle

Sample Summary
Part 5 (DLs)

SGS

Method 23

Analyte	Method Blank A7199_12612	Unit 1 Stack 1-M23-FB	Unit 1 Stack 1-M23-1	Unit 1 Stack 1-M23-2	Unit 1 Stack 1-M23-3
	pg	pg	pg	pg	pg
2,3,7,8-TCDD	1.29	1.29	1.41	1.08	1.58
1,2,3,7,8-PeCDD	1.74	2.08	1.76	1.75	2.72
1,2,3,4,7,8-HxCDD	1.38	1.25	1.56	1.02	1.69
1,2,3,6,7,8-HxCDD	1.49	1.34	1.54	1.05	1.76
1,2,3,7,8,9-HxCDD	1.56	1.39	1.55	1.08	1.88
1,2,3,4,6,7,8-HpCDD	1.95	1.97	1.66	1.56	1.55
OCDD	2.98	2.81	3.23	2.91	2.89
2,3,7,8-TCDF	0.948	1.05	1.59	1.01	1.07
1,2,3,7,8-PeCDF	0.869	0.951	0.899	1.02	1.64
2,3,4,7,8-PeCDF	0.99	1.05	0.974	1.09	1.78
1,2,3,4,7,8-HxCDF	1.15	1.02	1.37	1.05	1.31
1,2,3,6,7,8-HxCDF	0.931	0.891	1.14	0.96	1.03
2,3,4,6,7,8-HxCDF	1.06	0.893	1.21	1.08	1.2
1,2,3,7,8,9-HxCDF	1.72	1.21	1.71	1.6	1.93
1,2,3,4,6,7,8-HpCDF	0.82	0.925	1.06	0.832	0.895
1,2,3,4,7,8,9-HpCDF	1.49	1.65	2.16	1.5	1.57
OCDF	4.56	3.07	4.22	2.96	4.03
Total TCDD	1.29	1.29	1.41	1.08	1.58
Total PeCDD	1.74	2.08	1.76	1.75	2.72
Total HxCDD	1.47	1.32	1.54	1.04	1.77
Total HpCDD	1.95	1.97	1.66	1.56	1.55
Total TCDF	0.948	1.05	1.59	1.01	1.07
Total PeCDF	0.924	0.998	0.933	1.06	1.71
Total HxCDF	1.17	0.989	1.34	1.14	1.32
Total HpCDF	1.1	1.23	1.49	1.11	1.17
Checkcode	612-216-YKR	596-634-RHW	748-159-VNY	146-988-TCK	101-935-TGJ
Lab ID	MB1_12612_DF_SDS	A7199_12612_DF_001	A7199_12612_DF_002	A7199_12612_DF_003	A7199_12612_DF_004


ITEF-TEQ
Project ID: 223797 Stericycle
A7199
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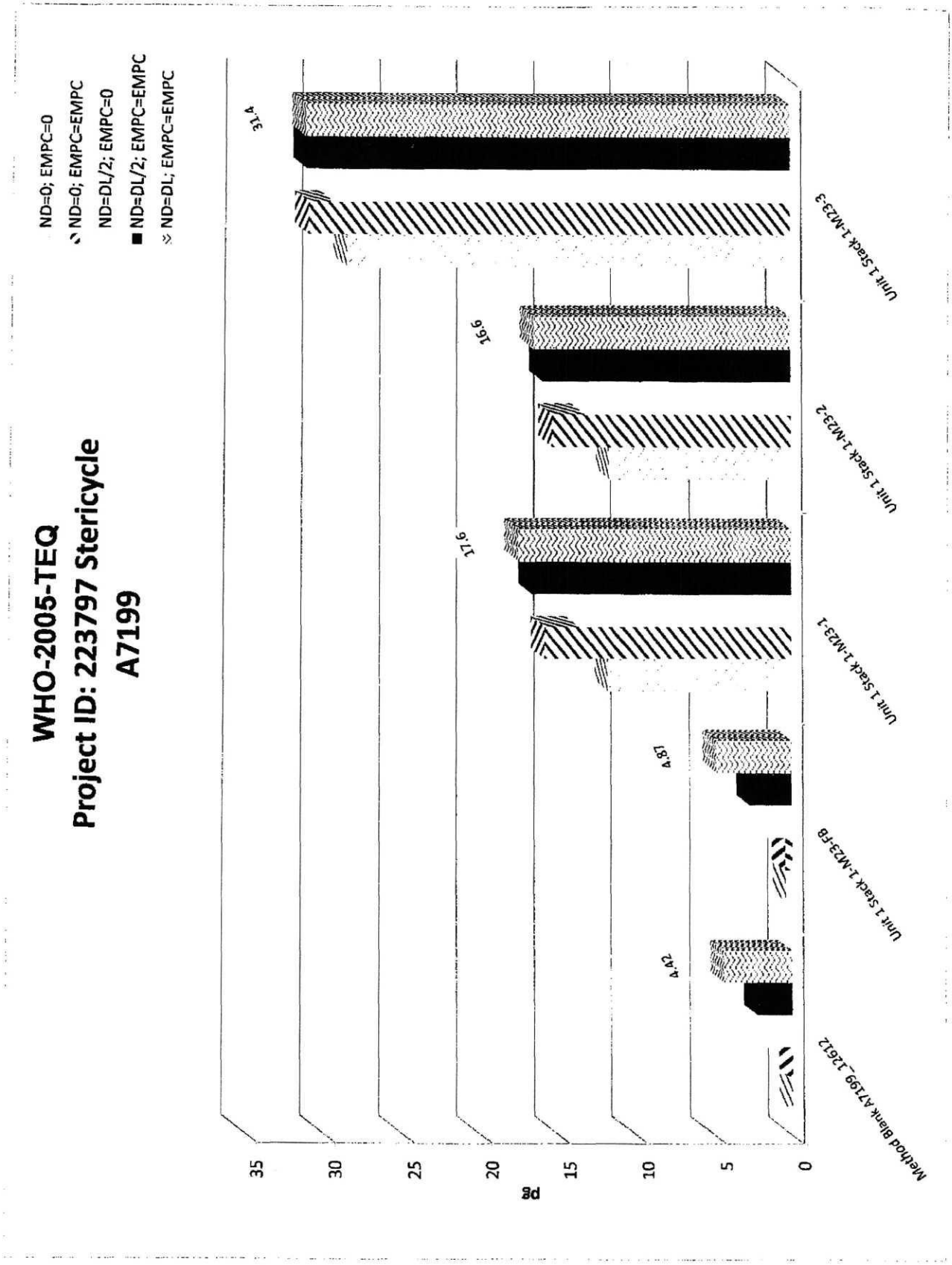
ND=0; EMPC=EMPC
ND=DL/2; EMPC=0
ND=DL/2; EMPC=EMPC
ND=DL; EMPC=EMPC
pg
40
35
30
25
20
15
10
5
0
36.2
18.9
20.3
4.08
3.71
Method Blank A7199_12612
Unit 1 Stack 1-M23-FB
Unit 1 Stack 1-M23-1
Unit 1 Stack 1-M23-2
Unit 1 Stack 1-M23-3


WHO-2005-TEQ
Project ID: 223797 Stericycle
A7199
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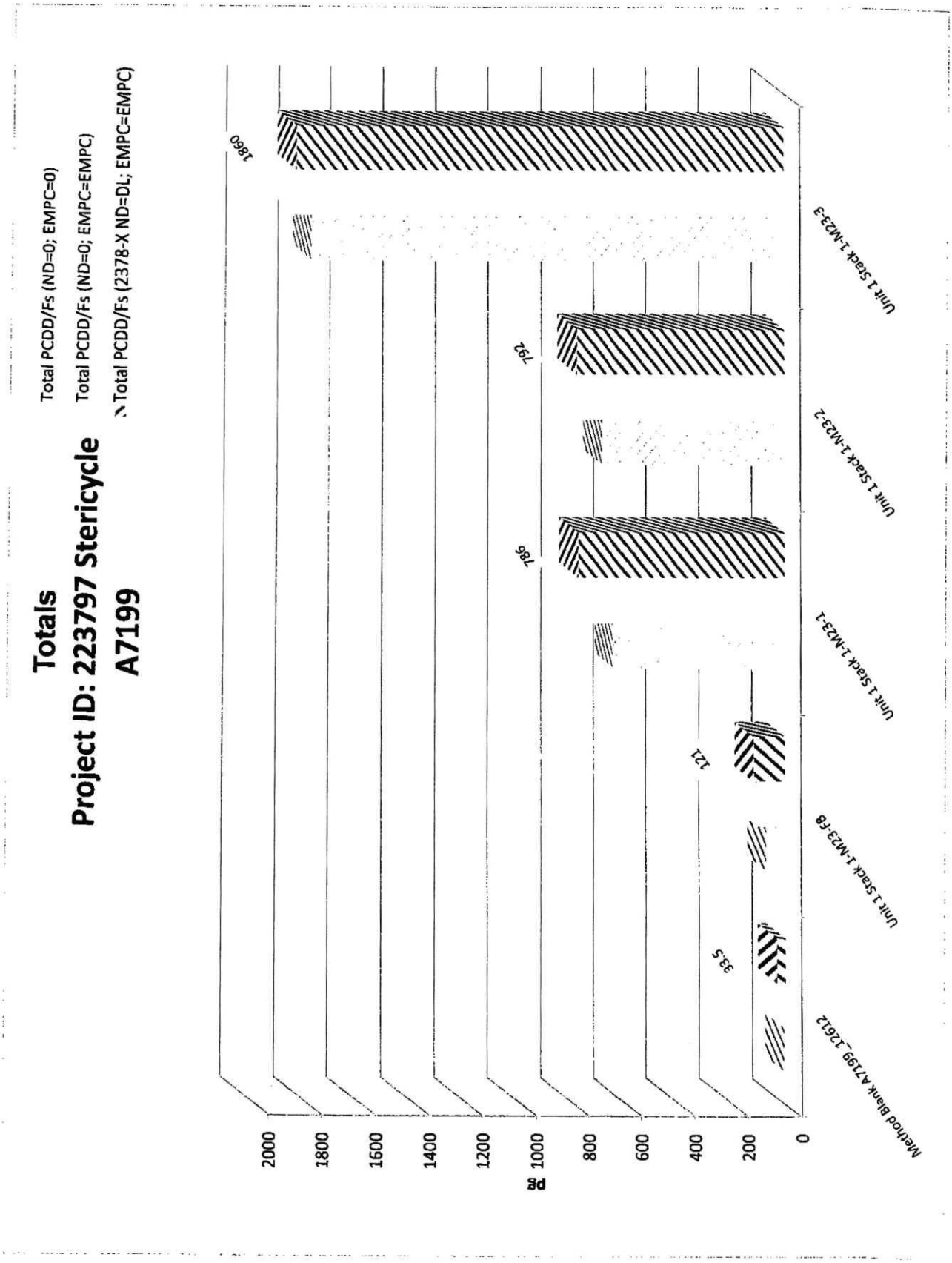
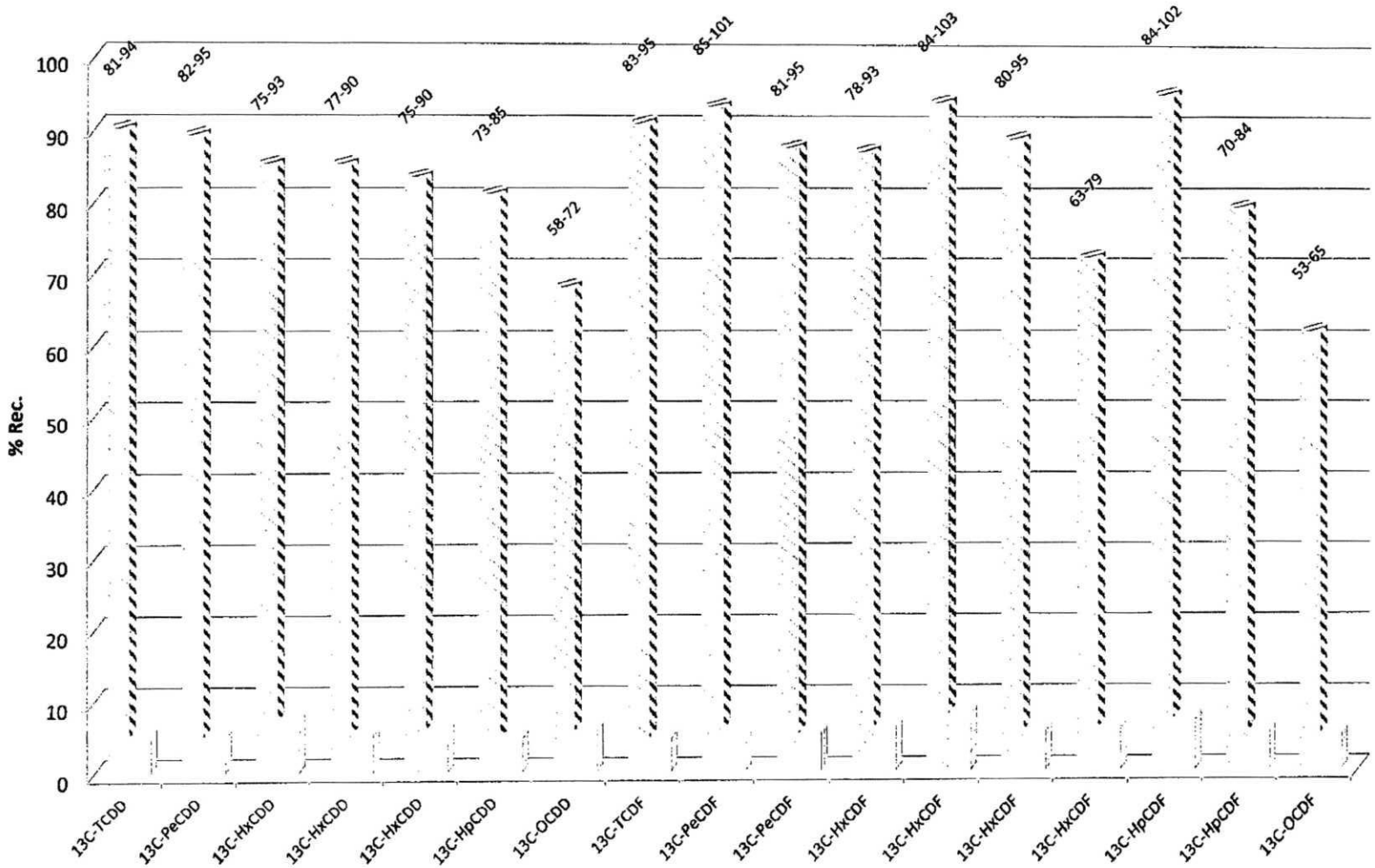
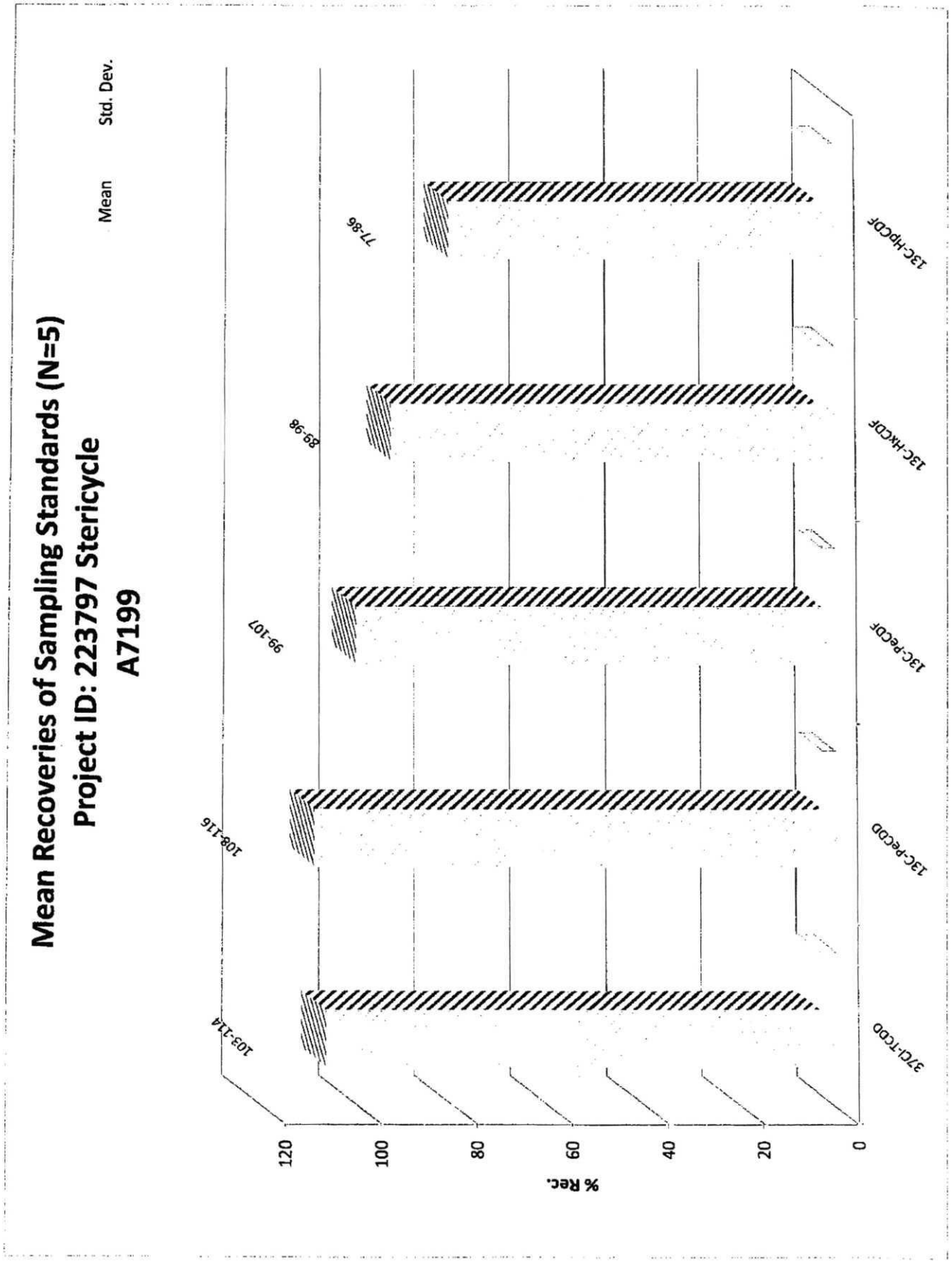
ND=DL/2; EMPC=0
ND=DL/2; EMPC=EMPC
ND=DL; EMPC=EMPC
pg
35
30
25
20
15
10
5
0
31.4
16.6
17.6
4.8
4.2
Method Blank A7199_12612
Unit 1 Stack 1-M13-F8
Unit 1 Stack 1-M23-1
Unit 1 Stack 1-M23-2
Unit 1 Stack 1-M23-3


Totals
Project ID: 223797 Stericycle
A7199
Total PCDD/Fs (ND=0; EMPC=0)
Total PCDD/Fs (ND=0; EMPC=EMPC)
Total PCDD/Fs (2378-X ND=DL; EMPC=EMPC)
pg
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1860
792
786
121
33.5
Method blank A7199_12612
Unit 1 Stack 1-M23-FB
Unit 1 Stack 1-M23-1
Unit 1 Stack 1-M23-2
Unit 1 Stack 1-M23-3

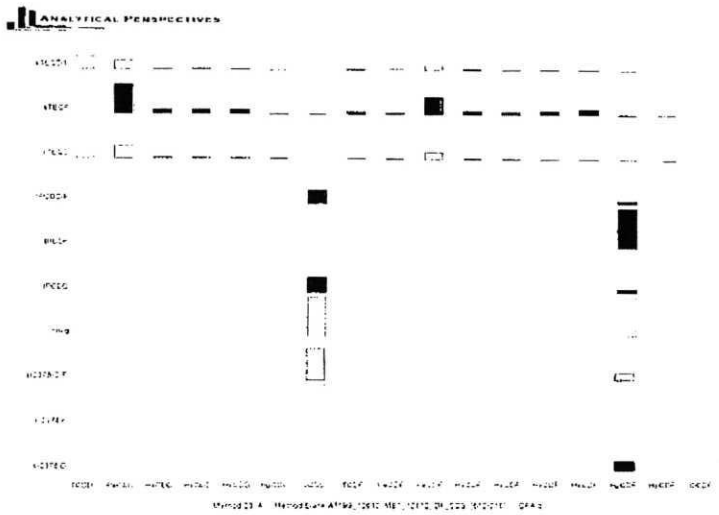
Mean Recoveries of Extraction Standards (N=5)
Project ID: 223797 Stericycle
A7199



Method Specification Limits: Tetra-Hexa ES: 40-130%, Hepta-Octa ES: 25-130% (F = fail)



Method Specification Limits: Tetra-Octa SS: 70-130% (F = fail)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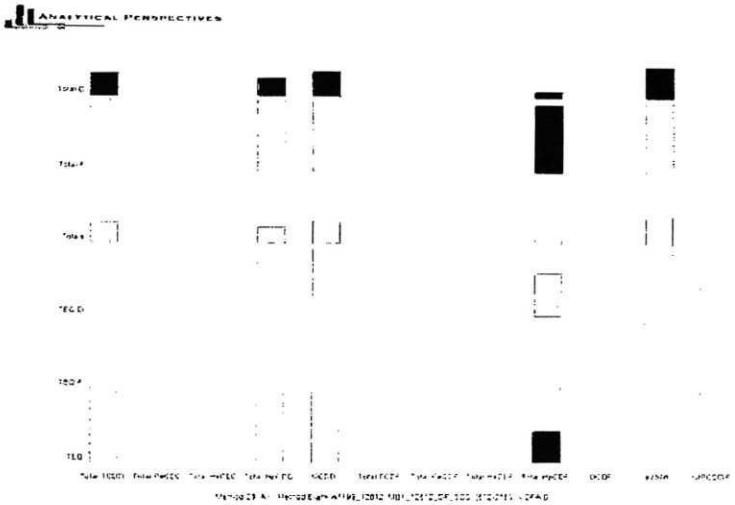
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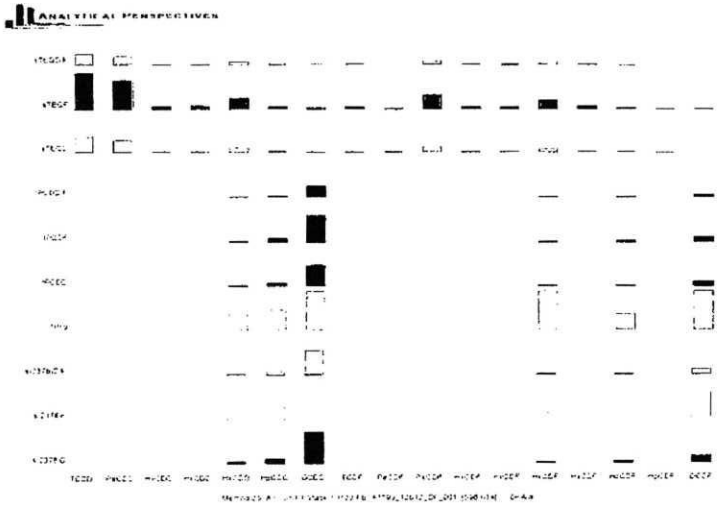
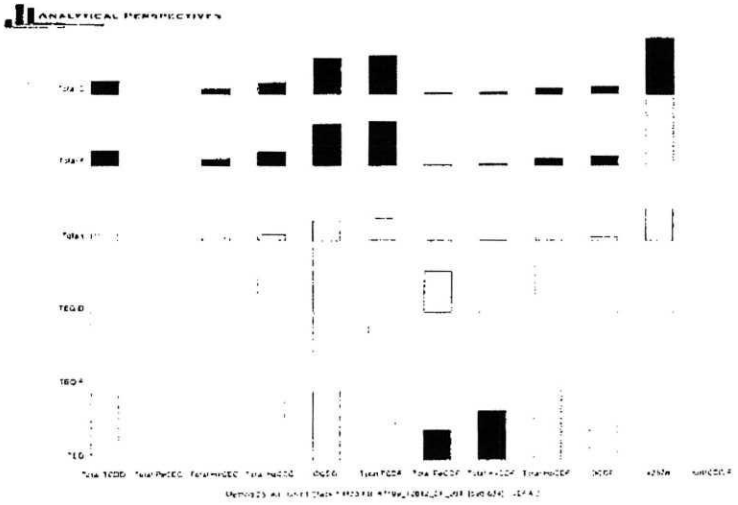

ANALYTICAL PERSPECTIVES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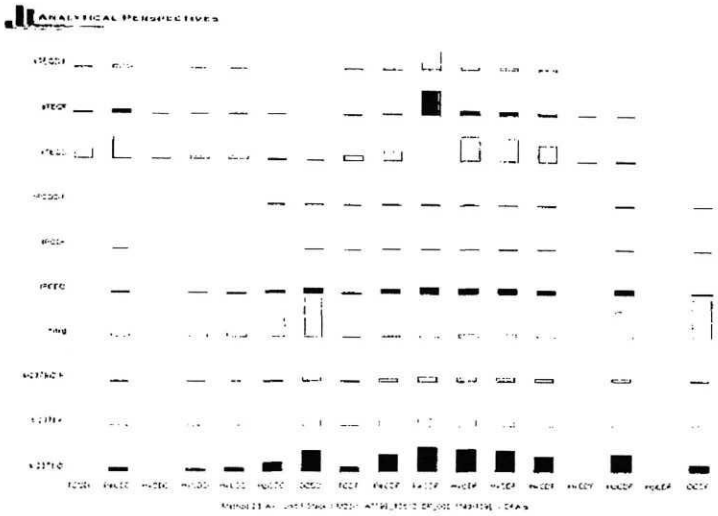
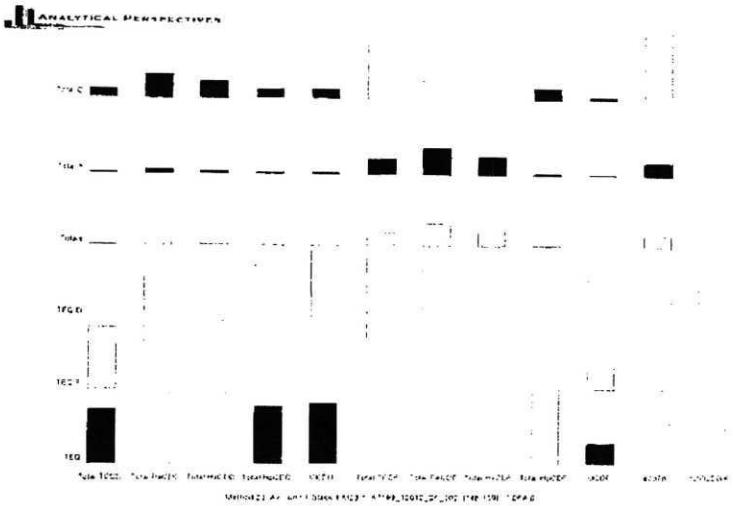
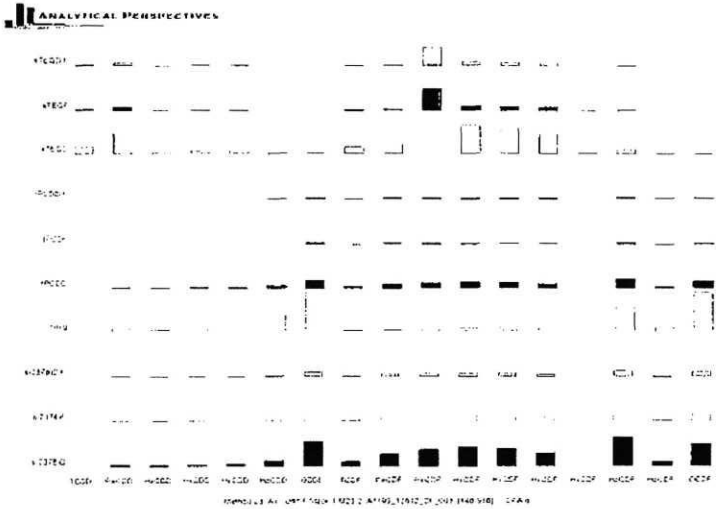
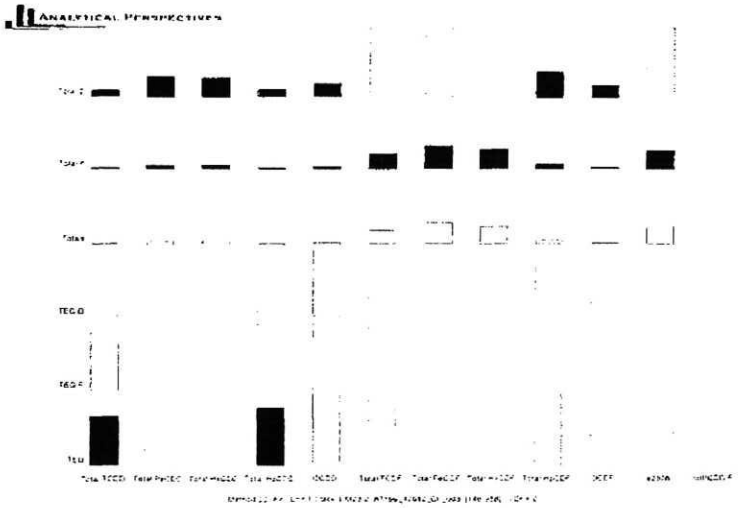
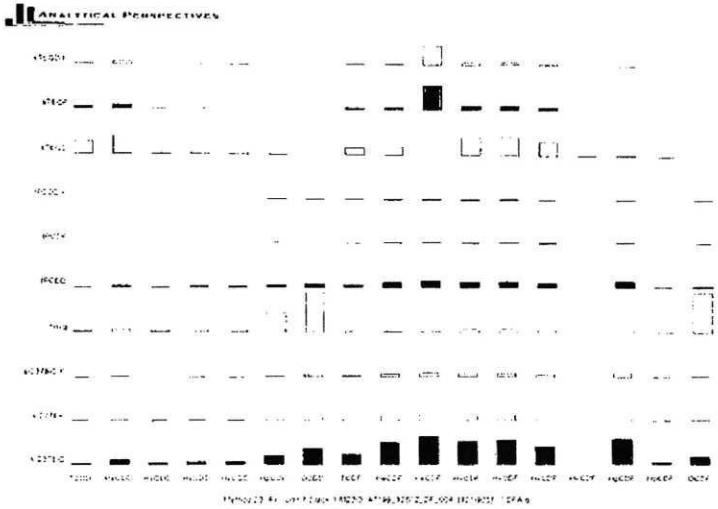
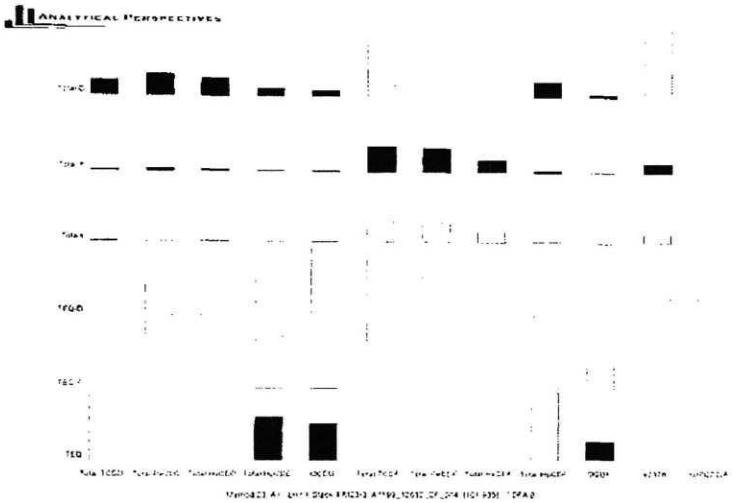

ANALYTICAL PERSPECTIVES


ANALYTICAL PERSPECTIVES


ANALYTICAL PERSPECTIVES


ANALYTICAL PERSPECTIVES


ANALYTICAL PERSPECTIVES


ANALYTICAL PERSPECTIVES

Sample ID: Method Blank A7199_12612

Method 23

Client Data		Sample Data		Laboratory Data			
Name:	TRC Environmental Corporation	Matrix:	Air	Lab Project ID:	A7199	Date Received:	n/a
Project ID:	223797 Stericycle	Weight/Volume:	1	Lab Sample ID	MB1_12612_DF_SDS	Date Extracted:	07-Oct-2014
Date Collected:	n/a			QC Batch No:	12612	Date Analyzed:	09-Oct-2014
		Split:	2	Dilution:	-	Time Analyzed:	04:48:25

Analyte	Conc. (pg)	DL (pg)	EMPC (pg)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.29			ES 2378-TCDD	92.1	
12378-PeCDD	ND	1.74			ES 12378-PeCDD	92.2	
123478-HxCDD	ND	1.38			ES 123478-HxCDD	92.1	
123678-HxCDD	ND	1.49			ES 123678-HxCDD	89.6	
123789-HxCDD	ND	1.56			ES 123789-HxCDD	87.7	
1234678-HpCDD	ND	1.95			ES 1234678-HpCDD	84.7	
OCDD	3.56			J	ES OCDD	72.2	
2378-TCDF	ND	0.948			ES 2378-TCDF	95	
12378-PeCDF	ND	0.869			ES 12378-PeCDF	95.2	
23478-PeCDF	ND	0.99			ES 23478-PeCDF	88.9	
123478-HxCDF	ND	1.15			ES 123478-HxCDF	93.3	
123678-HxCDF	ND	0.931			ES 123678-HxCDF	101	
234678-HxCDF	ND	1.06			ES 234678-HxCDF	95.2	
123789-HxCDF	ND	1.72			ES 123789-HxCDF	71.3	
1234678-HpCDF	EMPC		0.887	J	ES 1234678-HpCDF	98.8	
1234789-HpCDF	ND	1.49			ES 1234789-HpCDF	82.9	
OCDF	ND	4.56			ES OCDF	64.9	
Totals					**Standard**	**SS/AS Recoveries**	
					SS 37Cl-2378-TCDD	107	
Total TCDD	3.26		3.26		SS 12347-PeCDD	109	
Total PeCDD	ND	1.74	ND		SS 12346-PeCDF	102	
Total HxCDD	ND	1.47	ND		SS 123469-HxCDF	94.6	
Total HpCDD	ND		2.65		SS 1234689-HpCDF	82.4	
					AS 1368-TCDD	99.9	
Total TCDF	ND	0.948	ND		AS 1368-TCDF	94.7	
Total PeCDF	ND	0.924	ND				
Total HxCDF	ND	1.17	ND				
Total HpCDF	ND		0.887				
Total PCDD/Fs	**6.82**		**10.4**				
ITEF TEQs							
TEQ: ND=0	0.00356		0.0124				
TEQ: ND=DL/2	1.89	1.88	1.89				
TEQ: ND=DL	3.77	3.77	3.77				

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Sample ID: Unit 1 Stack 1-M23-FB

Method 23

Client Data		Sample Data		Laboratory Data			
Name:	TRC Environmental Corporation	Matrix:	Air	Lab Project ID:	A7199	Date Received:	06-Oct-2014
Project ID:	223797 Stericycle	Weight/Volume:	1	Lab Sample ID	A7199_12612_DF_001	Date Extracted:	07-Oct-2014
Date Collected:	01-Oct-2014			QC Batch No:	12612	Date Analyzed:	09-Oct-2014
		Split:	2	Dilution:	-	Time Analyzed:	05:41:46

Analyte	Conc. (pg)	DL (pg)	EMPC (pg)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.29			ES 2378-TCDD	89.7	
12378-PeCDD	ND	2.08			ES 12378-PeCDD	86.1	
123478-HxCDD	ND	1.25			ES 123478-HxCDD	84	
123678-HxCDD	ND	1.34			ES 123678-HxCDD	84.3	
123789-HxCDD	2.04			J	ES 123789-HxCDD	80.1	
1234678-HpCDD	EMPC		5.43	J	ES 1234678-HpCDD	79.4	
OCDD	31.3			J B	ES OCDD	66.8	
2378-TCDF	ND	1.05			ES 2378-TCDF	92.4	
12378-PeCDF	ND	0.951			ES 12378-PeCDF	90.8	
23478-PeCDF	ND	1.05			ES 23478-PeCDF	83.8	
123478-HxCDF	ND	1.02			ES 123478-HxCDF	83.6	
123678-HxCDF	ND	0.891			ES 123678-HxCDF	88.4	
234678-HxCDF	1.7			J	ES 234678-HxCDF	89.8	
123789-HxCDF	ND	1.21			ES 123789-HxCDF	76.8	
1234678-HpCDF	EMPC		2.19	J B	ES 1234678-HpCDF	91.3	
1234789-HpCDF	ND	1.65			ES 1234789-HpCDF	80.9	
OCDF	EMPC		7.24	J	ES OCDF	62.7	
Totals					**Standard**	**SS/AS Recoveries**	
					SS 37Cl-2378-TCDD	108	
Total TCDD	11.5		11.5		SS 12347-PeCDD	109	
Total PeCDD	ND	2.08	ND		SS 12346-PeCDF	99.5	
Total HxCDD	4.83		4.83		SS 123469-HxCDF	97.2	
Total HpCDD	ND		10.3		SS 1234689-HpCDF	84.8	
					AS 1368-TCDD	99.2	
Total TCDF	20.9		33.5		AS 1368-TCDF	93.6	
Total PeCDF	ND		1.03				
Total HxCDF	1.7		1.7				
Total HpCDF	3.25		5.43				
Total PCDD/Fs	**73.4**		**107**				
ITEF TEQs							
TEQ: ND=0	0.405		0.488				
TEQ: ND=DL/2	2.22	1.93	2.29				
TEQ: ND=DL	4.03	3.86	4.08				

SGS
5500 Business Drive
Wilmington, NC 28405, USA
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Sample ID: Unit 1 Stack 1-M23-1

Method 23

Client Data		Sample Data		Laboratory Data			
Name:	TRC Environmental Corporation	Matrix:	Air	Lab Project ID:	A7199	Date Received:	06-Oct-2014
Project ID:	223797 Stericycle	Weight/Volume:	1	Lab Sample ID	A7199_12612_DF_002	Date Extracted:	07-Oct-2014
Date Collected:	30-Sep-2014			QC Batch No:	12612	Date Analyzed:	09-Oct-2014
		Split:	2	Dilution:	-	Time Analyzed:	06:35:08

Analyte	Conc. (pg)	DL (pg)	EMPC (pg)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.41			ES 2378-TCDD	94.3	
12378-PeCDD	EMPC		3.31	J	ES 12378-PeCDD	91.4	
123478-HxCDD	ND	1.56			ES 123478-HxCDD	83.9	
123678-HxCDD	2.22			J	ES 123678-HxCDD	86.9	
123789-HxCDD	EMPC		3.01	J	ES 123789-HxCDD	86.4	
1234678-HpCDD	EMPC		7.83	J	ES 1234678-HpCDD	84.8	
OCDD	EMPC		17.3	J B	ES OCDD	72	
2378-TCDF	EMPC		4.18	J	ES 2378-TCDF	91.7	
12378-PeCDF	14.1			J	ES 12378-PeCDF	95.6	
23478-PeCDF	20.4			J	ES 23478-PeCDF	89.6	
123478-HxCDF	18.7			J	ES 123478-HxCDF	88.1	
123678-HxCDF	17.2			J	ES 123678-HxCDF	94.2	
234678-HxCDF	12.6			J	ES 234678-HxCDF	89.9	
123789-HxCDF	ND	1.71			ES 123789-HxCDF	78.6	
1234678-HpCDF	14.7			J	ES 1234678-HpCDF	102	
1234789-HpCDF	ND	2.16			ES 1234789-HpCDF	79.4	
OCDF	EMPC		5.73	J	ES OCDF	64.9	
Totals					**Standard**	**SS/AS Recoveries**	
					SS 37Cl-2378-TCDD	103	
Total TCDD	14.3		15.7		SS 12347-PeCDD	108	
Total PeCDD	17.8		42.2		SS 12346-PeCDF	99	
Total HxCDD	27.7		30.7		SS 123469-HxCDF	91.2	
Total HpCDD	8.75		16.6		SS 1234689-HpCDF	76.9	
					AS 1368-TCDD	99.3	
Total TCDF	127		167		AS 1368-TCDF	93.8	
Total PeCDF	263		272				
Total HxCDF	174		191				
Total HpCDF	18.4		21.4				
Total PCDD/Fs	**651**		**780**				
ITEF TEQs							
TEQ: ND=0	16.1		18.6				
TEQ: ND=DL/2	17.6	2.02	19.5				
TEQ: ND=DL	19.1	4.04	20.3				

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Sample ID: Unit 1 Stack 1-M23-2

Method 23

Client Data		Sample Data		Laboratory Data			
Name:	TRC Environmental Corporation	Matrix:	Air	Lab Project ID:	A7199	Date Received:	06-Oct-2014
Project ID:	223797 Stericycle	Weight/Volume:	1	Lab Sample ID	A7199_12612_DF_003	Date Extracted:	07-Oct-2014
Date Collected:	30-Sep-2014			QC Batch No:	12612	Date Analyzed:	09-Oct-2014
		Split:	2	Dilution:	-	Time Analyzed:	07:28:31

Analyte	Conc. (pg)	DL (pg)	EMPC (pg)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	ND	1.08			ES 2378-TCDD	94.1	
12378-PeCDD	EMPC		2.88	J	ES 12378-PeCDD	95.3	
123478-HxCDD	EMPC		1.92	J	ES 123478-HxCDD	92.8	
123678-HxCDD	EMPC		2.42	J	ES 123678-HxCDD	90.2	
123789-HxCDD	EMPC		2.71	J	ES 123789-HxCDD	89.5	
1234678-HpCDD	EMPC		7.02	J	ES 1234678-HpCDD	84.3	
OCDD	26.3			J B	ES OCDD	71.8	
2378-TCDF	5.25			J	ES 2378-TCDF	93.8	
12378-PeCDF	12.8			J	ES 12378-PeCDF	101	
23478-PeCDF	17.1			J	ES 23478-PeCDF	95.2	
123478-HxCDF	20.8			J	ES 123478-HxCDF	92.8	
123678-HxCDF	18.4			J	ES 123678-HxCDF	103	
234678-HxCDF	13.9			J	ES 234678-HxCDF	90.6	
123789-HxCDF	ND	1.6			ES 123789-HxCDF	72.1	
1234678-HpCDF	30.4			J	ES 1234678-HpCDF	100	
1234789-HpCDF	EMPC		5.2	J	ES 1234789-HpCDF	84	
OCDF	23.3			J	ES OCDF	64.8	
Totals					**Standard**	**SS/AS Recoveries**	
					SS 37Cl-2378-TCDD	106	
Total TCDD	10.6		13.4		SS 12347-PeCDD	108	
Total PeCDD	22.2		38.4		SS 12346-PeCDF	99.3	
Total HxCDD	27.1		37.1		SS 123469-HxCDF	89.1	
Total HpCDD	8.55		15.6		SS 1234689-HpCDF	79.3	
					AS 1368-TCDD	95.6	
Total TCDF	133		154		AS 1368-TCDF	96.5	
Total PeCDF	219		234				
Total HxCDF	182		198				
Total HpCDF	44.2		49.4				
Total PCDD/Fs	**695**		**790**				
ITEF TEQs							
TEQ: ND=0	15.4		17.6				
TEQ: ND=DL/2	16.6	1.74	18.3				
TEQ: ND=DL	17.8	3.48	18.9				

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Sample ID: Unit 1 Stack 1-M23-3

Method 23

Client Data		Sample Data		Laboratory Data			
Name:	TRC Environmental Corporation	Matrix:	Air	Lab Project ID:	A7199	Date Received:	06-Oct-2014
Project ID:	223797 Stericycle	Weight/Volume:	1	Lab Sample ID	A7199_12612_DF_004	Date Extracted:	07-Oct-2014
Date Collected:	01-Oct-2014			QC Batch No:	12612	Date Analyzed:	09-Oct-2014
		Split:	2	Dilution:	-	Time Analyzed:	08:21:53

Analyte	Conc. (pg)	DL (pg)	EMPC (pg)	Qualifiers	Standard	ES Recoveries	Qualifiers
2378-TCDD	EMPC		2.23	J	ES 2378-TCDD	81.4	
12378-PeCDD	5.99			J	ES 12378-PeCDD	82.2	
123478-HxCDD	EMPC		3.02	J	ES 123478-HxCDD	74.8	
123678-HxCDD	4.03			J	ES 123678-HxCDD	76.6	
123789-HxCDD	4.05			J	ES 123789-HxCDD	74.8	
1234678-HpCDD	11.6			J	ES 1234678-HpCDD	73.4	
OCDD	20.3			J B	ES OCDD	58.2	
2378-TCDF	12.7				ES 2378-TCDF	82.6	
12378-PeCDF	28.7			J	ES 12378-PeCDF	84.7	
23478-PeCDF	35.9			J	ES 23478-PeCDF	81.2	
123478-HxCDF	30			J	ES 123478-HxCDF	78.5	
123678-HxCDF	31.5			J	ES 123678-HxCDF	83.8	
234678-HxCDF	23.3			J	ES 234678-HxCDF	79.5	
123789-HxCDF	ND	1.93			ES 123789-HxCDF	62.6	
1234678-HpCDF	33.4			J	ES 1234678-HpCDF	84.2	
1234789-HpCDF	3.12			J	ES 1234789-HpCDF	69.9	
OCDF	9.98			J	ES OCDF	52.8	
Totals					**Standard**	**SS/AS Recoveries**	
					SS 37Cl-2378-TCDD	114	
Total TCDD	35		52.8		SS 12347-PeCDD	116	
Total PeCDD	68.9		73.1		SS 12346-PeCDF	107	
Total HxCDD	42.3		58.4		SS 123469-HxCDF	98.3	
Total HpCDD	23.9		23.9		SS 1234689-HpCDF	86.3	
					AS 1368-TCDD	94.6	
Total TCDF	631		635		AS 1368-TCDF	89.1	
Total PeCDF	595		602				
Total HxCDF	322		330				
Total HpCDF	50.8		50.8				
Total PCDD/Fs	**1800**		**1860**				
ITEF TEQs							
TEQ: ND=0	33.4		36				
TEQ: ND=DL/2	34.4	2.57	36.1				
TEQ: ND=DL	35.4	5.15	36.2				

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5500 Business Drive
Wilmington, NC 28405, USA
www.us.sgs.com
Tel: +1 910 794-1613; Toll-Free 866 846-8290

Sample Receipt Notification

5500 Business Drive
Wilmington, NC 28405 USA
Tel: 910 794-1613
Toll Free: 866 846-8290
Fax: 910 794-3919

Project Manager:	*Heather Distel*
Receipt Date & Time:	*06-Oct-14 at 16:00*
AP Project name:	*A7199*
Requested TAT:	*5 days*
Projected due date:	*13-Oct-14*
Matrix:	*Air - M23*
Phone#:	*910-794-1613*
Email Address:	*Heather.Distel@sgs.com*

Company Contact:	*Derek Brewster*
Company:	*TRC Environmental Corporation*
Project Name & Site:	*223797 Stericycle*
Project PO#:	*73745*
QAAP/Contract #:	*N/A*
Requested Analysis:	*Method 23*
Phone#:	*919-828-3150*
Email Address:	*dbrewster@trcsolutions.com*

Received Temps

Client Smp ID	AP Smp ID	Components	Sampling Date	Sampling Time	XAD	Solvent Rinse(s)	Container #	Shipping #
Unit 1 Stack 1-M23-FB	A7199_001	Filter #1, T2119-007, Acetone, Toluene, XAD #1	01-Oct-14	00:00	5	20	1, 2	na,na,
Unit 1 Stack 1-M23-1	A7199_002	Filter #1, T2119-003, Acetone, Toluene, XAD #1	30-Sep-14	00:00	5	20	1, 2	na,na,
Unit 1 Stack 1-M23-2	A7199_003	Filter #1, T2119-006, Acetone, Toluene, XAD #1	30-Sep-14	00:00	5	20	1, 2	na,na,
Unit 1 Stack 1-M23-3	A7199_004	Filter #1, T2119-001, Acetone, Toluene, XAD #1	01-Oct-14	00:00	5	20	1, 2	na,na,

Sample Seals Intact: No **Sample(s) Condition:** Intact

Notes/Comments:

Samples received intact

Any un-extracted sample will be stored for 90 days from reporting date. Additional storage fees may apply for any samples stored longer than 90 days.

Received by: Barbara Hager *Logged in by:* Barbara Hager *QC'ed by:* AK 6 Oct 14

All services are rendered in accordance with the applicable SGS General Conditions of Service accessible via: http://www.sgs.com/terms_and_conditions.htm

07199

SAMPLE LOG and CHAIN OF CUSTODY RECORD

Client:	TRC	TRC Project Manager :	Derek Brewster
Location:	Raleigh, NC	Telephone No.	(919) 256-6233
Project Name :	Stericycle, Inc.	TRC Project No.	223797
	North Salt Lake, UT		
		Carrier or Delivery:	Pick-up
		Date Delivered to Lab:	October 6, 2014
		Results Due Date:	EXPEDITED 5-Day

Page #
SGS Analytical Perspective
(910) 794-1613
<--NOTE

Sample I.D. No. and Description					Sample Date :	Sample Type :	Type of Container :	Analysis Requested
	Location :	Train #	Run #	Fraction :				
Unit 1 Stack (001)		M23	1-M23-1	Filter	9/30/2014	Filter	Petri	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-1	Acetone	9/30/2014	Acetone Rinse	500 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-1	Toluene	9/30/2014	Toluene Rinse	500 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-1	XAD Trap	9/30/2014	XAD Trap	XAD Trap	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-2	Filter	9/30/2014	Filter	Petri	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-2	Acetone	9/30/2014	Acetone Rinse	500 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-2	Toluene	9/30/2014	Toluene Rinse	500 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-2	XAD Trap	9/30/2014	XAD Trap	XAD Trap	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-3	Filter	10/1/2014	Filter	Petri	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-3	Acetone	10/1/2014	Acetone Rinse	500 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-3	Toluene	10/1/2014	Toluene Rinse	500 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	1-M23-3	XAD Trap	10/1/2014	XAD Trap	XAD Trap	Dioxin/Furan
Unit 1 Stack (001)		M23	M23-FB	Filter	10/1/2014	Filter	Petri	Dioxin/Furan
Unit 1 Stack (001)		M23	M23-FB	Acetone	10/1/2014	Acetone Rinse	250 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	M23-FB	Toluene	10/1/2014	Toluene Rinse	250 ml Glass	Dioxin/Furan
Unit 1 Stack (001)		M23	M23-FB	XAD Trap	10/1/2014	XAD Trap	XAD Trap	Dioxin/Furan

Released by TRC	Signature	10-5-14 Date	Accepted by Laboratory	Barbara Hager 6-Oct-14 1600 Signature and Date

Type & Quantity of Sampling Modules

Qty. XAD Traps:	7
Resin Batch No.:	51724
Qty. PUF:	N/A
PUF Batch No.:	N/A
Filter Size:	82.6 mm
Qty. Filter:	9
Filter Batch #:	08012014
Qty. Petri Dishes:	7
# of BCS3 & MB:	1

Client Specific Instructions

USE TRC-RTP TRAPS
OK TO RENT TRAPS IF NEEDED
DOUBLE WRAP PETRI-DISHES
5 DAY TAT ANALYSIS

Other Requirements

# Rinse Jars:	N/A
# CarboPacs:	N/A

Spike Profile

Vol. PCDD/F : 40µL

Solution ID:	011720140	Amount:	1.6-4 ng
Vial ID:	14-88-1	Expiration:	8/1/15

Vol. HR_PAH: 80 µL (40ng)

Solution ID:	—	Amount:	0.5 ng/µL
Vial ID:	—	Expiration:	—

Vol.HR_PCB: 40 µL (4ng)

Solution ID:	—	Amount:	0.1 ng/µL
Vial ID:	—	Expiration:	—

SGS

Sampling Module Request Form

Trap Order #: T2119

Following sample recovery, please return this form with the field samples to:
5500 Business Dr.
Wilmington, NC 28405
Ph.:910-794-1613
Fax.: 910-794-3919

Please be aware of your trap batch #
QC begins when we prep your traps.
The Method Blanks and BCS, are prepared simultaneously with the trap and are properly stored until the trap batch returns for analysis.

We recommend keeping trap batches together and if a set of traps is to be split into multiple projects, please let us know so we can prepare extra Method Blanks/BCS,

Spike By: NA 9/25/14

Witness: RAN 9/25/14

Client Information

Company:	TRC Environmental Corporation
Contact:	Jim Serne
Email:	jserne@trcsolutions.com
Phone:	919-828-3150
Project Name:	
PO#:	223797
Order Date:	15-Sep-14
Arrival Date:	26-Sep-14
Ship To:	Stericycle Attn. Jay Bance 90 N. Foxboro Drive (1100 West) North Salt Lake, UT 84054 dbrewster@trcsolutions.com 801-971-2042

All PROJECTS ARE SHIPPED PRIORITY OVERNIGHT VIA FEDEX

Analyses

a7199 3 Oct-14

PCDD/F

4 used & 3 unused

Additional Information

AP Rental Traps Qty.:	0
Air Bill #:	
# Containers:	
Ship Date:	

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C-3
Particulate and Hydrogen Chloride

TRC Environmental Corporation

5540 Centerview Drive, Suite 100
Raleigh, NC 27606

Stericycle, Inc.

North Salt Lake City, UT
Client Project # 223797

Analytical Report
(1014-78)

EPA Method 26A

Hydrogen chloride

EPA Method 5

Particulate Matter

Enthalpy Analytical, Inc.
Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains 74 pages.

Michael Steven Schapira

QA Review Performed by: Michael Steven Schapira

Report Issued: 10/14/14

Summary of Results

Enthalpy Analytical

Company:	TRC Environmental Corporation - Raleigh	Parameters:	EPA Method 26A (H2SO4 fraction)
Client No.	223797	Samples	3 Runs, 2 Blanks, and 1 Audit
Job No.	1014-78	Analyst	Thomas Lockhart

Results Summary

Compound	Sample ID	Catch Weight (ug)	Qualifier
Hydrogen chloride	***1-M26A-1***	171	ND
Hydrogen chloride	***1-M26A-2***	84.6	ND
Hydrogen chloride	***1-M26A-3***	117	ND
Hydrogen chloride	***0.1N H2SO4 Blank***	42.0	ND
Hydrogen chloride	***DI H2O Blank***	45.3	ND

Compound	Sample ID	Conc (mg/L)	Qualifier
Hydrogen chloride	***Audit Cat1440 Project091714M***	10.4	

Enthalpy Analytical

Company:	TRC Environmental Corporation - Raleigh	Parameters:	EPA Method 5 Analysis
Client No.	223797	Samples	3 Runs, 1 Blank
Job No.	1014-78	Analyst	khoffman

Summary Report

Sample ID	Net Filter Catch (mg)	Net Front Rinse (mg)	Total Particulate (mg)
1-M5-1	2.5	1.4	3.9
1-M5-2	2.4	0.7	3.1
1-M5-3	2.6	0.7	3.2

Results

Enthalpy Analytical

Company: TRC Environmental Corporation - Raleigh
Client No. 223797
Job No. 1014-78

Parameters: EPA Method 26A (H2SO4 fraction)
Samples 3 Runs, 2 Blanks, and 1 Audit
Analyst Thomas Lockhart

Compound: Hydrogen chloride As Chloride

Sample ID	Filename #1	Filename #2	Analysis Method	Curve Min	Curve Max	MDL	Ret Time (min)	Ret Time (min)	%diff RT	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	%diff conc	Avg Conc (ug/mL)	DF	Liquid Vol (mL)	Conv Factor	Catch Weight (ug)	Flag
1-M26A-1	011-1001.D	011-1002.D	Nelson055.M	1.00	30.0	0.210	NA	NA	NA	0.420	0.420	NA	0.420	2	396	1.028	171	ND
1-M26A-2	012-1101.D	012-1102.D	Nelson055.M	1.00	30.0	0.210	NA	NA	NA	0.210	0.210	NA	0.210	1	392	1.028	84.6	ND
1-M26A-3	013-1201.D	013-1202.D	Nelson055.M	1.00	30.0	0.210	NA	NA	NA	0.210	0.210	NA	0.210	1	541	1.028	117	ND
0.1N H2SO4 Blank	014-1301.D	014-1302.D	Nelson055.M	1.00	30.0	0.210	NA	NA	NA	0.210	0.210	NA	0.210	1	195	1.028	42.0	ND
DI H2O Blank	015-1401.D	015-1402.D	Nelson055.M	1.00	30.0	0.210	NA	NA	NA	0.210	0.210	NA	0.210	1	210	1.028	45.3	ND
Audit Cat1440 Project091714M	016-1501.D	016-1502.D	Nelson055.M	1.00	30.0	0.210	4.24	4.24	0.0	9.88	10.4	2.7	10.2	1	1000	1.028	10,449	
																Converted from ug Catch to mg/L Concentration		10.4

Enthalpy Analytical

Company: TRC Environmental Corporation - Raleigh
Client No. 223797
Job No. 1014-78

Parameters: EPA Method 26A (H2SO4 fraction)
Samples 3 Runs, 2 Blanks, and 1 Audit
Analyst Thomas Lockhart

Matrix Spike Recovery

Sample ID	Filename #1	Filename #2	Analysis Method	Ret Time (min)	Ret Time (min)	%diff RT	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	%diff conc	Avg Conc (ug/mL)	DF	vol mL	Mass (ug)
MS / 1-M26A-1	018-1701.D	018-1702.D	Nelson055.M	4.24	4.24	0.0	10.5	10.1	1.9	10.3	1	5.00	51.6
												Native Amount (ug)	0
												Mass Spiked:	50.0
												Recovery:	103%
MSD / 1-M26A-1	019-1801.D	019-1802.D	Nelson055.M	4.24	4.24	0.0	9.98	10.4	2.0	10.2	1	5.00	50.9
												Mass Spiked:	0
												Mass Spiked:	50.0
												Recovery:	102%

Enthalpy Analytical

Company:	TRC Environmental Corporation - Raleigh	Parameters:	EPA Method 5
Client No.	223797	Samples	3 Runs, 1 Blank
Job No.	1014-78	Analyst	khoffman

Results

	1-M5-1	1-M5-2	1-M5-3
Filter ID	*83Q-10303*	*83Q-10304*	*83Q-10305*
Final Weight 1 (g)	0.38536 10/09/14 14:39	0.38497 10/09/14 14:39	0.38301 10/09/14 14:40
Final Weight 2 (g)	0.38491 10/10/14 16:22	0.38457 10/10/14 16:22	0.38265 10/10/14 16:23
Tare (g)	0.38240	0.38220	0.38010
Net Filter Catch (mg)	2.51	2.37	2.55
Beaker No.	*4285*	*4286*	*4287*
Weight 1 (g)	2.67600 10/13/14 13:09	2.68395 10/13/14 13:10	2.68424 10/13/14 13:11
Weight 2 (g)	2.67606 10/13/14 20:15	2.68409 10/13/14 20:15	2.68437 10/13/14 20:16
Tare (g)	2.67449 10/01/14 17:14	2.68327 10/01/14 17:14	2.68360 10/01/14 17:14
Acetone Volume (mL)	54.0	53.3	42.1
Acetone Blank (g)	0.00013	0.00013	0.00010
Net Front Rinse (mg)	1.43	0.69	0.67
Total Particulate (mg)	3.94	3.06	3.22

Enthalpy Analytical

Company:	TRC Environmental Corporation - Raleigh	Parameters:	EPA Method 5
Client No.	223797	Samples	3 Runs, 1 Blank
Job No.	1014-78	Analyst	khoffman

Reagent Blanks

		Acetone	
LC	Beaker	*4289*	
	Weight 1	2.68118	10/13/14 13:12
	Weight 2	2.68133	10/13/14 20:17
	Tare	2.68068	10/01/14 17:15
	Residue g	0.00066	
	Vol mL	200	
	Max Residue	0.00158	
		Acetone	
In House	Beaker	*4290*	
	Weight 1	2.67645	10/13/14 13:14
	Weight 2	2.67699	10/13/14 20:22
	Tare	2.67674	10/01/14 17:15
	Residue g	0.00025	
	Vol mL	100	
	Max Residue	0.00079	
		Acetone	
Reagent Blank	Beaker	*4288*	
	Weight 1	2.68631	10/13/14 13:11
	Weight 2	2.68647	10/13/14 20:17
	Tare	2.68600	10/01/14 17:15
	Residue g	0.00047	
	Vol mL	195.8	
	Max Residue	0.00155	

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	TRC Environmental Corp.
Analyst	TDL
Parameters	EPA Method 26A

Client #	223797
Job #	1014-78
# Samples	3 Runs, 2 blanks, 1 audit

Custody

Danny Speer of Enthalpy Analytical, Inc. received the samples on 10/6/14 after being relinquished by TRC Environmental Corporation of Raleigh, NC. He forwarded aliquots of the samples to Enthalpy's Durham NC laboratory where Summer Mims received the samples on 10/7/14 at 19.5 °C. The samples were received in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for chloride using the analytical procedures in EPA Method 26A, Determination of Hydrogen Halide and Halogen Emissions from Stationary Sources Isokinetic Method (40 CFR Part 60, Appendix A).

The samples were analyzed following the procedures in Section 11.0, Analytical Procedures. All samples and standards are prepared, stored, and analyzed using high-density polyethylene containers.

Due to the small aliquot size forwarded from TX to NC, the analyst had to dilute the sample ***1-M26A-1*** prior to analysis, though there was no analyte present, so that there would be enough sample to generate duplicate matrix spikes in addition to the base sample analysis.

The Metrohm 861 Compact IC ("Nelson") was equipped with a Metrohm 861 Conductivity Detector.

Calibration

The calibration curves are located in the Raw Data section of this report and referenced in the Analysis Method column on the Detailed Results page.

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Enthalpy Analytical Narrative Summary
(continued)

Chromatographic Conditions

The acquisition method METROHM.M is included in the Raw Data section of this report.

QC Notes

As required in Section 7.2.2, Absorbing Solution Blanks, client-provided reagent blanks were analyzed. Additionally, a quality control check sample was analyzed at the same time as the blanks and samples. All method required acceptance criteria were met.

The ***DI H2O Blank*** was an aliquot of the blank from another of the client's projects also currently in -house.

The samples were analyzed within the holding time specified by the method.

The analyses of the field and laboratory reagent blanks contained no hydrogen chloride at concentrations greater than the MDL.

Duplicate matrix spikes were prepared using aliquots of sample ***1-M26A-1*** and exhibited spike recovery values of 103% and 102%.

Reporting Notes

The sulfuric acid matrix samples were analyzed for chloride but are reported as hydrogen chloride. The results were converted using a conversion factor of 1.028 for hydrogen chloride.

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	TRC Environmental Corp.		**Client #**	223797
Analyst	KTH		**Job #**	1014-78
Parameters	EPA Method 5		**# Samples**	3 Runs and 1 blank

Custody

Danny Speer of Enthalpy Analytical, Inc. received the samples on 10/6/14 after being relinquished by TRC Environmental Corporation of Raleigh, NC. The samples were forwarded to Enthalpy's Durham NC laboratory where Summer Mims received the samples on 10/7/14 at 19.5 °C. The samples were received in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for particulate matter using the analytical procedures in EPA Method 5, Determination of Particulate Matter Emissions from Stationary Sources (40 CFR Part 60, Appendix A).

The samples were analyzed following the procedures in Section 11.0 Analytical Procedure.

The acetone rinses were dried at room temperature under a gentle filtered air stream in the Texas facility before being shipped to the Durham, NC laboratory. After receipt in NC, the samples were desiccated 24 hours, and then weighed at 6 hour (or longer) intervals until constant weight is achieved.

All samples were weighed on Balance 8 (Sartorius Model ME 5-F, Serial # 23104965) or Balance 2 (Mettler Model AB265-S, serial # 1125163272) certified by Mettler Toledo through July 31, 2015.

QC Notes

One acetone blank was received and analyzed with these samples. An additional LC Control blank was acetone dried down with the samples in the Texas facility, and sent with the samples.

The organic catch weights are adjusted by a blank correction value. A mathematically determined (theoretical) maximum value is calculated and compared with the actual value measured for the blank. The lower of the two values is used as the blank correction value, which is then factored by the sample volume divided by the blank volume, and subtracted from the sample catch weight.

All sample preparation and analytical holding times specified in the method were met.

Enthalpy Analytical Narrative Summary
(continued)

Reporting Notes

Enthalpy Analytical, Inc. considers gravimetric particulate analyses to be ±0.5 mg at best. Therefore, negative catch weights between 0 and -0.5 mg are not investigated. Negative catch weights < -0.5 mg are investigated. None of the catch results for this data set were negative.

These analyses met the requirements of the TNI Standard. Any deviations from the requirements of the reference method or TNI Standard have been stated above.

The results presented in this report are representative of the samples as provided to the laboratory.

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. data reports, unless specifically noted otherwise.

- Any analysis which refers to the method as ***"Type"*** represents a planned deviation from the reference method. For instance a Hydrogen Sulfide assay from a Tedlar bag would be labeled as "EPA Method 16-Type" because Tedlar bags are not mentioned as one of the collection options in EPA Method 16.
- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.
- The letter ***J*** in the Qualifier or Flag column in the results indicates that the value is between the MDL and the LOQ. The laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter ***E*** in the Qualifier or Flag column indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. The MS analysis indicates what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).
- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as a MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.

General Reporting Notes

(continued)

- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two spikes are retained as LCSs. The LCSs are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection and/or sample transport.
- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations on sample chromatograms, if provided in the report. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name on the chromatogram.

Sample Custody

SAMPLE LOG and CHAIN OF CUSTODY RECORD

Client: TRC Environmental Corporation
Location: Raleigh, NC

Project Name: Stericycle, Inc.
North Salt Lake, UT

TRC Project Manager: Derek Brewster
Telephone No. (919) 256-6233

TRC Project No. 223797

Carrier or Delivery: PU Enthalpy Houston
Date Delivered to Lab: October 6, 2014
Results Due Date: EXPEDITED 5-Day

Page # Enthalpy Analytical (919) 850-4392

Sample I.D. No. and Description

Location:	Train #	Run #	Fraction:	Sample Date:	Sample Type:	Type of Container:	Analysis Requested
Unit 1 Stack (001)	M26A	1-M26A-1	0.1N H_2SO_4	10/01/14	H_2SO_4	950ml Poly	HCl by M26A } Rec'd Aliquots
Unit 1 Stack (001)	M26A	1-M26A-2	0.1N H_2SO_4	10/01/14	H_2SO_4	950ml Poly	HCl by M26A } SOM 10-7-14
Unit 1 Stack (001)	M26A	1-M26A-3	0.1N H_2SO_4	10/01/14	H_2SO_4	950ml Poly	HCl by M26A
Unit 1 Stack (001)	M5	1-M5-1	Filter	10/01/14	Filter	Petri	PM by M5
Unit 1 Stack (001)	M5	1-M5-1	FH Acetone	10/01/14	Acetone	250 ml Glass	PM by M5
Unit 1 Stack (001)	M5	1-M5-2	Filter	10/01/14	Filter	Petri	PM by M5 } Rec'd
Unit 1 Stack (001)	M5	1-M5-2	FH Acetone	10/01/14	Acetone	250 ml Glass	PM by M5 } SOM 10-7-14
Unit 1 Stack (001)	M5	1-M5-3	Filter	10/01/14	Filter	Petri	PM by M5
Unit 1 Stack (001)	M5	1-M5-3	FH Acetone	10/01/14	Acetone	250 ml Glass	PM by M5
Unit 1 Stack (001)	M5	M5-RB	Acetone	10/01/14	Acetone	250 ml Glass	PM by M5
	M26A	Rec'd 10-7-14 Cat 14-10 SSAS	HCl in Impinger	Project 09/17/14M	Aqueous	Vile	HCl by M26A
		Blank	0.1N H_2SO_4 Blank	09/25/14	H_2SO_4	250ml Poly	HCl by M26A - Rec'd Aliquot SOM 10-7-14
		Blank	DI Blank	09/25/14	DI	250ml Poly	HCl by M26A — use aliquot from 09/14-222 Rec'd 10/7/14 220

Released by TRC: Neal Afflerbach — Signature — Date: 10/6/14

Accepted by Laboratory: Signature and Date: 10/06/14

RELINQUISHED BY: DANNY SPEER 10/6/14 1630

ACETONE DRIED IN LC.
M26A ALLIQUOTED IN LC DLS 10-06-14

Rec'd: TRC Environmental 10-7-14/900
Temp=19.5°C RGI

Rec'd @ AMBIENT
M26A WAS RECIEVED IN GLASS 10/3/2014

M26A

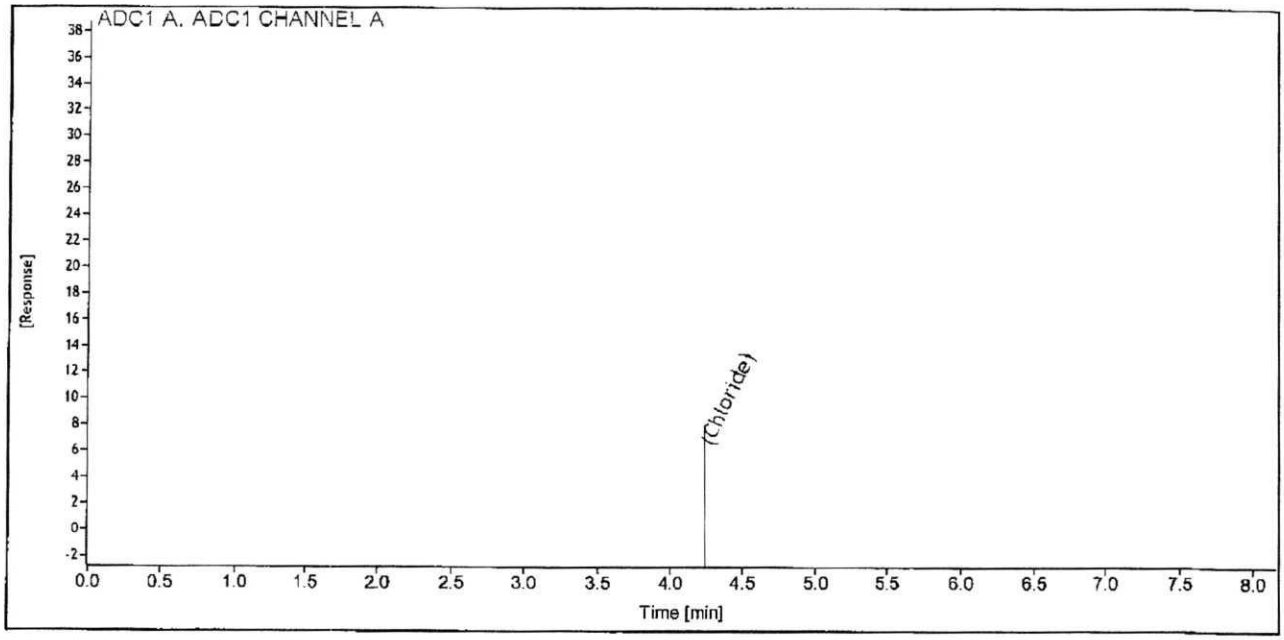
Raw Data

Chromatogram Report

Enthalpy Analytical, Inc.

Data file:	C:\Chem32\1\DATA\NELSON055\011-1001.D
Sample name:	1014-78.Run1.H2SO4
File_Location	\HPLC\2014\Nelson\Quarter 4
Injection date:	10/9/2014 3:48:59 PM
Acq. method:	METROHM.M
Analysis method:	Nelson055.M
Last changed:	10/10/2014 9:04:43 AM
Instrument:	Nelson
Sequence_Name	NELSON055
Acq. operator:	Thomas Lockhart

Sample type:	Sample
Location:	11
Injection volume:	
Injection:	1 of 2
File_Version	3



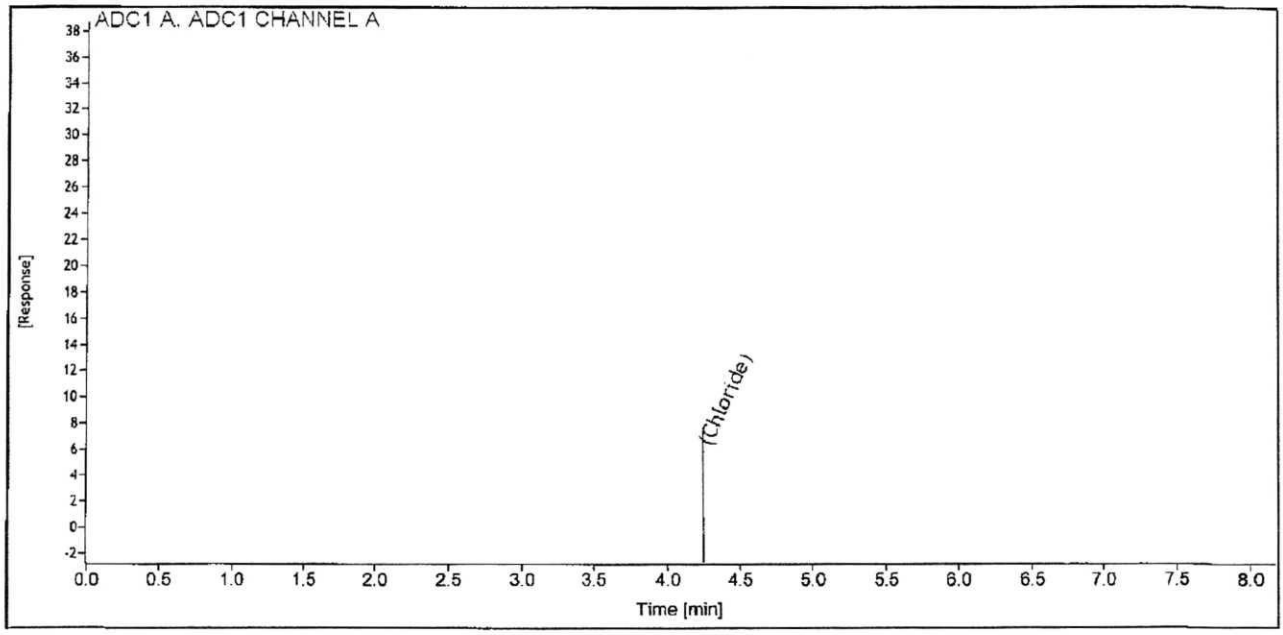
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				2	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\011-1002.D
Sample name: 1014-78.Run1.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 4:01:06 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 11
Injection volume:
Injection: 2 of 2
File_Version 3



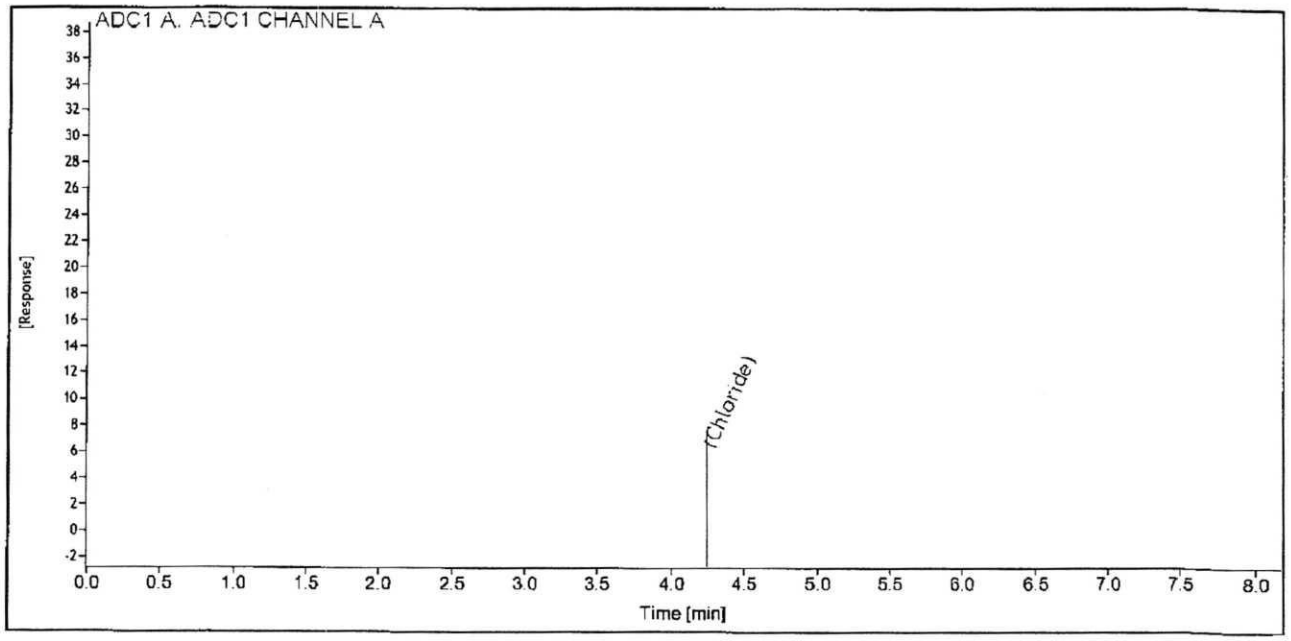
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				2	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\012-1101.D
Sample name: 1014-78.Run2.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 4:13:14 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument:
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 12
Injection volume:
Injection: 1 of 2
File_Version 3



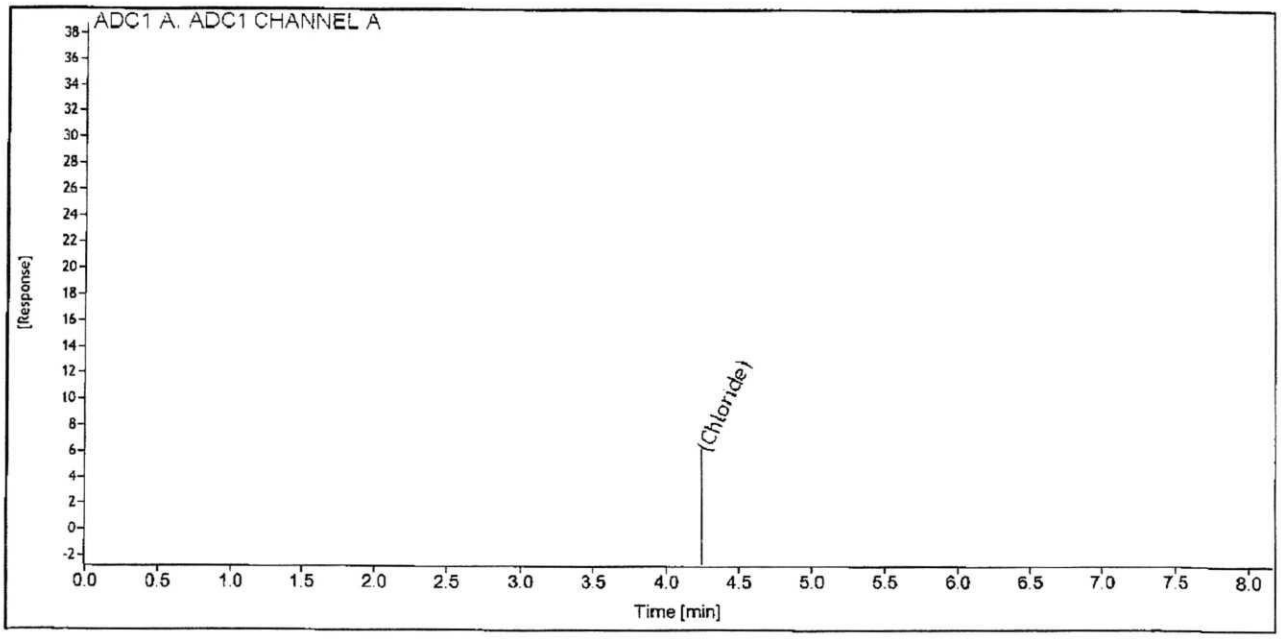
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\012-1102.D
Sample name: 1014-78.Run2.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 4:25:22 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 12
Injection volume:
Injection: 2 of 2
File_Version 3



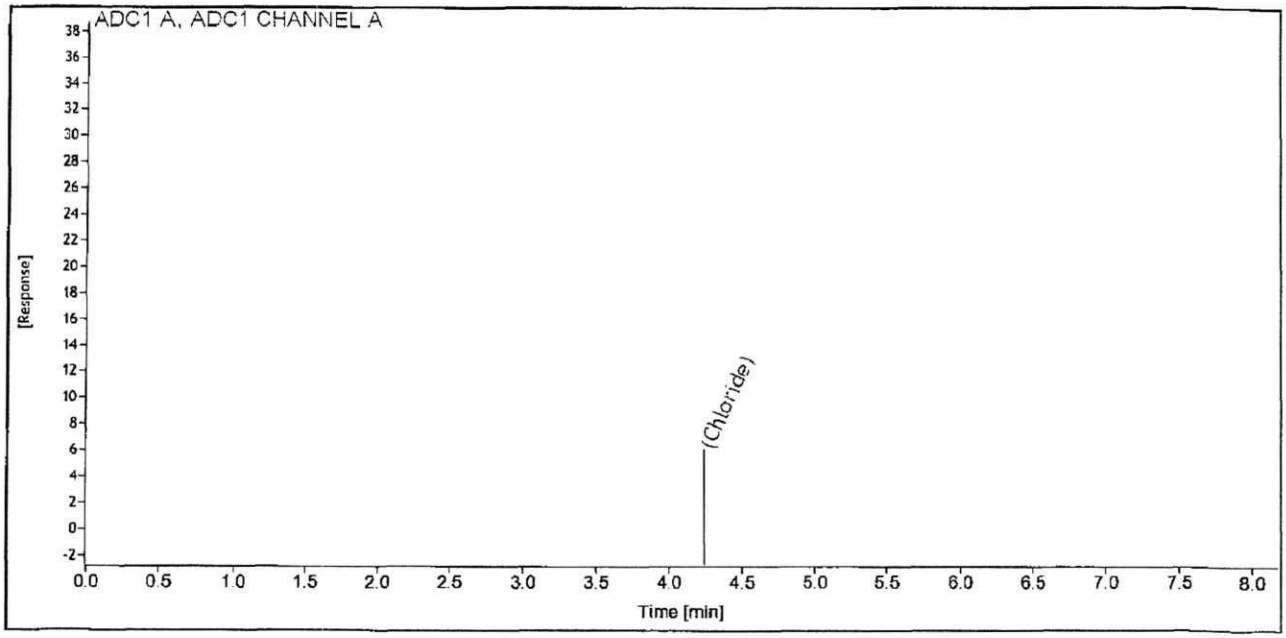
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\013-1201.D
Sample name: 1014-78.Run3.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 4:37:30 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 13
Injection volume:
Injection: 1 of 2
File_Version 3



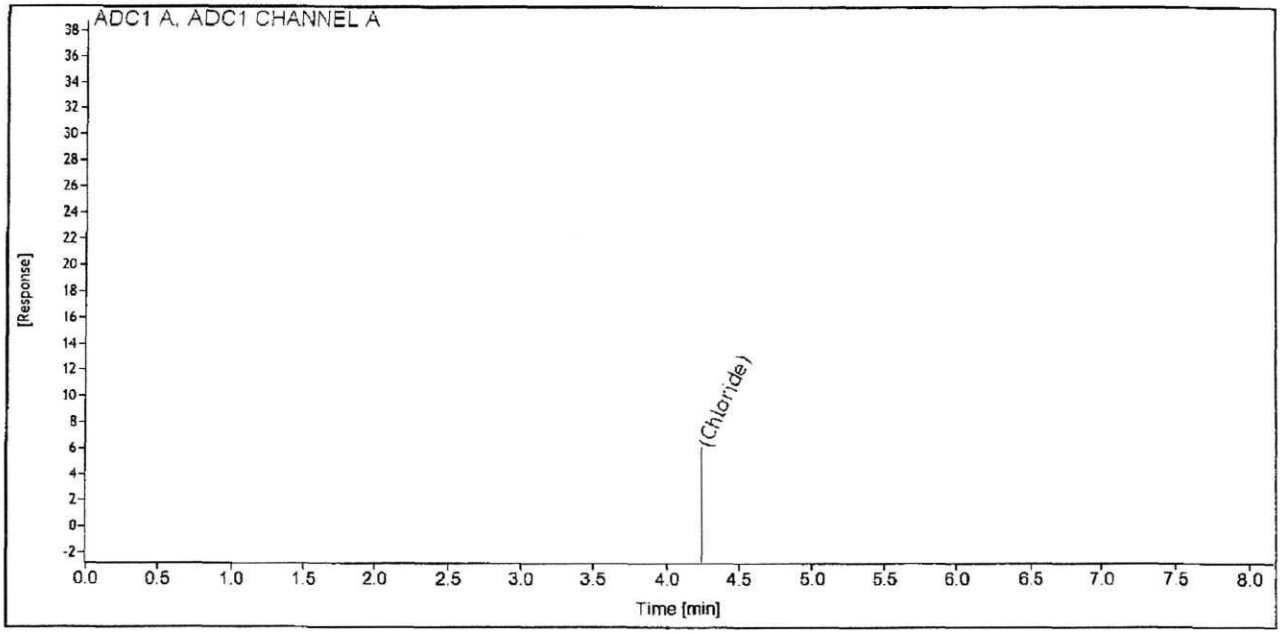
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\013-1202.D
Sample name: 1014-78.Run3.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 4:49:37 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 13
Injection volume:
Injection: 2 of 2
File_Version 3



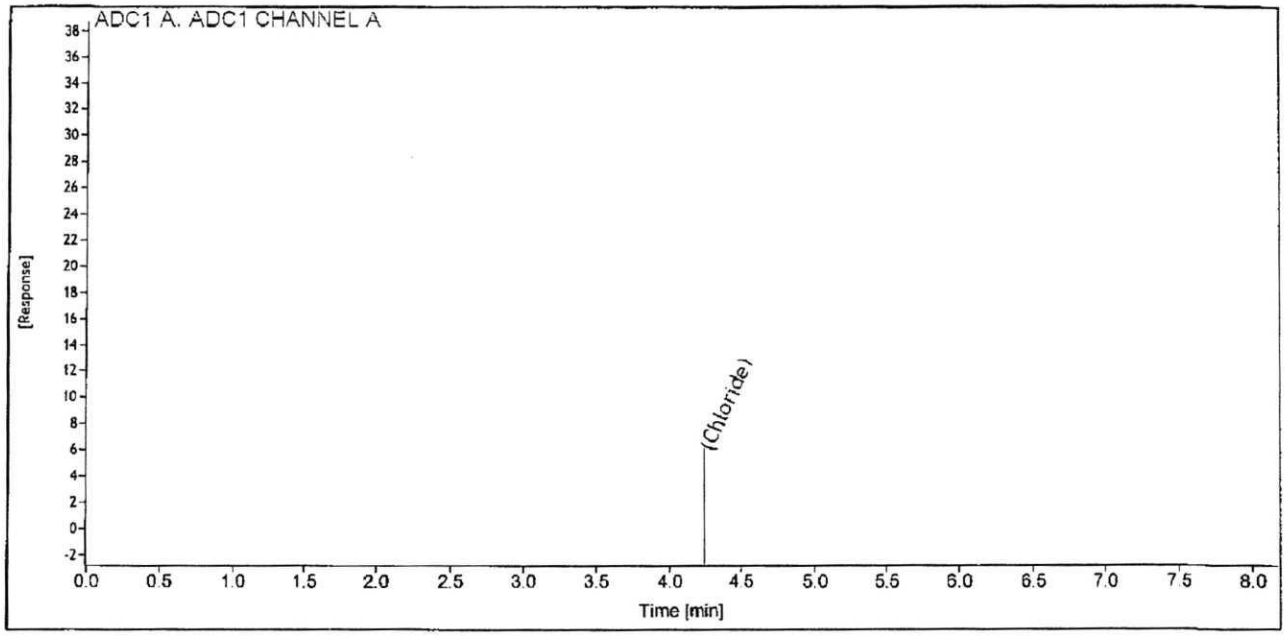
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\014-1301.D
Sample name: 1014-78.H2SO4.Blank
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 5:01:45 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument:
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 14
Injection volume:
Injection: 1 of 2
File_Version 3



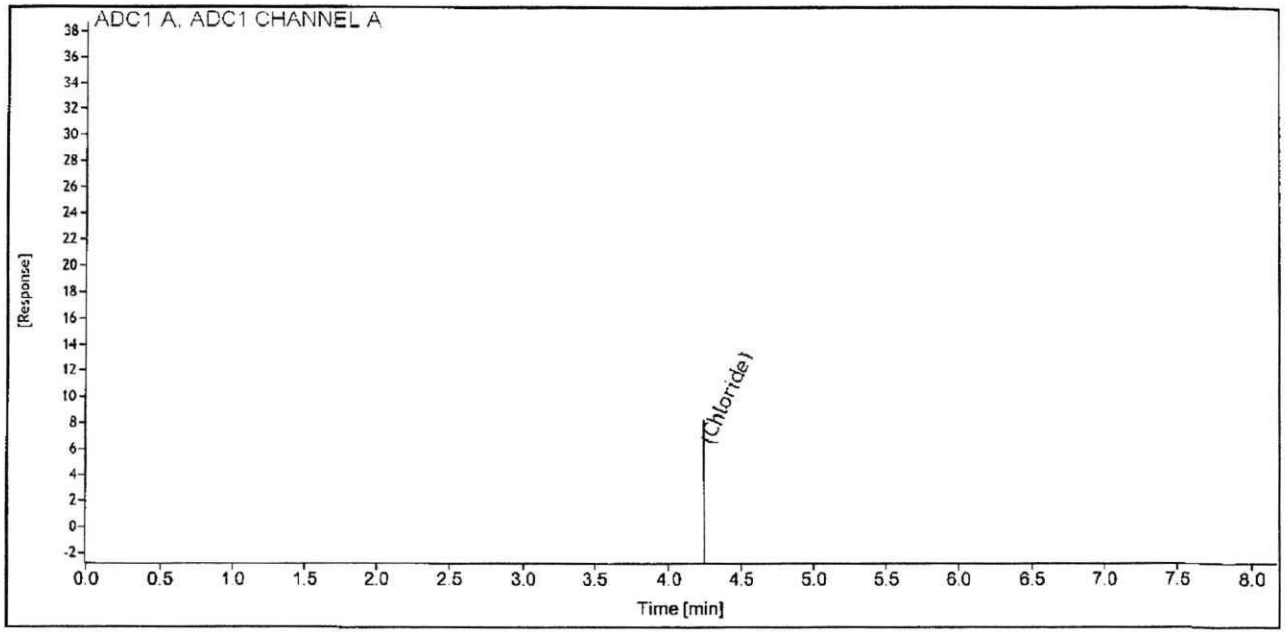
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\014-1302.D
Sample name: 1014-78.H2SO4.Blank
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 5:13:53 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument:
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 14
Injection volume:
Injection: 2 of 2
File_Version 3



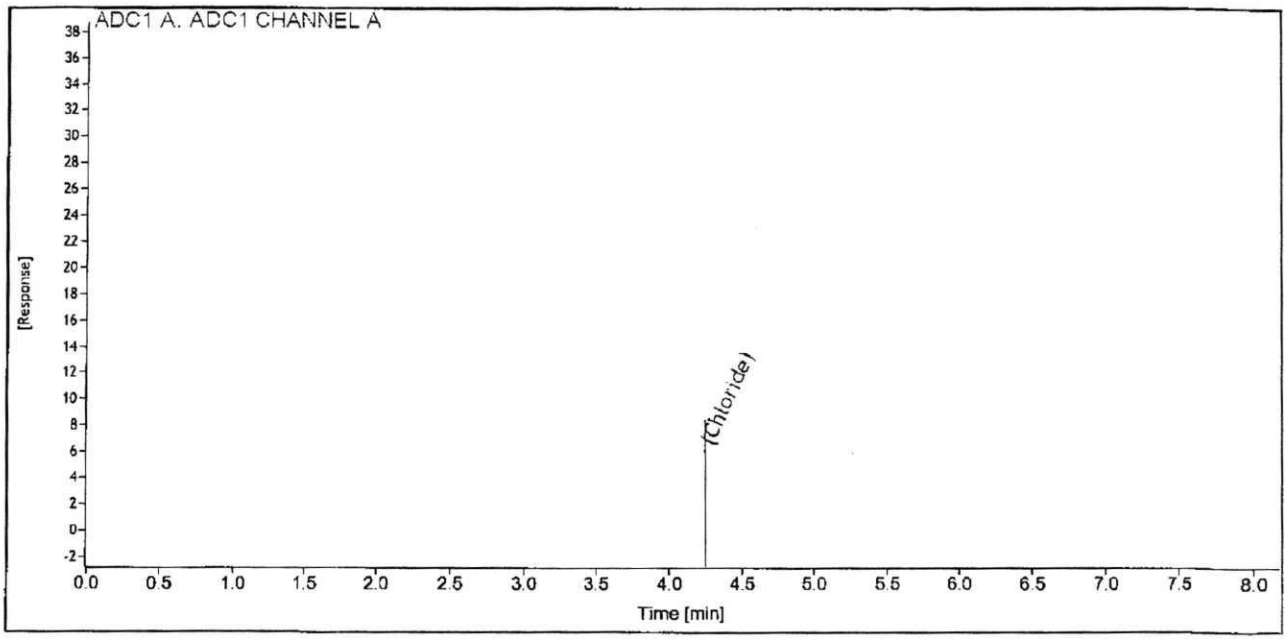
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\015-1401.D
Sample name: 1014-78.H2O.Blank
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 5:26:00 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument:
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 15
Injection volume:
Injection: 1 of 2
File_Version 3



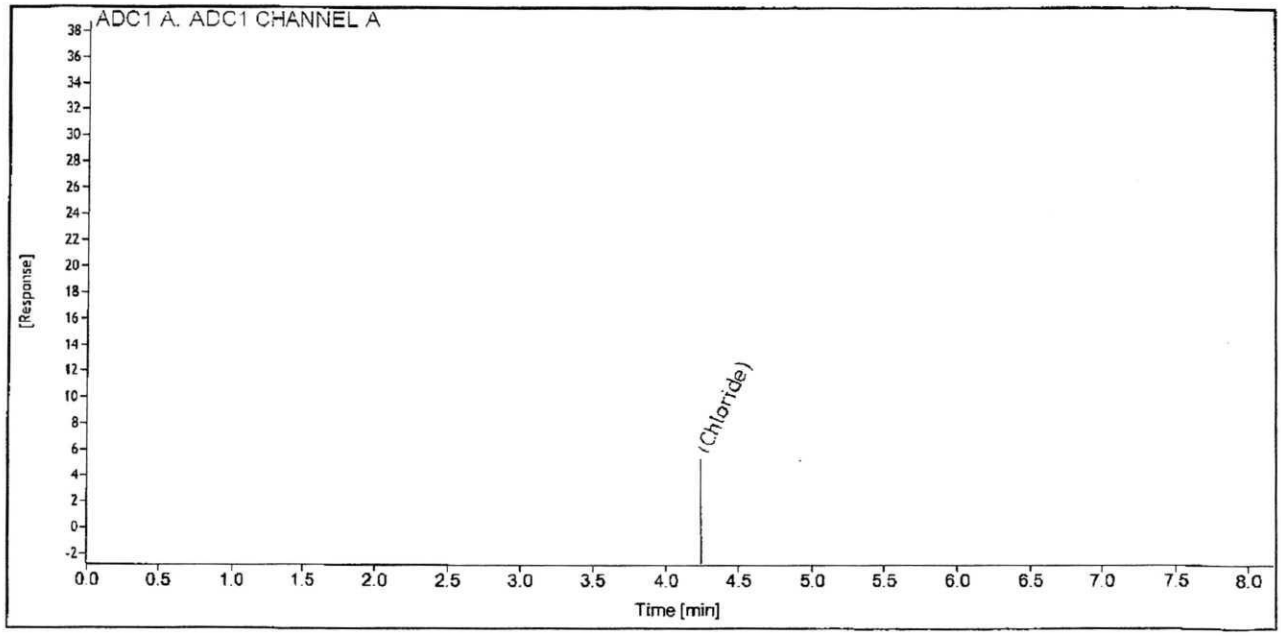
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\015-1402.D
Sample name: 1014-78.H2O.Blank
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 5:38:09 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument:
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 15
Injection volume:
Injection: 2 of 2
File_Version 3



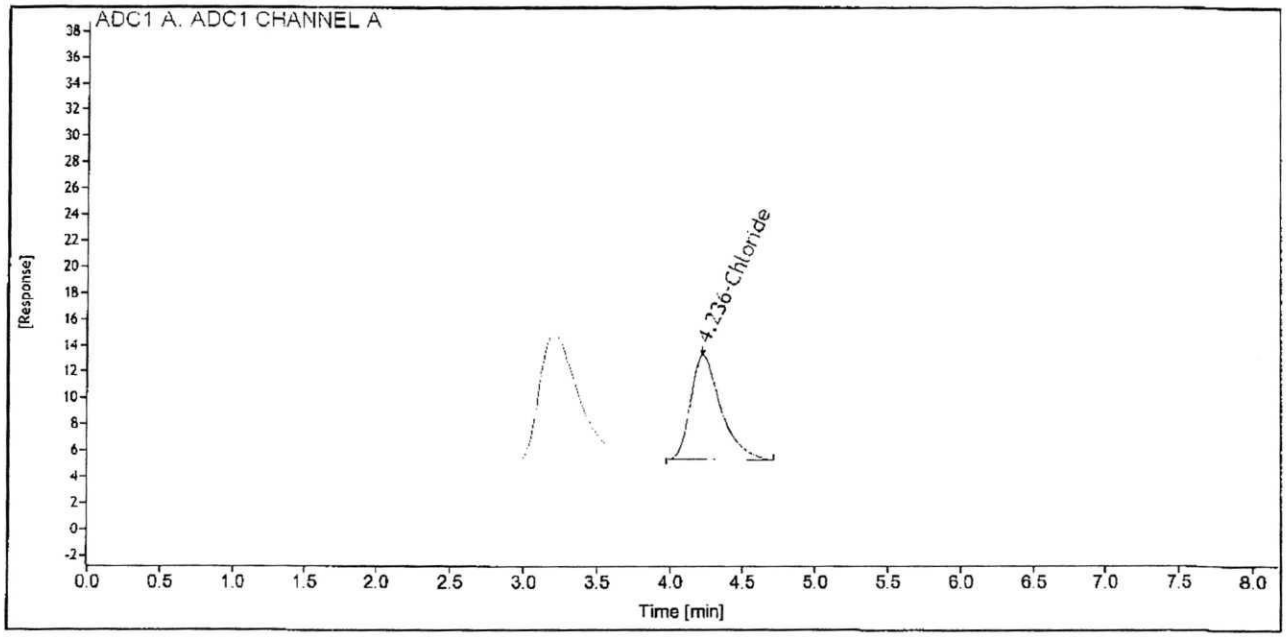
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\016-1501.D
Sample name: 1014-78.Audit.091714M
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 5:50:16 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 16
Injection volume:
Injection: 1 of 2
File_Version 3



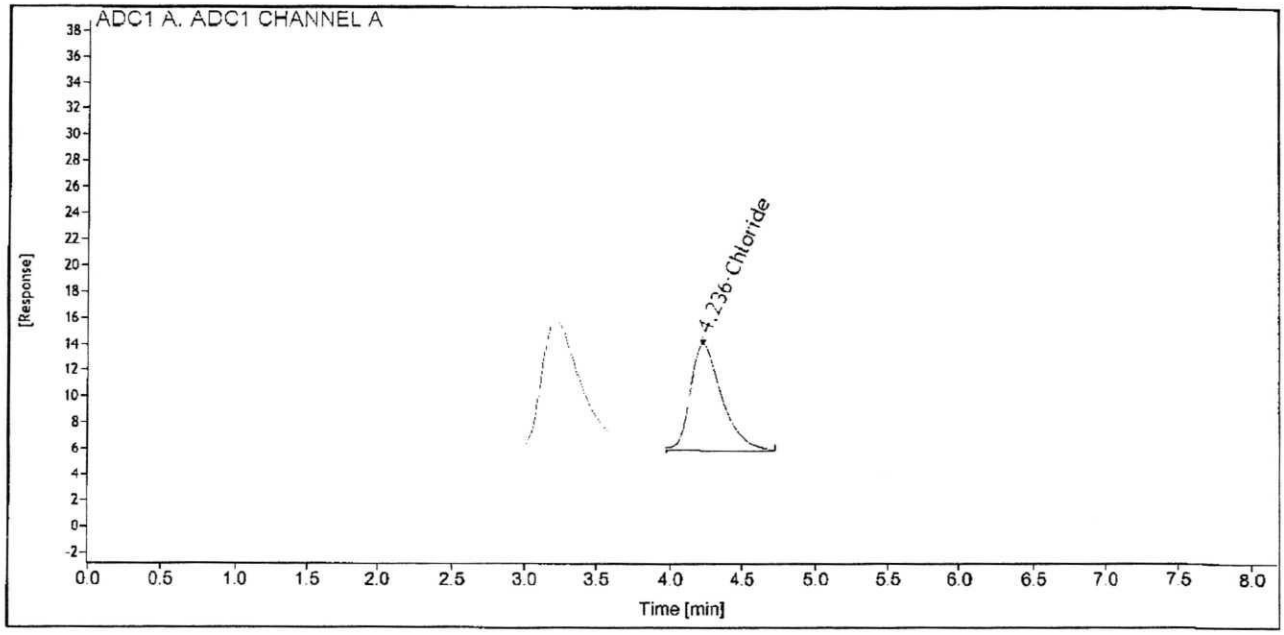
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	116.0297	1	9.88	9.885	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\016-1502.D
Sample name: 1014-78.Audit.091714M
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 6:02:24 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 16
Injection volume:
Injection: 2 of 2
File_Version 3



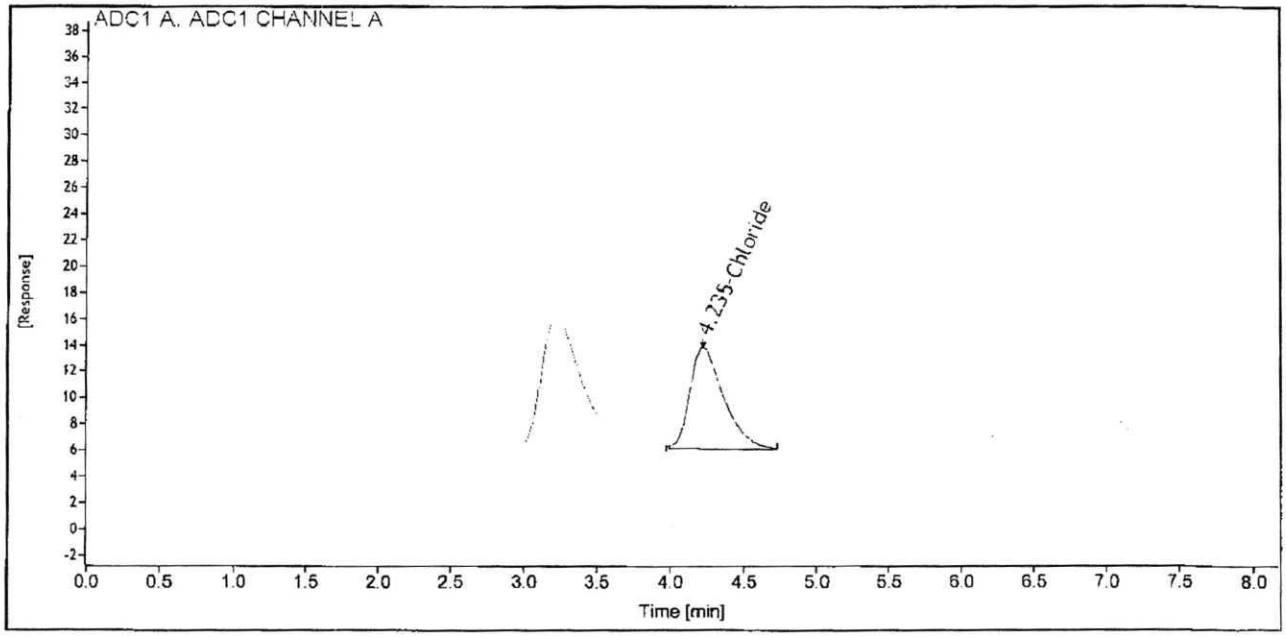
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	122.9328	1	10.44	10.443	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\018-1701.D
Sample name: 1014-78.MS-Run1.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 6:38:48 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 18
Injection volume:
Injection: 1 of 2
File_Version 3



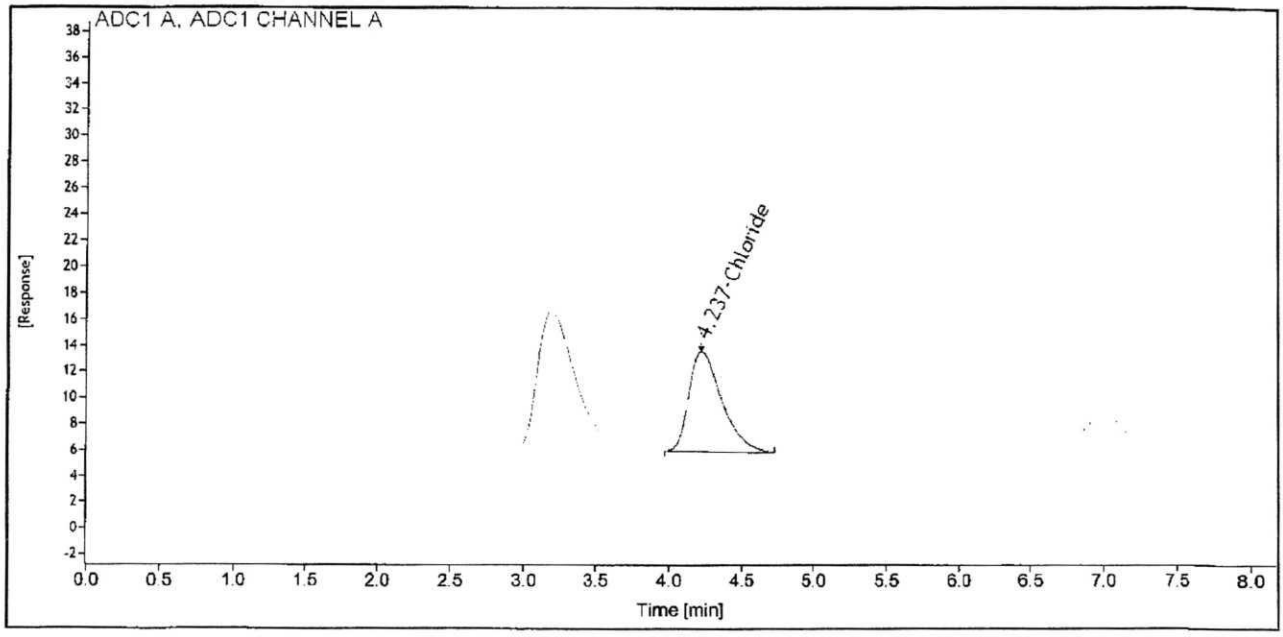
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	123.7561	1	10.51	10.510	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\018-1702.D
Sample name: 1014-78.MS-Run1.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 6:50:55 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 18
Injection volume:
Injection: 2 of 2
File_Version 3



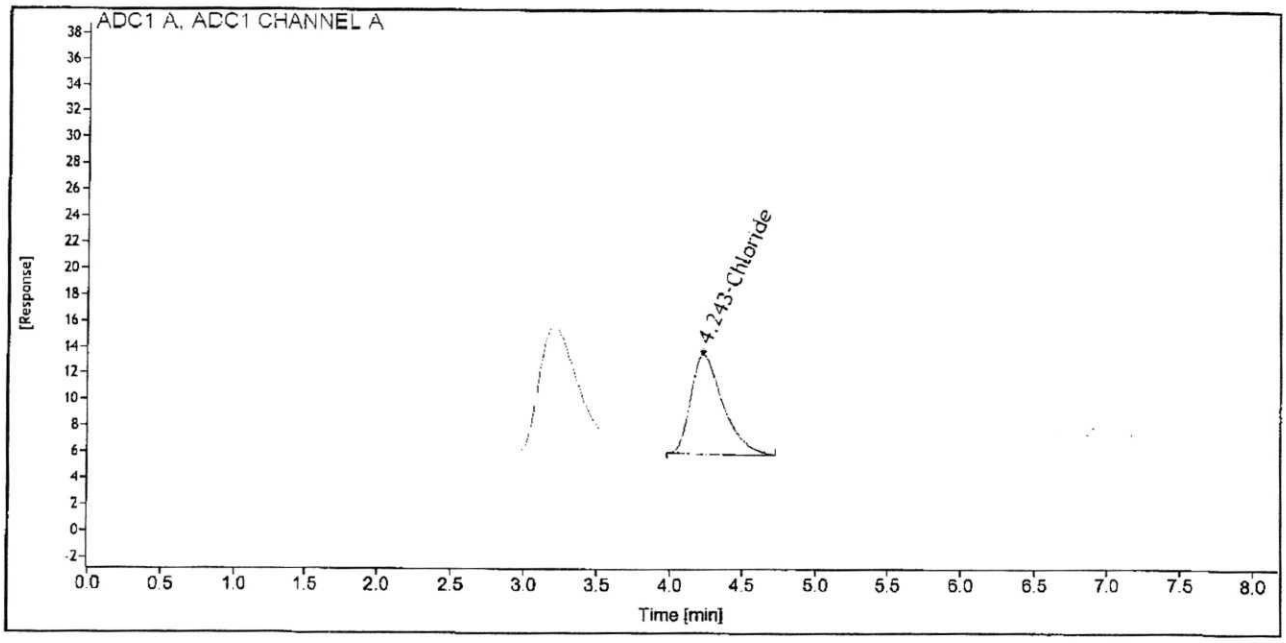
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	118.9334	1	10.12	10.120	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\019-1801.D
Sample name: 1014-78.MSD-Run1.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 7:03:03 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 19
Injection volume:
Injection: 1 of 2
File_Version 3



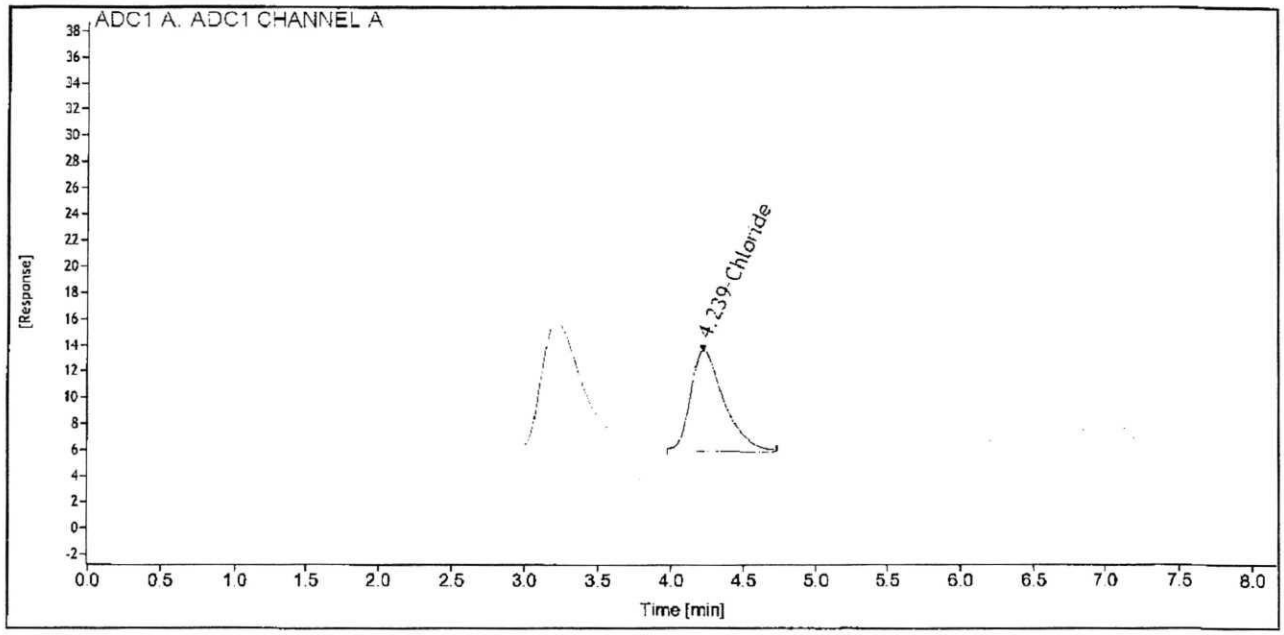
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	117.1932	1	9.98	9.979	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\019-1802.D
Sample name: 1014-78.MSD-Run1.H2SO4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 7:15:10 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Sample
Location: 19
Injection volume:
Injection: 2 of 2
File_Version 3



Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	122.2054	1	10.38	10.384	ug/mL

Calibration Table

General Calibration Setting

Calib. Data Modified : Friday, October 10, 2014 9:04:38 AM
Signals calculated separately : No

Rel. Reference Window : 10.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 10.000 %
Abs. Non-ref. Window : 0.000 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Quadratic
Origin : Connected
Weight : Quadratic (Resp)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal Details

Signal 1: ADC1 A, ADC1 CHANNEL A

Overview Table

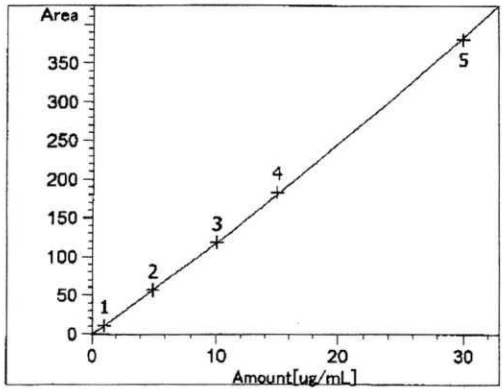
RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD	#	Compound
4.251	1	1	1.00000	10.23474	9.77065e-2	No	No		Chloride
		2	5.00000	56.25620	8.88791e-2				
		3	10.00000	117.79649	8.48922e-2				

RT	Sig	Lvl	Amount [ug/mL]	Area	Rsp.Factor	Ref	ISTD #	Compound
		4	15.00000	183.02444	8.19563e-2			
		5	30.00000	380.97777	7.87448e-2			

Peak Sum Table

No Entries in table

Calibration Curves



Chloride at exp. RT: 4.251
ADC1 A, ADC1 CHANNEL A
Correlation: 0.99994
Residual Std. Dev.: 2.13138
Formula: $y = ax^2 + bx + c$
a: 4.77312e-2
b: 11.38944
c: -1.21543
x: Amount[ug/mL]
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.033099
Level 3 : 0.007549
Level 4 : 0.003127
Level 5 : 0.000722

Enthalpy Analytical

Company: TRC Environmental Corporation - Raleigh
Client No. 223797
Job No. 1014-78

Parameters: EPA Method 26A (H2SO4 fraction)
Samples 3 Runs, 2 Blanks, and 1 Audit
Analyst Thomas Lockhart

Chloride -- Calibration Standards, Laboratory Blanks and Controls

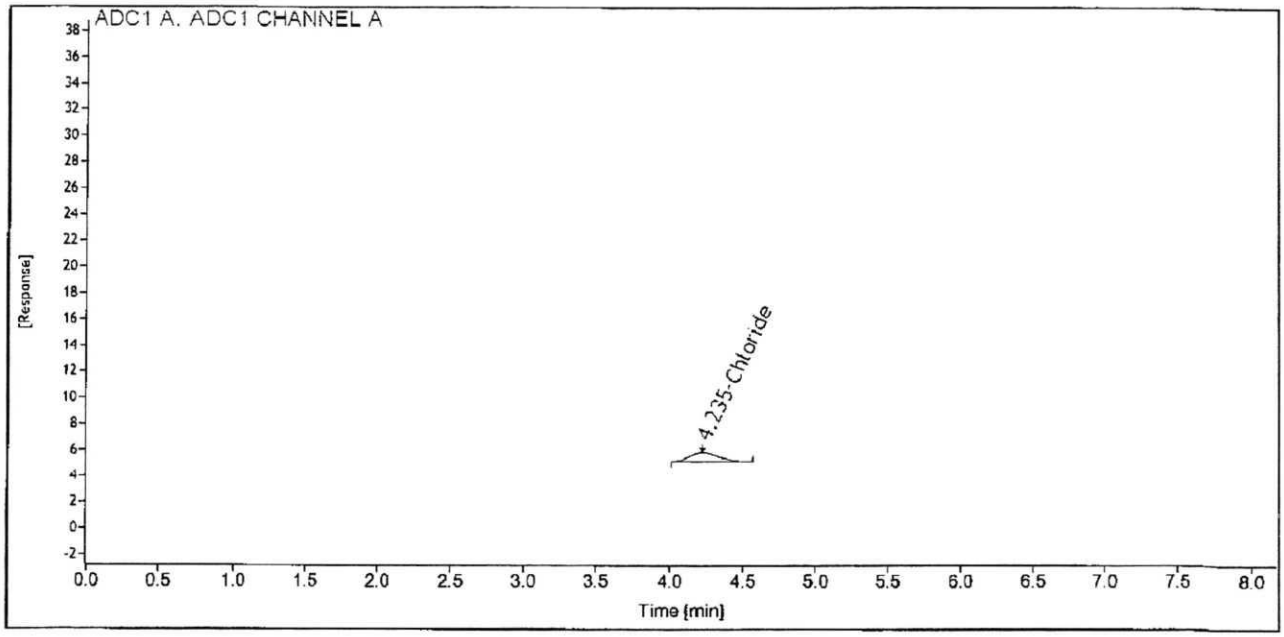
SAMPLE NAME	Level	Filename #1	Filename #2	Analysis Method	Ret Time (min)	Ret Time (min)	%diff RT	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	%diff conc	Avg Conc (ug/mL)	Standard Tag	%Tag
HPLC-STDs019 #1	#1	001-0201.D	001-0202.D	Nelson055.M	4.23	4.23	0.1	0.973	1.01	1.8	0.990	1.00	99.0
HPLC-STDs019 #2	#2	002-0301.D	002-0302.D	Nelson055.M	4.23	4.23	0.0	4.92	4.96	0.4	4.94	5.00	98.7
HPLC-STDs019 #3	#3	003-0401.D	003-0402.D	Nelson055.M	4.23	4.22	0.0	9.84	10.2	1.6	10.0	10.0	100
HPLC-STDs019 #4	#4	004-0501.D	004-0502.D	Nelson055.M	4.22	4.23	0.1	15.2	15.1	0.5	15.2	15.0	101
HPLC-STDs019 #5	#5	005-0601.D	005-0602.D	Nelson055.M	4.24	4.23	0.0	29.7	29.8	0.2	29.8	30.0	99.3
HPLC-STDs019 #SS	#SS	006-0701.D	006-0702.D	Nelson055.M	4.24	4.24	0.1	9.85	9.83	0.1	9.84	10.0	98.4
HPLC-STDs019 NIST #SS	#SS	007-0801.D	007-0802.D	Nelson055.M	4.24	4.24	0.1	10.0	10.1	0.2	10.1	9.99	101
HPLCPrep Pg202 H2SO4 #RB	#RB	008-0901.D	008-0902.D	Nelson055.M	NA	NA	NA	0.210	0.210	NA	0.210	ND	
HPLC-STDs019 #3	#3	100-2001.D	100-2002.D	Nelson055.M	4.24	4.24	0.0	10.2	9.82	1.7	9.99	10.0	99.9
HPLC-STDs019 #3	#3	100-3101.D	100-3102.D	Nelson055.M	4.24	4.24	0.1	9.96	10.2	1.3	10.1	10.0	101
HPLC-STDs019 #1	#1	001-3801.D	001-3802.D	Nelson055.M	4.24	4.24	0.0	1.01	1.01	0.2	1.01	1.00	101
HPLC-STDs019 #2	#2	002-3901.D	002-3902.D	Nelson055.M	4.25	4.25	0.0	4.95	4.95	0.1	4.95	5.00	99.0
HPLC-STDs019 #3	#3	003-4001.D	003-4002.D	Nelson055.M	4.25	4.25	0.0	9.86	10.2	1.9	10.1	10.0	101
HPLC-STDs019 #4	#4	004-4101.D	004-4102.D	Nelson055.M	4.25	4.25	0.1	15.3	15.2	0.6	15.3	15.0	102
HPLC-STDs019 #5	#5	005-4201.D	005-4202.D	Nelson055.M	4.25	4.25	0.1	29.8	30.0	0.2	29.9	30.0	99.6

Chromatogram Report

Enthalpy Analytical, Inc.

Data file:	C:\Chem32\1\DATA\NELSON055\001-0201.D
Sample name:	HPLC-STDs019 #1
File_Location	\HPLC\2014\Nelson\Quarter 4
Injection date:	10/9/2014 12:34:54 PM
Acq. method:	METROHM.M
Analysis method:	Nelson055.M
Last changed:	10/10/2014 9:04:43 AM
Instrument:	Nelson
Sequence_Name	NELSON055
Acq. operator:	Thomas Lockhart

Sample type:	Calibration
Location:	1
Injection volume:	
Injection:	1 of 2
File_Version	3



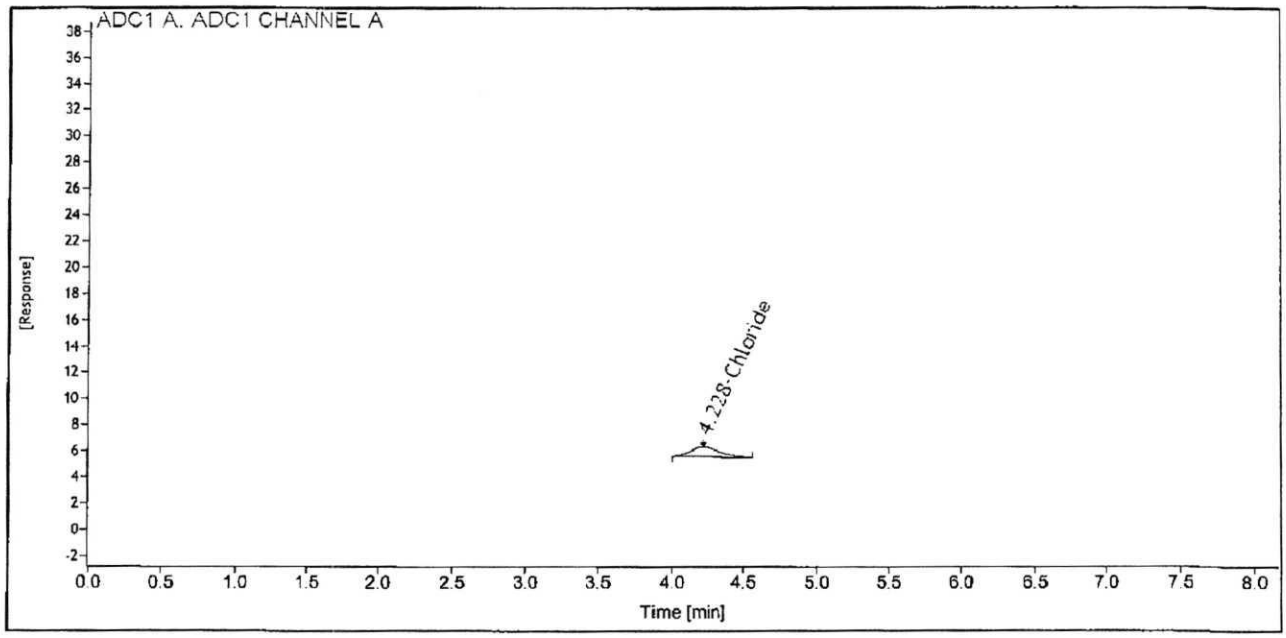
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.23	9.9454	1	0.97	0.973	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\001-0202.D
Sample name: HPLC-STDs019 #1
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 12:47:02 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 1
Injection volume:
Injection: 2 of 2
File_Version 3



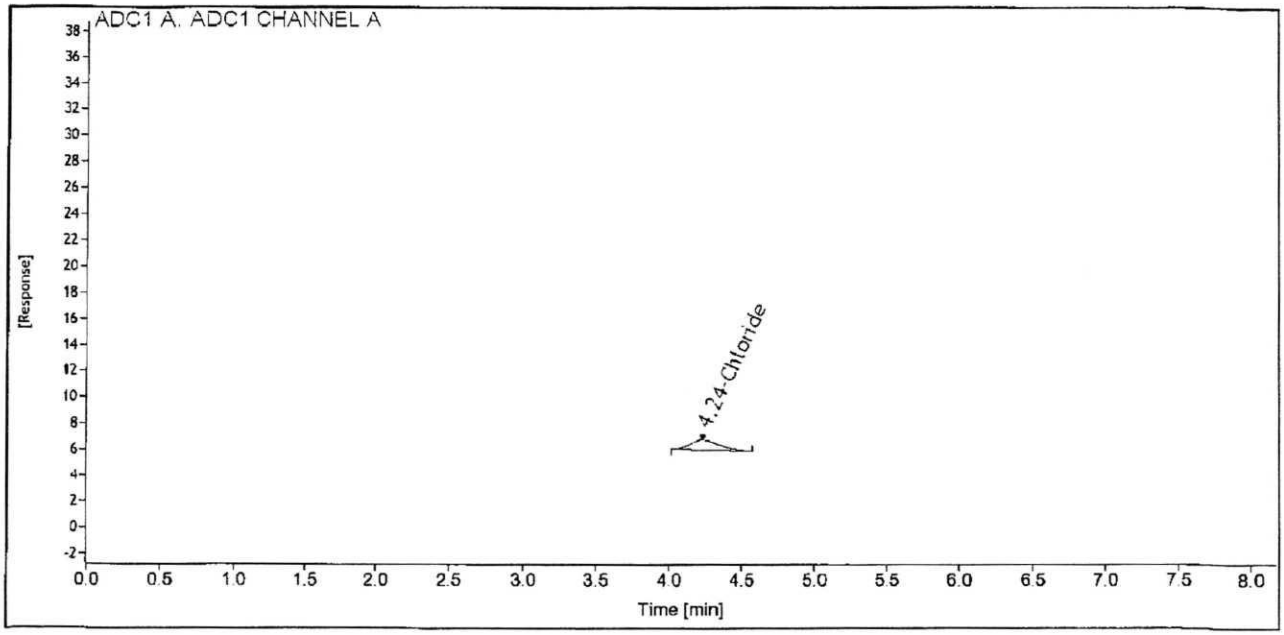
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.23	10.3120	1	1.01	1.008	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\001-3801.D
Sample name: HPLC-STDs019 #1
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 3:08:15 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 1
Injection volume:
Injection: 1 of 2
File_Version 3



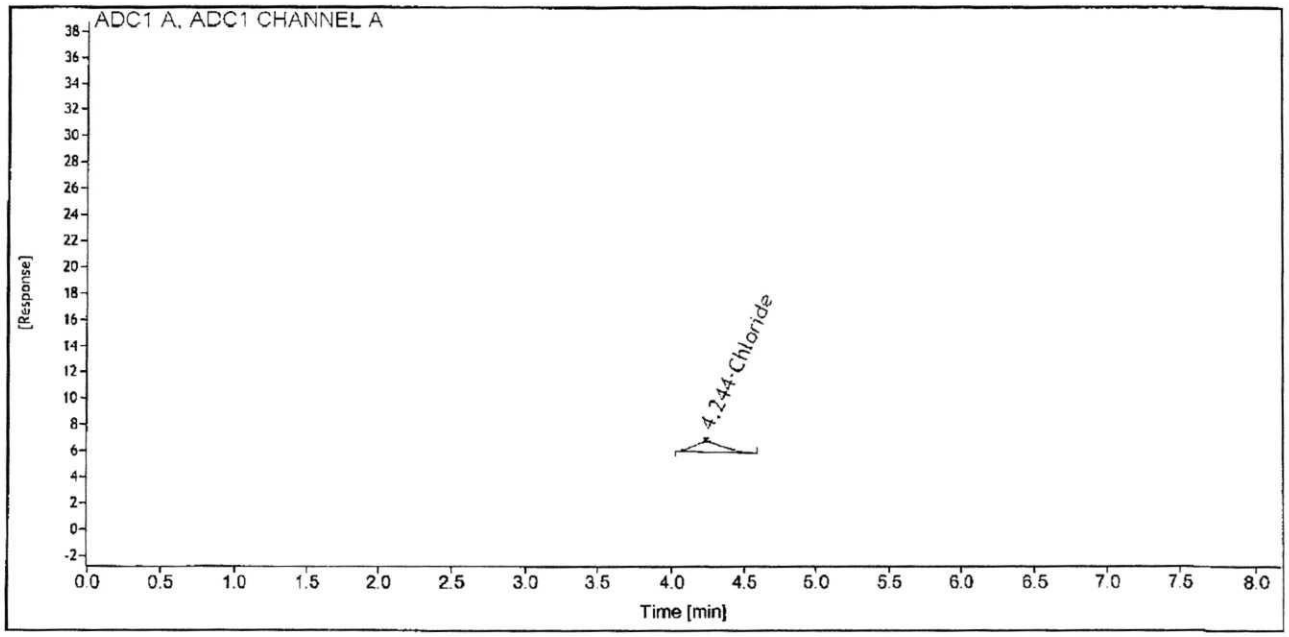
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	10.3182	1	1.01	1.008	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\001-3802.D
Sample name: HPLC-STDs019 #1
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 3:20:22 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 1
Injection volume:
Injection: 2 of 2
File_Version 3



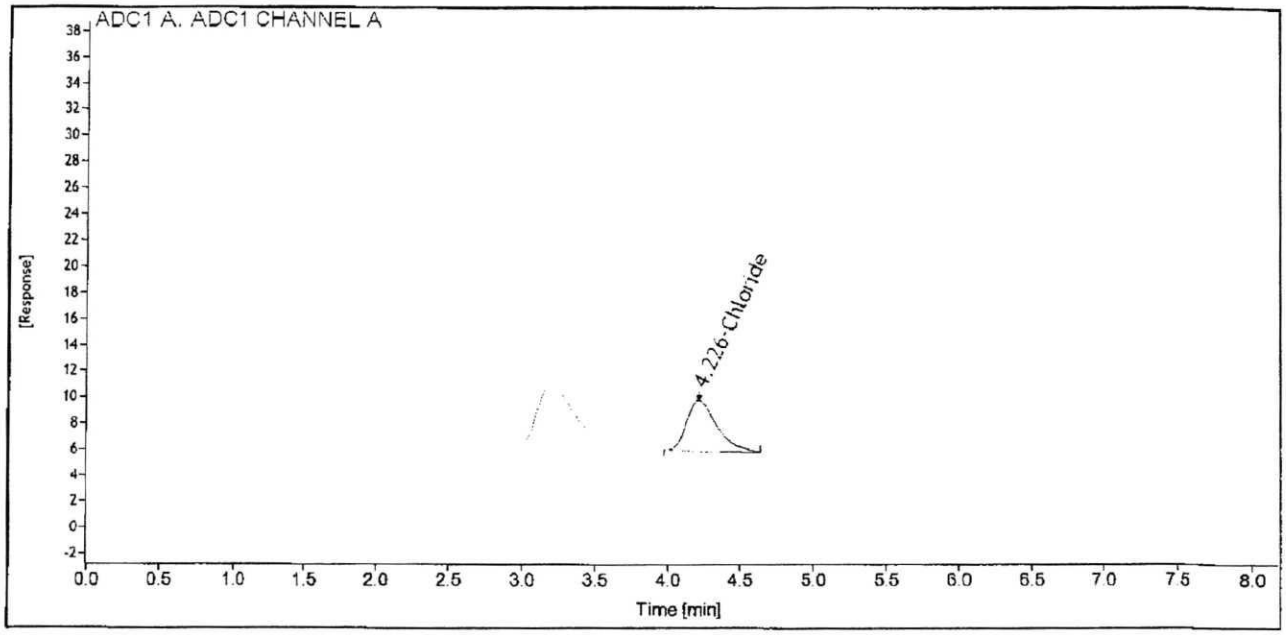
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	10.3634	1	1.01	1.012	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\002-0301.D
Sample name: HPLC-STDs019 #2
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 12:59:09 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 2
Injection volume:
Injection: 1 of 2
File_Version 3



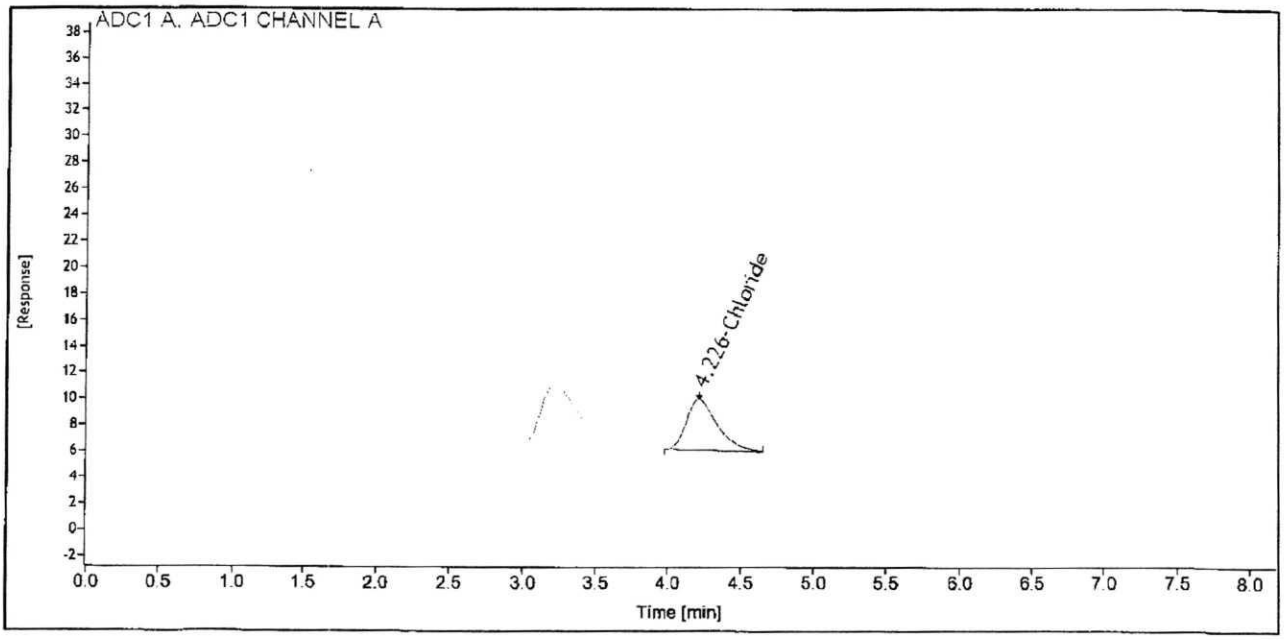
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.23	55.9342	1	4.92	4.916	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\002-0302.D
Sample name: HPLC-STDs019 #2
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 1:11:17 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 2
Injection volume:
Injection: 2 of 2
File_Version 3



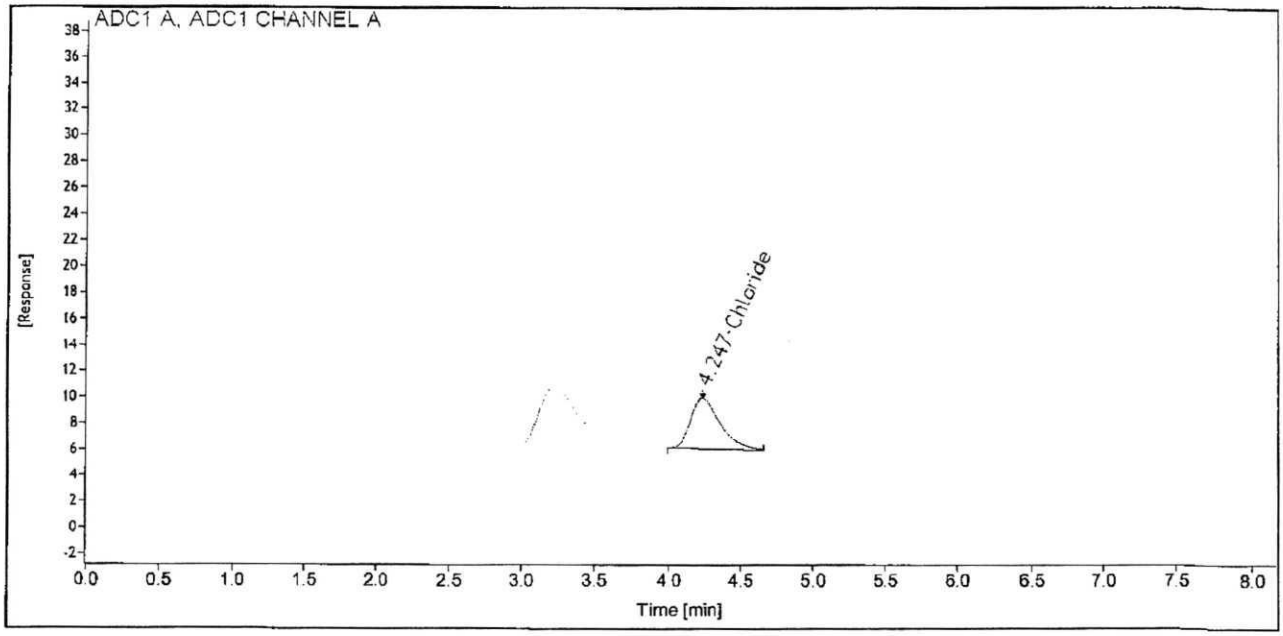
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.23	56.4211	1	4.96	4.958	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\002-3901.D
Sample name: HPLC-STDs019 #2
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 3:32:30 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 2
Injection volume:
Injection: 1 of 2
File_Version 3



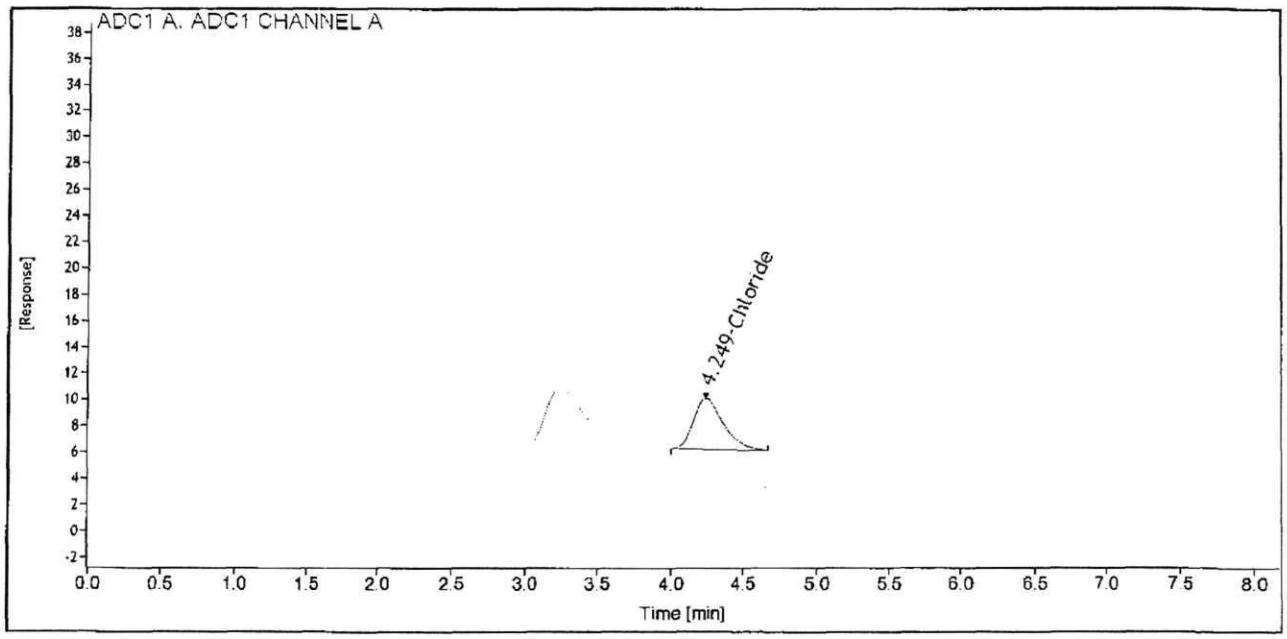
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.25	56.2893	1	4.95	4.946	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\002-3902.D
Sample name: HPLC-STDs019 #2
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 3:44:38 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 2
Injection volume:
Injection: 2 of 2
File_Version 3



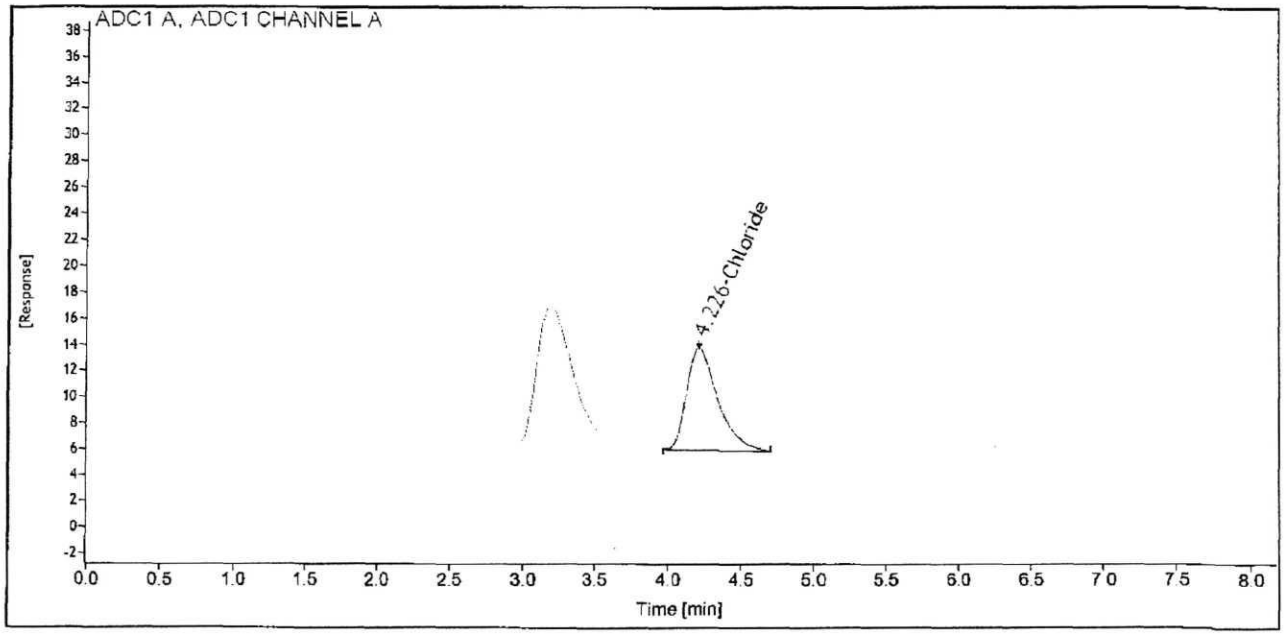
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.25	56.3802	1	4.95	4.954	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\003-0401.D
Sample name: HPLC-STDs019 #3
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 1:23:25 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 3
Injection volume:
Injection: 1 of 2
File_Version 3



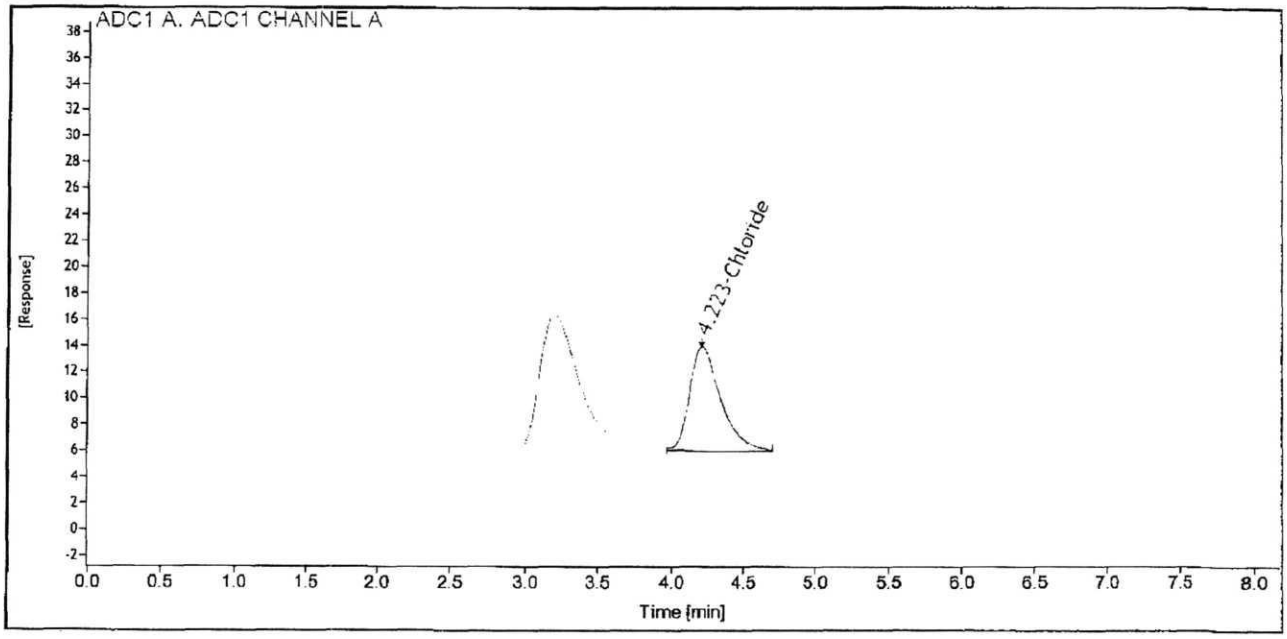
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.23	115.4534	1	9.84	9.838	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\003-0402.D
Sample name: HPLC-STDs019 #3
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 1:35:32 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 3
Injection volume:
Injection: 2 of 2
File_Version 3



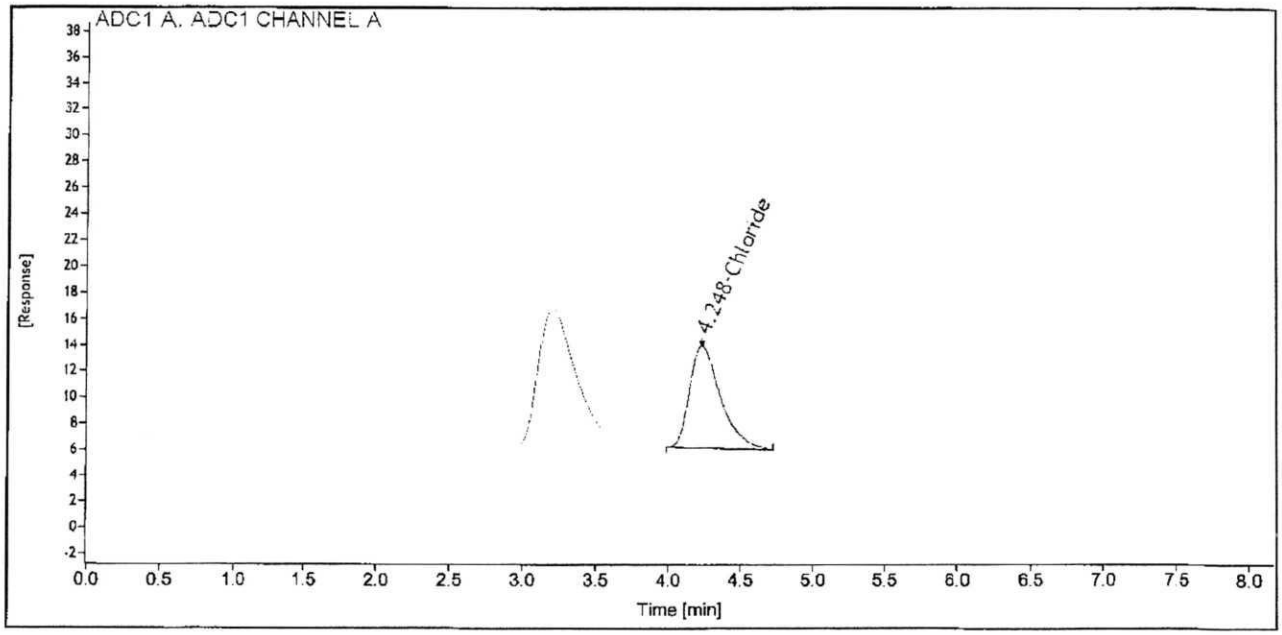
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.22	119.4636	1	10.16	10.163	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\003-4001.D
Sample name: HPLC-STDs019 #3
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 3:56:46 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 3
Injection volume:
Injection: 1 of 2
File_Version 3



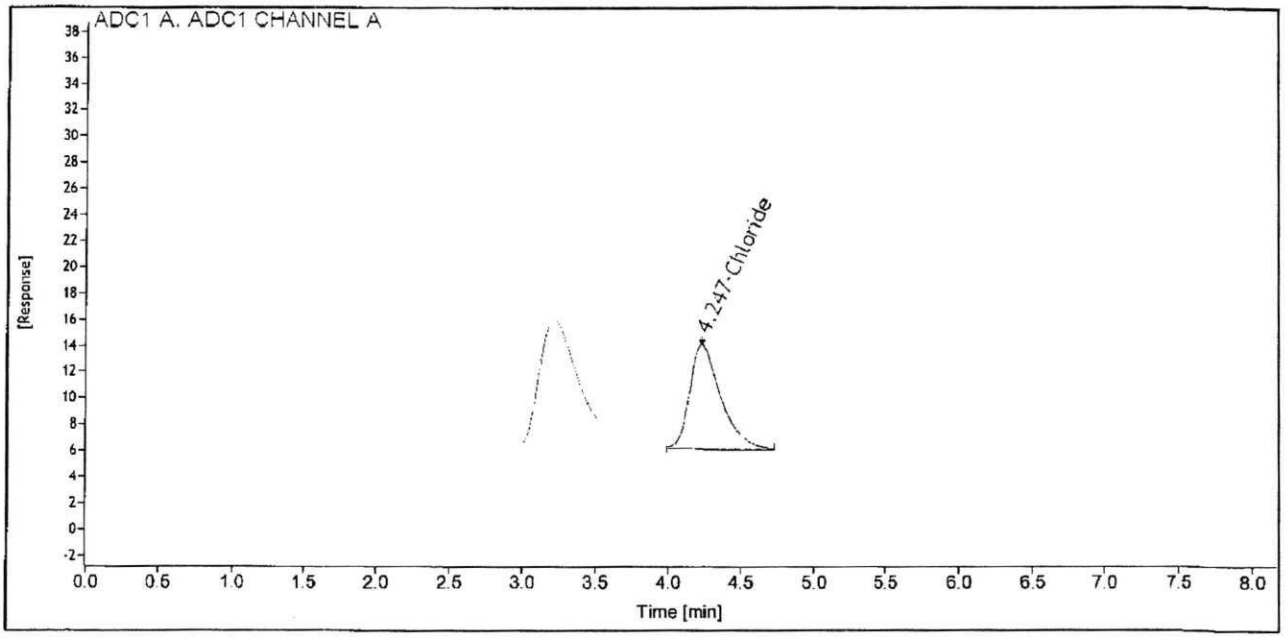
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.25	115.7394	1	9.86	9.861	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\003-4002.D
Sample name: HPLC-STDs019 #3
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 4:08:54 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 3
Injection volume:
Injection: 2 of 2
File_Version 3



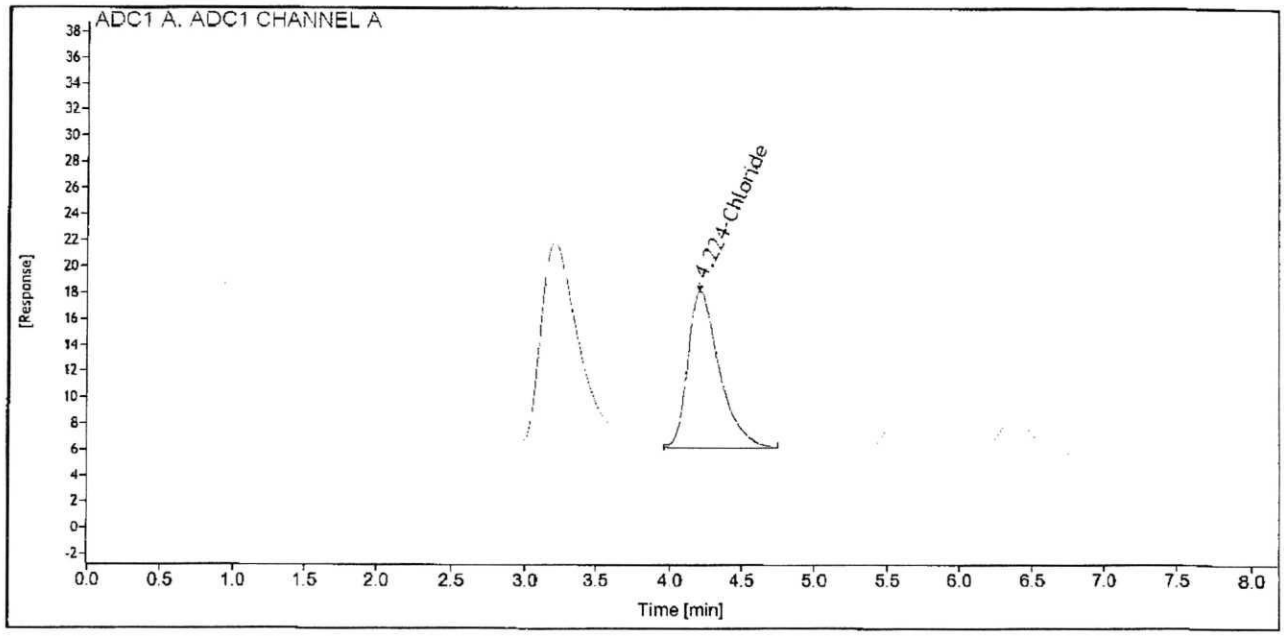
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.25	120.5295	1	10.25	10.249	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\004-0501.D
Sample name: HPLC-STDs019 #4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 1:47:40 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 4
Injection volume:
Injection: 1 of 2
File_Version 3



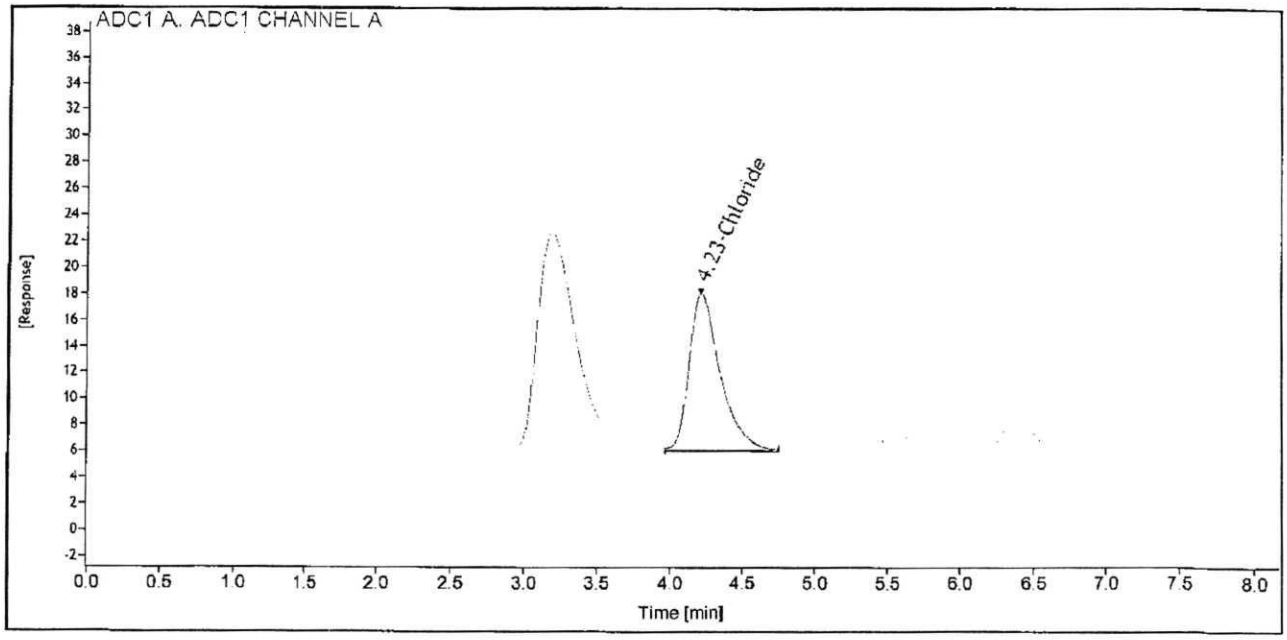
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.22	183.5039	1	15.24	15.245	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\004-0502.D
Sample name: HPLC-STDs019 #4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 1:59:49 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 4
Injection volume:
Injection: 2 of 2
File_Version 3



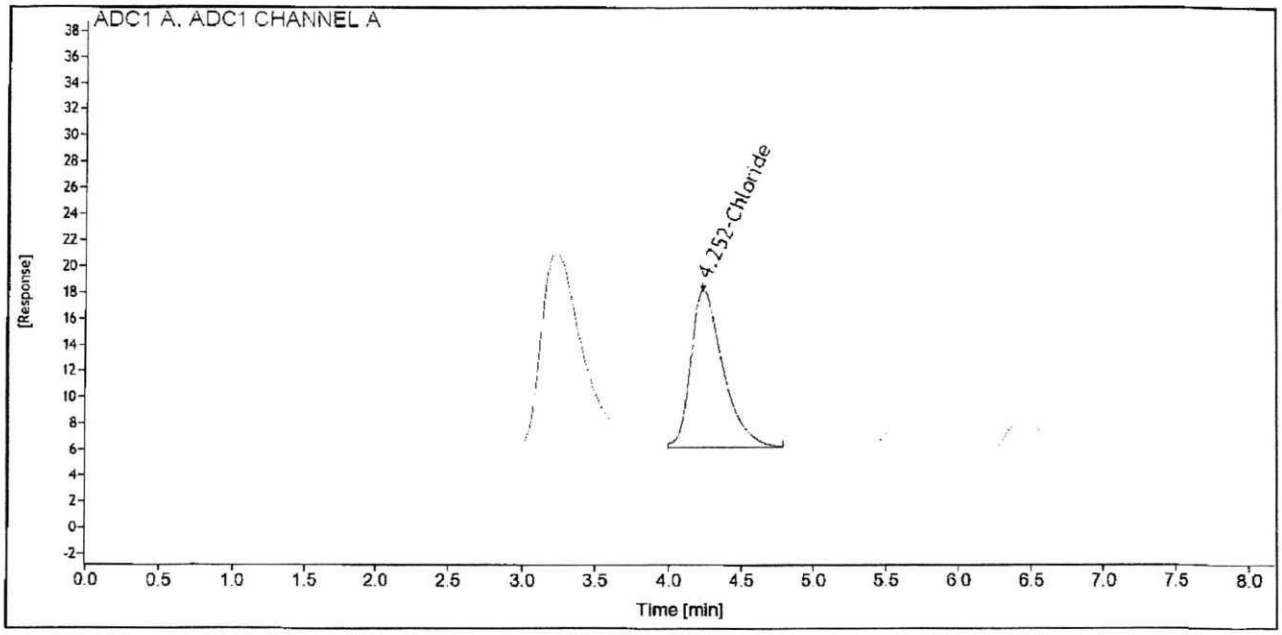
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.23	181.4270	1	15.08	15.083	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\004-4101.D
Sample name: HPLC-STDs019 #4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 4:21:01 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 4
Injection volume:
Injection: 1 of 2
File_Version 3



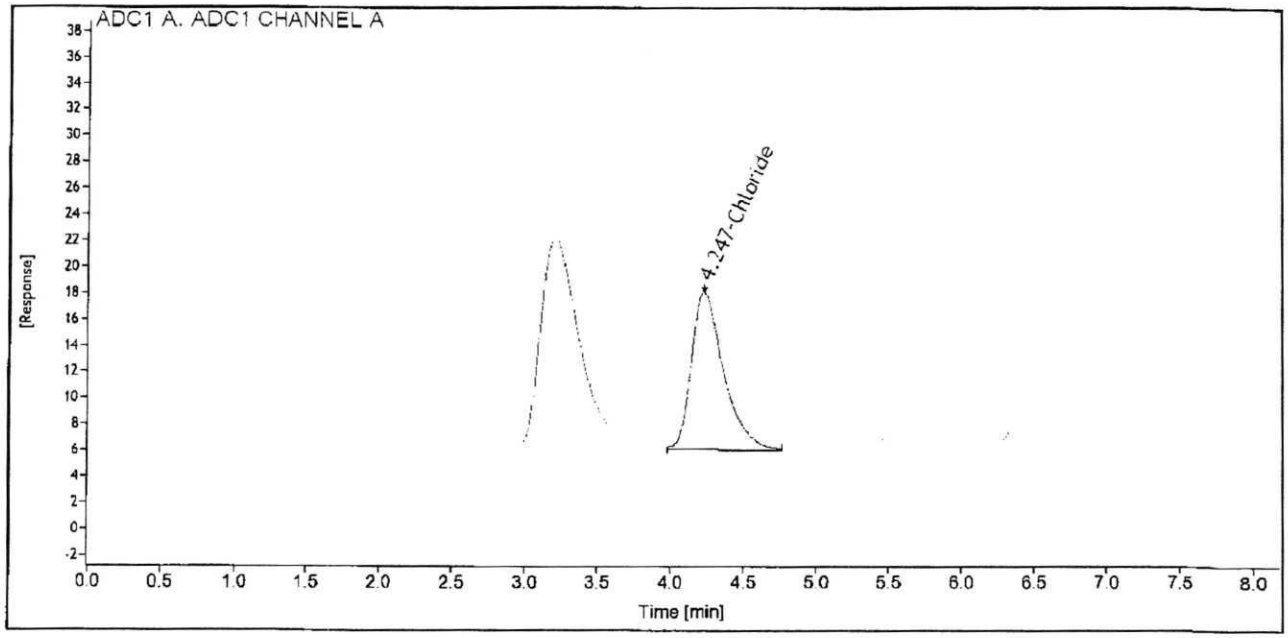
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.25	184.7378	1	15.34	15.341	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\004-4102.D
Sample name: HPLC-STDs019 #4
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 4:33:09 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 4
Injection volume:
Injection: 2 of 2
File_Version 3



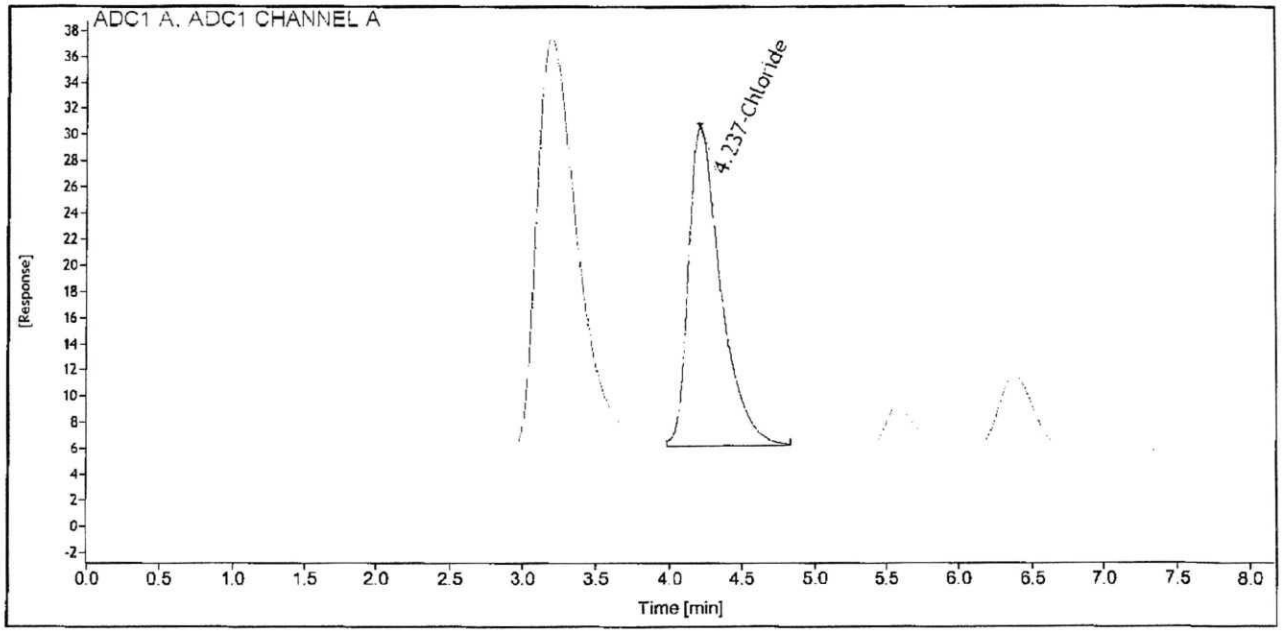
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.25	182.4290	1	15.16	15.161	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\005-0601.D
Sample name: HPLC-STDs019 #5
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 2:11:55 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 5
Injection volume:
Injection: 1 of 2
File_Version 3



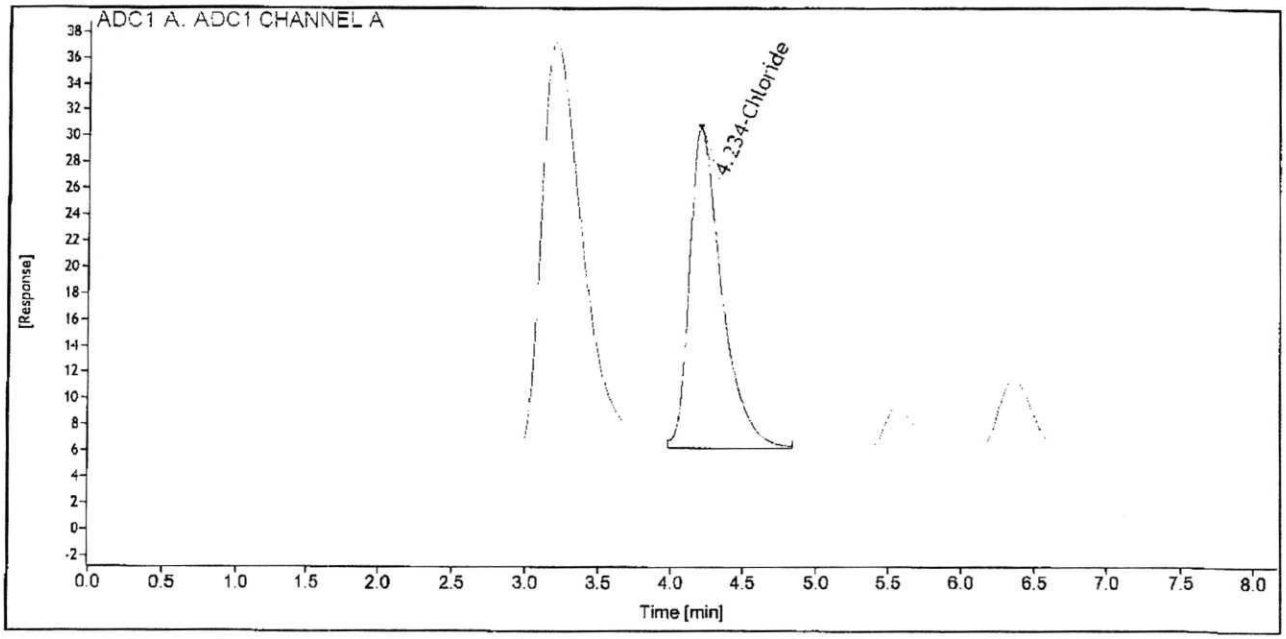
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	379.3896	1	29.72	29.717	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\005-0602.D
Sample name: HPLC-STDs019 #5
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 2:24:04 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 5
Injection volume:
Injection: 2 of 2
File_Version 3



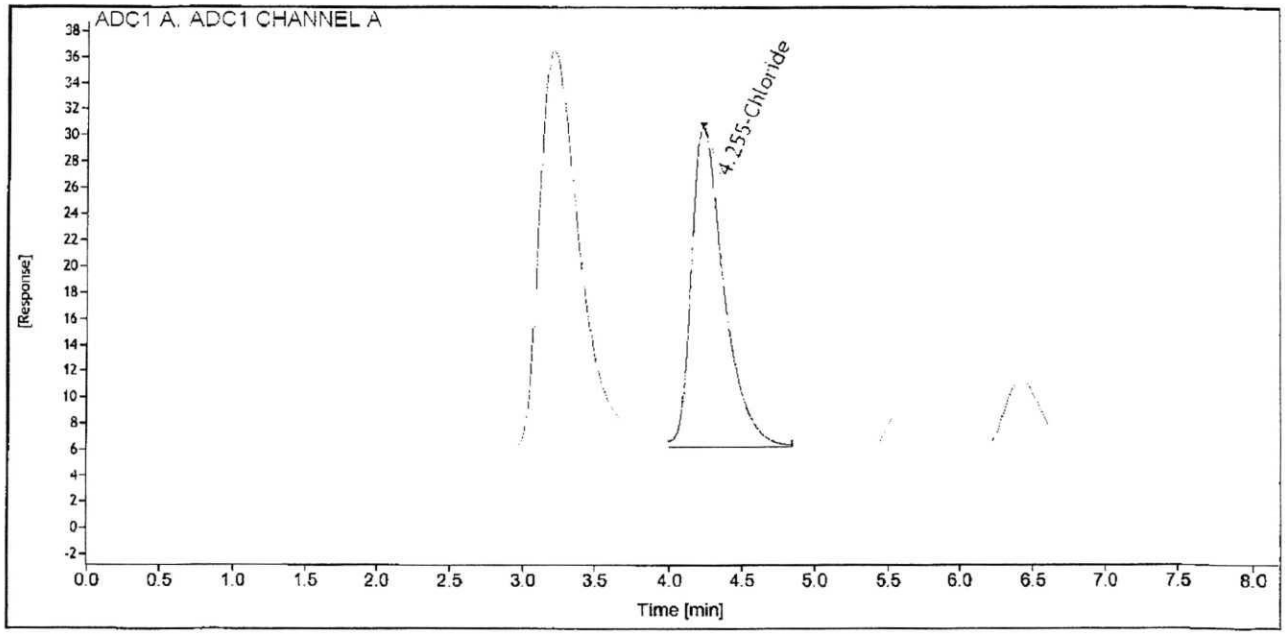
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.23	381.0789	1	29.84	29.835	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\005-4201.D
Sample name: HPLC-STDs019 #5
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 4:45:17 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 5
Injection volume:
Injection: 1 of 2
File_Version 3



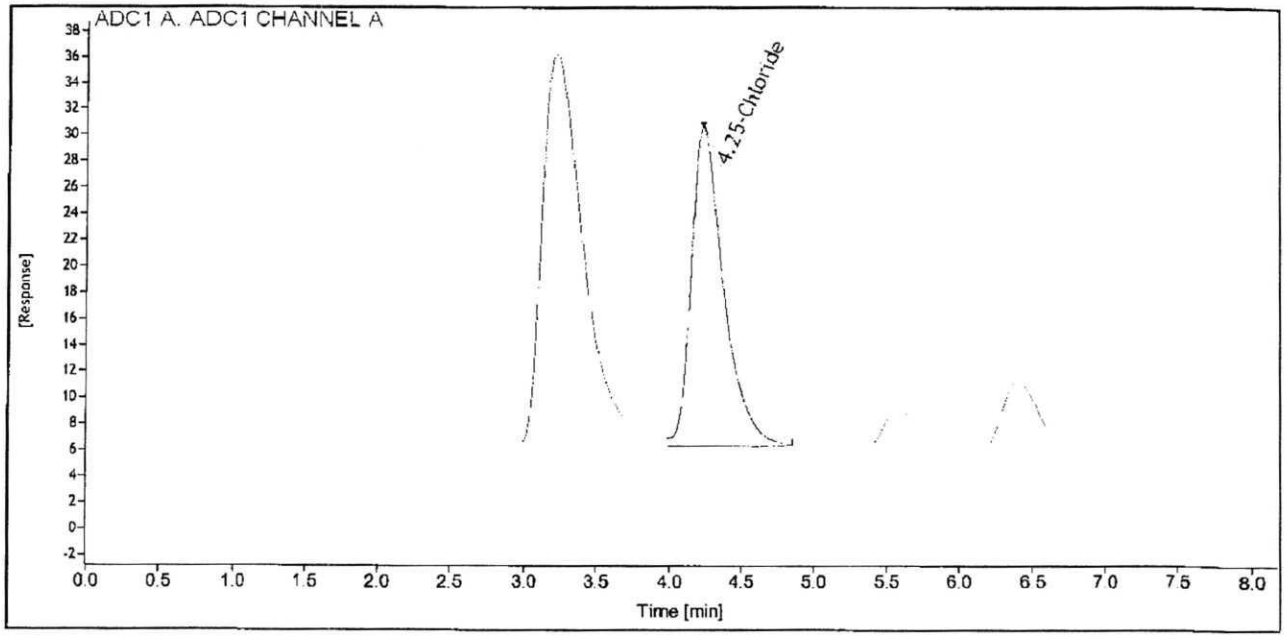
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.25	380.6833	1	29.81	29.807	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\005-4202.D
Sample name: HPLC-STDs019 #5
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/10/2014 4:57:25 AM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 5
Injection volume:
Injection: 2 of 2
File_Version 3



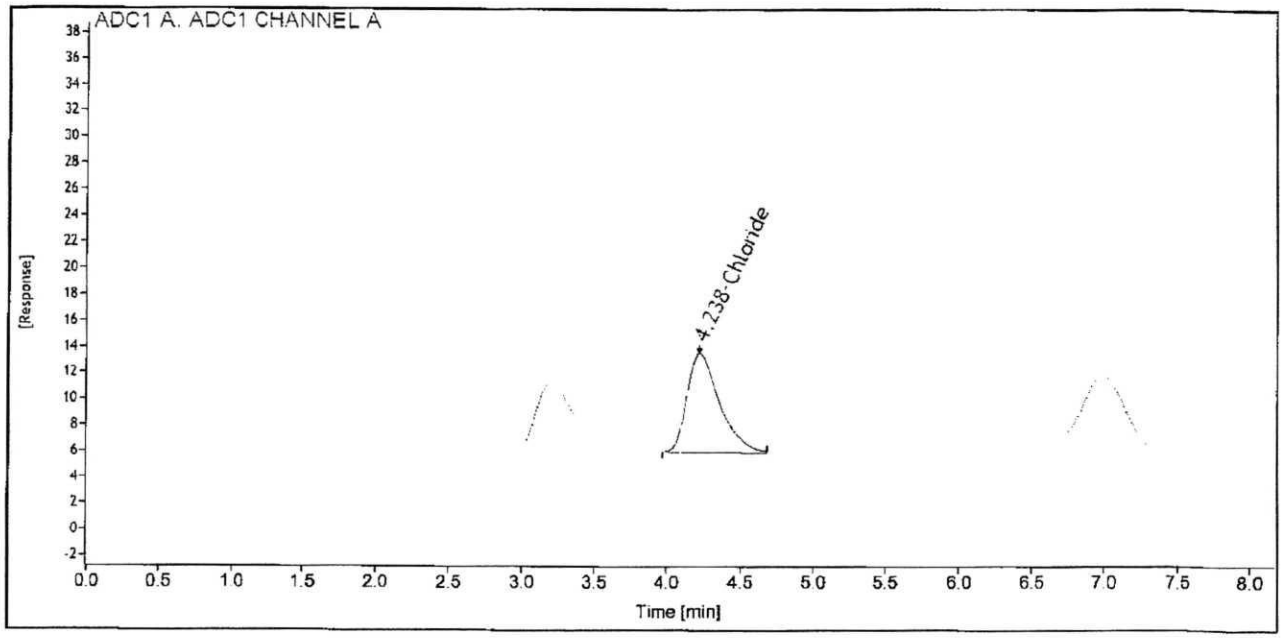
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	VB	4.25	382.7592	1	29.95	29.953	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\006-0701.D
Sample name: HPLC-STDs019 #SS
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 2:36:12 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Control
Location: 6
Injection volume:
Injection: 1 of 2
File_Version 3



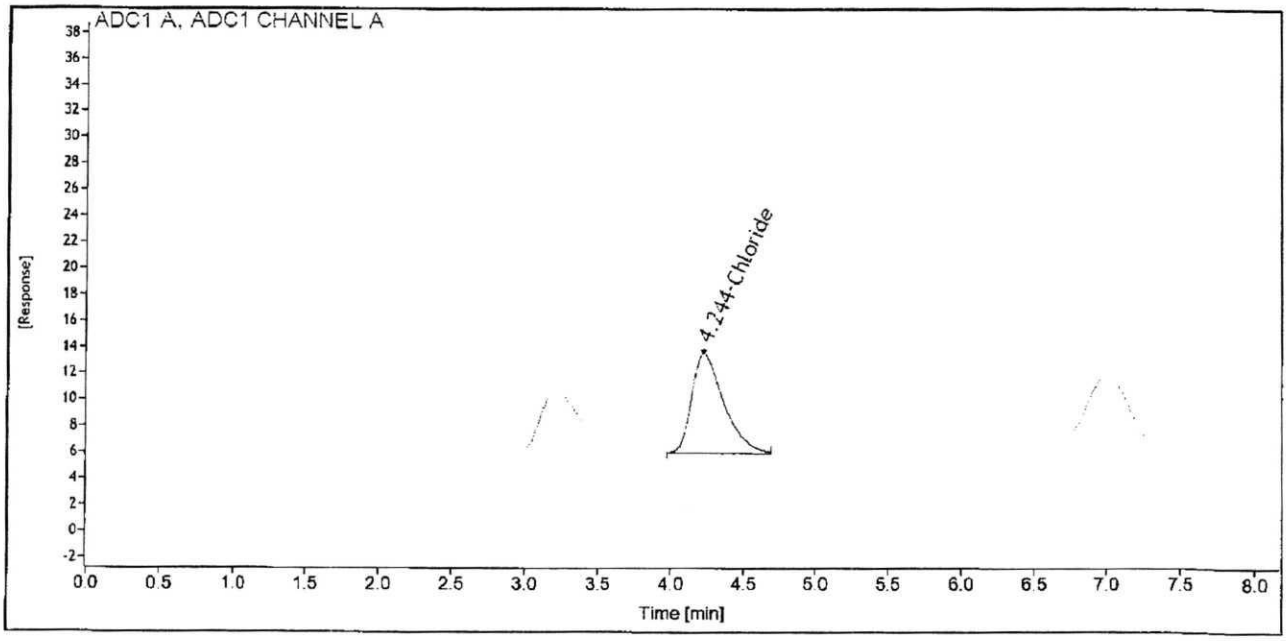
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	115.6146	1	9.85	9.851	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\006-0702.D
Sample name: HPLC-STDs019 #SS
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 2:48:20 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Control
Location: 6
Injection volume:
Injection: 2 of 2
File_Version 3



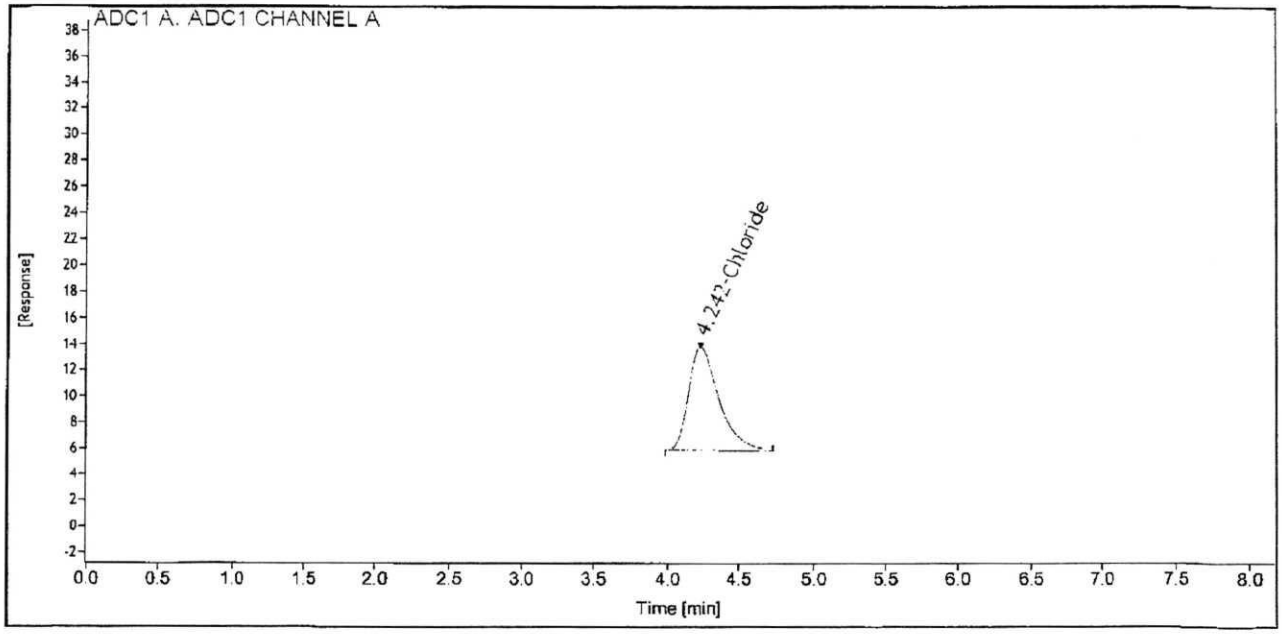
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	115.3643	1	9.83	9.831	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\007-0801.D
Sample name: HPLC-STDs019 NIST #SS
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 3:00:26 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Control
Location: 7
Injection volume:
Injection: 1 of 2
File_Version 3



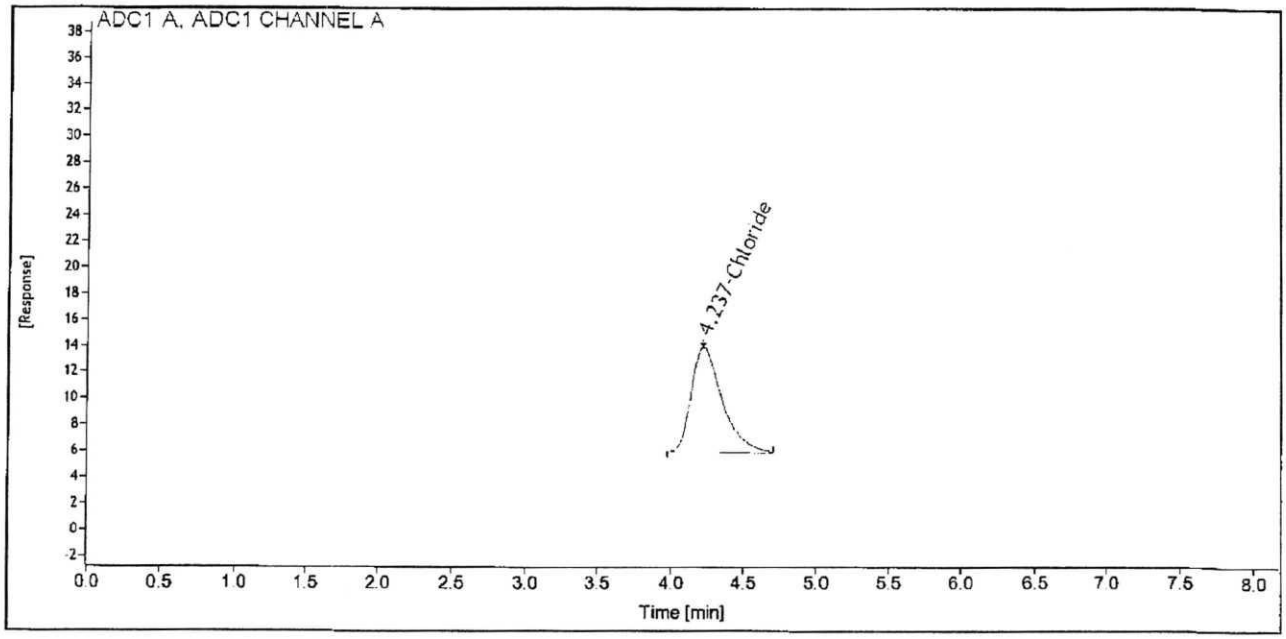
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	117.8669	1	10.03	10.034	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\007-0802.D
Sample name: HPLC-STDs019 NIST #SS
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 3:12:34 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Control
Location: 7
Injection volume:
Injection: 2 of 2
File_Version 3



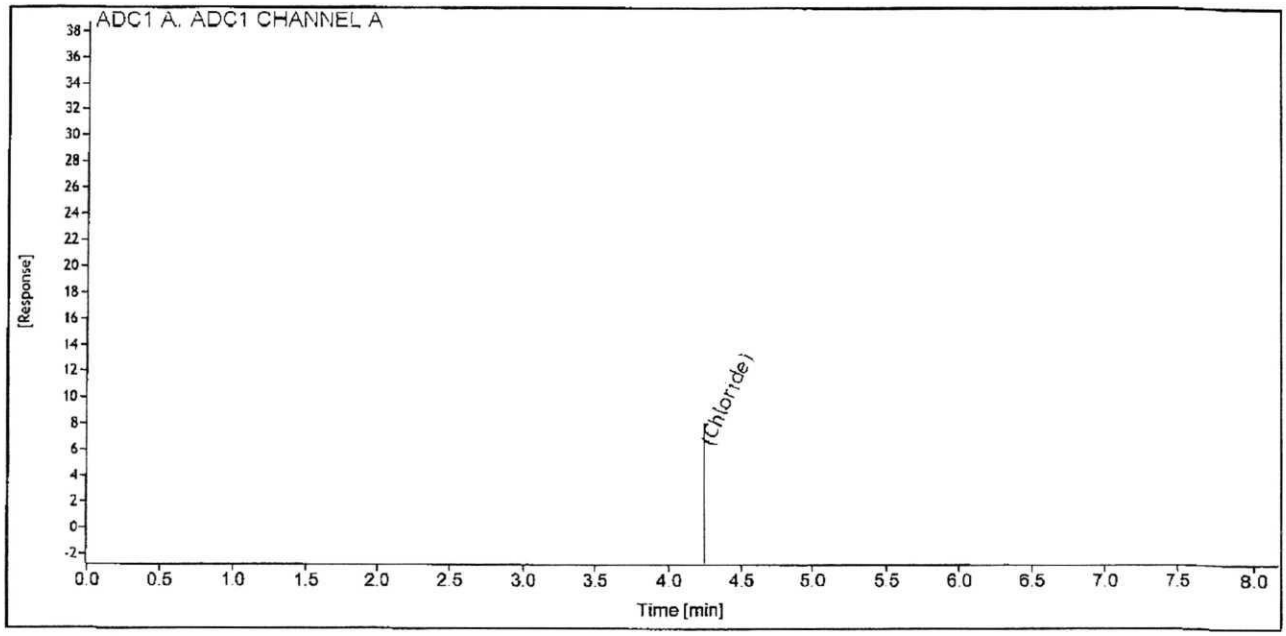
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	118.2990	1	10.07	10.069	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\008-0901.D
Sample name: HPLCPrep Pg202 H2SO4 #RB
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 3:24:43 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument:
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Control
Location: 8
Injection volume:
Injection: 1 of 2
File_Version 3



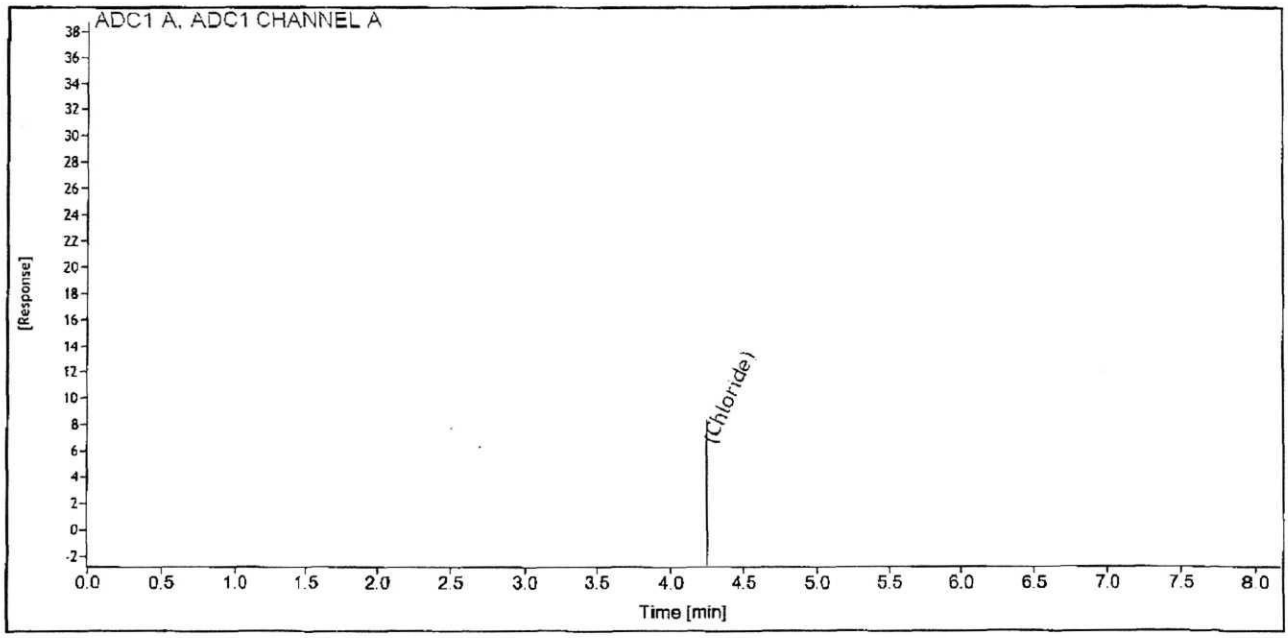
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\008-0902.D
Sample name: HPLCPrep Pg202 H2SO4 #RB
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 3:36:50 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument:
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Control
Location: 8
Injection volume:
Injection: 2 of 2
File_Version 3



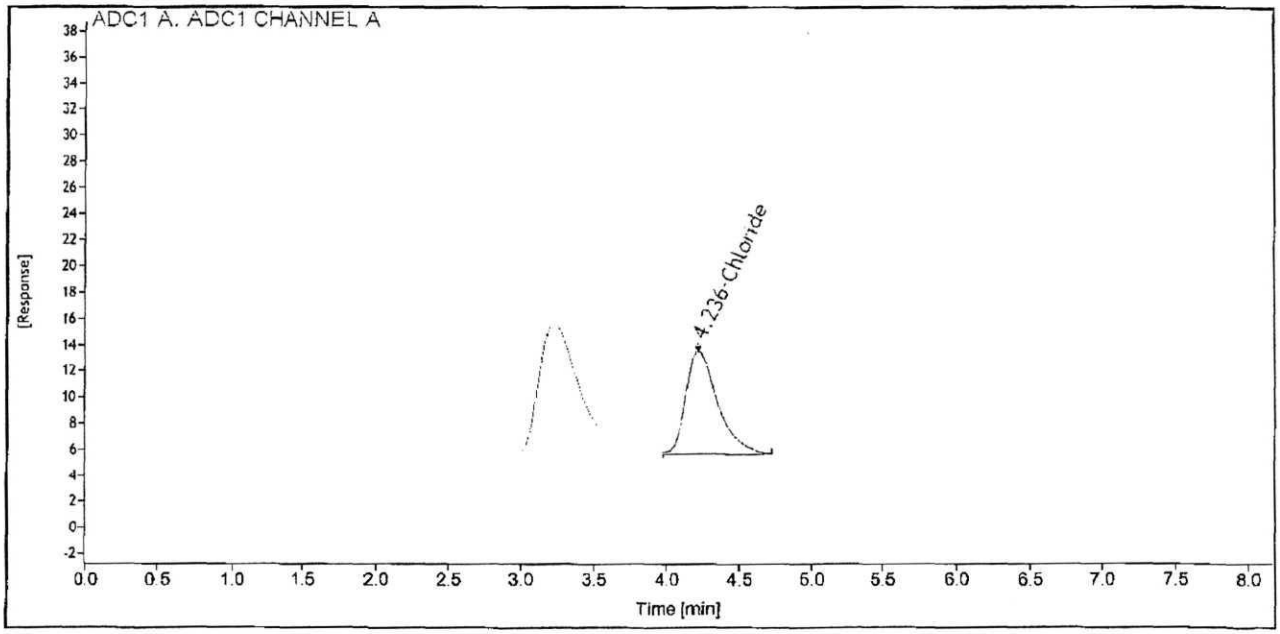
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride				1	0.00	0.000	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\100-2001.D
Sample name: HPLC-STDs019 #3
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 7:51:34 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 100
Injection volume:
Injection: 1 of 2
File_Version 3



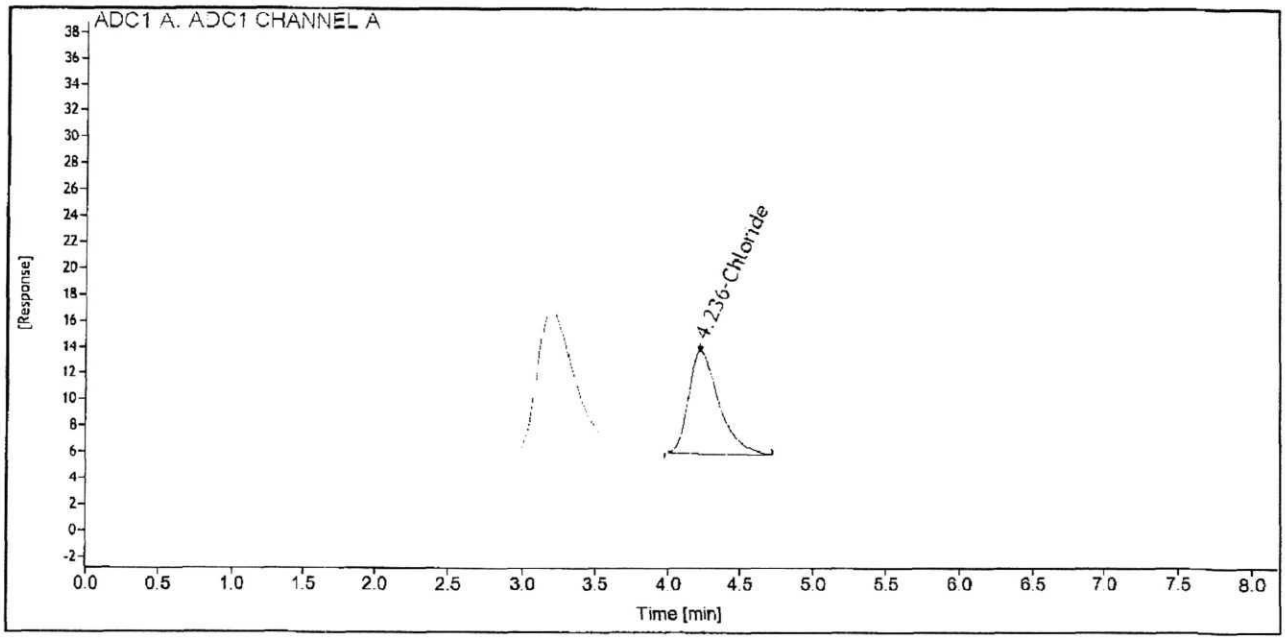
Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	119.3615	1	10.15	10.155	ug/mL

Chromatogram Report

Enthalpy Analytical, Inc.

Data file: C:\Chem32\1\DATA\NELSON055\100-2002.D
Sample name: HPLC-STDs019 #3
File_Location \HPLC\2014\Nelson\Quarter 4
Injection date: 10/9/2014 8:03:42 PM
Acq. method: METROHM.M
Analysis method: Nelson055.M
Last changed: 10/10/2014 9:04:43 AM
Instrument: Nelson
Sequence_Name NELSON055
Acq. operator: Thomas Lockhart

Sample type: Calibration
Location: 100
Injection volume:
Injection: 2 of 2
File_Version 3



Name	Peak_Type	RT [min]	Area	Dil	ug/ml	Sample_Amount	Units
Chloride	BB	4.24	115.1928	1	9.82	9.817	ug/mL

Method Information

Method: C:\CHEM32\1\DATA\HPLC78PG064-120\METROHM.M
Modified: 3/8/2013 at 10:49:28 AM

Method Audit Trail

Operator : Gene Gillman
Date : 1/11/2012 11:51:34 AM
Change Info: This method was created at 1/11/2012 11:51:34 AM and based on method C:\HPCHEM\1_000\METHODS\METROHM.M

Operator : Gene Gillman
Date : 1/11/2012 11:51:36 AM
Change Info: Method saved. User comment: ""

Operator : Amelia Paolantonio
Date : 1/18/2013 4:31:24 PM
Change Info: Method saved. User comment: ""

Operator : Amelia Paolantonio
Date : 3/8/2013 10:49:28 AM
Change Info: Method saved. User comment: ""

Run Time Checklist

Pre-Run Cmd/Macro: off

Data Acquisition: on

Standard Data Analysis: off

Customized Data Analysis: off

Save GLP Data: off

Post-Run Cmd/Macro: off

Save Method with Data: off

==========

Data File : C:\HPCHEM\1\DATA\HPLC78PG064-120\012-1401.D
Acq. Method: METROHM.M

The Acq. Method's Instrument Parameters for the Run were :

The Data Analysis Parameters of the used Method are :

Integration Events

Non signal specific Integration Events

Event	Value
Tangent Skim Mode	Standard
Tail Peak Skim Height Ratio	0.000
Front Peak Skim Height Ratio	0.000
Skim Valley Ratio	20.000
Baseline Correction	Classical
Peak to Valley Ratio	500.000

Default Integration Event Table "Event"

Event	Value	Time
Initial Slope Sensitivity	1.000	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	1.000	Initial
Initial Height Reject	1.700	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_DAD"

Event	Value	Time
Initial Slope Sensitivity	5.000	Initial
Initial Peak Width	0.050	Initial
Initial Area Reject	5.000	Initial
Initial Height Reject	1.000	Initial
Initial Shoulders	OFF	Initial

Detector Default Integration Event Table "Event_ADC"

Event	Value	Time

Initial Slope Sensitivity		1.000	Initial
Initial Peak Width		0.040	Initial
Initial Area Reject		1.000	Initial
Initial Height Reject		1.700	Initial
Initial Shoulders	OFF		Initial

Detector Default Integration Event Table "Event_FLD"

Event		Value	Time
Initial Slope Sensitivity		1.000	Initial
Initial Peak Width		0.040	Initial
Initial Area Reject		1.000	Initial
Initial Height Reject		1.700	Initial
Initial Shoulders	OFF		Initial

Detector Default Integration Event Table "Event_VWD"

Event		Value	Time
Initial Slope Sensitivity		1.000	Initial
Initial Peak Width		0.040	Initial
Initial Area Reject		1.000	Initial
Initial Height Reject		1.700	Initial
Initial Shoulders	OFF		Initial

Detector Default Integration Event Table "Event_ECD"

Event		Value	Time
Initial Slope Sensitivity		1.000	Initial
Initial Peak Width		0.040	Initial
Initial Area Reject		1.000	Initial
Initial Height Reject		1.700	Initial
Initial Shoulders	OFF		Initial

Detector Default Integration Event Table "Event_MWD"

Event		Value	Time
Initial Slope Sensitivity		1.000	Initial
Initial Peak Width		0.040	Initial
Initial Area Reject		1.000	Initial
Initial Height Reject		1.700	Initial
Initial Shoulders	OFF		Initial

Signal Specific Integration Event Table "Event_DAD1A"

Event	Value	Time
Initial Slope Sensitivity	4.688	Initial
Initial Peak Width	0.040	Initial
Initial Area Reject	5.000	Initial
Initial Height Reject	8.000	Initial
Initial Shoulders	OFF	Initial

Apply Method's Manual Integration Events: No

Specify Report

Calculate: External Standard
Based on: Peak Area
Use Multiplier & Dilution Factor with ISTDs

Use Sample Data from Data File
Report mode: Classic
Destination: Printer
Quantitative Results sorted by: Signal
Report Style: Short
Sample info on each page: No
Add Chromatogram Output: Yes
Chromatogram Output: Portrait
Size in Time direction: 100 % of Page
Size in Response direction: 40 % of Page
Uncalibrated Peaks: Report with Calibrated Peaks

Signal Options

Include: Axes, Compound Names, Baselines, Tick Marks
Font: Arial, Size: 8

Ranges: Full
Multi Chromatograms: Separated, All the same Scale

Calibration Table

General Calibration Setting

Calib. Data Modified : Friday, April 25, 1997 4:18:09 PM

```
Rel. Reference Window :      5.000 %
Abs. Reference Window :      0.000 min
Rel. Non-ref. Window  :      5.000 %
Abs. Non-ref. Window  :      0.000 min
Uncalibrated Peaks    :      not reported
Partial Calibration   :      Yes, identified peaks are recalibrated
Correct All Ret. Times:      No, only for identified peaks

Curve Type            :      Linear
Origin                :      Included
Weight                :      Equal

Recalibration Settings:
Average Response      :      Average all calibrations
Average Retention Time:      Floating Average New 75%

Calibration Report Options :
    Printout of recalibrations within a sequence:
        Calibration Table after Recalibration
        Normal Report after Recalibration
    If the sequence is done with bracketing:
        Results of first cycle (ending previous bracket)
-----------------------------------------------------------------


-----------------------------------------------------------------
                          Signal Details
-----------------------------------------------------------------

Signal 1: ADC1 A, ADC1 CHANNEL A

-----------------------------------------------------------------


-----------------------------------------------------------------
                          Overview Table
-----------------------------------------------------------------

***No Entries in table***
-----------------------------------------------------------------


-----------------------------------------------------------------
                   Identification Details Table
-----------------------------------------------------------------

***No Entries in table***
-----------------------------------------------------------------

-----------------------------------------------------------------
                          Peak Sum Table
-----------------------------------------------------------------

***No Entries in table***
-----------------------------------------------------------------
```

Component Details Table

No Entries in table

Manual Setup Table

No Entries in table

Sample related custom fields

Custom Field	Type	Mand.	Default Value
None defined			

Compound related custom fields

Custom Field	Type	Mand.	Default Value
None defined			

This Is The Last Page Of This Report.

ERA
A Waters Company

October 14, 2014

Derek Brewster
TRC Environmental
5540 Centerview Drive
Suite 100
Raleigh, NC 27606

Enclosed is your final report for ERA's Stationary Source Audit Sample (SSAS) Program. Your final report includes an evaluation of all results submitted by your laboratory to ERA.

Data Evaluation Protocols: All analytes in ERA's SSAS Program have been evaluated comparing the reported result to the acceptance limits generated using the criteria contained in the TNI SSAS Table.

For any "Not Acceptable" results, please contact your state regulator for any corrective action requirements.

Thank you for your participation in ERA's SSAS Program. If you have any questions, please contact our Proficiency Testing Department at 1-800-372-0122.

Sincerely,

Kristina Sanchez
Quality Officer

cc: Project File Number 091714M

ERA
A Waters Company

Recipient Type	Report Recipient	Contact
Agency	UT Dept Air Quality (SSAS) 150 North 1950 West Salt Lake City, UT 84116 USA	Rob Leishman rleishman@utah.gov Phone: 801-536-4173
Facility	Stericycle Inc 90 North 11 West Salt Lake City, UT 84054 USA	Jay Vance jay.vance@stericycle.com Phone: 801-971-2042
Lab	Enthalpy Analytical Inc 800-1 Capitola Drive Durham, NC 27713 USA	Bryan Tyler bryan.tyler@enthalpy.com Phone: 919-850-4392 Fax: 919-850-9012
Tester	TRC Environmental 5540 Centerview Drive Suite 100 Raleigh, NC 27606 USA	Derek Brewster dbrewster@trcsolutions.com Phone: 919-256-6233

ACCREDITED

091714M Laboratory Exception Report

A Waters Company

Bryan Tyler
Enthalpy Analytical Inc
800-1 Capitola Drive
Durham, NC 27713
919-850-4392

EPA ID: **Not Reported**
ERA Customer Number: **E778021**

Evaluation Checks

There are no values reported with < where the assigned value was greater than 0.

Not Acceptable Evaluations

There were no Not Acceptable evaluations for this study.

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ERA

A Waters Company

Final Report Results For Laboratory Enthalpy Analytical Inc

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ERA

A Waters Company

SSAP Evaluation Report

Project Number: **091714M**

ERA Customer Number: **E778021**

Laboratory Name: **Enthalpy Analytical Inc**

Inorganic Results

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091714M Evaluation Final Complete Report

ERA
A Waters Company

Bryan Tyler
Enthalpy Analytical Inc
800-1 Capitola Drive
Durham, NC 27713
919-850-4392

EPA ID: Not Reported
ERA Customer Number: E778021

TNI Analyte Code	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description	Analysis Date	Analyst Name
SSAP Hydrogen Halides in Impinger Solution (cat# 1140-1) Study Dates: 09/17/14 - 10/14/14									
1770	Hydrogen Chloride	mg/L	10.4	10.5	9.45 - 11.6	Acceptable	EPA 26A 2000	10/9/2014	TDL
1775	Hydrogen Fluoride	mg/L		10.5	9.45 - 11.6	Not Reported			

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APPENDIX D
CALIBRATION DATA

Meter Box: Orifice Full Calibration

Date:	12/30/2013
Prev. Calib. Date:	11/19/2012
Location:	TRC South Austin, TX
Technician:	MRL
Meter Serial No:	9605802
TRC Meter Box ID	1459
Atm. Pressure (corr. in Hg):	uncorrected: 29.78 --> 29.66
Critical Vacuum + 2 in Hg:	16 in. Hg. (required minimum)
Prev. Calib Factor (Y):	0.9757

Reference Orifice Set		**Orifice (#)**	**K' Factor**
Manufacturer:	Apex Instruments	40	0.238
Model:	FV 40-63	48	0.3437
Tested By:	EW	55	0.4543
Date:	5/6/2013	63	0.586

Orifice Serial #	K' coefficient (see above)	dH (in. H2O)	Time (min)	Vol (initial) (cu ft)	Vol (final) (cu ft)	Vol. Total (cu ft)	Initial Temperatures Inlet (deg F)	Initial Temperatures Outlet (deg F)	Final Temperatures Inlet (deg F)	Final Temperatures Outlet (deg F)	Vacuum (in Hg)	Ambient Temperatures Initial (deg F)	Ambient Temperatures Final (deg F)
40	0.238	0.26	32	817.915	827.774	9.859	49	47	54	54	22	58	59
48	0.3437	0.59	29	827.774	840.764	12.99	54	54	60	56	21	59	60
55	0.4543	1	30	840.764	858.631	17.867	60	56	63	60	20	60	61
63	0.586	1.8	33	858.631	884.179	25.548	63	60	67	64	19	61	61

Meter Box Dry Gas Meter: Volume Corrected Vm (std) (cu ft)	Meter Box Dry Gas Meter: Volume Corrected Vm (std) (liters)	Meter Box Dry Gas Meter: Flow Rate (CFM)	Critical Orifice: Volume Corrected Vcr (std) (cu ft)	Critical Orifice: Volume Corrected Vm (std) (liters)	Dry Gas Meter Calibration Factor (Y): Value (#)	Dry Gas Meter Calibration Factor (Y): Variation (#)	Orifice Calibration Factor (dH@): Value (in H2O)	Orifice Calibration Factor (dH@): Variation (in H2O)
10.10	285.99	0.308	9.92	280.88	0.982	0.000	1.597	-0.07
13.19	373.47	0.448	12.97	367.24	0.983	0.001	1.700	0.04
18.03	510.50	0.596	17.72	501.67	0.983	0.001	1.627	-0.04
25.64	726.17	0.774	25.13	711.47	0.980	-0.002	1.734	0.07

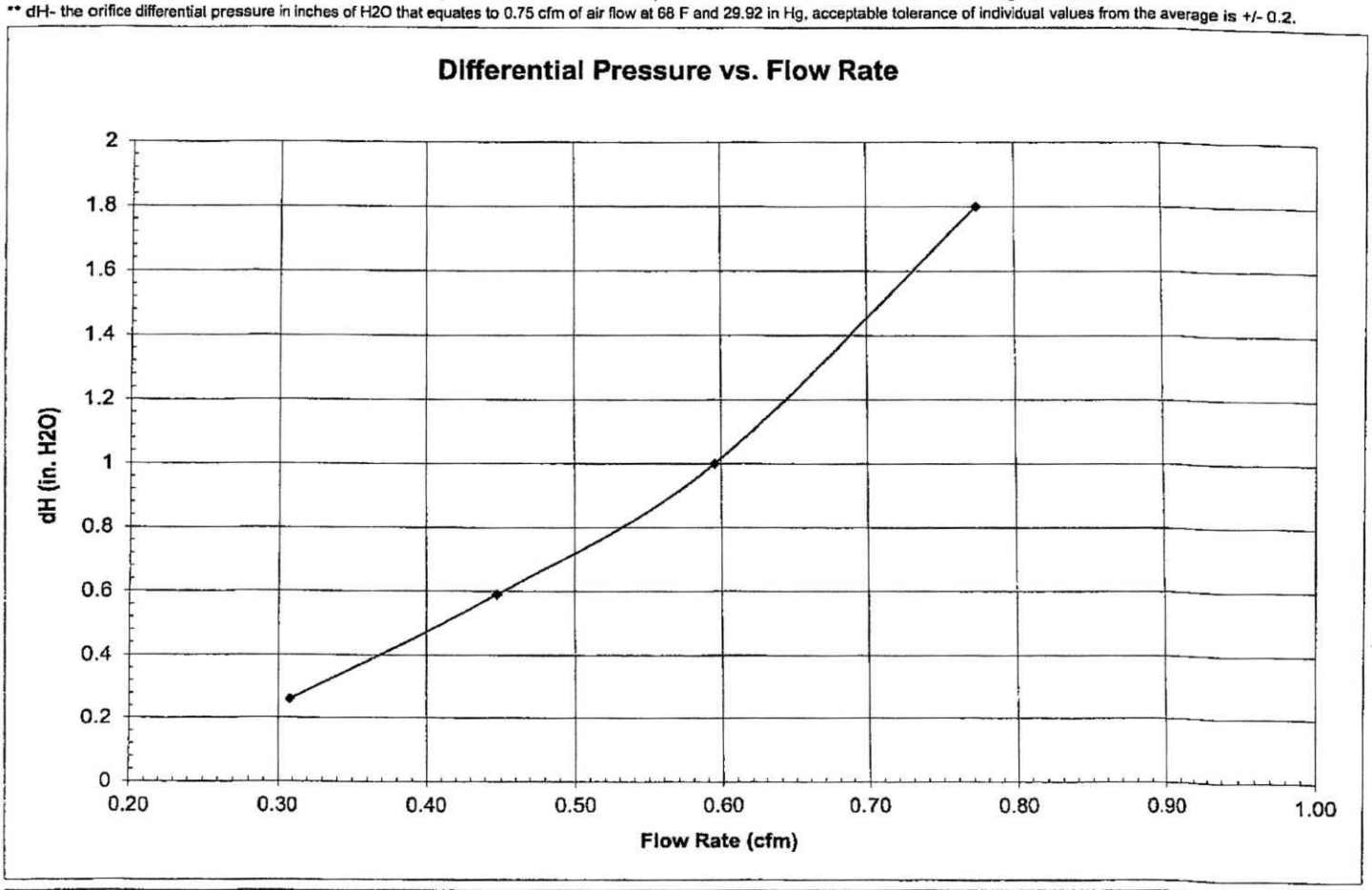
Meter Box

Calibration Test Results		**Pass/Fail**
* Average Y:	0.9820	PASS
Ave. Y w/in 5% of previous value:		YES
0.95 >= Y <= 1.05:		PASS
** Average dH:	1.664	PASS

Criteria:

* Y- ratio of the reading of the calibration meter (critical orifice) to the Meter Box DGM. Acceptable tolerance of individual values from the average is +/- 0.02.

** dH- the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air flow at 68 F and 29.92 in Hg, acceptable tolerance of individual values from the average is +/- 0.2.



QA/QC Review: 10-29-14
signature date

Meter Box: Orifice Full Calibration

Date:	12/17/2013
Prev. Calib. Date:	12/7/2012
Location:	TRC Austin, TX Lab
Technician:	MRL
Meter Serial No:	9543629
Meter Box ID:	1444
Atm. Pressure (corr. in Hg):	29.46 ncorrected: 29.71
Critical Vacuum + 2 in Hg:	16 in. Hg. (required minimum)
Prev. Calib Factor (Y):	0.9872

Reference Orifice Set		Orifice (#)	K' Factor
Manufacturer:	Apex Instruments	40	0.238
Model:	FV 40-73	48	0.3437
Tested By:	EW	55	0.4543
Date:	5/6/2013	63	0.586

Orifice Serial #	K' coefficient (see above)	dH (in. H2O)	Time (min)	Vol (initial) (cu ft)	Vol (final) (cu ft)	Vol. Total (cu ft)	Initial Temperatures Inlet (deg F)	Initial Temperatures Outlet (deg F)	Final Temperatures Inlet (deg F)	Final Temperatures Outlet (deg F)	Vacuum (in Hg)	Ambient Temperatures Initial (deg F)	Ambient Temperatures Final (deg F)
40	0.238	0.26	21	266.258	272.757	6.499	68	66	70	67	24	66	66
48	0.3437	0.57	20	272.757	281.777	9.02	70	67	72	69	23	66	67
55	0.4543	1	20	281.777	293.812	12.035	72	69	75	71	22	67	68
63	0.586	1.8	25	293.812	313.365	19.553	75	71	80	74	21	68	69

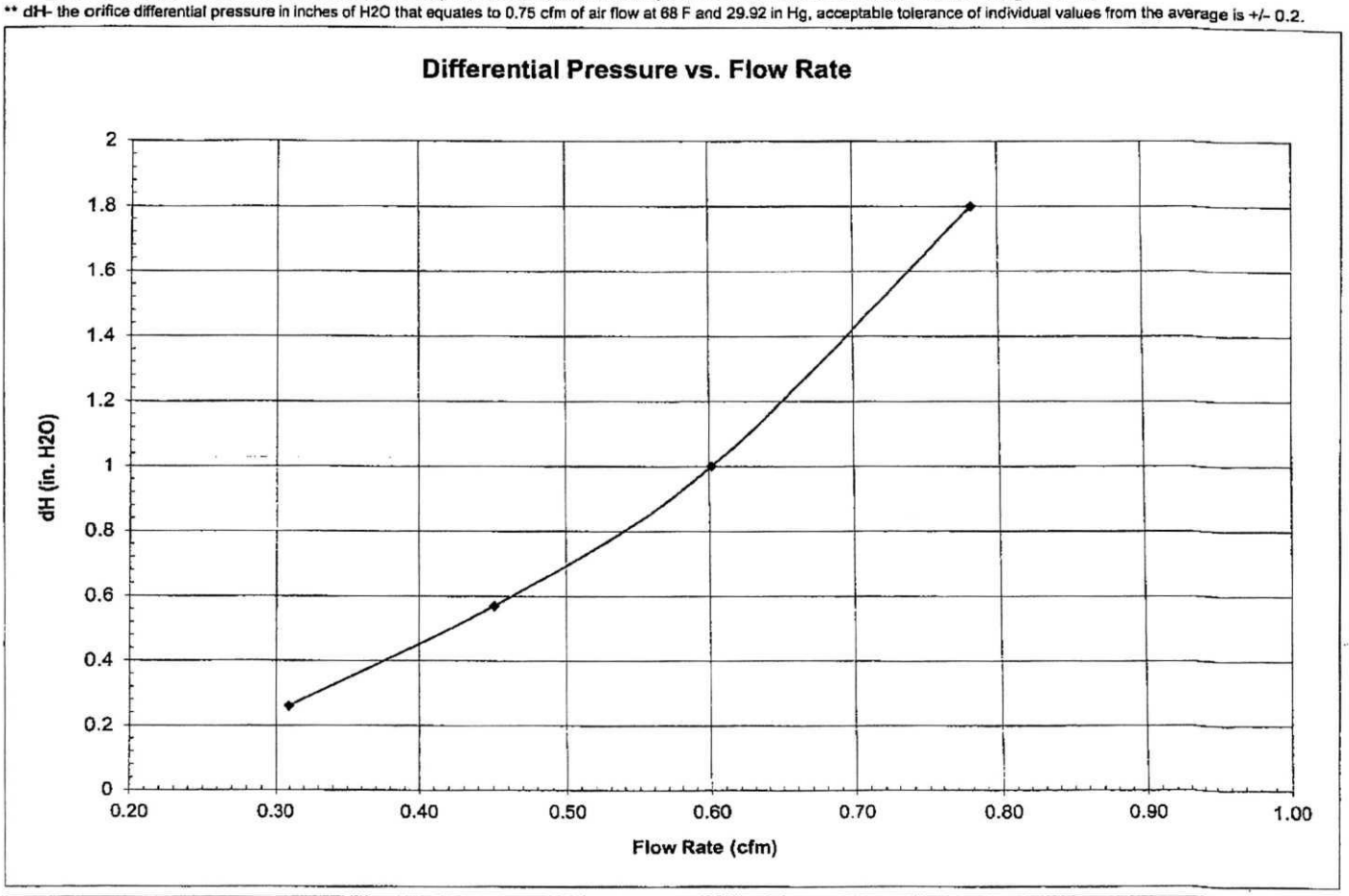
Meter Box Dry Gas Meter: Volume Corrected Vm (std) (cu ft)	Meter Box Dry Gas Meter: Volume Corrected Vm (std) (liters)	Meter Box Dry Gas Meter: Flow Rate (CFM)	Critical Orifice: Volume Corrected Vcr (std) (cu ft)	Critical Orifice: Volume Corrected Vm (std) (liters)	Dry Gas Meter Calibration Factor (Y): Value (#)	Dry Gas Meter Calibration Factor (Y): Variation (#)	Orifice Calibration Factor (dH@): Value (in H2O)	Orifice Calibration Factor (dH@): Variation (in H2O)
6.40	181.33	0.309	6.42	181.80	1.003	0.010	1.524	-0.08
8.87	251.04	0.451	8.83	249.91	0.996	0.003	1.593	-0.01
11.79	333.89	0.602	11.65	330.02	0.988	-0.004	1.592	-0.01
19.08	540.24	0.782	18.77	531.61	0.984	-0.009	1.707	0.10

Meter Box Calibration Test Results		**Pass/Fail**
*** Average Y:**	**0.9926**	***PASS***
Ave. Y w/in 5% of previous value:		***YES***
0.95 >= Y <= 1.05:		***PASS***
**** Average dH:**	**1.604**	***PASS***

Criteria:

* Y- ratio of the reading of the calibration meter (critical orifice) to the Meter Box DGM. Acceptable tolerance of individual values from the average is +/- 0.02.

** dH- the orifice differential pressure in inches of H2O that equates to 0.75 cfm of air flow at 68 F and 29.92 in Hg, acceptable tolerance of individual values from the average is +/- 0.2.



QA/QC Review: signature 10-29-14 date

121713_1444_FullCal

TRC Post Test Meter Box

Date: 10/6/2014
Prev. Calib. Date: 12/30/2013
Location: TRC S Austin
Technician: N. Afflerbach
Meter Serial No: 9605802
Meter Box ID: 1459
Atm. Pressure (corr. In 29.18 ıcorrected: 29.35
Critical Vacuum + 2 in I 16 in. Hg. (required minimum)
Calibration Factor (Y): 0.9820

Reference Orifice Set		Orifice (#) K' Factor
Manufacturer:	Apex Instruments	40
Model:	SX 40-63	48
Tested By:	EW	55
		63

Orifice Serial #	K' coefficient (see above)	dH (in. H2O)	Time (min)	Vol (initial) (cu ft)	Vol (final) (cu ft)	Vol. Total (cu ft)	Initial Temperatures Inlet (deg F)	Initial Temperatures Outlet (deg F)	Final Temperatures Inlet (deg F)	Final Temperatures Outlet (deg F)	Vacuum (in Hg)	mbient Temperature Initial (deg F)	mbient Temperature Final (deg F)
63	0.6091	1.95	10.0	220.513	228.768	8.255	78	78	77	77	18	78.0	78.0
63	0.6094	1.95	25.0	229.151	249.632	20.481	78	77	82	79	17.5	78.0	78.0
63	0.6094	2	13.0	249.632	260.444	10.81	82	79	83	81	17.5	78.0	79.0

Meter Box Dry Gas Meter Volume Corrected Vm (std) (cu ft)	Volume Corrected Vm (std) (liters)	Flow Rate (CFM)	Critical Orifice Volume Corrected Vcr (std) (cu ft)	Volume Corrected Vm (std) (liters)	Dry Gas Meter Calibration Factor (Y_{check}) Value (#)	Variation (#)	Orifice Calibration Factor (dH@) Value (In H2O)	Variation (in H2O)
7.94	224.95	0.826	7.66	216.98	0.965	-0.003	1.799	0.00
19.65	556.57	0.819	19.17	542.72	0.975	0.007	1.783	-0.02
10.33	292.63	0.832	9.96	282.09	0.964	-0.004	1.811	0.01

Meter Box

Post-Test Calibration Check		**Results**
Ave. Y_{check}:	0.9679	***PASS***
Ave. Y_{check} w/in 5% of previous value:		***YES***
0.95 >= Y_{check} <= 1.05:		***PASS***

signature: Neal Afflerbach

Post-Test Meter Factor Check

TRC Meter Box: Post-Test Calibration Check

Date: 10/6/2014
Prev. Calib. Date: 12/17/2013
Location: TRC S Austin
Technician: N. Afflerbach
Meter Serial No: 9543629
Meter Box ID: 1444
Atm. Pressure (corr. In 29.19 icorrected: 29.36
Critical Vacuum + 2 in I 16 in. Hg. (required minimum)
Calibration Factor (Y): 0.9926

Reference Orifice Set		Orifice (#) K' Factor
Manufacturer:	Apex Instruments	40
Model:	SX 40-63	48
Tested By:	EW	55
		63

Orifice Serial #	K' coefficient (see above)	dH (in. H2O)	Time (min)	Vol (initial) (cu ft)	Vol (final) (cu ft)	Vol. Total (cu ft)	Initial Temperatures Inlet (deg F)	Initial Temperatures Outlet (deg F)	Final Temperatures Inlet (deg F)	Final Temperatures Outlet (deg F)	Vacuum (in Hg)	mbient Temperature Initial (deg F)	mbient Temperature Final (deg F)
63	0.6094	1.95	9.0	644.486	652.032	7.546	85	85	87	85	21.5	79.0	78.0
63	0.6094	1.95	8.0	652.032	658.727	6.695	87	85	88	85	21.5	79.0	78.0
63	0.6094	1.95	8.0	658.727	665.431	6.70	87	85	89	86	21.5	78.0	78.0

Meter Box Dry Gas Meter Volume Corrected Vm (std) (cu ft)	Volume Corrected Vm (std) (liters)	Flow Rate (CFM)	Critical Orifice Volume Corrected Vcr (std) (cu ft)	Volume Corrected Vm (std) (liters)	Dry Gas Meter Calibration Factor (Y_{check}) Value (#)	Variation (#)	Orifice Calibration Factor (dH@) Value (in H2O)	Variation (in H2O)
7.16	202.68	0.838	6.90	195.35	0.964	-0.002	1.724	0.01
6.34	179.58	0.837	6.13	173.65	0.967	0.001	1.717	0.00
6.34	179.66	0.838	6.14	173.73	0.967	0.001	1.707	-0.01

Meter Box

Post-Test Calibration Check		Results
Ave. Y_{check}:	0.9659	***PASS***
Ave. Y_{check} w/in 5% of previous value:		***YES***
0.95 >= Y_{check} <= 1.05:		***PASS***

Signature: Neal Afflerbach

Post-Test Meter Factor Check

Meter Box Post Test Calibration Check

Stericycle-North Salt Lake
Unit 1 Stack

North Salt Lake, UT

Meter Box : 1459

Calibrated by:	MRL	Delta H @	1.664
5-Pt Cal Date:	12/30/2013	Gamma, initial	0.982

Calculate Yqa for each test run using the following equation:

$$Y_{qa} = \frac{\theta}{V_m}\sqrt{\frac{0.0319\,T_m}{\Delta H_@\left(P_b + \Delta\frac{H_{avg}}{13.6}\right)}\frac{29}{M_d}}\left(\sqrt{\Delta H}\right)_{avg}$$

where:

Yqa	dry gas meter calibration check value, dimensionless.
q	total run time, min.
Vm	total sample volume measured by dry gas meter, dcf.
Tm	absolute average dry gas meter temp., °R.
Pb	barometric pressure, in. Hg.
0.0319	= (29.92/528)(0.75)2 (in. Hg/°/R) cfm2.
ΔHavg	average orifice meter differential, in. H20.
ΔH@	orifice meter calibration coefficient, in. H2O.
Md	dry molecular weight of stack gas, lb/lb-mole.
29	dry molecular weight of air, lb/lb-mole.
13.6	specific gravity of mercury.

After each test run series, do the following:

Average the three or more Yqa's obtained from the test run series and compare this average with the dry gas meter calibration factor, Y. The average Yqa must be within 5 percent of Y.

If the average Yqa does not meet the +5 percent criterion, recalibrate the meter over the full range of orifice settings, as detailed in Section 5.3.1 of Method 5. Then follow the procedure in Section 5.3.3 of Method 5.

	Test 1	Test 2	Test 3	Average
time	240	240	240	
Vm - total	174.338	164.424	189.527	
Tm avg	72.0	78.8	70.9	
Tm -R	532	539	531	
Barometric	25.27	25.27	25.34	
ΔH_{avg}	1.354	1.227	1.692	
ΔH@	1.6640	1.6640	1.6640	
Md stack gas	29.6692	29.68844	29.70268	
Md Air	29.00	29.00	29.00	
Meter Box Gamma	0.982	0.982	0.982	
QA Gamma	1.0109	1.0216	0.9873	
Difference:	2.9%	4.0%	0.5%	2.5%
within 5%?				PASS

APPENDIX TABLE

Alternative Method 5 Post-Test Calibration
EPA Approved Alternative Method (ALT-009)
Stericycle-North Salt Lake
North Salt Lake, UT
Unit 1 Stack

Meter Box #: 1459

Calibrated by:	MRL	Delta H @	1.664
5-Pt Cal Date:	12/30/2013	Gamma, initial	0.982

1) Does the Meter Box pass the leak check procedure defined in 5.6 of Method 5? XX Yes ____ No

2) Calculate Yqa for each test run using the following equation:

$$Y_{qa} = \frac{\theta}{V_m}\sqrt{\frac{0.0319\,T_m}{\Delta H_{@}\left(P_b + \Delta\frac{H_{avg}}{13.6}\right)}\frac{29}{M_d}}\left(\sqrt{\Delta H}\right)_{avg}$$

where:

Yqa	dry gas meter calibration check value, dimensionless.
q	total run time, min.
Vm	total sample volume measured by dry gas meter, dcf.
Tm	absolute average dry gas meter temp., °R.
Pb	barometric pressure, in. Hg.
0.0319	= (29.92/528)(0.75)2 (in. Hg/°/R) cfm2.
DHavg	average orifice meter differential, in. H20.
DH@	orifice meter calibration coefficient, in. H2O.
Md	dry molecular weight of stack gas, lb/lb-mole.
29	dry molecular weight of air, lb/lb-mole.
13.6	specific gravity of mercury.

After each test run series, do the following:

Average the three or more Yqa's obtained from the test run series and compare this average with the dry gas meter calibration factor, Y. The average Yqa must be within 5 percent of Y.

If the average Yqa does not meet the +5 percent criterion, recalibrate the meter over the full range of orifice settings, as detailed in Section 5.3.1 of Method 5. Then follow the procedure in Section 5.3.3 of Method 5.

	Test 1	Test 2	Test 3	Average
time	60	60	60	
Vm - total	53.014	47.712	51.475	
Tm avg	80.1	80.8	81.4	
Tm -R	540	541	541	
Barometric	25.34	25.34	25.34	
DH_{avg}	2.156	1.736	1.996	
DH@	1.6640	1.6640	1.6640	
Md stack gas	29.71	29.70	29.69	
Md Air	29.00	29.00	29.00	
Meter Box Gamma	0.982	0.982	0.982	
QA Gamma	1.0303	1.0235	1.0205	
Difference:	4.9%	4.2%	3.9%	4.4%
within 5%?				PASS

APPENDIX TABLE

Alternative Method 5 Post-Test Calibration
EPA Approved Alternative Method (ALT-009)
Stericycle - North Salt Lake
North Salt Lake, UT
Unit 1 Stack

Meter Box #: 1444

Calibrated by:	MRL	Delta H @	1.604
5-Pt Cal Date:	12/17/2013	Gamma, initial	0.9926

1) Does the Meter Box pass the leak check procedure defined in 5.6 of Method 5? X Yes ___ No

2) Calculate Yqa for each test run using the following equation:

$$Y_{qa} = \frac{\theta}{V_m}\sqrt{\frac{0.0319\,T_m \quad 29}{\Delta H_@\left(P_b + \Delta\frac{H_{avg}}{13.6}\right) M_d}}\,\left(\sqrt{\Delta H}\right)_{avg}$$

where:

Yqa	dry gas meter calibration check value, dimensionless.
q	total run time, min.
Vm	total sample volume measured by dry gas meter, dcf.
Tm	absolute average dry gas meter temp., °R.
Pb	barometric pressure, in. Hg.
0.0319	= (29.92/528)(0.75)2 (in. Hg/°/R) cfm2.
DHavg	average orifice meter differential, in. H20.
DH@	orifice meter calibration coefficient, in. H2O.
Md	dry molecular weight of stack gas, lb/lb-mole.
29	dry molecular weight of air, lb/lb-mole.
13.6	specific gravity of mercury.

After each test run series, do the following:

Average the three or more Yqa's obtained from the test run series and compare this average with the dry gas meter calibration factor, Y. The average Yqa must be within 5 percent of Y.

If the average Yqa does not meet the +5 percent criterion, recalibrate the meter over the full range of orifice settings, as detailed in Section 5.3.1 of Method 5. Then follow the procedure in Section 5.3.3 of Method 5.

	Test 1	Test 2	Test 3	Test 4	Average
time	240	240	240	240	
Vm - total	176.820	161.689	222.609	208.427	
Tm avg	76.9	84.4	75.2	76.7	
Tm -R	537	544	535	537	
Barometric	25.27	25.27	25.34	25.34	
DH_{avg}	1.299	1.079	2.184	1.913	
DH@	1.6040	1.6040	1.6040	1.6040	
Md stack gas	29.67	29.69	29.70	29.66	
Md Air	29.00	29.00	29.00	29.00	
Meter Box Gamma	0.993	0.993	0.993	0.993	
QA Gamma	0.9844	0.9891	1.0080	1.0061	
Difference:	0.8%	0.4%	1.5%	1.4%	1.0%
within 5%?					PASS

APPENDIX TABLE

Alternative Method 5 Post-Test Calibration
EPA Approved Alternative Method (ALT-009)
Stericycle
North Salt Lake, UT
Unit 1 Stack

Meter Box #: 1444

Calibrated by:	MRL	Delta H @	1.604
5-Pt Cal Date:	12/17/2013	Gamma, initial	0.9926

1) Does the Meter Box pass the leak check procedure defined in 5.6 of Method 5? XX Yes ___ No

2) Calculate Yqa for each test run using the following equation:

$$Y_{qa} = \frac{\theta}{V_m}\sqrt{\frac{0.0319\,T_m}{\Delta H_{@}\left(P_b + \Delta\frac{H_{avg}}{13.6}\right)}\frac{29}{M_d}}\,\left(\sqrt{\Delta H}\right)_{avg}$$

where:

Yqa	dry gas meter calibration check value, dimensionless.
q	total run time, min.
Vm	total sample volume measured by dry gas meter, dcf.
Tm	absolute average dry gas meter temp., °R.
Pb	barometric pressure, in. Hg.
0.0319	= (29.92/528)(0.75)2 (in. Hg/°/R) cfm2.
DHavg	average orifice meter differential, in. H20.
DH@	orifice meter calibration coefficient, in. H2O.
Md	dry molecular weight of stack gas, lb/lb-mole.
29	dry molecular weight of air, lb/lb-mole.
13.6	specific gravity of mercury.

After each test run series, do the following:

Average the three or more Yqa's obtained from the test run series and compare this average with the dry gas meter calibration factor, Y. The average Yqa must be within 5 percent of Y.

If the average Yqa does not meet the +5 percent criterion, recalibrate the meter over the full range of orifice settings, as detailed in Section 5.3.1 of Method 5. Then follow the procedure in Section 5.3.3 of Method 5.

	Test 1	Test 2	Test 3	Average
time	60	60	60	
Vm - total	53.337	49.801	52.972	
Tm avg	81.6	81.4	81.7	
Tm -R	542	541	542	
Barometric	25.34	25.34	25.34	
DH_{avg}	2.005	1.736	1.966	
DH@	1.6040	1.6040	1.6040	
Md stack gas	29.71	29.70	29.69	
Md Air	29.00	29.00	29.00	
Meter Box Gamma	0.993	0.993	0.993	
QA Gamma	1.0084	1.0066	1.0134	
Difference:	1.6%	1.4%	2.1%	1.7%
within 5%?				PASS

TRC

Console No.	1459	S. O. P. Reference	AM - 103
Temperature Display Type	Jenco - 765	Calibrator Type	Fluke 714
Temperature Display Serial No.	JC 08356	Calibrator Serial No./Cert. Date	8097094 - 1/7/14

	Reference Temperature (°F)	32	Reference Temperature (°F)	212	Reference Temperature (°F)	500	Reference Temperature (°F)	1000	Reference Temperature (°F)	1500
Display Channel No.	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)
1 (Stack)	30	0.4	211	0.1	497	0.3	1000	0.0	1498	0.1
2 (Probe)	30	0.4	211	0.1	497	0.3	1000	0.0	1498	0.1
3 (Filter)	29	0.6	211	0.1	500	0.0	1000	0.0	1498	0.1
4 (Dryer)	29	0.6	210	0.3	495	0.5	999	0.1	1497	0.2
5 (Aux)	32	0.0	209	0.4	495	0.5	998	0.1	1496	0.2

Relative Error must meet criteria of +/- 1.5 % (absolute temperature, ° R)

Operator Neal Afflerbach

Date 10/6/2014

	Dry Gas Meter Thermocouple Calibration[3]		
	Readout Display Temperature °F	Reference Thermometer °F	Percent Difference
DGM-Inlet	81	84.5	-0.6%
DGM-Outlet	81	84.6	-0.7%

TRC

Console No.	1444	S. O. P. Reference	AM - 103
Temperature Display Type	Jenco - 765	Calibrator Type	Fluke 714
Temperature Display Serial No.	JC 04656	Calibrator Serial No./Cert. Date	8097094 - 1/7/14

	Reference Temperature (°F)	32	Reference Temperature (°F)	212	Reference Temperature (°F)	500	Reference Temperature (°F)	1000	Reference Temperature (°F)	1500
Display Channel No.	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)	Measured Temperature (°F)	Relative Error (%)
1 (Stack)	32	0.0	214	-0.3	500	0.0	1004	-0.3	1504	-0.2
2 (Probe)	32	0.0	213	-0.1	500	0.0	1003	-0.2	1503	-0.2
3 (Filter)	31	0.2	213	-0.1	499	0.1	1003	-0.2	1503	-0.2
4 (Dryer)	31	0.2	212	0.0	499	0.1	1002	-0.1	1502	-0.1
5 (Aux)	31	0.2	213	-0.1	499	0.1	1003	-0.2	1502	-0.1

Relative Error must meet criteria of +/- 1.5 % (absolute temperature, ° R)

Operator Neal Affelbach

Date 10/6/2014

	Dry Gas Meter Thermocouple Calibration[3]		
	Readout Display Temperature °F	Reference Thermometer °F	Percent Difference
DGM-Inlet	84	84.5	-0.1%
DGM-Outlet	84	84.6	-0.1%

TYPE S PITOT TUBE INSPECTION DATA FORM

Pitot tube assembly level? x yes ____ no

Pitot tube openings damaged? ____ yes (explain below) x no

α_1 = 5 ° (<10°), α_2 = 5 ° (<10°) z = A sin γ = 0.000 (in.); (<0.125 in.)

β_1 = 2 ° (<5°), β_2 = 1 ° (<5°) w = A sin θ = 0.016 (in.); (<0.03125 in.)

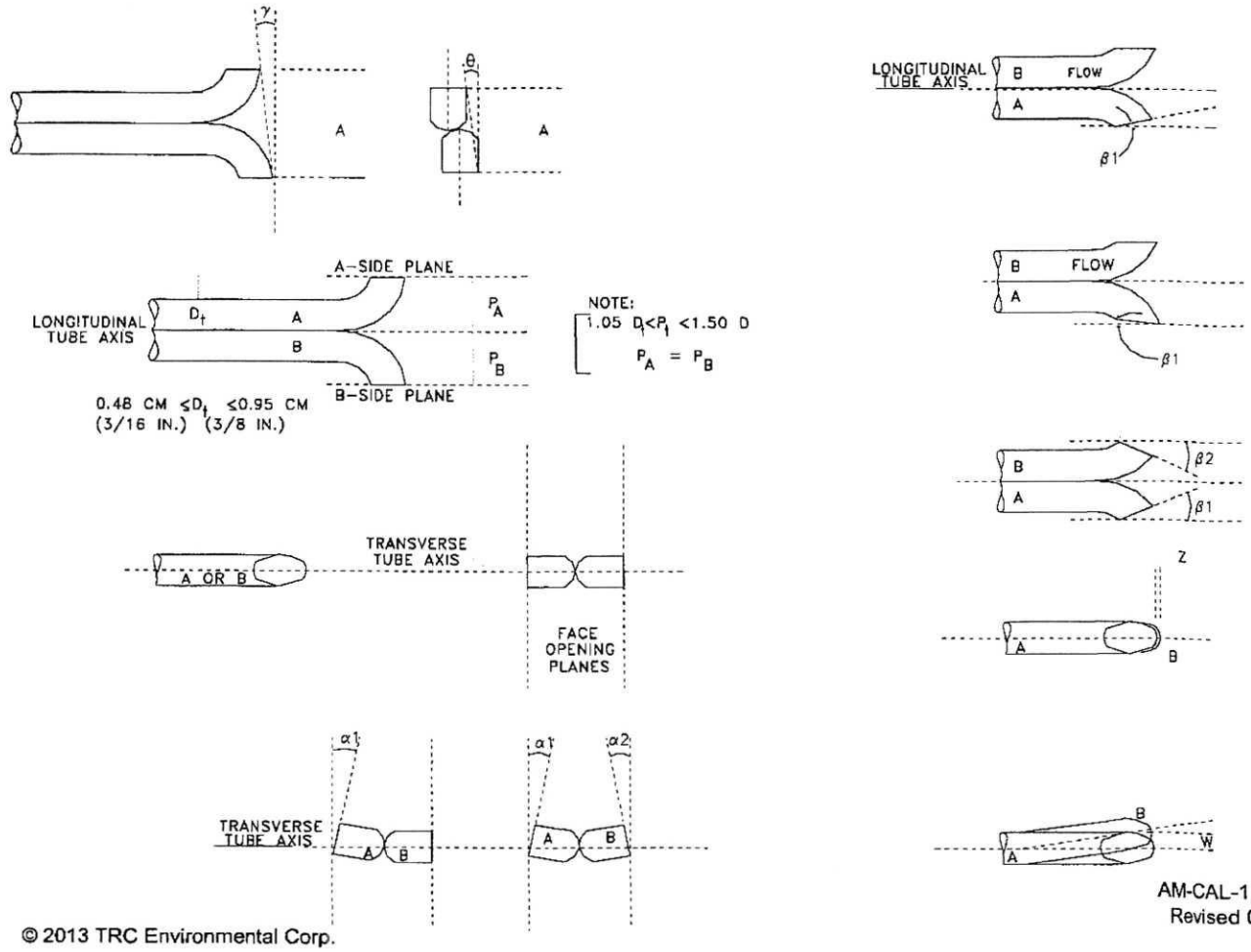
γ = 0 °, θ = 1 °, A = 0.905 (in.) P_A = 0.453 (in.), P_B = 0.453 (in.), *D_t = 0.375 (in.)

Comments: _____

Note: *D_t = Recommended nominal pitot tube diameter of 0.250 (in.) or 0.375 (in.) only.

Calibration required? ____ yes X no

Pitot Tube No.: 31643 Date: 10/6/2014 Name: MRL



AM-CAL-11 Rev. 3
Revised 06/06/13

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TRC TYPE S PITOT TUBE INSPECTION DATA FORM

Pitot tube assembly level? x yes ____ no

Pitot tube openings damaged? ____ yes (explain below) x no

α_1 = 5 ° (<10°), α_2 = 5 ° (<10°) z = A ~~sin~~ TAN γ = 0.000 (in.); (<0.125 in.)

β_1 = 2 ° (<5°), β_2 = 1 ° (<5°) w = A sin θ = 0.016 (in.); (<0.03125 in.)

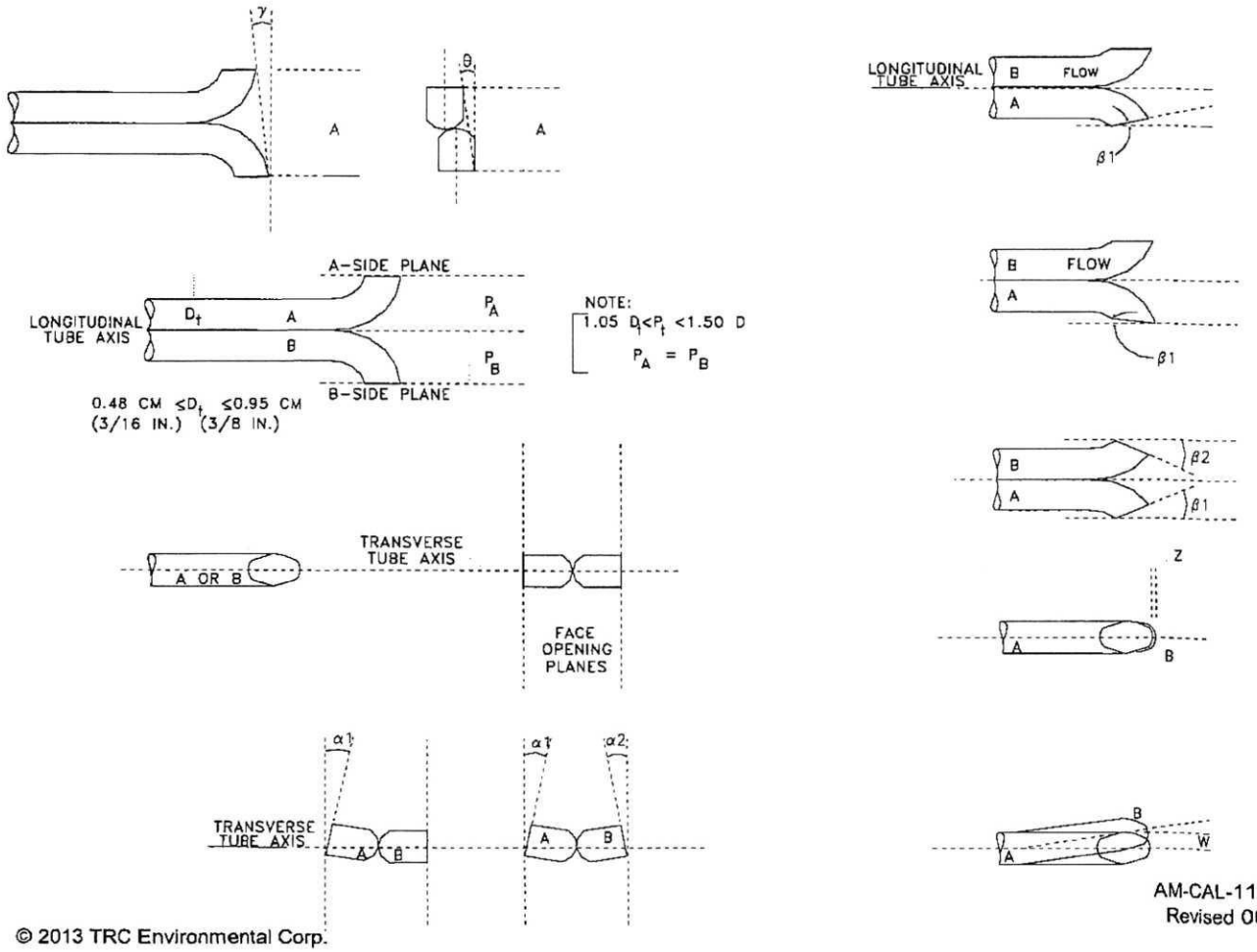
γ = 0 °, θ = 1 °, A = 0.905 (in.) P_A = 0.453 (in.), P_B = 0.453 (in.), *D_t = 0.375 (in.)

Comments: _____

Note: *D_t = Recommended nominal pitot tube diameter of 0.250 (in.) or 0.375 (in.) only.

Calibration required? ____ yes X no

Pitot Tube No.: 51308 Date: 9/10/2014 Name: MRL



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AM-CAL-11 Rev. 3
Revised 06/06/13

TRC Raleigh, NC
Glass Nozzle Calibration

Size Designation	Nominal Diameter (Decimal In.)	Nominal Diameter (Fraction In.)	Nozzle Identification Number	Date Calibrated	Calibrated By	D1,inches	D2,inches	D3,inches	D, inches	Nozzle Diameter (average)
5	0.25	1/4	G-5-146	8/12/2014	SAK	0.257	0.255	0.256	0.002	0.256
5	0.25	1/4	G-5-149	8/12/2014	SAK	0.260	0.260	0.260	0.000	0.260
5	0.25	1/4	G-5-148	8/12/2014	SAK	0.256	0.257	0.257	0.001	0.257
7	0.313	5/16	G-7-76	9/5/2012	JRL	0.306	0.307	0.306	0.001	0.306
7	0.313	5/16	G-7-52	4/12/2011	CA	0.310	0.311	0.309	0.002	0.310
8	0.344	11/32	G-8-38	12/5/2007	CWA	0.335	0.335	0.335	0.000	0.335

Airgas

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CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E04NI99E15A41D7	Reference Number:	54-124390977-1
Cylinder Number:	CC257321	Cylinder Volume:	144.3 CF
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12013	Valve Outlet:	660
Gas Code:	CO,NO,PPN,BALN	Certification Date:	Aug 27, 2013

Expiration Date: Aug 27, 2016

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	12.50 PPM	12.78 PPM	G1	+/- 1.4% NIST Traceable	08/19/2013, 08/27/2013
CARBON MONOXIDE	12.50 PPM	12.42 PPM	G1	+/- 0.7% NIST Traceable	08/20/2013
NITRIC OXIDE	12.50 PPM	12.73 PPM	G1	+/- 1.4% NIST Traceable	08/19/2013, 08/27/2013
PROPANE	16.00 PPM	15.88 PPM	G1	+/- 1.1% NIST Traceable	08/20/2013
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
CO	09061828	CC282622	24.35 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Oct 02, 2013
NTRM/NO	12061610	CC280991	20.23 PPM NITRIC OXIDE/NITROGEN	+/- 0.9%	Apr 11, 2015
NTRM/NOX	12061610	CC280991-NOx	20.28 PPM NOx/NITROGEN	+/- 0.9%	Apr 11, 2015
NTRM/C3H8	08061020	CC263012	49.62 PPM PROPANE/AIR	+/- 0.6%	May 14, 2018

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801332	FTIR	Jul 22, 2013
TC-1 THERMO 42iLS 1123749325 NO	Chemilluminescence	Aug 02, 2013
TC-1 THERMO 42iLS 1123749325 NOx	Chemilluminescence	Aug 02, 2013
Nicolet 6700 AHR0801332	FTIR	Jul 22, 2013

Triad Data Available Upon Request

Notes:TRC P.O. 60377 "STOCK BY CONCENTRATION"

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CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E04NI99E15A7104	Reference Number:	54-124379004-1A
Cylinder Number:	CC13147	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12013	Valve Outlet:	660
Gas Code:	CO,NO,PPN,BALN	Certification Date:	Jun 18, 2013

Expiration Date: Jun 18, 2016

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	25.00 PPM	25.45 PPM	G1	+/- 1.0% NIST Traceable	06/10/2013, 06/18/2013
CARBON MONOXIDE	25.00 PPM	25.12 PPM	G1	+/- 0.7% NIST Traceable	06/10/2013
NITRIC OXIDE	25.00 PPM	25.38 PPM	G1	+/- 1.1% NIST Traceable	06/10/2013, 06/18/2013
PROPANE	25.00 PPM	25.05 PPM	G1	+/- 0.7% NIST Traceable	06/11/2013
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
CO	12060505	CC353897	49.53 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Dec 20, 2017
NTRM	12060819	CC283641	49.95 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Dec 16, 2017
NO2	124206889130	CC323209	4.824 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 25, 2015
NTRM/C3H8	08061020	CC263012	49.62 PPM PROPANE/AIR	+/- 0.6%	May 14, 2018

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nexus 470 AEP0000428	FTIR	Jun 01, 2013
Nexus 470 AEP0000428	FTIR	Jun 01, 2013
Nexus 470 AEP0000428	FTIR	Jun 01, 2013
Nicolet 6700 AHR0801332	FTIR	May 24, 2013

Triad Data Available Upon Request

Notes:TRC P.O#58004 "STOCK BY CONCETRATION"

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Notes:

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CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E04NI99E15A0083	Reference Number:	54-124415805-3
Cylinder Number:	CC1347	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12014	Valve Outlet:	660
Gas Code:	CO,NO,PPN,BALN	Certification Date:	Jan 30, 2014

Expiration Date: Jan 30, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	400.0 PPM	405.3 PPM	G1	+/- 1.4% NIST Traceable	01/24/2014, 01/30/2014
CARBON MONOXIDE	400.0 PPM	398.4 PPM	G1	+/- 0.8% NIST Traceable	01/24/2014
NITRIC OXIDE	400.0 PPM	405.0 PPM	G1	+/- 1.4% NIST Traceable	01/24/2014, 01/30/2014
PROPANE	475.0 PPM	478.0 PPM	G1	+/- 1.0% NIST Traceable	01/24/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12062405	CC157169	487.1 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Jun 22, 2018
PRM	12312	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
NTRM	12061023	CC359411	500.7 PPM NITRIC OXIDE/NITROGEN	+/- 0.5%	Feb 16, 2018
GMIS	124206889130	CC323209	4.824 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 25, 2015
NTRM	10060523	CC281408	495.3 PPM PROPANE/AIR	+/- 0.5%	Feb 19, 2016

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nicolet 6700 AHR0801332	FTIR	Jan 23, 2014

Triad Data Available Upon Request

Notes

Airgas

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CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E03NI80E15AC2K9	Reference Number:	54-124423684-1
Cylinder Number:	CC159269	Cylinder Volume:	150.9 CF
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12014	Valve Outlet:	590
Gas Code:	CO2,O2,BALN	Certification Date:	Mar 14, 2014

Expiration Date: Mar 14, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards" (May 2012, document EPA 600/R-12/531), using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	10.00 %	10.15 %	G1	+/- 1.0% NIST Traceable	03-14-2014
OXYGEN	10.00 %	9.787 %	G1	+/- 1.0% NIST Traceable	03-14-2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	06120405	CC184974	19.66 % CARBON DIOXIDE/NITROGEN	+/- 0.5%	May 01, 2016
NTRM	98051016	SG9163074BAL	12.05 % OXYGEN/NITROGEN	+/- 0.7%	Dec 02, 2017

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
CO2-1 HORIBA VIA-510 V1E3H7P5	NDIR	Mar 06, 2014
O2-1 HORIBA MPA-510 3VUYL9NR	Paramagnetic	Mar 06, 2014

Triad Data Available Upon Request

Permanent Notes: STOCK BY CONCENTRATION

Notes: TRC P.O. 66702 "STOCK BY CONCENTRATION"

Approved for Release

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

		Customer PO Number:	0
Part Number:	E03NI60E15AC2Z9	Reference Number:	54-124423461-1
Cylinder Number:	CC198099	Cylinder Volume:	159.6 Cubic Feet
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12014	Valve Outlet:	590
Gas Code:	CO2,O2,BALN	Certification Date:	Mar 11, 2014

Expiration Date: Mar 11, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	20.00 %	19.96 %	G1	+/- 1.1% NIST Traceable	03/11/2014
OXYGEN	20.00 %	19.41 %	G1	+/- 0.7% NIST Traceable	03/11/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	06120405	CC184974	19.66 % CARBON DIOXIDE/NITROGEN	+/- 0.5%	May 01, 2016
NTRM	06120210	CC195743	20.90 % OXYGEN/NITROGEN	+/- 0.4%	Dec 01, 2015

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
CO2-1 HORIBA VIA-510 V1E3H7P5	NDIR	Mar 06, 2014
O2-1 HORIBA MPA-510 3VUYL9NR	Paramagnetic	Mar 06, 2014

Triad Data Available Upon Request

PERMANENT NOTES:STOCK BY CONCENTRATION

Signature on file

Approved for Release

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E04NI99E15A3528	Reference Number:	54-124415000-1
Cylinder Number:	CC157117	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12014	Valve Outlet:	660
Gas Code:	CO,NO,PPN,BALN	Certification Date:	Jan 27, 2014

Expiration Date: Jan 27, 2017

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	50.00 PPM	49.39 PPM	G1	+/- 0.9% NIST Traceable	01/20/2014, 01/27/2014
PROPANE	45.00 PPM	46.10 PPM	G1	+/- 0.7% NIST Traceable	01/20/2014
CARBON MONOXIDE	50.00 PPM	50.09 PPM	G1	+/- 0.9% NIST Traceable	01/20/2014
NITRIC OXIDE	50.00 PPM	49.38 PPM	G1	+/- 0.9% NIST Traceable	01/20/2014, 01/27/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	08061020	CC263012	49.62 PPM PROPANE/AIR	+/- 0.6%	May 14, 2018
PRM	12312	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
NTRM	12062234	CC365729	97.56 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	May 25, 2018
NTRM	13061056	CC423751	99.86 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Nov 19, 2019
GMIS	124206889130	CC323209	4.824 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 25, 2015

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nexus 470 AEP0000428	FTIR	Dec 21, 2013
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nicolet 6700 AHR0801332	FTIR	Dec 23, 2013

Triad Data Available Upon Request

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CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E04NI99E15A38H6	Reference Number:	54-124415805-5
Cylinder Number:	CC129531	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12014	Valve Outlet:	660
Gas Code:	CO,NO,PPN,BALN	Certification Date:	Jan 30, 2014

Expiration Date: Jan 30, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	100.0 PPM	97.10 PPM	G1	+/- 1.0% NIST Traceable	01/24/2014 01/30/2014
PROPANE	85.00 PPM	86.72 PPM	G1	+/- 1.1% NIST Traceable	01/24/2014
CARBON MONOXIDE	100.0 PPM	101.0 PPM	G1	+/- 0.9% NIST Traceable	01/24/2014
NITRIC OXIDE	100.0 PPM	97.09 PPM	G1	+/- 1.0% NIST Traceable	01/24/2014 01/30/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	09061733	CC303833	97.82 PPM PROPANE/AIR	+/- 0.5%	Jun 05, 2019
PRM	12312	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
NTRM	12062234	CC365729	97.56 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	May 25, 2018
NTRM	13061056	CC423751	99.86 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Nov 19, 2019
GMIS	124206889130	CC323209	4.824 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 25, 2015

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nexus 470 AEP0000428	FTIR	Jan 21, 2014
Nicolet 6700 AHR0801332	FTIR	Jan 23, 2014

Triad Data Available Upon Request

Notes:

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CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E04NI99E15A0082	Reference Number:	54-124423461-3
Cylinder Number:	CC123903	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12014	Valve Outlet:	660
Gas Code:	CO,NO,PPN,BALN	Certification Date:	Mar 22, 2014

Expiration Date: Mar 22, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	200.0 PPM	201.5 PPM	G1	+/- 0.6% NIST Traceable	03/13/2014, 03/22/2014
CARBON MONOXIDE	200.0 PPM	198.0 PPM	G1	+/- 1.0% NIST Traceable	03/13/2014
NITRIC OXIDE	200.0 PPM	201.2 PPM	G1	+/- 0.6% NIST Traceable	03/13/2014 03/22/2014
PROPANE	275.0 PPM	270.9 PPM	G1	+/- 0.7% NIST Traceable	03/15/2014
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12062431	CC366888	487.1 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Jun 22, 2018
PRM	12312	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Feb 14, 2012
NTRM	12061936	CC367646	250.8 PPM NITRIC OXIDE/NITROGEN	+/- 0.5%	May 04, 2018
PRM	12312	680179	10.01 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 15, 2014
GMIS	124206889130	CC323209	4.824 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 25, 2015
GMIS	124206889102	CC320508	4.979 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	May 04, 2015
NTRM	10060523	CC281408	495.3 PPM PROPANE/AIR	+/- 0.5%	Feb 19, 2016

The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nexus 470 AEP0000428	FTIR	Feb 28, 2014
Nexus 470 AEP0000428	FTIR	Feb 28, 2014
Nexus 470 AEP0000428	FTIR	Feb 28, 2014
Nicolet 6700 AHR0801332	FTIR	Feb 28, 2014

Triad Data Available Upon Request

TRC PO 72157

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CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02AI99E15A1704	Reference Number:	54-124400577-1
Cylinder Number:	CC500287	Cylinder Volume:	146.2 Cubic Feet
Laboratory:	ASG - Chicago - IL	Cylinder Pressure:	2015 PSIG
PGVP Number:	B12013	Valve Outlet:	660
Gas Code:	NO2,BALA	Certification Date:	Oct 30, 2013

Expiration Date: Oct 30, 2016

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NITROGEN DIOXIDE	50.00 PPM	51.08 PPM	G1	+/- 2%	10/30/2013, 10/30/2013
AIR	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NO2	124288126109	CC320547	57.85 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.0%	Oct 25, 2015

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
(CH-3) ECO PHYSICS CLD822S	Chemiluminescence	Oct 23, 2013

Triad Data Available Upon Request

Notes:TRC P.O. 62329 "STOCK BY CONCENTRATION"

Approved for Release

Airgas.

CERTIFICATE OF ANALYSIS
Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0350	Reference Number:	82-124245822-1
Cylinder Number:	CC268284	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Riverton - NJ	Cylinder Pressure:	2015 PSIG
PGVP Number:	NONPGVP	Valve Outlet:	660
Gas Code:	SO2,BALN	Certification Date:	Dec 28, 2010

Expiration Date: Dec 28, 2018

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
SULFUR DIOXIDE	50.00 PPM	51.30 PPM	G1	+/- 1% NIST Traceable	12/21/2010, 12/28/2010
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	08061521	CC255342	94.67 PPM SULFUR DIOXIDE/NITROGEN		Oct 15, 2012

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 APW1100391 NO	FTIR	Dec 15, 2010

Triad Data Available Upon Request

Notes: TRC P.O. 29304
"STOCK BY CONCENTRATION"
Signature on file

Approved for Release

Airgas

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Customer:	TRC		
Part Number:	E02NI99E15A0032	Reference Number:	83-124279892-23
Cylinder Number:	CC263569	Cylinder Volume:	144.4 CF
Laboratory:	ASG - Port Allen - LA	Cylinder Pressure:	2015 PSIG
PGVP Number:	B42011	Valve Outlet:	660
Gas Code:	SO2,BALN	Certification Date:	Sep 06, 2011

Expiration Date: Sep 06, 2019

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. 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 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
SULFUR DIOXIDE	100.0 PPM	99.22 PPM	G1	+/- 1% NIST Traceable	08/26/2011, 09/06/2011
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	09061034	CC301439	479.5 PPM SULFUR DIOXIDE/NITROGEN	+/- 1.0%	May 15, 2015
NTRM	08061623	cc255436	247.0 PPM SULFUR DIOXIDE/NITROGEN	0	Oct 15, 2012

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801550 SO2 MSO2	FTIR	Aug 13, 2011

Triad Data Available Upon Request

NOTES: Po 36155

Stock by Concentration

Signature on file

Approved for Release

VISIBLE EMISSIONS EVALUATOR

Matthew Brooks

This is to certify that the above named observer has met the specifications of Federal Reference Method 9 and is qualified as a visible emissions evaluator. Maximum deviation on white and black smoke did not exceed 7.5% opacity and no single error exceeding 15% opacity was incurred during the certification test conducted by Eastern Technical Associates, Inc. of Raleigh, N.C. This certificate is valid for six months from date of issue.

424269 Certificate #	**BRO187007** Student ID Number
8/27/2014 Date of Certification	**Raleigh, NC** Location
2/26/2015 Certification Expiration Date	**RALS08** Last Lecture

Marty Hughes
Director of Training

Method 20 Interference Check

Date:	1/2/2004
Analyst:	Jeff Thompson
Analyzer Type :	Servomex 1400
Gas Monitored:	O_2
Analyzer Serial Number:	1420C/171
Analyzer Span:	0-25%
TRC Number	1

Linearity Check

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
Zero Gas	-	N_2	0.0	0.10	0.102	0.408
Mid-Level Gas	XC030412	O_2	11.1	11.091	-0.009	-0.036
High-Level Gas	CC012605	O_2	20.64	20.78	0.14	0.56

Interference Test*

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
CO (500 ± 50 ppm)	AAL21337	CO	601	0.09	0.09	0.36
SO_2 (200 ± 20 ppm)	ALM039889	SO_2	900.7			
NO_x	ALM039889	NO_x	443.6	0.096	0.096	0.384
CO2 (10.0 + 1%)	ALM039889	CO_2	18.48			

(NOx, SO2, & CO2 combined in one cylinder)

Sum of the % Difference must be ≤ 2% of Span SUM 0.384

All testing is in accordance with USEPA CFR 40, Part 60, Appendix A, Method 20.

* For calculations a true zero is assumed

TRC

TRC Environmental Corporation

Method 20 Interference Check

Date:	1/2/2004
Analyst:	Jeff Thompson
Analyzer Type :	Servomex 1400
Gas Monitored:	CO_2
Analyzer Serial Number:	1415C/2615
Analyzer Span:	0-20%
TRC Number	2

Linearity Check

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
Zero Gas	-	N_2	0.0	-0.15	-0.146	-0.73
Mid-Level Gas	XC030412	CO_2	9.04	8.934	-0.106	-0.53
High-Level Gas	CC012605	CO_2	17.39	17.325	-0.065	-0.325

Interference Test*

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
CO (500 ± 50 ppm)	AAL21337	CO	601	-0.165	-0.165	-0.825
SO_2 (200 ± 20 ppm)	XC028891	SO_2	219.5	-0.083	-0.083	-0.415
NO_x	XC030645	NO_x	215.2	-0.119	-0.119	-0.595

Sum of the % Difference must be ≤ 2% of Span SUM -0.367

All testing is in accordance with USEPA CFR 40, Part 60, Appendix A, Method 20.

* For calculations a true zero is assumed

TRC

TRC Environmental Corporation

Method 20 Interference Check

Date:	1/2/2004
Analyst:	Jeff Thompson
Analyzer Type :	Thermo Environmental 42C
Gas Monitored:	NOx
Analyzer Serial Number:	42CHL-69797-364
Analyzer Span:	0-100ppm
TRC Number	4

Linearity Check

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
Zero Gas	-	N_2	0.0	0.19	0.19	0.19
Low-Level Gas	XC023711	NOx	23.44	22.44	-1	-1
Mid-Level Gas	XC030412	NOx	55.2	54.88	-0.32	-0.32
High-Level Gas	CC012605	NOx	84.3	84.62	0.32	0.32

Interference Test*

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
CO (500 ± 50 ppm)	AAL21337	CO	601	0.11	0.11	0.11
SO_2 (200 ± 20 ppm)	XC028891	SO_2	219.5	0.11	0.11	0.11
O2 (20.9 + 1%)	CC012605	$O2/CO_2$	20.64	0.15	0.15	0.15
CO2 (10.0 + 1%)	"	$O2/CO_2$	17.39			

Sum of the % Difference must be ≤ 2% of Span SUM 0.37

All testing is in accordance with USEPA CFR 40, Part 60, Appendix A, Method 20.

* For calculations a true zero is assumed

TRC

TRC Environmental Corporation

Method 20 Interference Check

Date:	12/23/2003
Analyst:	Jeff Thompson
Analyzer Type :	Thermo Environmental-Model 48
Gas Monitored:	CO
Analyzer Serial Number:	48C-74103-375
Analyzer Span:	0-100

Linearity Check

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
Zero Gas		N_2	0.0	0.34	0.34	0.34
Mid-Level Gas	ALM0077351	CO	30.9	30.78	-0.12	-0.12
High-Level Gas	XC025783	CO	59.41	59.15	-0.26	-0.26

Interference Test*

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
O_2 (20.9 ± 1%)	CC012605	O_2	20.64	(O_2 and CO_2 readings combined)		
CO_2 (10.0 ± 1%)	"	CO_2	17.39	-0.21	-0.21	-0.21
SO_2 (200 ± 20 ppm)	XC028891	SO_2	219.5	-0.05	-0.05	-0.05
NO_x	XC035591	NO_x	215.1	0.15	0.15	0.15

Sum of the % Difference must be ≤ 2% of Span SUM -0.11

All testing is in accordance with USEPA CFR 40, Part 60, Appendix A, Method 20.

* For calculations a true zero is assumed

TRC

TRC Environmental Corporation

Method 20 Interference Check

Date:	6/3/2003
Analyst:	Wayne Abbott
Analyzer Type :	Western Research 721M
Gas Monitored:	SO_2
Analyzer Serial Number:	94-721M-8191-7
Analyzer Span:	500 ppm

Linearity Check

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
Zero Gas	XC029910B	O_2/CO_2	0.0	-0.5	-0.5	-0.1
Mid-Level Gas	ALM006260	SO_2	213.1	222.3	9.2	1.84
High-Level Gas	ALM044475	SO_2	454.9	456.7	1.8	0.36

Interference Test*

	Cylinder Number	Gas	Concentration	Reading	Difference	% Difference
O_2 (20.9 $\pm$ 1%)	ALM062154	O_2	20.71	-1.0	-1.0	-0.2
CO_2 (10.0 $\pm$ 1%)	ALM046284	CO_2	17.34	-1.0	-1.0	-0.2
CO (500 $\pm$ 50 ppm)	ALM041929	CO	608.3	-1.0	-1.0	-0.2
NO_x	XC030102	NOx	219.9	-0.6	-0.6	-0.12

Sum of the % Difference must be $\leq$ 2% of Span SUM -0.74

All testing is in accordance with USEPA CFR 40, Part 60, Appendix A, Method 20.

* For calculations a true zero is assumed

Instrumental Test Method Quality Assurance Data

TRC

Plant Name	Stericycle - NSL	**Project No.**	223797
City / State	North Salt Lake, UT	**CEM Trailer**	Austin
Test Location	Unit 1 Stack	**CEM Operator**	D. Brewster

Response Time Checks

Rack & Location	Analyzer	TRC ID	Units	Zero Gas	Upscale Gas	Upscale Target 95%	Time to 95% (sec)	Stable Upscale (Bias)	Downscale Target 5%	Time to 5% (sec)	Stable Zero (Bias)
A	O2	-1521	%	0.0	**9.79**	9.298	117	9.7	0.489	111	0.15
	CO2	-2573	%	0.0	**10.15**	9.643	59	9.9	0.508	68	0.07
	NOx	-376	ppm	0.0	**97.10**	92.245	81	95.3	4.855	72	-0.37
	CO	-41315	ppm	0.0	**50.10**	47.595	55	50.9	2.505	48	-1.40
	SO2	-9241-1	ppm	0.0	**51.30**	48.735	84	49.2	2.565	86	0.58
B											
Other											

Rack A	Response Time (sec.)
	117

Rack B	Response Time (sec.)

Other	Response Time (sec.)

AM-EMT-63 rev2-052314

Instrumental Test Method Quality Assurance Data

TRC

Plant Name	Stericycle - NSL	**Project No.**	223797
City / State	North Salt Lake, UT	**CEM Trailer No.**	Austin
Test Location	Unit 1 Stack	**CEM Operator**	D. Brewster

NO_2 to NO Converter Efficiency Test					
NO_2 Cylinder ID	CC500287	NO_2 Concentration		51.08	
Expiration Date	10/30/2016	Min Limit	45.972	Max Limit	56.188

NOx-A	**NOx-B**		
Date	**Date**	**Date**	**Date**
10/1/2014			
NOx Response	**NOx Response**	**NOx Response**	**NOx Response**
48.2			
% Efficiency			
94.4%			
PASS			

Date	**Date**	**Date**	**Date**
NOx Response	**NOx Response**	**NOx Response**	**NOx Response**

Acceptance Criteria:

If the instrument response indicates at least 90 percent NO_2 to NO conversion, the converter is acceptable

If the instrument response indicates less than 90 percent NO_2 to NO conversion, the converter is unacceptable and repair or replacement is required before repeating the check

Instrumental Test Method Quality Assurance Data

TRC

Plant Name	Stericycle - NSL	**Project No.**	223797
City / State	North Salt Lake, UT	**CEM Trailer No.**	Austin
Test Location	Unit 1 Stack	**CEM Operator**	D. Brewster

Compliance (M7E) Stratification Check - Twelve-Point Traverse									
Analyzer	**O2**	**CO2**							
Point 1									
Point 2									
Point 3									
Point 4									
Point 5									
Point 6									
Point 7									
Point 8									
Point 9									
Point 10									
Point 11									
Point 12									
Average									
MIN									
MAX									
MIN diff									
MAX diff									
PASS? (% diff)									
ALT PASS? (conc diff)									

Compliance (M7E) Stratification Check - Long Three-Point Traverse									
Analyzer	**O2**	**CO2**							
Point 1	12.9	6.6							
Point 2	13.5	6.2							
Point 3	12.6	6.9							
Average	**13.0**	**6.6**							
MIN	12.6	6.2							
MAX	13.5	6.9							
MIN diff	0.4	0.4							
MAX diff	0.5	0.3							
PASS? (% diff)	**Single Point**	**Long 3 Point**							
ALT PASS? (conc diff)	**Single Point**	**Single Point**							

% Difference Criteria: ≤ 5.0 % - Single Point, ≤10.0% - Three Points, >10.0% - Twelve Points
ppm Difference Criteria: ≤ 0.5 ppm - Single Point, ≤ 1.0 ppm - Three Points, > 1.0 ppm - Twelve Points
%O2 or CO2 Difference Criteria: ≤ 0.5 % - Single Point, ≤ 1.0 % - Three Points, > 1.0 % - Twelve Points

APPENDIX E
FACILITY PROCESS DATA

TheDate	ChargeWight	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NOR Reagent	BHinTemp	Carbon	Lime	BagDP	AbsPH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 8:00	0	1756	0.00	0.00	1784.31	1978.05	0.73	358.72	2.98	-7.53	6.26	7.30	143.82	2.93	116.68	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:01	0	1756	0.00	0.00	1784.88	1978.05	0.73	358.74	2.97	-7.88	6.48	7.30	143.82	2.93	116.68	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:02	0	1756	0.00	0.00	1785.64	1978.05	0.73	358.77	2.95	-8.23	6.34	7.29	143.82	2.93	116.67	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:03	0	1756	0.00	0.00	1786.50	1977.98	0.73	358.74	2.94	-8.58	6.26	7.29	143.82	2.93	116.67	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:04	0	1756	0.00	0.00	1787.31	1978.01	0.73	358.73	2.93	-8.92	6.40	7.28	143.81	2.93	116.66	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:05	0	1756	0.00	0.00	1788.02	1978.12	0.73	358.76	2.91	-9.27	6.33	7.28	143.81	2.93	116.64	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:06	0	1756	0.00	0.00	1788.58	1978.23	0.73	358.75	2.89	-9.62	6.26	7.27	143.80	2.93	116.63	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:07	188	1756	0.00	0.00	1788.97	1978.38	0.73	358.72	2.87	-9.97	6.45	7.27	143.80	2.93	116.62	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:08	188	1756	0.00	0.00	1789.22	1978.64	0.73	358.75	2.84	-10.32	6.51	7.26	143.80	2.93	116.61	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:09	188	1756	0.00	0.00	1789.32	1978.88	0.73	358.75	2.82	-10.67	6.40	7.26	143.79	2.93	116.59	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:10	188	1756	0.00	0.00	1789.22	1979.09	0.73	358.73	2.80	-10.93	6.48	7.26	143.79	2.93	116.59	CLOSED	#1-NORMAL	-25	40					
9/30/14 8:11	188	1756	0.00	0.00	1788.91	1979.38	0.73	358.74	2.77	-10.87	6.62	7.25	143.78	2.93	116.58	CLOSED	#1-NORMAL	24	40					
9/30/14 8:12	188	1756	0.00	0.00	1788.42	1979.70	0.73	358.76	2.75	-10.65	6.57	7.25	143.78	2.94	116.58	CLOSED	#1-NORMAL	24	40					
9/30/14 8:13	438	1756	0.00	0.00	1787.74	1979.98	0.73	358.75	2.73	-10.31	6.58	7.24	143.78	2.94	116.58	CLOSED	#1-NORMAL	24	40					
9/30/14 8:14	438	1756	0.00	0.00	1786.91	1980.21	0.73	358.75	2.71	-9.96	6.69	7.24	143.79	2.94	116.58	CLOSED	#1-DAS LOCKOUT	24	40					
9/30/14 8:15	438	1756	0.00	0.00	1785.98	1980.39	0.73	358.76	2.69	-9.61	6.74	7.23	143.80	2.95	116.58	CLOSED	#1-NORMAL	24	40					
9/30/14 8:16	438	1756	0.00	0.00	1784.97	1980.49	0.73	358.77	2.67	-9.27	6.61	7.23	143.80	2.95	116.59	CLOSED	#1-NORMAL	24	40					
9/30/14 8:17	438	1756	0.00	0.00	1783.88	1980.52	0.73	358.80	2.65	-8.92	6.75	7.22	143.79	2.96	116.61	CLOSED	#1-NORMAL	24	40					
9/30/14 8:18	438	1756	0.00	0.00	1782.80	1980.55	0.73	358.81	2.62	-8.58	6.85	7.21	143.79	2.97	116.63	CLOSED	#1-NORMAL	24	40					
9/30/14 8:19	438	1756	0.00	0.00	1781.71	1980.53	0.73	358.77	2.61	-8.23	6.70	7.21	143.79	2.98	116.65	CLOSED	#1-NORMAL	24	40					
9/30/14 8:20	438	1756	0.00	0.00	1780.59	1980.74	0.73	358.79	2.61	-7.89	6.82	7.20	143.78	2.98	116.67	CLOSED	#1-NORMAL	24	40					
9/30/14 8:21	624	1756	0.00	0.00	1779.41	1980.88	0.73	358.83	2.60	-7.54	5.99	7.20	143.78	2.99	116.68	CLOSED	#1-NORMAL	24	40					
9/30/14 8:22	624	1756	0.00	0.00	1778.24	1980.97	0.73	358.79	2.59	-7.19	5.85	7.19	143.77	3.00	116.70	CLOSED	#1-NORMAL	24	40					
9/30/14 8:23	624	1756	0.00	0.00	1777.08	1980.97	0.73	358.76	2.59	-6.85	5.69	7.19	143.77	3.01	116.73	CLOSED	#1-NORMAL	24	40					
9/30/14 8:24	624	1756	0.00	0.00	1775.92	1980.96	0.73	358.83	2.58	-6.50	5.78	7.18	143.77	3.02	116.74	CLOSED	#1-NORMAL	24	40					
9/30/14 8:25	624	1756	0.00	0.00	1774.72	1980.93	0.73	358.84	2.58	-6.16	5.84	7.17	143.76	3.03	116.76	CLOSED	#1-NORMAL	24	40					
9/30/14 8:26	624	1756	0.00	0.00	1773.49	1980.86	0.73	358.76	2.57	-5.81	5.51	7.17	143.76	3.03	116.79	CLOSED	#1-NORMAL	24	40					
9/30/14 8:27	882	1756	0.00	0.00	1772.15	1980.82	0.73	358.77	2.56	-5.47	5.93	7.16	143.76	3.04	116.81	CLOSED	#1-NORMAL	24	40					
9/30/14 8:28	882	1756	0.00	0.00	1770.65	1980.84	0.73	358.82	2.56	-5.12	6.01	7.16	143.75	3.05	116.83	CLOSED	#1-NORMAL	24	40					
9/30/14 8:29	882	1756	0.00	0.00	1769.14	1980.83	0.73	358.83	2.55	-4.77	5.84	7.15	143.75	3.06	116.85	CLOSED	#1-NORMAL	24	26					
9/30/14 8:30	882	1756	0.00	0.00	1767.74	1980.78	0.73	358.83	2.55	-4.43	5.80	7.14	143.74	3.06	116.87	CLOSED	#1-NORMAL	24	24					
9/30/14 8:31	882	1756	0.00	0.00	1766.40	1980.70	0.73	358.84	2.54	-4.08	5.88	7.14	143.74	3.06	116.90	CLOSED	#1-NORMAL	24	31					
9/30/14 8:32	882	1756	0.00	0.00	1765.14	1980.60	0.73	358.81	2.53	-3.74	5.73	7.13	143.73	3.06	116.93	CLOSED	#1-NORMAL	24	20					
9/30/14 8:33	882	1756	0.00	0.00	1763.85	1980.58	0.73	358.81	2.53	-3.39	5.95	7.12	143.72	3.06	116.95	CLOSED	#1-NORMAL	24	29					
9/30/14 8:34	1156	1756	0.00	0.00	1762.43	1980.67	0.73	358.84	2.52	-3.05	5.87	7.11	143.70	3.06	116.97	CLOSED	#1-NORMAL	24	21					
9/30/14 8:35	1156	1756	0.00	0.00	1761.04	1980.77	0.73	358.82	2.52	-2.70	6.07	7.11	143.69	3.06	117.00	CLOSED	#1-NORMAL	24	38					
9/30/14 8:36	1156	1756	0.00	0.00	1759.68	1980.90	0.73	358.78	2.51	-2.35	5.94	7.10	143.69	3.07	117.02	CLOSED	#1-NORMAL	24	38					
9/30/14 8:37	1156	1756	0.00	0.00	1758.35	1981.04	0.73	358.84	2.51	-2.01	6.13	7.09	143.68	3.09	117.04	CLOSED	#1-NORMAL	24	39					
9/30/14 8:38	1156	1756	0.00	0.00	1757.05	1981.18	0.73	358.89	2.50	-1.66	6.54	7.08	143.68	3.10	117.07	CLOSED	#1-NORMAL	24	40					
9/30/14 8:39	1156	1756	0.00	0.00	1755.62	1981.33	0.73	358.86	2.49	-1.32	6.53	7.07	143.67	3.11	117.10	CLOSED	#1-NORMAL	24	40					
9/30/14 8:40	1156	1756	0.00	0.00	1754.46	1981.48	0.73	358.85	2.49	-0.97	6.81	7.07	143.67	3.12	117.13	CLOSED	#1-NORMAL	24	40					
9/30/14 8:41	1156	1756	0.00	0.00	1753.57	1981.57	0.73	358.87	2.48	-0.63	6.19	7.06	143.66	3.14	117.16	CLOSED	#1-NORMAL	24	37					
9/30/14 8:42	1156	1756	0.00	0.00	1752.46	1981.65	0.72	358.87	2.48	-0.28	5.65	7.05	143.66	3.15	117.20	CLOSED	#1-NORMAL	24	35					
9/30/14 8:43	1156	1756	0.00	0.00	1751.17	1981.60	0.72	358.91	2.47	0.07	5.71	7.04	143.65	3.16	117.22	CLOSED	#1-NORMAL	24	38					
9/30/14 8:44	1156	1756	0.00	0.00	1749.88	1981.44	0.72	358.99	2.46	0.41	5.85	7.03	143.65	3.17	117.25	CLOSED	#1-NORMAL	24	40					
9/30/14 8:45	1156	1756	0.00	0.00	1748.49	1981.20	0.72	358.99	2.46	0.76	5.12	7.02	143.65	3.18	117.29	CLOSED	#1-NORMAL	24	19					
9/30/14 8:46	1413	1756	0.00	0.00	1747.04	1981.00	0.72	358.95	2.45	1.10	5.45	7.01	143.64	3.19	117.33	CLOSED	#1-NORMAL	24	23					
9/30/14 8:47	1413	1756	0.00	0.00	1745.55	1981.03	0.72	358.95	2.45	1.45	5.02	7.00	143.64	3.19	117.36	CLOSED	#1-NORMAL	24	27					
9/30/14 8:48	1413	1756	0.00	0.00	1744.07	1981.18	0.72	358.96	2.44	1.79	5.64	6.99	143.64	3.21	117.40	CLOSED	#1-NORMAL	24	39					
9/30/14 8:49	1413	1756	0.00	0.00	1742.66	1981.31	0.72	358.97	2.44	2.14	5.79	6.99	143.64	3.22	117.44	CLOSED	#1-NORMAL	24	31					
9/30/14 8:50	1648	1756	0.00	0.00	1741.25	1981.39	0.72	359.02	2.43	2.49	5.79	6.98	143.63	3.22	117.47	CLOSED	#1-NORMAL	24	30					
9/30/14 8:51	1648	1756	0.00	0.00	1739.90	1981.41	0.72	359.08	2.43	2.83	5.95	6.97	143.63	3.24	117.50	CLOSED	#1-NORMAL	24	39					
9/30/14 8:52	1648	1756	0.00	0.00	1738.63	1981.31	0.72	359.06	2.42	3.18	5.81	6.96	143.63	3.24	117.54	CLOSED	#1-NORMAL	24	29					
9/30/14 8:53	1648	1756	0.00	0.00	1737.33	1981.18	0.72	359.04	2.41	3.52	5.92	6.95	143.63	3.24	117.58	CLOSED	#1-NORMAL	24	31					
9/30/14 8:54	1800	1756	0.00	0.00	1736.04	1981.14	0.72	359.06	2.41	3.87	6.16	6.94	143.63	3.25	117.62	CLOSED	#1-NORMAL	24	37					
9/30/14 8:55	1800	1756	0.00	0.00	1734.87	1980.99	0.72	359.05	2.40	4.21	6.09	6.93	143.63	3.26	117.66	CLOSED	#1-NORMAL	24	31					
9/30/14 8:56	1800	1756	0.00	0.00	1733.69	1980.83	0.72	359.04	2.40	4.56	6.20	6.92	143.62	3.26	117.70	CLOSED	#1-NORMAL	24	32					
9/30/14 8:57	1800	1756	0.00	0.00	1732.51	1980.62	0.72	359.07	2.39	4.90	6.37	6.91	143.62	3.26	117.74	CLOSED	#1-NORMAL	24	34					
9/30/14 8:58	1800	1756	0.00	0.00	1731.45	1980.27	0.72	359.04	2.39	5.25	6.39	6.90	143.61	3.26	117.78	CLOSED	#1-NORMAL	24	33					
9/30/14 8:59	1800	1756	0.00	0.00	1730.44	1979.97	0.72	358.99	2.38	5.60	6.34	6.89	143.61	3.25	117.82	CLOSED	#1-NORMAL	24	30					
9/30/14 9:00	0	1756	0.00	0.00	1729.49	1979.78	0.72	359.03	2.38	5.94	6.48	6.87	143.61	3.25	117.85	CLOSED	#1-NORMAL	24	31					
9/30/14 9:01	0	1755.667	0.00	0.00	1728.65	1979.58	0.72	359.03	2.37	6.29	6.60	6.86	143.60	3.24	117.89	CLOSED	#1-NORMAL	24	32					
9/30/14 9:02	0	1755.667	0.00	0.00	1727.80	1979.34	0.72	358.97	2.37	6.63	6.49	6.85	143.60	3.24	117.92	CLOSED	#1-NORMAL	24	31					
9/30/14 9:03	0	1755.667	0.00	0.00	1726.97	1979.02	0.72	359.00	2.36	6.98	6.70	6.84	143.59	3.23	117.95	CLOSED	#1-NORMAL	24	30					
9/30/14 9:04	173	1755.667	0.00	0.00	1726.22	1978.70	0.72	359.04	2.36	7.32	6.82	6.83	143.59	3.23	117.96	CLOSED	#1-NORMAL	24	31					
9/30/14 9:05	173	1755.667	0.00	0.00	1725.49	1978.48	0.72	358.97	2.35	7.67	6.88	6.82	143.58	3.22	117.98	CLOSED	#1-NORMAL	24	28					
9/30/14 9:06	173	1755.667	0.00	0.00	1724.90	1978.34	0.72	358.98	2.35	8.02	6.69	6.81	143.58	3.21	117.99	CLOSED	#1-NORMAL	24	27					
9/30/14 9:07	173	1755.667	0.00	0.00	1724.41	1978.27	0.72	359.04	2.34	8.36	6.45	6.79	143.57	3.21	118.00	CLOSED	#1-NORMAL	24	32					
9/30/14 9:08	173	1755.667	0.00	0.00	1723.96	1978.24	0.72	359.00	2.34	8.71	5.42	6.78	143.57	3.20	118.01	CLOSED	#1-NORMAL	24	25					
9/30/14 9:09	173	1755.667	0.00	0.00	1723.67	1978.14	0.72	358.96	2.33	9.05	5.40	6.77	143.56	3.20	118.02	CLOSED	#1-NORMAL	24	30					
9/30/14 9:10	173	1755.667	0.00	0.00	1723.49	1978.00	0.72	359.02	2.33	9.40	5.12	6.76	143.56	3.19	118.03	CLOSED	#1-NORMAL	24	17					
9/30/14 9:11	350	1755.667	0.00	0.00	1723.35	1977.88	0.72	359.02	2.32	9.74	4.96	6.74	143.56	3.17	118.03	CLOSED	#1-NORMAL	24	17					
9/30/14 9:12	350	1755.667	0.00	0.00	1723.30	1977.86	0.72	358.94	2.32	10.09	4.87	6.73	143.55	3.16	118.03	CLOSED	#1-NORMAL	24	18					
9/30/14 9:13	350	1755.667	0.00	0.00	1723.15	1977.99	0.72	358.96	2.31	10.44	5.23	6.72	143.55	3.15	118.03	CLOSED	#1-NORMAL	24	19					
9/30/14 9:14	350	1755.667	0.00	0.00	1722.85	1978.08	0.72	359.01	2.31	10.78	5.51	6.70	143.54	3.14	118.02	CLOSED	#1-NORMAL	24	27					
9/30/14 9:15	350	1755.667	0.00	0.00	1722.56	1978.10	0.72	358.95	2.30	11.13	5.64	6.69	143.54	3.13	118.02	CLOSED	#1-NORMAL	24	21					
9/30/14 9:16	350	1755.667	0.00	0.00	1722.28	1978.11	0.72	358.94	2.30	11.47	5.94	6.68	143.53	3.12	118.02	CLOSED	#1-NORMAL	24	21					
9/30/14 9:17	538	1755.667	0.00	0.00	1722.11	1978.03	0.72	359.01	2.29	11.82	5.46	6.66	143.53	3.11	118.01	CLOSED	#1-NORMAL	24	22					
9/30/14 9:18	538	1755.667	0.00	0.00	1722.18	1977.83	0.72	358.97	2.28	12.16	5.42	6.65	143.53	3.10	118.00	CLOSED	#1-NORMAL	24	17					

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reagent	BHtnTemp	Carbon	Lime	BagDP	AbsoH	AbsRecirc	AbsOP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 9:19	538	1755.667	0.00	0.00	1722.38	1977.69	0.72	358.92	2.28	12.51	4.97	6.64	143.52	3.09	117.99	CLOSED	#1-NORMAL	Start #1 M29,23	13					
9/30/14 9:20	538	1755.667	0.00	0.00	1722.67	1977.57	0.72	358.96	2.27	12.86	4.86	6.62	143.52	3.07	117.98	CLOSED	#1-NORMAL	24	13					
9/30/14 9:21	538	1755.667	0.00	0.00	1723.04	1977.48	0.73	358.98	2.27	13.20	5.06	6.61	143.52	3.06	117.97	CLOSED	#1-NORMAL	24	18					
9/30/14 9:22	538	1755.667	0.00	0.00	1723.35	1977.50	0.73	358.93	2.26	13.55	5.77	6.60	143.51	3.05	117.96	CLOSED	#1-NORMAL	24	24					
9/30/14 9:23	738	1755.667	0.00	0.00	1723.69	1977.48	0.73	358.96	2.26	13.89	5.71	6.58	143.51	3.04	117.94	CLOSED	#1-NORMAL	24	17					
9/30/14 9:24	738	1755.667	0.00	0.00	1724.03	1977.47	0.73	359.00	2.25	14.24	5.56	6.57	143.50	3.03	117.93	CLOSED	#1-NORMAL	24	20					
9/30/14 9:25	738	1755.667	0.00	0.00	1724.25	1977.58	0.73	358.96	2.25	14.58	5.56	6.56	143.50	3.02	117.92	CLOSED	#1-NORMAL	24	19					
9/30/14 9:26	738	1755.667	0.00	0.00	1724.43	1977.74	0.73	358.95	2.24	14.93	5.28	6.54	143.49	3.00	117.91	CLOSED	#1-NORMAL	24	15					
9/30/14 9:27	738	1755.667	0.00	0.00	1724.22	1977.93	0.73	358.98	2.24	15.28	5.25	6.53	143.49	2.99	117.89	CLOSED	#1-NORMAL	24	15					
9/30/14 9:28	738	1755.667	0.00	0.00	1723.58	1978.04	0.73	358.98	2.23	15.62	5.23	6.51	143.49	2.98	117.87	CLOSED	#1-NORMAL	24	16					
9/30/14 9:29	738	1755.667	0.00	0.00	1723.10	1978.07	0.73	358.96	2.23	15.97	6.00	6.50	143.48	2.97	117.86	CLOSED	#1-NORMAL	24	11					
9/30/14 9:30	913	1755.667	0.00	0.00	1722.68	1978.13	0.73	358.99	2.22	16.31	4.97	6.48	143.47	2.96	117.85	CLOSED	#1-NORMAL	24	12					
9/30/14 9:31	913	1755.667	0.00	0.00	1722.16	1978.41	0.73	359.03	2.22	16.66	5.46	6.46	143.46	2.95	117.84	CLOSED	#1-NORMAL	24	22					
9/30/14 9:32	913	1755.667	0.00	0.00	1721.62	1978.88	0.73	359.01	2.21	17.00	6.41	6.44	143.46	2.95	117.85	CLOSED	#1-NORMAL	24	26					
9/30/14 9:33	913	1755.667	0.00	0.00	1720.89	1979.47	0.73	359.01	2.21	17.35	6.56	6.43	143.45	2.95	117.85	CLOSED	#1-NORMAL	24	28					
9/30/14 9:34	913	1755.667	0.00	0.00	1720.04	1979.96	0.73	359.09	2.20	17.70	6.62	6.42	143.44	2.95	117.85	CLOSED	#1-NORMAL	24	31					
9/30/14 9:35	913	1755.667	0.00	0.00	1719.25	1980.25	0.73	359.16	2.20	18.04	6.71	6.41	143.43	2.96	117.86	CLOSED	#1-NORMAL	24	35					
9/30/14 9:36	1115	1755.667	0.00	0.00	1718.46	1980.36	0.73	359.12	2.19	18.39	6.57	6.41	143.42	2.96	117.88	CLOSED	#1-NORMAL	24	37					
9/30/14 9:37	1115	1755.667	0.00	0.00	1717.66	1980.30	0.73	359.09	2.18	18.73	6.82	6.40	143.41	2.97	117.89	CLOSED	#1-NORMAL	24	38					
9/30/14 9:38	1115	1755.667	0.00	0.00	1716.91	1980.24	0.73	359.13	2.18	19.08	6.73	6.40	143.41	2.96	117.90	CLOSED	#1-NORMAL	24	26					
9/30/14 9:39	1115	1755.667	0.00	0.00	1716.11	1980.23	0.73	359.13	2.17	19.42	6.65	6.39	143.40	2.96	117.92	CLOSED	#1-NORMAL	24	18					
9/30/14 9:40	1115	1755.667	0.00	0.00	1715.44	1980.18	0.73	359.11	2.17	19.77	6.79	6.39	143.39	2.96	117.93	CLOSED	#1-NORMAL	24	30					
9/30/14 9:41	1115	1755.667	0.00	0.00	1715.00	1980.05	0.73	359.12	2.16	20.12	6.27	6.38	143.38	2.97	117.95	CLOSED	#1-NORMAL	24	40					
9/30/14 9:42	1115	1755.667	0.00	0.00	1714.67	1979.88	0.73	359.11	2.16	20.46	5.76	6.38	143.37	2.97	117.97	CLOSED	#1-NORMAL	24	39					
9/30/14 9:43	1313	1755.667	0.00	0.00	1714.41	1979.60	0.73	359.08	2.15	20.81	5.74	6.37	143.36	2.97	117.98	CLOSED	#1-NORMAL	24	27					
9/30/14 9:44	1313	1755.667	0.00	0.00	1714.23	1979.38	0.73	359.12	2.15	21.15	5.98	6.36	143.36	2.96	118.00	CLOSED	#1-NORMAL	24	34					
9/30/14 9:45	1313	1755.667	0.00	0.00	1713.98	1979.37	0.73	359.11	2.14	21.50	6.14	6.35	143.35	2.97	118.02	CLOSED	#1-NORMAL	24	37					
9/30/14 9:46	1313	1755.667	0.00	0.00	1713.70	1979.34	0.73	359.07	2.14	21.84	6.11	6.34	143.34	2.96	118.03	CLOSED	#1-NORMAL	24	29					
9/30/14 9:47	1313	1755.667	0.00	0.00	1713.37	1979.24	0.73	359.09	2.13	22.19	6.38	6.32	143.33	2.95	118.05	CLOSED	#1-NORMAL	24	28					
9/30/14 9:48	1313	1755.667	0.00	0.00	1712.92	1979.08	0.73	359.13	2.13	22.54	6.53	6.31	143.32	2.95	118.06	CLOSED	#1-NORMAL	24	36					
9/30/14 9:49	1520	1755.667	0.00	0.00	1712.40	1978.90	0.73	359.07	2.12	22.88	6.51	6.30	143.31	2.95	118.08	CLOSED	#1-NORMAL	24	27					
9/30/14 9:50	1520	1755.667	0.00	0.00	1711.87	1978.76	0.73	359.07	2.12	23.23	6.65	6.29	143.30	2.94	118.09	CLOSED	#1-NORMAL	24	26					
9/30/14 9:51	1520	1755.667	0.00	0.00	1711.34	1978.74	0.73	359.11	2.11	23.57	6.76	6.29	143.29	2.93	118.10	CLOSED	#1-NORMAL	24	33					
9/30/14 9:52	1520	1755.667	0.00	0.00	1710.83	1978.79	0.73	359.08	2.11	23.92	6.73	6.30	143.29	2.93	118.11	CLOSED	#1-NORMAL	24	31					
9/30/14 9:53	1520	1755.667	0.00	0.00	1710.24	1978.87	0.73	359.05	2.10	24.26	6.73	6.30	143.28	2.92	118.12	CLOSED	#1-NORMAL	24	25					
9/30/14 9:54	1520	1755.667	0.00	0.00	1709.68	1978.90	0.73	359.10	2.10	24.61	6.89	6.30	143.26	2.91	118.13	CLOSED	#1-NORMAL	24	30					
9/30/14 9:55	1520	1755.667	0.00	0.00	1709.19	1978.85	0.73	359.10	2.09	24.95	6.69	6.30	143.26	2.91	118.13	CLOSED	#1-NORMAL	24	34					
9/30/14 9:56	1724	1755.667	0.00	0.00	1708.72	1978.76	0.73	359.04	2.11	25.30	5.72	6.30	143.25	2.91	118.14	CLOSED	#1-NORMAL	24	29					
9/30/14 9:57	1724	1755.667	0.00	0.00	1708.44	1978.72	0.73	359.08	2.12	25.65	5.94	6.30	143.24	2.91	118.14	CLOSED	#1-NORMAL	24	29					
9/30/14 9:58	1796	1755.667	0.00	0.00	1708.32	1978.71	0.73	359.12	2.14	25.99	6.09	6.30	143.23	2.90	118.15	CLOSED	#1-NORMAL	24	31					
9/30/14 9:59	1796	1755.667	0.00	0.00	1708.30	1978.63	0.73	359.05	2.16	26.34	6.02	6.29	143.22	2.90	118.15	CLOSED	#1-NORMAL	24	28					
9/30/14 10:00	0	1755.667	0.00	0.00	1708.51	1978.52	0.73	359.06	2.18	26.68	6.07	6.29	143.21	2.90	118.16	CLOSED	#1-NORMAL	24	27					
9/30/14 10:01	0	1798.333	0.00	0.00	1708.92	1978.45	0.73	359.13	2.19	27.03	6.27	6.29	143.20	2.90	118.16	CLOSED	#1-NORMAL	24	30					
9/30/14 10:02	0	1798.333	0.00	0.00	1709.27	1978.41	0.73	359.08	2.21	27.37	6.26	6.28	143.19	2.90	118.16	CLOSED	#1-NORMAL	24	27					
9/30/14 10:03	0	1798.333	0.00	0.00	1709.63	1978.38	0.73	359.05	2.23	27.72	6.27	6.28	143.18	2.90	118.16	CLOSED	#1-NORMAL	24	26					
9/30/14 10:04	0	1798.333	0.00	0.00	1710.08	1978.32	0.73	359.13	2.24	28.07	6.54	6.28	143.17	2.91	118.16	CLOSED	#1-NORMAL	24	28					
9/30/14 10:05	0	1798.333	0.00	0.00	1710.64	1978.22	0.73	359.11	2.26	28.41	6.39	6.27	143.15	2.91	118.16	CLOSED	#1-NORMAL	24	24					
9/30/14 10:06	0	1798.333	0.00	0.00	1711.33	1978.15	0.73	359.04	2.28	28.76	6.02	6.27	143.14	2.90	118.16	CLOSED	#1-NORMAL	24	21					
9/30/14 10:07	0	1798.333	0.00	0.00	1712.08	1978.11	0.73	359.10	2.30	29.10	5.93	6.26	143.12	2.90	118.16	CLOSED	#1-NORMAL	24	18					
9/30/14 10:08	0	1798.333	0.00	0.00	1712.86	1978.10	0.73	359.14	2.31	29.45	6.35	6.25	143.11	2.91	118.17	CLOSED	#1-NORMAL	24	17					
9/30/14 10:09	190	1798.333	0.00	0.00	1713.66	1978.11	0.73	359.06	2.33	29.79	5.84	6.24	143.10	2.91	118.18	CLOSED	#1-NORMAL	24	13					
9/30/14 10:10	190	1798.333	0.00	0.00	1714.48	1978.13	0.72	359.06	2.35	30.14	5.48	6.23	143.09	2.91	118.19	CLOSED	#1-NORMAL	24	10					
9/30/14 10:11	190	1798.333	0.00	0.00	1715.36	1978.16	0.72	359.14	2.36	30.49	5.42	6.24	143.08	2.91	118.20	CLOSED	#1-NORMAL	24	11					
9/30/14 10:12	190	1798.333	0.00	0.00	1716.24	1978.24	0.72	359.13	2.38	30.83	5.54	6.25	143.07	2.91	118.21	CLOSED	#1-NORMAL	24	10					
9/30/14 10:13	190	1798.333	0.00	0.00	1717.08	1978.33	0.72	359.06	2.40	31.18	5.25	6.26	143.06	2.92	118.22	CLOSED	#1-NORMAL	24	10					
9/30/14 10:14	190	1798.333	0.00	0.00	1717.92	1978.39	0.72	359.08	2.41	31.52	5.95	6.26	143.04	2.92	118.23	CLOSED	#1-NORMAL	24	16					
9/30/14 10:15	342	1798.333	0.00	0.00	1718.63	1978.46	0.72	359.16	2.42	31.87	5.24	6.27	143.03	2.92	118.25	CLOSED	#1-NORMAL	24	12					
9/30/14 10:16	342	1798.333	0.00	0.00	1719.03	1978.55	0.72	359.12	2.43	32.21	4.93	6.27	143.02	2.92	118.27	CLOSED	#1-NORMAL	24	13					
9/30/14 10:17	342	1798.333	0.00	0.00	1719.50	1978.60	0.72	359.05	2.44	32.56	5.22	6.27	143.02	2.91	118.28	CLOSED	#1-NORMAL	24	15					
9/30/14 10:18	342	1798.333	0.00	0.00	1720.13	1978.65	0.72	359.11	2.45	33.04	5.65	6.27	143.01	2.91	118.28	CLOSED	#1-NORMAL	24	18					
9/30/14 10:19	342	1798.333	0.00	0.00	1720.77	1978.71	0.72	359.14	2.46	33.52	5.99	6.27	143.00	2.90	118.28	CLOSED	#1-NORMAL	24	20					
9/30/14 10:20	342	1798.333	0.00	0.00	1721.53	1978.70	0.72	359.07	2.47	34.00	5.86	6.27	142.99	2.90	118.28	CLOSED	#1-NORMAL	24	21					
9/30/14 10:21	342	1798.333	0.00	0.00	1722.44	1978.65	0.72	359.10	2.49	34.48	6.09	6.26	142.98	2.89	118.27	CLOSED	#1-NORMAL	24	24					
9/30/14 10:22	573	1798.333	0.00	0.00	1723.51	1978.58	0.72	359.16	2.50	34.96	6.15	6.25	142.97	2.90	118.26	CLOSED	#1-NORMAL	24	27					
9/30/14 10:23	573	1798.333	0.00	0.00	1724.78	1978.52	0.72	359.10	2.51	35.43	5.90	6.25	142.96	2.90	118.26	CLOSED	#1-NORMAL	24	24					
9/30/14 10:24	573	1798.333	0.00	0.00	1726.15	1978.40	0.72	359.08	2.52	35.91	5.88	6.24	142.95	2.90	118.26	CLOSED	#1-NORMAL	24	23					
9/30/14 10:25	573	1798.333	0.00	0.00	1727.66	1978.20	0.72	359.15	2.53	36.39	5.89	6.25	142.94	2.89	118.25	CLOSED	#1-NORMAL	24	25					
9/30/14 10:26	573	1798.333	0.00	0.00	1729.27	1978.00	0.72	359.11	2.54	36.87	5.65	6.25	142.92	2.89	118.23	CLOSED	#1-NORMAL	24	20					
9/30/14 10:27	573	1798.333	0.00	0.00	1730.82	1977.85	0.72	359.05	2.55	37.35	5.86	6.25	142.91	2.89	118.22	CLOSED	#1-NORMAL	24	24					
9/30/14 10:28	883	1798.333	0.00	0.00	1732.32	1977.84	0.72	359.11	2.57	37.83	5.87	6.25	142.90	2.89	118.20	CLOSED	#1-NORMAL	24	21					
9/30/14 10:29	883	1798.333	0.00	0.00	1733.79	1977.75	0.72	359.13	2.58	38.31	5.81	6.25	142.89	2.89	118.18	CLOSED	#1-NORMAL	24	19					
9/30/14 10:30	883	1798.333	0.00	0.00	1735.16	1977.67	0.72	359.05	2.59	38.79	5.47	6.25	142.88	2.88	118.17	CLOSED	#1-NORMAL	24	19					
9/30/14 10:31	883	1798.333	0.00	0.00	1736.47	1977.74	0.72	359.06	2.60	39.27	5.82	6.25	142.87	2.89	118.15	CLOSED	#1-NORMAL	24	40					
9/30/14 10:32	883	1798.333	0.00	0.00	1737.65	1977.93	0.72	359.13	2.62	39.75	6.42	6.24	142.86	2.90	118.13	CLOSED	#1-NORMAL	24	40					
9/30/14 10:33	883	1798.333	0.00	0.00	1738.53	1978.15	0.72	359.08	2.62	40.22	6.44	6.23	142.85	2.91	118.12	CLOSED	#1-NORMAL	24	40					
9/30/14 10:34	883	1798.333	0.00	0.00	1739.18	1978.34	0.72	359.05	2.63	40.70	6.65	6.24	142.85	2.92	118.11	CLOSED	#1-NORMAL	24	40					
9/30/14 10:35	1075	1798.333	0.00	0.00	1739.63	1978.46	0.72	359.14	2.65	41.18	6.47	6.24	142.84	2.93	118.10	CLOSED	#1-NORMAL	24	40					
9/30/14 10:36	1075	1798.333	0.00	0.00	1739.90	1978.50	0.72	359.10	2.66	41.66	5.42	6.25	142.83	2.94	118.09	CLOSED	#1-NORMAL	24	40					
9/30/14 10:37	1075	1798.333	0.00	0.00	1740.11	1978.49	0.72	359.04	2.67	42.14	5.17	6.25	142.82	2.95	118.08	CLOSED	#1-NORMAL	24	36					
9/30/14 10:38	1323	1798.333	0.00	0.00	1740.27	1978.45	0.73	359.11	2.68	42.62	5.07	6.25	142.81	2.96	118.07	CLOSED	#1-NORMAL	24	34					

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reagent	BHinTemp	Carbon	Lime	BagDP	AbsPH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 10:39	1323	1798.333	0.00	0.00	1740.39	1978.40	0.73	359.13	2.69	43.10	5.00	6.25	142.81	2.97	118.07	CLOSED	#1-NORMAL	24	31					
9/30/14 10:40	1323	1798.333	0.00	0.00	1740.45	1978.36	0.73	359.05	2.70	43.58	4.95	6.25	142.80	2.98	118.07	CLOSED	#1-NORMAL	24	40					
9/30/14 10:41	1508	1798.333	0.00	0.00	1740.37	1978.40	0.73	359.05	2.71	44.06	4.98	6.24	142.79	2.98	118.07	CLOSED	#1-NORMAL	24	27					
9/30/14 10:42	1508	1798.333	0.00	0.00	1740.23	1978.47	0.73	359.12	2.73	44.54	4.69	6.24	142.78	2.98	118.06	CLOSED	#1-NORMAL	24	30					
9/30/14 10:43	1508	1798.333	0.00	0.00	1739.94	1978.57	0.73	359.10	2.74	45.01	4.87	6.24	142.78	2.98	118.06	CLOSED	#1-NORMAL	24	30					
9/30/14 10:44	1508	1798.333	0.00	0.00	1739.61	1978.72	0.73	359.04	2.75	45.49	5.01	6.23	142.78	2.99	118.06	CLOSED	#1-NORMAL	24	31					
9/30/14 10:45	1508	1798.333	0.00	0.00	1739.29	1978.85	0.73	359.08	2.76	45.97	5.37	6.23	142.78	2.99	118.06	CLOSED	#1-NORMAL	24	37					
9/30/14 10:46	1508	1798.333	0.00	0.00	1738.93	1979.00	0.73	359.13	2.77	46.45	5.71	6.22	142.78	3.00	118.07	CLOSED	#1-NORMAL	24	35					
9/30/14 10:47	1508	1798.333	0.00	0.00	1738.61	1979.03	0.73	359.09	2.78	46.93	6.04	6.22	142.77	3.00	118.08	CLOSED	#1-NORMAL	24	33					
9/30/14 10:48	1655	1798.333	0.00	0.00	1738.34	1978.94	0.73	359.08	2.79	47.41	5.77	6.21	142.76	3.01	118.09	CLOSED	#1-NORMAL	24	34					
9/30/14 10:49	1655	1798.333	0.00	0.00	1738.12	1978.85	0.73	359.13	2.80	47.89	6.11	6.21	142.75	3.01	118.10	CLOSED	#1-NORMAL	24	37					
9/30/14 10:50	1655	1798.333	0.00	0.00	1738.01	1978.65	0.73	359.11	2.82	48.37	5.80	6.22	142.75	3.01	118.11	CLOSED	#1-NORMAL	24	32					
9/30/14 10:51	1655	1798.333	0.00	0.00	1737.94	1978.39	0.73	359.07	2.83	48.85	5.66	6.23	142.73	3.00	118.12	CLOSED	#1-NORMAL	24	29					
9/30/14 10:52	1655	1798.333	0.00	0.00	1737.85	1978.17	0.73	359.11	2.84	49.33	5.70	6.23	142.72	3.00	118.12	CLOSED	#1-NORMAL	24	30					
9/30/14 10:53	1655	1798.333	0.00	0.00	1737.91	1977.96	0.73	359.12	2.84	49.80	5.89	6.24	142.72	2.99	118.13	CLOSED	#1-NORMAL	24	38					
9/30/14 10:54	1759	1798.333	0.00	0.00	1738.11	1977.79	0.73	359.07	2.84	50.28	5.95	6.24	142.71	2.99	118.13	CLOSED	#1-NORMAL	24	28					
9/30/14 10:55	1759	1798.333	0.00	0.00	1738.23	1977.70	0.73	359.08	2.84	50.76	5.76	6.24	142.70	2.98	118.13	CLOSED	#1-NORMAL	24	34					
9/30/14 10:56	1759	1798.333	0.00	0.00	1738.38	1977.73	0.73	359.13	2.84	51.24	6.44	6.24	142.69	2.98	118.12	CLOSED	#1-NORMAL	24	37					
9/30/14 10:57	1759	1798.333	0.00	0.00	1738.57	1977.73	0.73	359.09	2.85	51.87	6.67	6.24	142.68	2.98	118.12	CLOSED	#1-NORMAL	24	40					
9/30/14 10:58	1759	1798.333	0.00	0.00	1738.78	1977.65	0.73	359.09	2.85	52.57	6.28	6.24	142.67	2.98	118.11	CLOSED	#1-NORMAL	24	40					
9/30/14 10:59	1759	1798.333	0.00	0.00	1739.09	1977.51	0.73	359.15	2.85	53.26	5.80	6.23	142.66	2.98	118.11	CLOSED	#1-NORMAL	24	40		24.5	5.98	6.63	0.73
9/30/14 11:00	0	1798.333	0.00	0.00	1739.44	1977.36	0.73	359.12	2.85	53.95	5.74	6.22	142.66	2.98	118.11	CLOSED	#1-NORMAL	24	39		24.7	5.97	6.63	0.73
9/30/14 11:01	281	1797	0.00	0.00	1739.80	1977.25	0.73	359.10	2.85	54.65	5.86	6.22	142.65	2.98	118.11	CLOSED	#1-NORMAL	24	40		24.9	5.97	6.62	0.73
9/30/14 11:02	281	1797	0.00	0.00	1740.20	1977.15	0.73	359.15	2.86	55.34	5.99	6.23	142.64	2.98	118.12	CLOSED	#1-NORMAL	24	40		25.1	5.97	6.62	0.73
9/30/14 11:03	281	1797	0.00	0.00	1740.61	1976.99	0.73	359.14	2.86	56.04	5.83	6.24	142.63	2.98	118.12	CLOSED	#1-NORMAL	24	40		25.3	5.97	6.61	0.73
9/30/14 11:04	281	1797	0.00	0.00	1741.06	1976.79	0.73	359.10	2.87	56.73	5.96	6.24	142.62	2.98	118.13	CLOSED	#1-NORMAL	24	40		25.5	5.96	6.60	0.73
9/30/14 11:05	281	1797	0.00	0.00	1741.66	1976.57	0.73	359.14	2.88	57.43	6.09	6.25	142.61	2.98	118.14	CLOSED	#1-NORMAL	24	40		25.8	5.96	6.60	0.73
9/30/14 11:06	281	1797	0.00	0.00	1742.39	1976.39	0.73	359.16	2.90	58.12	6.03	6.25	142.60	2.98	118.14	CLOSED	#1-NORMAL	24	40		26.0	5.96	6.59	0.73
9/30/14 11:07	434	1797	0.00	0.00	1743.16	1976.19	0.73	359.13	2.91	58.81	6.07	6.25	142.60	2.98	118.15	CLOSED	#1-NORMAL	24	40		26.2	5.96	6.59	0.73
9/30/14 11:08	434	1797	0.00	0.00	1743.99	1975.93	0.73	359.13	2.93	59.51	5.88	6.26	142.59	2.98	118.16	CLOSED	#1-NORMAL	24	40		26.4	5.96	6.58	0.73
9/30/14 11:09	434	1797	0.00	0.00	1744.83	1975.74	0.73	359.16	2.95	60.20	6.08	6.26	142.58	2.98	118.16	CLOSED	#1-NORMAL	24	40		26.7	5.95	6.58	0.73
9/30/14 11:10	434	1797	0.00	0.00	1745.75	1975.60	0.73	359.15	2.96	60.81	6.10	6.26	142.58	2.98	118.17	CLOSED	#1-NORMAL	24	40		26.9	5.95	6.57	0.73
9/30/14 11:11	434	1797	0.00	0.00	1746.74	1975.44	0.73	359.14	2.98	61.10	6.36	6.26	142.57	2.97	118.17	CLOSED	#1-NORMAL	24	36		27.1	5.95	6.56	0.73
9/30/14 11:12	434	1797	0.00	0.00	1747.72	1975.27	0.73	359.17	3.00	61.22	6.39	6.26	142.56	2.97	118.18	CLOSED	#1-NORMAL	24	33		27.4	5.95	6.56	0.73
9/30/14 11:13	434	1797	0.00	0.00	1748.70	1975.08	0.73	359.16	3.02	61.22	6.44	6.26	142.55	2.97	118.18	CLOSED	#1-NORMAL	24	31		27.6	5.95	6.55	0.73
9/30/14 11:14	618	1797	0.00	0.00	1749.69	1974.92	0.73	359.15	3.03	61.22	6.15	6.26	142.54	2.96	118.19	CLOSED	#1-NORMAL	24	26		27.8	5.95	6.55	0.73
9/30/14 11:15	618	1797	0.00	0.00	1750.69	1974.79	0.73	359.16	3.04	61.22	6.13	6.26	142.54	2.95	118.19	CLOSED	#1-NORMAL	24	27		28.0	5.94	6.54	0.73
9/30/14 11:16	618	1797	0.00	0.00	1751.72	1974.75	0.73	359.15	3.06	61.22	5.88	6.25	142.53	2.94	118.20	CLOSED	#1-NORMAL	24	24		28.2	5.94	6.54	0.73
9/30/14 11:17	618	1797	0.00	0.00	1752.71	1974.80	0.73	359.14	3.07	61.22	6.13	6.24	142.52	2.94	118.20	CLOSED	#1-NORMAL	24	26		28.5	5.93	6.53	0.73
9/30/14 11:18	618	1797	0.00	0.00	1753.56	1974.91	0.73	359.15	3.09	61.22	6.59	6.24	142.51	2.93	118.21	CLOSED	#1-NORMAL	24	34		28.7	5.93	6.53	0.73
9/30/14 11:19	618	1797	0.00	0.00	1754.29	1974.99	0.73	359.17	3.10	61.22	6.61	6.25	142.51	2.93	118.21	CLOSED	#1-NORMAL	24	29		28.9	5.93	6.52	0.73
9/30/14 11:20	618	1797	0.00	0.00	1754.91	1975.00	0.73	359.16	3.10	61.22	6.66	6.26	142.50	2.92	118.23	CLOSED	#1-NORMAL	24	26		29.1	5.93	6.52	0.73
9/30/14 11:21	821	1797	0.00	0.00	1755.49	1975.08	0.73	359.16	3.10	61.22	6.77	6.26	142.49	2.92	118.24	CLOSED	#1-NORMAL	24	35		29.3	5.94	6.51	0.73
9/30/14 11:22	821	1797	0.00	0.00	1756.01	1975.18	0.73	359.17	3.10	61.22	6.70	6.26	142.49	2.91	118.25	CLOSED	#1-NORMAL	24	32		29.5	5.94	6.51	0.73
9/30/14 11:23	821	1797	0.00	0.00	1756.41	1975.30	0.73	359.16	3.10	61.22	6.72	6.26	142.48	2.91	118.26	CLOSED	#1-NORMAL	24	28		29.7	5.95	6.50	0.73
9/30/14 11:24	821	1797	0.00	0.00	1756.70	1975.44	0.73	359.15	3.10	61.22	6.88	6.26	142.47	2.90	118.27	CLOSED	#1-NORMAL	24	35		29.9	5.95	6.50	0.73
9/30/14 11:25	821	1797	0.00	0.00	1756.91	1975.58	0.73	359.17	3.10	61.22	5.70	6.26	142.47	2.90	118.28	CLOSED	#1-NORMAL	24	34		30.1	5.95	6.49	0.73
9/30/14 11:26	821	1797	0.00	0.00	1757.03	1975.75	0.73	359.17	3.10	61.22	5.69	6.26	142.46	2.89	118.31	CLOSED	#1-NORMAL	24	37		30.3	5.95	6.49	0.73
9/30/14 11:27	1059	1797	0.00	0.00	1757.05	1975.86	0.73	359.18	3.10	61.22	5.84	6.26	142.45	2.89	118.32	CLOSED	#1-NORMAL	24	32		30.4	5.95	6.48	0.73
9/30/14 11:28	1059	1797	0.00	0.00	1757.00	1975.97	0.73	359.18	3.10	61.22	5.94	6.26	142.44	2.89	118.34	CLOSED	#1-NORMAL	24	33		30.6	5.95	6.48	0.73
9/30/14 11:29	1059	1797	0.00	0.00	1756.95	1976.09	0.73	359.17	3.10	61.22	5.85	6.26	142.44	2.89	118.36	CLOSED	#1-NORMAL	24	30		30.8	5.95	6.47	0.73
9/30/14 11:30	1059	1797	0.00	0.00	1756.87	1976.22	0.73	359.18	3.10	61.22	6.06	6.26	142.43	2.89	118.38	CLOSED	#1-NORMAL	24	30		31.0	5.95	6.47	0.73
9/30/14 11:31	1059	1797	0.00	0.00	1756.61	1976.42	0.73	359.18	3.10	61.22	6.24	6.26	142.42	2.89	118.40	CLOSED	#1-NORMAL	24	33		31.2	5.96	6.46	0.73
9/30/14 11:32	1059	1797	0.00	0.00	1756.13	1976.60	0.73	359.18	3.10	61.22	6.05	6.26	142.41	2.90	118.42	CLOSED	#1-NORMAL	24	30		31.3	5.96	6.46	0.73
9/30/14 11:33	1059	1797	0.00	0.00	1755.56	1976.68	0.73	359.19	3.10	61.22	6.15	6.26	142.41	2.90	118.44	CLOSED	#1-NORMAL	24	30		31.5	5.96	6.45	0.73
9/30/14 11:34	1059	1797	0.00	0.00	1754.97	1976.74	0.73	359.20	3.10	61.22	6.29	6.26	142.42	2.90	118.46	CLOSED	#1-NORMAL	24	31		31.7	5.96	6.45	0.73
9/30/14 11:35	1059	1797	0.00	0.00	1754.25	1976.70	0.73	359.18	3.10	61.22	6.15	6.26	142.42	2.91	118.49	CLOSED	#1-NORMAL	24	29		31.9	5.96	6.44	0.73
9/30/14 11:36	1059	1797	0.00	0.00	1753.43	1976.63	0.73	359.18	3.10	61.22	6.12	6.26	142.42	2.90	118.51	CLOSED	#1-NORMAL	24	27		32.0	5.96	6.44	0.73
9/30/14 11:37	1059	1797	0.00	0.00	1752.57	1976.54	0.73	359.20	3.10	61.22	6.29	6.26	142.41	2.89	118.54	CLOSED	#1-NORMAL	24	29		32.2	5.96	6.43	0.73
9/30/14 11:38	1059	1797	0.00	0.00	1751.74	1976.46	0.73	359.18	3.10	61.22	6.31	6.26	142.40	2.89	118.58	CLOSED	#1-NORMAL	24	28		32.4	5.96	6.43	0.73
9/30/14 11:39	1059	1797	0.00	0.00	1750.99	1976.47	0.73	359.17	3.10	61.22	6.23	6.26	142.40	2.88	118.61	CLOSED	#1-NORMAL	24	26		32.5	5.96	6.42	0.73
9/30/14 11:40	1059	1797	0.00	0.00	1750.04	1976.55	0.73	359.19	3.10	61.22	6.44	6.26	142.39	2.87	118.63	CLOSED	#1-NORMAL	24	27		32.7	5.96	6.42	0.73
9/30/14 11:41	1059	1797	0.00	0.00	1748.98	1976.66	0.73	359.17	3.10	61.22	6.56	6.26	142.38	2.87	118.66	CLOSED	#1-NORMAL	24	27		32.9	5.96	6.41	0.73
9/30/14 11:42	1059	1797	0.00	0.00	1748.22	1976.60	0.73	359.16	3.10	61.22	6.39	6.26	142.38	2.86	118.68	CLOSED	#1-NORMAL	24	24		33.0	5.97	6.41	0.73
9/30/14 11:43	1278	1797	0.00	0.00	1747.75	1976.60	0.73	359.18	3.10	61.22	6.47	6.26	142.37	2.85	118.71	CLOSED	#1-NORMAL	24	24		33.3	5.97	6.41	0.73
9/30/14 11:44	1278	1797	0.00	0.00	1747.53	1976.68	0.73	359.17	3.10	61.22	6.64	6.26	142.37	2.84	118.73	CLOSED	#1-NORMAL	24	27		33.7	5.97	6.40	0.73
9/30/14 11:45	1278	1797	0.00	0.00	1747.59	1976.81	0.73	359.15	3.10	61.22	6.20	6.26	142.36	2.84	118.74	CLOSED	#1-NORMAL	24	22		34.0	5.98	6.40	0.73
9/30/14 11:46	1278	1797	0.00	0.00	1747.92	1976.89	0.73	359.19	3.10	61.22	5.89	6.25	142.35	2.84	118.75	CLOSED	#1-NORMAL	24	20		34.4	5.98	6.39	0.73
9/30/14 11:47	1278	1797	0.00	0.00	1748.43	1976.78	0.73	359.20	3.10	61.22	5.69	6.25	142.34	2.84	118.76	CLOSED	#1-NORMAL	24	26		34.7	5.99	6.39	0.73
9/30/14 11:48	1278	1797	0.00	0.00	1749.03	1976.46	0.73	359.17	3.10	61.22	6.22	6.25	142.33	2.83	118.76	CLOSED	#1-NORMAL	24	14		35.0	5.99	6.38	0.73
9/30/14 11:49	1539	1797	0.00	0.00	1749.81	1976.06	0.73	359.17	3.10	61.22	4.85	6.27	142.32	2.81	118.76	CLOSED	#1-NORMAL	24	11		35.3	5.98	6.38	0.73
9/30/14 11:50	1539	1797	0.00	0.00	1750.68	1975.69	0.73	359.18	3.10	61.22	4.55	6.29	142.32	2.80	118.75	CLOSED	#1-NORMAL	24	9		35.7	5.98	6.38	0.73
9/30/14 11:51	1539	1797	0.00	0.00	1751.60	1975.38	0.73	359.17	3.10	61.22	4.44	6.30	142.31	2.79	118.73	CLOSED	#1-NORMAL	24	9		36.0	5.97	6.37	0.73
9/30/14 11:52	1539	1797	0.00	0.00	1752.54	1975.15	0.74	359.16	3.10	61.22	4.08	6.31	142.30	2.77	118.70	CLOSED	#1-NORMAL	24	8		36.3	5.96	6.37	0.73
9/30/14 11:53	1539	1797	0.00	0.00	1753.47	1974.92	0.74	359.13	3.10	61.22	3.75	6.33	142.29	2.76	118.67	CLOSED	#1-NORMAL	24	7		36.6	5.95	6.37	0.73
9/30/14 11:54	1539	1797	0.00	0.00	1754.45	1974.65	0.74	359.08	3.10	61.22	4.49	6.34	142.28	2.75	118.64	CLOSED	#1-NORMAL	24	12		37.0	5.94	6.36	0.73
9/30/14 11:55	1796	1797	0.00	0.00	1755.54	1974.38	0.74	359.13	3.10	61.22	3.96	6.35	142.27	2.73	118.60	CLOSED	#1-NORMAL	24	6		37.3	5.93	6.36	0.73
9/30/14 11:56	1796	1797	0.00	0.00	1756.71	1974.07	0.74	359.15	3.10	61.22	3.61	6.36	142.26	2.72	118.55	CLOSED	#1-NORMAL	24	6		37.6	5.91	6.36	0.73
9/30/14 11:57	1796	1797	0.00	0.00	1757.96	1973.79	0.74	359.06	3.10	61.22	3.37	6.37	142.25	2.70	118.51	CLOSED	#1-NORMAL	24	6		37.9	5.89	6.35	0.73
9/30/14 11:58	1796	1797	0.00	0.00	1759.19	1973.54	0.74	359.01	3.10	61.22	3.44	6.38	142.25	2.69	118.46	CLOSED	#1-NORMAL	24	6		38.2	5.88	6.35	0.73

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reagent	BHinTemp	Carbon	Lime	BagDP	AbsPH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 11:59	1796	1797	0.00	0.00	1760.48	1973.22	0.74	359.02	3.10	61.22	3.60	6.39	142.24	2.67	118.42	CLOSED	#1-NORMAL	24	6		38.5	5.86	6.35	0.73
9/30/14 12:00	0	1797	0.00	0.00	1761.84	1972.76	0.74	359.00	3.10	61.22	3.67	6.40	142.23	2.66	118.38	CLOSED	#1-NORMAL	24	9		38.8	5.85	6.35	0.73
9/30/14 12:01	0	1795.333	0.00	0.00	1763.27	1972.30	0.74	359.00	3.10	61.22	5.49	6.41	142.23	2.65	118.34	CLOSED	#1-NORMAL	24	15		39.1	5.84	6.34	0.73
9/30/14 12:02	188	1795.333	0.00	0.00	1764.72	1972.16	0.74	359.07	3.10	61.22	4.53	6.42	142.22	2.64	118.31	CLOSED	#1-NORMAL	24	7		39.4	5.83	6.34	0.73
9/30/14 12:03	188	1795.333	0.00	0.00	1766.23	1972.07	0.74	359.03	3.10	61.22	3.59	6.43	142.21	2.63	118.27	CLOSED	#1-NORMAL	24	6		39.7	5.81	6.34	0.73
9/30/14 12:04	188	1795.333	0.00	0.00	1767.78	1971.99	0.73	358.92	3.10	61.22	3.43	6.44	142.21	2.61	118.24	CLOSED	#1-NORMAL	24	6		40.0	5.79	6.34	0.73
9/30/14 12:05	188	1795.333	0.00	0.00	1769.24	1971.92	0.73	358.91	3.10	61.22	3.51	6.45	142.20	2.60	118.21	CLOSED	#1-NORMAL	24	6		40.3	5.78	6.33	0.73
9/30/14 12:06	188	1795.333	0.00	0.00	1770.67	1971.87	0.73	358.90	3.10	61.22	3.50	6.46	142.19	2.59	118.18	CLOSED	#1-NORMAL	24	13		40.6	5.76	6.33	0.73
9/30/14 12:07	188	1795.333	0.00	0.00	1772.02	1971.82	0.73	358.85	3.10	61.22	4.36	6.47	142.19	2.59	118.15	CLOSED	#1-NORMAL	24	20		40.9	5.75	6.33	0.73
9/30/14 12:08	445	1795.333	0.00	0.00	1773.30	1971.77	0.73	358.89	3.10	61.22	3.97	6.48	142.18	2.58	118.12	CLOSED	#1-NORMAL	24	13		41.2	5.74	6.33	0.73
9/30/14 12:09	445	1795.333	0.00	0.00	1774.50	1971.76	0.73	358.94	3.10	61.22	3.66	6.49	142.18	2.57	118.10	CLOSED	#1-NORMAL	24	13		41.5	5.73	6.33	0.73
9/30/14 12:10	445	1795.333	0.00	0.00	1775.55	1971.82	0.73	358.87	3.10	61.22	3.74	6.50	142.17	2.57	118.07	CLOSED	#1-NORMAL	24	14		41.8	5.72	6.33	0.73
9/30/14 12:11	445	1795.333	0.00	0.00	1776.36	1972.06	0.73	358.82	3.10	61.22	4.04	6.51	142.16	2.57	118.05	CLOSED	#1-NORMAL	24	16		42.1	5.72	6.32	0.73
9/30/14 12:12	445	1795.333	0.00	0.00	1777.15	1972.30	0.73	358.84	3.10	61.22	4.51	6.52	142.15	2.57	118.04	CLOSED	#1-NORMAL	24	19		42.4	5.72	6.32	0.73
9/30/14 12:13	445	1795.333	0.00	0.00	1777.95	1972.52	0.73	358.85	3.10	61.22	5.22	6.53	142.14	2.57	118.03	CLOSED	#1-NORMAL	24	28		42.6	5.72	6.32	0.73
9/30/14 12:14	445	1795.333	0.00	0.00	1778.67	1972.77	0.73	358.85	3.10	61.22	6.46	6.53	142.13	2.57	118.03	CLOSED	#1-NORMAL	24	26		42.9	5.72	6.32	0.73
9/30/14 12:15	445	1795.333	0.00	0.00	1779.45	1973.01	0.73	358.87	3.10	61.22	5.25	6.54	142.13	2.57	118.02	CLOSED	#1-NORMAL	24	28		43.2	5.72	6.32	0.73
9/30/14 12:16	699	1795.333	0.00	0.00	1780.13	1973.28	0.73	358.86	3.10	61.22	5.66	6.55	142.12	2.58	118.01	CLOSED	#1-NORMAL	24	32		43.5	5.72	6.32	0.73
9/30/14 12:17	699	1795.333	0.00	0.00	1780.65	1973.63	0.73	358.84	3.10	61.22	6.18	6.55	142.11	2.58	118.01	CLOSED	#1-NORMAL	24	35		43.8	5.72	6.32	0.73
9/30/14 12:18	839	1795.333	0.00	0.00	1781.08	1973.98	0.73	358.88	3.10	61.22	6.54	6.55	142.10	2.59	118.00	CLOSED	#1-NORMAL	24	37		44.0	5.73	6.32	0.73
9/30/14 12:19	839	1795.333	0.00	0.00	1781.40	1974.31	0.73	358.90	3.10	61.22	6.47	6.56	142.10	2.60	118.00	CLOSED	#1-NORMAL	24	38		44.3	5.74	6.32	0.73
9/30/14 12:20	839	1795.333	0.00	0.00	1781.65	1974.55	0.73	358.89	3.10	61.22	6.59	6.58	142.09	2.61	118.01	CLOSED	#1-NORMAL	24	28		44.6	5.74	6.32	0.73
9/30/14 12:21	839	1795.333	0.00	0.00	1781.84	1974.65	0.73	358.90	3.10	61.22	6.76	6.59	142.08	2.62	118.02	CLOSED	#1-NORMAL	24	31		44.8	5.75	6.32	0.73
9/30/14 12:22	839	1795.333	0.00	0.00	1782.02	1974.61	0.73	358.90	3.10	61.22	6.67	6.61	142.07	2.62	118.02	CLOSED	#1-NORMAL	24	32		45.1	5.76	6.32	0.73
9/30/14 12:23	839	1795.333	0.00	0.00	1782.20	1974.60	0.73	358.88	3.10	61.22	6.54	6.62	142.07	2.63	118.04	CLOSED	#1-NORMAL	24	33		45.4	5.76	6.32	0.73
9/30/14 12:24	839	1795.333	0.00	0.00	1782.36	1974.61	0.73	358.88	3.10	61.22	6.72	6.64	142.06	2.64	118.06	CLOSED	#1-NORMAL	24	38		45.8	5.77	6.32	0.73
9/30/14 12:25	839	1795.333	0.00	0.00	1782.40	1974.55	0.73	358.89	3.10	61.22	6.80	6.65	142.05	2.65	118.07	CLOSED	#1-NORMAL	24	40		45.9	5.78	6.32	0.73
9/30/14 12:26	839	1795.333	0.00	0.00	1782.37	1974.64	0.73	358.89	3.10	61.22	6.68	6.66	142.04	2.66	118.09	CLOSED	#1-NORMAL	24	31		46.1	5.79	6.32	0.73
9/30/14 12:27	1037	1795.333	0.00	0.00	1782.34	1974.58	0.73	358.90	3.10	61.22	6.52	6.67	142.03	2.67	118.11	CLOSED	#1-NORMAL	24	30		46.4	5.79	6.32	0.73
9/30/14 12:28	1037	1795.333	0.00	0.00	1782.28	1974.53	0.73	358.90	3.10	61.22	5.51	6.68	142.02	2.68	118.14	CLOSED	#1-NORMAL	24	34		46.7	5.79	6.32	0.73
9/30/14 12:29	1037	1795.333	0.00	0.00	1782.25	1974.48	0.73	358.89	3.10	61.22	5.05	6.70	142.01	2.68	118.16	CLOSED	#1-NORMAL	24	20		46.9	5.79	6.32	0.73
9/30/14 12:30	1037	1795.333	0.00	0.00	1782.26	1974.41	0.73	358.88	3.10	61.22	4.70	6.71	142.01	2.69	118.17	CLOSED	#1-NORMAL	24	18		47.2	5.79	6.32	0.73
9/30/14 12:31	1037	1795.333	0.00	0.00	1782.43	1974.13	0.73	358.89	3.10	61.22	4.58	6.73	142.01	2.68	118.19	CLOSED	#1-NORMAL	24	18		47.4	5.78	6.32	0.73
9/30/14 12:32	1037	1795.333	0.00	0.00	1782.66	1973.66	0.73	358.87	3.10	61.22	4.49	6.74	142.00	2.68	118.19	CLOSED	#1-NORMAL	24	17		47.6	5.77	6.33	0.73
9/30/14 12:33	1037	1795.333	0.00	0.00	1783.05	1973.13	0.73	358.85	3.10	61.22	4.80	6.75	142.00	2.68	118.19	CLOSED	#1-NORMAL	24	20		47.9	5.76	6.33	0.73
9/30/14 12:34	1235	1795.333	0.00	0.00	1783.64	1972.62	0.73	358.83	3.10	61.22	4.28	6.76	142.00	2.67	118.19	CLOSED	#1-NORMAL	24	14		48.1	5.75	6.33	0.73
9/30/14 12:35	1235	1795.333	0.00	0.00	1784.34	1972.22	0.73	358.83	3.10	61.22	3.93	6.76	142.00	2.66	118.18	CLOSED	#1-NORMAL	24	13		48.4	5.73	6.33	0.73
9/30/14 12:36	1235	1795.333	0.00	0.00	1785.14	1971.97	0.73	358.84	3.10	61.22	3.87	6.76	141.99	2.65	118.17	CLOSED	#1-NORMAL	24	12		48.6	5.72	6.33	0.73
9/30/14 12:37	1235	1795.333	0.00	0.00	1786.00	1971.89	0.73	358.81	3.10	61.22	3.76	6.77	141.99	2.63	118.14	CLOSED	#1-NORMAL	24	12		48.8	5.70	6.34	0.73
9/30/14 12:38	1235	1795.333	0.00	0.00	1786.86	1971.89	0.73	358.76	3.10	61.22	3.85	6.77	141.99	2.63	118.12	CLOSED	#1-NORMAL	24	13		49.1	5.69	6.34	0.73
9/30/14 12:39	1235	1795.333	0.00	0.00	1787.74	1971.97	0.73	358.81	3.10	61.22	4.07	6.77	141.98	2.62	118.10	CLOSED	#1-NORMAL	24	18		49.3	5.67	6.34	0.73
9/30/14 12:40	1420	1795.333	0.00	0.00	1788.62	1972.05	0.73	358.85	3.10	61.22	5.17	6.77	141.98	2.62	118.07	CLOSED	#1-NORMAL	24	15		49.5	5.66	6.34	0.73
9/30/14 12:41	1420	1795.333	0.00	0.00	1789.47	1972.06	0.73	358.80	3.10	61.22	4.23	6.77	141.98	2.61	118.05	CLOSED	#1-NORMAL	24	14		49.8	5.65	6.34	0.73
9/30/14 12:42	1420	1795.333	0.00	0.00	1790.20	1972.17	0.73	358.77	3.10	61.22	4.26	6.78	141.98	2.59	118.03	CLOSED	#1-NORMAL	24	15		50.0	5.64	6.35	0.73
9/30/14 12:43	1420	1795.333	0.00	0.00	1790.83	1972.41	0.73	358.82	3.10	61.22	4.51	6.78	141.97	2.58	118.00	CLOSED	#1-NORMAL	24	16		50.2	5.64	6.35	0.73
9/30/14 12:44	1420	1795.333	0.00	0.00	1791.53	1972.64	0.73	358.84	3.10	61.22	4.87	6.78	141.97	2.58	117.97	CLOSED	#1-NORMAL	24	19		50.4	5.63	6.35	0.73
9/30/14 12:45	1420	1795.333	0.00	0.00	1792.19	1972.75	0.73	358.79	3.10	61.22	5.21	6.79	141.97	2.57	117.95	CLOSED	#1-NORMAL	24	20		50.7	5.63	6.35	0.73
9/30/14 12:46	1420	1795.333	0.00	0.00	1792.97	1972.80	0.73	358.81	3.10	61.22	5.81	6.80	141.97	2.57	117.92	CLOSED	#1-NORMAL	24	28		50.9	5.62	6.36	0.73
9/30/14 12:47	1601	1795.333	0.00	0.00	1793.86	1972.80	0.73	358.86	3.10	61.22	5.69	6.81	141.97	2.57	117.90	CLOSED	#1-NORMAL	24	27		51.1	5.62	6.36	0.73
9/30/14 12:48	1601	1795.333	0.00	0.00	1794.75	1972.89	0.73	358.82	3.10	61.22	5.95	6.82	141.96	2.56	117.87	CLOSED	#1-NORMAL	24	29		51.3	5.62	6.36	0.73
9/30/14 12:49	1601	1795.333	0.00	0.00	1795.59	1973.12	0.73	358.81	3.10	61.22	6.21	6.83	141.96	2.56	117.85	CLOSED	#1-NORMAL	24	29		51.5	5.61	6.36	0.73
9/30/14 12:50	1601	1795.333	0.00	0.00	1796.41	1973.44	0.73	358.87	3.10	61.22	6.48	6.83	141.96	2.56	117.82	CLOSED	#1-NORMAL	24	31		51.7	5.61	6.37	0.73
9/30/14 12:51	1601	1795.333	0.00	0.00	1797.21	1973.72	0.73	358.86	3.10	61.22	6.56	6.83	141.96	2.57	117.80	CLOSED	#1-NORMAL	24	35		51.9	5.61	6.37	0.73
9/30/14 12:52	1601	1795.333	0.00	0.00	1797.96	1973.96	0.73	358.81	3.10	61.22	6.35	6.82	141.96	2.57	117.78	CLOSED	#1-NORMAL	24	35		52.2	5.61	6.37	0.73
9/30/14 12:53	1791	1795.333	0.00	0.00	1798.70	1974.16	0.73	358.86	3.10	61.22	6.57	6.81	141.95	2.57	117.76	CLOSED	#1-NORMAL	24	31		52.4	5.61	6.38	0.73
9/30/14 12:54	1791	1795.333	0.00	0.00	1799.42	1974.37	0.73	358.88	3.10	61.22	6.66	6.81	141.95	2.58	117.74	CLOSED	#1-NORMAL	24	36		52.6	5.61	6.38	0.73
9/30/14 12:55	1791	1795.333	0.00	0.00	1800.13	1974.65	0.73	358.82	3.10	61.22	6.48	6.80	141.95	2.58	117.73	CLOSED	#1-NORMAL	24	34		52.8	5.61	6.38	0.73
9/30/14 12:56	1791	1795.333	0.00	0.00	1800.80	1975.02	0.73	358.85	3.10	61.22	6.60	6.81	141.95	2.58	117.72	CLOSED	#1-NORMAL	24	33		53.0	5.61	6.38	0.73
9/30/14 12:57	1791	1795.333	0.00	0.00	1801.32	1975.40	0.73	358.89	3.10	61.22	6.77	6.81	141.95	2.58	117.71	CLOSED	#1-NORMAL	24	35		53.2	5.62	6.39	0.73
9/30/14 12:58	1791	1795.333	0.00	0.00	1801.74	1975.77	0.73	358.83	3.10	61.22	6.68	6.81	141.94	2.58	117.70	CLOSED	#1-NORMAL	24	33		53.4	5.62	6.39	0.73
9/30/14 12:59	1791	1795.333	0.00	0.00	1802.05	1976.15	0.73	358.83	3.10	61.22	6.74	6.82	141.94	2.58	117.69	CLOSED	#1-NORMAL	24	32		53.6	5.62	6.39	0.73
9/30/14 13:00	0	1795.667	0.00	0.00	1802.18	1976.41	0.73	358.89	3.10	61.22	6.06	6.82	141.94	2.59	117.68	CLOSED	#1-NORMAL	24	40		53.7	5.62	6.40	0.73
9/30/14 13:01	144	1795.667	0.00	0.00	1802.18	1976.61	0.73	358.85	3.10	61.22	5.60	6.82	141.94	2.60	117.67	CLOSED	#1-NORMAL	24	39		53.9	5.62	6.40	0.73
9/30/14 13:02	144	1795.667	0.00	0.00	1802.16	1976.91	0.73	358.83	3.10	61.22	5.59	6.83	141.94	2.59	117.66	CLOSED	#1-NORMAL	24	26		54.1	5.62	6.40	0.73
9/30/14 13:03	144	1795.667	0.00	0.00	1802.09	1977.37	0.73	358.89	3.10	61.22	5.72	6.83	141.93	2.60	117.66	CLOSED	#1-NORMAL	24	33		54.3	5.61	6.41	0.73
9/30/14 13:04	144	1795.667	0.00	0.00	1801.95	1977.95	0.73	358.87	3.10	61.22	5.78	6.83	141.93	2.60	117.65	CLOSED	#1-NORMAL	24	51		54.5	5.61	6.41	0.73
9/30/14 13:05	144	1795.667	0.00	0.00	1801.65	1978.63	0.73	358.82	3.10	61.22	5.64	6.84	141.93	2.60	117.65	CLOSED	#1-NORMAL	24	29		54.7	5.61	6.41	0.73
9/30/14 13:06	144	1795.667	0.00	0.00	1801.17	1979.33	0.73	358.87	3.10	61.22	5.84	6.84	141.93	2.61	117.64	CLOSED	#1-NORMAL	24	28		54.9	5.61	6.41	0.73
9/30/14 13:07	333	1795.667	0.00	0.00	1800.61	1980.05	0.73	358.89	3.10	61.22	5.95	6.85	141.94	2.61	117.63	CLOSED	#1-NORMAL	24	30		55.0	5.61	6.42	0.73
9/30/14 13:08	333	1795.667	0.00	0.00	1799.95	1980.84	0.73	358.83	3.10	61.22	5.78	6.86	141.94	2.62	117.63	CLOSED	#1-NORMAL	24	27		55.2	5.60	6.42	0.73
9/30/14 13:09	333	1795.667	0.00	0.00	1799.27	1981.69	0.73	358.86	3.10	61.22	5.84	6.87	141.94	2.63	117.63	CLOSED	#1-NORMAL	24	26		55.4	5.60	6.43	0.73
9/30/14 13:10	333	1795.667	0.00	0.00	1798.55	1982.60	0.73	358.92	3.10	61.22	6.05	6.88	141.94	2.63	117.63	CLOSED	#1-NORMAL	24	29		55.6	5.60	6.43	0.73
9/30/14 13:11	333	1795.667	0.00	0.00	1797.68	1983.42	0.73	358.86	3.10	61.22	5.95	6.87	141.94	2.64	117.64	CLOSED	#1-NORMAL	24	26		55.7	5.61	6.43	0.73
9/30/14 13:12	333	1795.667	0.00	0.00	1796.73	1984.09	0.73	358.84	3.10	61.22	5.97	6.86	141.94	2.65	117.65	CLOSED	#1-NORMAL	24	27		55.9	5.61	6.44	0.73
9/30/14 13:13	532	1795.667	0.00	0.00	1795.75	1984.62	0.73	358.93	3.10	61.22	6.20	6.85	141.94	2.66	117.66	CLOSED	#1-NORMAL	24	27		56.1	5.61	6.44	0.73
9/30/14 13:14	532	1795.667	0.00	0.00	1794.72	1985.07	0.73	358.91	3.10	61.22	6.21	6.85	141.94	2.67	117.68	CLOSED	#1-NORMAL	24	25		56.2	5.62	6.44	0.73
9/30/14 13:15	532	1795.667	0.00	0.00	1793.76	1985.43	0.73	358.84	3.10	61.22	6.07	6.85	141.94	2.67	117.70	CLOSED	#1-NORMAL	24	22		56.4	5.62	6.45	0.73
9/30/14 13:16	532	1795.667	0.00	0.00	1792.94	1985.59	0.73	358.90	3.10	61.22	6.09	6.85	141.93	2.68	117.71	CLOSED	#1-NORMAL	24	23		56.6	5.63	6.45	0.73
9/30/14 13:17	532	1795.667	0.00	0.00	1792.12	1985.54	0.73	358.94	3.10	61.22	6.36	6.85	141.93	2.68	117.72	CLOSED	#1-NORMAL	24	22		56.7	5.63	6.45	0.73
9/30/14 13:18	532	1795.667	0.00	0.00	1791.37	1985.40	0.73	358.86	3.10	61.22	6.16	6.85	141.93	2.68	117.74	CLOSED	#1-NORMAL	24	22		56.9	5.64	6.45	0.73

TheDate	ChargeWght	AvgWeight	CDmin	O2min	PrimTemp	SecTemp	NOR Reagent	BHInTemp	Carbon	Lime	BagDP	AbsPt	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 13:19	761	1795.667	0.00	0.00	1790.77	1985.25	0.73	358.88	3.10	61.22	6.46	6.85	141.93	2.68	117.75	CLOSED	#1-NORMAL	24	20		57.0	5.64	6.46	0.73
9/30/14 13:20	761	1795.667	0.00	0.00	1790.24	1985.10	0.73	358.94	3.10	61.22	6.39	6.85	141.93	2.68	117.76	CLOSED	#1-NORMAL	24	22		57.2	5.64	6.46	0.73
9/30/14 13:21	761	1795.667	0.00	0.00	1789.81	1984.99	0.73	358.87	3.10	61.22	6.10	6.86	141.93	2.69	117.77	CLOSED	#1-NORMAL	24	24		57.3	5.64	6.46	0.73
9/30/14 13:22	761	1795.667	0.00	0.00	1789.33	1984.91	0.73	358.84	3.10	61.22	5.98	6.87	141.93	2.68	117.77	CLOSED	#1-NORMAL	24	22		57.5	5.64	6.47	0.73
9/30/14 13:23	761	1795.667	0.00	0.00	1788.72	1984.84	0.73	358.92	3.10	61.22	6.07	6.88	141.93	2.68	117.76	CLOSED	#1-NORMAL	24	23		57.6	5.64	6.47	0.73
9/30/14 13:24	761	1795.667	0.00	0.00	1788.06	1984.79	0.73	358.89	3.10	61.22	6.00	6.89	141.93	2.68	117.75	CLOSED	#1-NORMAL	24	20		57.8	5.64	6.48	0.73
9/30/14 13:25	761	1795.667	0.00	0.00	1787.36	1984.77	0.73	358.83	3.10	61.22	6.33	6.88	141.93	2.68	117.74	CLOSED	#1-NORMAL	24	23		57.9	5.65	6.48	0.73
9/30/14 13:26	931	1795.667	0.00	0.00	1786.67	1984.73	0.73	358.91	3.10	61.22	5.59	6.88	141.92	2.68	117.72	CLOSED	#1-NORMAL	24	21		58.0	5.64	6.48	0.73
9/30/14 13:27	931	1795.667	0.00	0.00	1786.01	1984.75	0.73	358.92	3.10	61.22	5.71	6.88	141.92	2.68	117.71	CLOSED	#1-NORMAL	24	19		58.2	5.64	6.49	0.73
9/30/14 13:28	931	1795.667	0.00	0.00	1785.40	1984.83	0.73	358.84	3.10	61.22	5.87	6.88	141.92	2.68	117.70	CLOSED	#1-NORMAL	24	19		58.3	5.64	6.49	0.73
9/30/14 13:29	931	1795.667	0.00	0.00	1784.79	1984.98	0.73	358.86	3.10	61.22	5.91	6.88	141.92	2.68	117.69	CLOSED	#1-NORMAL	24	21		58.4	5.64	6.49	0.73
9/30/14 13:30	931	1795.667	0.00	0.00	1784.23	1985.12	0.73	358.93	3.10	61.22	6.45	6.88	141.92	2.68	117.67	CLOSED	#1-NORMAL	24	24		58.5	5.65	6.50	0.73
9/30/14 13:31	931	1795.667	0.00	0.00	1783.75	1985.14	0.73	358.89	3.10	61.22	6.50	6.89	141.92	2.67	117.66	CLOSED	#1-NORMAL	24	25		58.7	5.65	6.50	0.73
9/30/14 13:32	931	1795.667	0.00	0.00	1783.41	1984.99	0.73	358.85	3.10	61.22	6.05	6.90	141.92	2.66	117.64	CLOSED	#1-NORMAL	24	20		58.8	5.65	6.50	0.73
9/30/14 13:33	1149	1795.667	0.00	0.00	1783.26	1984.80	0.73	358.92	3.10	61.22	5.11	6.91	141.92	2.65	117.62	CLOSED	#1-NORMAL	24	23		58.9	5.64	6.51	0.73
9/30/14 13:34	1149	1795.667	0.00	0.00	1783.15	1984.74	0.73	358.90	3.10	61.22	5.35	6.91	141.92	2.64	117.61	CLOSED	#1-NORMAL	24	21		59.0	5.64	6.51	0.73
9/30/14 13:35	1149	1795.667	0.00	0.00	1783.10	1984.79	0.73	358.83	3.10	61.22	5.53	6.91	141.92	2.63	117.59	CLOSED	#1-NORMAL	24	21		59.1	5.63	6.51	0.73
9/30/14 13:36	1149	1795.667	0.00	0.00	1783.01	1984.93	0.73	358.89	3.10	61.22	5.90	6.91	141.92	2.62	117.58	CLOSED	#1-NORMAL	24	26		59.2	5.63	6.52	0.73
9/30/14 13:37	1149	1795.667	0.00	0.00	1782.79	1985.09	0.73	358.93	3.10	61.22	6.18	6.91	141.92	2.61	117.56	CLOSED	#1-NORMAL	24	25		59.3	5.64	6.52	0.73
9/30/14 13:38	1149	1795.667	0.00	0.00	1782.47	1985.30	0.73	358.86	3.10	61.22	6.27	6.91	141.92	2.61	117.55	CLOSED	#1-NORMAL	24	26		59.4	5.65	6.53	0.73
9/30/14 13:39	1348	1795.667	0.00	0.00	1782.07	1985.50	0.73	358.89	3.10	61.22	6.25	6.92	141.91	2.60	117.53	CLOSED	#1-NORMAL	24	28		59.5	5.65	6.53	0.73
9/30/14 13:40	1348	1795.667	0.00	0.00	1781.64	1985.66	0.73	358.95	3.10	61.22	6.36	6.92	141.91	2.60	117.53	CLOSED	#1-NORMAL	24	29		59.6	5.66	6.53	0.73
9/30/14 13:41	1348	1795.667	0.00	0.00	1781.26	1985.79	0.73	358.91	3.10	61.22	6.08	6.93	141.91	2.60	117.52	CLOSED	#1-NORMAL	24	27		59.7	5.67	6.54	0.73
9/30/14 13:42	1348	1795.667	0.00	0.00	1780.87	1985.83	0.73	358.89	3.10	61.22	6.07	6.93	141.91	2.60	117.52	CLOSED	#1-NORMAL	End #1 df,M29	24		59.8	5.67	6.54	0.73
9/30/14 13:43	1348	1795.667	0.00	0.00	1780.56	1985.72	0.73	358.96	3.10	61.22	6.11	6.94	141.91	2.60	117.52	CLOSED	#1-NORMAL	24	29		59.9	5.68	6.54	0.73
9/30/14 13:44	1348	1795.667	0.00	0.00	1780.31	1985.53	0.73	358.94	3.10	61.22	5.98	6.94	141.91	2.59	117.52	CLOSED	#1-NORMAL	24	29		60.0	5.69	6.55	0.73
9/30/14 13:45	1550	1795.667	0.00	0.00	1780.05	1985.33	0.73	358.90	3.10	61.22	6.25	6.95	141.90	2.59	117.53	CLOSED	#1-NORMAL	24	22		60.1	5.69	6.55	0.73
9/30/14 13:46	1550	1795.667	0.00	0.00	1779.85	1985.16	0.73	358.93	3.10	61.22	6.20	6.95	141.90	2.58	117.52	CLOSED	#1-NORMAL	24	28		60.2	5.69	6.56	0.73
9/30/14 13:47	1550	1795.667	0.00	0.00	1779.76	1985.14	0.73	358.94	3.10	61.22	6.65	6.97	141.90	2.58	117.53	CLOSED	#1-NORMAL	24	26		60.3	5.70	6.56	0.73
9/30/14 13:48	1550	1795.667	0.00	0.00	1779.78	1985.17	0.73	358.91	3.10	61.22	6.52	6.98	141.90	2.57	117.53	CLOSED	#1-NORMAL	24	30		60.3	5.70	6.57	0.73
9/30/14 13:49	1550	1795.667	0.00	0.00	1779.63	1985.26	0.73	358.94	3.10	61.22	5.96	6.98	141.90	2.57	117.53	CLOSED	#1-NORMAL	24	32		60.4	5.70	6.57	0.73
9/30/14 13:50	1550	1795.667	0.00	0.00	1779.23	1985.32	0.73	358.97	3.10	61.22	5.76	6.97	141.90	2.57	117.54	CLOSED	#1-NORMAL	24	34		60.5	5.70	6.57	0.73
9/30/14 13:51	1550	1795.667	0.00	0.00	1778.86	1985.34	0.73	358.93	3.10	61.22	5.81	6.96	141.90	2.57	117.54	CLOSED	#1-NORMAL	24	27		60.5	5.70	6.58	0.73
9/30/14 13:52	1550	1795.667	0.00	0.00	1778.40	1985.37	0.74	358.92	3.10	61.22	5.81	6.96	141.90	2.57	117.55	CLOSED	#1-NORMAL	24	32		60.6	5.70	6.58	0.73
9/30/14 13:53	1550	1795.667	0.00	0.00	1777.50	1985.36	0.74	358.96	3.10	61.22	5.74	6.96	141.90	2.57	117.56	CLOSED	#1-NORMAL	24	28		60.7	5.70	6.59	0.73
9/30/14 13:54	1800	1795.667	0.00	0.00	1777.43	1985.30	0.74	358.94	3.10	61.22	5.09	6.96	141.90	2.57	117.58	CLOSED	#1-NORMAL	24	19		60.7	5.70	6.59	0.73
9/30/14 13:55	1800	1795.667	0.00	0.00	1777.15	1985.07	0.74	358.90	3.10	61.22	4.69	6.96	141.89	2.56	117.59	CLOSED	#1-NORMAL	24	16		60.8	5.69	6.59	0.73
9/30/14 13:56	1800	1795.667	0.00	0.00	1777.03	1984.71	0.74	358.94	3.10	61.22	4.56	6.96	141.89	2.55	117.60	CLOSED	#1-NORMAL	24	16		60.8	5.68	6.60	0.73
9/30/14 13:57	1800	1795.667	0.00	0.00	1777.02	1984.27	0.74	358.93	3.10	61.22	4.85	6.97	141.89	2.54	117.60	CLOSED	#1-NORMAL	24	22		60.9	5.67	6.60	0.73
9/30/14 13:58	1800	1795.667	0.00	0.00	1777.43	1983.82	0.74	358.87	3.10	61.22	5.10	6.97	141.89	2.53	117.61	CLOSED	#1-NORMAL	24	20		60.9	5.66	6.61	0.73
9/30/14 13:59	1800	1795.667	0.00	0.00	1778.16	1983.47	0.74	358.89	3.10	61.22	5.20	6.98	141.89	2.52	117.61	CLOSED	#1-NORMAL	24	11		61.0	5.66	6.61	0.73
9/30/14 14:00	192	1795.667	0.00	0.00	1778.83	1983.13	0.74	358.92	3.10	61.22	3.82	6.99	141.89	2.50	117.60	CLOSED	#1-NORMAL	24	9		61.0	5.65	6.61	0.73
9/30/14 14:01	192	1796	0.00	0.00	1779.38	1982.88	0.74	358.82	3.10	61.22	3.30	7.00	141.89	2.49	117.60	CLOSED	#1-NORMAL	24	9		61.1	5.64	6.62	0.73
9/30/14 14:02	192	1796	0.00	0.00	1779.79	1982.70	0.74	358.71	3.10	61.22	3.39	6.99	141.89	2.47	117.58	CLOSED	#1-NORMAL	24	9		61.1	5.62	6.62	0.73
9/30/14 14:03	192	1796	0.00	0.00	1780.17	1982.62	0.74	358.71	3.10	61.22	3.45	6.98	141.90	2.45	117.56	CLOSED	#1-NORMAL	24	9		61.1	5.61	6.63	0.73
9/30/14 14:04	192	1796	0.00	0.00	1780.52	1982.67	0.74	358.73	3.10	61.22	3.66	6.98	141.90	2.44	117.54	CLOSED	#1-NORMAL	24	11		61.2	5.59	6.63	0.73
9/30/14 14:05	192	1796	0.00	0.00	1780.82	1982.86	0.74	358.71	3.10	61.22	4.55	6.98	141.90	2.42	117.53	CLOSED	#1-NORMAL	24	25		61.2	5.59	6.64	0.73
9/30/14 14:06	192	1796	0.00	0.00	1781.24	1983.08	0.74	358.74	3.10	61.22	4.91	6.97	141.90	2.41	117.51	CLOSED	#1-NORMAL	24	13		61.2	5.58	6.64	0.73
9/30/14 14:07	409	1796	0.00	0.00	1781.49	1983.34	0.74	358.74	3.10	61.22	4.55	6.97	141.90	2.40	117.49	CLOSED	#1-NORMAL	24	16		61.2	5.57	6.64	0.73
9/30/14 14:08	409	1796	0.00	0.00	1781.75	1983.74	0.74	358.70	3.10	61.22	4.99	6.97	141.90	2.38	117.47	CLOSED	#1-NORMAL	24	18		61.2	5.57	6.65	0.73
9/30/14 14:09	409	1796	0.00	0.00	1781.99	1984.06	0.74	358.75	3.10	61.22	5.50	6.97	141.90	2.37	117.45	CLOSED	#1-NORMAL	24	22		61.2	5.56	6.65	0.73
9/30/14 14:10	409	1796	0.00	0.00	1782.23	1984.32	0.74	358.78	3.10	61.22	5.93	6.97	141.90	2.37	117.43	CLOSED	#1-NORMAL	24	24		61.2	5.56	6.66	0.73
9/30/14 14:11	409	1796	0.00	0.00	1782.43	1984.54	0.74	358.72	3.10	61.22	6.15	6.97	141.89	2.36	117.41	CLOSED	#1-NORMAL	24	24		61.2	5.56	6.66	0.73
9/30/14 14:12	409	1796	0.00	0.00	1782.69	1984.65	0.74	358.75	3.10	61.22	6.65	6.97	141.89	2.35	117.38	CLOSED	#1-NORMAL	24	25		61.2	5.56	6.67	0.73
9/30/14 14:13	608	1796	0.00	0.00	1783.00	1984.70	0.74	358.81	3.10	61.22	6.48	6.97	141.89	2.35	117.37	CLOSED	#1-NORMAL	24	24		61.2	5.56	6.67	0.73
9/30/14 14:14	608	1796	0.00	0.00	1783.33	1984.70	0.74	358.74	3.10	61.22	5.89	6.98	141.89	2.35	117.37	CLOSED	#1-NORMAL	24	20		61.2	5.56	6.67	0.73
9/30/14 14:15	608	1796	0.00	0.00	1783.62	1984.70	0.74	358.72	3.10	61.22	5.73	6.98	141.88	2.34	117.35	CLOSED	#1-NORMAL	24	18		61.2	5.56	6.68	0.73
9/30/14 14:16	608	1796	0.00	0.00	1783.85	1984.68	0.74	358.79	3.10	61.22	5.88	6.99	141.87	2.34	117.34	CLOSED	#1-NORMAL	24	18		61.2	5.56	6.68	0.73
9/30/14 14:17	608	1796	0.00	0.00	1784.05	1984.60	0.74	358.77	3.10	61.22	5.73	7.00	141.86	2.33	117.33	CLOSED	#1-NORMAL	24	15		61.2	5.56	6.68	0.73
9/30/14 14:18	608	1796	0.00	0.00	1784.35	1984.48	0.74	358.70	3.10	61.22	5.99	7.00	141.86	2.32	117.32	CLOSED	#1-NORMAL	24	21		61.2	5.55	6.69	0.73
9/30/14 14:19	608	1796	0.00	0.00	1784.72	1984.45	0.74	358.77	3.10	61.22	6.37	7.00	141.86	2.32	117.31	CLOSED	#1-NORMAL	24	19		61.2	5.55	6.69	0.73
9/30/14 14:20	820	1796	0.00	0.00	1785.16	1984.54	0.74	358.78	3.10	61.22	6.50	7.00	141.86	2.31	117.30	CLOSED	#1-NORMAL	24	20		61.2	5.55	6.70	0.73
9/30/14 14:21	820	1796	0.00	0.00	1785.58	1984.61	0.74	358.70	3.10	61.22	6.56	7.01	141.85	2.31	117.29	CLOSED	#1-NORMAL	24	22		61.2	5.55	6.70	0.73
9/30/14 14:22	820	1796	0.00	0.00	1785.95	1984.71	0.74	358.74	3.10	61.22	5.96	7.01	141.85	2.30	117.27	CLOSED	#1-NORMAL	24	25		61.2	5.55	6.70	0.73
9/30/14 14:23	820	1796	0.00	0.00	1786.38	1984.79	0.74	358.80	3.10	61.22	6.00	7.02	141.85	2.30	117.26	CLOSED	#1-NORMAL	24	27		61.2	5.54	6.71	0.73
9/30/14 14:24	820	1796	0.00	0.00	1786.86	1984.85	0.74	358.73	3.10	61.22	5.77	7.02	141.85	2.30	117.25	CLOSED	#1-NORMAL	24	26		61.2	5.54	6.71	0.73
9/30/14 14:25	820	1796	0.00	0.00	1787.36	1984.89	0.74	358.72	3.10	61.22	6.00	7.03	141.85	2.29	117.23	CLOSED	#1-NORMAL	24	28		61.2	5.54	6.72	0.73
9/30/14 14:26	1029	1796	0.00	0.00	1788.01	1984.83	0.74	358.80	3.10	61.22	6.01	7.03	141.84	2.29	117.21	CLOSED	#1-NORMAL	24	29		61.2	5.54	6.72	0.73
9/30/14 14:27	1029	1796	0.00	0.00	1788.90	1984.78	0.74	358.73	3.10	61.22	5.89	7.04	141.84	2.29	117.20	CLOSED	#1-NORMAL	24	27		61.2	5.54	6.73	0.73
9/30/14 14:28	1029	1796	0.00	0.00	1789.55	1984.78	0.74	358.70	3.10	61.22	6.08	7.05	141.84	2.29	117.18	CLOSED	#1-NORMAL	24	28		61.2	5.54	6.73	0.73
9/30/14 14:29	1029	1796	0.00	0.00	1790.32	1984.78	0.74	358.78	3.10	61.22	6.27	7.05	141.84	2.29	117.16	CLOSED	#1-NORMAL	24	29		61.2	5.54	6.73	0.73
9/30/14 14:30	1029	1796	0.00	0.00	1791.07	1984.79	0.74	358.76	3.10	61.22	6.14	7.06	141.83	2.29	117.15	CLOSED	#1-NORMAL	24	27		61.2	5.54	6.74	0.73
9/30/14 14:31	1029	1796	0.00	0.00	1791.87	1984.81	0.74	358.69	3.10	61.22	6.18	7.07	141.83	2.28	117.14	CLOSED	#1-NORMAL	24	27		61.2	5.54	6.74	0.73
9/30/14 14:32	1029	1796	0.00	0.00	1792.77	1984.89	0.74	358.77	3.10	61.22	6.38	7.08	141.83	2.28	117.11	CLOSED	#1-NORMAL	24	30		61.2	5.54	6.75	0.73
9/30/14 14:33	1276	1796	0.00	0.00	1793.65	1985.11	0.74	358.78	3.10	61.22	6.27	7.09	141.83	2.28	117.10	CLOSED	#1-NORMAL	24	32		61.2	5.55	6.75	0.73
9/30/14 14:34	1276	1796	0.00	0.00	1794.50	1985.40	0.74	358.70	3.10	61.22	6.17	7.09	141.83	2.28	117.09	CLOSED	#1-NORMAL	24	33		61.2	5.54	6.76	0.73
9/30/14 14:35	1276	1796	0.00	0.00	1795.39	1985.80	0.74	358.75	3.10	61.22	6.32	7.10	141.82	2.29	117.07	CLOSED	#1-NORMAL	Start M29 2	38		61.2	5.55	6.76	0.73
9/30/14 14:36	1276	1796	0.00	0.00	1796.34	1986.21	0.74	358.80	3.10	61.22	6.28	7.11	141.82	2.29	117.05	CLOSED	#1-NORMAL	24	40		61.2	5.55	6.77	0.73
9/30/14 14:37	1276	1796	0.00	0.00	1797.26	1986.63	0.74	358.71	3.10	61.22	6.29	7.12	141.82	2.30	117.04	CLOSED	#1-NORMAL	24	32		61.2	5.55	6.77	0.73
9/30/14 14:38	1276	1796	0.00	0.00	1798.13	1987.00	0.74	358.73	3.10	61.22	6.46	7.13	141.82	2.30	117.01	CLOSED	#1-NORMAL	24	35		61.2	5.55	6.78	0.73

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Range	BHinTemp	Carbon	Lime	BagDP	AbsPH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 14:39	1461	1796	0.00	0.00	1799.01	1987.26	0.74	358.80	3.10	61.22	6.51	7.13	141.82	2.31	116.99	CLOSED	#1-NORMAL	24	38		61.2	5.55	6.78	0.73
9/30/14 14:40	1461	1796	0.00	0.00	1799.89	1987.38	0.74	358.72	3.10	61.22	6.39	7.14	141.82	2.31	116.97	CLOSED	#1-NORMAL	24	33		61.2	5.55	6.79	0.73
9/30/14 14:41	1461	1796	0.00	0.00	1800.74	1987.40	0.74	358.71	3.10	61.22	6.56	7.15	141.81	2.31	116.95	CLOSED	#1-NORMAL	24	33		61.2	5.55	6.79	0.73
9/30/14 14:42	1461	1796	0.00	0.00	1801.45	1987.53	0.74	358.79	3.10	61.22	6.67	7.16	141.81	2.32	116.92	CLOSED	#1-NORMAL	24	37		61.2	5.55	6.80	0.73
9/30/14 14:43	1461	1796	0.00	0.00	1801.98	1987.62	0.74	358.74	3.10	61.22	6.54	7.17	141.81	2.33	116.90	CLOSED	#1-NORMAL	24	33		61.2	5.55	6.80	0.73
9/30/14 14:44	1461	1796	0.00	0.00	1802.31	1987.68	0.74	358.69	3.10	61.22	6.72	7.18	141.81	2.33	116.88	CLOSED	#1-NORMAL	24	33		61.2	5.55	6.81	0.73
9/30/14 14:45	1648	1796	0.00	0.00	1802.46	1987.73	0.74	358.78	3.10	61.22	6.43	7.19	141.81	2.34	116.87	CLOSED	#1-NORMAL	24	37		61.2	5.55	6.81	0.73
9/30/14 14:46	1648	1796	0.00	0.00	1802.45	1987.80	0.74	358.77	3.10	61.22	5.75	7.20	141.81	2.34	116.85	CLOSED	#1-NORMAL	24	35		61.2	5.55	6.82	0.73
9/30/14 14:47	1648	1796	0.00	0.00	1802.34	1987.92	0.74	358.70	3.10	61.22	5.70	7.21	141.80	2.35	116.85	CLOSED	#1-NORMAL	24	31		61.2	5.55	6.82	0.73
9/30/14 14:48	1648	1796	0.00	0.00	1802.16	1988.08	0.74	358.76	3.10	61.22	5.82	7.22	141.80	2.36	116.83	CLOSED	#1-NORMAL	24	32		61.2	5.55	6.83	0.73
9/30/14 14:49	1648	1796	0.00	0.00	1801.90	1988.26	0.74	358.79	3.10	61.22	5.84	7.21	141.80	2.37	116.83	CLOSED	#1-NORMAL	24	30		61.2	5.55	6.83	0.73
9/30/14 14:50	1648	1796	0.00	0.00	1801.57	1988.45	0.74	358.73	3.10	61.22	5.58	7.21	141.80	2.38	116.82	CLOSED	#1-NORMAL	24	27		61.2	5.56	6.84	0.73
9/30/14 14:51	1648	1796	0.00	0.00	1801.15	1988.60	0.74	358.73	3.10	61.22	5.98	7.20	141.80	2.39	116.82	CLOSED	#1-NORMAL	24	24		61.2	5.57	6.84	0.73
9/30/14 14:52	1797	1796	0.00	0.00	1800.71	1988.73	0.74	358.80	3.10	61.22	5.71	7.20	141.80	2.40	116.82	CLOSED	#1-NORMAL	24	28		61.2	5.58	6.85	0.73
9/30/14 14:53	1797	1796	0.00	0.00	1800.21	1988.87	0.74	358.79	3.10	61.22	5.49	7.20	141.80	2.41	116.83	CLOSED	#1-NORMAL	24	24		61.2	5.59	6.85	0.73
9/30/14 14:54	1797	1796	0.00	0.00	1799.63	1989.03	0.74	358.79	3.10	61.22	5.55	7.20	141.80	2.41	116.84	CLOSED	#1-NORMAL	24	23		61.2	5.59	6.86	0.73
9/30/14 14:55	1797	1796	0.00	0.00	1798.98	1989.22	0.74	358.80	3.10	61.22	5.75	7.20	141.80	2.42	116.85	CLOSED	#1-NORMAL	24	26		61.2	5.60	6.86	0.73
9/30/14 14:56	1797	1796	0.00	0.00	1798.30	1989.45	0.74	358.78	3.10	61.22	5.82	7.20	141.80	2.43	116.87	CLOSED	#1-NORMAL	24	23		61.2	5.62	6.87	0.73
9/30/14 14:57	1797	1796	0.00	0.00	1797.63	1989.67	0.74	358.80	3.10	61.22	6.04	7.20	141.80	2.45	116.88	CLOSED	#1-NORMAL	24	26		61.2	5.63	6.87	0.73
9/30/14 14:58	1797	1796	0.00	0.00	1797.04	1989.90	0.74	358.89	3.10	61.22	5.83	7.20	141.80	2.46	116.90	CLOSED	#1-NORMAL	24	23		61.2	5.64	6.88	0.73
9/30/14 14:59	1797	1796	0.00	0.00	1796.42	1990.22	0.74	358.92	3.10	61.22	5.91	7.20	141.80	2.47	116.91	CLOSED	#1-NORMAL	24	24		61.2	5.66	6.88	0.73
9/30/14 15:00	178	1796	0.00	0.00	1795.74	1990.74	0.74	358.87	3.10	61.22	6.05	7.20	141.80	2.48	116.92	CLOSED	#1-NORMAL	24	23		61.2	5.67	6.88	0.73
9/30/14 15:01	178	1798.333	0.00	0.00	1794.96	1991.30	0.74	358.87	3.10	61.22	6.64	7.20	141.79	2.48	116.93	CLOSED	#1-NORMAL	24	27		61.2	5.68	6.89	0.73
9/30/14 15:02	178	1798.333	0.00	0.00	1794.13	1991.59	0.74	358.88	3.10	61.22	6.00	7.20	141.79	2.50	116.94	CLOSED	#1-NORMAL	24	33		61.2	5.68	6.89	0.73
9/30/14 15:03	178	1798.333	0.00	0.00	1793.25	1991.86	0.74	358.88	3.10	61.22	5.79	7.20	141.79	2.51	116.95	CLOSED	#1-NORMAL	24	33		61.2	5.70	6.90	0.73
9/30/14 15:04	178	1798.333	0.00	0.00	1792.26	1992.11	0.74	358.95	3.10	61.22	5.90	7.20	141.79	2.53	116.96	CLOSED	#1-NORMAL	24	35		61.2	5.71	6.90	0.73
9/30/14 15:05	314	1798.333	0.00	0.00	1791.31	1992.30	0.74	359.05	3.10	61.22	6.07	7.20	141.78	2.55	116.97	CLOSED	#1-NORMAL	24	39		61.2	5.72	6.91	0.73
9/30/14 15:06	314	1798.333	0.00	0.00	1790.32	1992.46	0.74	359.04	3.10	61.22	5.93	7.20	141.78	2.56	116.99	CLOSED	#1-NORMAL	24	34		61.2	5.74	6.91	0.73
9/30/14 15:07	314	1798.333	0.00	0.00	1789.26	1992.73	0.74	359.03	3.10	61.22	6.07	7.20	141.78	2.56	117.01	CLOSED	#1-NORMAL	24	35		61.2	5.75	6.91	0.73
9/30/14 15:08	314	1798.333	0.00	0.00	1788.14	1993.07	0.74	359.05	3.10	61.22	6.22	7.20	141.78	2.58	117.02	CLOSED	#1-NORMAL	24	38		61.2	5.76	6.92	0.73
9/30/14 15:09	314	1798.333	0.00	0.00	1786.92	1993.42	0.74	359.02	3.10	61.22	6.13	7.20	141.77	2.59	117.04	CLOSED	#1-NORMAL	24	34		61.2	5.77	6.92	0.73
9/30/14 15:10	314	1798.333	0.00	0.00	1785.69	1993.78	0.74	359.02	3.10	61.22	6.15	7.21	141.77	2.60	117.06	CLOSED	#1-NORMAL	24	35		61.2	5.79	6.93	0.73
9/30/14 15:11	511	1798.333	0.00	0.00	1784.58	1993.91	0.74	359.11	3.10	61.22	6.36	7.21	141.77	2.61	117.07	CLOSED	#1-NORMAL	24	35		61.2	5.80	6.93	0.73
9/30/14 15:12	511	1798.333	0.00	0.00	1783.39	1993.90	0.74	359.14	3.10	61.22	6.35	7.21	141.78	2.62	117.08	CLOSED	#1-NORMAL	24	35		61.2	5.81	6.93	0.73
9/30/14 15:13	511	1798.333	0.00	0.00	1782.18	1993.76	0.74	359.10	3.10	61.22	6.27	7.21	141.78	2.63	117.10	CLOSED	#1-NORMAL	24	33		61.2	5.82	6.94	0.73
9/30/14 15:14	511	1798.333	0.00	0.00	1781.07	1993.57	0.74	359.09	3.10	61.22	6.46	7.22	141.78	2.63	117.12	CLOSED	#1-NORMAL	24	34		61.2	5.82	6.94	0.73
9/30/14 15:15	511	1798.333	0.00	0.00	1779.88	1993.44	0.74	359.11	3.10	61.22	6.60	7.22	141.78	2.63	117.14	CLOSED	#1-NORMAL	24	34		61.2	5.82	6.95	0.73
9/30/14 15:16	511	1798.333	0.00	0.00	1778.76	1993.26	0.74	359.10	3.10	61.22	6.51	7.23	141.78	2.63	117.15	CLOSED	#1-NORMAL	24	32		61.2	5.83	6.95	0.73
9/30/14 15:17	511	1798.333	0.00	0.00	1777.75	1992.95	0.74	359.09	3.10	61.22	6.67	7.23	141.77	2.63	117.18	CLOSED	#1-NORMAL	24	27		61.2	5.83	6.95	0.73
9/30/14 15:18	640	1798.333	0.00	0.00	1776.77	1992.61	0.74	359.09	3.10	61.22	6.71	7.24	141.77	2.63	117.19	CLOSED	#1-NORMAL	24	31		61.2	5.83	6.96	0.73
9/30/14 15:19	640	1798.333	0.00	0.00	1775.98	1992.25	0.74	359.09	3.10	61.22	6.31	7.25	141.77	2.62	117.20	CLOSED	#1-NORMAL	24	25		61.2	5.83	6.96	0.73
9/30/14 15:20	640	1798.333	0.00	0.00	1775.27	1991.94	0.74	359.07	3.10	61.22	5.98	7.24	141.77	2.62	117.21	CLOSED	#1-NORMAL	24	23		61.2	5.83	6.96	0.73
9/30/14 15:21	640	1798.333	0.00	0.00	1774.63	1991.75	0.74	359.07	3.10	61.22	5.89	7.24	141.77	2.61	117.22	CLOSED	#1-NORMAL	24	23		61.2	5.82	6.97	0.73
9/30/14 15:22	640	1798.333	0.00	0.00	1774.07	1991.60	0.74	359.07	3.10	61.22	5.84	7.23	141.77	2.61	117.21	CLOSED	#1-NORMAL	24	18		61.2	5.82	6.97	0.73
9/30/14 15:23	640	1798.333	0.00	0.00	1773.59	1991.42	0.74	359.06	3.10	61.22	6.07	7.23	141.77	2.61	117.21	CLOSED	#1-NORMAL	24	25		61.2	5.82	6.97	0.73
9/30/14 15:24	899	1798.333	0.00	0.00	1773.14	1991.27	0.74	359.05	3.10	61.22	4.00	7.23	141.77	2.59	117.20	CLOSED	#1-NORMAL	24	16		61.2	5.80	6.98	0.74
9/30/14 15:25	899	1798.333	0.00	0.00	1772.92	1991.11	0.74	359.06	3.10	61.22	3.47	7.23	141.77	2.58	117.19	CLOSED	#1-NORMAL	24	15		61.2	5.78	6.98	0.74
9/30/14 15:26	899	1798.333	0.00	0.00	1772.65	1991.03	0.74	359.04	3.10	61.22	3.34	7.23	141.78	2.57	117.17	CLOSED	#1-NORMAL	24	15		61.2	5.76	6.98	0.74
9/30/14 15:27	899	1798.333	0.00	0.00	1772.74	1991.08	0.74	359.00	3.10	61.22	3.53	7.23	141.79	2.56	117.15	CLOSED	#1-NORMAL	24	16		61.2	5.75	6.99	0.74
9/30/14 15:28	899	1798.333	0.00	0.00	1772.62	1991.22	0.74	359.00	3.10	61.22	3.78	7.23	141.79	2.55	117.13	CLOSED	#1-NORMAL	24	18		61.2	5.74	6.99	0.74
9/30/14 15:29	899	1798.333	0.00	0.00	1772.45	1991.45	0.74	359.04	3.10	61.22	4.05	7.23	141.79	2.55	117.11	CLOSED	#1-NORMAL	24	29		61.2	5.73	6.99	0.74
9/30/14 15:30	899	1798.333	0.00	0.00	1772.24	1991.69	0.74	359.03	3.10	61.22	4.83	7.23	141.79	2.55	117.09	CLOSED	#1-NORMAL	24	18		61.2	5.73	7.00	0.74
9/30/14 15:31	1098	1798.333	0.00	0.00	1772.08	1991.86	0.74	359.02	3.10	61.22	4.10	7.23	141.79	2.56	117.07	CLOSED	#1-NORMAL	24	23		61.2	5.73	7.00	0.74
9/30/14 15:32	1098	1798.333	0.00	0.00	1771.88	1992.04	0.74	359.04	3.10	61.22	4.23	7.23	141.79	2.56	117.05	CLOSED	#1-NORMAL	24	25		61.2	5.73	7.00	0.74
9/30/14 15:33	1098	1798.333	0.00	0.00	1771.65	1992.17	0.74	359.05	3.10	61.22	4.05	7.23	141.79	2.56	117.04	CLOSED	#1-NORMAL	24	22		61.2	5.72	7.00	0.74
9/30/14 15:34	1098	1798.333	0.00	0.00	1771.46	1992.29	0.74	359.03	3.10	61.22	5.87	7.23	141.79	2.56	117.03	CLOSED	#1-NORMAL	24	18		61.2	5.72	7.01	0.74
9/30/14 15:35	1098	1798.333	0.00	0.00	1771.29	1992.38	0.74	359.03	3.10	61.22	3.68	7.23	141.79	2.56	117.03	CLOSED	#1-NORMAL	24	18		61.2	5.72	7.01	0.74
9/30/14 15:36	1098	1798.333	0.00	0.00	1771.18	1992.38	0.74	359.06	3.10	61.22	4.53	7.23	141.79	2.57	117.02	CLOSED	#1-NORMAL	24	31		61.2	5.72	7.01	0.74
9/30/14 15:37	1335	1798.333	0.00	0.00	1771.20	1992.29	0.74	359.07	3.10	61.22	3.62	7.23	141.78	2.58	117.01	CLOSED	#1-NORMAL	24	15		61.2	5.72	7.01	0.74
9/30/14 15:38	1335	1798.333	0.00	0.00	1771.25	1992.16	0.74	359.08	3.10	61.22	3.25	7.23	141.78	2.58	117.01	CLOSED	#1-NORMAL	24	15		61.2	5.72	7.02	0.74
9/30/14 15:39	1335	1798.333	0.00	0.00	1771.27	1992.06	0.74	359.08	3.10	61.22	3.37	7.23	141.78	2.58	117.00	CLOSED	#1-NORMAL	24	16		61.2	5.72	7.02	0.74
9/30/14 15:40	1335	1798.333	0.00	0.00	1771.24	1992.03	0.74	359.07	3.10	61.22	3.57	7.23	141.78	2.58	116.99	CLOSED	#1-NORMAL	24	19		61.2	5.71	7.02	0.74
9/30/14 15:41	1335	1798.333	0.00	0.00	1771.10	1992.16	0.74	359.07	3.10	61.22	3.87	7.22	141.78	2.58	116.98	CLOSED	#1-NORMAL	24	20		61.2	5.70	7.02	0.74
9/30/14 15:42	1335	1798.333	0.00	0.00	1771.04	1992.22	0.74	359.08	3.10	61.22	4.13	7.22	141.78	2.58	116.97	CLOSED	#1-NORMAL	24	36		61.2	5.70	7.03	0.74
9/30/14 15:43	1335	1798.333	0.00	0.00	1771.02	1992.18	0.74	359.10	3.10	61.22	5.14	7.22	141.78	2.59	116.96	CLOSED	#1-NORMAL	24	22		61.2	5.71	7.03	0.74
9/30/14 15:44	1493	1798.333	0.00	0.00	1771.02	1992.06	0.74	359.08	3.10	61.22	4.44	7.22	141.78	2.59	116.96	CLOSED	#1-NORMAL	24	23		61.2	5.71	7.03	0.74
9/30/14 15:45	1493	1798.333	0.00	0.00	1771.03	1991.96	0.74	359.03	3.10	61.22	4.34	7.22	141.78	2.59	116.96	CLOSED	#1-NORMAL	24	22		61.2	5.70	7.03	0.74
9/30/14 15:46	1493	1798.333	0.00	0.00	1770.95	1991.93	0.74	359.01	3.10	61.22	4.68	7.21	141.78	2.59	116.95	CLOSED	#1-NORMAL	24	24		61.2	5.69	7.04	0.74
9/30/14 15:47	1493	1798.333	0.00	0.00	1770.79	1991.95	0.74	358.99	3.10	61.22	4.94	7.21	141.78	2.59	116.95	CLOSED	#1-NORMAL	24	26		61.2	5.69	7.04	0.74
9/30/14 15:48	1493	1798.333	0.00	0.00	1770.73	1991.91	0.74	359.01	3.10	61.22	5.25	7.21	141.78	2.59	116.94	CLOSED	#1-NORMAL	24	27		61.2	5.69	7.04	0.74
9/30/14 15:49	1493	1798.333	0.00	0.00	1770.82	1991.79	0.74	359.01	3.10	61.22	5.84	7.20	141.78	2.59	116.94	CLOSED	#1-NORMAL	24	27		61.2	5.68	7.04	0.74
9/30/14 15:50	1699	1798.333	0.00	0.00	1771.08	1991.57	0.74	359.00	3.10	61.22	5.71	7.20	141.78	2.58	116.93	CLOSED	#1-NORMAL	24	22		61.2	5.68	7.05	0.74
9/30/14 15:51	1699	1798.333	0.00	0.00	1771.37	1991.27	0.74	359.01	3.10	61.22	5.72	7.19	141.78	2.58	116.93	CLOSED	#1-NORMAL	24	22		61.2	5.68	7.05	0.74
9/30/14 15:52	1699	1798.333	0.00	0.00	1771.65	1991.02	0.74	359.01	3.10	61.22	5.57	7.18	141.78	2.57	116.92	CLOSED	#1-NORMAL	24	21		61.2	5.67	7.05	0.74
9/30/14 15:53	1699	1798.333	0.00	0.00	1772.01	1990.78	0.74	358.99	3.10	61.22	5.46	7.18	141.77	2.56	116.91	CLOSED	#1-NORMAL	24	20		61.2	5.66	7.05	0.74
9/30/14 15:54	1699	1798.333	0.00	0.00	1772.44	1990.49	0.74	358.99	3.10	61.22	5.41	7.17	141.77	2.56	116.90	CLOSED	#1-NORMAL	24	21		61.2	5.66	7.05	0.74
9/30/14 15:55	1699	1798.333	0.00	0.00	1772.89	1990.16	0.74	359.01	3.10	61.22	5.48	7.16	141.77	2.55	116.88	CLOSED	#1-NORMAL	24	27		61.2	5.65	7.06	0.74
9/30/14 15:56	1798	1798.333	0.00	0.00	1773.40	1989.76	0.74	358.99	3.10	61.22	5.71	7.15	141.77	2.54	116.86	CLOSED	#1-NORMAL	24	17		61.2	5.65	7.06	0.74
9/30/14 15:57	1798	1798.333	0.00	0.00	1773.97	1989.26	0.74	358.97	3.10	61.22	4.72	7.14	141.76	2.53	116.84	CLOSED	#1-NORMAL	24	16		61.2	5.64	7.06	0.74
9/30/14 15:58	1798	1798.333	0.00	0.00	1774.51	1988.76	0.74	359.00	3.10	61.22	4.66	7.15	141.76	2.52	116.82	CLOSED	#1-NORMAL	24	14		61.2	5.62	7.06	0.74

TheDate	ChargeWght	AvgWeight	CO min	O2min	PrimTemp	SecTemp	NOX Reagent	BHinTemp	Carbon	Lime	BagDP	AbsPH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 15:59	1798	1798.333	0.00	0.00	1775.13	1988.22	0.74	358.98	3.10	61.22	4.23	7.16	141.76	2.51	116.80	CLOSED	#1-NORMAL	24	11		61.2	5.61	7.06	0.74
9/30/14 16:00	0	1798.333	0.00	0.00	1775.83	1987.80	0.74	358.90	3.10	61.22	3.95	7.16	141.76	2.49	116.77	CLOSED	#1-NORMAL	24	11		61.2	5.60	7.06	0.74
9/30/14 16:01	0	1798	0.00	0.00	1776.52	1987.47	0.74	358.91	3.10	61.22	3.82	7.17	141.76	2.47	116.74	CLOSED	#1-NORMAL	24	10		61.2	5.59	7.07	0.74
9/30/14 16:02	0	1798	0.00	0.00	1777.32	1987.08	0.74	358.97	3.10	61.22	5.04	7.17	141.76	2.47	116.71	CLOSED	#1-NORMAL	24	16		61.2	5.59	7.07	0.74
9/30/14 16:03	0	1798	0.00	0.00	1778.22	1986.59	0.74	358.95	3.10	61.22	3.97	7.17	141.76	2.46	116.69	CLOSED	#1-NORMAL	24	11		61.2	5.58	7.07	0.74
9/30/14 16:04	0	1798	0.00	0.00	1779.10	1986.06	0.74	358.90	3.10	61.22	3.93	7.17	141.76	2.45	116.66	CLOSED	#1-NORMAL	24	11		61.2	5.57	7.07	0.74
9/30/14 16:05	0	1798	0.00	0.00	1780.02	1985.46	0.74	358.91	3.10	61.22	3.95	7.17	141.76	2.44	116.63	CLOSED	#1-NORMAL	24	11		61.2	5.56	7.07	0.74
9/30/14 16:06	0	1798	0.00	0.00	1781.01	1984.85	0.74	358.89	3.10	61.22	4.02	7.17	141.76	2.43	116.61	CLOSED	#1-NORMAL	24	11		61.2	5.55	7.08	0.74
9/30/14 16:07	144	1798	0.00	0.00	1782.06	1984.23	0.74	358.88	3.10	61.22	4.00	7.17	141.76	2.42	116.58	CLOSED	#1-NORMAL	24	11		61.2	5.54	7.08	0.74
9/30/14 16:08	144	1798	0.00	0.00	1783.23	1983.53	0.74	358.92	3.10	61.22	4.02	7.17	141.76	2.41	116.55	CLOSED	#1-NORMAL	24	10		61.2	5.53	7.08	0.74
9/30/14 16:09	144	1798	0.00	0.00	1784.47	1982.73	0.74	358.90	3.10	61.22	3.81	7.17	141.76	2.40	116.52	CLOSED	#1-NORMAL	24	9		61.2	5.51	7.08	0.74
9/30/14 16:10	144	1798	0.00	0.00	1785.81	1981.88	0.74	358.82	3.10	61.22	3.66	7.17	141.76	2.39	116.49	CLOSED	#1-NORMAL	24	9		61.2	5.50	7.08	0.74
9/30/14 16:11	144	1798	0.00	0.00	1787.25	1981.11	0.74	358.85	3.10	61.22	3.62	7.17	141.76	2.38	116.45	CLOSED	#1-NORMAL	24	9		61.2	5.49	7.08	0.74
9/30/14 16:12	144	1798	0.00	0.00	1788.83	1980.42	0.74	358.89	3.10	61.22	3.14	7.17	141.75	2.37	116.41	CLOSED	#1-NORMAL	24	7		61.2	5.48	7.09	0.74
9/30/14 16:13	400	1798	0.00	0.00	1790.44	1979.90	0.74	358.87	3.10	61.22	3.76	7.17	141.75	2.37	116.38	CLOSED	#1-NORMAL	24	10		61.2	5.47	7.09	0.74
9/30/14 16:14	400	1798	0.00	0.00	1791.91	1979.55	0.74	358.84	3.10	61.22	3.78	7.17	141.76	2.36	116.35	CLOSED	#1-NORMAL	24	10		61.2	5.46	7.09	0.74
9/30/14 16:15	400	1798	0.00	0.00	1793.29	1979.28	0.74	358.82	3.10	61.22	3.80	7.17	141.76	2.35	116.33	CLOSED	#1-NORMAL	24	11		61.2	5.44	7.09	0.74
9/30/14 16:16	400	1798	0.00	0.00	1794.68	1979.11	0.74	358.75	3.10	61.22	4.10	7.17	141.76	2.34	116.29	CLOSED	#1-NORMAL	24	11		61.2	5.43	7.09	0.74
9/30/14 16:17	400	1798	0.00	0.00	1796.17	1979.07	0.74	358.74	3.10	61.22	4.23	7.17	141.75	2.34	116.26	CLOSED	#1-NORMAL	24	12		61.2	5.42	7.10	0.74
9/30/14 16:18	400	1798	0.00	0.00	1797.78	1979.07	0.74	358.80	3.10	61.22	5.09	7.16	141.75	2.34	116.23	CLOSED	#1-NORMAL	24	20		61.2	5.42	7.10	0.74
9/30/14 16:19	604	1798	0.00	0.00	1799.33	1979.07	0.74	358.80	3.10	61.22	4.88	7.16	141.75	2.33	116.20	CLOSED	#1-NORMAL	24	11		61.2	5.41	7.10	0.74
9/30/14 16:20	604	1798	0.00	0.00	1800.79	1979.05	0.74	358.75	3.10	61.22	4.17	7.16	141.75	2.33	116.17	CLOSED	#1-NORMAL	24	10		61.2	5.39	7.10	0.74
9/30/14 16:21	604	1798	0.00	0.00	1802.19	1979.05	0.74	358.75	3.10	61.22	3.94	7.16	141.75	2.32	116.14	CLOSED	#1-NORMAL	24	10		61.2	5.38	7.10	0.74
9/30/14 16:22	604	1798	0.00	0.00	1803.57	1979.07	0.74	358.73	3.10	61.22	3.99	7.16	141.75	2.31	116.12	CLOSED	#1-NORMAL	24	10		61.2	5.37	7.10	0.74
9/30/14 16:23	604	1798	0.00	0.00	1805.01	1979.11	0.74	358.69	3.10	61.22	3.99	7.16	141.75	2.30	116.09	CLOSED	#1-NORMAL	24	10		61.2	5.36	7.11	0.74
9/30/14 16:24	604	1798	0.00	0.00	1806.42	1979.16	0.74	358.74	3.10	61.22	4.01	7.15	141.75	2.30	116.07	CLOSED	#1-NORMAL	24	10		61.2	5.35	7.11	0.74
9/30/14 16:25	604	1798	0.00	0.00	1807.70	1979.26	0.74	358.77	3.10	61.22	5.40	7.15	141.74	2.29	116.05	CLOSED	#1-NORMAL	24	10		61.2	5.34	7.11	0.74
9/30/14 16:26	803	1798	0.00	0.00	1808.99	1979.38	0.74	358.72	3.10	61.22	4.05	7.15	141.73	2.29	116.03	CLOSED	#1-NORMAL	24	9		61.2	5.33	7.11	0.74
9/30/14 16:27	803	1798	0.00	0.00	1810.24	1979.48	0.74	358.71	3.10	61.22	4.29	7.15	141.71	2.28	116.02	CLOSED	#1-NORMAL	24	11		61.2	5.33	7.11	0.74
9/30/14 16:28	803	1798	0.00	0.00	1811.34	1979.62	0.74	358.76	3.10	61.22	4.72	7.15	141.71	2.28	116.00	CLOSED	#1-NORMAL	24	13		61.2	5.32	7.11	0.74
9/30/14 16:29	803	1798	0.00	0.00	1812.37	1979.84	0.74	358.78	3.10	61.22	5.40	7.14	141.71	2.27	116.00	CLOSED	#1-NORMAL	24	15		61.2	5.32	7.11	0.74
9/30/14 16:30	803	1798	0.00	0.00	1813.30	1980.07	0.74	358.76	3.10	61.22	6.06	7.14	141.70	2.27	115.99	CLOSED	#1-NORMAL	24	20		61.2	5.32	7.12	0.74
9/30/14 16:31	803	1798	0.00	0.00	1814.11	1980.30	0.74	358.78	3.10	61.22	6.78	7.13	141.70	2.27	115.99	CLOSED	#1-NORMAL	24	24		61.2	5.32	7.12	0.74
9/30/14 16:32	1067	1798	0.00	0.00	1814.79	1980.51	0.74	358.79	3.10	61.22	5.72	7.12	141.70	2.27	115.98	CLOSED	#1-NORMAL	24	21		61.2	5.32	7.12	0.74
9/30/14 16:33	1067	1798	0.00	0.00	1815.41	1980.67	0.74	358.78	3.10	61.22	5.52	7.11	141.69	2.27	115.97	CLOSED	#1-NORMAL	24	23		61.2	5.32	7.12	0.74
9/30/14 16:34	1067	1798	0.00	0.00	1816.06	1980.81	0.74	358.79	3.10	61.22	5.77	7.10	141.69	2.27	115.97	CLOSED	#1-NORMAL	24	23		61.2	5.32	7.12	0.74
9/30/14 16:35	1067	1798	0.00	0.00	1816.80	1980.92	0.74	358.81	3.10	61.22	5.93	7.09	141.69	2.27	115.96	CLOSED	#1-NORMAL	24	24		61.2	5.32	7.12	0.74
9/30/14 16:36	1067	1798	0.00	0.00	1817.54	1980.99	0.74	358.81	3.10	61.22	6.11	7.07	141.69	2.27	115.96	CLOSED	#1-NORMAL	24	26		61.2	5.32	7.12	0.74
9/30/14 16:37	1067	1798	0.00	0.00	1818.27	1980.97	0.74	358.79	3.10	61.22	6.07	7.06	141.69	2.27	115.96	CLOSED	#1-NORMAL	24	24		61.2	5.32	7.12	0.74
9/30/14 16:38	1067	1798	0.00	0.00	1819.00	1980.87	0.74	358.80	3.10	61.22	6.21	7.05	141.69	2.27	115.96	CLOSED	#1-NORMAL	24	24		61.2	5.32	7.12	0.74
9/30/14 16:39	1243	1798	0.00	0.00	1819.69	1980.84	0.74	358.80	3.10	61.22	6.10	7.04	141.69	2.27	115.96	CLOSED	#1-NORMAL	24	26		61.2	5.32	7.12	0.74
9/30/14 16:40	1243	1798	0.00	0.00	1820.49	1980.87	0.74	358.79	3.10	61.22	6.57	7.03	141.69	2.27	115.95	CLOSED	#1-NORMAL	24	29		61.2	5.32	7.13	0.74
9/30/14 16:41	1243	1798	0.00	0.00	1822.26	1980.89	0.74	358.80	3.10	61.22	6.56	7.04	141.68	2.27	115.95	CLOSED	#1-NORMAL	24	30		61.2	5.33	7.13	0.74
9/30/14 16:42	1243	1798	0.00	0.00	1824.13	1980.92	0.74	358.82	3.10	61.22	6.70	7.05	141.68	2.28	115.94	CLOSED	#1-NORMAL	24	33		61.2	5.33	7.13	0.74
9/30/14 16:43	1243	1798	0.00	0.00	1825.71	1980.98	0.74	358.81	3.10	61.22	6.85	7.05	141.68	2.28	115.94	CLOSED	#1-NORMAL	24	36		61.2	5.33	7.13	0.74
9/30/14 16:44	1243	1798	0.00	0.00	1827.62	1981.02	0.74	358.81	3.10	61.22	6.66	7.05	141.68	2.29	115.94	CLOSED	#1-NORMAL	24	37		61.2	5.34	7.13	0.74
9/30/14 16:45	1243	1798	0.00	0.00	1829.47	1981.04	0.74	358.83	3.10	61.22	6.65	7.05	141.68	2.30	115.94	CLOSED	#1-NORMAL	24	40		61.2	5.34	7.13	0.74
9/30/14 16:46	1243	1798	0.00	0.00	1830.67	1981.05	0.74	358.83	3.10	61.22	5.62	7.05	141.67	2.31	115.95	CLOSED	#1-NORMAL	24	34		61.2	5.34	7.13	0.74
9/30/14 16:47	1243	1798	0.00	0.00	1831.57	1980.91	0.74	358.81	3.10	61.22	5.31	7.05	141.67	2.31	115.96	CLOSED	#1-NORMAL	24	24		61.2	5.33	7.13	0.74
9/30/14 16:48	1493	1798	0.00	0.00	1832.22	1980.72	0.74	358.80	3.10	61.22	4.60	7.05	141.67	2.31	115.96	CLOSED	#1-NORMAL	24	23		61.2	5.32	7.13	0.74
9/30/14 16:49	1493	1798	0.00	0.00	1832.99	1980.54	0.74	358.78	3.10	61.22	4.91	7.05	141.67	2.31	115.96	CLOSED	#1-NORMAL	24	40		61.2	5.31	7.13	0.74
9/30/14 16:50	1493	1798	0.00	0.00	1833.87	1980.54	0.74	358.80	3.10	61.22	5.69	7.05	141.67	2.30	115.95	CLOSED	#1-NORMAL	24	31		61.2	5.31	7.13	0.74
9/30/14 16:51	1711	1798	0.00	0.00	1834.61	1980.63	0.73	358.81	3.10	61.22	5.45	7.05	141.67	2.30	115.95	CLOSED	#1-NORMAL	24	30		61.2	5.31	7.13	0.74
9/30/14 16:52	1711	1798	0.00	0.00	1835.24	1980.84	0.73	358.80	3.10	61.22	5.88	7.04	141.67	2.31	115.94	CLOSED	#1-NORMAL	24	38		61.2	5.31	7.13	0.74
9/30/14 16:53	1711	1798	0.00	0.00	1835.80	1981.16	0.73	358.83	3.10	61.22	6.08	7.04	141.67	2.31	115.92	CLOSED	#1-NORMAL	24	39		61.2	5.31	7.13	0.74
9/30/14 16:54	1711	1798	0.00	0.00	1836.25	1981.59	0.73	358.84	3.10	61.22	5.97	7.04	141.67	2.32	115.91	CLOSED	#1-NORMAL	24	35		61.2	5.32	7.13	0.74
9/30/14 16:55	1711	1798	0.00	0.00	1836.56	1982.16	0.73	358.84	3.10	61.22	6.07	7.03	141.66	2.33	115.91	CLOSED	#1-NORMAL	24	36		61.2	5.33	7.13	0.74
9/30/14 16:56	1711	1798	0.00	0.00	1836.77	1982.82	0.73	358.85	3.10	61.22	6.23	7.03	141.66	2.34	115.90	CLOSED	#1-NORMAL	24	38		61.2	5.33	7.13	0.74
9/30/14 16:57	1711	1798	0.00	0.00	1836.86	1983.49	0.73	358.85	3.10	61.22	6.16	7.02	141.65	2.35	115.91	CLOSED	#1-NORMAL	24	35		61.2	5.34	7.13	0.74
9/30/14 16:58	1799	1798	0.00	0.00	1836.52	1984.09	0.73	358.86	3.10	61.22	6.20	7.02	141.65	2.36	115.91	CLOSED	#1-NORMAL	24	34		61.2	5.35	7.13	0.74
9/30/14 16:59	1799	1798	0.00	0.00	1835.85	1984.70	0.73	358.87	3.10	61.22	6.39	7.02	141.65	2.37	115.91	CLOSED	#1-NORMAL	24	36		61.2	5.35	7.13	0.74
9/30/14 17:00	0	1798	0.00	0.00	1835.15	1985.39	0.73	358.86	3.10	61.22	6.32	7.01	141.64	2.38	115.93	CLOSED	#1-NORMAL	24	33		61.2	5.37	7.13	0.74
9/30/14 17:01	0	1797	0.00	0.00	1834.55	1986.02	0.73	358.91	3.10	61.22	6.28	7.00	141.64	2.39	115.94	CLOSED	#1-NORMAL	24	32		61.2	5.39	7.13	0.74
9/30/14 17:02	0	1797	0.00	0.00	1834.09	1986.59	0.73	359.03	3.10	61.22	6.52	7.00	141.64	2.41	115.96	CLOSED	#1-NORMAL	24	36		61.2	5.40	7.13	0.74
9/30/14 17:03	0	1797	0.00	0.00	1833.67	1987.06	0.73	359.07	3.10	61.22	6.53	6.99	141.63	2.42	115.99	CLOSED	#1-NORMAL	24	39		61.2	5.42	7.13	0.74
9/30/14 17:04	161	1797	0.00	0.00	1833.27	1987.37	0.73	359.02	3.10	61.22	6.42	6.98	141.63	2.44	116.01	CLOSED	#1-NORMAL	24	33		61.2	5.43	7.13	0.74
9/30/14 17:05	161	1797	0.00	0.00	1832.86	1987.63	0.73	359.01	3.10	61.22	6.61	6.99	141.62	2.44	116.03	CLOSED	#1-NORMAL	24	36		61.2	5.45	7.13	0.74
9/30/14 17:06	161	1797	0.00	0.00	1832.34	1987.93	0.73	359.04	3.10	61.22	6.64	6.99	141.61	2.46	116.05	CLOSED	#1-NORMAL	24	40		61.2	5.46	7.13	0.74
9/30/14 17:07	161	1797	0.00	0.00	1831.77	1988.23	0.73	359.02	3.10	61.22	6.43	6.99	141.61	2.47	116.07	CLOSED	#1-NORMAL	24	37		61.2	5.47	7.13	0.74
9/30/14 17:08	161	1797	0.00	0.00	1831.23	1988.49	0.73	359.02	3.10	61.22	6.62	7.00	141.60	2.48	116.10	CLOSED	#1-NORMAL	24	39		61.2	5.48	7.13	0.74
9/30/14 17:09	161	1797	0.00	0.00	1830.64	1988.66	0.73	359.02	3.10	61.22	6.75	7.00	141.60	2.49	116.12	CLOSED	#1-NORMAL	24	40		61.2	5.48	7.13	0.74
9/30/14 17:10	161	1797	0.00	0.00	1830.01	1988.75	0.73	358.99	3.10	61.22	6.56	7.00	141.60	2.50	116.15	CLOSED	#1-NORMAL	24	40		61.2	5.49	7.13	0.74
9/30/14 17:11	373	1797	0.00	0.00	1829.31	1988.83	0.73	358.99	3.10	61.22	6.65	7.00	141.59	2.51	116.17	CLOSED	#1-NORMAL	24	39		61.2	5.49	7.13	0.74
9/30/14 17:12	373	1797	0.00	0.00	1828.60	1988.99	0.73	359.00	3.10	61.22	6.83	7.00	141.59	2.52	116.20	CLOSED	#1-NORMAL	24	40		61.2	5.49	7.13	0.74
9/30/14 17:13	373	1797	0.00	0.00	1827.85	1989.28	0.73	358.97	3.10	61.22	6.73	7.00	141.59	2.52	116.22	CLOSED	#1-NORMAL	24	40		61.2	5.49	7.14	0.74
9/30/14 17:14	373	1797	0.00	0.00	1827.07	1989.70	0.73	358.98	3.10	61.22	6.71	6.99	141.58	2.53	116.23	CLOSED	#1-NORMAL	24	38		61.2	5.50	7.14	0.74
9/30/14 17:15	373	1797	0.00	0.00	1826.34	1990.11	0.73	359.01	3.10	61.22	6.61	6.99	141.59	2.55	116.24	CLOSED	#1-NORMAL	24	40		61.2	5.50	7.14	0.74
9/30/14 17:16	373	1797	0.00	0.00	1825.70	1990.46	0.73	358.99	3.10	61.22	5.79	6.99	141.59	2.56	116.26	CLOSED	#1-NORMAL	24	40		61.2	5.50	7.14	0.74
9/30/14 17:17	583	1797	0.00	0.00	1825.11	1990.70	0.73	358.98	3.10	61.22	5.79	6.99	141.60	2.57	116.27	CLOSED	#1-NORMAL	24	39		61.2	5.50	7.14	0.74
9/30/14 17:18	583	1797	0.00	0.00	1824.56	1990.88	0.73	359.03	3.10	61.22	5.99	6.98	141.60	2.58	116.28	CLOSED	#1-NORMAL	24	40		61.2	5.50	7.14	0.74

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reagent	BHinTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 17:19	583	1797	0.00	0.00	1824.05	1990.96	0.73	359.01	3.10	61.22	6.00	6.98	141.59	2.59	116.29	CLOSED	#1-NORMAL	24	40		61.2	5.50	7.13	0.74
9/30/14 17:20	583	1797	0.00	0.00	1823.50	1990.97	0.73	358.97	3.10	61.22	5.93	6.97	141.59	2.60	116.30	CLOSED	#1-NORMAL	24	37		61.2	5.50	7.13	0.74
9/30/14 17:21	583	1797	0.00	0.00	1823.04	1990.93	0.73	359.02	3.10	61.22	6.14	6.96	141.59	2.61	116.31	CLOSED	#1-NORMAL	24	39		61.2	5.49	7.13	0.74
9/30/14 17:22	583	1797	0.00	0.00	1822.66	1990.84	0.73	359.03	3.10	61.22	6.22	6.95	141.58	2.62	116.32	CLOSED	#1-NORMAL	24	40		61.2	5.49	7.13	0.74
9/30/14 17:23	583	1797	0.00	0.00	1822.27	1990.74	0.73	358.98	3.10	61.22	6.32	6.94	141.58	2.63	116.33	CLOSED	#1-NORMAL	24	36		61.2	5.49	7.13	0.74
9/30/14 17:24	842	1797	0.00	0.00	1821.85	1990.58	0.73	359.00	3.10	61.22	6.19	6.93	141.57	2.63	116.34	CLOSED	#1-NORMAL	24	37		61.2	5.50	7.13	0.74
9/30/14 17:25	842	1797	0.00	0.00	1821.42	1990.49	0.73	359.04	3.10	61.22	6.39	6.92	141.57	2.64	116.35	CLOSED	#1-NORMAL	24	40		61.2	5.50	7.13	0.74
9/30/14 17:26	842	1797	0.00	0.00	1820.85	1990.50	0.73	358.99	3.10	61.22	6.26	6.91	141.57	2.64	116.36	CLOSED	#1-NORMAL	24	37		61.2	5.50	7.13	0.74
9/30/14 17:27	842	1797	0.00	0.00	1820.25	1990.53	0.73	358.99	3.10	61.22	6.24	6.91	141.57	2.65	116.37	CLOSED	#1-NORMAL	24	34		61.2	5.50	7.13	0.74
9/30/14 17:28	842	1797	0.00	0.00	1819.73	1990.46	0.73	359.03	3.10	61.22	6.40	6.90	141.56	2.65	116.38	CLOSED	#1-NORMAL	24	37		61.2	5.50	7.13	0.74
9/30/14 17:29	842	1797	0.00	0.00	1819.23	1990.34	0.73	359.00	3.10	61.22	6.53	6.89	141.56	2.66	116.38	CLOSED	#1-NORMAL	24	37		61.2	5.51	7.13	0.74
9/30/14 17:30	842	1797	0.00	0.00	1818.82	1990.13	0.73	358.98	3.10	61.22	6.26	6.88	141.56	2.66	116.38	CLOSED	#1-NORMAL	24	33		61.2	5.51	7.13	0.74
9/30/14 17:31	842	1797	0.00	0.00	1818.47	1989.87	0.73	359.03	3.10	61.22	6.22	6.87	141.56	2.66	116.39	CLOSED	#1-NORMAL	24	34		61.2	5.51	7.13	0.74
9/30/14 17:32	1048	1797	0.00	0.00	1818.19	1989.66	0.73	359.01	3.10	61.22	6.57	6.86	141.55	2.67	116.39	CLOSED	#1-NORMAL	24	36		61.2	5.51	7.13	0.74
9/30/14 17:33	1048	1797	0.00	0.00	1818.04	1989.43	0.73	358.98	3.10	61.22	6.47	6.84	141.55	2.67	116.39	CLOSED	#1-NORMAL	24	33		61.2	5.51	7.12	0.74
9/30/14 17:34	1048	1797	0.00	0.00	1817.99	1989.13	0.73	359.02	3.10	61.22	6.54	6.84	141.55	2.67	116.39	CLOSED	#1-NORMAL	24	31		61.2	5.51	7.12	0.74
9/30/14 17:35	1048	1797	0.00	0.00	1818.04	1988.71	0.73	359.03	3.10	61.22	6.60	6.85	141.55	2.66	116.39	CLOSED	#1-NORMAL	24	32		61.2	5.51	7.12	0.74
9/30/14 17:36	1048	1797	0.00	0.00	1818.17	1988.21	0.73	358.98	3.10	61.22	6.60	6.85	141.54	2.66	116.39	CLOSED	#1-NORMAL	24	25		61.2	5.51	7.12	0.74
9/30/14 17:37	1268	1797	0.00	0.00	1818.34	1987.68	0.73	359.01	3.10	61.22	5.84	6.85	141.54	2.65	116.39	CLOSED	#1-NORMAL	24	23		61.2	5.51	7.12	0.74
9/30/14 17:38	1268	1797	0.00	0.00	1818.57	1987.15	0.73	359.03	3.10	61.22	5.76	6.86	141.54	2.65	116.39	CLOSED	#1-NORMAL	24	24		61.2	5.51	7.12	0.74
9/30/14 17:39	1268	1797	0.00	0.00	1818.81	1986.74	0.73	358.98	3.10	61.22	5.98	6.86	141.54	2.64	116.38	CLOSED	#1-NORMAL	24	24		61.2	5.51	7.12	0.74
9/30/14 17:40	1268	1797	0.00	0.00	1818.88	1986.62	0.73	359.00	3.10	61.22	6.24	6.85	141.53	2.64	116.37	CLOSED	#1-NORMAL	24	28		61.2	5.50	7.11	0.74
9/30/14 17:41	1268	1797	0.00	0.00	1818.84	1986.70	0.73	359.03	3.10	61.22	6.37	6.85	141.53	2.64	116.36	CLOSED	#1-NORMAL	24	34		61.2	5.50	7.11	0.74
9/30/14 17:42	1268	1797	0.00	0.00	1818.79	1986.85	0.73	359.01	3.10	61.22	6.05	6.85	141.53	2.64	116.36	CLOSED	#1-NORMAL	24	36		61.2	5.50	7.11	0.74
9/30/14 17:43	1494	1797	0.00	0.00	1818.73	1986.99	0.73	359.00	3.10	61.22	5.92	6.85	141.52	2.64	116.35	CLOSED	#1-NORMAL	24	36		61.2	5.50	7.11	0.74
9/30/14 17:44	1494	1797	0.00	0.00	1818.71	1987.12	0.73	359.05	3.10	61.22	6.03	6.84	141.52	2.64	116.34	CLOSED	#1-NORMAL	24	40		61.2	5.49	7.11	0.74
9/30/14 17:45	1494	1797	0.00	0.00	1818.67	1987.28	0.73	359.03	3.10	61.22	6.26	6.84	141.52	2.64	116.34	CLOSED	#1-NORMAL	24	40		61.2	5.49	7.11	0.74
9/30/14 17:46	1494	1797	0.00	0.00	1818.54	1987.39	0.73	359.01	3.10	61.22	6.04	6.83	141.52	2.65	116.34	CLOSED	#1-NORMAL	24	37		61.2	5.49	7.10	0.74
9/30/14 17:47	1494	1797	0.00	0.00	1818.41	1987.49	0.73	359.04	3.10	61.22	6.25	6.83	141.51	2.65	116.34	CLOSED	#1-NORMAL	24	36		61.2	5.50	7.10	0.74
9/30/14 17:48	1494	1797	0.00	0.00	1818.22	1987.67	0.73	359.04	3.10	61.22	6.42	6.82	141.51	2.65	116.34	CLOSED	#1-NORMAL	24	40		61.2	5.50	7.10	0.74
9/30/14 17:49	1494	1797	0.00	0.00	1817.92	1987.84	0.73	359.00	3.10	61.22	6.31	6.82	141.50	2.66	116.35	CLOSED	#1-NORMAL	24	35		61.2	5.50	7.10	0.74
9/30/14 17:50	1783	1797	0.00	0.00	1817.54	1988.00	0.73	359.03	3.10	61.22	6.38	6.81	141.50	2.66	116.35	CLOSED	#1-NORMAL	24	35		61.2	5.51	7.09	0.74
9/30/14 17:51	1783	1797	0.00	0.00	1817.08	1988.26	0.73	359.05	3.10	61.22	6.57	6.80	141.50	2.67	116.36	CLOSED	#1-NORMAL	24	40		61.2	5.51	7.09	0.74
9/30/14 17:52	1783	1797	0.00	0.00	1816.51	1988.54	0.73	359.02	3.10	61.22	6.43	6.80	141.49	2.67	116.38	CLOSED	#1-NORMAL	24	35		61.2	5.51	7.09	0.74
9/30/14 17:53	1783	1797	0.00	0.00	1815.91	1988.86	0.73	359.03	3.10	61.22	6.49	6.79	141.49	2.68	116.39	CLOSED	#1-NORMAL	24	34		61.2	5.52	7.09	0.74
9/30/14 17:54	1783	1797	0.00	0.00	1815.28	1989.19	0.73	359.08	3.10	61.22	6.68	6.78	141.48	2.69	116.41	CLOSED	#1-NORMAL	24	40		61.2	5.53	7.09	0.74
9/30/14 17:55	1783	1797	0.00	0.00	1814.60	1989.48	0.73	359.05	3.10	61.22	6.62	6.77	141.48	2.69	116.42	CLOSED	#1-NORMAL	24	38		61.2	5.53	7.08	0.74
9/30/14 17:56	1794	1797	0.00	0.00	1813.88	1989.68	0.73	359.03	3.10	61.22	6.59	6.77	141.48	2.70	116.44	CLOSED	#1-NORMAL	24	34		61.2	5.54	7.08	0.74
9/30/14 17:57	1794	1797	0.00	0.00	1813.16	1989.86	0.73	359.08	3.10	61.22	6.74	6.76	141.47	2.70	116.46	CLOSED	#1-NORMAL	24	38		61.2	5.54	7.08	0.74
9/30/14 17:58	1794	1797	0.00	0.00	1812.38	1990.02	0.73	359.07	3.10	61.22	6.84	6.75	141.47	2.71	116.47	CLOSED	#1-NORMAL	24	38		61.2	5.54	7.08	0.74
9/30/14 17:59	1794	1797	0.00	0.00	1811.58	1990.12	0.73	359.02	3.10	61.22	6.67	6.74	141.46	2.72	116.50	CLOSED	#1-NORMAL	24	35		61.2	5.55	7.07	0.74
9/30/14 18:00	0	1797	0.00	0.00	1810.72	1990.13	0.73	359.08	3.10	61.22	6.82	6.73	141.46	2.73	116.52	CLOSED	#1-NORMAL	24	38		61.2	5.55	7.07	0.74
9/30/14 18:01	0	1795.333	0.00	0.00	1809.90	1990.09	0.73	359.10	3.10	61.22	5.88	6.72	141.45	2.73	116.54	CLOSED	#1-NORMAL	24	39		61.2	5.55	7.07	0.74
9/30/14 18:02	0	1795.333	0.00	0.00	1809.18	1989.99	0.73	359.04	3.10	61.22	5.80	6.71	141.45	2.73	116.56	CLOSED	#1-NORMAL	24	35		61.2	5.55	7.06	0.74
9/30/14 18:03	187	1795.333	0.00	0.00	1808.46	1989.92	0.73	359.06	3.10	61.22	5.73	6.71	141.45	2.74	116.58	CLOSED	#1-NORMAL	24	33		61.2	5.55	7.06	0.74
9/30/14 18:04	187	1795.333	0.00	0.00	1807.81	1989.84	0.73	359.10	3.10	61.22	5.97	6.71	141.44	2.74	116.59	CLOSED	#1-NORMAL	24	36		61.2	5.55	7.06	0.74
9/30/14 18:05	187	1795.333	0.00	0.00	1807.20	1989.75	0.73	359.04	3.10	61.22	5.96	6.72	141.44	2.73	116.61	CLOSED	#1-NORMAL	24	30		61.2	5.55	7.06	0.74
9/30/14 18:06	187	1795.333	0.00	0.00	1806.64	1989.64	0.73	359.04	3.10	61.22	5.67	6.72	141.44	2.73	116.62	CLOSED	#1-NORMAL	24	28		61.2	5.55	7.05	0.74
9/30/14 18:07	187	1795.333	0.00	0.00	1806.20	1989.38	0.73	359.09	3.10	61.22	5.68	6.73	141.44	2.73	116.63	CLOSED	#1-NORMAL	24	29		61.2	5.54	7.05	0.73
9/30/14 18:08	187	1795.333	0.00	0.00	1805.78	1989.06	0.73	359.05	3.10	61.22	6.03	6.73	141.43	2.72	116.63	CLOSED	#1-NORMAL	24	34		61.2	5.54	7.05	0.73
9/30/14 18:09	391	1795.333	0.00	0.00	1805.40	1988.59	0.73	359.03	3.10	61.22	5.41	6.73	141.43	2.72	116.63	CLOSED	#1-NORMAL	24	23		61.2	5.54	7.05	0.73
9/30/14 18:10	391	1795.333	0.00	0.00	1805.14	1988.29	0.73	359.09	3.10	61.22	5.15	6.73	141.43	2.71	116.63	CLOSED	#1-NORMAL	24	22		61.2	5.53	7.04	0.73
9/30/14 18:11	391	1795.333	0.00	0.00	1804.94	1987.98	0.73	359.07	3.10	61.22	5.31	6.73	141.43	2.70	116.62	CLOSED	#1-NORMAL	24	23		61.2	5.53	7.04	0.73
9/30/14 18:12	391	1795.333	0.00	0.00	1804.86	1987.69	0.73	359.02	3.10	61.22	4.92	6.73	141.42	2.69	116.62	CLOSED	#1-NORMAL	24	19		61.2	5.52	7.04	0.73
9/30/14 18:13	391	1795.333	0.00	0.00	1804.92	1987.40	0.73	359.05	3.10	61.22	4.65	6.73	141.42	2.69	116.61	CLOSED	#1-NORMAL	24	16		61.2	5.51	7.04	0.73
9/30/14 18:14	391	1795.333	0.00	0.00	1805.01	1987.10	0.73	359.06	3.10	61.22	4.62	6.73	141.42	2.68	116.59	CLOSED	#1-NORMAL	24	29		61.2	5.50	7.03	0.73
9/30/14 18:15	391	1795.333	0.00	0.00	1805.15	1986.78	0.73	359.03	3.10	61.22	5.64	6.73	141.42	2.67	116.58	CLOSED	#1-NORMAL	24	14		61.2	5.49	7.03	0.73
9/30/14 18:16	569	1795.333	0.00	0.00	1805.40	1986.55	0.73	359.04	3.10	61.22	4.34	6.73	141.41	2.66	116.56	CLOSED	#1-NORMAL	24	14		61.2	5.48	7.03	0.73
9/30/14 18:17	569	1795.333	0.00	0.00	1805.62	1986.54	0.73	359.04	3.10	61.22	4.52	6.73	141.42	2.65	116.54	CLOSED	#1-NORMAL	24	16		61.2	5.47	7.02	0.73
9/30/14 18:18	569	1795.333	0.00	0.00	1805.75	1986.69	0.73	359.04	3.10	61.22	4.90	6.73	141.41	2.64	116.52	CLOSED	#1-NORMAL	24	21		61.2	5.46	7.02	0.73
9/30/14 18:19	569	1795.333	0.00	0.00	1805.72	1986.95	0.73	359.06	3.10	61.22	5.35	6.72	141.41	2.64	116.50	CLOSED	#1-NORMAL	24	20		61.2	5.46	7.02	0.73
9/30/14 18:20	569	1795.333	0.00	0.00	1805.63	1987.24	0.73	359.06	3.10	61.22	5.40	6.72	141.41	2.64	116.48	CLOSED	#1-NORMAL	24	21		61.2	5.45	7.02	0.73
9/30/14 18:21	569	1795.333	0.00	0.00	1805.52	1987.47	0.73	359.06	3.10	61.22	6.24	6.72	141.41	2.64	116.46	CLOSED	#1-NORMAL	24	30		61.2	5.45	7.01	0.73
9/30/14 18:22	569	1795.333	0.00	0.00	1805.45	1987.71	0.73	359.09	3.10	61.22	5.14	6.72	141.40	2.64	116.45	CLOSED	#1-NORMAL	24	22		61.2	5.45	7.01	0.73
9/30/14 18:23	771	1795.333	0.00	0.00	1805.34	1987.85	0.73	359.08	3.10	61.22	4.44	6.72	141.40	2.64	116.44	CLOSED	#1-NORMAL	24	18		61.2	5.44	7.01	0.73
9/30/14 18:24	771	1795.333	0.00	0.00	1805.25	1987.93	0.73	359.04	3.10	61.22	4.47	6.72	141.39	2.64	116.43	CLOSED	#1-NORMAL	24	19		61.2	5.44	7.00	0.73
9/30/14 18:25	771	1795.333	0.00	0.00	1805.05	1988.04	0.73	359.05	3.10	61.22	4.68	6.72	141.39	2.64	116.41	CLOSED	#1-NORMAL	24	20		61.2	5.45	7.00	0.73
9/30/14 18:26	771	1795.333	0.00	0.00	1804.78	1988.14	0.73	359.11	3.10	61.22	4.94	6.71	141.38	2.65	116.42	CLOSED	#1-NORMAL	24	20		61.2	5.46	7.00	0.73
9/30/14 18:27	771	1795.333	0.00	0.00	1804.55	1988.20	0.73	359.08	3.10	61.22	5.03	6.71	141.38	2.65	116.43	CLOSED	#1-NORMAL	24	29		61.2	5.47	7.00	0.73
9/30/14 18:28	771	1795.333	0.00	0.00	1804.26	1988.27	0.73	359.08	3.10	61.22	5.95	6.71	141.38	2.65	116.44	CLOSED	#1-NORMAL	24	25		61.2	5.48	6.99	0.73
9/30/14 18:29	976	1795.333	0.00	0.00	1803.98	1988.33	0.73	359.11	3.10	61.22	5.97	6.71	141.37	2.66	116.45	CLOSED	#1-NORMAL	24	28		61.2	5.49	6.99	0.73
9/30/14 18:30	976	1795.333	0.00	0.00	1803.64	1988.39	0.73	359.10	3.10	61.22	6.03	6.70	141.37	2.66	116.46	CLOSED	#1-NORMAL	24	26		61.2	5.50	6.99	0.73
9/30/14 18:31	976	1795.333	0.00	0.00	1803.15	1988.50	0.73	359.07	3.10	61.22	6.14	6.70	141.36	2.66	116.48	CLOSED	#1-NORMAL	24	25		61.2	5.51	6.98	0.73
9/30/14 18:32	976	1795.333	0.00	0.00	1802.63	1988.57	0.73	359.10	3.10	61.22	6.45	6.69	141.36	2.66	116.50	CLOSED	#1-NORMAL	24	26		61.2	5.52	6.98	0.73
9/30/14 18:33	976	1795.333	0.00	0.00	1802.13	1988.65	0.73	359.12	3.10	61.22	6.45	6.68	141.35	2.67	116.52	CLOSED	#1-NORMAL	End #2	26		61.2	5.53	6.98	0.73
9/30/14 18:34	976	1795.333	0.00	0.00	1801.55	1988.77	0.73	359.11	3.10	61.22	6.67	6.68	141.35	2.67	116.54	CLOSED	#1-NORMAL	24	29		61.2	5.55	6.98	0.73
9/30/14 18:35	976	1795.333	0.00	0.00	1800.93	1988.89	0.73	359.13	3.10	61.22	5.65	6.69	141.35	2.68	116.56	CLOSED	#1-NORMAL	24	31		61.2	5.56	6.97	0.73
9/30/14 18:36	1270	1795.333	0.00	0.00	1800.25	1989.09	0.73	359.12	3.10	61.22	5.70	6.70	141.34	2.67	116.59	CLOSED	#1-NORMAL	24	29		61.2	5.57	6.97	0.73
9/30/14 18:37	1270	1795.333	0.00	0.00	1799.41	1989.32	0.73	359.11	3.10	61.22	5.64	6.71	141.34	2.68	116.61	CLOSED	#1-NORMAL	24	27		61.2	5.58	6.97	0.73
9/30/14 18:38	1270	1795.333	0.00	0.00	1798.54	1989.52	0.73	359.15	3.10	61.22	5.80	6.72	141.33	2.69	116.64	CLOSED	#1-NORMAL	24	30		61.2	5.59	6.96	0.73

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reagent	BHmTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	DpMode	Param1	Param2	Comment	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
9/30/14 18:39	1270	1795.333	0.00	0.00	1797.71	1989.62	0.73	359.14	3.10	61.22	6.17	6.72	141.33	2.70	116.68	CLOSED	#1-NORMAL	24	32		61.2	5.61	6.96	0.73
9/30/14 18:40	1270	1795.333	0.00	0.00	1796.94	1989.59	0.73	359.08	3.10	61.22	5.89	6.72	141.32	2.71	116.72	CLOSED	#1-NORMAL	24	34		61.2	5.62	6.96	0.73
9/30/14 18:41	1433	1795.333	0.00	0.00	1796.25	1989.40	0.73	359.13	3.10	61.22	6.07	6.73	141.32	2.71	116.75	CLOSED	#1-NORMAL	24	32		61.2	5.63	6.96	0.73
9/30/14 18:42	1433	1795.333	0.00	0.00	1795.60	1989.15	0.73	359.17	3.10	61.22	5.89	6.73	141.31	2.72	116.78	CLOSED	#1-NORMAL	24	32		61.2	5.64	6.95	0.73
9/30/14 18:43	1433	1795.333	0.00	0.00	1794.97	1988.98	0.73	359.09	3.10	61.22	5.58	6.73	141.31	2.72	116.82	CLOSED	#1-NORMAL	24	27		61.2	5.65	6.95	0.73
9/30/14 18:44	1433	1795.333	0.00	0.00	1794.34	1988.89	0.73	359.07	3.10	61.22	5.67	6.73	141.31	2.72	116.86	CLOSED	#1-NORMAL	24	28		61.2	5.65	6.95	0.73
9/30/14 18:45	1433	1795.333	0.00	0.00	1793.67	1988.83	0.73	359.17	3.10	61.22	6.13	6.74	141.30	2.73	116.89	CLOSED	#1-NORMAL	24	32		61.2	5.66	6.94	0.73
9/30/14 18:46	1433	1795.333	0.00	0.00	1793.00	1988.78	0.73	359.19	3.10	61.22	6.31	6.74	141.30	2.73	116.93	CLOSED	#1-NORMAL	24	31		61.2	5.67	6.94	0.73
9/30/14 18:47	1608	1795.333	0.00	0.00	1792.39	1988.74	0.73	359.15	3.10	61.22	6.41	6.74	141.29	2.74	116.97	CLOSED	#1-NORMAL	24	33		61.2	5.68	6.94	0.73
9/30/14 18:48	1608	1795.333	0.00	0.00	1791.81	1988.70	0.73	359.19	3.10	61.22	6.61	6.74	141.29	2.74	117.00	CLOSED	#1-NORMAL	24	37		61.2	5.69	6.94	0.73
9/30/14 18:49	1608	1795.333	0.00	0.00	1791.34	1988.59	0.73	359.21	3.10	61.22	6.46	6.75	141.28	2.75	117.04	CLOSED	#1-NORMAL	24	39		61.2	5.69	6.93	0.73
9/30/14 18:50	1608	1795.333	0.00	0.00	1790.77	1988.52	0.73	359.16	3.10	61.22	6.45	6.75	141.28	2.76	117.08	CLOSED	#1-NORMAL	24	34		61.2	5.69	6.93	0.73
9/30/14 18:51	1608	1795.333	0.00	0.00	1790.15	1988.52	0.73	359.17	3.10	61.22	6.67	6.75	141.28	2.76	117.12	CLOSED	#1-NORMAL	24	38		61.2	5.70	6.93	0.73
9/30/14 18:52	1608	1795.333	0.00	0.00	1789.59	1988.50	0.73	359.21	3.10	61.22	6.65	6.76	141.27	2.77	117.16	CLOSED	#1-NORMAL	24	40		61.2	5.71	6.93	0.73
9/30/14 18:53	1608	1795.333	0.00	0.00	1788.98	1988.51	0.73	359.19	3.10	61.22	6.48	6.76	141.27	2.78	117.19	CLOSED	#1-NORMAL	24	40		61.2	5.71	6.92	0.73
9/30/14 18:54	1793	1795.333	0.00	0.00	1788.25	1988.58	0.73	359.17	3.10	61.22	6.68	6.77	141.27	2.80	117.22	CLOSED	#1-NORMAL	24	40		61.2	5.72	6.92	0.73
9/30/14 18:55	1793	1795.333	0.00	0.00	1787.45	1988.63	0.73	359.21	3.10	61.22	6.69	6.78	141.27	2.81	117.25	CLOSED	#1-NORMAL	24	40		61.2	5.73	6.92	0.73
9/30/14 18:56	1793	1795.333	0.00	0.00	1786.57	1988.67	0.73	359.20	3.10	61.22	6.51	6.78	141.27	2.82	117.29	CLOSED	#1-NORMAL	24	40		61.2	5.73	6.92	0.73
9/30/14 18:57	1793	1795.333	0.00	0.00	1785.66	1988.78	0.73	359.18	3.10	61.22	6.62	6.78	141.27	2.83	117.33	CLOSED	#1-NORMAL	24	40		61.2	5.74	6.92	0.73
9/30/14 18:58	1793	1795.333	0.00	0.00	1784.83	1988.91	0.73	359.21	3.10	61.22	6.81	6.77	141.27	2.85	117.37	CLOSED	#1-NORMAL	24	40		61.2	5.75	6.91	0.73
9/30/14 18:59	1793	1795.333	0.00	0.00	1784.00	1989.06	0.73	359.22	3.10	61.22	6.66	6.76	141.26	2.86	117.41	CLOSED	#1-NORMAL	24	40		61.2	5.77	6.91	0.73
9/30/14 19:00	0	1795.333	0.00	0.00	1783.22	1989.17	0.73	359.25	3.10	61.22	6.76	6.75	141.26	2.88	117.45	CLOSED	#1-NORMAL	24	40		61.2	5.78	6.91	0.73

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHinTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmer	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 9:00	0	1792.00	0.00	0.00	1805.94	1970.35	0.78	335.47	3.10	61.22	5.86	6.86	146.06	1.56	113.24	CLOSED	#1-NORMAL		24	18				
10/1/14 9:01	0	1796.00	0.00	0.00	1805.22	1970.52	0.78	335.83	3.10	61.22	5.58	6.82	146.08	1.57	113.26	CLOSED	#1-NORMAL		24	17				
10/1/14 9:02	0	1796.00	0.00	0.00	1804.62	1970.21	0.78	336.17	3.10	61.22	5.50	6.78	146.09	1.57	113.28	CLOSED	#1-NORMAL		24	19				
10/1/14 9:03	0	1796.00	0.00	0.00	1804.13	1970.10	0.78	336.50	3.10	61.22	6.27	6.74	146.10	1.58	113.29	CLOSED	#1-NORMAL		24	23				
10/1/14 9:04	0	1796.00	0.00	0.00	1803.86	1970.61	0.78	336.85	3.10	61.22	7.18	6.71	146.10	1.60	113.32	CLOSED	#1-NORMAL		24	28				
10/1/14 9:05	195	1796.00	0.00	0.00	1803.63	1970.97	0.78	337.23	3.10	61.22	5.11	6.67	146.12	1.61	113.34	CLOSED	#1-NORMAL		24	18				
10/1/14 9:06	195	1796.00	0.00	0.00	1803.47	1970.64	0.78	337.62	3.10	61.22	4.71	6.64	146.13	1.61	113.35	CLOSED	#1-NORMAL		24	18				
10/1/14 9:07	195	1796.00	0.00	0.00	1803.56	1970.40	0.78	337.99	3.10	61.22	5.36	6.60	146.14	1.62	113.36	CLOSED	#1-NORMAL		24	23				
10/1/14 9:08	195	1796.00	0.00	0.00	1803.65	1970.84	0.78	338.37	3.10	61.22	6.12	6.57	146.17	1.64	113.39	CLOSED	#1-NORMAL		24	26				
10/1/14 9:09	195	1796.00	0.00	0.00	1803.76	1971.28	0.78	338.77	3.10	61.22	6.03	6.54	146.18	1.65	113.42	CLOSED	#1-NORMAL		24	19				
10/1/14 9:10	195	1796.00	0.00	0.00	1804.11	1970.95	0.78	339.19	3.10	61.22	5.28	6.51	146.20	1.66	113.45	CLOSED	#1-NORMAL		24	23				
10/1/14 9:11	195	1796.00	0.00	0.00	1804.63	1969.83	0.78	339.60	3.10	61.22	5.15	6.48	146.22	1.66	113.48	CLOSED	#1-NORMAL		24	19				
10/1/14 9:12	392	1796.00	0.00	0.00	1804.96	1969.73	0.78	339.98	3.10	61.22	5.27	6.46	146.24	1.66	113.53	CLOSED	#1-NORMAL		24	15				
10/1/14 9:13	392	1796.00	0.00	0.00	1804.97	1969.66	0.78	340.33	3.10	61.22	4.45	6.44	146.25	1.66	113.57	CLOSED	#1-NORMAL		24	12				
10/1/14 9:14	392	1796.00	0.00	0.00	1804.86	1969.28	0.78	340.64	3.10	61.22	4.01	6.43	146.27	1.65	113.61	CLOSED	#1-NORMAL		24	11				
10/1/14 9:15	392	1796.00	0.00	0.00	1804.91	1968.78	0.78	340.89	3.10	61.22	4.06	6.40	146.28	1.64	113.64	CLOSED	#1-NORMAL		24	14				
10/1/14 9:16	392	1796.00	0.00	0.00	1805.02	1968.79	0.78	341.09	3.10	61.22	4.54	6.38	146.30	1.63	113.68	CLOSED	#1-NORMAL		24	10				
10/1/14 9:17	392	1796.00	0.00	0.00	1805.29	1968.57	0.78	341.26	3.10	61.22	4.89	6.35	146.31	1.63	113.72	CLOSED	#1-NORMAL		24	10				
10/1/14 9:18	577	1796.00	0.00	0.00	1805.81	1967.82	0.78	341.41	3.10	61.22	3.84	6.33	146.33	1.62	113.74	CLOSED	#1-NORMAL		24	14				
10/1/14 9:19	577	1796.00	0.00	0.00	1806.29	1967.89	0.78	341.52	3.10	61.22	4.39	6.31	146.35	1.61	113.76	CLOSED	#1-NORMAL		24	10				
10/1/14 9:20	577	1796.00	0.00	0.00	1806.72	1968.00	0.78	341.60	3.10	61.22	3.76	6.29	146.36	1.60	113.78	CLOSED	#1-NORMAL		24	10				
10/1/14 9:21	577	1796.00	0.00	0.00	1807.23	1967.99	0.78	341.65	3.10	61.22	3.62	6.27	146.37	1.59	113.80	CLOSED	#1-NORMAL		24	9				
10/1/14 9:22	577	1796.00	0.00	0.00	1807.69	1967.98	0.78	341.67	3.10	61.22	3.53	6.25	146.39	1.58	113.81	CLOSED	#1-NORMAL		24	8				
10/1/14 9:23	577	1796.00	0.00	0.00	1808.20	1967.97	0.78	341.64	3.10	61.22	4.08	6.23	146.41	1.58	113.83	CLOSED	#1-NORMAL		24	15				
10/1/14 9:24	577	1796.00	0.00	0.00	1808.90	1967.76	0.78	341.60	3.10	61.22	3.86	6.21	146.42	1.57	113.85	CLOSED	#1-NORMAL		24	7				
10/1/14 9:25	859	1796.00	0.00	0.00	1809.61	1967.46	0.78	341.54	3.10	61.22	3.12	6.18	146.43	1.55	113.87	CLOSED	#1-NORMAL		24	7				
10/1/14 9:26	859	1796.00	0.00	0.00	1810.31	1967.17	0.78	341.45	3.10	61.22	3.11	6.16	146.45	1.54	113.87	CLOSED	#1-NORMAL		24	8				
10/1/14 9:27	859	1796.00	0.00	0.00	1810.99	1966.88	0.78	341.34	3.10	61.22	3.42	6.14	146.46	1.53	113.88	CLOSED	#1-NORMAL	Start #3		9				
10/1/14 9:28	859	1796.00	0.00	0.00	1811.49	1966.87	0.78	341.20	3.10	61.22	4.01	6.12	146.47	1.53	113.90	CLOSED	#1-NORMAL		24	8				
10/1/14 9:29	859	1796.00	0.00	0.00	1811.89	1966.98	0.78	341.05	3.10	61.22	3.43	6.09	146.49	1.52	113.90	CLOSED	#1-NORMAL		24	7				
10/1/14 9:30	859	1796.00	0.00	0.00	1812.21	1966.88	0.78	340.89	3.10	61.22	4.49	6.07	146.50	1.51	113.91	CLOSED	#1-NORMAL		24	7				
10/1/14 9:31	1114	1796.00	0.00	0.00	1812.48	1966.62	0.78	340.73	3.10	61.22	3.31	6.04	146.52	1.50	113.92	CLOSED	#1-NORMAL		24	7				
10/1/14 9:32	1114	1796.00	0.00	0.00	1812.65	1966.43	0.78	340.55	3.10	61.22	3.25	6.02	146.54	1.49	113.92	CLOSED	#1-NORMAL		24	6				
10/1/14 9:33	1114	1796.00	0.00	0.00	1812.73	1966.32	0.78	340.37	3.10	61.22	3.21	5.99	146.55	1.48	113.92	CLOSED	#1-NORMAL		24	7				
10/1/14 9:34	1114	1796.00	0.00	0.00	1812.79	1966.26	0.78	340.16	3.10	61.22	3.18	5.97	146.57	1.47	113.92	CLOSED	#1-NORMAL		24	7				
10/1/14 9:35	1114	1796.00	0.00	0.00	1812.86	1966.16	0.78	339.95	3.10	61.22	3.21	5.94	146.58	1.46	113.92	CLOSED	#1-DAS LOCKOUT		24	7				
10/1/14 9:36	1114	1796.00	0.00	0.00	1812.91	1965.96	0.78	339.72	3.10	61.22	3.18	5.92	146.60	1.45	113.91	CLOSED	#1-NORMAL		24	7				
10/1/14 9:37	1114	1796.00	0.00	0.00	1812.92	1965.63	0.78	339.48	3.10	61.22	4.00	5.89	146.61	1.45	113.90	CLOSED	#1-NORMAL		24	17				
10/1/14 9:38	1114	1796.00	0.00	0.00	1812.80	1965.42	0.78	339.24	3.10	61.22	5.58	5.88	146.62	1.45	113.89	CLOSED	#1-NORMAL		24	10				
10/1/14 9:39	1313	1796.00	0.00	0.00	1812.35	1965.39	0.79	339.04	3.10	61.22	3.91	5.86	146.63	1.44	113.90	CLOSED	#1-NORMAL		24	8				
10/1/14 9:40	1313	1796.00	0.00	0.00	1811.63	1964.94	0.79	338.85	3.10	61.22	3.84	5.85	146.63	1.43	113.91	CLOSED	#1-NORMAL		24	12				
10/1/14 9:41	1313	1796.00	0.00	0.00	1810.83	1964.80	0.79	338.66	3.10	61.22	4.75	5.86	146.64	1.43	113.92	CLOSED	#1-NORMAL		24	12				
10/1/14 9:42	1313	1796.00	0.00	0.00	1809.97	1964.72	0.79	338.48	3.10	61.22	3.57	5.88	146.65	1.43	113.94	CLOSED	#1-NORMAL		24	17				
10/1/14 9:43	1313	1796.00	0.00	0.00	1809.10	1964.29	0.79	338.30	3.10	61.22	3.91	5.89	146.66	1.43	113.95	CLOSED	#1-NORMAL		24	17				
10/1/14 9:44	1313	1796.00	0.00	0.00	1808.24	1964.23	0.79	338.12	3.10	61.22	6.17	5.90	146.67	1.44	113.97	CLOSED	#1-NORMAL		24	19				
10/1/14 9:45	1470	1796.00	0.00	0.00	1807.15	1964.01	0.79	337.97	3.10	61.22	3.94	5.90	146.67	1.44	114.00	CLOSED	#1-NORMAL		24	13				
10/1/14 9:46	1470	1796.00	0.00	0.00	1806.35	1963.58	0.79	337.83	3.10	61.22	4.51	5.91	146.68	1.45	114.02	CLOSED	#1-NORMAL		24	19				
10/1/14 9:47	1470	1796.00	0.00	0.00	1805.83	1963.72	0.79	337.69	3.10	61.22	4.36	5.92	146.69	1.44	114.05	CLOSED	#1-NORMAL		24	14				
10/1/14 9:48	1470	1796.00	0.00	0.00	1805.44	1963.73	0.79	337.55	3.10	61.22	3.69	5.92	146.69	1.44	114.09	CLOSED	#1-NORMAL		24	12				
10/1/14 9:49	1470	1796.00	0.00	0.00	1805.14	1963.77	0.79	337.40	3.10	61.22	3.56	5.93	146.70	1.44	114.12	CLOSED	#1-NORMAL		24	12				
10/1/14 9:50	1470	1796.00	0.00	0.00	1804.83	1963.86	0.79	337.24	3.10	61.22	4.12	5.93	146.70	1.44	114.15	CLOSED	#1-NORMAL		24	27				
10/1/14 9:51	1637	1796.00	0.00	0.00	1804.66	1964.02	0.79	337.08	3.10	61.22	4.46	5.93	146.71	1.44	114.19	CLOSED	#1-NORMAL		24	13				
10/1/14 9:52	1637	1796.00	0.00	0.00	1804.66	1964.16	0.79	336.92	3.10	61.22	3.78	5.94	146.72	1.44	114.22	CLOSED	#1-NORMAL		24	13				
10/1/14 9:53	1637	1796.00	0.00	0.00	1804.74	1964.42	0.79	336.75	3.10	61.22	3.99	5.94	146.72	1.44	114.24	CLOSED	#1-NORMAL		24	14				
10/1/14 9:54	1637	1796.00	0.00	0.00	1804.77	1964.75	0.79	336.57	3.10	61.22	4.17	5.94	146.73	1.44	114.27	CLOSED	#1-NORMAL		24	15				
10/1/14 9:55	1637	1796.00	0.00	0.00	1804.84	1964.99	0.79	336.40	3.10	61.22	4.21	5.94	146.74	1.44	114.30	CLOSED	#1-NORMAL		24	15				
10/1/14 9:56	1637	1796.00	0.00	0.00	1804.92	1965.20	0.79	336.22	3.10	61.22	4.22	5.95	146.74	1.44	114.33	CLOSED	#1-NORMAL		24	15				
10/1/14 9:57	1637	1796.00	0.00	0.00	1805.01	1965.38	0.79	336.05	3.10	61.22	5.70	5.95	146.74	1.45	114.35	CLOSED	#1-NORMAL		24	21				
10/1/14 9:58	1800	1796.00	0.00	0.00	1805.14	1965.44	0.79	335.89	3.10	61.22	4.32	5.95	146.75	1.45	114.38	CLOSED	#1-NORMAL		24	15				
10/1/14 9:59	1800	1796.00	0.00	0.00	1805.23	1965.54	0.79	335.74	3.10	61.22	4.22	5.95	146.75	1.45	114.39	CLOSED	#1-NORMAL		24	15				
10/1/14 10:00	0	1796.00	0.00	0.00	1805.28	1965.75	0.79	335.59	3.10	61.22	4.41	5.96	146.76	1.45	114.41	CLOSED	#1-NORMAL		24	16				
10/1/14 10:01	0	1795.00	0.00	0.00	1805.36	1966.10	0.79	335.43	3.10	61.22	4.77	5.96	146.76	1.46	114.42	CLOSED	#1-NORMAL		24	17				
10/1/14 10:02	0	1795.00	0.00	0.00	1805.45	1966.58	0.79	335.29	3.10	61.22	5.24	5.96	146.76	1.46	114.44	CLOSED	#1-NORMAL		24	21				
10/1/14 10:03	0	1795.00	0.00	0.00	1805.63	1967.03	0.79	335.15	3.10	61.22	6.00	5.96	146.77	1.47	114.44	CLOSED	#1-NORMAL		24	34				
10/1/14 10:04	186	1795.00	0.00	0.00	1805.91	1967.32	0.79	335.04	3.10	61.22	5.66	5.97	146.77	1.48	114.45	CLOSED	#1-NORMAL		24	22				
10/1/14 10:05	186	1795.00	0.00	0.00	1806.07	1967.52	0.79	334.95	3.10	61.22	4.33	5.97	146.77	1.49	114.44	CLOSED	#1-NORMAL		24	20				
10/1/14 10:06	186	1795.00	0.00	0.00	1806.16	1967.65	0.79	334.88	3.10	61.22	4.37	5.97	146.77	1.49	114.44	CLOSED	#1-NORMAL		24	20				
10/1/14 10:07	186	1795.00	0.00	0.00	1806.32	1967.76	0.79	334.82	3.10	61.22	4.43	5.97	146.78	1.50	114.43	CLOSED	#1-NORMAL		24	21				
10/1/14 10:08	186	1795.00	0.00	0.00	1806.46	1967.88	0.79	334.77	3.10	61.22	4.47	5.96	146.78	1.50	114.41	CLOSED	#1-NORMAL		24	20				
10/1/14 10:09	186	1795.00	0.00	0.00	1806.58	1967.99	0.79	334.73	3.10	61.22	4.56	5.96	146.78	1.51	114.41	CLOSED	#1-NORMAL		24	21				
10/1/14 10:10	186	1795.00	0.00	0.00	1806.79	1968.11	0.79	334.69	3.10	61.22	5.69	5.96	146.78	1.52	114.41	CLOSED	#1-NORMAL		24	29				
10/1/14 10:11	186	1795.00	0.00	0.00	1807.00	1968.25	0.79	334.68	3.10	61.22	5.02	5.96	146.79	1.53	114.40	CLOSED	#1-NORMAL		24	23				

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHInTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmet	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 10:12	442	1795.00	0.00	0.00	1807.12	1968.42	0.79	334.68	3.10	61.22	5.20	5.95	146.79	1.53	114.40	CLOSED	#1-NORMAL	24	25					
10/1/14 10:13	442	1795.00	0.00	0.00	1807.24	1968.64	0.79	334.68	3.10	61.22	5.44	5.95	146.79	1.54	114.40	CLOSED	#1-NORMAL	24	26					
10/1/14 10:14	442	1795.00	0.00	0.00	1807.25	1968.93	0.79	334.71	3.10	61.22	5.76	5.95	146.79	1.55	114.39	CLOSED	#1-NORMAL	24	29					
10/1/14 10:15	442	1795.00	0.00	0.00	1807.30	1969.27	0.79	334.75	3.10	61.22	6.16	5.95	146.79	1.57	114.39	CLOSED	#1-NORMAL	24	32					
10/1/14 10:16	442	1795.00	0.00	0.00	1807.35	1969.63	0.79	334.81	3.10	61.22	6.61	5.94	146.79	1.58	114.39	CLOSED	#1-NORMAL	24	37					
10/1/14 10:17	687	1795.00	0.00	0.00	1807.35	1970.02	0.79	334.90	3.10	61.22	6.07	5.94	146.80	1.60	114.38	CLOSED	#1-NORMAL	24	32					
10/1/14 10:18	687	1795.00	0.00	0.00	1807.47	1970.30	0.79	335.01	3.10	61.22	5.18	5.94	146.80	1.61	114.38	CLOSED	#1-NORMAL	24	33					
10/1/14 10:19	687	1795.00	0.00	0.00	1807.59	1970.58	0.79	335.14	3.10	61.22	5.45	5.94	146.80	1.63	114.37	CLOSED	#1-NORMAL	24	37					
10/1/14 10:20	687	1795.00	0.00	0.00	1807.81	1970.88	0.79	335.28	3.10	61.22	5.46	5.94	146.80	1.65	114.37	CLOSED	#1-NORMAL	24	40					
10/1/14 10:21	687	1795.00	0.00	0.00	1808.09	1971.13	0.79	335.44	3.10	61.22	5.50	5.93	146.80	1.67	114.38	CLOSED	#1-NORMAL	24	40					
10/1/14 10:22	687	1795.00	0.00	0.00	1808.31	1971.36	0.79	335.61	3.10	61.22	5.61	5.93	146.81	1.68	114.38	CLOSED	#1-NORMAL	24	40					
10/1/14 10:23	687	1795.00	0.00	0.00	1808.53	1971.65	0.79	335.79	3.10	61.22	5.85	5.93	146.82	1.70	114.39	CLOSED	#1-NORMAL	24	40					
10/1/14 10:24	896	1795.00	0.00	0.00	1808.71	1971.82	0.79	335.98	3.10	61.22	5.69	5.93	146.83	1.72	114.39	CLOSED	#1-NORMAL	24	40					
10/1/14 10:25	896	1795.00	0.00	0.00	1808.75	1971.91	0.79	336.18	3.10	61.22	5.85	5.93	146.84	1.74	114.40	CLOSED	#1-NORMAL	24	40					
10/1/14 10:26	896	1795.00	0.00	0.00	1808.66	1971.97	0.79	336.38	3.10	61.22	5.91	5.93	146.85	1.75	114.41	CLOSED	#1-NORMAL	24	40					
10/1/14 10:27	896	1795.00	0.00	0.00	1808.54	1972.07	0.79	336.56	3.10	61.22	6.07	5.94	146.85	1.77	114.42	CLOSED	#1-NORMAL	24	40					
10/1/14 10:28	896	1795.00	0.00	0.00	1808.36	1972.29	0.79	336.71	3.10	61.22	6.18	5.94	146.86	1.79	114.43	CLOSED	#1-NORMAL	24	37					
10/1/14 10:29	896	1795.00	0.00	0.00	1808.21	1972.60	0.79	336.84	3.10	61.22	6.28	5.94	146.87	1.80	114.45	CLOSED	#1-NORMAL	24	39					
10/1/14 10:30	896	1795.00	0.00	0.00	1808.03	1972.90	0.79	336.99	3.10	61.22	6.38	5.95	146.88	1.82	114.47	CLOSED	#1-NORMAL	24	40					
10/1/14 10:31	1078	1795.00	0.00	0.00	1807.67	1973.17	0.79	337.15	3.10	61.22	6.35	5.95	146.89	1.83	114.48	CLOSED	#1-NORMAL	24	40					
10/1/14 10:32	1078	1795.00	0.00	0.00	1807.17	1973.54	0.79	337.33	3.10	61.22	6.36	5.96	146.89	1.85	114.50	CLOSED	#1-NORMAL	24	40					
10/1/14 10:33	1078	1795.00	0.00	0.00	1806.57	1973.97	0.79	337.51	3.10	61.22	6.40	5.97	146.90	1.86	114.51	CLOSED	#1-NORMAL	24	40					
10/1/14 10:34	1078	1795.00	0.00	0.00	1805.82	1974.37	0.79	337.67	3.10	61.22	6.40	5.97	146.91	1.88	114.53	CLOSED	#1-NORMAL	24	40					
10/1/14 10:35	1078	1795.00	0.00	0.00	1805.00	1974.71	0.79	337.79	3.10	61.22	6.42	5.97	146.91	1.90	114.55	CLOSED	#1-NORMAL	24	40					
10/1/14 10:36	1078	1795.00	0.00	0.00	1804.12	1975.02	0.79	337.92	3.10	61.22	6.56	5.97	146.91	1.91	114.57	CLOSED	#1-NORMAL	24	40					
10/1/14 10:37	1294	1795.00	0.00	0.00	1803.15	1975.31	0.79	338.05	3.10	61.22	6.60	5.97	146.91	1.92	114.59	CLOSED	#1-NORMAL	24	40					
10/1/14 10:38	1294	1795.00	0.00	0.00	1802.07	1975.64	0.80	338.20	3.10	61.22	6.66	5.97	146.91	1.94	114.61	CLOSED	#1-NORMAL	24	40					
10/1/14 10:39	1294	1795.00	0.00	0.00	1800.88	1976.03	0.80	338.36	3.10	61.22	6.76	5.96	146.91	1.95	114.63	CLOSED	#1-NORMAL	24	40					
10/1/14 10:40	1294	1795.00	0.00	0.00	1799.63	1976.42	0.80	338.53	3.10	61.22	6.81	5.96	146.90	1.97	114.65	CLOSED	#1-NORMAL	24	40					
10/1/14 10:41	1294	1795.00	0.00	0.00	1798.37	1976.78	0.80	338.67	3.10	61.22	6.86	5.96	146.90	1.98	114.66	CLOSED	#1-NORMAL	24	40					
10/1/14 10:42	1294	1795.00	0.00	0.00	1797.10	1977.12	0.80	338.79	3.10	61.22	6.88	5.96	146.90	1.99	114.68	CLOSED	#1-NORMAL	24	40					
10/1/14 10:43	1478	1795.00	0.00	0.00	1795.79	1977.37	0.80	338.90	3.10	61.22	6.30	5.95	146.90	2.01	114.69	CLOSED	#1-NORMAL	24	40					
10/1/14 10:44	1478	1795.00	0.00	0.00	1794.52	1977.65	0.80	339.03	3.10	61.22	5.65	5.95	146.90	2.02	114.71	CLOSED	#1-NORMAL	24	40					
10/1/14 10:45	1478	1795.00	0.00	0.00	1793.26	1978.00	0.80	339.17	3.10	61.22	5.78	5.94	146.89	2.03	114.73	CLOSED	#1-NORMAL	24	39					
10/1/14 10:46	1478	1795.00	0.00	0.00	1792.04	1978.32	0.80	339.33	3.10	61.22	5.88	5.94	146.89	2.05	114.76	CLOSED	#1-NORMAL	24	39					
10/1/14 10:47	1478	1795.00	0.00	0.00	1790.90	1978.61	0.80	339.47	3.10	61.22	5.99	5.93	146.89	2.06	114.78	CLOSED	#1-NORMAL	24	39					
10/1/14 10:48	1478	1795.00	0.00	0.00	1789.79	1978.90	0.80	339.57	3.10	61.22	6.05	5.93	146.88	2.07	114.80	CLOSED	#1-NORMAL	24	37					
10/1/14 10:49	1478	1795.00	0.00	0.00	1788.72	1979.11	0.80	339.68	3.10	61.22	6.22	5.93	146.88	2.08	114.82	CLOSED	#1-NORMAL	24	36					
10/1/14 10:50	1647	1795.00	0.00	0.00	1787.70	1979.22	0.80	339.81	3.10	61.22	6.36	5.93	146.87	2.09	114.84	CLOSED	#1-NORMAL	24	33					
10/1/14 10:51	1647	1795.00	0.00	0.00	1786.70	1979.34	0.80	339.96	3.10	61.22	6.43	5.93	146.87	2.09	114.86	CLOSED	#1-NORMAL	24	31					
10/1/14 10:52	1647	1795.00	0.00	0.00	1785.67	1979.52	0.80	340.10	3.10	61.22	6.50	5.93	146.86	2.10	114.89	CLOSED	#1-NORMAL	24	28					
10/1/14 10:53	1647	1795.00	0.00	0.00	1784.61	1979.76	0.80	340.20	3.10	61.22	6.53	5.93	146.86	2.10	114.91	CLOSED	#1-NORMAL	24	27					
10/1/14 10:54	1647	1795.00	0.00	0.00	1783.54	1980.03	0.80	340.30	3.10	61.22	6.55	5.93	146.85	2.11	114.94	CLOSED	#1-NORMAL	24	27					
10/1/14 10:55	1647	1795.00	0.00	0.00	1782.49	1980.25	0.80	340.42	3.10	61.22	6.67	5.93	146.85	2.11	114.96	CLOSED	#1-NORMAL	24	26					
10/1/14 10:56	1647	1795.00	0.00	0.00	1781.48	1980.47	0.80	340.56	3.10	61.22	6.76	5.93	146.84	2.11	114.99	CLOSED	#1-NORMAL	24	25					
10/1/14 10:57	1793	1795.00	0.00	0.00	1780.48	1980.69	0.80	340.69	3.10	61.22	6.76	5.93	146.84	2.11	115.01	CLOSED	#1-NORMAL	24	25					
10/1/14 10:58	1793	1795.00	0.00	0.00	1779.51	1980.90	0.80	340.79	3.10	61.22	6.84	5.93	146.83	2.12	115.04	CLOSED	#1-NORMAL	24	25					
10/1/14 10:59	1793	1795.00	0.00	0.00	1778.55	1981.17	0.80	340.88	3.10	61.22	4.79	5.93	146.83	2.12	115.06	CLOSED	#1-NORMAL	24	24					
10/1/14 11:00	0	1795.00	0.00	0.00	1777.60	1981.40	0.80	340.99	3.10	61.22	4.54	5.93	146.82	2.12	115.09	CLOSED	#1-NORMAL	24	22					
10/1/14 11:01	0	1783.33	0.00	0.00	1776.68	1981.60	0.80	341.12	3.10	61.22	4.70	5.93	146.82	2.12	115.11	CLOSED	#1-NORMAL	24	22					
10/1/14 11:02	0	1783.33	0.00	0.00	1775.75	1981.86	0.80	341.25	3.10	61.22	5.04	5.93	146.81	2.12	115.13	CLOSED	#1-NORMAL	24	26					
10/1/14 11:03	141	1783.33	0.00	0.00	1774.81	1982.14	0.80	341.34	3.10	61.22	4.94	5.92	146.81	2.13	115.15	CLOSED	#1-NORMAL	24	22					
10/1/14 11:04	141	1783.33	0.00	0.00	1773.89	1982.44	0.80	341.43	3.10	61.22	5.05	5.92	146.81	2.13	115.17	CLOSED	#1-NORMAL	24	21					
10/1/14 11:05	141	1783.33	0.00	0.00	1772.99	1982.80	0.80	341.54	3.10	61.22	5.12	5.91	146.80	2.13	115.19	CLOSED	#1-NORMAL	24	21					
10/1/14 11:06	141	1783.33	0.00	0.00	1772.14	1983.20	0.80	341.66	3.10	61.22	5.16	5.91	146.80	2.13	115.20	CLOSED	#1-NORMAL	24	25					
10/1/14 11:07	141	1783.33	0.00	0.00	1771.36	1983.62	0.80	341.78	3.10	61.22	5.22	5.90	146.79	2.13	115.22	CLOSED	#1-NORMAL	24	23					
10/1/14 11:08	141	1783.33	0.00	0.00	1770.61	1984.03	0.80	341.86	3.10	61.22	5.29	5.90	146.79	2.13	115.23	CLOSED	#1-NORMAL	24	27					
10/1/14 11:09	324	1783.33	0.00	0.00	1769.88	1984.40	0.80	341.95	3.10	61.22	5.51	5.90	146.78	2.13	115.25	CLOSED	#1-NORMAL	24	21					
10/1/14 11:10	324	1783.33	0.00	0.00	1769.18	1984.70	0.80	342.05	3.10	61.22	5.43	5.89	146.78	2.13	115.27	CLOSED	#1-NORMAL	24	22					
10/1/14 11:11	324	1783.33	0.00	0.00	1768.53	1984.94	0.80	342.17	3.10	61.22	5.50	5.89	146.77	2.13	115.28	CLOSED	#1-NORMAL	24	22					
10/1/14 11:12	324	1783.33	0.00	0.00	1767.97	1985.08	0.80	342.27	3.10	61.22	5.53	5.88	146.77	2.13	115.30	CLOSED	#1-NORMAL	24	20					
10/1/14 11:13	324	1783.33	0.00	0.00	1767.48	1985.13	0.80	342.34	3.10	61.22	5.50	5.88	146.76	2.13	115.31	CLOSED	#1-NORMAL	24	20					
10/1/14 11:14	324	1783.33	0.00	0.00	1767.07	1985.08	0.80	342.43	3.10	61.22	5.46	5.87	146.76	2.13	115.33	CLOSED	#1-NORMAL	24	19					
10/1/14 11:15	324	1783.33	0.00	0.00	1766.78	1984.95	0.80	342.53	3.10	61.22	5.87	5.87	146.76	2.13	115.34	CLOSED	#1-NORMAL	24	17					
10/1/14 11:16	512	1783.33	0.00	0.00	1766.10	1985.04	0.80	342.65	3.10	61.22	5.29	5.86	146.76	2.13	115.36	CLOSED	#1-NORMAL	24	17					
10/1/14 11:17	512	1783.33	0.00	0.00	1765.29	1985.20	0.80	342.76	3.10	61.22	5.28	5.85	146.76	2.13	115.38	CLOSED	#1-NORMAL	24	16					
10/1/14 11:18	512	1783.33	0.00	0.00	1764.34	1985.36	0.80	342.85	3.10	61.22	5.37	5.83	146.76	2.13	115.41	CLOSED	#1-NORMAL	24	19					
10/1/14 11:19	512	1783.33	0.00	0.00	1763.28	1985.43	0.80	342.95	3.10	61.22	5.65	5.82	146.76	2.14	115.44	CLOSED	#1-NORMAL	24	19					
10/1/14 11:20	512	1783.33	0.00	0.00	1762.12	1985.70	0.80	343.08	3.10	61.22	5.82	5.81	146.76	2.15	115.47	CLOSED	#1-NORMAL	24	19					
10/1/14 11:21	512	1783.33	0.00	0.00	1760.82	1986.10	0.80	343.25	3.10	61.22	6.05	5.80	146.76	2.15	115.51	CLOSED	#1-NORMAL	24	22					
10/1/14 11:22	710	1783.33	0.00	0.00	1759.42	1986.35	0.80	343.42	3.10	61.22	6.23	5.79	146.76	2.16	115.54	CLOSED	#1-NORMAL	24	23					
10/1/14 11:23	710	1783.33	0.00	0.00	1758.04	1986.51	0.80	343.57	3.10	61.22	6.17	5.78	146.76	2.16	115.57	CLOSED	#1-NORMAL	24	26					
10/1/14 11:24	710	1783.33	0.00	0.00	1756.71	1986.92	0.80	343.72	3.10	61.22	6.22	5.76	146.77	2.17	115.61	CLOSED	#1-NORMAL	24	24					

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR	Reage	BHInTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmet	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 11:25	710	1783.33	0.00	0.00	1755.34	1987.31	0.80		343.90	3.10	61.22	6.30	5.75	146.77	2.18	115.65	CLOSED	#1-NORMAL		24	25				
10/1/14 11:26	710	1783.33	0.00	0.00	1753.96	1987.51	0.80		344.11	3.10	61.22	6.34	5.74	146.77	2.19	115.68	CLOSED	#1-NORMAL		24	24				
10/1/14 11:27	710	1783.33	0.00	0.00	1752.53	1987.74	0.80		344.30	3.10	61.22	6.30	5.73	146.77	2.20	115.72	CLOSED	#1-NORMAL		24	25				
10/1/14 11:28	710	1783.33	0.00	0.00	1751.09	1988.06	0.80		344.48	3.10	61.22	6.43	5.72	146.77	2.21	115.76	CLOSED	#1-NORMAL		24	24				
10/1/14 11:29	916	1783.33	0.00	0.00	1749.76	1988.33	0.80		344.67	3.10	61.22	6.34	5.71	146.77	2.22	115.79	CLOSED	#1-NORMAL		24	25				
10/1/14 11:30	916	1783.33	0.00	0.00	1748.50	1988.54	0.80		344.89	3.10	61.22	6.48	5.70	146.77	2.22	115.82	CLOSED	#1-NORMAL		24	24				
10/1/14 11:31	916	1783.33	0.00	0.00	1747.39	1988.51	0.80		345.13	3.10	61.22	6.55	5.69	146.77	2.23	115.85	CLOSED	#1-NORMAL		24	26				
10/1/14 11:32	916	1783.33	0.00	0.00	1746.37	1988.47	0.80		345.34	3.10	61.22	6.60	5.67	146.77	2.24	115.87	CLOSED	#1-NORMAL		24	27				
10/1/14 11:33	916	1783.33	0.00	0.00	1745.24	1988.40	0.80		345.53	3.10	61.22	6.70	5.66	146.77	2.25	115.90	CLOSED	#1-NORMAL		24	24				
10/1/14 11:34	916	1783.33	0.00	0.00	1744.13	1988.23	0.80		345.74	3.10	61.22	6.79	5.65	146.77	2.25	115.92	CLOSED	#1-NORMAL		24	25				
10/1/14 11:35	916	1783.33	0.00	0.00	1743.08	1988.01	0.80		345.96	3.10	61.22	6.30	5.64	146.77	2.26	115.94	CLOSED	#1-NORMAL		24	31				
10/1/14 11:36	1108	1783.33	0.00	0.00	1742.18	1987.83	0.81		346.18	3.10	61.22	5.75	5.63	146.77	2.26	115.97	CLOSED	#1-NORMAL		24	28				
10/1/14 11:37	1108	1783.33	0.00	0.00	1741.28	1987.80	0.81		346.35	3.10	61.22	5.80	5.62	146.77	2.27	116.00	CLOSED	#1-NORMAL		24	25				
10/1/14 11:38	1108	1783.33	0.00	0.00	1740.16	1987.90	0.81		346.49	3.10	61.22	5.97	5.61	146.77	2.27	116.03	CLOSED	#1-NORMAL		24	26				
10/1/14 11:39	1108	1783.33	0.00	0.00	1738.97	1987.96	0.81		346.66	3.10	61.22	6.11	5.59	146.77	2.28	116.06	CLOSED	#1-NORMAL		24	26				
10/1/14 11:40	1108	1783.33	0.00	0.00	1737.98	1987.93	0.81		346.84	3.10	61.22	6.07	5.59	146.77	2.28	116.08	CLOSED	#1-NORMAL		24	27				
10/1/14 11:41	1108	1783.33	0.00	0.00	1737.24	1987.78	0.81		347.00	3.10	61.22	6.20	5.58	146.77	2.29	116.11	CLOSED	#1-NORMAL		24	19				
10/1/14 11:42	1361	1783.33	0.00	0.00	1736.61	1987.57	0.81		347.12	3.10	61.22	5.82	5.57	146.77	2.29	116.14	CLOSED	#1-NORMAL		24	17				
10/1/14 11:43	1361	1783.33	0.00	0.00	1736.02	1987.45	0.81		347.24	3.10	61.22	5.84	5.56	146.77	2.28	116.17	CLOSED	#1-NORMAL		24	18				
10/1/14 11:44	1361	1783.33	0.00	0.00	1735.45	1987.42	0.81		347.36	3.10	61.22	6.07	5.55	146.77	2.28	116.20	CLOSED	#1-NORMAL		24	20				
10/1/14 11:45	1361	1783.33	0.00	0.00	1734.85	1987.32	0.81		347.48	3.10	61.22	6.15	5.54	146.77	2.28	116.22	CLOSED	#1-NORMAL		24	21				
10/1/14 11:46	1361	1783.33	0.00	0.00	1734.27	1987.24	0.81		347.59	3.10	61.22	6.24	5.53	146.77	2.28	116.25	CLOSED	#1-NORMAL		24	16				
10/1/14 11:47	1361	1783.33	0.00	0.00	1733.78	1987.31	0.81		347.66	3.10	61.22	6.22	5.52	146.77	2.29	116.28	CLOSED	#1-NORMAL		24	24				
10/1/14 11:48	1361	1783.33	0.00	0.00	1733.35	1987.36	0.81		347.74	3.10	61.22	6.16	5.51	146.77	2.29	116.30	CLOSED	#1-NORMAL		24	14				
10/1/14 11:49	1571	1783.33	0.00	0.00	1732.88	1987.31	0.81		347.83	3.10	61.22	5.86	5.50	146.77	2.28	116.32	CLOSED	#1-NORMAL		24	15				
10/1/14 11:50	1571	1783.33	0.00	0.00	1732.42	1987.23	0.81		347.93	3.10	61.22	6.04	5.50	146.77	2.28	116.34	CLOSED	#1-NORMAL		24	17				
10/1/14 11:51	1571	1783.33	0.00	0.00	1732.17	1987.16	0.81		348.02	3.10	61.22	6.18	5.49	146.77	2.28	116.36	CLOSED	#1-NORMAL		24	18				
10/1/14 11:52	1571	1783.33	0.00	0.00	1732.10	1987.15	0.81		348.08	3.10	61.22	6.27	5.48	146.77	2.28	116.37	CLOSED	#1-NORMAL		24	17				
10/1/14 11:53	1571	1783.33	0.00	0.00	1732.00	1987.08	0.81		348.12	3.10	61.22	6.31	5.47	146.77	2.28	116.39	CLOSED	#1-NORMAL		24	17				
10/1/14 11:54	1571	1783.33	0.00	0.00	1731.81	1986.99	0.81		348.17	3.10	61.22	6.77	5.47	146.76	2.28	116.41	CLOSED	#1-NORMAL		24	19				
10/1/14 11:55	1757	1783.33	0.00	0.00	1731.46	1986.91	0.81		348.24	3.10	61.22	5.13	5.46	146.76	2.28	116.42	CLOSED	#1-NORMAL		24	17				
10/1/14 11:56	1757	1783.33	0.00	0.00	1731.06	1986.90	0.81		348.31	3.10	61.22	5.19	5.46	146.76	2.27	116.43	CLOSED	#1-NORMAL		24	18				
10/1/14 11:57	1757	1783.33	0.00	0.00	1730.66	1987.08	0.81		348.36	3.10	61.22	5.41	5.46	146.75	2.28	116.44	CLOSED	#1-NORMAL		24	18				
10/1/14 11:58	1757	1783.33	0.00	0.00	1730.22	1987.33	0.81		348.38	3.10	61.22	5.65	5.45	146.75	2.28	116.45	CLOSED	#1-NORMAL		24	18				
10/1/14 11:59	1757	1783.33	0.00	0.00	1729.69	1987.43	0.81		348.42	3.10	61.22	5.88	5.46	146.74	2.27	116.45	CLOSED	#1-NORMAL		24	15		61.2	5.37	5.94	0.79
10/1/14 12:00	0	1783.33	0.00	0.00	1729.18	1987.30	0.81		348.47	3.10	61.22	6.13	5.46	146.74	2.27	116.46	CLOSED	#1-NORMAL		24	17		61.2	5.38	5.94	0.79
10/1/14 12:01	172	1783.00	0.00	0.00	1728.67	1987.30	0.81		348.54	3.10	61.22	6.24	5.47	146.73	2.27	116.47	CLOSED	#1-NORMAL		24	16		61.2	5.38	5.93	0.79
10/1/14 12:02	172	1783.00	0.00	0.00	1728.16	1987.41	0.81		348.57	3.10	61.22	6.14	5.47	146.73	2.27	116.48	CLOSED	#1-NORMAL		24	16		61.2	5.38	5.92	0.79
10/1/14 12:03	172	1783.00	0.00	0.00	1727.69	1987.50	0.81		348.59	3.10	61.22	6.22	5.48	146.73	2.27	116.49	CLOSED	#1-NORMAL		24	17		61.2	5.38	5.91	0.79
10/1/14 12:04	172	1783.00	0.00	0.00	1727.19	1987.46	0.81		348.61	3.10	61.22	6.55	5.48	146.72	2.26	116.50	CLOSED	#1-NORMAL		24	18		61.2	5.38	5.91	0.79
10/1/14 12:05	172	1783.00	0.00	0.00	1726.61	1987.55	0.81		348.65	3.10	61.22	6.61	5.48	146.72	2.26	116.51	CLOSED	#1-NORMAL		24	21		61.2	5.39	5.90	0.79
10/1/14 12:06	172	1783.00	0.00	0.00	1725.99	1987.88	0.81		348.68	3.10	61.22	6.74	5.49	146.71	2.27	116.52	CLOSED	#1-NORMAL		24	24		61.2	5.40	5.89	0.79
10/1/14 12:07	172	1783.00	0.00	0.00	1725.27	1988.18	0.81		348.69	3.10	61.22	6.78	5.49	146.71	2.27	116.53	CLOSED	#1-NORMAL		24	27		61.2	5.41	5.89	0.80
10/1/14 12:08	360	1783.00	0.00	0.00	1724.52	1988.22	0.81		348.67	3.10	61.22	6.72	5.49	146.70	2.27	116.53	CLOSED	#1-NORMAL		24	21		61.2	5.41	5.88	0.80
10/1/14 12:09	360	1783.00	0.00	0.00	1723.81	1988.21	0.81		348.66	3.10	61.22	6.82	5.50	146.70	2.27	116.54	CLOSED	#1-NORMAL		24	24		61.2	5.42	5.87	0.80
10/1/14 12:10	360	1783.00	0.00	0.00	1723.02	1988.50	0.81		348.67	3.10	61.22	5.74	5.50	146.69	2.27	116.54	CLOSED	#1-NORMAL		24	26		61.2	5.42	5.86	0.80
10/1/14 12:11	360	1783.00	0.00	0.00	1722.19	1989.11	0.81		348.67	3.10	61.22	5.88	5.50	146.68	2.28	116.55	CLOSED	#1-NORMAL		24	28		61.2	5.42	5.86	0.80
10/1/14 12:12	360	1783.00	0.00	0.00	1721.41	1989.53	0.81		348.65	3.10	61.22	5.95	5.51	146.68	2.28	116.56	CLOSED	#1-NORMAL		24	28		61.2	5.43	5.85	0.80
10/1/14 12:13	360	1783.00	0.00	0.00	1720.69	1990.02	0.81		348.63	3.10	61.22	6.04	5.50	146.67	2.29	116.56	CLOSED	#1-NORMAL		24	22		61.2	5.44	5.85	0.80
10/1/14 12:14	548	1783.00	0.00	0.00	1719.97	1990.56	0.81		348.64	3.10	61.22	6.12	5.50	146.66	2.29	116.57	CLOSED	#1-NORMAL		24	25		61.2	5.46	5.84	0.80
10/1/14 12:15	548	1783.00	0.00	0.00	1719.20	1991.08	0.81		348.68	3.10	61.22	6.16	5.51	146.66	2.30	116.58	CLOSED	#1-NORMAL		24	26		61.2	5.47	5.84	0.80
10/1/14 12:16	548	1783.00	0.00	0.00	1718.43	1991.37	0.81		348.72	3.10	61.22	6.14	5.51	146.65	2.31	116.58	CLOSED	#1-NORMAL		24	23		61.2	5.47	5.83	0.80
10/1/14 12:17	548	1783.00	0.00	0.00	1717.66	1991.61	0.81		348.74	3.10	61.22	6.22	5.51	146.65	2.31	116.59	CLOSED	#1-NORMAL		24	20		61.2	5.49	5.83	0.80
10/1/14 12:18	548	1783.00	0.00	0.00	1716.83	1991.94	0.81		348.78	3.10	61.22	6.20	5.51	146.64	2.32	116.60	CLOSED	#1-NORMAL	start #4 M29	24	17		61.2	5.49	5.83	0.80
10/1/14 12:19	548	1783.00	0.00	0.00	1716.04	1991.90	0.81		348.85	3.10	61.22	6.04	5.51	146.63	2.32	116.61	CLOSED	#1-NORMAL		24	16		61.2	5.51	5.82	0.80
10/1/14 12:20	548	1783.00	0.00	0.00	1715.32	1991.78	0.81		348.94	3.10	61.22	6.45	5.51	146.62	2.33	116.61	CLOSED	#1-NORMAL		24	17		61.2	5.52	5.82	0.80
10/1/14 12:21	775	1783.00	0.00	0.00	1714.61	1991.67	0.81		349.02	3.10	61.22	5.79	5.52	146.62	2.33	116.62	CLOSED	#1-NORMAL		24	11		61.2	5.53	5.81	0.80
10/1/14 12:22	775	1783.00	0.00	0.00	1714.01	1991.56	0.81		349.08	3.10	61.22	5.52	5.52	146.61	2.34	116.62	CLOSED	#1-NORMAL		24	11		61.2	5.54	5.81	0.80
10/1/14 12:23	775	1783.00	0.00	0.00	1713.49	1991.47	0.81		349.16	3.10	61.22	5.33	5.52	146.60	2.33	116.62	CLOSED	#1-NORMAL		24	10		61.2	5.55	5.81	0.80
10/1/14 12:24	775	1783.00	0.00	0.00	1712.97	1991.48	0.81		349.27	3.10	61.22	5.27	5.52	146.59	2.33	116.62	CLOSED	#1-NORMAL		24	9		61.2	5.56	5.80	0.80
10/1/14 12:25	775	1783.00	0.00	0.00	1712.53	1991.53	0.81		349.39	3.10	61.22	5.17	5.53	146.58	2.34	116.62	CLOSED	#1-NORMAL		24	18		61.2	5.57	5.80	0.80
10/1/14 12:26	775	1783.00	0.00	0.00	1712.15	1991.58	0.82		349.53	3.10	61.22	5.75	5.53	146.57	2.34	116.61	CLOSED	#1-NORMAL		24	7		61.2	5.58	5.79	0.80
10/1/14 12:27	1020	1783.00	0.00	0.00	1711.81	1991.63	0.82		349.69	3.10	61.22	5.43	5.54	146.57	2.34	116.61	CLOSED	#1-NORMAL		24	7		61.2	5.59	5.79	0.80
10/1/14 12:28	1020	1783.00	0.00	0.00	1711.59	1991.51	0.82		349.86	3.10	61.22	4.80	5.54	146.56	2.34	116.60	CLOSED	#1-NORMAL		24	6		61.2	5.60	5.79	0.80
10/1/14 12:29	1020	1783.00	0.00	0.00	1711.45	1991.32	0.82		350.00	3.10	61.22	4.66	5.54	146.55	2.34	116.59	CLOSED	#1-NORMAL		24	6		61.2	5.59	5.79	0.80
10/1/14 12:30	1020	1783.00	0.00	0.00	1711.35	1991.20	0.82		350.12	3.10	61.22	4.28	5.55	146.54	2.33	116.58	CLOSED	#1-NORMAL		24	10		61.2	5.60	5.78	0.80
10/1/14 12:31	1020	1783.00	0.00	0.00	1711.30	1991.22	0.82		350.25	3.10	61.22	4.88	5.55	146.53	2.34	116.57	CLOSED	#1-NORMAL		24	5		61.2	5.61	5.78	0.80
10/1/14 12:32	1020	1783.00	0.00	0.00	1711.32	1991.37	0.82		350.38	3.10	61.22	4.50	5.56	146.52	2.33	116.56	CLOSED	#1-NORMAL		24	5		61.2	5.62	5.78	0.80
10/1/14 12:33	1020	1783.00	0.00	0.00	1711.39	1991.40	0.82		350.52	3.10	61.22	5.39	5.56	146.51	2.34	116.55	CLOSED	#1-NORMAL		24	4		61.2	5.63	5.78	0.80
10/1/14 12:34	1230	1783.00	0.00	0.00	1711.53	1991.42	0.82		350.67	3.10	61.22	4.16	5.57	146.50	2.34	116.53	CLOSED	#1-NORMAL		24	5		61.2	5.63	5.77	0.80
10/1/14 12:35	1230	1783.00	0.00	0.00	1711.67	1991.55	0.82		350.83	3.10	61.22	4.38	5.58	146.49	2.33	116.52	CLOSED	#1-NORMAL		24	7		61.2	5.64	5.77	0.80
10/1/14 12:36	1230	1783.00	0.00	0.00	1711.71	1991.87	0.82		351.00	3.10	61.22	4.77	5.58	146.48	2.33	116.51	CLOSED	#1-NORMAL		24	11		61.2	5.65	5.77	0.80
10/1/14 12:37	1230	1783.00	0.00	0.00	1711.69	1992.32	0.82		351.17	3.10	61.22	5.31	5.59	146.47	2.33	116.51	CLOSED	#1-NORMAL		24						

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BrInTemp	Carbon	Lime	BagDP	AbsOH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmel	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 12:38	1230	1783.00	0.00	0.00	1711.66	1992.78	0.82	351.34	3.10	61.22	5.93	5.59	146.46	2.33	116.50	CLOSED	#1-NORMAL	24	14		61.2	5.65	5.77	0.80
10/1/14 12:39	1230	1783.00	0.00	0.00	1711.73	1993.17	0.82	351.52	3.10	61.22	6.70	5.59	146.46	2.34	116.48	CLOSED	#1-NORMAL	24	18		61.2	5.67	5.77	0.80
10/1/14 12:40	1435	1783.00	0.00	0.00	1711.87	1993.70	0.82	351.70	3.10	61.22	6.23	5.59	146.45	2.34	116.47	CLOSED	#1-NORMAL	24	19		61.2	5.68	5.77	0.80
10/1/14 12:41	1435	1783.00	0.00	0.00	1712.01	1993.96	0.82	351.91	3.10	61.22	5.77	5.58	146.44	2.35	116.45	CLOSED	#1-NORMAL	24	17		61.2	5.69	5.76	0.80
10/1/14 12:42	1435	1783.00	0.00	0.00	1712.21	1994.07	0.82	352.13	3.10	61.22	5.58	5.58	146.43	2.35	116.44	CLOSED	#1-NORMAL	24	15		61.2	5.70	5.76	0.80
10/1/14 12:43	1435	1783.00	0.00	0.00	1712.44	1994.26	0.82	352.34	3.10	61.22	5.38	5.57	146.42	2.35	116.43	CLOSED	#1-NORMAL	24	14		61.2	5.71	5.76	0.80
10/1/14 12:44	1435	1783.00	0.00	0.00	1712.65	1994.27	0.82	352.52	3.10	61.22	5.23	5.57	146.42	2.34	116.42	CLOSED	#1-NORMAL	24	12		61.2	5.70	5.76	0.80
10/1/14 12:45	1435	1783.00	0.00	0.00	1712.97	1994.38	0.82	352.68	3.10	61.22	5.23	5.56	146.41	2.34	116.42	CLOSED	#1-NORMAL	24	12		61.2	5.71	5.76	0.80
10/1/14 12:46	1435	1783.00	0.00	0.00	1713.15	1994.59	0.82	352.86	3.10	61.22	5.99	5.55	146.40	2.34	116.41	CLOSED	#1-NORMAL	24	12		61.2	5.72	5.76	0.80
10/1/14 12:47	1651	1783.00	0.00	0.00	1713.22	1994.48	0.82	353.05	3.10	61.22	5.16	5.55	146.40	2.33	116.40	CLOSED	#1-NORMAL	24	10		61.2	5.72	5.75	0.80
10/1/14 12:48	1651	1783.00	0.00	0.00	1713.28	1994.41	0.82	353.25	3.10	61.22	4.89	5.54	146.39	2.33	116.38	CLOSED	#1-NORMAL	24	8		61.2	5.73	5.75	0.80
10/1/14 12:49	1651	1783.00	0.00	0.00	1713.35	1994.35	0.82	353.46	3.10	61.22	4.81	5.53	146.38	2.33	116.36	CLOSED	#1-NORMAL	24	8		61.2	5.73	5.75	0.80
10/1/14 12:50	1651	1783.00	0.00	0.00	1713.44	1994.27	0.82	353.67	3.10	61.22	4.68	5.53	146.38	2.32	116.35	CLOSED	#1-NORMAL	24	7		61.2	5.74	5.75	0.80
10/1/14 12:51	1651	1783.00	0.00	0.00	1713.51	1994.16	0.82	353.88	3.10	61.22	4.63	5.52	146.37	2.32	116.32	CLOSED	#1-NORMAL	24	6		61.2	5.74	5.74	0.80
10/1/14 12:52	1651	1783.00	0.00	0.00	1713.51	1994.08	0.82	354.09	3.10	61.22	5.19	5.51	146.36	2.32	116.30	CLOSED	#1-NORMAL	24	11		61.2	5.75	5.74	0.80
10/1/14 12:53	1799	1783.00	0.00	0.00	1713.50	1993.89	0.82	354.31	3.10	61.22	4.86	5.51	146.36	2.32	116.28	CLOSED	#1-NORMAL	24	5		61.2	5.75	5.74	0.80
10/1/14 12:54	1799	1783.00	0.00	0.00	1713.59	1993.62	0.83	354.52	3.10	61.22	4.22	5.50	146.35	2.31	116.25	CLOSED	#1-NORMAL	24	6		61.2	5.75	5.74	0.80
10/1/14 12:55	1799	1783.00	0.00	0.00	1713.64	1993.39	0.83	354.73	3.10	61.22	4.32	5.50	146.34	2.31	116.22	CLOSED	#1-NORMAL	24	5		61.2	5.75	5.73	0.80
10/1/14 12:56	1799	1783.00	0.00	0.00	1713.68	1993.21	0.83	354.93	3.10	61.22	4.18	5.50	146.33	2.30	116.19	CLOSED	#1-NORMAL	24	5		61.2	5.75	5.73	0.80
10/1/14 12:57	1799	1783.00	0.00	0.00	1713.73	1993.11	0.83	355.13	3.10	61.22	4.65	5.50	146.33	2.29	116.16	CLOSED	#1-NORMAL	24	5		61.2	5.75	5.73	0.80
10/1/14 12:58	1799	1783.00	0.00	0.00	1713.72	1993.18	0.83	355.31	3.10	61.22	4.31	5.50	146.32	2.28	116.14	CLOSED	#1-NORMAL	24	5		61.2	5.75	5.73	0.80
10/1/14 12:59	1799	1783.00	0.00	0.00	1713.74	1993.16	0.83	355.49	3.10	61.22	5.47	5.50	146.31	2.28	116.12	CLOSED	#1-NORMAL	24	4		61.2	5.75	5.72	0.80
10/1/14 13:00	182	1783.00	0.00	0.00	1713.81	1993.00	0.83	355.67	3.10	61.22	3.97	5.49	146.31	2.28	116.10	CLOSED	#1-NORMAL	24	15		61.2	5.75	5.72	0.81
10/1/14 13:01	182	1784.67	0.00	0.00	1713.86	1992.74	0.83	355.84	3.10	61.22	3.81	5.49	146.30	2.28	116.07	CLOSED	#1-NORMAL	24	13		61.2	5.75	5.72	0.81
10/1/14 13:02	182	1784.67	0.00	0.00	1713.92	1992.42	0.83	356.00	3.10	61.22	3.72	5.48	146.29	2.27	116.05	CLOSED	#1-NORMAL	24	13		61.2	5.74	5.72	0.81
10/1/14 13:03	182	1784.67	0.00	0.00	1713.95	1992.15	0.83	356.15	3.10	61.22	3.73	5.48	146.29	2.26	116.03	CLOSED	#1-NORMAL	24	13		61.2	5.72	5.71	0.81
10/1/14 13:04	182	1784.67	0.00	0.00	1713.93	1991.98	0.83	356.27	3.10	61.22	3.75	5.48	146.28	2.26	116.01	CLOSED	#1-NORMAL	24	13		61.2	5.71	5.71	0.81
10/1/14 13:05	182	1784.67	0.00	0.00	1714.01	1991.88	0.83	356.37	3.10	61.22	4.55	5.47	146.28	2.26	116.00	CLOSED	#1-NORMAL	24	20		61.2	5.71	5.71	0.81
10/1/14 13:06	413	1784.67	0.00	0.00	1714.16	1991.80	0.83	356.45	3.10	61.22	4.11	5.47	146.27	2.26	115.99	CLOSED	#1-NORMAL	24	12		61.2	5.71	5.71	0.81
10/1/14 13:07	413	1784.67	0.00	0.00	1714.27	1991.69	0.83	356.52	3.10	61.22	3.53	5.47	146.27	2.25	115.99	CLOSED	#1-NORMAL	24	11		61.2	5.71	5.70	0.81
10/1/14 13:08	413	1784.67	0.00	0.00	1714.41	1991.61	0.83	356.58	3.10	61.22	3.48	5.47	146.26	2.25	115.98	CLOSED	#1-NORMAL	24	11		61.2	5.70	5.70	0.81
10/1/14 13:09	413	1784.67	0.00	0.00	1714.57	1991.59	0.83	356.63	3.10	61.22	3.53	5.46	146.25	2.24	115.98	CLOSED	#1-NORMAL	24	12		61.2	5.70	5.70	0.81
10/1/14 13:10	413	1784.67	0.00	0.00	1714.66	1991.59	0.83	356.66	3.10	61.22	3.64	5.46	146.25	2.23	115.97	CLOSED	#1-NORMAL	24	12		61.2	5.69	5.69	0.81
10/1/14 13:11	413	1784.67	0.00	0.00	1714.76	1991.59	0.83	356.68	3.10	61.22	3.73	5.46	146.24	2.22	115.97	CLOSED	#1-NORMAL	24	12		61.2	5.68	5.69	0.81
10/1/14 13:12	413	1784.67	0.00	0.00	1714.92	1991.57	0.83	356.67	3.10	61.22	4.80	5.46	146.24	2.22	115.96	CLOSED	#1-NORMAL	24	13		61.2	5.68	5.69	0.81
10/1/14 13:13	648	1784.67	0.00	0.00	1715.07	1991.44	0.83	356.66	3.10	61.22	3.82	5.46	146.23	2.21	115.96	CLOSED	#1-NORMAL	24	12		61.2	5.67	5.69	0.81
10/1/14 13:14	648	1784.67	0.00	0.00	1715.25	1991.29	0.83	356.64	3.10	61.22	3.79	5.45	146.23	2.20	115.95	CLOSED	#1-NORMAL	24	14		61.2	5.66	5.68	0.81
10/1/14 13:15	648	1784.67	0.00	0.00	1715.36	1991.17	0.83	356.61	3.10	61.22	4.04	5.45	146.22	2.19	115.95	CLOSED	#1-NORMAL	24	15		61.2	5.64	5.68	0.81
10/1/14 13:16	648	1784.67	0.00	0.00	1715.45	1991.14	0.83	356.55	3.10	61.22	4.49	5.45	146.22	2.18	115.95	CLOSED	#1-NORMAL	24	19		61.2	5.63	5.68	0.81
10/1/14 13:17	648	1784.67	0.00	0.00	1715.56	1991.19	0.83	356.48	3.10	61.22	5.17	5.45	146.21	2.18	115.95	CLOSED	#1-NORMAL	24	23		61.2	5.63	5.68	0.81
10/1/14 13:18	648	1784.67	0.00	0.00	1715.52	1991.37	0.83	356.40	3.10	61.22	6.28	5.44	146.20	2.18	115.95	CLOSED	#1-NORMAL	24	31		61.2	5.63	5.67	0.81
10/1/14 13:19	847	1784.67	0.00	0.00	1715.40	1991.50	0.83	356.33	3.10	61.22	5.73	5.44	146.20	2.17	115.94	CLOSED	#1-NORMAL	24	26		61.2	5.64	5.67	0.81
10/1/14 13:20	847	1784.67	0.00	0.00	1715.20	1991.55	0.83	356.26	3.10	61.22	5.32	5.44	146.19	2.16	115.94	CLOSED	#1-NORMAL	24	28		61.2	5.63	5.67	0.81
10/1/14 13:21	847	1784.67	0.00	0.00	1714.86	1991.64	0.83	356.20	3.10	61.22	5.79	5.43	146.19	2.16	115.92	CLOSED	#1-NORMAL	24	30		61.2	5.64	5.66	0.81
10/1/14 13:22	847	1784.67	0.00	0.00	1714.51	1991.76	0.83	356.16	3.10	61.22	6.17	5.43	146.18	2.15	115.92	CLOSED	#1-NORMAL	24	33		61.2	5.64	5.66	0.81
10/1/14 13:23	847	1784.67	0.00	0.00	1714.12	1991.83	0.83	356.12	3.10	61.22	6.29	5.43	146.17	2.15	115.91	CLOSED	#1-NORMAL	24	33		61.2	5.64	5.66	0.81
10/1/14 13:24	847	1784.67	0.00	0.00	1713.71	1991.99	0.83	356.11	3.10	61.22	6.33	5.42	145.16	2.14	115.91	CLOSED	#1-NORMAL	24	35		61.2	5.65	5.66	0.81
10/1/14 13:25	847	1784.67	0.00	0.00	1713.36	1992.18	0.83	356.10	3.10	61.22	6.70	5.42	146.15	2.14	115.90	CLOSED	#1-NORMAL	24	38		61.2	5.65	5.65	0.81
10/1/14 13:26	1023	1784.67	0.00	0.00	1713.02	1992.40	0.83	356.11	3.10	61.22	6.61	5.41	146.13	2.14	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.65	5.65	0.81
10/1/14 13:27	1023	1784.67	0.00	0.00	1712.67	1992.67	0.83	356.11	3.10	61.22	6.69	5.40	146.12	2.14	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.65	5.65	0.81
10/1/14 13:28	1023	1784.67	0.00	0.00	1712.36	1992.88	0.83	356.11	3.10	61.22	6.70	5.40	146.11	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.66	5.64	0.81
10/1/14 13:29	1023	1784.67	0.00	0.00	1712.01	1993.07	0.84	356.12	3.10	61.22	6.78	5.39	146.10	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.66	5.64	0.81
10/1/14 13:30	1023	1784.67	0.00	0.00	1711.64	1993.35	0.84	356.14	3.10	61.22	6.85	5.39	146.09	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.67	5.64	0.81
10/1/14 13:31	1023	1784.67	0.00	0.00	1711.40	1993.68	0.84	356.16	3.10	61.22	6.86	5.38	146.08	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.67	5.63	0.81
10/1/14 13:32	1237	1784.67	0.00	0.00	1711.22	1993.89	0.84	356.16	3.10	61.22	6.09	5.38	146.07	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.67	5.63	0.81
10/1/14 13:33	1237	1784.67	0.00	0.00	1711.10	1994.00	0.84	356.13	3.10	61.22	5.70	5.37	146.06	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.66	5.63	0.81
10/1/14 13:34	1237	1784.67	0.00	0.00	1711.10	1994.09	0.84	356.11	3.10	61.22	5.77	5.37	146.05	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.66	5.62	0.81
10/1/14 13:35	1237	1784.67	0.00	0.00	1711.13	1994.21	0.84	356.15	3.10	61.22	5.88	5.36	146.04	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.66	5.62	0.81
10/1/14 13:36	1237	1784.67	0.00	0.00	1711.22	1994.30	0.84	356.19	3.10	61.22	5.97	5.36	146.04	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.65	5.62	0.81
10/1/14 13:37	1237	1784.67	0.00	0.00	1711.41	1994.39	0.84	356.20	3.10	61.22	6.02	5.36	146.03	2.15	115.90	CLOSED	#1-NORMAL	24	40		61.2	5.65	5.61	0.81
10/1/14 13:38	1237	1784.67	0.00	0.00	1711.60	1994.43	0.84	356.18	3.10	61.22	6.09	5.36	146.03	2.15	115.90	CLOSED	#1-NORMAL	End #3	40		61.2	5.65	5.61	0.81
10/1/14 13:39	1419	1784.67	0.00	0.00	1711.76	1994.43	0.84	356.16	3.10	61.22	6.00	5.36	146.02	2.15	115.89	CLOSED	#1-NORMAL	24	40		61.2	5.64	5.61	0.81
10/1/14 13:40	1419	1784.67	0.00	0.00	1711.90	1994.51	0.84	356.16	3.10	61.22	6.11	5.36	146.02	2.15	115.89	CLOSED	#1-NORMAL	24	40		61.2	5.64	5.60	0.81
10/1/14 13:41	1419	1784.67	0.00	0.00	1712.00	1994.61	0.84	356.18	3.10	61.22	6.21	5.36	146.02	2.15	115.89	CLOSED	#1-NORMAL	24	40		61.2	5.64	5.60	0.81
10/1/14 13:42	1419	1784.67	0.00	0.00	1712.12	1994.73	0.84	356.20	3.10	61.22	6.24	5.36	146.01	2.15	115.89	CLOSED	#1-NORMAL	24	40		61.2	5.63	5.60	0.81
10/1/14 13:43	1419	1784.67	0.00	0.00	1712.26	1994.94	0.84	356.20	3.10	61.22	6.19	5.37	146.01	2.15	115.89	CLOSED	#1-NORMAL	24	40		61.2	5.63	5.59	0.81
10/1/14 13:44	1419	1784.67	0.00	0.00	1712.38	1995.14	0.84	356.20	3.10	61.22	6.37	5.37	146.01	2.15	115.89	CLOSED	#1-NORMAL	24	40		61.2	5.64	5.59	0.82
10/1/14 13:45	1419	1784.67	0.00	0.00	1712.59	1995.26	0.84	356.21	3.10	61.22	6.59	5.37	146.01	2.15	115.88	CLOSED	#1-NORMAL	24	40		61.2	5.64	5.59	0.82
10/1/14 13:46	1419	1784.67	0.00	0.00	1712.97	1995.31	0.84	356.21	3.10	61.22	6.57	5.37	146.01	2.15	115.87	CLOSED	#1-NORMAL	24	40		61.2	5.64	5.59	0.82
10/1/14 13:47	1419	1784.67	0.00	0.00	1713.49	1995.34	0.84	356.20	3.10	61.22	6.60	5.38	146.00	2.15	115.87	CLOSED	#1-NORMAL	24	40		61.2	5.65	5.58	0.82
10/1/14 13:48	1419	1784.67	0.00	0.00	1714.00	1995.33	0.84	356.20	3.10	61.22	6.66	5.38	146.00	2.15	115.87	CLOSED	#1-NORMAL	24	40		61.2	5.65	5.58	0.82
10/1/14 13:49	1419	1784.67	0.00	0.00	1714.50	1995.36	0.84	356.21	3.10	61.22	6.75	5.37	146.00	2.15	115.87	CLOSED	#1-NORMAL	24	40		61.2	5.65	5.58	0.82
10/1/14 13:50	1419	1784.67	0.00	0.00	1715.05	1995.41	0.84	356.23	3.10	61.22	6.58	5.37	146.00	2.15	115.87	CLOSED	#1-NORMAL	24	38		61.2	5.65	5.57	0.82

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Range	BHinTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mme	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 13:51	1419	1784.67	0.00	0.00	1715.59	1995.41	0.84	356.23	3.10	61.22	5.77	5.37	146.00	2.16	115.87	CLOSED	#1-NORMAL	24	38		61.2	5.65	5.57	0.82
10/1/14 13:52	1419	1784.67	0.00	0.00	1716.26	1995.30	0.84	356.20	3.10	61.22	5.86	5.36	146.00	2.16	115.86	CLOSED	#1-NORMAL	24	36		61.2	5.65	5.57	0.82
10/1/14 13:53	1419	1784.67	0.00	0.00	1717.12	1995.03	0.84	356.20	3.10	61.22	5.91	5.36	146.00	2.17	115.86	CLOSED	#1-NORMAL	24	36		61.2	5.64	5.56	0.82
10/1/14 13:54	1419	1784.67	0.00	0.00	1718.19	1994.68	0.84	356.23	3.10	61.22	6.04	5.36	146.00	2.17	115.86	CLOSED	#1-NORMAL	24	35		61.2	5.64	5.56	0.82
10/1/14 13:55	1419	1784.67	0.00	0.00	1719.39	1994.31	0.84	356.26	3.10	61.22	6.01	5.36	146.00	2.18	115.86	CLOSED	#1-NORMAL	24	21		61.2	5.64	5.56	0.82
10/1/14 13:56	1798	1784.67	0.00	0.00	1720.68	1993.87	0.84	356.24	3.10	61.22	5.64	5.35	146.00	2.18	115.86	CLOSED	#1-NORMAL	24	22		61.2	5.63	5.55	0.82
10/1/14 13:57	1798	1784.67	0.00	0.00	1721.77	1993.37	0.84	356.20	3.10	61.22	4.78	5.35	145.99	2.18	115.86	CLOSED	#1-NORMAL	24	19		61.2	5.62	5.55	0.82
10/1/14 13:58	1798	1784.67	0.00	0.00	1722.83	1992.85	0.84	356.18	3.10	61.22	4.80	5.35	145.99	2.17	115.85	CLOSED	#1-NORMAL	24	16		61.2	5.61	5.55	0.82
10/1/14 13:59	1798	1784.67	0.00	0.00	1724.15	1992.26	0.84	356.18	3.10	61.22	4.50	5.35	145.99	2.17	115.84	CLOSED	#1-NORMAL	24	12		61.2	5.61	5.54	0.82
10/1/14 14:00	0	1784.67	0.00	0.00	1725.57	1991.77	0.84	356.18	3.10	61.22	5.08	5.35	145.98	2.17	115.82	CLOSED	#1-NORMAL	24	26		61.2	5.61	5.54	0.82
10/1/14 14:01	0	1799.00	0.00	0.00	1727.15	1991.55	0.84	356.17	3.10	61.22	5.50	5.35	145.98	2.17	115.81	CLOSED	#1-NORMAL	24	24		61.2	5.61	5.54	0.82
10/1/14 14:02	0	1799.00	0.00	0.00	1728.48	1991.36	0.84	356.18	3.10	61.22	5.30	5.35	145.98	2.16	115.79	CLOSED	#1-NORMAL	24	11		61.2	5.62	5.53	0.82
10/1/14 14:03	223	1799.00	0.00	0.00	1729.45	1990.98	0.84	356.19	3.10	61.22	4.02	5.35	145.98	2.16	115.78	CLOSED	#1-NORMAL	24	24		61.2	5.61	5.53	0.82
10/1/14 14:04	223	1799.00	0.00	0.00	1730.30	1990.40	0.84	356.18	3.10	61.22	3.08	5.35	145.98	2.15	115.77	CLOSED	#1-NORMAL	24	9		61.2	5.60	5.53	0.82
10/1/14 14:05	223	1799.00	0.00	0.00	1731.01	1989.87	0.84	356.13	3.10	61.22	2.94	5.35	145.98	2.15	115.76	CLOSED	#1-NORMAL	24	10		61.2	5.59	5.52	0.82
10/1/14 14:06	223	1799.00	0.00	0.00	1731.57	1989.44	0.84	356.05	3.10	61.22	3.14	5.35	145.98	2.14	115.75	CLOSED	#1-NORMAL	24	9		61.2	5.58	5.52	0.82
10/1/14 14:07	223	1799.00	0.00	0.00	1732.02	1989.00	0.84	355.99	3.10	61.22	3.03	5.35	145.98	2.13	115.73	CLOSED	#1-NORMAL	24	9		61.2	5.56	5.52	0.82
10/1/14 14:08	223	1799.00	0.00	0.00	1732.52	1988.52	0.84	355.96	3.10	61.22	2.98	5.35	145.98	2.12	115.72	CLOSED	#1-NORMAL	24	9		61.2	5.55	5.52	0.82
10/1/14 14:09	223	1799.00	0.00	0.00	1733.11	1988.10	0.84	355.91	3.10	61.22	2.97	5.36	145.98	2.12	115.71	CLOSED	#1-NORMAL	24	9		61.2	5.54	5.51	0.82
10/1/14 14:10	223	1799.00	0.00	0.00	1733.67	1987.77	0.84	355.85	3.10	61.22	3.83	5.36	145.98	2.12	115.70	CLOSED	#1-NORMAL	24	23		61.2	5.53	5.51	0.82
10/1/14 14:11	445	1799.00	0.00	0.00	1734.15	1987.51	0.84	355.77	3.10	61.22	3.56	5.36	145.98	2.11	115.69	CLOSED	#1-NORMAL	24	10		61.2	5.52	5.51	0.82
10/1/14 14:12	445	1799.00	0.00	0.00	1734.51	1987.31	0.84	355.72	3.10	61.22	3.18	5.36	145.98	2.10	115.68	CLOSED	#1-NORMAL	24	10		61.2	5.50	5.50	0.82
10/1/14 14:13	445	1799.00	0.00	0.00	1734.80	1987.26	0.85	355.69	3.10	61.22	3.37	5.36	145.97	2.10	115.67	CLOSED	#1-NORMAL	24	10		61.2	5.49	5.50	0.82
10/1/14 14:14	445	1799.00	0.00	0.00	1735.08	1987.30	0.85	355.64	3.10	61.22	3.38	5.36	145.96	2.09	115.66	CLOSED	#1-NORMAL	24	10		61.2	5.48	5.50	0.82
10/1/14 14:15	445	1799.00	0.00	0.00	1735.34	1987.37	0.85	355.58	3.10	61.22	3.30	5.36	145.96	2.09	115.65	CLOSED	#1-NORMAL	24	8		61.2	5.47	5.50	0.82
10/1/14 14:16	445	1799.00	0.00	0.00	1735.67	1987.42	0.85	355.49	3.10	61.22	3.18	5.37	145.95	2.08	115.64	CLOSED	#1-NORMAL	24	8		61.2	5.46	5.49	0.82
10/1/14 14:17	445	1799.00	0.00	0.00	1736.14	1987.38	0.85	355.42	3.10	61.22	3.96	5.37	145.94	2.08	115.63	CLOSED	#1-NORMAL	24	6		61.2	5.45	5.49	0.82
10/1/14 14:18	649	1799.00	0.00	0.00	1736.74	1987.20	0.85	355.38	3.10	61.22	2.94	5.37	145.93	2.07	115.62	CLOSED	#1-NORMAL	24	7		61.2	5.43	5.49	0.82
10/1/14 14:19	649	1799.00	0.00	0.00	1737.38	1987.06	0.85	355.33	3.10	61.22	3.18	5.37	145.93	2.06	115.60	CLOSED	#1-NORMAL	24	8		61.2	5.42	5.48	0.82
10/1/14 14:20	649	1799.00	0.00	0.00	1738.04	1987.02	0.85	355.25	3.10	61.22	3.21	5.37	145.91	2.06	115.59	CLOSED	#1-NORMAL	24	8		61.2	5.41	5.48	0.82
10/1/14 14:21	649	1799.00	0.00	0.00	1738.72	1987.04	0.85	355.14	3.10	61.22	3.44	5.37	145.91	2.05	115.58	CLOSED	#1-NORMAL	24	9		61.2	5.39	5.48	0.82
10/1/14 14:22	649	1799.00	0.00	0.00	1739.47	1987.13	0.85	355.04	3.10	61.22	3.71	5.37	145.91	2.05	115.57	CLOSED	#1-NORMAL	24	10		61.2	5.38	5.48	0.82
10/1/14 14:23	649	1799.00	0.00	0.00	1740.29	1987.23	0.85	354.97	3.10	61.22	4.60	5.37	145.91	2.04	115.56	CLOSED	#1-NORMAL	24	19		61.2	5.37	5.48	0.82
10/1/14 14:24	882	1799.00	0.00	0.00	1741.16	1987.24	0.85	354.90	3.10	61.22	4.65	5.37	145.91	2.04	115.55	CLOSED	#1-NORMAL	24	12		61.2	5.36	5.47	0.82
10/1/14 14:25	882	1799.00	0.00	0.00	1742.05	1987.28	0.85	354.84	3.10	61.22	4.43	5.37	145.91	2.03	115.53	CLOSED	#1-NORMAL	24	14		61.2	5.35	5.47	0.83
10/1/14 14:26	882	1799.00	0.00	0.00	1742.94	1987.37	0.85	354.76	3.10	61.22	4.83	5.37	145.91	2.02	115.52	CLOSED	#1-NORMAL	24	16		61.2	5.34	5.47	0.83
10/1/14 14:27	882	1799.00	0.00	0.00	1743.84	1987.46	0.85	354.70	3.10	61.22	5.41	5.37	145.91	2.02	115.49	CLOSED	#1-NORMAL	24	18		61.2	5.34	5.47	0.83
10/1/14 14:28	882	1799.00	0.00	0.00	1744.78	1987.53	0.85	354.70	3.10	61.22	5.70	5.37	145.91	2.02	115.47	CLOSED	#1-NORMAL	24	19		61.2	5.33	5.47	0.83
10/1/14 14:29	882	1799.00	0.00	0.00	1745.83	1987.65	0.85	354.70	3.10	61.22	5.78	5.37	145.91	2.01	115.45	CLOSED	#1-NORMAL	24	19		61.2	5.33	5.46	0.83
10/1/14 14:30	882	1799.00	0.00	0.00	1746.88	1987.70	0.85	354.70	3.10	61.22	6.14	5.38	145.91	2.01	115.44	CLOSED	#1-NORMAL	24	18		61.2	5.33	5.46	0.83
10/1/14 14:31	1074	1799.00	0.00	0.00	1748.00	1987.61	0.85	354.70	3.10	61.22	5.38	5.39	145.90	2.00	115.42	CLOSED	#1-NORMAL	24	16		61.2	5.32	5.46	0.83
10/1/14 14:32	1074	1799.00	0.00	0.00	1749.24	1987.38	0.85	354.68	3.10	61.22	5.13	5.39	145.90	2.00	115.41	CLOSED	#1-NORMAL	24	14		61.2	5.31	5.46	0.83
10/1/14 14:33	1074	1799.00	0.00	0.00	1750.51	1987.02	0.85	354.67	3.10	61.22	4.81	5.39	145.90	1.99	115.38	CLOSED	#1-NORMAL	24	13		61.2	5.30	5.46	0.83
																				Start				
10/1/14 14:34	1074	1799.00	0.00	0.00	1751.76	1986.74	0.85	354.64	3.10	61.22	5.49	5.40	145.90	1.99	115.36	CLOSED	#1-NORMAL	24	19	CO_2P	61.2	5.30	5.46	0.83
10/1/14 14:35	1074	1799.00	0.00	0.00	1753.01	1986.71	0.85	354.60	3.10	61.22	5.03	5.40	145.90	1.98	115.34	CLOSED	#1-NORMAL	24	13		61.2	5.29	5.45	0.83
10/1/14 14:36	1074	1799.00	0.00	0.00	1754.27	1986.66	0.85	354.57	3.10	61.22	5.34	5.40	145.90	1.98	115.32	CLOSED	#1-NORMAL	24	19		61.2	5.29	5.45	0.83
10/1/14 14:37	1288	1799.00	0.00	0.00	1755.60	1986.52	0.85	354.58	3.10	61.22	4.93	5.41	145.90	1.97	115.29	CLOSED	#1-NORMAL	24	11		61.2	5.28	5.45	0.83
10/1/14 14:38	1288	1799.00	0.00	0.00	1756.95	1986.32	0.85	354.60	3.10	61.22	4.50	5.41	145.89	1.96	115.27	CLOSED	#1-NORMAL	24	13		61.2	5.27	5.45	0.83
10/1/14 14:39	1288	1799.00	0.00	0.00	1758.29	1986.27	0.85	354.60	3.10	61.22	5.02	5.41	145.89	1.95	115.24	CLOSED	#1-NORMAL	24	11		61.2	5.27	5.45	0.83
10/1/14 14:40	1288	1799.00	0.00	0.00	1759.62	1986.33	0.85	354.58	3.10	61.22	4.50	5.41	145.89	1.95	115.21	CLOSED	#1-NORMAL	24	11		61.2	5.26	5.45	0.83
10/1/14 14:41	1288	1799.00	0.00	0.00	1760.92	1986.40	0.85	354.57	3.10	61.22	4.40	5.41	145.89	1.94	115.18	CLOSED	#1-NORMAL	24	10		61.2	5.25	5.45	0.83
10/1/14 14:42	1288	1799.00	0.00	0.00	1762.20	1986.46	0.85	354.58	3.10	61.22	4.36	5.41	145.89	1.93	115.15	CLOSED	#1-NORMAL	24	10		61.2	5.24	5.45	0.83
10/1/14 14:43	1288	1799.00	0.00	0.00	1763.44	1986.45	0.85	354.58	3.10	61.22	5.47	5.40	145.88	1.93	115.12	CLOSED	#1-NORMAL	24	10		61.2	5.24	5.45	0.83
10/1/14 14:44	1489	1799.00	0.00	0.00	1764.75	1986.26	0.85	354.57	3.10	61.22	4.38	5.40	145.88	1.93	115.08	CLOSED	#1-NORMAL	24	9		61.2	5.23	5.44	0.83
10/1/14 14:45	1489	1799.00	0.00	0.00	1766.07	1986.06	0.85	354.53	3.10	61.22	5.14	5.40	145.87	1.92	115.05	CLOSED	#1-NORMAL	24	16		61.2	5.22	5.44	0.83
10/1/14 14:46	1489	1799.00	0.00	0.00	1767.43	1986.06	0.85	354.50	3.10	61.22	4.88	5.40	145.87	1.92	115.02	CLOSED	#1-NORMAL	24	9		61.2	5.22	5.44	0.83
10/1/14 14:47	1489	1799.00	0.00	0.00	1768.82	1985.91	0.85	354.50	3.10	61.22	4.24	5.41	145.86	1.91	114.98	CLOSED	#1-NORMAL	24	10		61.2	5.20	5.44	0.83
10/1/14 14:48	1489	1799.00	0.00	0.00	1770.19	1985.72	0.85	354.49	3.10	61.22	5.02	5.41	145.86	1.91	114.95	CLOSED	#1-NORMAL	24	15		61.2	5.20	5.44	0.83
10/1/14 14:49	1489	1799.00	0.00	0.00	1771.59	1985.75	0.85	354.47	3.10	61.22	6.07	5.40	145.86	1.91	114.92	CLOSED	#1-NORMAL	24	18		61.2	5.20	5.44	0.83
10/1/14 14:50	1654	1799.00	0.00	0.00	1773.10	1985.47	0.85	354.44	3.10	61.22	5.08	5.40	145.85	1.91	114.90	CLOSED	#1-NORMAL	24	11		61.2	5.19	5.44	0.83
10/1/14 14:51	1654	1799.00	0.00	0.00	1774.52	1985.13	0.85	354.40	3.10	61.22	5.33	5.40	145.85	1.91	114.87	CLOSED	#1-NORMAL	24	15		61.2	5.19	5.44	0.83
10/1/14 14:52	1654	1799.00	0.00	0.00	1775.82	1985.09	0.85	354.39	3.10	61.22	4.96	5.40	145.85	1.90	114.85	CLOSED	#1-NORMAL	24	9		61.2	5.18	5.44	0.83
10/1/14 14:53	1654	1799.00	0.00	0.00	1776.93	1984.90	0.85	354.40	3.10	61.22	4.14	5.40	145.84	1.90	114.82	CLOSED	#1-NORMAL	24	9		61.2	5.17	5.44	0.83
10/1/14 14:54	1654	1799.00	0.00	0.00	1777.97	1984.62	0.85	354.38	3.10	61.22	4.68	5.39	145.84	1.89	114.79	CLOSED	#1-NORMAL	24	14		61.2	5.16	5.44	0.83
10/1/14 14:55	1800	1799.00	0.00	0.00	1779.12	1984.57	0.85	354.35	3.10	61.22	5.25	5.39	145.83	1.89	114.77	CLOSED	#1-NORMAL	24	9		61.2	5.16	5.44	0.83
10/1/14 14:56	1800	1799.00	0.00	0.00	1780.39	1984.42	0.85	354.30	3.10	61.22	5.54	5.40	145.83	1.89	114.75	CLOSED	#1-NORMAL	24	10		61.2	5.16	5.44	0.83
10/1/14 14:57	1800	1799.00	0.00	0.00	1781.78	1984.01	0.85	354.28	3.10	61.22	4.96	5.40	145.82	1.89	114.73	CLOSED	#1-NORMAL	24	14		61.2	5.16	5.44	0.83
10/1/14 14:58	1800	1799.00	0.00	0.00	1783.14	1983.88	0.85	354.27	3.10	61.22	5.45	5.39	145.82	1.88	114.71	CLOSED	#1-NORMAL	24	10		61.2	5.16	5.44	0.83
10/1/14 14:59	1800	1799.00	0.00	0.00	1784.40	1983.83	0.85	354.26	3.10	61.22	4.70	5.39	145.82	1.88	114.70	CLOSED	#1-NORMAL	24	10		61.2	5.15	5.44	0.83
10/1/14 15:00	0	1799.00	0.00	0.00	1785.48	1983.94	0.85	354.22	3.10	61.22	4.97	5.38	145.81	1.88	114.68	CLOSED	#1-NORMAL	24	12		61.2	5.14	5.44	0.83
10/1/14 15:01	0	1798.33	0.00	0.00	1786.46	1984.19	0.85	354.17	3.10	61.22	5.55	5.38	145.81	1.88	114.66	CLOSED	#1-NORMAL	24	16		61.2	5.14	5.44	0.83
10/1/14 15:02	0	1798.33	0.00	0.00	1787.39	1984.50	0.85	354.16	3.10	61.22	6.44	5.38	145.80	1.88	114.65	CLOSED	#1-NORMAL	24	22		61.2	5.14	5.44	0.83

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHInTemp	Carbon	Lime	BagDP	AbsPH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmie	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 15:03	0	1798.33	0.00	0.00	1788.22	1984.71	0.85	354.17	3.10	61.22	6.03	5.38	145.80	1.88	114.63	CLOSED	#1-NORMAL	24	19		61.2	5.14	5.44	0.83
10/1/14 15:04	0	1798.33	0.00	0.00	1789.02	1984.78	0.85	354.19	3.10	61.22	5.51	5.38	145.79	1.88	114.60	CLOSED	#1-NORMAL	24	18		61.2	5.14	5.44	0.83
10/1/14 15:05	145	1798.33	0.00	0.00	1790.08	1984.66	0.85	354.20	3.10	61.22	5.43	5.38	145.79	1.88	114.58	CLOSED	#1-NORMAL	24	17		61.2	5.13	5.43	0.83
10/1/14 15:06	145	1798.33	0.00	0.00	1791.15	1984.43	0.85	354.19	3.10	61.22	5.36	5.38	145.78	1.88	114.56	CLOSED	#1-NORMAL	24	18		61.2	5.12	5.43	0.83
10/1/14 15:07	145	1798.33	0.00	0.00	1791.99	1984.21	0.85	354.17	3.10	61.22	5.34	5.38	145.78	1.87	114.56	CLOSED	#1-NORMAL	24	16		61.2	5.11	5.43	0.84
10/1/14 15:08	366	1798.33	0.00	0.00	1792.68	1984.02	0.85	354.17	3.10	61.22	5.19	5.38	145.77	1.87	114.55	CLOSED	#1-NORMAL	24	14		61.2	5.10	5.43	0.84
10/1/14 15:09	366	1798.33	0.00	0.00	1793.35	1983.81	0.84	354.15	3.10	61.22	5.91	5.38	145.77	1.86	114.54	CLOSED	#1-NORMAL	24	15		61.2	5.10	5.43	0.84
10/1/14 15:10	366	1798.33	0.00	0.00	1794.05	1983.50	0.85	354.13	3.10	61.22	4.95	5.38	145.76	1.86	114.53	CLOSED	#1-NORMAL	24	13		61.2	5.10	5.43	0.84
10/1/14 15:11	366	1798.33	0.00	0.00	1794.69	1983.16	0.85	354.12	3.10	61.22	4.83	5.38	145.76	1.85	114.52	CLOSED	#1-NORMAL	24	13		61.2	5.09	5.43	0.84
10/1/14 15:12	366	1798.33	0.00	0.00	1795.33	1982.77	0.85	354.14	3.10	61.22	5.01	5.38	145.75	1.84	114.50	CLOSED	#1-NORMAL	24	14		61.2	5.08	5.43	0.84
10/1/14 15:13	583	1798.33	0.00	0.00	1795.96	1982.40	0.85	354.17	3.10	61.22	5.31	5.38	145.74	1.83	114.48	CLOSED	#1-NORMAL	24	16		61.2	5.08	5.43	0.84
10/1/14 15:14	583	1798.33	0.00	0.00	1796.68	1982.15	0.85	354.17	3.10	61.22	5.73	5.38	145.74	1.83	114.47	CLOSED	#1-NORMAL	24	18		61.2	5.08	5.43	0.84
10/1/14 15:15	583	1798.33	0.00	0.00	1797.40	1982.01	0.85	354.13	3.10	61.22	6.24	5.38	145.73	1.83	114.45	CLOSED	#1-NORMAL	24	23		61.2	5.08	5.43	0.84
10/1/14 15:16	583	1798.33	0.00	0.00	1798.00	1981.94	0.85	354.11	3.10	61.22	6.61	5.39	145.73	1.83	114.44	CLOSED	#1-NORMAL	24	22		61.2	5.08	5.43	0.84
10/1/14 15:17	789	1798.33	0.00	0.00	1798.59	1982.03	0.85	354.15	3.10	61.22	6.73	5.39	145.72	1.83	114.43	CLOSED	#1-NORMAL	24	24		61.2	5.08	5.43	0.84
10/1/14 15:18	789	1798.33	0.00	0.00	1799.06	1982.34	0.85	354.18	3.10	61.22	6.55	5.39	145.72	1.83	114.41	CLOSED	#1-NORMAL	24	26		61.2	5.09	5.43	0.84
10/1/14 15:19	789	1798.33	0.00	0.00	1799.37	1982.84	0.85	354.18	3.10	61.22	5.63	5.39	145.71	1.84	114.41	CLOSED	#1-NORMAL	24	28		61.2	5.08	5.43	0.84
10/1/14 15:20	789	1798.33	0.00	0.00	1799.61	1983.52	0.85	354.14	3.10	61.22	5.68	5.39	145.71	1.84	114.42	CLOSED	#1-NORMAL	24	29		61.2	5.08	5.42	0.84
10/1/14 15:21	789	1798.33	0.00	0.00	1799.76	1984.34	0.86	354.14	3.10	61.22	5.70	5.39	145.70	1.85	114.42	CLOSED	#1-NORMAL	24	31		61.2	5.08	5.42	0.84
10/1/14 15:22	789	1798.33	0.00	0.00	1799.78	1985.21	0.86	354.19	3.10	61.22	5.78	5.39	145.70	1.86	114.44	CLOSED	#1-NORMAL	24	34		61.2	5.08	5.42	0.84
10/1/14 15:23	1014	1798.33	0.00	0.00	1799.66	1986.03	0.87	354.23	3.10	61.22	5.71	5.40	145.69	1.87	114.45	CLOSED	#1-NORMAL	24	38		61.2	5.08	5.42	0.84
10/1/14 15:24	1014	1798.33	0.00	0.00	1799.42	1986.89	0.87	354.23	3.10	61.22	5.73	5.40	145.69	1.89	114.47	CLOSED	#1-NORMAL	24	40		61.2	5.08	5.42	0.84
10/1/14 15:25	1014	1798.33	0.00	0.00	1799.03	1987.82	0.88	354.21	3.10	61.22	5.70	5.40	145.68	1.91	114.49	CLOSED	#1-NORMAL	24	36		61.2	5.09	5.42	0.84
10/1/14 15:26	1014	1798.33	0.00	0.00	1798.55	1988.85	0.88	354.21	3.10	61.22	5.80	5.40	145.68	1.92	114.51	CLOSED	#1-NORMAL	24	39		61.2	5.09	5.42	0.84
10/1/14 15:27	1014	1798.33	0.00	0.00	1798.00	1989.97	0.88	354.22	3.10	61.22	5.89	5.41	145.67	1.94	114.54	CLOSED	#1-NORMAL	24	40		61.2	5.09	5.42	0.84
10/1/14 15:28	1014	1798.33	0.00	0.00	1797.37	1991.11	0.88	354.22	3.10	61.22	5.90	5.41	145.66	1.95	114.56	CLOSED	#1-NORMAL	24	40		61.2	5.10	5.42	0.84
10/1/14 15:29	1014	1798.33	0.00	0.00	1796.69	1992.20	0.88	354.22	3.10	61.22	5.90	5.41	145.66	1.97	114.59	CLOSED	#1-NORMAL	24	40		61.2	5.10	5.42	0.84
10/1/14 15:30	1216	1798.33	0.00	0.00	1795.96	1993.24	0.89	354.24	3.10	61.22	5.97	5.42	145.65	1.99	114.62	CLOSED	#1-NORMAL	24	40		61.2	5.11	5.42	0.84
10/1/14 15:31	1216	1798.33	0.00	0.00	1795.18	1994.14	0.89	354.30	3.10	61.22	6.08	5.42	145.65	2.01	114.65	CLOSED	#1-NORMAL	24	40		61.2	5.12	5.42	0.84
10/1/14 15:32	1216	1798.33	0.00	0.00	1794.41	1994.80	0.89	354.37	3.10	61.22	6.18	5.42	145.64	2.03	114.69	CLOSED	#1-NORMAL	24	40		61.2	5.13	5.42	0.84
10/1/14 15:33	1216	1798.33	0.00	0.00	1793.63	1995.44	0.89	354.42	3.10	61.22	6.20	5.43	145.64	2.05	114.72	CLOSED	#1-NORMAL	24	40		61.2	5.13	5.42	0.84
10/1/14 15:34	1216	1798.33	0.00	0.00	1792.82	1995.97	0.89	354.44	3.10	61.22	6.22	5.43	145.63	2.07	114.76	CLOSED	#1-NORMAL	24	40		61.2	5.14	5.41	0.84
10/1/14 15:35	1216	1798.33	0.00	0.00	1792.02	1996.30	0.89	354.47	3.10	61.22	6.38	5.44	145.63	2.08	114.80	CLOSED	#1-NORMAL	24	39		61.2	5.16	5.41	0.84
10/1/14 15:36	1428	1798.33	0.00	0.00	1791.28	1996.43	0.89	354.53	3.10	61.22	6.51	5.44	145.62	2.10	114.83	CLOSED	#1-NORMAL	24	39		61.2	5.17	5.41	0.84
10/1/14 15:37	1428	1798.33	0.00	0.00	1790.75	1996.37	0.89	354.60	3.10	61.22	6.61	5.44	145.62	2.12	114.86	CLOSED	#1-NORMAL	24	39		61.2	5.17	5.41	0.84
10/1/14 15:38	1428	1798.33	0.00	0.00	1790.74	1996.11	0.89	354.64	3.10	61.22	6.65	5.45	145.61	2.13	114.90	CLOSED	#1-NORMAL	24	39		61.2	5.18	5.41	0.84
10/1/14 15:39	1428	1798.33	0.00	0.00	1790.91	1995.76	0.89	354.65	3.10	61.22	6.74	5.45	145.61	2.14	114.93	CLOSED	#1-NORMAL	24	37		61.2	5.18	5.41	0.84
10/1/14 15:40	1428	1798.33	0.00	0.00	1791.01	1995.47	0.89	354.66	3.10	61.22	6.88	5.46	145.60	2.15	114.96	CLOSED	#1-NORMAL	24	37		61.2	5.18	5.41	0.84
10/1/14 15:41	1428	1798.33	0.00	0.00	1791.09	1995.22	0.89	354.68	3.10	61.22	5.83	5.46	145.60	2.17	115.00	CLOSED	#1-NORMAL	24	38		61.2	5.18	5.41	0.85
10/1/14 15:42	1428	1798.33	0.00	0.00	1791.35	1995.02	0.89	354.68	3.10	61.22	5.70	5.46	145.59	2.18	115.02	CLOSED	#1-NORMAL	24	38		61.2	5.18	5.41	0.85
10/1/14 15:43	1428	1798.33	0.00	0.00	1791.69	1994.86	0.89	354.66	3.10	61.22	5.46	5.46	145.59	2.19	115.04	CLOSED	#1-NORMAL	24	23		61.2	5.18	5.41	0.85
10/1/14 15:44	1428	1798.33	0.00	0.00	1791.88	1994.69	0.89	354.66	3.10	61.22	5.27	5.45	145.58	2.20	115.06	CLOSED	#1-NORMAL	24	21		61.2	5.18	5.41	0.85
10/1/14 15:45	1660	1798.33	0.00	0.00	1791.89	1994.70	0.89	354.68	3.10	61.22	4.56	5.45	145.58	2.21	115.07	CLOSED	#1-NORMAL	24	29		61.2	5.18	5.41	0.85
10/1/14 15:46	1660	1798.33	0.00	0.00	1791.67	1994.87	0.89	354.71	3.10	61.22	4.71	5.45	145.57	2.21	115.08	CLOSED	#1-NORMAL	24	23		61.2	5.17	5.41	0.85
10/1/14 15:47	1660	1798.33	0.00	0.00	1791.32	1995.10	0.89	354.73	3.10	61.22	4.95	5.45	145.57	2.22	115.09	CLOSED	#1-NORMAL	24	29		61.2	5.17	5.41	0.85
10/1/14 15:48	1660	1798.33	0.00	0.00	1790.89	1995.39	0.89	354.71	3.10	61.22	5.47	5.45	145.56	2.23	115.11	CLOSED	#1-NORMAL	24	28		61.2	5.17	5.41	0.85
10/1/14 15:49	1660	1798.33	0.00	0.00	1790.46	1995.61	0.89	354.69	3.10	61.22	5.53	5.45	145.53	2.24	115.12	CLOSED	#1-NORMAL	24	26		61.2	5.18	5.40	0.85
10/1/14 15:50	1660	1798.33	0.00	0.00	1790.24	1995.74	0.89	354.68	3.10	61.22	5.88	5.45	145.51	2.25	115.14	CLOSED	#1-NORMAL	24	25		61.2	5.18	5.40	0.85
10/1/14 15:51	1660	1798.33	0.00	0.00	1790.63	1995.76	0.89	354.70	3.10	61.22	6.20	5.45	145.50	2.26	115.16	CLOSED	#1-NORMAL	24	26		61.2	5.19	5.40	0.85
10/1/14 15:52	1797	1798.33	0.00	0.00	1791.29	1995.62	0.89	354.72	3.10	61.22	6.21	5.45	145.49	2.27	115.18	CLOSED	#1-NORMAL	24	22		61.2	5.20	5.40	0.85
10/1/14 15:53	1797	1798.33	0.00	0.00	1792.23	1995.45	0.89	354.71	3.10	61.22	5.66	5.45	145.49	2.27	115.20	CLOSED	#1-NORMAL	24	19		61.2	5.20	5.40	0.85
10/1/14 15:54	1797	1798.33	0.00	0.00	1793.28	1995.47	0.89	354.69	3.10	61.22	6.18	5.45	145.48	2.29	115.23	CLOSED	#1-NORMAL	24	26		61.2	5.21	5.40	0.85
10/1/14 15:55	1797	1798.33	0.00	0.00	1794.47	1995.60	0.89	354.70	3.10	61.22	5.86	5.46	145.48	2.29	115.26	CLOSED	#1-NORMAL	24	18		61.2	5.22	5.40	0.85
10/1/14 15:56	1797	1798.33	0.00	0.00	1795.64	1995.60	0.89	354.74	3.10	61.22	5.42	5.46	145.47	2.30	115.28	CLOSED	#1-NORMAL	24	19		61.2	5.23	5.40	0.85
10/1/14 15:57	1797	1798.33	0.00	0.00	1796.63	1995.61	0.89	354.77	3.10	61.22	5.66	5.46	145.47	2.31	115.31	CLOSED	#1-NORMAL	24	20		61.2	5.24	5.40	0.85
10/1/14 15:58	1797	1798.33	0.00	0.00	1797.41	1995.67	0.90	354.79	3.10	61.22	6.44	5.46	145.46	2.32	115.33	CLOSED	#1-NORMAL	24	22		61.2	5.25	5.40	0.85
10/1/14 15:59	1797	1798.33	0.00	0.00	1798.23	1995.80	0.90	354.83	3.10	61.22	6.31	5.46	145.46	2.33	115.36	CLOSED	#1-NORMAL	24	25		61.2	5.25	5.40	0.85
10/1/14 16:00	0	1798.33	0.00	0.00	1799.07	1996.02	0.90	354.88	3.10	61.22	6.62	5.46	145.45	2.34	115.38	CLOSED	#1-NORMAL	24	27		61.2	5.27	5.40	0.85
10/1/14 16:01	211	1798.33	0.00	0.00	1800.11	1996.19	0.90	354.95	3.10	61.22	6.46	5.45	145.45	2.34	115.42	CLOSED	#1-NORMAL	24	22		61.2	5.28	5.40	0.85
10/1/14 16:02	211	1798.33	0.00	0.00	1800.99	1996.28	0.90	355.01	3.10	61.22	5.80	5.45	145.44	2.35	115.45	CLOSED	#1-NORMAL	24	22		61.2	5.29	5.40	0.85
10/1/14 16:03	211	1798.33	0.00	0.00	1801.64	1996.34	0.90	355.04	3.10	61.22	5.66	5.45	145.44	2.35	115.49	CLOSED	#1-NORMAL	24	20		61.2	5.30	5.40	0.85
10/1/14 16:04	211	1798.33	0.00	0.00	1802.26	1996.31	0.90	355.10	3.10	61.22	6.05	5.45	145.43	2.36	115.52	CLOSED	#1-NORMAL	24	28		61.2	5.32	5.40	0.85
10/1/14 16:05	211	1798.33	0.00	0.00	1802.78	1996.19	0.90	355.18	3.10	61.22	5.17	5.44	145.43	2.36	115.55	CLOSED	#1-NORMAL	24	19		61.2	5.32	5.40	0.85
10/1/14 16:06	211	1798.33	0.00	0.00	1803.46	1996.08	0.90	355.28	3.10	61.22	4.62	5.45	145.42	2.36	115.57	CLOSED	#1-NORMAL	24	21		61.2	5.32	5.40	0.86
10/1/14 16:07	446	1798.33	0.00	0.00	1804.33	1996.10	0.90	355.40	3.10	61.22	5.19	5.45	145.42	2.37	115.60	CLOSED	#1-NORMAL	24	23		61.2	5.33	5.40	0.86
10/1/14 16:08	446	1798.33	0.00	0.00	1805.26	1996.19	0.90	355.51	3.10	61.22	5.01	5.46	145.41	2.38	115.62	CLOSED	#1-NORMAL	24	23		61.2	5.34	5.40	0.86
10/1/14 16:09	446	1798.33	0.00	0.00	1806.23	1996.25	0.90	355.60	3.10	61.22	5.09	5.46	145.41	2.38	115.64	CLOSED	#1-NORMAL	24	24		61.2	5.35	5.40	0.86
10/1/14 16:10	446	1798.33	0.00	0.00	1807.28	1996.28	0.90	355.71	3.10	61.22	5.24	5.46	145.41	2.39	115.65	CLOSED	#1-NORMAL	24	23		61.2	5.36	5.40	0.86
10/1/14 16:11	446	1798.33	0.00	0.00	1808.29	1996.31	0.90	355.85	3.10	61.22	5.93	5.45	145.40	2.40	115.67	CLOSED	#1-NORMAL	24	24		61.2	5.37	5.40	0.86
10/1/14 16:12	654	1798.33	0.00	0.00	1809.42	1996.23	0.90	356.01	3.10	61.22	5.21	5.45	145.39	2.40	115.69	CLOSED	#1-NORMAL	24	21		61.2	5.37	5.40	0.86
10/1/14 16:13	654	1798.33	0.00	0.00	1810.66	1996.12	0.90	356.16	3.10	61.22	5.00	5.45	145.39	2.40	115.70	CLOSED	#1-NORMAL	24	18		61.2	5.38	5.40	0.86
10/1/14 16:14	654	1798.33	0.00	0.00	1811.87	1995.98	0.90	356.27	3.10	61.22	4.75	5.45	145.38	2.41	115.72	CLOSED	#1-NORMAL	24	15		61.2	5.38	5.40	0.86
10/1/14 16:15	654	1798.33	0.00	0.00	1813.15	1995.75	0.90	356.39	3.10	61.22	4.54	5.45	145.38	2.41	115.73	CLOSED	#1-NORMAL	24	14		61.2	5.39	5.40	0.86

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHInTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmet	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 16:16	654	1798.33	0.00	0.00	1814.52	1995.45	0.90	356.51	3.10	61.22	4.48	5.45	145.37	2.40	115.74	CLOSED	#1-NORMAL	24	13		61.2	5.39	5.40	0.86
10/1/14 16:17	654	1798.33	0.00	0.00	1815.91	1995.07	0.90	356.63	3.10	61.22	5.18	5.45	145.37	2.41	115.76	CLOSED	#1-NORMAL	24	27		61.2	5.39	5.40	0.86
10/1/14 16:18	654	1798.33	0.00	0.00	1817.43	1994.58	0.91	356.76	3.10	61.22	5.16	5.46	145.37	2.40	115.77	CLOSED	#1-NORMAL	24	15		61.2	5.38	5.40	0.86
10/1/14 16:19	873	1798.33	0.00	0.00	1819.07	1994.09	0.91	356.88	3.10	61.22	5.06	5.46	145.36	2.39	115.78	CLOSED	#1-NORMAL	24	17		61.2	5.38	5.40	0.86
10/1/14 16:20	873	1798.33	0.00	0.00	1820.54	1993.81	0.91	356.99	3.10	61.22	5.56	5.46	145.36	2.39	115.79	CLOSED	#1-NORMAL	24	17		61.2	5.38	5.40	0.86
10/1/14 16:21	873	1798.33	0.00	0.00	1822.06	1993.61	0.91	357.08	3.10	61.22	5.24	5.46	145.35	2.38	115.81	CLOSED	#1-NORMAL	24	17		61.2	5.38	5.40	0.86
10/1/14 16:22	873	1798.33	0.00	0.00	1823.62	1993.41	0.91	357.15	3.10	61.22	5.52	5.46	145.35	2.37	115.82	CLOSED	#1-NORMAL	24	20		61.2	5.37	5.40	0.86
10/1/14 16:23	873	1798.33	0.00	0.00	1825.16	1993.19	0.91	357.19	3.10	61.22	5.58	5.46	145.35	2.37	115.84	CLOSED	#1-NORMAL	24	20		61.2	5.37	5.40	0.86
10/1/14 16:24	873	1798.33	0.00	0.00	1826.77	1992.94	0.91	357.17	3.10	61.22	6.24	5.46	145.34	2.36	115.86	CLOSED	#1-NORMAL	24	16		61.2	5.37	5.40	0.86
10/1/14 16:25	873	1798.33	0.00	0.00	1828.20	1992.75	0.91	357.15	3.10	61.22	5.16	5.46	145.34	2.35	115.87	CLOSED	#1-NORMAL	24	15		61.2	5.36	5.40	0.86
10/1/14 16:26	1044	1798.33	0.00	0.00	1829.56	1992.60	0.91	357.11	3.10	61.22	5.30	5.46	145.33	2.34	115.88	CLOSED	#1-NORMAL	24	16		61.2	5.35	5.40	0.86
10/1/14 16:27	1044	1798.33	0.00	0.00	1830.92	1992.38	0.91	357.09	3.10	61.22	5.58	5.46	145.33	2.32	115.88	CLOSED	#1-NORMAL	24	21		61.2	5.35	5.40	0.86
10/1/14 16:28	1044	1798.33	0.00	0.00	1832.14	1992.18	0.91	357.10	3.10	61.22	5.94	5.46	145.33	2.31	115.89	CLOSED	#1-NORMAL	24	22		61.2	5.34	5.40	0.86
10/1/14 16:29	1044	1798.33	0.00	0.00	1833.34	1991.88	0.91	357.11	3.10	61.22	6.08	5.46	145.32	2.30	115.90	CLOSED	#1-NORMAL	24	22		61.2	5.34	5.40	0.86
10/1/14 16:30	1044	1798.33	0.00	0.00	1834.61	1991.42	0.91	357.12	3.10	61.22	6.39	5.46	145.32	2.30	115.90	CLOSED	#1-NORMAL	24	28		61.2	5.33	5.40	0.86
10/1/14 16:31	1044	1798.33	0.00	0.00	1835.93	1990.86	0.91	357.12	3.10	61.22	5.43	5.45	145.31	2.28	115.90	CLOSED	#1-NORMAL	24	17		61.2	5.33	5.40	0.87
10/1/14 16:32	1227	1798.33	0.00	0.00	1837.33	1990.28	0.91	357.12	3.10	61.22	4.58	5.45	145.31	2.27	115.91	CLOSED	#1-NORMAL	24	17		61.2	5.32	5.40	0.87
10/1/14 16:33	1227	1798.33	0.00	0.00	1838.78	1989.77	0.91	357.11	3.10	61.22	4.54	5.45	145.31	2.26	115.92	CLOSED	#1-NORMAL	24	18		61.2	5.31	5.40	0.87
10/1/14 16:34	1227	1798.33	0.00	0.00	1840.15	1989.31	0.91	357.09	3.10	61.22	4.53	5.44	145.31	2.24	115.92	CLOSED	#1-NORMAL	24	15		61.2	5.30	5.40	0.87
10/1/14 16:35	1227	1798.33	0.00	0.00	1841.54	1988.85	0.91	357.05	3.10	61.22	4.43	5.44	145.30	2.23	115.93	CLOSED	#1-NORMAL	24	14		61.2	5.30	5.41	0.87
10/1/14 16:36	1227	1798.33	0.00	0.00	1842.91	1988.42	0.91	357.00	3.10	61.22	4.33	5.44	145.30	2.22	115.93	CLOSED	#1-NORMAL	24	14		61.2	5.29	5.41	0.87
10/1/14 16:37	1227	1798.33	0.00	0.00	1844.25	1988.08	0.91	356.97	3.10	61.22	5.35	5.43	145.29	2.21	115.94	CLOSED	#1-NORMAL	24	15		61.2	5.28	5.41	0.87
10/1/14 16:38	1466	1798.33	0.00	0.00	1845.72	1987.78	0.91	356.98	3.10	61.22	4.58	5.43	145.29	2.19	115.94	CLOSED	#1-NORMAL	24	15		61.2	5.28	5.41	0.87
10/1/14 16:39	1466	1798.33	0.00	0.00	1847.28	1987.51	0.91	356.97	3.10	61.22	4.65	5.43	145.29	2.18	115.94	CLOSED	#1-NORMAL	24	16		61.2	5.27	5.41	0.87
10/1/14 16:40	1466	1798.33	0.00	0.00	1848.89	1987.17	0.92	356.95	3.10	61.22	4.76	5.43	145.28	2.17	115.94	CLOSED	#1-NORMAL	24	17		61.2	5.26	5.41	0.87
10/1/14 16:41	1466	1798.33	0.00	0.00	1850.54	1986.80	0.92	356.92	3.10	61.22	4.79	5.43	145.28	2.15	115.94	CLOSED	#1-NORMAL	24	17		61.2	5.25	5.41	0.87
10/1/14 16:42	1466	1798.33	0.00	0.00	1852.16	1986.45	0.92	356.92	3.10	61.22	5.00	5.43	145.28	2.14	115.94	CLOSED	#1-NORMAL	24	18		61.2	5.25	5.41	0.87
10/1/14 16:43	1466	1798.33	0.00	0.00	1853.76	1986.13	0.92	356.94	3.10	61.22	5.56	5.43	145.27	2.13	115.94	CLOSED	#1-NORMAL	24	29		61.2	5.24	5.41	0.87
10/1/14 16:44	1466	1798.33	0.00	0.00	1855.34	1985.84	0.92	356.95	3.10	61.22	5.91	5.42	145.27	2.12	115.94	CLOSED	#1-NORMAL	24	24		61.2	5.24	5.41	0.87
10/1/14 16:45	1670	1798.33	0.00	0.00	1856.74	1985.64	0.92	356.94	3.10	61.22	5.94	5.42	145.26	2.11	115.94	CLOSED	#1-NORMAL	24	25		61.2	5.24	5.41	0.87
10/1/14 16:46	1670	1798.33	0.00	0.00	1857.89	1985.44	0.92	356.94	3.10	61.22	6.09	5.42	145.26	2.11	115.95	CLOSED	#1-NORMAL	24	25		61.2	5.23	5.41	0.87
10/1/14 16:47	1670	1798.33	0.00	0.00	1858.87	1985.24	0.92	356.95	3.10	61.22	6.10	5.41	145.25	2.10	115.95	CLOSED	#1-NORMAL	24	25		61.2	5.23	5.41	0.87
10/1/14 16:48	1670	1798.33	0.00	0.00	1859.84	1985.03	0.92	356.94	3.10	61.22	6.02	5.41	145.25	2.09	115.94	CLOSED	#1-NORMAL	24	23		61.2	5.23	5.41	0.87
10/1/14 16:49	1670	1798.33	0.00	0.00	1860.85	1984.76	0.92	356.93	3.10	61.22	5.83	5.41	145.24	2.08	115.94	CLOSED	#1-NORMAL	24	20		61.2	5.22	5.41	0.87
10/1/14 16:50	1670	1798.33	0.00	0.00	1861.82	1984.46	0.92	356.90	3.10	61.22	6.39	5.41	145.24	2.07	115.94	CLOSED	#1-NORMAL	24	20		61.2	5.22	5.41	0.87
10/1/14 16:51	1798	1798.33	0.00	0.00	1862.86	1984.13	0.92	356.89	3.10	61.22	5.44	5.40	145.23	2.06	115.94	CLOSED	#1-NORMAL	24	17		61.2	5.22	5.41	0.87
10/1/14 16:52	1798	1798.33	0.00	0.00	1863.94	1983.81	0.92	356.92	3.10	61.22	4.99	5.40	145.23	2.05	115.94	CLOSED	#1-NORMAL	24	13		61.2	5.21	5.41	0.87
10/1/14 16:53	1798	1798.33	0.00	0.00	1864.90	1983.62	0.92	356.95	3.10	61.22	5.18	5.40	145.22	2.04	115.94	CLOSED	#1-NORMAL	24	22		61.2	5.21	5.41	0.87
10/1/14 16:54	1798	1798.33	0.00	0.00	1865.71	1983.71	0.92	356.92	3.10	61.22	5.36	5.40	145.22	2.03	115.93	CLOSED	#1-NORMAL	24	14		61.2	5.21	5.41	0.88
10/1/14 16:55	1798	1798.33	0.00	0.00	1866.47	1983.74	0.93	356.87	3.10	61.22	4.59	5.40	145.21	2.02	115.93	CLOSED	#1-NORMAL	24	11		61.2	5.20	5.41	0.88
10/1/14 16:56	1798	1798.33	0.00	0.00	1867.22	1983.77	0.93	356.84	3.10	61.22	4.83	5.40	145.21	2.01	115.91	CLOSED	#1-NORMAL	24	27		61.2	5.19	5.41	0.88
10/1/14 16:57	1798	1798.33	0.00	0.00	1868.16	1983.85	0.93	356.85	3.10	61.22	5.90	5.40	145.21	2.01	115.91	CLOSED	#1-NORMAL	24	22		61.2	5.20	5.41	0.88
10/1/14 16:58	1798	1798.33	0.00	0.00	1869.07	1984.13	0.93	356.87	3.10	61.22	4.31	5.40	145.20	2.01	115.91	CLOSED	#1-NORMAL	24	12		61.2	5.20	5.41	0.88
10/1/14 16:59	1798	1798.33	0.00	0.00	1869.76	1984.31	0.93	356.88	3.10	61.22	3.76	5.40	145.20	2.01	115.90	CLOSED	#1-NORMAL	24	11		61.2	5.19	5.41	0.88
10/1/14 17:00	0	1798.33	0.00	0.00	1870.25	1984.46	0.93	356.89	3.10	61.22	3.68	5.40	145.20	2.00	115.91	CLOSED	#1-NORMAL	24	12		61.2	5.19	5.41	0.88
10/1/14 17:01	218	1798.00	0.00	0.00	1870.53	1984.42	0.93	356.87	3.10	61.22	3.74	5.39	145.19	1.99	115.91	CLOSED	#1-NORMAL	24	12		61.2	5.18	5.41	0.88
10/1/14 17:02	218	1798.00	0.00	0.00	1871.01	1984.38	0.93	356.83	3.10	61.22	3.83	5.39	145.18	1.99	115.92	CLOSED	#1-NORMAL	24	13		61.2	5.17	5.41	0.88
10/1/14 17:03	218	1798.00	0.00	0.00	1871.83	1984.54	0.93	356.81	3.10	61.22	4.99	5.39	145.18	1.99	115.91	CLOSED	#1-NORMAL	24	18		61.2	5.17	5.41	0.88
10/1/14 17:04	428	1798.00	0.00	0.00	1872.80	1984.84	0.94	356.83	3.10	61.22	4.16	5.39	145.18	2.00	115.92	CLOSED	#1-NORMAL	24	14		61.2	5.18	5.41	0.88
10/1/14 17:05	428	1798.00	0.00	0.00	1873.88	1984.99	0.94	356.86	3.10	61.22	4.02	5.39	145.17	2.00	115.92	CLOSED	#1-NORMAL	24	14		61.2	5.19	5.41	0.88
10/1/14 17:06	428	1798.00	0.00	0.00	1875.07	1984.96	0.94	356.90	3.10	61.22	3.94	5.39	145.17	2.00	115.92	CLOSED	#1-NORMAL	24	12		61.2	5.19	5.41	0.88
10/1/14 17:07	428	1798.00	0.00	0.00	1876.33	1984.87	0.94	356.93	3.10	61.22	3.68	5.38	145.16	2.00	115.92	CLOSED	#1-NORMAL	24	10		61.2	5.19	5.41	0.88
10/1/14 17:08	428	1798.00	0.00	0.00	1877.52	1984.81	0.94	356.96	3.10	61.22	3.60	5.38	145.16	2.00	115.92	CLOSED	#1-NORMAL	24	10		61.2	5.20	5.41	0.88
10/1/14 17:09	428	1798.00	0.00	0.00	1878.65	1984.68	0.94	356.98	3.10	61.22	3.92	5.38	145.15	2.00	115.92	CLOSED	#1-NORMAL	24	27		61.2	5.20	5.41	0.88
10/1/14 17:10	428	1798.00	0.00	0.00	1879.97	1984.40	0.94	357.00	3.10	61.22	4.90	5.38	145.15	2.00	115.92	CLOSED	#1-NORMAL	24	12		61.2	5.21	5.41	0.88
10/1/14 17:11	580	1798.00	0.00	0.00	1881.38	1984.20	0.94	357.02	3.10	61.22	4.97	5.38	145.14	2.00	115.91	CLOSED	#1-NORMAL	24	15		61.2	5.22	5.41	0.88
10/1/14 17:12	580	1798.00	0.00	0.00	1882.87	1984.18	0.94	357.05	3.10	61.22	4.20	5.38	145.14	2.00	115.91	CLOSED	#1-NORMAL	24	10		61.2	5.22	5.41	0.88
10/1/14 17:13	580	1798.00	0.00	0.00	1884.45	1983.95	0.95	357.07	3.10	61.22	3.96	5.37	145.15	2.00	115.90	CLOSED	#1-NORMAL	24	11		61.2	5.22	5.41	0.88
10/1/14 17:14	580	1798.00	0.00	0.00	1886.01	1983.66	0.95	357.10	3.10	61.22	4.74	5.37	145.15	2.01	115.90	CLOSED	#1-NORMAL	24	18		61.2	5.23	5.41	0.89
10/1/14 17:15	580	1798.00	0.00	0.00	1887.53	1983.63	0.95	357.13	3.10	61.22	4.73	5.37	145.15	2.01	115.89	CLOSED	#1-NORMAL	24	10		61.2	5.24	5.41	0.89
10/1/14 17:16	580	1798.00	0.00	0.00	1888.97	1983.44	0.95	357.18	3.10	61.22	5.25	5.37	145.15	2.02	115.89	CLOSED	#1-NORMAL	24	19		61.2	5.25	5.41	0.89
10/1/14 17:17	580	1798.00	0.00	0.00	1890.26	1983.20	0.95	357.23	3.10	61.22	5.41	5.37	145.16	2.02	115.88	CLOSED	#1-NORMAL	24	18		61.2	5.26	5.41	0.89
10/1/14 17:18	813	1798.00	0.00	0.00	1891.43	1983.35	0.95	357.29	3.10	61.22	5.05	5.37	145.16	2.02	115.88	CLOSED	#1-NORMAL	24	11		61.2	5.27	5.41	0.89
10/1/14 17:19	813	1798.00	0.00	0.00	1892.56	1983.26	0.95	357.36	3.10	61.22	4.18	5.37	145.16	2.02	115.88	CLOSED	#1-NORMAL	24	11		61.2	5.28	5.41	0.89
10/1/14 17:20	813	1798.00	0.00	0.00	1893.70	1982.96	0.95	357.44	3.10	61.22	4.90	5.37	145.17	2.03	115.88	CLOSED	#1-NORMAL	24	17		61.2	5.29	5.41	0.89
10/1/14 17:21	813	1798.00	0.00	0.00	1894.84	1982.80	0.96	357.52	3.10	61.22	4.93	5.37	145.17	2.03	115.88	CLOSED	#1-NORMAL	24	10		61.2	5.29	5.41	0.89
10/1/14 17:22	813	1798.00	0.00	0.00	1895.98	1982.39	0.96	357.60	3.10	61.22	4.41	5.37	145.16	2.03	115.88	CLOSED	#1-NORMAL	24	23		61.2	5.30	5.41	0.89
10/1/14 17:23	813	1798.00	0.00	0.00	1897.07	1981.88	0.96	357.69	3.10	61.22	5.94	5.37	145.16	2.03	115.88	CLOSED	#1-NORMAL	24	19		61.2	5.31	5.41	0.89
10/1/14 17:24	813	1798.00	0.00	0.00	1898.02	1981.72	0.96	357.77	3.10	61.22	4.56	5.37	145.15	2.03	115.88	CLOSED	#1-NORMAL	24	12		61.2	5.31	5.41	0.89
10/1/14 17:25	1037	1798.00	0.00	0.00	1898.98	1981.41	0.96	357.85	3.10	61.22	3.77	5.37	145.15	2.03	115.88	CLOSED	#1-NORMAL	24	12		61.2	5.30	5.41	0.89
10/1/14 17:26	1037	1798.00	0.00	0.00	1899.95	1980.94	0.96	357.92	3.10	61.22	4.27	5.37	145.14	2.03	115.89	CLOSED	#1-NORMAL	24	18		61.2	5.30	5.41	0.89
10/1/14 17:27	1037	1798.00	0.00	0.00	1900.91	1980.66	0.96	357.98	3.10	61.22	4.36	5.37	145.14	2.03	115.91	CLOSED	#1-NORMAL	24	12		61.2	5.29	5.41	0.89
10/1/14 17:28	1037	1798.00	0.00	0.00	1901.88	1980.35	0.96	358.00	3.10	61.22	3.78	5.37	145.13	2.03	115.92	CLOSED	#1-NORMAL	24	10		61.2	5.28	5.41	0.89

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHinTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmel	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 17:29	1037	1798.00	0.00	0.00	1902.82	1980.06	0.97	357.98	3.10	61.22	4.63	5.37	145.13	2.03	115.94	CLOSED	#1-NORMAL	24	17		61.2	5.28	5.41	0.89
10/1/14 17:30	1214	1798.00	0.00	0.00	1903.79	1979.75	0.97	357.93	3.10	61.22	3.94	5.36	145.12	2.02	115.95	CLOSED	#1-NORMAL	24	15		61.2	5.26	5.41	0.90
10/1/14 17:31	1214	1798.00	0.00	0.00	1904.72	1979.69	0.97	357.88	3.10	61.22	4.67	5.35	145.12	2.02	115.96	CLOSED	#1-NORMAL	24	12		61.2	5.26	5.41	0.90
10/1/14 17:32	1214	1798.00	0.00	0.00	1905.64	1979.77	0.97	357.86	3.10	61.22	3.71	5.35	145.11	2.02	115.98	CLOSED	#1-NORMAL	24	10		61.2	5.25	5.41	0.90
10/1/14 17:33	1214	1798.00	0.00	0.00	1906.53	1979.76	0.97	357.87	3.10	61.22	3.79	5.35	145.11	2.02	115.99	CLOSED	#1-NORMAL	24	14		61.2	5.25	5.41	0.90
10/1/14 17:34	1214	1798.00	0.00	0.00	1907.42	1979.78	0.97	357.87	3.10	61.22	4.67	5.34	145.11	2.02	116.00	CLOSED	#1-NORMAL	24	13		61.2	5.24	5.41	0.90
10/1/14 17:35	1214	1798.00	0.00	0.00	1908.28	1979.69	0.97	357.87	3.10	61.22	3.81	5.34	145.10	2.01	116.01	CLOSED	#1-NORMAL	24	22		61.2	5.23	5.41	0.90
10/1/14 17:36	1214	1798.00	0.00	0.00	1909.07	1979.51	0.97	357.86	3.10	61.22	4.94	5.34	145.10	2.01	116.02	CLOSED	#1-NORMAL	24	13		61.2	5.23	5.41	0.90
10/1/14 17:37	1462	1798.00	0.00	0.00	1909.80	1979.54	0.97	357.84	3.10	61.22	4.82	5.33	145.10	2.01	116.03	CLOSED	#1-NORMAL	24	11		61.2	5.23	5.41	0.90
10/1/14 17:38	1462	1798.00	0.00	0.00	1910.57	1979.72	0.97	357.83	3.10	61.22	3.95	5.33	145.09	2.01	116.05	CLOSED	#1-NORMAL	24	9		61.2	5.23	5.41	0.90
10/1/14 17:39	1462	1798.00	0.00	0.00	1911.33	1979.70	0.97	357.81	3.10	61.22	3.68	5.33	145.09	2.01	116.06	CLOSED	#1-NORMAL	24	9		61.2	5.22	5.41	0.90
10/1/14 17:40	1462	1798.00	0.00	0.00	1912.10	1979.58	0.97	357.79	3.10	61.22	3.68	5.33	145.09	2.01	116.07	CLOSED	#1-NORMAL	24	9		61.2	5.22	5.41	0.90
10/1/14 17:41	1462	1798.00	0.00	0.00	1912.99	1979.50	0.97	357.76	3.10	61.22	3.73	5.32	145.08	2.01	116.08	CLOSED	#1-NORMAL	24	10		61.2	5.21	5.41	0.90
10/1/14 17:42	1462	1798.00	0.00	0.00	1913.66	1979.57	0.97	357.73	3.10	61.22	4.92	5.32	145.08	2.01	116.10	CLOSED	#1-NORMAL	24	20		61.2	5.22	5.41	0.90
10/1/14 17:43	1656	1798.00	0.00	0.00	1914.18	1979.80	0.97	357.70	3.10	61.22	4.65	5.32	145.08	2.01	116.12	CLOSED	#1-NORMAL	24	14		61.2	5.21	5.41	0.90
10/1/14 17:44	1656	1798.00	0.00	0.00	1914.56	1980.22	0.96	357.68	3.10	61.22	5.07	5.32	145.08	2.02	116.15	CLOSED	#1-NORMAL	24	17		61.2	5.22	5.41	0.90
10/1/14 17:45	1656	1798.00	0.00	0.00	1914.86	1980.79	0.96	357.68	3.10	61.22	5.84	5.32	145.08	2.02	116.17	CLOSED	#1-NORMAL	24	22		61.2	5.22	5.41	0.91
10/1/14 17:46	1656	1798.00	0.00	0.00	1915.13	1981.20	0.96	357.69	3.10	61.22	6.52	5.32	145.08	2.03	116.20	CLOSED	#1-NORMAL	24	25		61.2	5.23	5.41	0.91
10/1/14 17:47	1656	1798.00	0.00	0.00	1915.32	1981.72	0.96	357.72	3.10	61.22	6.65	5.32	145.08	2.04	116.22	CLOSED	#1-NORMAL	24	26		61.2	5.24	5.41	0.91
10/1/14 17:48	1656	1798.00	0.00	0.00	1915.45	1982.24	0.96	357.77	3.10	61.22	6.76	5.32	145.08	2.04	116.24	CLOSED	#1-NORMAL	24	29		61.2	5.25	5.41	0.91
10/1/14 17:49	1656	1798.00	0.00	0.00	1915.50	1982.40	0.96	357.80	3.10	61.22	6.73	5.32	145.08	2.05	116.26	CLOSED	#1-NORMAL	24	29		61.2	5.26	5.41	0.91
10/1/14 17:50	1799	1798.00	0.00	0.00	1915.44	1982.68	0.96	357.80	3.10	61.22	6.65	5.32	145.07	2.06	116.29	CLOSED	#1-NORMAL	24	33		61.2	5.26	5.41	0.91
10/1/14 17:51	1799	1798.00	0.00	0.00	1915.40	1983.03	0.96	357.80	3.10	61.22	6.71	5.32	145.07	2.07	116.33	CLOSED	#1-NORMAL	24	35		61.2	5.27	5.41	0.91
10/1/14 17:52	1799	1798.00	0.00	0.00	1915.42	1983.10	0.96	357.82	3.10	61.22	6.80	5.32	145.07	2.09	116.36	CLOSED	#1-NORMAL	24	31		61.2	5.28	5.41	0.91
10/1/14 17:53	1799	1798.00	0.00	0.00	1915.50	1983.38	0.96	357.86	3.10	61.22	6.88	5.32	145.07	2.10	116.40	CLOSED	#1-NORMAL	24	35		61.2	5.30	5.41	0.91
10/1/14 17:54	1799	1798.00	0.00	0.00	1915.57	1983.77	0.96	357.90	3.10	61.22	6.83	5.32	145.07	2.11	116.45	CLOSED	#1-NORMAL	24	38		61.2	5.31	5.41	0.91
10/1/14 17:55	1799	1798.00	0.00	0.00	1915.52	1983.88	0.96	357.91	3.10	61.22	6.78	5.32	145.07	2.13	116.50	CLOSED	#1-NORMAL	24	39		61.2	5.32	5.40	0.91
10/1/14 17:56	1799	1798.00	0.00	0.00	1915.31	1984.07	0.96	357.92	3.10	61.22	6.83	5.32	145.07	2.14	116.55	CLOSED	#1-NORMAL	24	40		61.2	5.32	5.40	0.91
10/1/14 17:57	1799	1798.00	0.00	0.00	1915.07	1984.36	0.96	357.95	3.10	61.22	6.85	5.32	145.06	2.16	116.61	CLOSED	#1-NORMAL	24	39		61.2	5.34	5.40	0.91
10/1/14 17:58	1799	1798.00	0.00	0.00	1914.97	1984.27	0.96	358.00	3.10	61.22	6.68	5.32	145.06	2.17	116.67	CLOSED	#1-NORMAL	24	40		61.2	5.34	5.40	0.91
10/1/14 17:59	1799	1798.00	0.00	0.00	1914.92	1984.11	0.96	358.03	3.10	61.22	4.59	5.32	145.06	2.19	116.73	CLOSED	#1-NORMAL	24	39		61.2	5.34	5.40	0.91
10/1/14 18:00	0	1798.00	0.00	0.00	1915.00	1983.85	0.96	358.03	3.10	61.22	4.44	5.32	145.06	2.20	116.79	CLOSED	#1-NORMAL	24	34		61.2	5.34	5.40	0.91
10/1/14 18:01	0	1797.00	0.00	0.00	1915.20	1983.45	0.96	358.04	3.10	61.22	4.41	5.32	145.06	2.21	116.86	CLOSED	#1-NORMAL	24	32		61.2	5.33	5.40	0.91
10/1/14 18:02	0	1797.00	0.00	0.00	1915.39	1983.05	0.96	358.06	3.10	61.22	4.41	5.32	145.06	2.22	116.92	CLOSED	#1-NORMAL	24	31		61.2	5.32	5.40	0.92
10/1/14 18:03	217	1797.00	0.00	0.00	1915.65	1982.72	0.96	358.08	3.10	61.22	4.36	5.32	145.06	2.22	116.98	CLOSED	#1-NORMAL	24	30		61.2	5.31	5.40	0.92
10/1/14 18:04	217	1797.00	0.00	0.00	1915.92	1982.47	0.95	358.09	3.10	61.22	4.50	5.31	145.06	2.23	117.04	CLOSED	#1-NORMAL	24	40		61.2	5.31	5.40	0.92
10/1/14 18:05	217	1797.00	0.00	0.00	1916.03	1982.33	0.95	358.05	3.10	61.22	4.75	5.31	145.07	2.24	117.10	CLOSED	#1-NORMAL	24	26		61.2	5.30	5.40	0.92
10/1/14 18:06	406	1797.00	0.00	0.00	1916.25	1982.30	0.96	358.02	3.10	61.22	4.23	5.31	145.07	2.24	117.16	CLOSED	#1-NORMAL	24	23		61.2	5.30	5.40	0.92
10/1/14 18:07	406	1797.00	0.00	0.00	1916.74	1982.27	0.96	358.03	3.10	61.22	4.22	5.30	145.07	2.25	117.21	CLOSED	#1-NORMAL	24	26		61.2	5.29	5.40	0.92
10/1/14 18:08	406	1797.00	0.00	0.00	1917.37	1982.32	0.96	358.07	3.10	61.22	4.35	5.30	145.07	2.25	117.26	CLOSED	#1-NORMAL	24	26		61.2	5.28	5.40	0.92
10/1/14 18:09	406	1797.00	0.00	0.00	1918.01	1982.47	0.96	358.10	3.10	61.22	4.48	5.30	145.07	2.26	117.30	CLOSED	#1-NORMAL	24	27		61.2	5.28	5.40	0.92
10/1/14 18:10	406	1797.00	0.00	0.00	1918.61	1982.66	0.96	358.12	3.10	61.22	4.60	5.29	145.07	2.27	117.35	CLOSED	#1-NORMAL	24	28		61.2	5.28	5.40	0.92
10/1/14 18:11	406	1797.00	0.00	0.00	1919.29	1982.78	0.97	358.10	3.10	61.22	5.31	5.29	145.07	2.28	117.40	CLOSED	#1-NORMAL	24	30		61.2	5.28	5.40	0.92
10/1/14 18:12	626	1797.00	0.00	0.00	1920.05	1982.74	0.97	358.07	3.10	61.22	4.52	5.29	145.07	2.29	117.45	CLOSED	#1-NORMAL	24	24		61.2	5.28	5.40	0.92
10/1/14 18:13	626	1797.00	0.00	0.00	1920.88	1982.56	0.97	358.05	3.10	61.22	4.26	5.29	145.07	2.29	117.49	CLOSED	#1-NORMAL	24	21		61.2	5.27	5.40	0.92
10/1/14 18:14	626	1797.00	0.00	0.00	1921.69	1982.26	0.97	358.06	3.10	61.22	4.13	5.28	145.07	2.29	117.54	CLOSED	#1-NORMAL	24	19		61.2	5.26	5.40	0.92
10/1/14 18:15	626	1797.00	0.00	0.00	1922.55	1981.84	0.98	358.09	3.10	61.22	3.83	5.28	145.07	2.29	117.58	CLOSED	#1-NORMAL	24	16		61.2	5.25	5.40	0.92
10/1/14 18:16	626	1797.00	0.00	0.00	1923.54	1981.40	0.98	358.10	3.10	61.22	3.85	5.28	145.07	2.29	117.62	CLOSED	#1-NORMAL	24	20		61.2	5.23	5.40	0.92
10/1/14 18:17	626	1797.00	0.00	0.00	1924.56	1981.08	0.98	358.10	3.10	61.22	4.99	5.27	145.07	2.29	117.67	CLOSED	#1-NORMAL	24	40		61.2	5.22	5.39	0.93
10/1/14 18:18	793	1797.00	0.00	0.00	1925.73	1980.61	0.98	358.09	3.10	61.22	4.78	5.27	145.07	2.29	117.71	CLOSED	#1-NORMAL	24	19		61.2	5.21	5.39	0.93
10/1/14 18:19	793	1797.00	0.00	0.00	1926.98	1979.97	0.98	358.08	3.10	61.22	4.30	5.27	145.07	2.29	117.75	CLOSED	#1-NORMAL	24	24		61.2	5.20	5.39	0.93
10/1/14 18:20	793	1797.00	0.00	0.00	1928.25	1979.42	0.98	358.07	3.10	61.22	4.51	5.27	145.08	2.28	117.79	CLOSED	#1-NORMAL	24	20		61.2	5.20	5.39	0.93
10/1/14 18:21	793	1797.00	0.00	0.00	1929.58	1978.77	0.98	358.04	3.10	61.22	4.32	5.26	145.08	2.28	117.83	CLOSED	#1-NORMAL	24	20		61.2	5.19	5.39	0.93
10/1/14 18:22	793	1797.00	0.00	0.00	1930.90	1978.09	0.98	358.00	3.10	61.22	4.39	5.26	145.08	2.27	117.87	CLOSED	#1-NORMAL	24	21		61.2	5.18	5.39	0.93
10/1/14 18:23	793	1797.00	0.00	0.00	1932.22	1977.45	0.97	357.97	3.10	61.22	4.43	5.26	145.08	2.26	117.90	CLOSED	#1-NORMAL	24	23		61.2	5.18	5.39	0.93
10/1/14 18:24	793	1797.00	0.00	0.00	1933.54	1976.77	0.97	357.98	3.10	61.22	5.34	5.26	145.08	2.26	117.94	CLOSED	#1-NORMAL	24	37		61.2	5.17	5.39	0.93
10/1/14 18:25	1002	1797.00	0.00	0.00	1934.90	1976.06	0.97	358.02	3.10	61.22	4.98	5.25	145.08	2.25	117.98	CLOSED	#1-NORMAL	24	24		61.2	5.17	5.39	0.93
10/1/14 18:26	1002	1797.00	0.00	0.00	1936.32	1975.23	0.97	358.04	3.10	61.22	4.99	5.25	145.08	2.24	118.02	CLOSED	#1-NORMAL	24	27		61.2	5.17	5.39	0.93
10/1/14 18:27	1002	1797.00	0.00	0.00	1937.71	1974.37	0.97	358.01	3.10	61.22	5.28	5.25	145.09	2.24	118.06	CLOSED	#1-NORMAL	24	28		61.2	5.18	5.39	0.93
10/1/14 18:28	1002	1797.00	0.00	0.00	1939.10	1973.58	0.97	357.98	3.10	61.22	5.51	5.24	145.09	2.23	118.11	CLOSED	#1-NORMAL	24	31		61.2	5.16	5.39	0.93
10/1/14 18:29	1002	1797.00	0.00	0.00	1940.52	1972.87	0.97	357.99	3.10	61.22	5.84	5.24	145.09	2.23	118.15	CLOSED	#1-NORMAL	24	36		61.2	5.16	5.39	0.93
10/1/14 18:30	1002	1797.00	0.00	0.00	1942.21	1972.20	0.97	358.03	3.10	61.22	6.25	5.23	145.09	2.23	118.19	CLOSED	#1-NORMAL	24	36		61.2	5.16	5.38	0.93
10/1/14 18:31	1002	1797.00	0.00	0.00	1944.27	1971.48	0.97	358.05	3.10	61.22	6.34	5.23	145.09	2.22	118.22	CLOSED	#1-NORMAL	24	35		61.2	5.16	5.38	0.93
10/1/14 18:32	1171	1797.00	0.00	0.00	1946.61	1970.79	0.97	358.02	3.10	61.22	6.30	5.23	145.09	2.22	118.27	CLOSED	#1-NORMAL	24	34		61.2	5.16	5.38	0.93
10/1/14 18:33	1171	1797.00	0.00	0.00	1948.97	1970.22	0.97	357.99	3.10	61.22	6.33	5.22	145.09	2.22	118.31	CLOSED	#1-NORMAL	24	34		61.2	5.16	5.38	0.93
10/1/14 18:34	1171	1797.00	0.00	0.00	1951.47	1969.73	0.97	358.00	3.10	61.22	6.41	5.22	145.09	2.21	118.36	CLOSED	#1-NORMAL	24	33		61.2	5.16	5.38	0.93
10/1/14 18:35	1171	1797.00	0.00	0.00	1954.04	1969.34	0.97	358.04	3.10	61.22	6.47	5.21	145.09	2.21	118.41	CLOSED	#1-NORMAL	24	37		61.2	5.17	5.38	0.93
10/1/14 18:36	1171	1797.00	0.00	0.00	1956.62	1969.04	0.97	358.04	3.10	61.22	6.46	5.21	145.09	2.21	118.47	CLOSED	#1-NORMAL	24	36		61.2	5.16	5.38	0.94
10/1/14 18:37	1171	1797.00	0.00	0.00	1959.01	1968.90	0.97	358.01	3.10	61.22	6.43	5.20	145.09	2.21	118.53	CLOSED	#1-NORMAL	24	37		61.2	5.16	5.38	0.94
10/1/14 18:38	1171	1797.00	0.00	0.00	1960.66	1968.94	0.98	357.99	3.10	61.22	6.50	5.20	145.09	2.21	118.60	CLOSED	#1-NORMAL	24	34		61.2	5.16	5.37	0.94
10/1/14 18:39	1407	1797.00	0.00	0.00	1962.02	1969.03	0.98	358.01	3.10	61.22	6.57	5.20	145.09	2.20	118.66	CLOSED	#1-NORMAL	24	35		61.2	5.16	5.37	0.94
10/1/14 18:40	1407	1797.00	0.00	0.00	1963.52	1969.12	0.98	358.04	3.10	61.22	6.66	5.19	145.09	2.20	118.73	CLOSED	#1-NORMAL	24	35		61.2	5.16	5.37	0.94
10/1/14 18:41	1407	1797.00	0.00	0.00	1965.10	1969.29	0.98	358.03	3.10	61.22	6.73	5.19	145.09	2.20	118.79	CLOSED	#1-NORMAL	24	36		61.2	5.17	5.37	0.94

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NOR	Reage	BHinTemp	Carbon	Lime	BagDP	AbsPH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmie	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 18:42	1407	1797.00	0.00	0.00	1966.46	1969.46	0.98		358.00	3.10	61.22	6.69	5.19	145.09	2.20	118.85	CLOSED	#1-NORMAL	24	37		61.2	5.17	5.37	0.94
10/1/14 18:43	1407	1797.00	0.00	0.00	1967.75	1969.62	0.98		358.00	3.10	61.22	6.68	5.18	145.09	2.20	118.92	CLOSED	#1-NORMAL	24	39		61.2	5.18	5.37	0.94
10/1/14 18:44	1643	1797.00	0.00	0.00	1969.14	1969.81	0.98		358.03	3.10	61.22	6.71	5.18	145.09	2.21	118.99	CLOSED	#1-NORMAL	24	40		61.2	5.19	5.37	0.94
10/1/14 18:45	1643	1797.00	0.00	0.00	1970.72	1969.78	0.99		358.06	3.10	61.22	6.70	5.18	145.09	2.22	119.06	CLOSED	#1-NORMAL	24	40		61.2	5.20	5.36	0.94
10/1/14 18:46	1643	1797.00	0.00	0.00	1972.56	1969.59	0.99		358.06	3.10	61.22	6.61	5.18	145.09	2.23	119.13	CLOSED	#1-NORMAL	24	40		61.2	5.21	5.36	0.94
10/1/14 18:47	1643	1797.00	0.00	0.00	1974.67	1969.39	0.99		358.02	3.10	61.22	6.58	5.18	145.09	2.24	119.20	CLOSED	#1-NORMAL	24	40		61.2	5.22	5.36	0.94
10/1/14 18:48	1643	1797.00	0.00	0.00	1977.11	1969.12	0.99		358.01	3.10	61.22	6.59	5.18	145.10	2.24	119.27	CLOSED	#1-NORMAL	24	40		61.2	5.22	5.36	0.94
10/1/14 18:49	1643	1797.00	0.00	0.00	1979.54	1968.86	0.99		358.03	3.10	61.22	6.48	5.18	145.12	2.25	119.35	CLOSED	#1-NORMAL	24	40		61.2	5.23	5.36	0.94
10/1/14 18:50	1643	1797.00	0.00	0.00	1981.65	1968.69	0.99		358.06	3.10	61.22	6.55	5.18	145.13	2.26	119.42	CLOSED	#1-NORMAL	24	40		61.2	5.23	5.36	0.94
10/1/14 18:51	1794	1797.00	0.00	0.00	1983.16	1968.55	0.99		358.04	3.10	61.22	6.14	5.18	145.14	2.27	119.49	CLOSED	#1-NORMAL	24	38		61.2	5.23	5.35	0.94
10/1/14 18:52	1794	1797.00	0.00	0.00	1984.39	1968.53	1.00		357.99	3.10	61.22	5.73	5.18	145.15	2.27	119.57	CLOSED	#1-NORMAL	24	34		61.2	5.23	5.35	0.94
10/1/14 18:53	1794	1797.00	0.00	0.00	1985.34	1968.65	1.00		357.98	3.10	61.22	5.99	5.18	145.15	2.28	119.63	CLOSED	#1-NORMAL	24	40		61.2	5.23	5.35	0.94
10/1/14 18:54	1794	1797.00	0.00	0.00	1986.26	1968.81	1.00		358.00	3.10	61.22	6.18	5.18	145.15	2.29	119.70	CLOSED	#1-NORMAL	24	35		61.2	5.23	5.35	0.94
10/1/14 18:55	1794	1797.00	0.00	0.00	1987.14	1968.82	1.00		358.02	3.10	61.22	5.85	5.17	145.15	2.30	119.77	CLOSED	#1-NORMAL	24	34		61.2	5.23	5.35	0.95
10/1/14 18:56	1794	1797.00	0.00	0.00	1988.00	1968.92	1.00		358.02	3.10	61.22	5.36	5.16	145.15	2.30	119.84	CLOSED	#1-NORMAL	24	27		61.2	5.23	5.35	0.95
10/1/14 18:57	1794	1797.00	0.00	0.00	1988.65	1968.90	1.00		358.00	3.10	61.22	5.03	5.15	145.16	2.31	119.91	CLOSED	#1-NORMAL	24	27		61.2	5.23	5.35	0.95
10/1/14 18:58	1794	1797.00	0.00	0.00	1989.28	1968.76	1.00		357.99	3.10	61.22	4.83	5.15	145.16	2.31	119.97	CLOSED	#1-NORMAL	24	23		61.2	5.22	5.34	0.95
10/1/14 18:59	1794	1797.00	0.00	0.00	1989.78	1968.57	1.00		357.96	3.10	61.22	4.71	5.15	145.16	2.30	120.04	CLOSED	#1-NORMAL	24	21		61.2	5.21	5.34	0.95
10/1/14 19:00	0	1797.00	0.00	0.00	1990.17	1968.31	1.00		357.91	3.10	61.22	4.60	5.15	145.17	2.30	120.10	CLOSED	#1-NORMAL	24	21		61.2	5.20	5.34	0.95
10/1/14 19:01	0	1796.67	0.00	0.00	1990.33	1968.10	1.00		357.86	3.10	61.22	4.56	5.14	145.17	2.30	120.16	CLOSED	#1-NORMAL	24	20		61.2	5.19	5.34	0.95
10/1/14 19:02	0	1796.67	0.00	0.00	1990.60	1967.92	1.00		357.83	3.10	61.22	4.67	5.14	145.18	2.30	120.22	CLOSED	#1-NORMAL	24	23		61.2	5.18	5.34	0.95
10/1/14 19:03	0	1796.67	0.00	0.00	1991.08	1967.72	1.00		357.83	3.10	61.22	5.26	5.15	145.18	2.30	120.27	CLOSED	#1-NORMAL	24	31		61.2	5.18	5.34	0.95
10/1/14 19:04	202	1796.67	0.00	0.00	1991.53	1967.79	1.00		357.84	3.10	61.22	5.21	5.15	145.19	2.30	120.32	CLOSED	#1-NORMAL	24	35		61.2	5.17	5.33	0.95
10/1/14 19:05	355	1796.67	0.00	0.00	1992.11	1967.78	1.00		357.84	3.10	61.22	5.49	5.15	145.19	2.30	120.38	CLOSED	#1-NORMAL	24	21		61.2	5.18	5.33	0.95
10/1/14 19:06	355	1796.67	0.00	0.00	1992.49	1967.74	1.00		357.82	3.10	61.22	5.19	5.14	145.19	2.31	120.43	CLOSED	#1-NORMAL	24	30		61.2	5.18	5.33	0.95
10/1/14 19:07	355	1796.67	0.00	0.00	1992.39	1967.87	1.00		357.80	3.10	61.22	5.45	5.14	145.20	2.31	120.48	CLOSED	#1-NORMAL	24	27		61.2	5.18	5.33	0.95
10/1/14 19:08	355	1796.67	0.00	0.00	1992.17	1968.05	1.00		357.81	3.10	61.22	5.73	5.13	145.20	2.31	120.54	CLOSED	#1-NORMAL	24	32		61.2	5.19	5.33	0.95
10/1/14 19:09	355	1796.67	0.00	0.00	1991.88	1968.28	1.00		357.84	3.10	61.22	6.23	5.13	145.20	2.32	120.60	CLOSED	#1-NORMAL	24	40		61.2	5.19	5.32	0.95
10/1/14 19:10	355	1796.67	0.00	0.00	1991.40	1968.52	1.00		357.88	3.10	61.22	5.64	5.13	145.21	2.33	120.65	CLOSED	#1-NORMAL	24	40		61.2	5.19	5.32	0.95
10/1/14 19:11	355	1796.67	0.00	0.00	1990.97	1968.65	1.00		357.89	3.10	61.22	5.95	5.13	145.21	2.34	120.71	CLOSED	#1-NORMAL	24	40		61.2	5.19	5.32	0.95
10/1/14 19:12	583	1796.67	0.00	0.00	1990.36	1968.82	1.00		357.85	3.10	61.22	6.04	5.12	145.21	2.35	120.77	CLOSED	#1-NORMAL	24	40		61.2	5.20	5.32	0.95
10/1/14 19:13	583	1796.67	0.00	0.00	1989.47	1969.06	1.00		357.84	3.10	61.22	6.23	5.12	145.22	2.36	120.83	CLOSED	#1-NORMAL	24	40		61.2	5.21	5.32	0.96
10/1/14 19:14	583	1796.67	0.00	0.00	1988.55	1969.36	1.00		357.89	3.10	61.22	6.34	5.12	145.22	2.37	120.89	CLOSED	#1-NORMAL	24	40		61.2	5.21	5.32	0.96
10/1/14 19:15	583	1796.67	0.00	0.00	1987.45	1969.69	1.00		357.94	3.10	61.22	6.44	5.12	145.22	2.39	120.95	CLOSED	#1-NORMAL	24	40		61.2	5.22	5.31	0.96
10/1/14 19:16	583	1796.67	0.00	0.00	1986.16	1969.99	1.00		357.96	3.10	61.22	6.48	5.12	145.23	2.40	121.02	CLOSED	#1-NORMAL	24	39		61.2	5.24	5.31	0.96
10/1/14 19:17	583	1796.67	0.00	0.00	1984.90	1970.24	1.00		357.96	3.10	61.22	6.51	5.12	145.23	2.41	121.08	CLOSED	#1-NORMAL	24	38		61.2	5.24	5.31	0.96
10/1/14 19:18	772	1796.67	0.00	0.00	1983.56	1970.53	1.00		357.97	3.10	61.22	6.71	5.11	145.23	2.42	121.16	CLOSED	#1-NORMAL	24	37		61.2	5.25	5.31	0.96
10/1/14 19:19	772	1796.67	0.00	0.00	1982.10	1970.77	1.00		358.00	3.10	61.22	6.78	5.11	145.23	2.43	121.23	CLOSED	#1-NORMAL	24	38		61.2	5.26	5.31	0.96
10/1/14 19:20	772	1796.67	0.00	0.00	1980.74	1970.87	0.99		358.01	3.10	61.22	6.78	5.11	145.23	2.44	121.31	CLOSED	#1-NORMAL	24	38		61.2	5.27	5.30	0.96
10/1/14 19:21	772	1796.67	0.00	0.00	1979.37	1970.88	0.99		357.98	3.10	61.22	6.81	5.11	145.22	2.46	121.38	CLOSED	#1-NORMAL	24	37		61.2	5.28	5.30	0.96
10/1/14 19:22	772	1796.67	0.00	0.00	1978.00	1970.84	0.99		357.94	3.10	61.22	6.86	5.11	145.22	2.46	121.46	CLOSED	#1-NORMAL	24	38		61.2	5.28	5.30	0.96
10/1/14 19:23	772	1796.67	0.00	0.00	1976.66	1970.80	0.99		357.96	3.10	61.22	5.82	5.11	145.22	2.47	121.53	CLOSED	#1-NORMAL	24	38		61.2	5.29	5.30	0.96
10/1/14 19:24	772	1796.67	0.00	0.00	1975.31	1970.77	0.99		358.01	3.10	61.22	6.00	5.11	145.22	2.48	121.60	CLOSED	#1-NORMAL	24	38		61.2	5.28	5.30	0.96
10/1/14 19:25	965	1796.67	0.00	0.00	1974.22	1970.61	0.99		358.03	3.10	61.22	5.79	5.11	145.22	2.49	121.67	CLOSED	#1-NORMAL	24	34		61.2	5.29	5.29	0.96
10/1/14 19:26	965	1796.67	0.00	0.00	1973.37	1970.44	0.99		358.02	3.10	61.22	5.71	5.11	145.22	2.50	121.74	CLOSED	#1-NORMAL	24	32		61.2	5.29	5.29	0.96
10/1/14 19:27	965	1796.67	0.00	0.00	1972.54	1970.31	0.99		358.02	3.10	61.22	5.88	5.11	145.22	2.51	121.80	CLOSED	#1-NORMAL	24	32		61.2	5.29	5.29	0.96
10/1/14 19:28	965	1796.67	0.00	0.00	1971.88	1970.18	0.99		358.05	3.10	61.22	6.07	5.11	145.22	2.51	121.87	CLOSED	#1-NORMAL	24	34		61.2	5.29	5.29	0.96
10/1/14 19:29	965	1796.67	0.00	0.00	1971.26	1970.12	0.99		358.07	3.10	61.22	6.30	5.11	145.22	2.52	121.93	CLOSED	#1-NORMAL	24	39		61.2	5.29	5.29	0.96
10/1/14 19:30	965	1796.67	0.00	0.00	1970.53	1970.12	0.99		358.05	3.10	61.22	6.32	5.11	145.21	2.53	122.00	CLOSED	#1-NORMAL	24	38		61.2	5.29	5.28	0.96
10/1/14 19:31	965	1796.67	0.00	0.00	1969.79	1970.15	0.99		358.01	3.10	61.22	6.40	5.10	145.21	2.54	122.06	CLOSED	#1-NORMAL	24	32		61.2	5.30	5.28	0.96
10/1/14 19:32	1213	1796.67	0.00	0.00	1968.98	1970.28	0.99		358.00	3.10	61.22	6.48	5.10	145.21	2.55	122.12	CLOSED	#1-NORMAL	24	34		61.2	5.31	5.28	0.96
10/1/14 19:33	1213	1796.67	0.00	0.00	1968.05	1970.40	0.98		358.05	3.10	61.22	6.59	5.10	145.21	2.56	122.17	CLOSED	#1-NORMAL	24	38		61.2	5.32	5.28	0.96
10/1/14 19:34	1213	1796.67	0.00	0.00	1967.20	1970.48	0.98		358.10	3.10	61.22	6.59	5.10	145.21	2.57	122.23	CLOSED	#1-NORMAL	24	39		61.2	5.33	5.28	0.97
10/1/14 19:35	1213	1796.67	0.00	0.00	1966.50	1970.58	0.98		358.10	3.10	61.22	6.55	5.10	145.21	2.59	122.29	CLOSED	#1-NORMAL	24	40		61.2	5.34	5.28	0.97
10/1/14 19:36	1213	1796.67	0.00	0.00	1966.21	1970.62	0.98		358.12	3.10	61.22	6.69	5.10	145.20	2.60	122.35	CLOSED	#1-NORMAL	24	40		61.2	5.36	5.27	0.97
10/1/14 19:37	1213	1796.67	0.00	0.00	1966.00	1970.53	0.98		358.17	3.10	61.22	6.68	5.10	145.20	2.61	122.42	CLOSED	#1-NORMAL	24	40		61.2	5.36	5.27	0.97
10/1/14 19:38	1213	1796.67	0.00	0.00	1965.54	1970.47	0.98		358.20	3.10	61.22	6.63	5.10	145.20	2.62	122.49	CLOSED	#1-NORMAL	24	40		61.2	5.38	5.27	0.97
10/1/14 19:39	1213	1796.67	0.00	0.00	1965.02	1970.34	0.98		358.20	3.10	61.22	6.51	5.09	145.20	2.64	122.56	CLOSED	#1-NORMAL	24	40		61.2	5.39	5.27	0.97
10/1/14 19:40	1213	1796.67	0.00	0.00	1964.48	1970.25	0.98		358.18	3.10	61.22	6.54	5.09	145.20	2.65	122.63	CLOSED	#1-NORMAL	24	40		61.2	5.40	5.27	0.97
10/1/14 19:41	1213	1796.67	0.00	0.00	1963.95	1970.16	0.98		358.19	3.10	61.22	6.53	5.09	145.20	2.66	122.70	CLOSED	#1-NORMAL	24	40		61.2	5.41	5.26	0.97
10/1/14 19:42	1450	1796.67	0.00	0.00	1963.42	1970.10	0.98		358.23	3.10	61.22	6.59	5.09	145.20	2.68	122.78	CLOSED	#1-NORMAL	24	40		61.2	5.41	5.26	0.97
10/1/14 19:43	1450	1796.67	0.00	0.00	1962.86	1970.03	0.97		358.24	3.10	61.22	6.60	5.09	145.20	2.68	122.85	CLOSED	#1-NORMAL	24	40		61.2	5.42	5.26	0.97
10/1/14 19:44	1627	1796.67	0.00	0.00	1962.37	1969.87	0.97		358.21	3.10	61.22	6.75	5.09	145.19	2.69	122.93	CLOSED	#1-NORMAL	24	40		61.2	5.43	5.26	0.97
10/1/14 19:45	1627	1796.67	0.00	0.00	1962.35	1969.59	0.96		358.19	3.10	61.22	6.31	5.09	145.17	2.70	123.00	CLOSED	#1-NORMAL	24	36		61.2	5.43	5.26	0.97
10/1/14 19:46	1627	1796.67	0.00	0.00	1962.57	1969.39	0.96		358.19	3.10	61.22	5.63	5.09	145.17	2.70	123.08	CLOSED	#1-NORMAL	24	34		61.2	5.42	5.25	0.97
10/1/14 19:47	1627	1796.67	0.00	0.00	1962.69	1969.19	0.95		358.21	3.10	61.22	5.14	5.09	145.17	2.70	123.15	CLOSED	#1-NORMAL	24	40		61.2	5.42	5.25	0.97
10/1/14 19:48	1627	1796.67	0.00	0.00	1962.89	1969.00	0.95		358.21	3.10	61.22	5.41	5.09	145.17	2.70	123.22	CLOSED	#1-NORMAL	24	27		61.2	5.42	5.25	0.97
10/1/14 19:49	1627	1796.67	0.00	0.00	1963.00	1968.96	0.94		358.20	3.10	61.22	4.85	5.09	145.17	2.70	123.28	CLOSED	#1-NORMAL	24	22		61.2	5.41	5.25	0.97
10/1/14 19:50	1627	1796.67	0.00	0.00	1962.93	1969.06	0.94		358.20	3.10	61.22	4.90	5.09	145.18	2.70	123.34	CLOSED	#1-NORMAL	24	22		61.2	5.40	5.25	0.97
10/1/14 19:51	1627	1796.67	0.00	0.00	1962.73	1969.24	0.93		358.21	3.10	61.22	4.96	5.09	145.18	2.70	123.39	CLOSED	#1-NORMAL	24	21		61.2	5.40	5.25	0.97
10/1/14 19:52	1627	1796.67	0.00	0.00	1962.41	1969.44	0.93		358.21	3.10	61.22	4.96	5.08	145.18	2.71	123.44	CLOSED	#1-NORMAL	24	20		61.2	5.40	5.24	0.97
10/1/14 19:53	1627	1796.67	0.00	0.00	1962.05	1969.59	0.92		358.19	3.10	61.22	4.81	5.08	145.18	2.71	123.49	CLOSED	#1-NORMAL	24	18		61.2	5.40	5.24	0.97
10/1/14 19:54	1627	1796.67	0.00	0.00	1961.70	1969.52	0.92		358.18	3.10	61.22	5.67	5.08	145.18	2.71	123.54	CLOSED	#1-NORMAL	24	28		61.2	5.40	5.24	0.97

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHInTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmel	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 19:55	1627	1796.67	0.00	0.00	1961.30	1969.63	0.91	358.20	3.10	61.22	5.33	5.08	145.18	2.72	123.59	CLOSED	#1-NORMAL	24	23		61.2	5.40	5.24	0.97
10/1/14 19:56	1797	1796.67	0.00	0.00	1960.76	1969.91	0.90	358.25	3.10	61.22	5.54	5.08	145.18	2.72	123.64	CLOSED	#1-NORMAL	24	25		61.2	5.41	5.24	0.97
10/1/14 19:57	1797	1796.67	0.00	0.00	1960.28	1970.18	0.90	358.29	3.10	61.22	5.61	5.08	145.18	2.73	123.70	CLOSED	#1-NORMAL	24	24		61.2	5.41	5.24	0.97
10/1/14 19:58	1797	1796.67	0.00	0.00	1959.85	1970.28	0.89	358.28	3.10	61.22	5.68	5.07	145.18	2.73	123.75	CLOSED	#1-NORMAL	24	25		61.2	5.41	5.23	0.97
10/1/14 19:59	1797	1796.67	0.00	0.00	1959.39	1970.48	0.89	358.26	3.10	61.22	5.70	5.07	145.18	2.74	123.80	CLOSED	#1-NORMAL	24	24		61.2	5.42	5.23	0.97
10/1/14 20:00	0	1796.67	0.00	0.00	1959.08	1970.60	0.88	358.27	3.10	61.22	5.67	5.07	145.18	2.75	123.85	CLOSED	#1-NORMAL	24	20		61.2	5.43	5.23	0.97
10/1/14 20:01	0	1791.67	0.00	0.00	1958.82	1970.62	0.88	358.30	3.10	61.22	6.01	5.07	145.17	2.76	123.90	CLOSED	#1-NORMAL	24	34		61.2	5.45	5.23	0.97
10/1/14 20:02	203	1791.67	0.00	0.00	1958.67	1970.54	0.87	358.32	3.10	61.22	5.82	5.07	145.18	2.76	123.95	CLOSED	#1-NORMAL	24	20		61.2	5.46	5.23	0.97
10/1/14 20:03	203	1791.67	0.00	0.00	1958.60	1970.39	0.86	358.32	3.10	61.22	5.29	5.07	145.18	2.76	124.00	CLOSED	#1-NORMAL	24	20		61.2	5.46	5.22	0.97
10/1/14 20:04	203	1791.67	0.00	0.00	1958.41	1970.31	0.86	358.31	3.10	61.22	5.32	5.07	145.18	2.76	124.06	CLOSED	#1-NORMAL	24	18		61.2	5.47	5.22	0.97
10/1/14 20:05	203	1791.67	0.00	0.00	1958.20	1970.32	0.85	358.32	3.10	61.22	5.46	5.07	145.18	2.76	124.12	CLOSED	#1-NORMAL	24	20		61.2	5.47	5.22	0.97
10/1/14 20:06	203	1791.67	0.00	0.00	1958.00	1970.46	0.85	358.35	3.10	61.22	5.85	5.07	145.18	2.77	124.18	CLOSED	#1-NORMAL	24	31		61.2	5.49	5.22	0.97
10/1/14 20:07	203	1791.67	0.00	0.00	1957.68	1970.83	0.84	358.39	3.10	61.22	6.70	5.07	145.18	2.78	124.24	CLOSED	#1-NORMAL	24	37		61.2	5.50	5.22	0.97
10/1/14 20:08	203	1791.67	0.00	0.00	1957.27	1971.22	0.84	358.42	3.10	61.22	6.75	5.07	145.18	2.80	124.29	CLOSED	#1-NORMAL	24	40		61.2	5.52	5.22	0.97
10/1/14 20:09	398	1791.67	0.00	0.00	1956.75	1971.59	0.84	358.44	3.10	61.22	6.86	5.07	145.18	2.81	124.34	CLOSED	#1-NORMAL	24	36		61.2	5.54	5.21	0.96
10/1/14 20:10	398	1791.67	0.00	0.00	1956.00	1971.95	0.84	358.47	3.10	61.22	6.18	5.07	145.18	2.82	124.40	CLOSED	#1-NORMAL	24	38		61.2	5.54	5.21	0.96
10/1/14 20:11	398	1791.67	0.00	0.00	1955.19	1972.21	0.84	358.53	3.10	61.22	5.79	5.07	145.18	2.84	124.46	CLOSED	#1-NORMAL	24	40		61.2	5.55	5.21	0.96
10/1/14 20:12	398	1791.67	0.00	0.00	1954.31	1972.31	0.84	358.58	3.10	61.22	5.85	5.07	145.18	2.85	124.53	CLOSED	#1-NORMAL	24	40		61.2	5.56	5.21	0.96
10/1/14 20:13	398	1791.67	0.00	0.00	1953.21	1972.57	0.84	358.59	3.10	61.22	5.90	5.07	145.18	2.87	124.59	CLOSED	#1-NORMAL	24	40		61.2	5.57	5.21	0.96
10/1/14 20:14	398	1791.67	0.00	0.00	1952.02	1972.86	0.84	358.60	3.10	61.22	5.99	5.07	145.18	2.88	124.67	CLOSED	#1-NORMAL	24	40		61.2	5.57	5.21	0.96
10/1/14 20:15	398	1791.67	0.00	0.00	1950.74	1972.88	0.84	358.64	3.10	61.22	6.11	5.07	145.19	2.90	124.74	CLOSED	#1-NORMAL	24	39		61.2	5.58	5.20	0.96
10/1/14 20:16	588	1791.67	0.00	0.00	1949.46	1973.09	0.84	358.69	3.10	61.22	6.17	5.07	145.19	2.90	124.82	CLOSED	#1-NORMAL	24	39		61.2	5.59	5.20	0.96
10/1/14 20:17	588	1791.67	0.00	0.00	1948.29	1973.42	0.84	358.70	3.10	61.22	6.12	5.07	145.19	2.92	124.90	CLOSED	#1-NORMAL	24	38		61.2	5.59	5.20	0.96
10/1/14 20:18	588	1791.67	0.00	0.00	1947.12	1973.47	0.84	358.68	3.10	61.22	6.16	5.07	145.19	2.93	124.98	CLOSED	#1-NORMAL	Start#4M29	37		61.2	5.60	5.20	0.96
10/1/14 20:19	588	1791.67	0.00	0.00	1945.99	1973.68	0.83	358.69	3.10	61.22	6.30	5.06	145.19	2.94	125.06	CLOSED	#1-NORMAL	24	36		61.2	5.61	5.20	0.96
10/1/14 20:20	588	1791.67	0.00	0.00	1944.94	1973.97	0.83	358.72	3.10	61.22	6.40	5.06	145.19	2.95	125.14	CLOSED	#1-NORMAL	24	37		61.2	5.62	5.20	0.96
10/1/14 20:21	737	1791.67	0.00	0.00	1943.86	1974.00	0.83	358.73	3.10	61.22	6.45	5.06	145.20	2.97	125.22	CLOSED	#1-NORMAL	24	36		61.2	5.63	5.19	0.96
10/1/14 20:22	737	1791.67	0.00	0.00	1942.79	1974.18	0.83	358.70	3.10	61.22	6.36	5.06	145.20	2.98	125.30	CLOSED	#1-NORMAL	24	33		61.2	5.64	5.19	0.96
10/1/14 20:23	737	1791.67	0.00	0.00	1941.79	1974.49	0.83	358.70	3.10	61.22	6.46	5.06	145.20	2.99	125.38	CLOSED	#1-NORMAL	24	35		61.2	5.64	5.19	0.96
10/1/14 20:24	737	1791.67	0.00	0.00	1940.83	1974.52	0.83	358.72	3.10	61.22	6.70	5.06	145.20	3.00	125.45	CLOSED	#1-NORMAL	24	36		61.2	5.65	5.19	0.96
10/1/14 20:25	737	1791.67	0.00	0.00	1939.88	1974.64	0.83	358.72	3.10	61.22	6.54	5.06	145.21	3.02	125.53	CLOSED	#1-NORMAL	24	38		61.2	5.67	5.19	0.95
10/1/14 20:26	737	1791.67	0.00	0.00	1938.94	1974.81	0.83	358.68	3.10	61.22	6.52	5.06	145.21	3.03	125.60	CLOSED	#1-NORMAL	24	38		61.2	5.68	5.18	0.95
10/1/14 20:27	737	1791.67	0.00	0.00	1937.99	1974.74	0.83	358.65	3.10	61.22	6.51	5.06	145.21	3.04	125.67	CLOSED	#1-NORMAL	24	39		61.2	5.69	5.18	0.95
10/1/14 20:28	977	1791.67	0.00	0.00	1937.01	1974.67	0.83	358.67	3.10	61.22	6.39	5.05	145.21	3.05	125.74	CLOSED	#1-NORMAL	24	32		61.2	5.71	5.18	0.95
10/1/14 20:29	977	1791.67	0.00	0.00	1935.99	1974.70	0.83	358.73	3.10	61.22	6.26	5.05	145.21	3.06	125.80	CLOSED	#1-NORMAL	24	33		61.2	5.72	5.18	0.95
10/1/14 20:30	977	1791.67	0.00	0.00	1934.98	1974.90	0.83	358.76	3.10	61.22	6.22	5.04	145.22	3.07	125.87	CLOSED	#1-NORMAL	24	33		61.2	5.73	5.18	0.95
10/1/14 20:31	977	1791.67	0.00	0.00	1934.04	1974.97	0.83	358.76	3.10	61.22	6.04	5.04	145.22	3.08	125.94	CLOSED	#1-NORMAL	24	29		61.2	5.74	5.18	0.95
10/1/14 20:32	977	1791.67	0.00	0.00	1933.07	1975.03	0.83	358.78	3.10	61.22	6.14	5.03	145.22	3.09	126.00	CLOSED	#1-NORMAL	24	30		61.2	5.75	5.17	0.95
10/1/14 20:33	977	1791.67	0.00	0.00	1932.17	1975.20	0.83	358.83	3.10	61.22	6.20	5.03	145.22	3.10	126.06	CLOSED	#1-NORMAL	24	28		61.2	5.76	5.17	0.95
10/1/14 20:34	977	1791.67	0.00	0.00	1931.30	1975.22	0.83	358.88	3.10	61.22	6.50	5.02	145.23	3.11	126.12	CLOSED	#1-NORMAL	24	25		61.2	5.77	5.17	0.95
10/1/14 20:35	1165	1791.67	0.00	0.00	1930.53	1975.13	0.83	358.89	3.10	61.22	4.48	5.01	145.23	3.12	126.18	CLOSED	#1-NORMAL	24	22		61.2	5.78	5.17	0.95
10/1/14 20:36	1165	1791.67	0.00	0.00	1929.85	1975.14	0.83	358.89	3.10	61.22	4.17	5.00	145.23	3.12	126.24	CLOSED	#1-NORMAL	24	19		61.2	5.77	5.17	0.95
10/1/14 20:37	1165	1791.67	0.00	0.00	1929.21	1975.00	0.83	358.88	3.10	61.22	3.97	5.00	145.24	3.12	126.29	CLOSED	#1-NORMAL	24	21		61.2	5.77	5.17	0.95
10/1/14 20:38	1165	1791.67	0.00	0.00	1928.47	1974.92	0.83	358.89	3.10	61.22	4.86	4.99	145.24	3.13	126.35	CLOSED	#1-NORMAL	24	22		61.2	5.77	5.16	0.94
10/1/14 20:39	1165	1791.67	0.00	0.00	1927.69	1975.02	0.83	358.93	3.10	61.22	4.33	4.98	145.24	3.14	126.41	CLOSED	#1-NORMAL	24	20		61.2	5.78	5.16	0.94
10/1/14 20:40	1165	1791.67	0.00	0.00	1926.90	1975.12	0.83	358.96	3.10	61.22	4.87	4.97	145.25	3.15	126.47	CLOSED	#1-NORMAL	24	30		61.2	5.78	5.16	0.94
10/1/14 20:41	1335	1791.67	0.00	0.00	1926.11	1975.24	0.83	358.98	3.10	61.22	4.65	4.97	145.25	3.16	126.53	CLOSED	#1-NORMAL	24	20		61.2	5.79	5.16	0.94
10/1/14 20:42	1335	1791.67	0.00	0.00	1925.56	1975.23	0.84	359.00	3.10	61.22	4.42	4.96	145.26	3.16	126.58	CLOSED	#1-NORMAL	24	20		61.2	5.79	5.16	0.94
10/1/14 20:43	1335	1791.67	0.00	0.00	1925.18	1975.14	0.84	359.03	3.10	61.22	4.57	4.96	145.26	3.16	126.64	CLOSED	#1-NORMAL	24	21		61.2	5.78	5.15	0.94
10/1/14 20:44	1335	1791.67	0.00	0.00	1924.88	1974.97	0.84	359.08	3.10	61.22	4.70	4.96	145.27	3.16	126.69	CLOSED	#1-NORMAL	24	21		61.2	5.78	5.15	0.94
10/1/14 20:45	1335	1791.67	0.00	0.00	1924.76	1974.63	0.84	359.12	3.10	61.22	4.74	4.96	145.27	3.16	126.74	CLOSED	#1-NORMAL	24	21		61.2	5.78	5.15	0.94
10/1/14 20:46	1335	1791.67	0.00	0.00	1924.69	1974.25	0.84	359.13	3.10	61.22	4.81	4.96	145.28	3.16	126.80	CLOSED	#1-NORMAL	24	22		61.2	5.77	5.15	0.94
10/1/14 20:47	1570	1791.67	0.00	0.00	1924.65	1973.93	0.85	359.09	3.10	61.22	5.64	4.96	145.28	3.16	126.86	CLOSED	#1-NORMAL	24	22		61.2	5.76	5.15	0.94
10/1/14 20:48	1570	1791.67	0.00	0.00	1924.77	1973.67	0.85	359.06	3.10	61.22	4.87	4.96	145.29	3.16	126.92	CLOSED	#1-NORMAL	24	20		61.2	5.75	5.14	0.94
10/1/14 20:49	1570	1791.67	0.00	0.00	1924.90	1973.60	0.85	359.07	3.10	61.22	5.00	4.97	145.29	3.15	126.97	CLOSED	#1-NORMAL	24	22		61.2	5.74	5.14	0.94
10/1/14 20:50	1570	1791.67	0.00	0.00	1924.97	1973.65	0.85	359.11	3.10	61.22	5.25	4.97	145.30	3.15	127.02	CLOSED	#1-NORMAL	24	24		61.2	5.73	5.14	0.94
10/1/14 20:51	1570	1791.67	0.00	0.00	1925.05	1973.67	0.85	359.12	3.10	61.22	5.32	4.97	145.31	3.14	127.06	CLOSED	#1-NORMAL	24	24		61.2	5.73	5.14	0.94
10/1/14 20:52	1570	1791.67	0.00	0.00	1925.12	1973.64	0.86	359.09	3.10	61.22	5.36	4.97	145.31	3.14	127.10	CLOSED	#1-NORMAL	24	24		61.2	5.72	5.14	0.94
10/1/14 20:53	1570	1791.67	0.00	0.00	1925.24	1973.53	0.86	359.06	3.10	61.22	5.90	4.98	145.32	3.14	127.15	CLOSED	#1-NORMAL	24	34		61.2	5.71	5.13	0.93
10/1/14 20:54	1784	1791.67	0.00	0.00	1925.39	1973.46	0.86	359.07	3.10	61.22	5.73	4.98	145.32	3.13	127.19	CLOSED	#1-NORMAL	24	25		61.2	5.71	5.13	0.93
10/1/14 20:55	1784	1791.67	0.00	0.00	1925.45	1973.51	0.86	359.11	3.10	61.22	5.91	4.98	145.33	3.12	127.22	CLOSED	#1-NORMAL	24	27		61.2	5.70	5.13	0.93
10/1/14 20:56	1784	1791.67	0.00	0.00	1925.49	1973.67	0.86	359.12	3.10	61.22	6.22	4.98	145.33	3.12	127.25	CLOSED	#1-NORMAL	24	32		61.2	5.70	5.13	0.93
10/1/14 20:57	1784	1791.67	0.00	0.00	1925.48	1973.97	0.87	359.10	3.10	61.22	6.45	4.98	145.34	3.11	127.27	CLOSED	#1-NORMAL	24	32		61.2	5.70	5.12	0.93
10/1/14 20:58	1784	1791.67	0.00	0.00	1925.28	1974.38	0.87	359.08	3.10	61.22	6.62	4.99	145.34	3.11	127.29	CLOSED	#1-NORMAL	24	33		61.2	5.71	5.12	0.93
10/1/14 20:59	1784	1791.67	0.00	0.00	1925.09	1974.73	0.87	359.10	3.10	61.22	6.70	4.99	145.35	3.11	127.30	CLOSED	#1-NORMAL	24	37		61.2	5.72	5.12	0.93
10/1/14 21:00	0	1791.67	0.00	0.00	1924.89	1975.03	0.87	359.13	3.10	61.22	6.68	4.99	145.35	3.11	127.31	CLOSED	#1-NORMAL	24	38		61.2	5.73	5.12	0.93
10/1/14 21:01	0	1793.67	0.00	0.00	1924.64	1975.24	0.87	359.12	3.10	61.22	6.63	5.00	145.36	3.12	127.32	CLOSED	#1-NORMAL	24	40		61.2	5.74	5.12	0.93
10/1/14 21:02	242	1793.67	0.00	0.00	1924.39	1975.33	0.87	359.12	3.10	61.22	6.70	5.00	145.36	3.12	127.34	CLOSED	#1-NORMAL	24	40		61.2	5.76	5.12	0.93
10/1/14 21:03	242	1793.67	0.00	0.00	1924.08	1975.43	0.87	359.12	3.10	61.22	6.73	5.00	145.37	3.13	127.37	CLOSED	#1-NORMAL	24	40		61.2	5.77	5.11	0.93
10/1/14 21:04	242	1793.67	0.00	0.00	1923.71	1975.53	0.88	359.13	3.10	61.22	6.68	5.01	145.37	3.13	127.39	CLOSED	#1-NORMAL	24	40		61.2	5.78	5.11	0.93
10/1/14 21:05	242	1793.67	0.00	0.00	1923.31	1975.57	0.88	359.12	3.10	61.22	6.56	5.01	145.38	3.14	127.42	CLOSED	#1-NORMAL	24	40		61.2	5.79	5.11	0.93
10/1/14 21:06	242	1793.67	0.00	0.00	1922.83	1975.59	0.88	359.12	3.10	61.22	6.60	5.01	145.38	3.15	127.45	CLOSED	#1-NORMAL	24	40		61.2	5.81	5.11	0.93
10/1/14 21:07	433	1793.67	0.00	0.00	1922.32	1975.57	0.88	359.13	3.10	61.22	6.66	5.01	145.39	3.15	127.49	CLOSED	#1-NORMAL	24	40		61.2			

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BhInTemp	Carbon	Ume	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmet	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 21:08	433	1793.67	0.00	0.00	1921.94	1975.40	0.88	359.16	3.10	61.22	6.49	5.02	145.39	3.16	127.51	CLOSED	#1-NORMAL	24	40		61.2	5.82	5.11	0.93
10/1/14 21:09	433	1793.67	0.00	0.00	1921.58	1975.20	0.87	359.14	3.10	61.22	6.51	5.02	145.40	3.17	127.54	CLOSED	#1-NORMAL	24	40		61.2	5.83	5.11	0.93
10/1/14 21:10	433	1793.67	0.00	0.00	1921.23	1975.01	0.87	359.10	3.10	61.22	6.27	5.02	145.40	3.17	127.57	CLOSED	#1-NORMAL	24	40		61.2	5.84	5.10	0.93
10/1/14 21:11	433	1793.67	0.00	0.00	1920.84	1974.94	0.87	359.10	3.10	61.22	6.43	5.02	145.41	3.17	127.60	CLOSED	#1-NORMAL	24	40		61.2	5.85	5.10	0.93
10/1/14 21:12	433	1793.67	0.00	0.00	1920.33	1975.06	0.87	359.13	3.10	61.22	6.57	5.03	145.41	3.18	127.62	CLOSED	#1-NORMAL	24	40		61.2	5.86	5.10	0.93
10/1/14 21:13	433	1793.67	0.00	0.00	1919.80	1975.22	0.87	359.16	3.10	61.22	6.83	5.03	145.42	3.19	127.65	CLOSED	#1-NORMAL	24	40		61.2	5.87	5.10	0.92
10/1/14 21:14	647	1793.67	0.00	0.00	1919.28	1975.43	0.86	359.15	3.10	61.22	6.75	5.03	145.42	3.21	127.68	CLOSED	#1-NORMAL	24	40		61.2	5.89	5.10	0.92
10/1/14 21:15	647	1793.67	0.00	0.00	1918.66	1975.76	0.86	359.12	3.10	61.22	6.88	5.04	145.43	3.22	127.71	CLOSED	#1-NORMAL	24	40		61.2	5.90	5.10	0.92
10/1/14 21:16	647	1793.67	0.00	0.00	1917.96	1976.13	0.86	359.11	3.10	61.22	6.33	5.04	145.43	3.23	127.74	CLOSED	#1-NORMAL	24	40		61.2	5.92	5.10	0.92
10/1/14 21:17	647	1793.67	0.00	0.00	1917.17	1976.33	0.86	359.13	3.10	61.22	5.69	5.04	145.44	3.23	127.76	CLOSED	#1-NORMAL	24	40		61.2	5.92	5.09	0.92
10/1/14 21:18	647	1793.67	0.00	0.00	1916.26	1976.60	0.86	359.12	3.10	61.22	5.80	5.05	145.44	3.25	127.79	CLOSED	#1-NORMAL	24	40		61.2	5.93	5.09	0.92
10/1/14 21:19	647	1793.67	0.00	0.00	1915.33	1976.88	0.85	359.11	3.10	61.22	5.80	5.05	145.44	3.26	127.81	CLOSED	#1-NORMAL	24	40		61.2	5.93	5.09	0.92
10/1/14 21:20	864	1793.67	0.00	0.00	1914.38	1976.88	0.85	359.13	3.10	61.22	5.84	5.05	145.45	3.27	127.84	CLOSED	#1-NORMAL	24	40		61.2	5.94	5.09	0.92
10/1/14 21:21	864	1793.67	0.00	0.00	1913.40	1976.88	0.85	359.17	3.10	61.22	5.97	5.06	145.45	3.28	127.86	CLOSED	#1-NORMAL	24	40		61.2	5.95	5.09	0.92
10/1/14 21:22	864	1793.67	0.00	0.00	1912.48	1976.86	0.85	359.22	3.10	61.22	6.07	5.06	145.45	3.29	127.88	CLOSED	#1-NORMAL	24	40		61.2	5.96	5.09	0.92
10/1/14 21:23	864	1793.67	0.00	0.00	1911.58	1976.86	0.85	359.21	3.10	61.22	6.04	5.06	145.46	3.30	127.89	CLOSED	#1-NORMAL	24	40		61.2	5.97	5.09	0.92
10/1/14 21:24	864	1793.67	0.00	0.00	1910.66	1976.83	0.85	359.19	3.10	61.22	6.09	5.06	145.47	3.30	127.91	CLOSED	#1-NORMAL	24	40		61.2	5.97	5.09	0.92
10/1/14 21:25	864	1793.67	0.00	0.00	1909.76	1976.73	0.85	359.18	3.10	61.22	6.21	5.07	145.47	3.31	127.93	CLOSED	#1-NORMAL	24	40		61.2	5.98	5.09	0.92
10/1/14 21:26	1073	1793.67	0.00	0.00	1908.84	1976.60	0.84	359.19	3.10	61.22	6.29	5.07	145.47	3.32	127.95	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.08	0.92
10/1/14 21:27	1073	1793.67	0.00	0.00	1907.98	1976.40	0.84	359.19	3.10	61.22	6.11	5.07	145.48	3.32	127.97	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.08	0.92
10/1/14 21:28	1073	1793.67	0.00	0.00	1907.15	1976.11	0.84	359.19	3.10	61.22	5.92	5.08	145.48	3.33	127.98	CLOSED	#1-NORMAL	24	37		61.2	5.99	5.08	0.91
10/1/14 21:29	1073	1793.67	0.00	0.00	1906.27	1975.83	0.84	359.18	3.10	61.22	5.94	5.08	145.49	3.32	128.00	CLOSED	#1-NORMAL	24	34		61.2	5.99	5.08	0.91
10/1/14 21:30	1073	1793.67	0.00	0.00	1905.20	1975.57	0.84	359.19	3.10	61.22	5.83	5.08	145.49	3.32	128.02	CLOSED	#1-NORMAL	24	31		61.2	5.99	5.08	0.91
10/1/14 21:31	1073	1793.67	0.00	0.00	1903.88	1975.39	0.84	359.18	3.10	61.22	5.71	5.08	145.50	3.32	128.03	CLOSED	#1-NORMAL	24	26		61.2	5.99	5.08	0.91
10/1/14 21:32	1073	1793.67	0.00	0.00	1902.30	1975.30	0.83	359.16	3.10	61.22	5.97	5.09	145.50	3.32	128.04	CLOSED	#1-NORMAL	24	36		61.2	5.99	5.08	0.91
10/1/14 21:33	1302	1793.67	0.00	0.00	1900.65	1975.25	0.83	359.16	3.10	61.22	6.02	5.09	145.51	3.32	128.05	CLOSED	#1-NORMAL	24	29		61.2	5.99	5.08	0.91
10/1/14 21:34	1302	1793.67	0.00	0.00	1898.85	1975.36	0.83	359.18	3.10	61.22	6.26	5.09	145.51	3.32	128.04	CLOSED	#1-NORMAL	24	36		61.2	5.98	5.08	0.91
10/1/14 21:35	1302	1793.67	0.00	0.00	1896.95	1975.57	0.83	359.19	3.10	61.22	6.70	5.10	145.52	3.32	128.04	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.08	0.91
10/1/14 21:36	1302	1793.67	0.00	0.00	1895.03	1975.73	0.83	359.17	3.10	61.22	6.65	5.10	145.52	3.32	128.03	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.08	0.91
10/1/14 21:37	1302	1793.67	0.00	0.00	1893.14	1975.78	0.83	359.15	3.10	61.22	6.59	5.10	145.53	3.32	128.01	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.08	0.91
10/1/14 21:38	1302	1793.67	0.00	0.00	1891.50	1975.77	0.83	359.17	3.10	61.22	6.70	5.10	145.53	3.32	127.99	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.08	0.91
10/1/14 21:39	1302	1793.67	0.00	0.00	1889.95	1975.71	0.82	359.20	3.10	61.22	6.73	5.11	145.54	3.33	127.97	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.07	0.91
10/1/14 21:40	1506	1793.67	0.00	0.00	1888.36	1975.59	0.82	359.19	3.10	61.22	6.69	5.11	145.54	3.33	127.95	CLOSED	#1-NORMAL	24	40		61.2	5.99	5.07	0.91
10/1/14 21:41	1506	1793.67	0.00	0.00	1886.76	1975.43	0.82	359.15	3.10	61.22	6.46	5.12	145.55	3.33	127.94	CLOSED	#1-NORMAL	24	27		61.2	5.99	5.07	0.90
10/1/14 21:42	1506	1793.67	0.00	0.00	1885.21	1975.39	0.82	359.14	3.10	61.22	6.47	5.12	145.55	3.32	127.92	CLOSED	#1-NORMAL	24	28		61.2	5.99	5.07	0.90
10/1/14 21:43	1506	1793.67	0.00	0.00	1883.65	1975.48	0.82	359.17	3.10	61.22	6.68	5.12	145.56	3.31	127.92	CLOSED	#1-NORMAL	24	28		61.2	5.99	5.07	0.90
10/1/14 21:44	1506	1793.67	0.00	0.00	1882.13	1975.57	0.82	359.20	3.10	61.22	6.80	5.12	145.56	3.31	127.91	CLOSED	#1-NORMAL	24	29		61.2	5.99	5.07	0.90
10/1/14 21:45	1506	1793.67	0.00	0.00	1880.65	1975.63	0.82	359.16	3.10	61.22	6.80	5.13	145.57	3.30	127.90	CLOSED	#1-NORMAL	24	28		61.2	5.99	5.07	0.90
10/1/14 21:46	1668	1793.67	0.00	0.00	1879.11	1975.66	0.82	359.13	3.10	61.22	6.61	5.13	145.57	3.29	127.89	CLOSED	#1-NORMAL	24	24		61.2	5.99	5.07	0.90
10/1/14 21:47	1668	1793.67	0.00	0.00	1877.46	1975.64	0.81	359.14	3.10	61.22	6.54	5.13	145.57	3.28	127.88	CLOSED	#1-NORMAL	24	22		61.2	5.99	5.07	0.90
10/1/14 21:48	1668	1793.67	0.00	0.00	1875.59	1975.67	0.81	359.19	3.10	61.22	6.52	5.14	145.58	3.27	127.87	CLOSED	#1-NORMAL	24	21		61.2	5.99	5.07	0.90
10/1/14 21:49	1668	1793.67	0.00	0.00	1873.68	1975.79	0.81	359.19	3.10	61.22	6.56	5.14	145.58	3.26	127.86	CLOSED	#1-NORMAL	24	22		61.2	5.99	5.07	0.90
10/1/14 21:50	1668	1793.67	0.00	0.00	1871.90	1975.91	0.81	359.15	3.10	61.22	6.59	5.14	145.59	3.25	127.85	CLOSED	#1-NORMAL	24	18		61.2	5.99	5.07	0.90
10/1/14 21:51	1668	1793.67	0.00	0.00	1870.09	1976.10	0.81	359.13	3.10	61.22	6.49	5.15	145.59	3.24	127.83	CLOSED	#1-NORMAL	24	17		61.2	5.99	5.07	0.89
10/1/14 21:52	1668	1793.67	0.00	0.00	1868.24	1976.30	0.81	359.16	3.10	61.22	6.69	5.15	145.59	3.23	127.81	CLOSED	#1-NORMAL	24	17		61.2	6.00	5.07	0.89
10/1/14 21:53	1800	1793.67	0.00	0.00	1866.35	1976.43	0.81	359.22	3.10	61.22	5.19	5.15	145.60	3.22	127.80	CLOSED	#1-NORMAL	24	28		61.2	5.99	5.07	0.89
10/1/14 21:54	1800	1793.67	0.00	0.00	1864.36	1976.41	0.81	359.22	3.10	61.22	5.27	5.15	145.60	3.21	127.79	CLOSED	#1-NORMAL	24	28		61.2	5.99	5.07	0.89
10/1/14 21:55	1800	1793.67	0.00	0.00	1862.26	1976.43	0.81	359.19	3.10	61.22	5.40	5.16	145.60	3.21	127.78	CLOSED	#1-NORMAL	24	27		61.2	5.98	5.07	0.89
10/1/14 21:56	1800	1793.67	0.00	0.00	1860.18	1976.50	0.81	359.16	3.10	61.22	5.60	5.16	145.61	3.21	127.77	CLOSED	#1-NORMAL	24	27		61.2	5.98	5.07	0.89
10/1/14 21:57	1800	1793.67	0.00	0.00	1858.46	1976.62	0.80	359.19	3.10	61.22	5.82	5.17	145.61	3.21	127.75	CLOSED	#1-NORMAL	24	28		61.2	5.99	5.07	0.89
10/1/14 21:58	1800	1793.67	0.00	0.00	1856.96	1976.72	0.80	359.25	3.10	61.22	6.06	5.17	145.61	3.22	127.73	CLOSED	#1-NORMAL	24	31		61.2	6.00	5.07	0.89
10/1/14 21:59	1800	1793.67	0.00	0.00	1855.54	1976.80	0.80	359.27	3.10	61.22	5.98	5.17	145.60	3.22	127.72	CLOSED	#1-NORMAL	24	27		61.2	6.00	5.07	0.89
10/1/14 22:00	226	1793.67	0.00	0.00	1854.15	1976.95	0.80	359.28	3.10	61.22	5.98	5.17	145.61	3.22	127.72	CLOSED	#1-NORMAL	24	25		61.2	6.01	5.07	0.88
10/1/14 22:01	226	1787.33	0.00	0.00	1852.81	1977.14	0.80	359.32	3.10	61.22	6.21	5.18	145.61	3.22	127.71	CLOSED	#1-NORMAL	24	24		61.2	6.02	5.07	0.88
10/1/14 22:02	226	1787.33	0.00	0.00	1851.52	1977.34	0.80	359.38	3.10	61.22	6.28	5.18	145.61	3.22	127.70	CLOSED	#1-NORMAL	24	27		61.2	6.03	5.07	0.88
10/1/14 22:03	226	1787.33	0.00	0.00	1850.24	1977.57	0.80	359.41	3.10	61.22	6.36	5.18	145.61	3.22	127.71	CLOSED	#1-NORMAL	24	26		61.2	6.03	5.07	0.88
10/1/14 22:04	226	1787.33	0.00	0.00	1849.02	1977.58	0.80	359.41	3.10	61.22	6.35	5.19	145.61	3.22	127.71	CLOSED	#1-NORMAL	24	27		61.2	6.04	5.07	0.88
10/1/14 22:05	226	1787.33	0.00	0.00	1847.84	1977.67	0.80	359.41	3.10	61.22	6.66	5.19	145.61	3.22	127.72	CLOSED	#1-NORMAL	24	25		61.2	6.05	5.07	0.88
10/1/14 22:06	415	1787.33	0.00	0.00	1846.88	1977.78	0.80	359.44	3.10	61.22	6.79	5.19	145.61	3.22	127.73	CLOSED	#1-NORMAL	24	25		61.2	6.06	5.07	0.88
10/1/14 22:07	415	1787.33	0.00	0.00	1846.34	1977.67	0.80	359.46	3.10	61.22	6.71	5.19	145.61	3.22	127.74	CLOSED	#1-NORMAL	24	28		61.2	6.06	5.07	0.88
10/1/14 22:08	415	1787.33	0.00	0.00	1845.97	1977.52	0.80	359.44	3.10	61.22	6.62	5.20	145.61	3.22	127.75	CLOSED	#1-NORMAL	24	29		61.2	6.07	5.07	0.88
10/1/14 22:09	415	1787.33	0.00	0.00	1845.55	1977.32	0.81	359.40	3.10	61.22	6.70	5.20	145.61	3.22	127.76	CLOSED	#1-NORMAL	24	29		61.2	6.07	5.07	0.87
10/1/14 22:10	415	1787.33	0.00	0.00	1845.18	1977.07	0.81	359.39	3.10	61.22	6.76	5.20	145.61	3.21	127.77	CLOSED	#1-NORMAL	24	31		61.2	6.08	5.07	0.87
10/1/14 22:11	415	1787.33	0.00	0.00	1844.79	1976.91	0.81	359.42	3.10	61.22	6.80	5.21	145.61	3.21	127.78	CLOSED	#1-NORMAL	24	35		61.2	6.08	5.07	0.87
10/1/14 22:12	415	1787.33	0.00	0.00	1844.42	1976.77	0.81	359.43	3.10	61.22	6.76	5.21	145.61	3.21	127.80	CLOSED	#1-NORMAL	24	37		61.2	6.09	5.07	0.87
10/1/14 22:13	670	1787.33	0.00	0.00	1844.09	1976.63	0.81	359.40	3.10	61.22	6.64	5.21	145.61	3.21	127.81	CLOSED	#1-NORMAL	24	38		61.2	6.09	5.08	0.87
10/1/14 22:14	670	1787.33	0.00	0.00	1843.70	1976.55	0.81	359.38	3.10	61.22	6.70	5.22	145.62	3.21	127.82	CLOSED	#1-NORMAL	24	40		61.2	6.09	5.08	0.87
10/1/14 22:15	670	1787.33	0.00	0.00	1843.29	1976.45	0.81	359.38	3.10	61.22	6.71	5.22	145.62	3.21	127.84	CLOSED	#1-NORMAL	24	40		61.2	6.09	5.08	0.87
10/1/14 22:16	670	1787.33	0.00	0.00	1842.89	1976.37	0.82	359.40	3.10	61.22	6.59	5.23	145.62	3.21	127.85	CLOSED	#1-NORMAL	24	40		61.2	6.09	5.08	0.87
10/1/14 22:17	670	1787.33	0.00	0.00	1842.37	1976.38	0.82	359.40	3.10	61.22	6.56	5.23	145.62	3.21	127.86	CLOSED	#1-NORMAL	24	40		61.2	6.09	5.08	0.87
10/1/14 22:18	920	1787.33	0.00	0.00	1841.79	1976.45	0.82	359.38	3.10	61.22	6.72	5.23	145.63	3.21	127.87	CLOSED	#1-NORMAL	24	40		61.2	6.09	5.08	0.87
10/1/14 22:19	920	1787.33	0.00	0.00	1841.16	1976.52	0.82	359.37	3.10	61.22	6.71	5.24	145.63	3.21	127.87	CLOSED	#1-NORMAL	24	40		61.2	6.09	5.08	0.86
10/1/14 22:20	920	1787.33	0.00	0.00	1840.86	1976.51	0.82	359.39	3.10	61.22	4.86	5.24	145.64	3.21	127.86	CLOSED	#1-NORMAL	24	40		61.2	6.08	5.08	0.86

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHInTemp	Carbon	Ume	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	ammes	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 22:21	920	1787.33	0.00	0.00	1840.92	1976.38	0.82	359.40	3.10	61.22	4.99	5.24	145.65	3.21	127.86	CLOSED	#1-NORMAL	24	40		61.2	6.07	5.08	0.86
10/1/14 22:22	920	1787.33	0.00	0.00	1841.11	1976.34	0.82	359.40	3.10	61.22	5.04	5.24	145.66	3.21	127.85	CLOSED	#1-NORMAL	24	39		61.2	6.06	5.08	0.86
10/1/14 22:23	920	1787.33	0.00	0.00	1841.34	1976.36	0.83	359.39	3.10	61.22	5.16	5.25	145.66	3.21	127.84	CLOSED	#1-NORMAL	24	37		61.2	6.06	5.08	0.86
10/1/14 22:24	920	1787.33	0.00	0.00	1841.48	1976.37	0.83	359.39	3.10	61.22	5.30	5.25	145.67	3.21	127.84	CLOSED	#1-NORMAL	24	37		61.2	6.05	5.08	0.86
10/1/14 22:25	920	1787.33	0.00	0.00	1841.53	1976.43	0.83	359.40	3.10	61.22	5.27	5.26	145.68	3.22	127.84	CLOSED	#1-NORMAL	24	36		61.2	6.05	5.08	0.86
10/1/14 22:26	920	1787.33	0.00	0.00	1841.44	1976.51	0.83	359.40	3.10	61.22	5.27	5.26	145.69	3.22	127.85	CLOSED	#1-NORMAL	24	35		61.2	6.05	5.08	0.86
10/1/14 22:27	920	1787.33	0.00	0.00	1841.49	1976.52	0.83	359.41	3.10	61.22	5.43	5.27	145.70	3.22	127.85	CLOSED	#1-NORMAL	24	34		61.2	6.05	5.09	0.86
10/1/14 22:28	920	1787.33	0.00	0.00	1841.61	1976.46	0.83	359.42	3.10	61.22	5.50	5.27	145.71	3.22	127.85	CLOSED	#1-NORMAL	24	34		61.2	6.04	5.09	0.86
10/1/14 22:29	920	1787.33	0.00	0.00	1842.00	1976.32	0.84	359.41	3.10	61.22	5.52	5.27	145.72	3.22	127.86	CLOSED	#1-NORMAL	24	34		61.2	6.04	5.09	0.86
10/1/14 22:30	920	1787.33	0.00	0.00	1842.56	1976.19	0.84	359.39	3.10	61.22	5.61	5.28	145.73	3.21	127.87	CLOSED	#1-NORMAL	24	33		61.2	6.03	5.09	0.85
10/1/14 22:31	920	1787.33	0.00	0.00	1842.92	1976.08	0.84	359.40	3.10	61.22	5.63	5.28	145.74	3.21	127.89	CLOSED	#1-NORMAL	24	32		61.2	6.03	5.09	0.85
10/1/14 22:32	920	1787.33	0.00	0.00	1843.25	1975.94	0.84	359.43	3.10	61.22	5.68	5.28	145.75	3.21	127.91	CLOSED	#1-NORMAL	24	32		61.2	6.03	5.09	0.85
10/1/14 22:33	920	1787.33	0.00	0.00	1843.45	1975.89	0.84	359.41	3.10	61.22	5.70	5.28	145.76	3.21	127.93	CLOSED	#1-NORMAL	24	33		61.2	6.02	5.09	0.85
10/1/14 22:34	1156	1787.33	0.00	0.00	1843.55	1975.83	0.84	359.38	3.10	61.22	5.19	5.29	145.76	3.20	127.95	CLOSED	#1-NORMAL	24	23		61.2	6.01	5.09	0.85
10/1/14 22:35	1156	1787.33	0.00	0.00	1843.49	1975.81	0.84	359.38	3.10	61.22	5.09	5.29	145.78	3.19	127.96	CLOSED	#1-NORMAL	24	23		61.2	6.01	5.09	0.85
10/1/14 22:36	1156	1787.33	0.00	0.00	1843.04	1975.86	0.84	359.40	3.10	61.22	5.16	5.29	145.79	3.18	127.97	CLOSED	#1-NORMAL	24	23		61.2	6.00	5.09	0.85
10/1/14 22:37	1156	1787.33	0.00	0.00	1842.54	1975.99	0.85	359.40	3.10	61.22	5.36	5.30	145.80	3.17	127.98	CLOSED	#1-NORMAL	24	22		61.2	5.99	5.10	0.85
10/1/14 22:38	1156	1787.33	0.00	0.00	1842.25	1976.04	0.85	359.39	3.10	61.22	5.28	5.30	145.81	3.16	127.98	CLOSED	#1-NORMAL	24	20		61.2	5.98	5.10	0.85
10/1/14 22:39	1156	1787.33	0.00	0.00	1842.14	1976.03	0.85	359.38	3.10	61.22	4.99	5.31	145.82	3.15	127.98	CLOSED	#1-NORMAL	24	15		61.2	5.97	5.10	0.85
10/1/14 22:40	1156	1787.33	0.00	0.00	1842.14	1975.93	0.85	359.38	3.10	61.22	5.32	5.31	145.82	3.14	127.98	CLOSED	#1-NORMAL	24	20		61.2	5.97	5.10	0.85
10/1/14 22:41	1310	1787.33	0.00	0.00	1842.19	1975.80	0.85	359.39	3.10	61.22	4.90	5.31	145.83	3.12	127.98	CLOSED	#1-NORMAL	24	12		61.2	5.96	5.10	0.85
10/1/14 22:42	1310	1787.33	0.00	0.00	1842.35	1975.64	0.86	359.38	3.10	61.22	4.62	5.31	145.82	3.11	127.97	CLOSED	#1-NORMAL	24	10		61.2	5.95	5.10	0.85
10/1/14 22:43	1310	1787.33	0.00	0.00	1842.56	1975.50	0.86	359.37	3.10	61.22	4.87	5.32	145.82	3.09	127.97	CLOSED	#1-NORMAL	24	13		61.2	5.94	5.10	0.85
10/1/14 22:44	1310	1787.33	0.00	0.00	1842.68	1975.53	0.86	359.37	3.10	61.22	4.82	5.32	145.84	3.08	127.95	CLOSED	#1-NORMAL	24	11		61.2	5.93	5.10	0.84
10/1/14 22:45	1310	1787.33	0.00	0.00	1842.42	1975.70	0.87	359.37	3.10	61.22	5.02	5.32	145.86	3.06	127.94	CLOSED	#1-NORMAL	24	11		61.2	5.92	5.10	0.84
10/1/14 22:46	1310	1787.33	0.00	0.00	1841.90	1975.89	0.88	359.36	3.10	61.22	5.38	5.33	145.87	3.05	127.92	CLOSED	#1-NORMAL	24	12		61.2	5.92	5.11	0.84
10/1/14 22:47	1310	1787.33	0.00	0.00	1841.46	1976.15	0.88	359.37	3.10	61.22	6.17	5.33	145.87	3.04	127.91	CLOSED	#1-NORMAL	24	12		61.2	5.92	5.11	0.84
10/1/14 22:48	1507	1787.33	0.00	0.00	1840.96	1976.39	0.89	359.40	3.10	61.22	5.79	5.34	145.88	3.04	127.89	CLOSED	#1-NORMAL	24	15		61.2	5.93	5.11	0.84
10/1/14 22:49	1507	1787.33	0.00	0.00	1840.52	1976.54	0.89	359.40	3.10	61.22	5.73	5.34	145.87	3.03	127.88	CLOSED	#1-NORMAL	24	11		61.2	5.93	5.11	0.84
10/1/14 22:50	1507	1787.33	0.00	0.00	1840.26	1976.65	0.90	359.40	3.10	61.22	5.85	5.35	145.86	3.03	127.87	CLOSED	#1-NORMAL	24	10		61.2	5.94	5.11	0.84
10/1/14 22:51	1507	1787.33	0.00	0.00	1840.08	1976.80	0.90	359.40	3.10	61.22	6.26	5.35	145.87	3.02	127.85	CLOSED	#1-NORMAL	24	13		61.2	5.94	5.11	0.84
10/1/14 22:52	1507	1787.33	0.00	0.00	1839.80	1977.05	0.91	359.41	3.10	61.22	6.65	5.35	145.87	3.02	127.85	CLOSED	#1-NORMAL	24	14		61.2	5.95	5.11	0.84
10/1/14 22:53	1507	1787.33	0.00	0.00	1839.44	1977.31	0.91	359.41	3.10	61.22	6.65	5.35	145.88	3.02	127.84	CLOSED	#1-NORMAL	24	16		61.2	5.96	5.12	0.84
10/1/14 22:54	1716	1787.33	0.00	0.00	1838.98	1977.47	0.92	359.42	3.10	61.22	6.75	5.36	145.88	3.01	127.83	CLOSED	#1-NORMAL	24	16		61.2	5.97	5.12	0.84
10/1/14 22:55	1716	1787.33	0.00	0.00	1838.48	1977.53	0.93	359.44	3.10	61.22	6.81	5.36	145.89	3.01	127.84	CLOSED	#1-NORMAL	24	18		61.2	5.98	5.12	0.84
10/1/14 22:56	1716	1787.33	0.00	0.00	1838.06	1977.50	0.93	359.45	3.10	61.22	6.79	5.36	145.89	3.00	127.84	CLOSED	#1-NORMAL	24	21		61.2	5.98	5.12	0.84
10/1/14 22:57	1716	1787.33	0.00	0.00	1837.60	1977.45	0.94	359.42	3.10	61.22	6.73	5.37	145.90	3.00	127.85	CLOSED	#1-NORMAL	24	23		61.2	5.99	5.12	0.84
10/1/14 22:58	1778	1787.33	0.00	0.00	1837.11	1977.36	0.94	359.41	3.10	61.22	6.75	5.37	145.91	3.00	127.86	CLOSED	#1-NORMAL	24	25		61.2	6.00	5.12	0.84
10/1/14 22:59	1778	1787.33	0.00	0.00	1836.69	1977.22	0.95	359.44	3.10	61.22	6.78	5.37	145.91	3.00	127.88	CLOSED	#1-NORMAL	24	28		61.2	6.00	5.13	0.84
10/1/14 23:00	0	1787.33	0.00	0.00	1836.23	1977.08	0.95	359.46	3.10	61.22	6.27	5.38	145.92	3.01	127.90	CLOSED	#1-NORMAL	24	22		61.2	6.01	5.13	0.84
10/1/14 23:01	0	1783.00	0.00	0.00	1835.86	1976.89	0.96	359.42	3.10	61.22	5.11	5.38	145.93	3.00	127.92	CLOSED	#1-NORMAL	24	19		61.2	6.00	5.13	0.84
10/1/14 23:02	0	1783.00	0.00	0.00	1835.58	1976.67	0.97	359.38	3.10	61.22	4.88	5.38	145.94	3.00	127.93	CLOSED	#1-NORMAL	24	20		61.2	6.00	5.13	0.84
10/1/14 23:03	0	1783.00	0.00	0.00	1835.29	1976.68	0.97	359.40	3.10	61.22	5.68	5.39	145.94	3.00	127.93	CLOSED	#1-NORMAL	24	18		61.2	6.00	5.13	0.84
10/1/14 23:04	0	1783.00	0.00	0.00	1835.14	1976.76	0.98	359.46	3.10	61.22	5.16	5.39	145.95	3.00	127.94	CLOSED	#1-NORMAL	24	18		61.2	6.00	5.13	0.85
10/1/14 23:05	0	1783.00	0.00	0.00	1835.08	1976.71	0.98	359.46	3.10	61.22	5.08	5.40	145.95	3.00	127.94	CLOSED	#1-NORMAL	24	17		61.2	5.99	5.14	0.85
10/1/14 23:06	0	1783.00	0.00	0.00	1835.00	1976.54	0.99	359.41	3.10	61.22	5.44	5.40	145.96	3.00	127.94	CLOSED	#1-NORMAL	24	23		61.2	5.99	5.14	0.85
10/1/14 23:07	217	1783.00	0.00	0.00	1835.10	1976.11	0.99	359.38	3.10	61.22	4.80	5.40	145.97	2.99	127.94	CLOSED	#1-NORMAL	24	14		61.2	5.98	5.14	0.85
10/1/14 23:08	217	1783.00	0.00	0.00	1835.34	1975.58	0.99	359.39	3.10	61.22	4.70	5.41	145.98	2.98	127.94	CLOSED	#1-NORMAL	24	18		61.2	5.97	5.14	0.85
10/1/14 23:09	217	1783.00	0.00	0.00	1835.66	1975.29	0.99	359.42	3.10	61.22	5.41	5.41	145.98	2.97	127.95	CLOSED	#1-NORMAL	24	12		61.2	5.96	5.14	0.85
10/1/14 23:10	217	1783.00	0.00	0.00	1836.12	1975.10	0.99	359.42	3.10	61.22	4.43	5.41	145.99	2.95	127.94	CLOSED	#1-NORMAL	24	10		61.2	5.95	5.15	0.85
10/1/14 23:11	217	1783.00	0.00	0.00	1836.64	1974.79	0.99	359.36	3.10	61.22	4.09	5.42	146.00	2.93	127.94	CLOSED	#1-NORMAL	24	9		61.2	5.94	5.15	0.85
10/1/14 23:12	217	1783.00	0.00	0.00	1837.21	1974.58	0.99	359.32	3.10	61.22	5.23	5.42	146.00	2.92	127.93	CLOSED	#1-NORMAL	24	21		61.2	5.94	5.15	0.85
10/1/14 23:13	409	1783.00	0.00	0.00	1838.00	1974.39	0.99	359.35	3.10	61.22	5.29	5.42	146.01	2.91	127.92	CLOSED	#1-NORMAL	24	7		61.2	5.94	5.15	0.85
10/1/14 23:14	409	1783.00	0.00	0.00	1838.82	1974.08	1.00	359.39	3.10	61.22	4.61	5.43	146.01	2.89	127.89	CLOSED	#1-NORMAL	24	15		61.2	5.93	5.15	0.85
10/1/14 23:15	409	1783.00	0.00	0.00	1839.59	1974.04	1.00	359.37	3.10	61.22	5.20	5.43	146.02	2.87	127.88	CLOSED	#1-NORMAL	24	8		61.2	5.92	5.16	0.85
10/1/14 23:16	409	1783.00	0.00	0.00	1840.39	1974.05	1.00	359.32	3.10	61.22	4.34	5.43	146.03	2.86	127.87	CLOSED	#1-NORMAL	24	5		61.2	5.91	5.16	0.86
10/1/14 23:17	409	1783.00	0.00	0.00	1841.12	1973.99	1.00	359.31	3.10	61.22	3.97	5.44	146.03	2.84	127.85	CLOSED	#1-NORMAL	24	5		61.2	5.90	5.16	0.86
10/1/14 23:18	409	1783.00	0.00	0.00	1841.83	1973.85	1.00	359.32	3.10	61.22	3.92	5.44	146.04	2.82	127.83	CLOSED	#1-NORMAL	24	5		61.2	5.89	5.16	0.86
10/1/14 23:19	409	1783.00	0.00	0.00	1842.60	1973.68	1.00	359.32	3.10	61.22	4.73	5.44	146.05	2.81	127.81	CLOSED	#1-NORMAL	24	12		61.2	5.88	5.16	0.86
10/1/14 23:20	409	1783.00	0.00	0.00	1843.45	1973.47	1.00	359.31	3.10	61.22	4.40	5.44	146.06	2.79	127.78	CLOSED	#1-NORMAL	24	7		61.2	5.87	5.17	0.86
10/1/14 23:21	602	1783.00	0.00	0.00	1844.32	1973.32	1.00	359.32	3.10	61.22	4.92	5.45	146.07	2.78	127.76	CLOSED	#1-NORMAL	24	13		61.2	5.86	5.17	0.86
10/1/14 23:22	602	1783.00	0.00	0.00	1845.21	1973.39	1.00	359.35	3.10	61.22	4.68	5.45	146.07	2.76	127.74	CLOSED	#1-NORMAL	24	6		61.2	5.85	5.17	0.86
10/1/14 23:23	602	1783.00	0.00	0.00	1845.98	1973.33	1.00	359.33	3.10	61.22	4.12	5.45	146.08	2.74	127.72	CLOSED	#1-NORMAL	24	5		61.2	5.84	5.17	0.86
10/1/14 23:24	602	1783.00	0.00	0.00	1846.80	1973.22	1.00	359.28	3.10	61.22	4.05	5.46	146.09	2.73	127.71	CLOSED	#1-NORMAL	24	4		61.2	5.82	5.17	0.86
10/1/14 23:25	602	1783.00	0.00	0.00	1847.64	1973.14	1.00	359.25	3.10	61.22	4.05	5.46	146.10	2.71	127.69	CLOSED	#1-NORMAL	24	12		61.2	5.81	5.18	0.86
10/1/14 23:26	789	1783.00	0.00	0.00	1848.43	1973.04	1.00	359.28	3.10	61.22	5.46	5.47	146.10	2.69	127.67	CLOSED	#1-NORMAL	24	6		61.2	5.80	5.18	0.86
10/1/14 23:27	789	1783.00	0.00	0.00	1849.31	1972.85	1.00	359.31	3.10	61.22	4.83	5.47	146.11	2.68	127.66	CLOSED	#1-NORMAL	24	12		61.2	5.79	5.18	0.87
10/1/14 23:28	789	1783.00	0.00	0.00	1850.13	1973.00	1.00	359.32	3.10	61.22	5.41	5.48	146.12	2.66	127.64	CLOSED	#1-NORMAL	24	8		61.2	5.79	5.18	0.87
10/1/14 23:29	789	1783.00	0.00	0.00	1850.74	1973.19	1.00	359.29	3.10	61.22	4.99	5.49	146.13	2.65	127.63	CLOSED	#1-NORMAL	24	9		61.2	5.78	5.19	0.87
10/1/14 23:30	789	1783.00	0.00	0.00	1851.30	1973.38	1.00	359.27	3.10	61.22	5.08	5.49	146.13	2.64	127.62	CLOSED	#1-NORMAL	24	11		61.2	5.77	5.19	0.87
10/1/14 23:31	789	1783.00	0.00	0.00	1851.74	1973.65	1.00	359.28	3.10	61.22	5.60	5.50	146.14	2.63	127.61	CLOSED	#1-NORMAL	24	12		61.2	5.77	5.19	0.87
10/1/14 23:32	789	1783.00	0.00	0.00	1852.08	1973.90	1.00	359.29	3.10	61.22	6.42	5.51	146.15	2.62	127.60	CLOSED	#1-NORMAL	24	17		61.2	5.77	5.19	0.87
10/1/14 23:33	1045	1783.00	0.00	0.00	1852.37	1974.12	1.00	359.30	3.10	61.22	6.42	5.52	146.16	2.62	127.59	CLOSED	#1-NORMAL	24	23		61.2	5.78	5.20	0.87

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	DHInTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmes	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/1/14 23:34	1045	1783.00	0.00	0.00	1852.57	1974.39	1.00	359.29	3.10	61.22	6.57	5.53	146.17	2.62	127.58	CLOSED	#1-NORMAL	24	37		61.2	5.78	5.20	0.87
10/1/14 23:35	1045	1783.00	0.00	0.00	1852.67	1974.76	1.00	359.28	3.10	61.22	6.83	5.54	146.17	2.63	127.57	CLOSED	#1-NORMAL	24	40		61.2	5.79	5.20	0.87
10/1/14 23:36	1045	1783.00	0.00	0.00	1852.71	1975.20	1.00	359.30	3.10	61.22	6.27	5.55	146.18	2.64	127.56	CLOSED	#1-NORMAL	24	40		61.2	5.80	5.21	0.87
10/1/14 23:37	1045	1783.00	0.00	0.00	1852.66	1975.62	1.01	359.36	3.10	61.22	5.89	5.56	146.18	2.65	127.55	CLOSED	#1-NORMAL	24	40		61.2	5.81	5.21	0.88
10/1/14 23:38	1045	1783.00	0.00	0.00	1852.62	1975.75	1.01	359.38	3.10	61.22	6.00	5.57	146.18	2.66	127.54	CLOSED	#1-NORMAL	24	37		61.2	5.82	5.21	0.88
10/1/14 23:39	1045	1783.00	0.00	0.00	1852.65	1975.68	1.01	359.33	3.10	61.22	5.96	5.58	146.19	2.66	127.54	CLOSED	#1-NORMAL	24	33		61.2	5.83	5.22	0.88
10/1/14 23:40	1281	1783.00	0.00	0.00	1852.78	1975.54	1.01	359.30	3.10	61.22	5.63	5.59	146.19	2.66	127.55	CLOSED	#1-NORMAL	24	28		61.2	5.83	5.22	0.88
10/1/14 23:41	1281	1783.00	0.00	0.00	1852.91	1975.36	1.01	359.34	3.10	61.22	5.41	5.61	146.20	2.67	127.55	CLOSED	#1-NORMAL	24	26		61.2	5.83	5.22	0.88
10/1/14 23:42	1281	1783.00	0.00	0.00	1853.09	1975.17	1.01	359.37	3.10	61.22	5.31	5.61	146.20	2.67	127.55	CLOSED	#1-NORMAL	24	25		61.2	5.84	5.23	0.88
10/1/14 23:43	1281	1783.00	0.00	0.00	1853.29	1974.97	1.01	359.37	3.10	61.22	5.10	5.62	146.21	2.67	127.55	CLOSED	#1-NORMAL	24	22		61.2	5.84	5.23	0.88
10/1/14 23:44	1281	1783.00	0.00	0.00	1853.56	1974.74	1.01	359.33	3.10	61.22	4.89	5.62	146.21	2.67	127.55	CLOSED	#1-NORMAL	24	21		61.2	5.84	5.23	0.88
10/1/14 23:45	1281	1783.00	0.00	0.00	1853.79	1974.50	1.01	359.29	3.10	61.22	5.47	5.63	146.22	2.68	127.55	CLOSED	#1-NORMAL	24	31		61.2	5.85	5.24	0.88
10/1/14 23:46	1550	1783.00	0.00	0.00	1854.08	1974.19	1.01	359.31	3.10	61.22	4.69	5.63	146.22	2.67	127.54	CLOSED	#1-NORMAL	24	17		61.2	5.85	5.24	0.88
10/1/14 23:47	1550	1783.00	0.00	0.00	1854.43	1973.99	1.01	359.35	3.10	61.22	5.49	5.63	146.23	2.67	127.53	CLOSED	#1-NORMAL	24	22		61.2	5.85	5.24	0.89
10/1/14 23:48	1550	1783.00	0.00	0.00	1854.60	1974.03	1.01	359.34	3.10	61.22	5.12	5.63	146.23	2.67	127.52	CLOSED	#1-NORMAL	24	18		61.2	5.85	5.25	0.89
10/1/14 23:49	1550	1783.00	0.00	0.00	1854.65	1974.02	1.01	359.31	3.10	61.22	4.76	5.63	146.24	2.67	127.52	CLOSED	#1-NORMAL	24	19		61.2	5.85	5.25	0.89
10/1/14 23:50	1550	1783.00	0.00	0.00	1854.72	1974.00	1.01	359.28	3.10	61.22	5.01	5.63	146.24	2.67	127.51	CLOSED	#1-NORMAL	24	21		61.2	5.85	5.26	0.89
10/1/14 23:51	1550	1783.00	0.00	0.00	1854.68	1974.06	1.01	359.30	3.10	61.22	5.32	5.63	146.25	2.67	127.50	CLOSED	#1-NORMAL	24	35		61.2	5.85	5.26	0.89
10/1/14 23:52	1744	1783.00	0.00	0.00	1854.58	1974.13	1.01	359.35	3.10	61.22	6.04	5.63	146.25	2.67	127.49	CLOSED	#1-NORMAL	24	23		61.2	5.85	5.26	0.89
10/1/14 23:53	1744	1783.00	0.00	0.00	1854.55	1974.10	1.01	359.36	3.10	61.22	5.31	5.63	146.26	2.66	127.48	CLOSED	#1-NORMAL	24	23		61.2	5.85	5.27	0.89
10/1/14 23:54	1744	1783.00	0.00	0.00	1854.48	1974.07	1.01	359.31	3.10	61.22	5.29	5.63	146.26	2.66	127.47	CLOSED	#1-NORMAL	24	22		61.2	5.84	5.27	0.89
10/1/14 23:55	1744	1783.00	0.00	0.00	1854.54	1973.98	1.01	359.27	3.10	61.22	5.28	5.63	146.27	2.66	127.46	CLOSED	#1-NORMAL	24	21		61.2	5.84	5.27	0.89
10/1/14 23:56	1744	1783.00	0.00	0.00	1854.72	1973.80	1.01	359.27	3.10	61.22	5.38	5.63	146.27	2.66	127.44	CLOSED	#1-NORMAL	24	22		61.2	5.83	5.28	0.89
10/1/14 23:57	1744	1783.00	0.00	0.00	1854.76	1973.59	1.01	359.31	3.10	61.22	5.41	5.64	146.28	2.65	127.43	CLOSED	#1-NORMAL	24	21		61.2	5.83	5.28	0.89
10/1/14 23:58	1744	1783.00	0.00	0.00	1854.83	1973.31	1.01	359.31	3.10	61.22	6.00	5.64	146.28	2.65	127.43	CLOSED	#1-NORMAL	24	33		61.2	5.83	5.28	0.89
10/1/14 23:59	1771	1783.00	0.00	0.00	1855.02	1973.06	1.01	359.27	3.10	61.22	5.58	5.63	146.29	2.64	127.43	CLOSED	#1-NORMAL	24	22		61.2	5.82	5.29	0.89
10/2/14 0:00	0	1783.00	0.00	0.00	1855.19	1972.92	1.01	359.25	3.10	61.22	5.43	5.64	146.29	2.63	127.42	CLOSED	#1-NORMAL	24	23		61.2	5.81	5.29	0.90
10/2/14 0:01	0	1779.00	0.00	0.00	1855.40	1972.91	1.01	359.27	3.10	61.22	5.71	5.64	146.29	2.62	127.41	CLOSED	#1-NORMAL	24	26		61.2	5.81	5.30	0.90
10/2/14 0:02	0	1779.00	0.00	0.00	1855.63	1973.05	1.01	359.30	3.10	61.22	6.20	5.64	146.30	2.62	127.40	CLOSED	#1-NORMAL	24	29		61.2	5.80	5.30	0.90
10/2/14 0:03	0	1779.00	0.00	0.00	1855.86	1973.19	1.01	359.30	3.10	61.22	6.48	5.64	146.30	2.61	127.39	CLOSED	#1-NORMAL	24	29		61.2	5.80	5.30	0.90
10/2/14 0:04	0	1779.00	0.00	0.00	1856.20	1973.29	1.01	359.28	3.10	61.22	6.60	5.64	146.31	2.60	127.37	CLOSED	#1-NORMAL	24	34		61.2	5.80	5.31	0.90
10/2/14 0:05	238	1779.00	0.00	0.00	1856.51	1973.41	1.01	359.28	3.10	61.22	6.38	5.64	146.31	2.60	127.36	CLOSED	#1-NORMAL	24	29		61.2	5.80	5.31	0.90
10/2/14 0:06	238	1779.00	0.00	0.00	1856.76	1973.46	1.01	359.31	3.10	61.22	5.34	5.64	146.31	2.59	127.34	CLOSED	#1-NORMAL	24	26		61.2	5.79	5.31	0.90
10/2/14 0:07	238	1779.00	0.00	0.00	1857.11	1973.45	1.01	359.33	3.10	61.22	5.27	5.63	146.32	2.59	127.32	CLOSED	#1-NORMAL	24	24		61.2	5.79	5.32	0.90
10/2/14 0:08	238	1779.00	0.00	0.00	1857.38	1973.49	1.01	359.30	3.10	61.22	5.06	5.63	146.32	2.58	127.31	CLOSED	#1-NORMAL	24	22		61.2	5.78	5.32	0.90
10/2/14 0:09	238	1779.00	0.00	0.00	1857.68	1973.50	1.01	359.27	3.10	61.22	4.85	5.64	146.33	2.57	127.30	CLOSED	#1-NORMAL	24	20		61.2	5.77	5.32	0.90
10/2/14 0:10	238	1779.00	0.00	0.00	1858.02	1973.42	1.01	359.28	3.10	61.22	4.63	5.64	146.33	2.55	127.28	CLOSED	#1-NORMAL	24	18		61.2	5.76	5.33	0.90
10/2/14 0:11	238	1779.00	0.00	0.00	1858.39	1973.24	1.01	359.29	3.10	61.22	5.40	5.64	146.33	2.55	127.27	CLOSED	#1-NORMAL	24	38		61.2	5.76	5.33	0.90
10/2/14 0:12	415	1779.00	0.00	0.00	1858.90	1973.12	1.01	359.30	3.10	61.22	5.60	5.64	146.34	2.54	127.27	CLOSED	#1-NORMAL	24	20		61.2	5.75	5.33	0.90
10/2/14 0:13	415	1779.00	0.00	0.00	1859.43	1973.02	1.01	359.29	3.10	61.22	4.58	5.64	146.34	2.53	127.26	CLOSED	#1-NORMAL	24	16		61.2	5.74	5.34	0.91
10/2/14 0:14	415	1779.00	0.00	0.00	1859.92	1972.83	1.01	359.26	3.10	61.22	4.09	5.64	146.34	2.52	127.25	CLOSED	#1-NORMAL	24	14		61.2	5.72	5.34	0.91
10/2/14 0:15	415	1779.00	0.00	0.00	1860.49	1972.54	1.01	359.23	3.10	61.22	4.34	5.64	146.35	2.50	127.24	CLOSED	#1-NORMAL	24	20		61.2	5.71	5.34	0.91
10/2/14 0:16	415	1779.00	0.00	0.00	1861.12	1972.43	1.01	359.19	3.10	61.22	4.90	5.64	146.35	2.49	127.23	CLOSED	#1-NORMAL	24	16		61.2	5.70	5.35	0.91
10/2/14 0:17	415	1779.00	0.00	0.00	1861.71	1972.32	1.01	359.15	3.10	61.22	4.42	5.63	146.36	2.48	127.22	CLOSED	#1-NORMAL	24	32		61.2	5.69	5.35	0.91
10/2/14 0:18	600	1779.00	0.00	0.00	1862.42	1972.10	1.01	359.15	3.10	61.22	5.24	5.63	146.36	2.46	127.20	CLOSED	#1-NORMAL	24	12		61.2	5.69	5.35	0.91
10/2/14 0:19	600	1779.00	0.00	0.00	1863.19	1971.91	1.00	359.19	3.10	61.22	4.24	5.64	146.37	2.45	127.18	CLOSED	#1-NORMAL	24	14		61.2	5.68	5.36	0.91
10/2/14 0:20	600	1779.00	0.00	0.00	1863.85	1971.91	1.00	359.19	3.10	61.22	4.41	5.64	146.37	2.44	127.16	CLOSED	#1-NORMAL	24	16		61.2	5.67	5.36	0.91
10/2/14 0:21	600	1779.00	0.00	0.00	1864.47	1972.05	1.00	359.13	3.10	61.22	4.78	5.64	146.38	2.42	127.15	CLOSED	#1-NORMAL	24	19		61.2	5.67	5.36	0.91
10/2/14 0:22	600	1779.00	0.00	0.00	1865.04	1972.29	1.00	359.09	3.10	61.22	5.36	5.64	146.38	2.42	127.14	CLOSED	#1-NORMAL	24	23		61.2	5.66	5.37	0.91
10/2/14 0:23	600	1779.00	0.00	0.00	1865.59	1972.54	1.00	359.11	3.10	61.22	5.83	5.64	146.38	2.41	127.13	CLOSED	#1-NORMAL	24	26		61.2	5.66	5.37	0.91
10/2/14 0:24	600	1779.00	0.00	0.00	1866.22	1972.73	1.00	359.16	3.10	61.22	6.42	5.63	146.39	2.40	127.11	CLOSED	#1-NORMAL	24	34		61.2	5.66	5.37	0.91
10/2/14 0:25	735	1779.00	0.00	0.00	1866.82	1972.88	1.00	359.16	3.10	61.22	6.31	5.63	146.39	2.40	127.10	CLOSED	#1-NORMAL	End #4 M29	30		61.2	5.66	5.38	0.92
10/2/14 0:26	735	1779.00	0.00	0.00	1867.44	1973.01	1.00	359.11	3.10	61.22	6.31	5.63	146.40	2.39	127.09	CLOSED	#1-NORMAL	24	28		61.2	5.66	5.38	0.92
10/2/14 0:27	735	1779.00	0.00	0.00	1868.10	1973.13	1.00	359.10	3.10	61.22	6.37	5.64	146.40	2.39	127.07	CLOSED	#1-NORMAL	24	40		61.2	5.67	5.38	0.92
10/2/14 0:28	735	1779.00	0.00	0.00	1868.67	1973.32	0.99	359.14	3.10	61.22	6.67	5.63	146.41	2.39	127.06	CLOSED	#1-NORMAL	24	40		61.2	5.67	5.39	0.92
10/2/14 0:29	735	1779.00	0.00	0.00	1869.25	1973.49	0.99	359.18	3.10	61.22	6.81	5.63	146.41	2.39	127.06	CLOSED	#1-NORMAL	24	40		61.2	5.67	5.39	0.92
10/2/14 0:30	735	1779.00	0.00	0.00	1869.78	1973.62	0.99	359.15	3.10	61.22	6.77	5.64	146.42	2.40	127.05	CLOSED	#1-NORMAL	24	40		61.2	5.68	5.39	0.92
10/2/14 0:31	735	1779.00	0.00	0.00	1870.16	1973.74	0.99	359.11	3.10	61.22	6.71	5.64	146.42	2.41	127.05	CLOSED	#1-NORMAL	24	40		61.2	5.69	5.39	0.92
10/2/14 0:32	994	1779.00	0.00	0.00	1870.54	1973.77	0.99	359.13	3.10	61.22	6.53	5.64	146.42	2.41	127.05	CLOSED	#1-NORMAL	24	40		61.2	5.69	5.40	0.92
10/2/14 0:33	994	1779.00	0.00	0.00	1870.95	1973.71	0.99	359.17	3.10	61.22	6.35	5.64	146.43	2.41	127.06	CLOSED	#1-NORMAL	24	40		61.2	5.69	5.40	0.92
10/2/14 0:34	994	1779.00	0.00	0.00	1871.33	1973.52	0.99	359.17	3.10	61.22	6.33	5.64	146.43	2.42	127.07	CLOSED	#1-NORMAL	24	40		61.2	5.69	5.40	0.92
10/2/14 0:35	994	1779.00	0.00	0.00	1871.72	1973.26	0.99	359.12	3.10	61.22	6.28	5.64	146.44	2.42	127.07	CLOSED	#1-NORMAL	24	40		61.2	5.69	5.41	0.92
10/2/14 0:36	994	1779.00	0.00	0.00	1872.14	1973.12	0.99	359.10	3.10	61.22	6.32	5.64	146.44	2.42	127.07	CLOSED	#1-NORMAL	24	40		61.2	5.69	5.41	0.93
10/2/14 0:37	994	1779.00	0.00	0.00	1872.57	1973.00	0.98	359.14	3.10	61.22	6.73	5.64	146.44	2.42	127.07	CLOSED	#1-NORMAL	24	40		61.2	5.69	5.41	0.93
10/2/14 0:38	1256	1779.00	0.00	0.00	1873.08	1972.83	0.98	359.17	3.10	61.22	5.14	5.64	146.45	2.42	127.07	CLOSED	#1-NORMAL	24	40		61.2	5.68	5.42	0.93
10/2/14 0:39	1256	1779.00	0.00	0.00	1873.64	1972.71	0.98	359.13	3.10	61.22	4.62	5.64	146.45	2.42	127.07	CLOSED	#1-NORMAL	24	38		61.2	5.67	5.42	0.93
10/2/14 0:40	1256	1779.00	0.00	0.00	1874.22	1972.67	0.98	359.09	3.10	61.22	4.46	5.64	146.46	2.42	127.07	CLOSED	#1-NORMAL	24	35		61.2	5.65	5.42	0.93
10/2/14 0:41	1256	1779.00	0.00	0.00	1874.82	1972.63	0.98	359.09	3.10	61.22	4.35	5.64	146.46	2.42	127.06	CLOSED	#1-NORMAL	24	30		61.2	5.64	5.42	0.93
10/2/14 0:42	1256	1779.00	0.00	0.00	1875.41	1972.57	0.98	359.11	3.10	61.22	4.22	5.64	146.47	2.42	127.05	CLOSED	#1-NORMAL	24	30		61.2	5.63	5.43	0.93
10/2/14 0:43	1256	1779.00	0.00	0.00	1876.03	1972.45	0.98	359.11	3.10	61.22	4.14	5.64	146.48	2.42	127.03	CLOSED	#1-NORMAL	24	33		61.2	5.62	5.43	0.93
10/2/14 0:44	1256	1779.00	0.00	0.00	1876.75	1972.29	0.98	359.09	3.10	61.22	5.07	5.64	146.48	2.42	127.01	CLOSED	#1-NORMAL	24	29		61.2	5.61	5.43	0.93
10/2/14 0:45	1471	1779.00	0.00	0.00	1877.45	1972.15	0.97	359.09	3.10	61.22	4.12	5.64	146.49	2.42	126.99	CLOSED	#1-NORMAL	24	27		61.2	5.59	5.44	0.93
10/2/14 0:46	1471	1779.00	0.00	0.00	1878.12	1972.11	0.97	359.09	3.10	61.22	4.07	5.64	146.49	2.42	126.97	CLOSED	#1-NORMAL	24	27		61.2	5.58	5.44	0.93

TheDate	ChargeWght	AvgWeight	COmin	O2min	PrimTemp	SecTemp	NCR Reage	BHInTemp	Carbon	Lime	BagDP	AbspH	AbsRecirc	AbsDP	CarbTemp	StackCap	OpMode	Param1	Param2	mmec	Vent Recirc Rate	Stack Temp	Carbon Temp	NH3 Flow
10/2/14 0:47	1471	1779.00	0.00	0.00	1878.76	1972.21	0.97	359.08	3.10	61.22	4.20	5.64	146.50	2.43	126.94	CLOSED	#1-NORMAL	24	28		61.2	5.56	5.44	0.93
10/2/14 0:48	1471	1779.00	0.00	0.00	1879.26	1972.37	0.97	359.05	3.10	61.22	4.36	5.64	146.50	2.43	126.92	CLOSED	#1-NORMAL	24	30		61.2	5.55	5.44	0.94
10/2/14 0:49	1471	1779.00	0.00	0.00	1879.77	1972.46	0.97	359.05	3.10	61.22	4.49	5.64	146.51	2.44	126.90	CLOSED	#1-NORMAL	24	30		61.2	5.54	5.45	0.94
10/2/14 0:50	1471	1779.00	0.00	0.00	1880.30	1972.51	0.97	359.09	3.10	61.22	5.29	5.64	146.51	2.45	126.88	CLOSED	#1-NORMAL	24	40		61.2	5.53	5.45	0.94
10/2/14 0:51	1683	1779.00	0.00	0.00	1880.95	1972.49	0.97	359.10	3.10	61.22	4.47	5.64	146.52	2.45	126.87	CLOSED	#1-NORMAL	24	25		61.2	5.52	5.45	0.94
10/2/14 0:52	1683	1779.00	0.00	0.00	1881.68	1972.39	0.96	359.07	3.10	61.22	3.94	5.64	146.52	2.45	126.85	CLOSED	#1-NORMAL	24	23		61.2	5.51	5.46	0.94
10/2/14 0:53	1683	1779.00	0.00	0.00	1882.34	1972.31	0.96	359.01	3.10	61.22	4.01	5.64	146.53	2.46	126.83	CLOSED	#1-NORMAL	24	23		61.2	5.50	5.48	0.94
10/2/14 0:54	1683	1779.00	0.00	0.00	1882.82	1972.32	0.96	358.99	3.10	61.22	4.17	5.64	146.53	2.45	126.82	CLOSED	#1-NORMAL	24	25		61.2	5.49	5.46	0.94
10/2/14 0:55	1683	1779.00	0.00	0.00	1883.29	1972.39	0.96	359.00	3.10	61.22	5.40	5.64	146.54	2.46	126.81	CLOSED	#1-NORMAL	24	28		61.2	5.49	5.46	0.94
10/2/14 0:56	1788	1779.00	0.00	0.00	1883.84	1972.40	0.96	359.02	3.10	61.22	4.64	5.64	146.54	2.46	126.80	CLOSED	#1-NORMAL	24	30		61.2	5.49	5.47	0.94
10/2/14 0:57	1788	1779.00	0.00	0.00	1884.42	1972.45	0.96	359.02	3.10	61.22	4.86	5.64	146.55	2.46	126.78	CLOSED	#1-NORMAL	24	34		61.2	5.48	5.47	0.94
10/2/14 0:58	1788	1779.00	0.00	0.00	1885.04	1972.59	0.96	358.99	3.10	61.22	5.36	5.64	146.56	2.47	126.78	CLOSED	#1-NORMAL	24	39		61.2	5.48	5.47	0.94
10/2/14 0:59	1788	1779.00	0.00	0.00	1885.63	1972.86	0.96	358.99	3.10	61.22	6.01	5.64	146.57	2.48	126.77	CLOSED	#1-NORMAL	24	40		61.2	5.48	5.47	0.95

APPENDIX F
QUALIFIED INDIVIDUAL DOCUMENTATION

This is to Certify that:

Derek M. Brewster

Is a Qualified Individual as defined in Section 8.3 of ASTM D7036-04 for the following test methods:

EPA Methods 1, 1A, 2, 2A, 2C, 2D, 2F, 2G, 2H, 3, 3B, 4, 5, 5A, 5B, 5E, 5F, 5i, 17, 19, 201A, and 202.

The individual has met the minimum experience requirements defined in Section 8.3.4.2 of ASTM D7036-04 and has successfully passed an internal comprehensive examination for the test methods designated above.

This certification is effective until: **01-30-2018**

Date of Issue: 02-04-2013

Certificate Number: 00431

Edward J MacKinnon

Air Measurements Practice Quality Director

TRC

This is to Certify that:

Derek M. Brewster

Is a Qualified Individual as defined in Section 8.3 of ASTM D7036-04 for the following test methods:

EPA Methods 1, 2, 3, 4, 3B, 6, 6A, 6B, 7, 7C, 7D, 8, 11, 13A, 13B, 15A, 16A, 19, 26, 26A, and 202.

The individual has met the minimum experience requirements defined in Section 8.3.4.2 of ASTM D7036-04 and has successfully passed an internal comprehensive examination for the test methods designated above.

This certification is effective until: **01-30-2018**

Date of Issue: 02-04-2013

Certificate Number: 00432

Edward J MacKinnon

Air Measurements Practice Quality Director

TRC

This is to Certify that:

Derek M. Brewster

Is a Qualified Individual as defined in Section 8.3 of ASTM D7036-04 for the following test methods:

EPA Methods 3A, 6C, 7E, 10, 10B, 19, 20, 25A.

CEM Performance Specifications PS2, PS3, PS4, PS4A, PS5, PS6, PS7, PS8, and PS15

The individual has met the minimum experience requirements defined in Section 8.3.4.2 of ASTM D7036-04 and has successfully passed an internal comprehensive examination for the test methods designated above.

This certification is effective until: **01-30-2018**

Edward J MacKinnon

Air Measurements Practice Quality Director

Date of Issue: 02-04-2013

Certificate Number: 00433

TRC

This is to Certify that:

Derek M. Brewster

Is a Qualified Individual as defined in Section 8.3 of ASTM D7036-04 for the following test methods:

EPA Methods 1, 2, 3, 4, 12, 19, 29, 30B, 101, 101A, 102, and ASTM D6784-02.

The individual has met the minimum experience requirements defined in Section 8.3.4.2 of ASTM D7036-04 and has successfully passed an internal comprehensive examination for the test methods designated above.

This certification is effective until: **01-30-2018**

Date of Issue: 02-04-2013

Certificate Number: 00434

Edward J MacKinnon

Air Measurements Practice Quality Director

TRC

This is to Certify that:

Derek Brewster

Is a Qualified Individual as defined in Section 8.3 of ASTM D7036-04 for the following test methods:

EPA Methods 23 and 0023A

The individual has met the minimum experience requirements defined in Section 8.3.4.2 of ASTM D7036-04 and has successfully passed an internal comprehensive examination for the test methods designated above.

This certification is effective until: **04-26-2016**

Date of Issue: 04-26-2011

Certificate Number: 00154

Edward J MacKinnon

Air Measurements Practice Quality Director

TRC

TRC

Results you can rely on