WEST LAKE LANDFILL

PERIMETER AIR MONITORING

REPORT

MAY, JUNE AND JULY 2015

April 2016

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1. INTRODUCTION

This West Lake Landfill Perimeter Air Monitoring Quarterly Report (Report) summarizes the results of the first three months (May, June, and July of 2015) of perimeter air monitoring under this program. The purpose of the monitoring is to obtain baseline air monitoring data prior to implementation of future remedial actions at Operable Unit-1 (OU-1) of the West Lake Landfill Superfund Site (the site).

The air monitoring activities include sampling for airborne radioactive particulates, radon gas, volatile organic compounds (VOCs), and measurements of gamma radiation. Sampling is performed continuously at the perimeters of OU-1 Areas 1 and 2. Data collected from the monitoring activities are used to assess and document the air quality along the boundaries of OU-1. The monitoring was performed according to the requirements described in the Air Monitoring, Sampling, and Quality Assurance/Quality Control (QA/QC) Plan ("Plan") (A&A 2014), which describes the environmental air sampling and monitoring activities performed at the West Lake Landfill Superfund Site in Bridgeton, Missouri, as required by Paragraph 30d of the April 14, 2014 Administrative Settlement Agreement and Order on Consent for Removal Action – Preconstruction Work (Preconstruction ASAOC) entered into between the U.S. Environmental Protection Agency (EPA) and Respondents Bridgeton Landfill, LLC and Rock Road Industries, Inc. EPA approval of the Plan was received on December 8, 2014.

1.1 SITE DESCRIPTION

The West Lake Landfill Superfund Site is located at 13570 St. Charles Rock Road in Bridgeton, St. Louis County, Missouri, approximately one mile north of the intersection of Interstate 70 and Interstate 270. The site is divided into two Operable Units. Operable Unit-1 (OU-1) is composed of the two disposal areas (Area 1 and Area 2) where radionuclides are mixed within landfilled soil and solid waste materials. Operable Unit-2 (OU-2) consists of the remainder of the site and includes several inactive landfilled areas containing sanitary waste or demolition debris, a solid waste transfer station, an asphalt batch plant, and a permitted sanitary landfill (the Bridgeton Sanitary Landfill), which stopped receiving waste on Dec. 31, 2004. The Bridgeton Sanitary Landfill is a quarry-fill landfill containing municipal waste, and consists of the North Quarry and South Quarry landfill units. Since late 2010, the Bridgeton Sanitary Landfill South Quarry unit has experienced a subsurface smoldering event (SSE). The southern border of OU-1 Area 1 is contiguous with the North Quarry cell of the Bridgeton Sanitary Landfill. OU-1 Area 2 is located along the northern portion of the overall site, approximately 1,000 feet (at the closest) from the outer boundary of the North Quarry landfill unit, and is separated from it by a road and by the closed demolition landfill (Figure 1).

Land use surrounding the site is primarily commercial and industrial, with residential uses located approximately ½ mile to the south of the site (the Spanish Village subdivision) and approximately ½ mile to the south east (the Terrisan Reste mobile home park).

1.2 BACKGROUND

According to the Nuclear Regulatory Commission (NRC), in 1973, approximately 8,700 tons of leached barium sulfate residue (a remnant from Manhattan Engineer District/Atomic Energy Commission projects) were reportedly mixed with approximately 39,000 tons of soil from the 9200 Latty Avenue Superfund site in Hazelwood, Missouri, transported to the West Lake Landfill, and used as daily or intermediate cover material (NRC 1988, RMC 1982 and 1981).

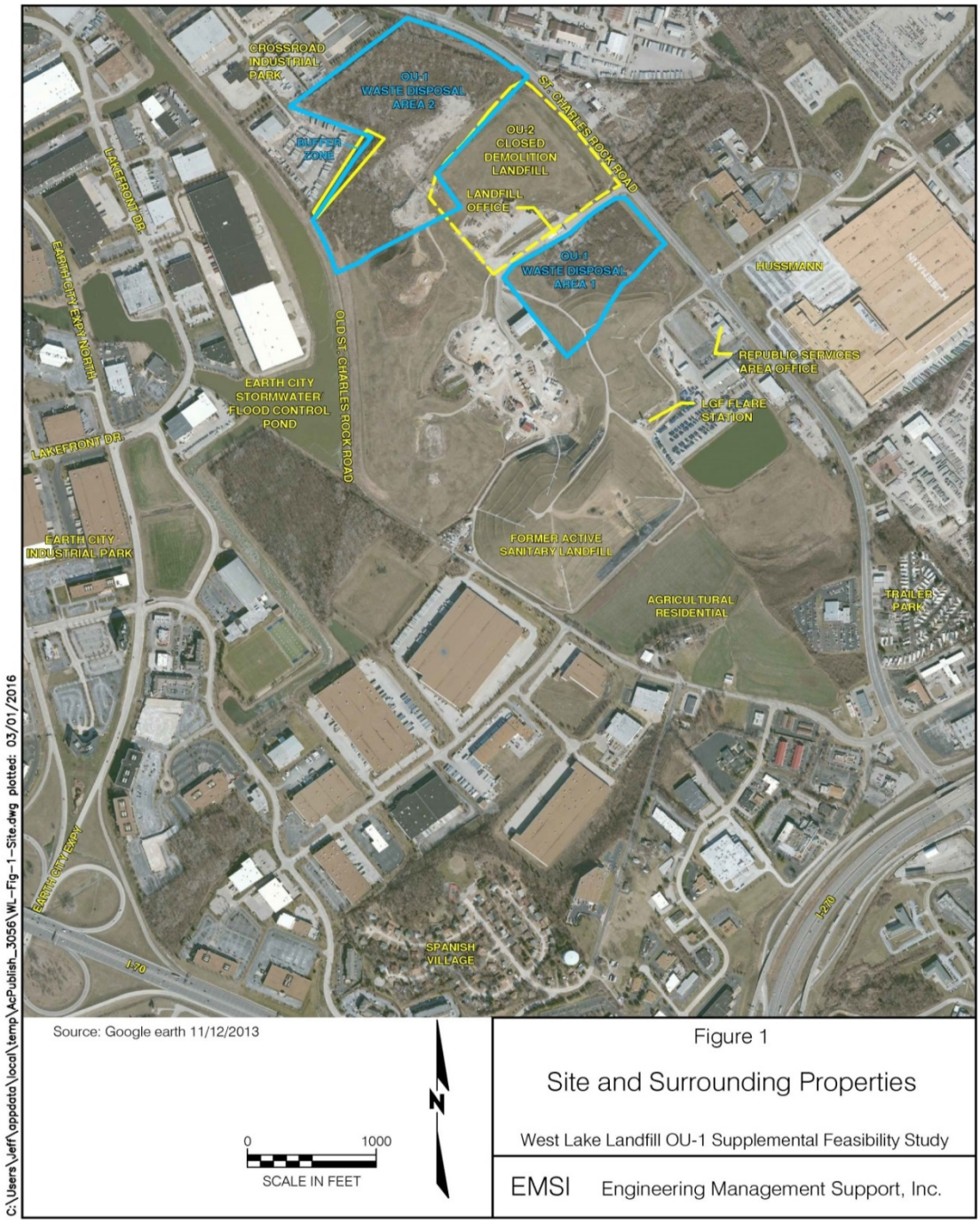

Figure 1 Site Location

EPA added the West Lake Landfill Superfund Site to its National Priorities List in 1990. In May 2008, EPA signed a Record of Decision (ROD) for OU-1, which selected a remedial action for the radiologically contaminated landfill areas and the area formerly described as the Ford Property, now called the Buffer Zone/Crossroads property. The 2008 ROD requires installation of a modified solid waste landfill cover over OU-1 Areas 1 and 2.

1.3 CONSTITUENTS OF CONCERN

West Lake Landfill contains both municipal solid waste and construction and demolition wastes. In a March 7, 2014 meeting, representatives from the EPA met with representatives from EMSI and requested that air monitoring be performed for airborne radiological contaminants and volatile organic compounds (VOCs). A Baseline Risk Assessment (BRA) was published in 2000 and identified the radionuclides of concern at the West Lake Landfill. These compounds, plus EPA's requested VOC sampling, are the constituents of concern (COCs).

2. AIR MONITORING APPROACH AND SAMPLING METHODS

An integrated system of 13 environmental monitoring stations has been installed at the site. Twelve of these stations are located around the perimeters of OU-1 Areas 1 and 2, with two located close to the nearest on-site buildings (the landfill office and the transfer station building). The thirteenth station is located in the southwest corner of the site, the farthest distance on-site from Areas 1 and 2. These 13 locations were selected to ensure that the monitoring network encompassed Areas 1 and 2, including the landfill entry road and the road through the center of the site (See Figure 2).

An on-site meteorological station (the "met station") measures and logs temperature, barometric pressure, relative humidity, wind speed and direction. The station is located adjacent to landfill office building (13570 St. Charles Rock Road).

The monitoring network shown in Figure 2 provides coverage around Areas 1 and 2 under all wind direction conditions. The air monitoring and sampling locations near the center of the site are arranged in a broad line oriented approximately southeast to northwest and parallel to the predominant wind directions. Additional stations are located transverse to this orientation, parallel to the less dominant southwest and northeast wind directions. Stations A1-A6 and A9 bound the perimeter of Area 2. Stations A5, A7, A8, A10 and 11 bound Area 1. Station A13 is at the southern boundary of the South Quarry pit area, and is located upwind of Areas 1 and 2 based on the predominant southerly wind direction as shown in Figure 3 and Figure 4.

Table 1 lists the types and quantities of environmental monitoring equipment for the different monitoring stations depicted in Figure 2. The table also lists the COCs measured by the equipment housed at each station.

Table 1 List of Samplers for Perimeter Monitoring

Perimeter Monitor Inventory per Location	Sampling Mode and Collection Frequency	Contaminants Measured
Proposed list of samplers at A01, A05, A07, A08, A11		
Metered air pump with dual chamber sampler for particulate fiber filter	Continuous / Every 28 days	Total alpha and beta activity
Alpha Track Etch Detector for radon gas	Continuous / Quarterly	Radon-222 and radon daughters
Radiello RAD130 Canister	Continuous / Every 14 days	Volatile Organic Compounds[1]
Radiation dosimeter (TLD)	Continuous / Quarterly	Gamma radiation levels
Proposed list of samplers at remaining on-site and perimeter locations (x8)		
Metered air pump with filter to collect particulates	Continuous / Monthly	Total alpha and beta activity
Alpha Track Etch Detector for radon gas	Continuous / Quarterly	Radon-222 and radon daughters
Radiation dosimeter (TLD)	Continuous / Quarterly	Gamma radiation levels
Meteorological monitoring station		
High resolution wind sensor	Continuous	Wind speed and direction

[1] The Radiello 130 media are analyzed for the list of analytes included in Appendix F of the Plan. This list was provided by the laboratory and reflects common analytes for which sampling rates have been calculated for the Radiello 130 media.

The sampling and sensor equipment in each monitoring station enclosure operate continuously. The equipment in these stations consists of a high volume air sampler for airborne particulates, a continuous radon monitor (alpha track etch), and an environmental radiation detector called a thermoluminescent dosimeter (TLD). Alpha track etch monitors provide a cumulative measure of radon gas present and allow determination of average radon levels for the sampling period. TLDs measure ambient gamma radiation levels.

Particulates gathered on air sample filters are collected every four weeks (28 days) and analyzed for alpha and beta emitters. Radiation dosimeters and alpha track etch detectors are exchanged and sent for analysis every calendar quarter.

Five of the monitoring stations house continuous passive samplers to monitor for VOCs. Monitoring of VOCs is performed using the Radiello RAD130 chemical adsorbing cartridge diffusion samplers that are left in place for periods of 14 days. The Radiello RAD 130 cartridges consist of a stainless steel net cylinder with 100 mesh grid openings and a 5.8 mm diameter, packed with approximately 530 milligrams of activated charcoal. VOCs are trapped by adsorption and recovered by carbon disulfide displacement.

Table 2 provides a summary of the types of measurements, sampling numbers and frequency as listed in the Plan.

Table 2 Field Sampling Summary

Analytical Parameter	Level of Sensitivity	Matrix	Sample Frequency	Container Type	Annual Subtotal Target Field Samples	Field QC Extras			Total Annual Field Samples
						Trip Blank	Filter Blanks	Field Duplicates	
Gross Alpha/Beta	1 dpm/ sample	Air Filter	13 x Continuous Air Samplers /Monthly	Glassine Envelope	156	NA	12	12	180
Radon	0.5 pCi/l	Track Etch Detector	13 x Continuous Samplers /Quarter	Track Etch Detector	56	NA	NA	NA	56
Gamma Dose	1 mrem	TLD	13 x Stations/ Quarter	TLD	56	1 (Jan 2016)	NA	NA	56
VOC	See Plan Appendix B for MDL and RL	Radiello Canister	5 Continuous Every 14 Days	Radiello Canister	130	1 (8/15/15)	NA	1 Every 14 Days	156

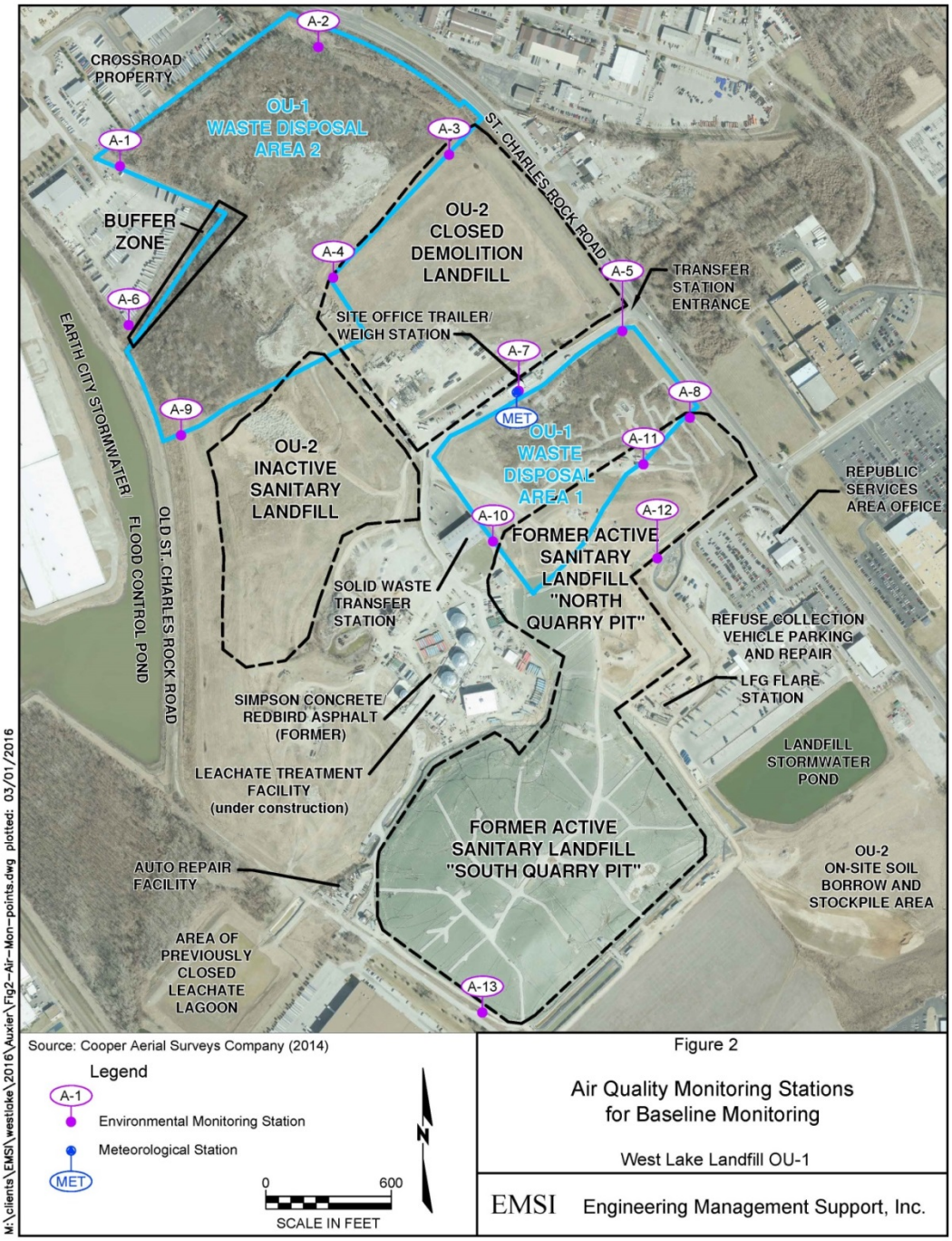

Figure 2 Air Monitoring Locations

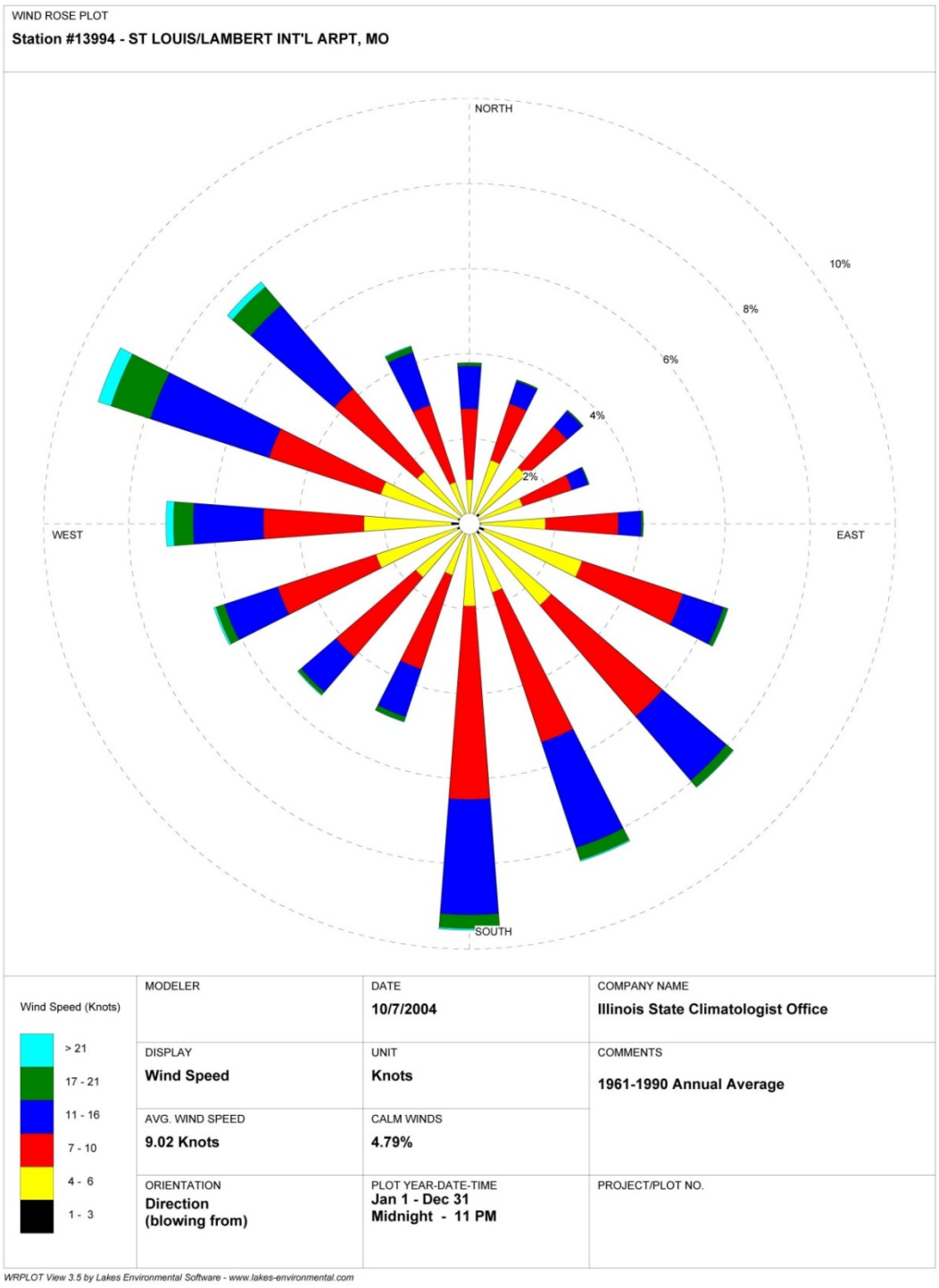

Figure 3 Predominant Wind Directions

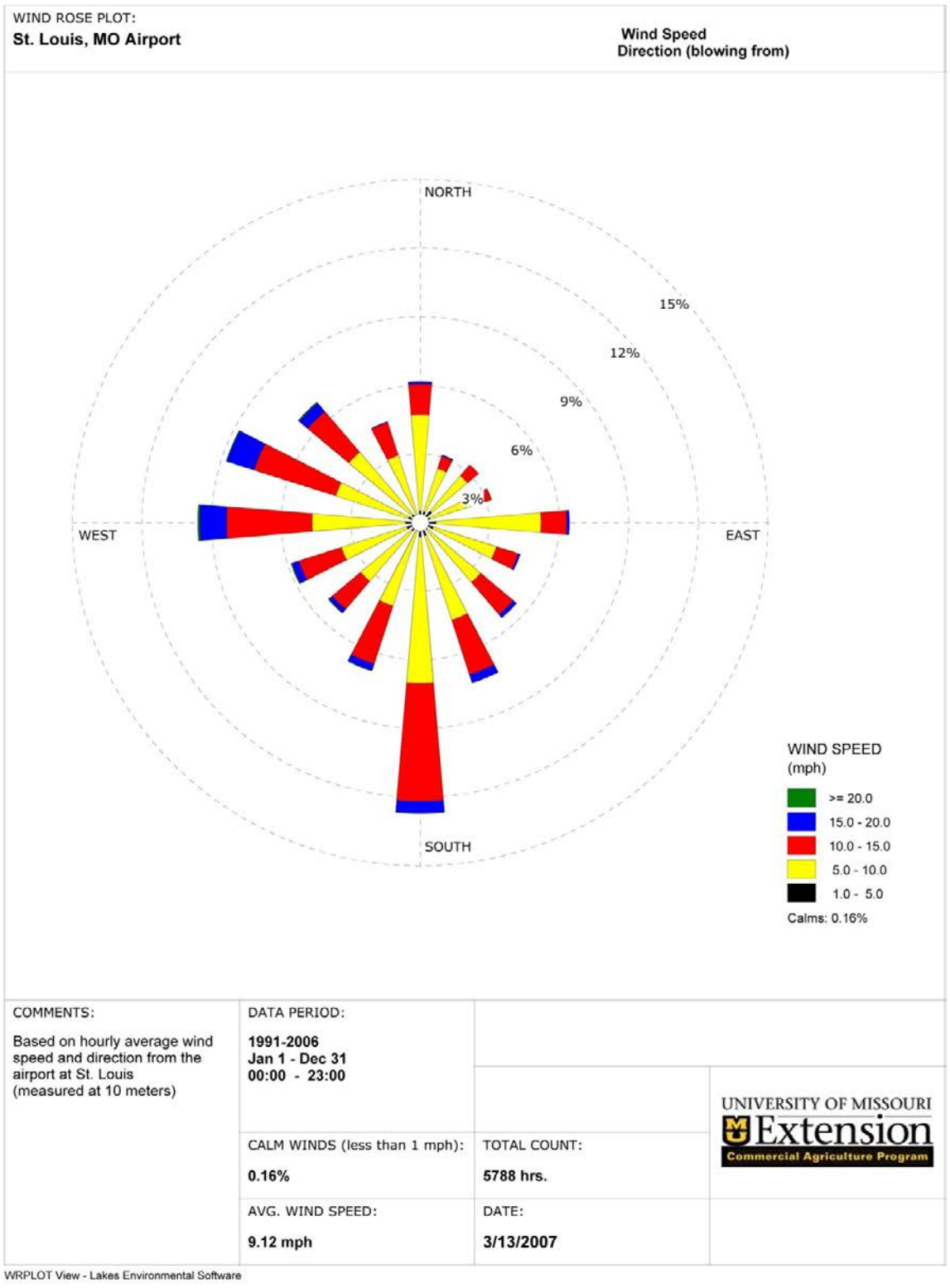

Figure 4 Predominant Wind Directions

2.1 DATA EVALUATION

The purpose of the air monitoring program is to provide baseline data regarding air quality prior to implementation of remedial actions. Ultimately, baseline data will be compared to future data obtained during implementation of remedial actions to assess whether such actions contribute to any release of radionuclides or VOCs.

Data from May and June were analyzed for isotopic uranium, isotopic thorium and other radionuclides by gamma spectroscopy. At least one set of samples for each three-month sampling event will be submitted for isotopic analysis and gamma spectroscopy.

2.2 SAMPLE COLLECTION AND ANALYSES

2.2.1 Air Particulates

Air sampling equipment is calibrated, and the functionality of the equipment is checked according to manufacturer specifications and A&A procedures 5.1 and 5.2, “Calibration Procedure for PM2.5 Air Monitoring” and “One Point Flow Audit for PM2.5 Air Monitoring”. Samples are collected according to the instructions contained in A&A procedure 5.3 “Sampling Procedure for PM2.5 Monitoring” (Appendix H).

Air particulate samples are collected every 28 days and submitted for analysis. The operability of air sampling equipment is verified at the time of sample collection according to the One Point Flow Audit portion of Procedure 5.1 (Appendix H). Air flow meters, differential pressure indicators, and other devices used to determine volumetric flow rates of air particulate samplers are calibrated annually. Copies of the calibration records are maintained on-site as well as in A&A’s corporate offices.

The air particulate samples are collected on 8 inch by 10 inch quartz filters. The laboratory removes five independent 47 millimeter (mm) pieces for the aliquot. Each 47mm piece is adhered to a planchet. Each planchet is counted, and the counts summed. For the field duplicate, five pieces are removed for the sample, and five pieces are removed for the field duplicate, and each set of five pieces are counted and summed separately. The field duplicate is collected from a different sample each month. A blank filter is submitted and analyzed with each batch of samples submitted to the laboratory.

May and June particulate filters were submitted for isotopic analysis for the first quarter. At least one set of samples for each subsequent three-month sampling event will be submitted for isotopic analysis and gamma spectroscopy in addition to the gross alpha and gross beta analysis.

2.2.2 VOCs

Passive Radiello samplers for VOCs are deployed on five of the air monitoring stations. For the first three months of the project, Radiello detectors were deployed on Stations A01, A05, A07, A08 and A011. Samples are collected every 14 days and submitted for analysis. On a rotating basis, a field duplicate is placed in one of the stations during each 14-day sampling cycle. The Radiello passive/diffusive samples are analyzed by Gas Chromatography Mass Spectrometry (GCMS) using EPA method TO-15.

2.2.3 Gamma

Gamma radiation is measured by installing Thermoluminescent detectors (TLDs) at each of the 13 air monitoring stations. The TLDs were installed approximately three feet above the ground surface inside a housing shelter. A duplicate TLD was installed at one of the stations.

Mirion Technologies forwards 14 new TLDs to the site approximately 5-7 days prior to the quarterly change-out event. Upon arrival, the packages are examined to verify the number and designations of the new TLDs.

TLD change-outs were performed July 23 and 24 and consist of unclipping the exposed TLD at each station and attaching its replacement to the metal bracket. A duplicate TLD was placed in station A11 during the May-July 2015 sampling period.

The TLDs are placed in the shipping envelope provided by Mirion. The envelope is sealed and placed into a FedEx envelope that is labeled with the following statement cautioning against X-raying the package.

CAUTION: DOSIMETERS

DO NOT SANITIZE, X-RAY, IRRADIATE, OR NEUTRALIZE PACKAGE AS PRODUCT WILL BE DAMAGED. KEEP AWAY FROM RADIOACTIVITY, EXCESSIVE HEAT, AND MOISTURE.

2.2.4 Radon

Radon alpha track detectors are used at the monitoring stations to measure alpha particles emitted from radon and its associated decay products. Radon detectors are co-located with TLDs approximately three feet above the ground surface in housing shelters at the monitoring stations. The radon detectors are collected every three months and sent to an off-site laboratory for analysis. Recorded radon concentrations are listed in picocuries per liter (pCi/l).

Table 3 details the analytical methods required for each contaminant of concern.

Table 3 Sample Analyses and Methods

Analyte (COC)	Collection Method	Test	Sensitivity Level	Test Facility	Facility Location
Thorium Uranium Radium-226	Particulate Air Sample (4 in)	EPA Method 900.0 Gross Alpha/ Beta (GAGB)	1 dpm/sample	Eberline Analytical	Oak Ridge, TN
Rn-222	Track Etch	Alpha Track Etch	0.5 pCi/L	Inspect USA	Marshall, NC
Radiation Dose	TLD	TLD	<1 mRem	Mirion Tech	Irvine, CA
VOC	Radiello Code 130 Passive sorbent diffusion sampler	carbon disulfide desorption followed GC/MS analysis by EPA Method TO-15	See Plan Appendix E	Eurofins Air Toxics	Folsom, CA

2.2.5 Accredited Laboratories and Contacts

Eberline Analytical
Mike McDougall
601 Scarboro Road
Oak Ridge, TN 37830
Tel 865-481-0683

Eurofins Air Toxics
Kelly Buettner
180 Blue Ravine Road, Suite B
Folsom, CA 95630
Tel 800-985-5955

Inspect USA
100 S Main Street, Ste 609
Marshall, NC 28753
Tel 888-480-8812

Mirion Technologies, Inc.
17192 Murphy Avenue
Irvine, CA 92614
Tel 800-251-3331

2.2.6 Data Management

The laboratories performing radioanalytical and VOC analyses supply Level IV CLP-like data reports with all analytical results to Auxier & Associates, Inc. (A&A) and Engineering Management Support, Inc. (EMSI). These laboratories also supply analytical results in electronic spreadsheet format to the A&A Project Manager and EMSI.

2.2.7 Data Verification, Validation, Quality Assessment, and Delivery

The primary goal of data verification and validation (V&V) is to ensure that decisions are supported by data of the type and quality needed and expected for the intended use. Data verification is the process of evaluating the completeness, correctness, and consistency of a laboratory package or final data to assure that laboratory conditions and operations are compliant with project plan documents. Data validation addresses the reliability of the data. Results are evaluated to determine the presence or absence of an analyte and the uncertainty of the measurement process for contaminants of concern. Finally, scientific and statistical evaluation of the data may be required to determine if the quality of the data can support its intended use (MARLAP 2004). V&V and summary reports are generated and submitted to project management.

3. RESULTS SUMMARIES

Assembly, testing and calibration of the air samplers was performed in April, 2015. The Radiello samplers, TLDs, and track etch detectors were added to the stations. The first quarter of sampling began May 1, 2015 and concluded July 23, 2015.

The met station, while installed, was not logging data at the time sampling was initiated. The met station began logging data on May 26, 2015. Data for May 1 through May 25 were obtained from the Cli-Mate website, the Midwestern Regional Climate Center's Application Tools Environment for accessing climate data and value-added tools, located at http://mrcc.isws.illinois.edu/CLIMATE/. The wind roses for May, June and July are shown in Figure 5, Figure 6 and Figure 7.

Telemetry was installed for stations 1, 5-8, and 10-13 on June 25, 2015, and on stations 3, 4, and 9 on July 6, 2015. The telemetry sends a text message to specified individuals if power is lost to the unit. Telemetry was not installed for Station 2 until it was relocated due to flooding.

3.1 OFF NORMAL EVENTS

During the first sampling quarter, two units experienced significant off normal events. station 9 failed during the May sampling period due to an electrical issue. Site personnel did not know of the power failure until samples were collected on May 27/28 because telemetry had not yet been installed. As the sampling duration for station 9 is not known, the volume of air sampled by it cannot be calculated for the first 28-day air particulate sampling cycle. Power was restored to the unit on June 1.

The site experienced significant rain events in late July, and as a result the location of station 2 flooded sometime between the filter collection on June 24 and when the station flooding was discovered on July 23. Station 2 has since been relocated to higher ground.

3.2 AIR PARTICULATE RESULTS

The particulate air sampling duration is approximately 28 days, at which time the air filters are collected, packaged, and shipped under chain-of-custody to the radioanalytical laboratory. In May, the samples were collected on the 27th and 28th, the 23rd and 24th for June, and the 22nd and 23rd for July. The laboratory acknowledged receipt of the samples on May 29th, June 30th, and July 29th respectively.

An aliquot of each 8 x 10 filter was analyzed for gross alpha/gross beta activity (GAGB). For the first quarter sampling events, the initial results were reported in pCi/sample due to delays in obtaining data from the meteorological tower. The following process was used to convert the results from pCi/sample to standard units:

1. Convert the pCi/sample result to standard units.

   Divide by 1E6 to obtain μCi/sample. The result reflects the gross alpha or gross beta activity on the entire filter.

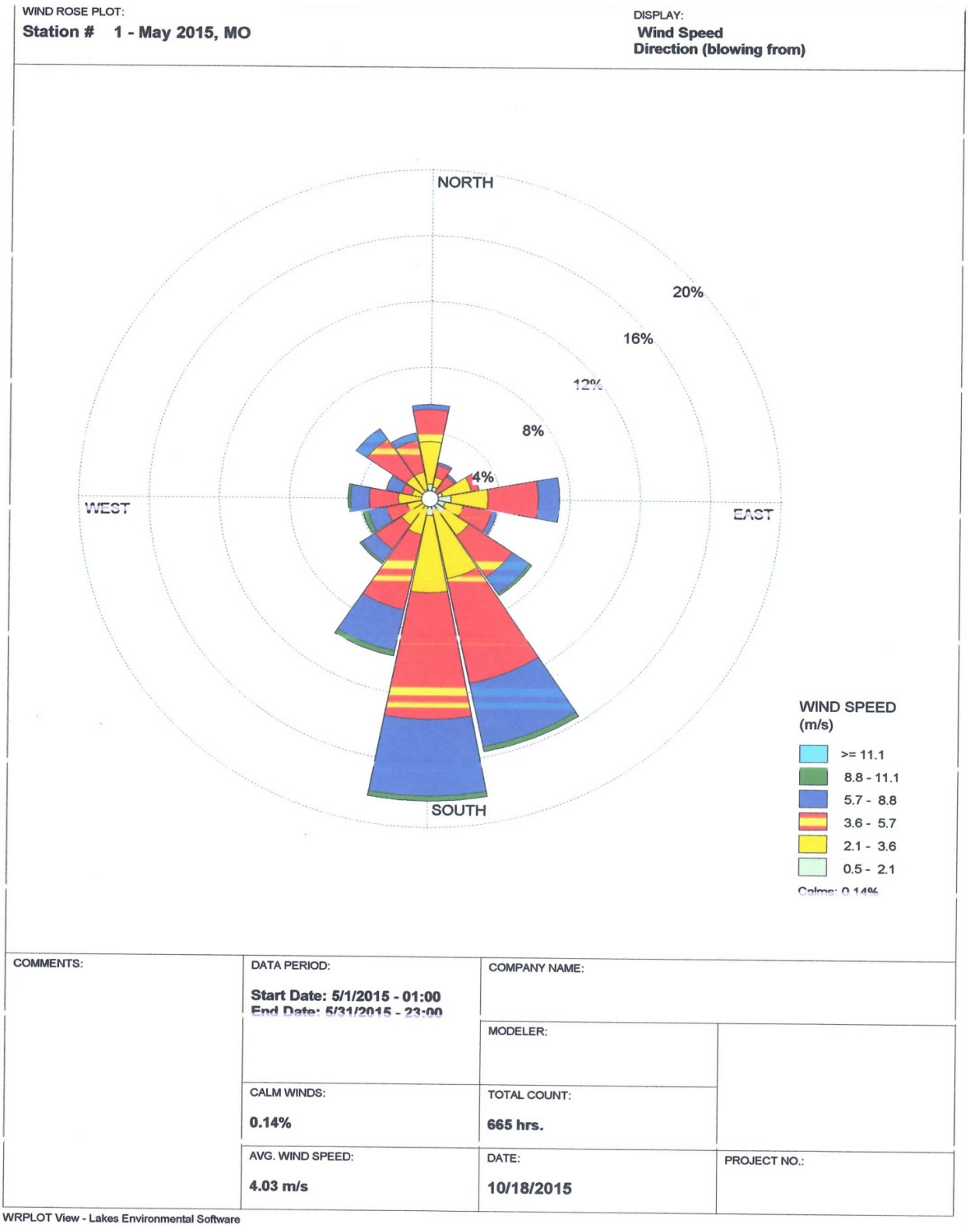

Figure 5 May Wind Rose

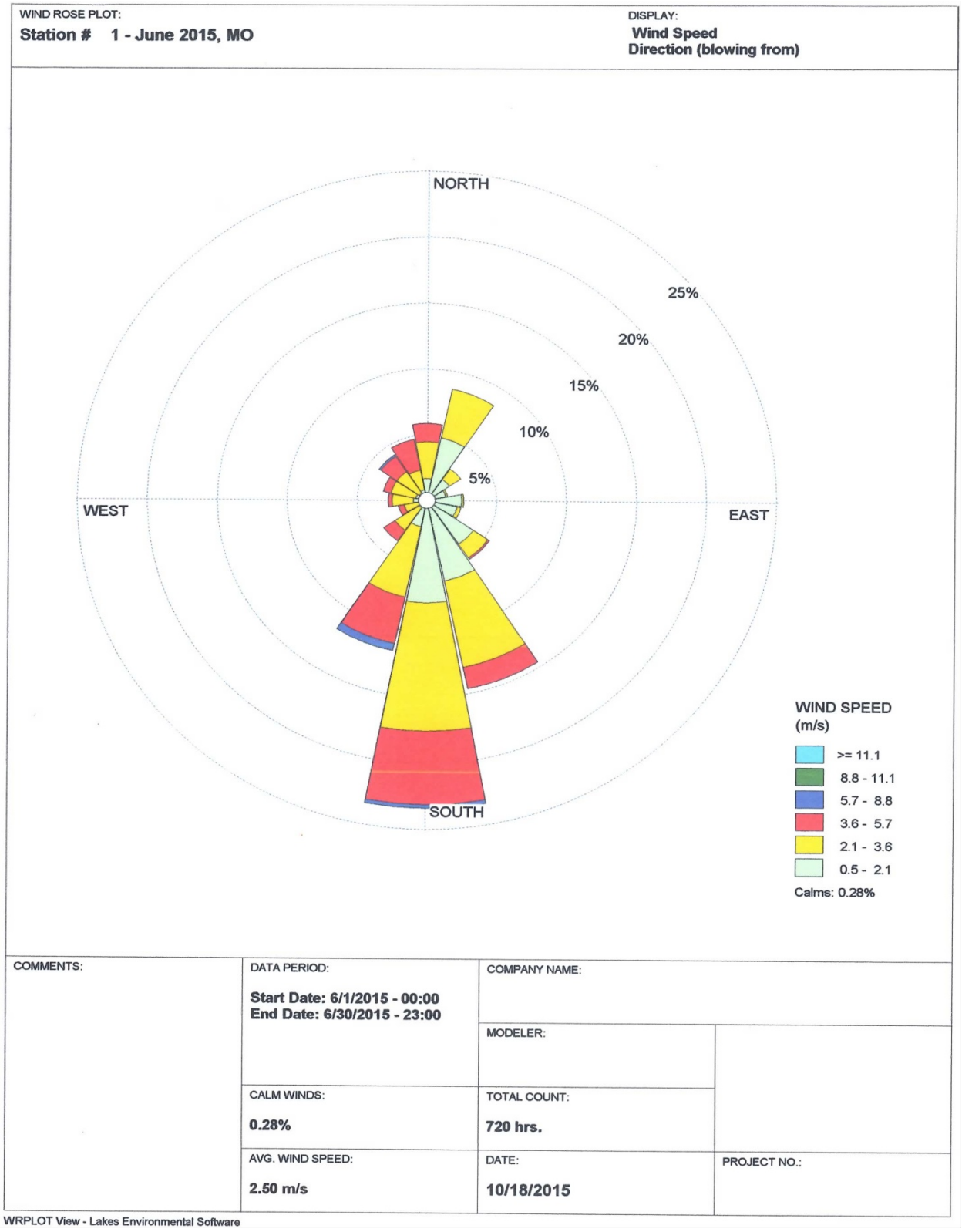

Figure 6 June Wind Rose

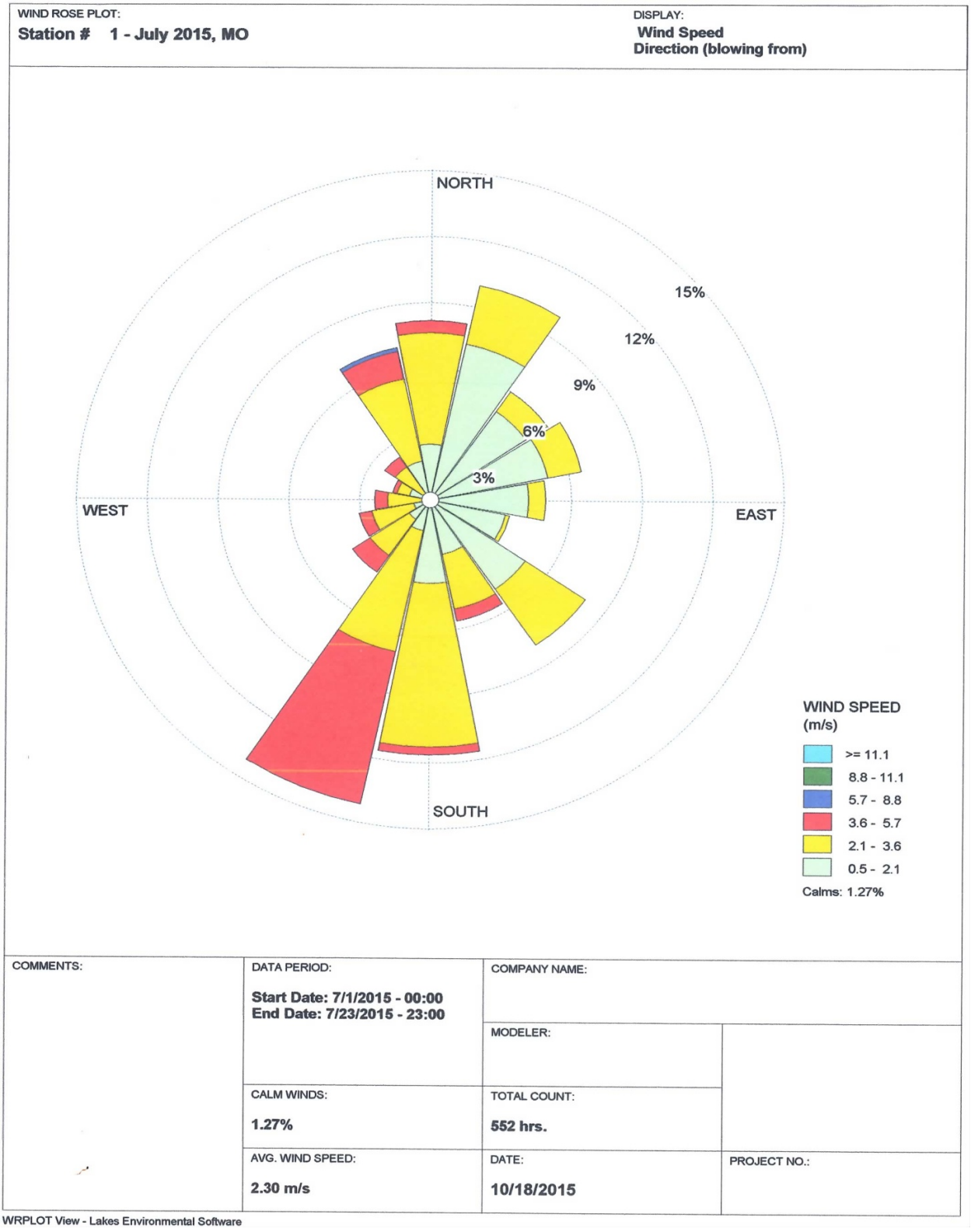

Figure 7 July Wind Rose

2. Determine the volume of air sampled.

   The density of air, and thus the air flow through the filter, is affected by changes in air temperature and barometric pressure. As described in Procedure 5.3, "Sampling Procedure for PM 2.5 Air Monitoring", the anticipated temperature and pressure (based on historical meteorological conditions) is used to set the Mass Flow Controller (MFC) to the target flow rate of 40 cubic feet per minute (CFM) for the sampling period. At the time of filter collection, the actual conditions for the sampling period as measured by the met station are used to calculate the actual flow rate. The met station data are presented in Appendix G.

   For the first quarter of sampling, two sources of meteorological data were used to assess the impact of variations in density on the volume of air sampled by individual samplers. For the month of May, meteorological data was obtained from Lambert – St Louis International Airport. Concurrently, a meteorological data logger was installed on the Bridgeton Landfill property and began operations on May 26, 2015, allowing collection of site-specific temperature and barometric pressure data for the June and July sampling periods.

   The actual flow rate for the sampling period is converted from CFM to milliliters (ml) or cubic meters (m^3). The flow rate is then multiplied by the sampling time to obtain the total volume of air sampled.

3. Calculate the concentration of the air sampled.

   Divide the activity calculated in step 1 by the volume of air sampled as calculated in step 2. Unit conversion is necessary in order to compare to the results obtained by other entities such as the EPA or NRC emission limits. Activity units and volume units are chosen based on the equivalent comparison units.

3.2.1 Gross alpha and gross beta results

The gross alpha and beta results for each station in pCi/m^3 for May, June and July are shown in Table 4 and Table 6. The three months of results are reflected graphically in Figure 8 and Figure 9. Statistical evaluations will be performed on the data in subsequent reports when sufficient numbers of sample results are available. A summary of the validated results is shown in Appendix A.

The results of the first three months (May, June, and July 2015) of on-site monitoring for gross alpha and gross beta were compared to the results obtained from the EPA off-site monitoring program over the period from May 2014 through February 2015. The EPA Offsite sampling results are shown in Table 5 and Table 7. Overall, the gross alpha results obtained from the 13 on-site stations are similar to or slightly higher than the results obtained from EPA's five off-site stations. The average sampling flow rate goal of 36-40 CFM was met in all cases, but the higher readings associated with stations 5, 8, 11 and 13 for July were associated with lower average flow rates due to filter loading. Whether this effect is statistically significant cannot be determined until additional on-site data are obtained. The differences may reflect dust levels, seasonal conditions (pollen levels), differences in precipitation (i.e., soil moisture), and differences in the total particulate levels between the period covered by EPA's air monitoring program and the period covered by the on-site air monitoring program. The gross beta results obtained from the 13 on-site stations are similar to the gross beta results obtained from the EPA off-site monitoring locations.

Table 4 Summary of On-site Gross Alpha Results

	May		June		July	
Station	pCi/m^3	CSU	pCi/m^3	CSU	pCi/m^3	CSU
A1	1.45E-03	1.83E-04	2.08E-03 J+	2.52E-04	3.39E-03	3.95E-04
A2	1.54E-03	1.92E-04	2.42E-03 J+	2.88E-04		
A3	1.52E-03	1.90E-04	2.43E-03 J+	2.90E-04	3.27E-03	3.81E-04
A4	1.28E-03	1.62E-04	2.34E-03 J+	2.80E-04	3.85E-03	4.44E-04
A5	1.40E-03	1.76E-04	2.11E-03 J+	2.56E-04	4.42E-03	5.08E-04
A6	1.75E-03	2.15E-04	5.27E-04 J+	7.93E-05	3.45E-03	4.02E-04
A7	1.37E-03	1.75E-04	2.57E-03 J+	3.07E-04	2.29E-03	2.75E-04
A8	1.50E-03	1.88E-04	2.45E-03 J+	2.93E-04	4.57E-03	5.27E-04
A9			2.43E-03 J+	3.00E-04	3.38E-03	3.94E-04
A10	1.09E-03	1.41E-04	2.41E-03 J+	2.90E-04	3.22E-03	3.78E-04
A11	1.95E-03	2.37E-04	2.32E-03 J+	2.80E-04	4.07E-03	4.69E-04
A12	1.58E-03	1.97E-04	2.54E-03 J+	3.02E-04	3.86E-03	4.45E-04
A13	1.40E-03	1.78E-04	2.71E-03 J+	3.21E-04	3.18E-03	3.72E-04

Table 5 Summary of Off-site EPA Gross Alpha Results (Tetra Tech 2015)

Summary Statistic	Station 1 (pCi/m^3)	Station 2 (pCi/m^3)	Station 3 (pCi/m^3)	Station 4 (pCi/m^3)	Station 5 (background) (pCi/m^3)
Detections	32/40	32/40	27/40	26/40	28/40
Minimum Concentration	1.99E-04 U	1.93E-04 U	1.02E-04 U	1.17E-04 U	1.10E-04 U
Median Concentration	6.17E-04	6.25E-04	6.71E-04	6.11E-04	6.61E-04
Maximum Concentration	1.63E-03 J	1.68E-03 J	1.58E-03 J	1.38E-03 J	1.65E-03 J

Table 6 Summary of On-site Gross Beta Results

	May		June		July	
	pCi/m^3	CSU	pCi/m^3	CSU	pCi/m^3	CSU
A1	1.84E-02 J+	2.55E-03	1.95E-02 J+	2.71E-03	2.36E-02	3.27E-03
A2	1.94E-02 J+	2.69E-03	1.95E-02 J+	2.71E-03		
A3	2.05E-02 J+	2.84E-03	2.27E-02 J+	3.15E-03	2.42E-02	3.36E-03
A4	1.76E-02 J+	2.44E-03	2.20E-02 J+	3.06E-03	2.57E-02	3.56E-03
A5	1.73E-02 J+	2.41E-03	1.99E-02 J+	2.76E-03	2.60E-02	3.60E-03
A6	1.92E-02 J+	2.66E-03	4.06E-03 J+	5.74E-04	2.27E-02	3.15E-03
A7	1.74E-02 J+	2.42E-03	2.09E-02 J+	2.90E-03	1.56E-02	2.17E-03
A8	1.89E-02 J+	2.62E-03	2.56E-02 J+	3.55E-03	2.82E-02	3.91E-03
A9			2.21E-02 J+	3.07E-03	2.34E-02	3.25E-03
A10	1.53E-02 J+	2.13E-03	2.13E-02 J+	2.96E-03	2.03E-02	2.82E-03
A11	2.16E-02 J+	3.00E-03	2.03E-02 J+	2.82E-03	2.49E-02	3.46E-03
A12	2.15E-02 J+	2.99E-03	2.19E-02 J+	3.03E-03	2.40E-02	3.33E-03
A13	1.86E-02 J+	2.59E-03	2.27E-02 J+	3.15E-03	2.12E-02	2.94E-03

Table 7 Summary of Off-site EPA Gross Beta Results (Tetra Tech 2015)

Summary Statistic	Station 1 (pCi/m^3)	Station 2 (pCi/m^3)	Station 3 (pCi/m^3)	Station 4 (pCi/m^3)	Station 5 (background) (pCi/m^3)
Detections	40/40	40/40	40/40	40/40	40/40
Minimum Concentration	1.15E-02	4.13E-03 J	1.32E-02 J	1.32E-02 J	1.21E-02 J
Median Concentration	1.96E-02	1.96E-02	2.02E-02	2.01E-02	1.91E-02
Maximum Concentration	3.57E-02	3.61E-02	3.88E-02	3.70E-02	3.53E-02

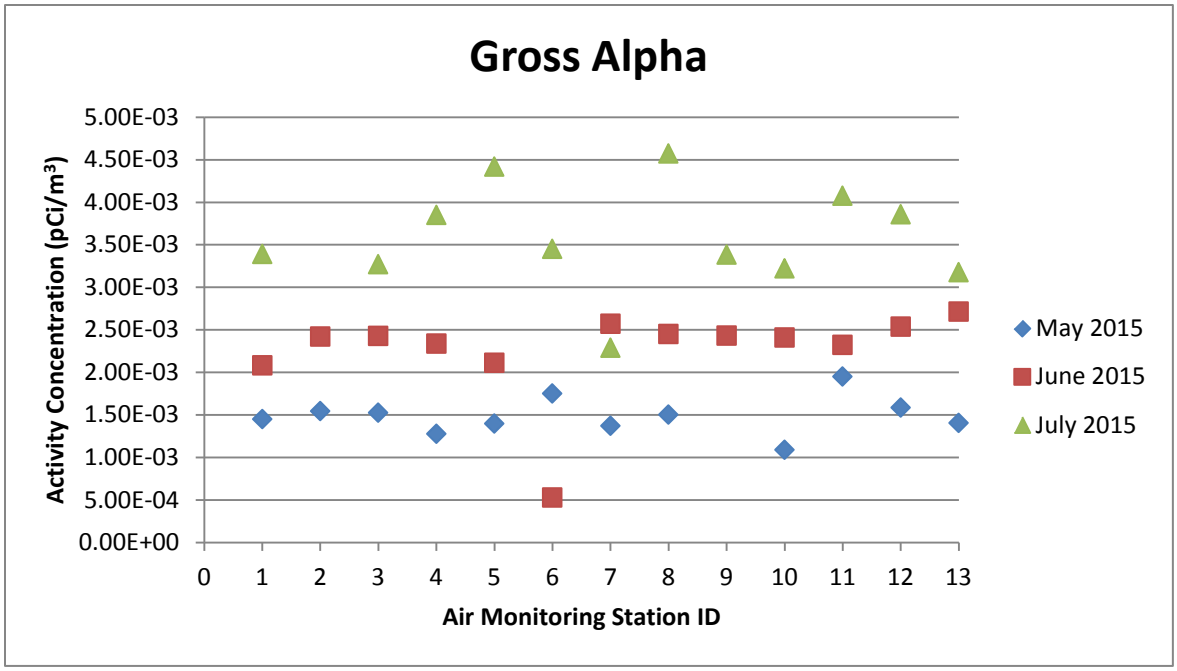

Figure 8 Graphical Representation of Gross Alpha Results in pCi/m^3

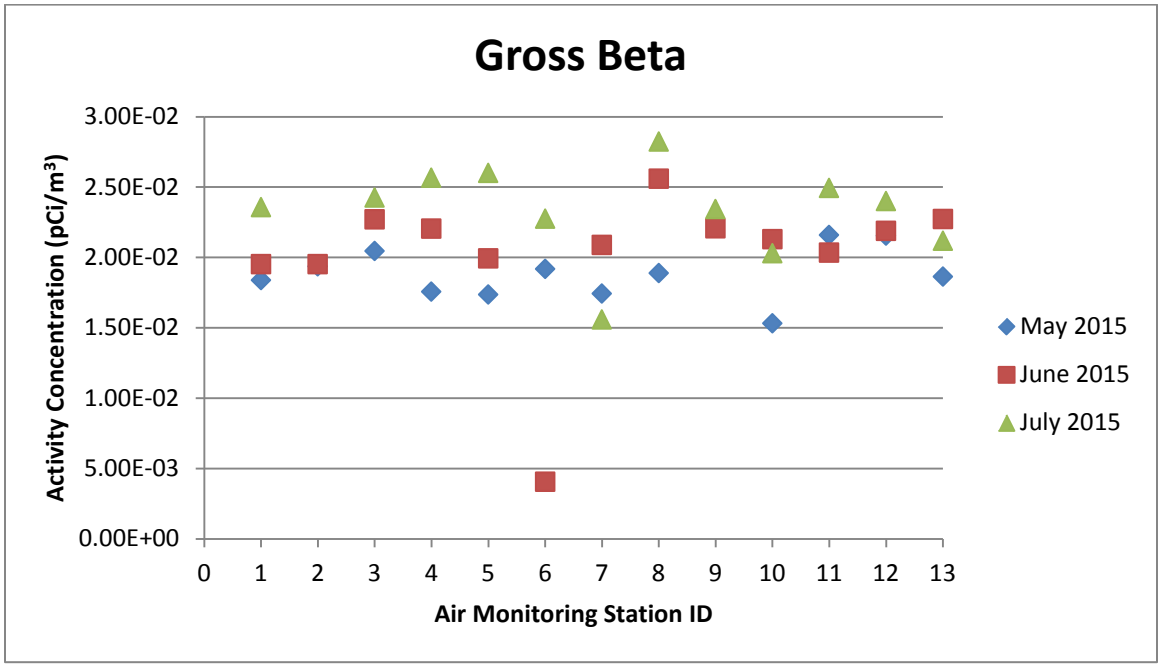

Figure 9 Graphical Representation of Gross Beta Results in pCi/m^3

3.2.2 Isotopic and gamma spectroscopy results

As expected, the isotopic and the gamma spectroscopy results show only naturally occurring radioactive materials. Isotopic results for uranium-238 and thorium-230, and combined radium results (the sum of actinium-228 (for radium-228) and bismuth-214 (for radium-226) from gamma spectrometry) for each station in pCi/m^3 for May and June are shown in Table 8. Statistical evaluations will be performed on the data in subsequent reports when sufficient numbers of sample results are available. A summary of the validated results are shown in Appendix B.

The results of the first two months (May and June 2015) of on-site monitoring for uranium-238, thorium-230 and combined radium were also compared to the results obtained from the EPA off-site monitoring program over the period from May 2014 through February 2015. The EPA off-site sampling results are shown in Table 9. In almost all cases, the isotopic uranium and thorium and combined radium results obtained from the 13 on-site stations are lower than the results obtained from EPA's five off-site stations.

The isotopic results were converted to µCi/ml and compared to 10 C.F.R. § 20 Appendix B Effluent Limits. The results are well below the applicable effluent limits as shown in Appendix C.

Table 8 Isotopic and Total Radium Results for May and June

	U-238 pCi/m^3		Th-230 pCi/m^3		*Total Radium pCi/m^3	
Station	May	June	May	June	May	June
1	3.36E-05	3.13E-05	2.36E-05	1.75E-05	3.22E-04	6.62E-05
2	3.43E-05	3.05E-05	2.76E-05	8.08E-06	3.27E-04	1.64E-04
3	5.08E-05	3.45E-05	2.76E-05	1.90E-05	3.23E-04	1.70E-04
4	3.65E-05	3.47E-05	3.14E-05	3.87E-05	2.06E-04	3.18E-04
5	4.28E-05	1.38E-05	2.93E-05	3.39E-05	1.01E-04	1.34E-04
6	2.54E-05	3.19E-05	3.08E-05	1.05E-05	4.51E-05	1.97E-04
7	4.32E-05	2.94E-05	5.81E-05	2.93E-05	4.16E-04	2.19E-04
8	4.61E-05	3.39E-05	3.17E-05	1.93E-05	2.16E-04	2.71E-04
9		3.32E-05		3.05E-05		6.98E-05
10	3.82E-05	3.16E-05	4.14E-05	2.66E-05	2.26E-04	4.61E-05
11	2.51E-05	2.39E-05	3.65E-05	2.23E-05	3.73E-04	1.97E-04
12	2.69E-05	4.13E-05	3.51E-05	4.96E-05	3.63E-05	1.44E-04
13	1.95E-05	3.49E-05	4.39E-05	1.78E-05	3.50E-04	1.70E-04

*Calculated from the bismouth-214 (radium-226) and actinium-228 (Ra-228) gamma spectroscopy results.

Table 9 Summary of Isotopic and Radium Results (Tetra Tech 2015)

SUMMARY STATISTICS OF URANIUM-238 RESULTS	Station 1 (pCi/m^3)	Station 2 (pCi/m^3)	Station 3 (pCi/m^3)	Station 4 (pCi/m^3)	Station 5 (reference) (pCi/m^3)
Detections1	11/21	13/21	13/21	9/21	9/21
Minimum Concentration2	-1.03E-05 U	4.43E-06 U	-4.42E-05 U	2.75E-05 U	-2.25E-05 U
Median Concentration3	1.26E-04	1.21E-04	1.18E-04	9.15E-05	1.02E-04
Maximum Concentration4	6.22E-04 J	9.47E-04	3.86E-04 J	3.07E-04 J	1.67E-04 J
SUMMARY STATISTICS OF THORIUM-230 RESULTS	**Station 1** (pCi/m^3)	**Station 2** (pCi/m^3)	**Station 3** (pCi/m^3)	**Station 4** (pCi/m^3)	**Station 5 (reference)** (pCi/m^3)
Detections1	20/21	18/21	20/21	20/21	19/21
Minimum Concentration2	3.23E-04 J	3.07E-04 U	3.13E-04 J	3.05E-04 J	2.71E-04 U
Median Concentration3	4.94E-04	5.86E-04	5.99E-04	6.06E-04	5.78E-04
Maximum Concentration4	4.37E-03	1.36E-03 J	8.86E-04 J	1.06E-03 J	1.99E-03 J
SUMMARY STATISTICS OF TOTAL ALPHA-EMITTING RADIUM RESULTS	**Station 1** (pCi/m^3)	**Station 2** (pCi/m^3)	**Station 3** (pCi/m^3)	**Station 4** (pCi/m^3)	**Station 5 (reference)** (pCi/m^3)
Detections1	2/21	4/21	3/21	1/21	2/21
Minimum Concentration2	-2.50E-04 U	-2.01E-04 U	-4.04E-05 U	-4.86E-04 U	-4.34E-04 UG
Median Concentration3	3.97E-04	5.14E-04	4.55E-04	3.66E-04	4.68E-04
Maximum Concentration4	1.10E-03 J	1.80E-03 JG	2.01E-03	3.66E-04 J (226)	4.40E-03

3.3 VOC RESULTS

The laboratory reports 26 VOCs from analysis of the Radiello passive/diffusive samples. A summary of the validated results is presented in Appendix D. The following tables summarize the 15 VOCs with results above the laboratory reporting limits. Values are presented in µg/m^3. Statistical evaluation of the data is included in the summary where there are sufficient data points. The remaining 11 VOCs for which the laboratory analyzed were not detected.

An anomalous result for toluene of 19 µg/m^3 occurred for the 6/24/15 to 7/8/15 sampling period at sampling station 5. Station 5 is located at the intersection of St. Charles Rock Road and the facility entrance. Toluene is an additive in gasoline, paint thinners, and paints, and is frequently used in laboratories as a solvent. Trip blanks are now included with the samples to assist in evaluating the source of the sample exposures.

Table 10 Detected VOCs

2- Butanone

Collected	Station 1 (µg/m^3)	Station 5 (µg/m^3)	Station 7 (µg/m^3)	Station 8 (µg/m^3)	Station 11 (µg/m^3)
5/13/15	0.2	0.27	0.27	0.24	0.27
5/27/15	0.13	0.14	0.17	0.15	0.18
6/10/15	0.17	0.22	0.22	0.24	0.24
6/24/15	0.16	0.19	0.25	0.17	0.18
7/8/15	0.18	0.2	0.21	0.19	0.22
7/22/15	0.18	0.16	0.17	0.23	0.18
No. Detects	6	6	6	6	6
No. Samples	6	6	6	6	6
Min	0.13	0.14	0.17	0.15	0.18
Median	0.18	0.20	0.22	0.21	0.20
Max	0.20	0.27	0.27	0.24	0.27

2-Propanol

Collected	Station 1 (µg/m^3)	Station 5 (µg/m^3)	Station 7 (µg/m^3)	Station 8 (µg/m^3)	Station 11 (µg/m^3)
5/13/15	ND	ND	0.24	ND	ND
5/27/15	ND	ND	0.23	ND	ND
6/10/15	ND	ND	0.22	0.22	0.21
6/24/15	ND	ND	0.22	ND	ND
7/8/15	ND	0.21	ND	ND	ND
7/22/15	ND	ND	ND	0.24	ND
No. Detects	0	1	4	2	1
No. Samples	6	6	6	6	6
Min			0.22		
Median			0.23		
Max			0.24		

Acetone

Collected	Station 1 (µg/m^3)	Station 5 (µg/m^3)	Station 7 (µg/m^3)	Station 8 (µg/m^3)	Station 11 (µg/m^3)
5/13/15	0.3	0.39	0.41	0.41	0.36
5/27/15	ND	ND	ND	ND	ND
6/10/15	0.17	0.21	0.25	0.22	0.23
6/24/15	ND	ND	ND	ND	ND
7/8/15	0.15	0.18	0.16	ND	0.16
7/22/15	ND	ND	ND	0.19	ND
No. Detects	3	3	3	3	3
No. Samples	6	6	6	6	6
Min					
Median					
Max					

Benzene

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	ND	ND	0.31	0.33	0.3
5/27/15	ND	ND	ND	ND	ND
6/10/15	ND	ND	ND	ND	ND
6/24/15	ND	ND	ND	ND	ND
7/8/15	0.28	0.29	0.32	0.27	0.29
7/22/15	0.36	0.28	0.26	0.37	ND
No. Detects	2	2	3	3	2
No. Samples	6	6	6	6	6
Min					
Median					
Max					

Carbon Tetrachloride

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	0.32	0.32	0.35	0.38	0.34
5/27/15	0.26	0.25	0.28	0.28	0.26
6/10/15	0.23	0.3	0.27	0.28	0.27
6/24/15	0.24	0.22	0.24	0.22	0.19
7/8/15	0.26	0.2	0.22	0.29	0.21
7/22/15	0.33	0.25	0.26	0.25	0.25
No. Detects	6	6	6	6	6
No. Samples	6	6	6	6	6
Min	0.23	0.20	0.22	0.22	0.19
Median	0.26	0.25	0.27	0.28	0.26
Max	0.33	0.32	0.35	0.38	0.34

Chloroform

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	ND	ND	ND	ND	ND
5/27/15	ND	ND	ND	ND	ND
6/10/15	ND	ND	ND	0.085	ND
6/24/15	ND	ND	ND	ND	ND
7/8/15	ND	ND	ND	ND	ND
7/22/15	ND	ND	ND	ND	ND
No. Detects	0	0	0	1	0
No. Samples	6	6	6	6	6
Min					
Median					
Max					

Cyclohexane

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	ND	ND	ND	ND	ND
5/27/15	ND	ND	ND	ND	ND
6/10/15	ND	ND	0.11	0.085	ND
6/24/15	ND	ND	0.12	ND	ND
7/8/15	ND	0.1	0.094	ND	ND
7/22/15	ND	0.1	0.13	0.1	ND
No. Detects	0	2	4	2	0
No. Samples	6	6	6	6	6
Min			0.09		
Median			0.12		
Max			0.13		

Ethyl Acetate

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	ND	0.094	0.14	0.088	0.085
5/27/15	0.076	0.079	0.093	0.074	ND
6/10/15	0.083	0.1	0.14	0.11	0.12
6/24/15	0.085	0.097	0.17	0.08	0.082
7/8/15	0.088	0.14	0.13	0.094	0.11
7/22/15	0.096	0.1	0.12	0.14	0.081
No. Detects	5	6	6	6	5
No. Samples	6	6	6	6	6
Min	0.08	0.08	0.09	0.07	0.08
Median	0.09	0.10	0.14	0.09	0.09
Max	0.10	0.14	0.17	0.14	0.12

Ethyl Benzene

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	ND	0.094	0.14	0.088	0.085
5/27/15	0.076	0.079	0.093	0.074	ND
6/10/15	0.083	0.1	0.14	0.11	0.12
6/24/15	0.085	0.097	0.17	0.08	0.082
7/8/15	0.088	0.14	0.13	0.094	0.11
7/22/15	0.096	0.1	0.12	0.14	0.081
No. Detects	5	6	6	6	5
No. Samples	6	6	6	6	6
Min	0.08	0.08	0.09	0.07	0.08
Median	0.09	0.10	0.14	0.09	0.09
Max	0.10	0.14	0.17	0.14	0.12

Heptane

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	0.18	0.21	0.25	0.23	0.2
5/27/15	0.22	0.13	0.15	0.12	0.12
6/10/15	0.26	0.17	0.22	0.19	0.17
6/24/15	0.19	0.17	0.25	0.13	0.14
7/8/15	0.28	0.19	0.24	0.18	0.14
7/22/15	0.42	0.2	0.21	0.23	0.17
No. Detects	6	6	6	6	6
No. Samples	6	6	6	6	6
Min	0.18	0.13	0.15	0.12	0.12
Median	0.24	0.18	0.23	0.19	0.16
Max	0.42	0.21	0.25	0.23	0.20

Hexane

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	0.16	0.22	0.35	0.3	0.21
5/27/15	0.13	0.15	0.31	0.19	0.23
6/10/15	0.21	0.33	0.41	0.3	0.32
6/24/15	0.27	0.23	0.33	0.27	0.23
7/8/15	0.34	2	0.27	0.34	0.24
7/22/15	0.68	0.84	0.31	0.29	0.24
No. Detects	6	6	6	6	6
No. Samples	6	6	6	6	6
Min	0.13	0.15	0.27	0.19	0.21
Median	0.24	0.28	0.32	0.30	0.24
Max	0.68	2.00	0.41	0.34	0.32

m,p-Xylene

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	0.21	0.27	0.42	0.26	0.23
5/27/15	0.23	0.22	0.27	0.22	0.18
6/10/15	0.25	0.3	0.43	0.36	0.35
6/24/15	0.28	0.28	0.52	0.22	0.23
7/8/15	0.25	0.38	0.38	0.29	0.31
7/22/15	0.3	0.32	0.36	0.37	0.25
No. Detects	6	6	6	6	6
No. Samples	6	6	6	6	6
Min	0.21	0.22	0.27	0.22	0.18
Median	0.25	0.29	0.40	0.28	0.24
Max	0.30	0.38	0.52	0.37	0.35

o-Xylene

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	ND	ND	0.13	ND	ND
5/27/15	0.082	ND	0.085	ND	ND
6/10/15	0.081	0.092	0.14	0.11	0.11
6/24/15	0.077	0.087	0.16	ND	ND
7/8/15	0.082	0.12	0.13	0.092	0.098
7/22/15	0.09	0.099	0.11	0.12	ND
No. Detects	5	4	6	3	2
No. Samples	6	6	6	6	6
Min	0.077	0.09	0.09		
Median	0.08	0.10	0.13		
Max	0.09	0.12	0.16		

Tetrachloroethene

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	ND	ND	ND	ND	ND
5/27/15	0.18	ND	ND	ND	ND
6/10/15	0.14	ND	0.093	ND	ND
6/24/15	0.24	ND	0.1	ND	ND
7/8/15	0.24	ND	0.086	0.1	ND
7/22/15	0.15	0.088	0.1	ND	0.12
No. Detects	5	1	3	1	1
No. Samples	6	6	6	6	6
Min	0.14		0.09		
Median	0.18		0.10		
Max	0.24		0.10		

Toluene

Collected	Station 1 (µg/m³)	Station 5 (µg/m³)	Station 7 (µg/m³)	Station 8 (µg/m³)	Station 11 (µg/m³)
5/13/15	0.52	0.56	0.99	0.64	0.47
5/27/15	0.43	0.43	0.57	0.34	0.32
6/10/15	0.59	0.54	0.73	0.48	0.54
6/24/15	0.46	0.48	0.94	0.34	0.36
7/8/15	0.55	19	0.86	0.5	0.58
7/22/15	0.53	0.57	0.73	0.62	0.46
No. Detects	6	6	6	6	6
No. Samples	6	6	6	6	6
Min	0.43	0.43	0.57	0.34	0.32
Median	0.53	0.55	0.80	0.49	0.47
Max	0.59	19.00	0.99	0.64	0.58

EPA performed similar off-site sampling for VOCs using passive/diffusive samplers from December 2014 to March 2015. However, EPA sampled for seven days except for one period in January in which they sampled for 14 days. They noted no significant difference between the seven and 14-day sample results. The table below presents the results obtained from the five on-site monitoring stations compared to the results obtained from EPA's off-site monitoring program for those VOCs that were analyzed and detected by both programs.

Table 11 Common Analytes (µg/m^3)

VOC	EPA Off-site Result Range	EPA MDL	On-site Range	On-site MDL
Benzene	ND	0.023-0.039	0.26-0.37	0.052
Ethyl benzene	0.17-0.32	0.006-0.08	0.07-0.17	0.010
m,p-Xylene	0.44-1.1	0.015-0.07	0.18-0.52	0.026
o-Xylene	0.16-0.39	0.0085-0.085	0.077-0.16	0.014
Methyl Tert-butyl ether	ND	0.029-0.170.	ND	0.029
Toluene	0.2-0.58	0.03-0.2	0.32-0.99*	0.013
Trichloroethene	0.33-0.51	0.016-0.5	ND	0.012
Tetrachloroethene	0.23-0.46	0.018-0.14	0.088-0.24	0.014

*Maximum value does not include the value 0f 19 ug/m^3 reported for the July 8, 2015 sample as this result appears to be anomalous.

With the possible exception of the benzene results, many of which were non-detect in the on-site monitoring, and the one potentially anomalous result for toluene, the on-site results are similar to those obtained by EPA from the off-site monitoring locations.

3.4 TLD RESULTS

Thirteen TLDs for station monitoring and a control badge were received from the laboratory for the first quarter of monitoring. The field crew deployed the control badge as a station dosimeter when requested to include a duplicate TLD at one of the stations. This practice continued for the second and third quarter monitoring periods, however as a result of an audit and subsequent corrective action, a dosimeter specifically designated as a duplicate badge was requested, received and deployed for the January 2016 monitoring period.

First quarter gross TLD measurements for all 13 monitoring stations, and the duplicate placed at station 11 (labeled 11A in the report) are shown in Appendix E. The gross results range from 23 to 35 millirem (mrem) with the exception of the result for station 10, with a gross result of 70 mrem. Investigatory measurements were performed using a Ludlum Model 19 to evaluate the exposure rate at and near station 10. The Model 19 is a highly sensitive instrument for measuring gamma exposure rate in micro Roentgen per hour (µR/h). The instrument is calibrated on an annual basis (at a minimum) at a calibration laboratory using National Institute of Standards and Technology traceable radioactive standards. The response to an appropriate check source is measured prior to and after use each day by qualified

radiological technicians to verify that he instrument is responding within accepted operational limits. Daily background measurements in the on-site health physics trailer range from 6-8 µR/h, with typical reading over non-impacted soil areas ranging from 10-12 µR/hr.

Measurements with the Model 19 demonstrated typical background gamma levels of ~ 10 µR/h at station 10. An exposure rate of 10 µR/hr would result in ~20 mrem accumulated gamma dose for the three month sampling period. The gross accumulated measurement range of 23 to 36 mrem equates to area exposure rates of 11 to 18 µR/h.

The types of TLDs used for the first quarter of gamma dose measurements are prone to “noise” peaks when subjected to outdoor monitoring conditions. According to the laboratory, a considerable amount of “noise” was associated with the measurement of the TLD at station 10. The measurement from station 10 may be an outlier and could be subject to further evaluation after continued data collection and statistical analysis. TLDs more suited to outdoor conditions were identified and deployed in January 2016.

Also beginning in January 2016, trip blanks were included to assist in evaluating the source of sample exposures. The trip blank is stored in a lead-lined container during the sampling period, but shipped normally with the other TLDs. This allows for differentiating exposures that occur during shipping from exposures that occur during deployment.

3.5 RADON RESULTS

Radon results for the 13 monitoring stations were below the laboratory method detection limit of 0.4 pCi/l. The results are presented in Appendix G.

References

A&A 2014 — *Air Monitoring, Sampling, and QA/QC Plan, West Lake Superfund Site Operable Unit 1*, October, 2014.

A&A 2016 — West Lake Landfill Perimeter Air Monitoring First Quarter Report, May, June, and July, March 2016NRC 1988 *"Radioactive Material in the West Lake Landfill – Summary Report," U.S. Nuclear Regulatory Commission (NRC), NUREG 1308 – Rev. 1, June 1988*

RMC 1982 — *"Radiological Survey of the West Lake Landfill, St. Louis County, Missouri," Radiation Management Corporation (RMC), NUREG/CR-2722, May 1982*.

RMC 1981 — "Report on Site Visit – West Lake Landfill, St. Louis County, Missouri," RMC, 1981.

MARLAP 2004 — "Multi-Agency Radiological Laboratory Analytical Protocols Manual" (MARLAP), Part I, July 2004.

Tetra Tech 1 2015 — *Interim Data Summary of Radiological Parameters Analyzed During Ongoing Baseline Off-Site Air Monitoring, West Lake Landfill Site,* Tetra Tech, Inc., March 16, 2015.

Tetra Tech 2 2015 — *Interim Data Summary of Ongoing Baseline Off-Site Air Monitoring Via Sampling for Volatile Organic Compounds and Hydrogen Sulfide by Application of Passive/Diffusive Sampling Methods,* Tetra Tech, Inc., March 16, 2015.

APPENDIX A

VALIDATED GROSS ALPHA AND GROSS BETA PARTICULATE RESULTS

Validated Gross Alpha and Gross Beta Air Particulate Results										
Client ID	Sample Date	Report Units	Gross Alpha				Gross Beta			
			RESULT	Final Q	CV	CSU	RESULT	Final Q	CV	CSU
ENGWESA001	5/27/15 16:12	pCi/m^3	1.45E-03		2.84E-05	1.83E-04	1.84E-02	J+	1.33E-04	2.55E-03
ENGWESA002	5/28/15 8:30	pCi/m^3	1.54E-03		3.73E-05	1.92E-04	1.94E-02	J+	1.62E-04	2.69E-03
ENGWESA003	5/28/15 9:06	pCi/m^3	1.52E-03		3.57E-05	1.90E-04	2.05E-02	J+	1.36E-04	2.84E-03
ENGWESA004	5/28/15 9:30	pCi/m^3	1.28E-03		3.37E-05	1.62E-04	1.76E-02	J+	1.27E-04	2.44E-03
ENGWESA005	5/27/15 15:08	pCi/m^3	1.40E-03		2.80E-05	1.76E-04	1.73E-02	J+	1.31E-04	2.41E-03
ENGWESA006	5/27/15 16:50	pCi/m^3	1.75E-03		3.76E-05	2.15E-04	1.92E-02	J+	1.63E-04	2.66E-03
ENGWESA007	5/27/15 12:00	pCi/m^3	1.37E-03		1.77E-05	1.75E-04	1.74E-02	J+	1.58E-04	2.42E-03
ENGWESA008	5/27/15 15:38	pCi/m^3	1.50E-03		2.77E-05	1.88E-04	1.89E-02	J+	1.66E-04	2.62E-03
ENGWESA009	5/28/15 10:42	pCi/m^3								
ENGWESA010	5/28/15 11:06	pCi/m^3	1.09E-03		3.66E-05	1.41E-04	1.53E-02	J+	1.59E-04	2.13E-03
ENGWESA011	5/27/15 9:10	pCi/m^3	1.95E-03		1.66E-05	2.37E-04	2.16E-02	J+	1.48E-04	3.00E-03
ENGWESA012	5/27/15 10:36	pCi/m^3	1.58E-03		2.77E-05	1.97E-04	2.15E-02	J+	1.66E-04	2.99E-03
ENGWESA013	5/27/15 11:17	pCi/m^3	1.40E-03		2.93E-05	1.78E-04	1.86E-02	J+	1.37E-04	2.59E-03
ENGWESA013 FD	5/27/15 11:17	pCi/m^3	1.81E-03		1.71E-05	2.22E-04	2.07E-02	J+	1.53E-04	2.87E-03
ENGWESA001	6/24/15 12:15	pCi/m^3	2.08E-03	J+	1.21E-04	2.52E-04	1.95E-02	J+	1.79E-04	2.71E-03
ENGWESA002	6/24/15 9:40	pCi/m^3	2.42E-03	J+	1.14E-04	2.88E-04	1.95E-02	J+	1.78E-04	2.71E-03
ENGWESA003	6/24/15 10:40	pCi/m^3	2.43E-03	J+	1.17E-04	2.90E-04	2.27E-02	J+	1.76E-04	3.15E-03
ENGWESA004	6/24/15 11:40	pCi/m^3	2.34E-03	J+	1.14E-04	2.80E-04	2.20E-02	J+	1.64E-04	3.06E-03
ENGWESA005	6/23/15 10:30	pCi/m^3	2.11E-03	J+	1.20E-04	2.56E-04	1.99E-02	J+	1.45E-04	2.76E-03
ENGWESA006	6/24/15 13:00	pCi/m^3	5.27E-04	J+	1.13E-04	7.93E-05	4.06E-03	J+	1.74E-04	5.74E-04
ENGWESA007	6/23/15 9:38	pCi/m^3	2.57E-03	J+	1.23E-04	3.07E-04	2.09E-02	J+	1.88E-04	2.90E-03
ENGWESA008	6/23/15 11:25	pCi/m^3	2.45E-03	J+	1.24E-04	2.93E-04	2.56E-02	J+	1.43E-04	3.55E-03
ENGWESA009	6/23/15 13:26	pCi/m^3	2.43E-03	J+	1.80E-04	3.00E-04	2.21E-02	J+	1.96E-04	3.07E-03
ENGWESA010	6/23/15 14:10	pCi/m^3	2.41E-03	J+	1.37E-04	2.90E-04	2.13E-02	J+	2.13E-04	2.96E-03
ENGWESA011	6/23/15 8:59	pCi/m^3	2.32E-03	J+	1.35E-04	2.80E-04	2.03E-02	J+	1.42E-04	2.82E-03
ENGWESA012	6/23/15 14:50	pCi/m^3	2.54E-03	J+	1.19E-04	3.02E-04	2.19E-02	J+	1.26E-04	3.03E-03
ENGWESA012 FD	6/23/15 14:50	pCi/m^3	2.46E-03	J+	1.13E-04	2.93E-04	2.19E-02	J+	1.45E-04	3.04E-03
ENGWESA013	6/23/15 15:30	pCi/m^3	2.71E-03	J+	1.12E-04	3.21E-04	2.27E-02	J+	1.55E-04	3.15E-03
ENGWESA001	7/22/15 14:20	pCi/m^3	3.39E-03		1.20E-04	3.95E-04	2.36E-02		2.40E-04	3.27E-03
ENGWESA002	7/24/15 14:00	pCi/m^3								
ENGWESA003	7/23/15 7:29	pCi/m^3	3.27E-03		1.22E-04	3.81E-04	2.42E-02		2.50E-04	3.36E-03
ENGWESA004	7/23/15 8:19	pCi/m^3	3.85E-03		1.19E-04	4.44E-04	2.57E-02		2.00E-04	3.56E-03
ENGWESA005	7/22/15 11:00	pCi/m^3	4.42E-03		1.43E-04	5.08E-04	2.60E-02		2.15E-04	3.60E-03
ENGWESA006	7/22/15 13:55	pCi/m^3	3.45E-03		1.29E-04	4.02E-04	2.27E-02		2.18E-04	3.15E-03
ENGWESA007	7/22/15 10:32	pCi/m^3	2.29E-03		1.33E-04	2.75E-04	1.56E-02		1.78E-04	2.17E-03
ENGWESA008	7/22/15 11:20	pCi/m^3	4.57E-03		1.54E-04	5.27E-04	2.82E-02		2.43E-04	3.91E-03
ENGWESA009	7/23/15 8:39	pCi/m^3	3.38E-03		1.25E-04	3.94E-04	2.34E-02		2.23E-04	3.25E-03
ENGWESA010	7/22/15 10:10	pCi/m^3	3.22E-03		1.33E-04	3.78E-04	2.03E-02		2.01E-04	2.82E-03
ENGWESA011	7/22/15 7:32	pCi/m^3	4.07E-03		1.24E-04	4.69E-04	2.49E-02		1.73E-04	3.46E-03
ENGWESA011 FD	7/22/15 7:32	pCi/m^3	4.63E-03		1.26E-04	5.32E-04	2.72E-02		1.69E-04	3.77E-03
ENGWESA012	7/22/15 8:20	pCi/m^3	3.86E-03		1.21E-04	4.45E-04	2.40E-02		1.82E-04	3.33E-03
ENGWESA013	7/22/15 8:35	pCi/m^3	3.18E-03		1.23E-04	3.72E-04	2.12E-02		1.87E-04	2.94E-03

APPENDIX B

VALIDATED ISOTOPIC AIR PARTICULATE RESULTS

Validated Isotopic Air Particulate Results

Client ID	Sample Date	Report Units	Actinium-227				Actinium-228 (Radium-228)			
			RESULT	FINAL Q	CSU	CV	RESULT	FINAL Q	CSU	CV
ENGWESA001	5/27/15 16:12	pCi/m^3	1.46E-05	J	8.38E-06	4.53E-07	1.70E-04	J	2.05E-04	1.61E-04
ENGWESA002	5/28/15 8:30	pCi/m^3	7.11E-06	J	6.87E-06	6.49E-07	1.66E-04	J	1.31E-04	1.02E-04
ENGWESA003	5/28/15 9:06	pCi/m^3	6.45E-06	J	4.67E-06	7.79E-07	2.14E-04	J	1.55E-04	1.20E-04
ENGWESA004	5/28/15 9:30	pCi/m^3	6.49E-06	J	4.64E-06	6.89E-08	1.16E-04	U	2.14E-04	1.70E-04
ENGWESA005	5/27/15 15:08	pCi/m^3	6.78E-06	J	4.72E-06	5.47E-07	-5.33E-06	U	4.55E-05	8.22E-05
ENGWESA006	5/27/15 16:50	pCi/m^3	1.04E-05	J	6.18E-06	1.07E-06	-2.39E-04	U	2.59E-04	1.68E-04
ENGWESA007	5/27/15 12:00	pCi/m^3	8.20E-06	J	5.43E-06	2.17E-07	1.78E-04	J	1.56E-04	1.22E-04
ENGWESA008	5/27/15 15:38	pCi/m^3	3.42E-06	J	3.30E-06	3.10E-07	1.63E-04	J	1.47E-04	1.17E-04
ENGWESA009	5/28/15 10:42	pCi/m^3								
ENGWESA010	5/28/15 11:06	pCi/m^3	8.73E-06	J	5.95E-06	8.34E-08	1.14E-04	U	1.97E-04	1.59E-04
ENGWESA011	5/27/15 9:10	pCi/m^3	6.58E-06	J	4.86E-06	5.94E-07	2.31E-04	J	1.62E-04	1.25E-04
ENGWESA012	5/27/15 10:36	pCi/m^3	1.24E-06	J	2.68E-06	1.07E-06	-1.02E-05	U	1.41E-04	9.96E-05
ENGWESA013	5/27/15 11:17	pCi/m^3	4.24E-06	J	4.43E-06	2.87E-07	3.27E-04	J	3.79E-04	2.91E-04
ENGWESA001	6/24/15 12:15	pCi/m^3	-5.48E-07	U	2.20E-06	6.35E-07	1.91E-05	U	1.76E-04	1.25E-04
ENGWESA002	6/24/15 9:40	pCi/m^3	6.41E-06	J	6.43E-06	8.40E-07	7.75E-05	U	1.22E-04	9.35E-05
ENGWESA003	6/24/15 10:40	pCi/m^3	8.10E-07	U	2.39E-06	8.98E-07	1.15E-04	J	1.23E-04	9.81E-05
ENGWESA004	6/24/15 11:40	pCi/m^3	1.69E-06	J	2.35E-06	3.99E-07	1.78E-04	J	1.40E-04	1.09E-04
ENGWESA005	6/23/15 10:30	pCi/m^3	5.00E-06	J	4.52E-06	5.37E-07	1.26E-04	J	1.34E-04	1.06E-04
ENGWESA006	6/24/15 13:00	pCi/m^3	3.69E-06	J	3.44E-06	5.23E-07	6.61E-05	U	2.00E-04	1.54E-04
ENGWESA007	6/23/15 9:38	pCi/m^3	5.00E-06	J	4.72E-06	1.56E-06	1.81E-04	J	1.52E-04	1.17E-04
ENGWESA008	6/23/15 11:25	pCi/m^3	3.80E-06	J	4.08E-06	1.15E-06	4.46E-05	U	1.50E-04	1.09E-04
ENGWESA009	6/23/15 13:26	pCi/m^3	3.04E-06	J	3.71E-06	2.80E-07	-8.45E-06	U	2.07E-04	1.46E-04
ENGWESA010	6/23/15 14:10	pCi/m^3	3.90E-06	J	4.03E-06	1.01E-06	4.61E-05	U	1.46E-04	1.07E-04
ENGWESA011	6/23/15 8:59	pCi/m^3	1.63E-06	J	2.79E-06	4.17E-07	1.38E-04	J	1.46E-04	1.13E-04
ENGWESA012	6/23/15 14:50	pCi/m^3	1.99E-07	U	2.79E-06	1.22E-06	9.22E-05	U	1.64E-04	1.23E-04
ENGWESA013	6/23/15 15:30	pCi/m^3	-3.26E-06	U	2.14E-06	3.24E-06	1.33E-04	J	1.33E-04	1.02E-04

Client ID	Sample Date	Report Units	Bismuth-214 (Radium-226)				Lead-210			
			RESULT	FINAL Q	CSU	CV	RESULT	FINAL Q	CSU	CV
ENGWESA001	5/27/15 16:12	pCi/m^3	1.52E-04	U	1.06E-04	8.54E-05	8.89E-03		1.41E-03	7.43E-04
ENGWESA002	5/28/15 8:30	pCi/m^3	1.61E-04	J	9.55E-05	7.81E-05	1.14E-02		1.36E-03	6.90E-04
ENGWESA003	5/28/15 9:06	pCi/m^3	1.09E-04	J	1.28E-04	1.04E-04	9.09E-03		1.36E-03	7.73E-04
ENGWESA004	5/28/15 9:30	pCi/m^3	8.94E-05	U	1.72E-04	9.25E-05	7.43E-03		1.08E-03	5.70E-04
ENGWESA005	5/27/15 15:08	pCi/m^3	1.01E-04	J	7.62E-05	5.93E-05	9.97E-03		1.29E-03	4.96E-04
ENGWESA006	5/27/15 16:50	pCi/m^3	4.51E-05	U	1.35E-04	9.22E-05	6.55E-03		1.05E-03	6.07E-04
ENGWESA007	5/27/15 12:00	pCi/m^3	2.16E-04		9.75E-05	7.85E-05	7.31E-03		1.01E-03	1.03E-03
ENGWESA008	5/27/15 15:38	pCi/m^3	5.24E-05	U	8.01E-05	6.06E-05	8.85E-03		1.28E-03	6.15E-04
ENGWESA009	5/28/15 10:42	pCi/m^3								
ENGWESA010	5/28/15 11:06	pCi/m^3	1.13E-04	J	1.97E-04	9.34E-05	6.20E-03		1.11E-03	7.03E-04
ENGWESA011	5/27/15 9:10	pCi/m^3	1.42E-04	J	9.24E-05	7.25E-05	8.42E-03		1.26E-03	7.09E-04
ENGWESA012	5/27/15 10:36	pCi/m^3	3.63E-05	U	7.94E-05	5.94E-05	9.05E-03		1.20E-03	6.13E-04
ENGWESA013	5/27/15 11:17	pCi/m^3	2.23E-05	U	2.09E-04	1.50E-04	2.02E-02		2.65E-03	1.53E-03
ENGWESA001	6/24/15 12:15	pCi/m^3	4.71E-05	U	9.88E-05	7.33E-05	8.51E-03		1.22E-03	5.56E-04
ENGWESA002	6/24/15 9:40	pCi/m^3	8.67E-05	J	8.36E-05	6.43E-05	9.67E-03		1.28E-03	6.05E-04
ENGWESA003	6/24/15 10:40	pCi/m^3	5.49E-05	U	7.74E-05	5.88E-05	1.01E-02		1.47E-03	7.28E-04
ENGWESA004	6/24/15 11:40	pCi/m^3	1.40E-04	J	8.60E-05	6.76E-05	1.03E-02		1.33E-03	6.04E-04
ENGWESA005	6/23/15 10:30	pCi/m^3	7.55E-06	U	8.02E-05	5.77E-05	9.31E-03		1.32E-03	6.10E-04
ENGWESA006	6/24/15 13:00	pCi/m^3	1.31E-04	J	2.15E-04	9.05E-05	1.00E-03	J	6.24E-04	5.00E-04
ENGWESA007	6/23/15 9:38	pCi/m^3	3.74E-05	U	7.19E-05	5.38E-05	1.06E-02		1.35E-03	4.84E-04
ENGWESA008	6/23/15 11:25	pCi/m^3	2.27E-04		9.51E-05	7.66E-05	9.34E-03		1.34E-03	7.27E-04
ENGWESA009	6/23/15 13:26	pCi/m^3	6.98E-05	U	1.03E-04	7.83E-05	9.50E-03		1.57E-03	8.94E-04
ENGWESA010	6/23/15 14:10	pCi/m^3	-2.02E-05	U	8.55E-05	5.99E-05	9.78E-03		1.30E-03	5.27E-04
ENGWESA011	6/23/15 8:59	pCi/m^3	5.87E-05	U	8.87E-05	6.65E-05	1.08E-02		1.47E-03	7.50E-04
ENGWESA012	6/23/15 14:50	pCi/m^3	5.21E-05	U	9.37E-05	7.02E-05	1.25E-02		1.62E-03	6.08E-04
ENGWESA013	6/23/15 15:30	pCi/m^3	3.74E-05	U	8.08E-05	5.99E-05	9.92E-03		1.34E-03	6.73E-04

Client ID	Sample Date	Report Units	Lead-214				Potassium-40			
			RESULT	FINAL Q	CSU	CV	RESULT	FINAL Q	CSU	CV
ENGWESA001	5/27/15 16:12	pCi/m^3	2.92E-05	U	1.11E-04	8.03E-05	9.26E-04	J	5.58E-04	3.10E-04
ENGWESA002	5/28/15 8:30	pCi/m^3	5.73E-05	J	6.31E-05	5.14E-05	5.69E-04	J	4.52E-04	3.82E-04
ENGWESA003	5/28/15 9:06	pCi/m^3	1.25E-04	J	8.57E-05	5.99E-05	1.31E-03		5.62E-04	4.87E-04
ENGWESA004	5/28/15 9:30	pCi/m^3	6.76E-05	U	1.05E-04	8.16E-05	3.62E-04	U	6.49E-04	5.38E-04
ENGWESA005	5/27/15 15:08	pCi/m^3	1.06E-04	J	5.95E-05	5.02E-05	4.23E-04	J	5.05E-04	4.01E-04
ENGWESA006	5/27/15 16:50	pCi/m^3	-3.19E-05	U	1.08E-04	7.92E-05	3.34E-04	U	6.29E-04	5.15E-04
ENGWESA007	5/27/15 12:00	pCi/m^3	1.68E-04	J	9.17E-05	6.53E-05	1.50E-03		5.82E-04	5.20E-04
ENGWESA008	5/27/15 15:38	pCi/m^3	1.02E-05	U	7.67E-05	5.46E-05	4.09E-04	U	6.28E-04	4.62E-04
ENGWESA009	5/28/15 10:42	pCi/m^3								
ENGWESA010	5/28/15 11:06	pCi/m^3	3.27E-05	U	1.03E-04	7.87E-05	4.07E-04	U	6.17E-04	5.99E-04
ENGWESA011	5/27/15 9:10	pCi/m^3	9.75E-05	J	8.84E-05	6.00E-05	1.63E-03		6.19E-04	5.38E-04
ENGWESA012	5/27/15 10:36	pCi/m^3	3.25E-06	U	8.12E-05	5.78E-05	8.61E-04	J	6.66E-04	4.76E-04
ENGWESA013	5/27/15 11:17	pCi/m^3	1.22E-04	U	1.63E-04	1.33E-04	5.26E-04	U	1.34E-03	9.61E-04
ENGWESA001	6/24/15 12:15	pCi/m^3	1.19E-04	U	1.10E-04	8.76E-05	7.48E-04	J	5.84E-04	4.88E-04
ENGWESA002	6/24/15 9:40	pCi/m^3	1.12E-04	J	8.37E-05	5.82E-05	9.78E-04	J	5.12E-04	4.46E-04
ENGWESA003	6/24/15 10:40	pCi/m^3	3.23E-05	U	8.19E-05	5.96E-05	7.54E-04	J	4.99E-04	4.33E-04
ENGWESA004	6/24/15 11:40	pCi/m^3	8.59E-05	J	8.65E-05	5.86E-05	1.03E-03		5.09E-04	4.45E-04
ENGWESA005	6/23/15 10:30	pCi/m^3	3.64E-05	U	7.88E-05	5.76E-05	7.88E-04	J	5.19E-04	4.49E-04
ENGWESA006	6/24/15 13:00	pCi/m^3	8.47E-05	J	9.40E-05	7.42E-05	-6.94E-05	U	6.49E-04	4.72E-04
ENGWESA007	6/23/15 9:38	pCi/m^3	3.86E-05	U	6.24E-05	5.03E-05	5.59E-04	J	4.99E-04	4.10E-04
ENGWESA008	6/23/15 11:25	pCi/m^3	5.95E-05	J	8.84E-05	5.89E-05	7.61E-04	J	5.67E-04	4.65E-04
ENGWESA009	6/23/15 13:26	pCi/m^3	4.63E-05	U	1.04E-04	7.50E-05	6.84E-04	J	7.26E-04	5.69E-04
ENGWESA010	6/23/15 14:10	pCi/m^3	6.64E-05	J	5.90E-05	4.92E-05	5.16E-04	J	4.49E-04	3.69E-04
ENGWESA011	6/23/15 8:59	pCi/m^3	7.02E-05	J	8.57E-05	5.74E-05	1.36E-03		5.55E-04	4.89E-04
ENGWESA012	6/23/15 14:50	pCi/m^3	9.01E-05	J	7.85E-05	6.50E-05	1.12E-03	J	6.39E-04	5.53E-04
ENGWESA013	6/23/15 15:30	pCi/m^3	1.17E-04	J	8.26E-05	5.76E-05	1.05E-03		4.31E-04	4.02E-04

Client ID	Sample Date	Report Units	Protactinium-231				Thorium-230			
			RESULT	FINAL Q	CSU	CV	RESULT	FINAL Q	CSU	CV
ENGWESA001	5/27/15 16:12	pCi/m^3	6.31E-05	U	1.78E-03	1.27E-03	2.36E-05	J	1.08E-05	5.78E-06
ENGWESA002	5/28/15 8:30	pCi/m^3	9.50E-04	J	1.08E-03	8.63E-04	2.76E-05	J	1.38E-05	8.53E-06
ENGWESA003	5/28/15 9:06	pCi/m^3	-2.36E-04	U	1.44E-03	8.92E-04	2.76E-05	J	1.02E-05	4.02E-06
ENGWESA004	5/28/15 9:30	pCi/m^3	2.49E-04	U	1.46E-03	1.32E-03	3.14E-05	J	1.11E-05	3.78E-06
ENGWESA005	5/27/15 15:08	pCi/m^3	-8.81E-04	U	1.02E-03	7.56E-04	2.93E-05	J	1.06E-05	4.05E-06
ENGWESA006	5/27/15 16:50	pCi/m^3	2.05E-04	U	1.77E-03	1.33E-03	3.08E-05	J	1.12E-05	4.12E-06
ENGWESA007	5/27/15 12:00	pCi/m^3	-4.21E-04	U	1.51E-03	9.26E-04	5.81E-05	J	1.78E-05	4.38E-06
ENGWESA008	5/27/15 15:38	pCi/m^3	7.96E-04	U	1.41E-03	1.03E-03	3.17E-05	J	1.12E-05	4.08E-06
ENGWESA009	5/28/15 10:42	pCi/m^3								
ENGWESA010	5/28/15 11:06	pCi/m^3	2.80E-03	J	1.64E-03	1.32E-03	4.14E-05	J	1.45E-05	4.58E-06
ENGWESA011	5/27/15 9:10	pCi/m^3	8.74E-05	U	1.46E-03	9.25E-04	3.65E-05	J	1.27E-05	4.40E-06
ENGWESA012	5/27/15 10:36	pCi/m^3	9.05E-04	J	1.08E-03	8.65E-04	3.51E-05	J	1.21E-05	4.09E-06
ENGWESA013	5/27/15 11:17	pCi/m^3	2.16E-04	U	2.81E-03	2.20E-03	4.39E-05	J	1.62E-05	5.80E-06
ENGWESA001	6/24/15 12:15	pCi/m^3	7.07E-04	U	1.26E-03	1.01E-03	1.75E-05	J	9.15E-06	5.84E-06
ENGWESA002	6/24/15 9:40	pCi/m^3	-2.38E-04	U	1.24E-03	9.13E-04	8.08E-06	U	6.85E-06	7.73E-06
ENGWESA003	6/24/15 10:40	pCi/m^3	-4.68E-04	U	1.53E-03	1.06E-03	1.90E-05		8.79E-06	5.45E-06
ENGWESA004	6/24/15 11:40	pCi/m^3	-3.29E-04	U	1.49E-03	9.23E-04	3.87E-05		1.24E-05	3.67E-06
ENGWESA005	6/23/15 10:30	pCi/m^3	8.39E-04	U	1.38E-03	1.01E-03	3.39E-05		1.29E-05	5.39E-06
ENGWESA006	6/24/15 13:00	pCi/m^3	8.85E-04	U	1.45E-03	1.12E-03	1.05E-05	J	5.68E-06	3.88E-06
ENGWESA007	6/23/15 9:38	pCi/m^3	-4.38E-04	U	1.10E-03	8.34E-04	2.93E-05		1.12E-05	5.10E-06
ENGWESA008	6/23/15 11:25	pCi/m^3	-9.23E-04	U	1.58E-03	9.44E-04	1.93E-05		8.73E-06	4.84E-06
ENGWESA009	6/23/15 13:26	pCi/m^3	6.21E-04	U	1.74E-03	1.26E-03	3.05E-05		1.28E-05	6.36E-06
ENGWESA010	6/23/15 14:10	pCi/m^3	8.74E-04	U	1.11E-03	8.89E-04	2.66E-05		1.07E-05	6.01E-06
ENGWESA011	6/23/15 8:59	pCi/m^3	1.26E-03	J	1.45E-03	9.70E-04	2.23E-05		1.03E-05	5.81E-06
ENGWESA012	6/23/15 14:50	pCi/m^3	7.07E-04	U	1.36E-03	1.09E-03	4.96E-05		1.90E-05	7.64E-06
ENGWESA013	6/23/15 15:30	pCi/m^3	-7.66E-04	U	1.49E-03	8.92E-04	1.78E-05		8.47E-06	5.80E-06

Client ID	Sample Date	Report Units	Thorium-232				Uranium-234			
			RESULT	FINAL Q	CSU	CV	RESULT	FINAL Q	CSU	CV
ENGWESA001	5/27/15 16:12	pCi/m^3	2.75E-06	J	3.58E-06	4.28E-07	3.94E-05		1.39E-05	3.25E-07
ENGWESA002	5/28/15 8:30	pCi/m^3	1.18E-05	J	8.92E-06	1.11E-07	3.13E-05		1.06E-05	3.67E-07
ENGWESA003	5/28/15 9:06	pCi/m^3	8.91E-06	J	5.16E-06	1.71E-07	3.59E-05	J	1.62E-05	1.35E-06
ENGWESA004	5/28/15 9:30	pCi/m^3	1.45E-05	J	6.76E-06	1.71E-07	4.40E-05	J	1.91E-05	1.70E-06
ENGWESA005	5/27/15 15:08	pCi/m^3	1.16E-05	J	6.05E-06	4.11E-07	4.99E-05	J	1.52E-05	4.42E-07
ENGWESA006	5/27/15 16:50	pCi/m^3	1.66E-05	J	7.53E-06	4.30E-07	2.81E-05	J	1.09E-05	7.48E-07
ENGWESA007	5/27/15 12:00	pCi/m^3	1.68E-05	J	7.84E-06	1.97E-07	4.69E-05	J	1.51E-05	6.39E-07
ENGWESA008	5/27/15 15:38	pCi/m^3	8.38E-06	J	5.03E-06	1.73E-07	2.66E-05	J	1.10E-05	8.11E-07
ENGWESA009	5/28/15 10:42	pCi/m^3								
ENGWESA010	5/28/15 11:06	pCi/m^3	1.50E-05	J	7.56E-06	2.07E-07	5.33E-05		1.53E-05	6.98E-07
ENGWESA011	5/27/15 9:10	pCi/m^3	1.64E-05	J	7.63E-06	4.46E-07	2.78E-05	J	1.06E-05	1.15E-06
ENGWESA012	5/27/15 10:36	pCi/m^3	1.13E-05	J	6.10E-06	4.28E-07	3.71E-05		1.31E-05	2.98E-07
ENGWESA013	5/27/15 11:17	pCi/m^3	1.80E-05	J	9.22E-06	2.62E-07	1.81E-05	J	1.32E-05	2.71E-06
ENGWESA001	6/24/15 12:15	pCi/m^3	7.10E-06	J	5.56E-06	2.56E-07	3.60E-05		1.45E-05	3.61E-06
ENGWESA002	6/24/15 9:40	pCi/m^3	6.78E-07	U	2.83E-06	8.08E-07	3.10E-05		1.18E-05	7.95E-07
ENGWESA003	6/24/15 10:40	pCi/m^3	2.35E-06	U	4.03E-06	2.51E-06	3.73E-05	J	1.97E-05	2.94E-07
ENGWESA004	6/24/15 11:40	pCi/m^3	1.68E-05		7.19E-06	2.72E-07	2.96E-05		1.10E-05	1.14E-07
ENGWESA005	6/23/15 10:30	pCi/m^3	1.06E-05	J	6.59E-06	9.65E-07	2.34E-05		9.71E-06	8.76E-07
ENGWESA006	6/24/15 13:00	pCi/m^3	5.82E-06	J	4.10E-06	2.79E-07	3.03E-05		1.06E-05	2.44E-07
ENGWESA007	6/23/15 9:38	pCi/m^3	1.08E-05	J	6.57E-06	1.94E-06	4.42E-05		1.46E-05	6.45E-07
ENGWESA008	6/23/15 11:25	pCi/m^3	4.32E-06	J	4.58E-06	2.08E-06	3.64E-05		1.32E-05	3.09E-07
ENGWESA009	6/23/15 13:26	pCi/m^3	6.92E-06	J	5.56E-06	4.32E-07	4.64E-05		1.63E-05	1.40E-06
ENGWESA010	6/23/15 14:10	pCi/m^3	7.44E-06	J	5.34E-06	1.26E-06	3.55E-05		1.41E-05	5.78E-07
ENGWESA011	6/23/15 8:59	pCi/m^3	6.18E-06	J	5.11E-06	5.56E-07	2.52E-05		1.00E-05	2.69E-07
ENGWESA012	6/23/15 14:50	pCi/m^3	2.12E-05	J	1.12E-05	7.52E-07	5.48E-05		1.78E-05	5.71E-07
ENGWESA013	6/23/15 15:30	pCi/m^3	3.21E-06	J	3.49E-06	7.18E-07	2.58E-05		1.04E-05	1.17E-07

Client ID	Sample Date	Report Units	Uranium-235				Uranium-238			
			RESULT	FINAL Q	CSU	CV	RESULT	FINAL Q	CSU	CV
ENGWESA001	5/27/15 16:12	pCi/m^3	5.20E-06	J	5.38E-06	2.56E-07	3.36E-05		1.27E-05	4.47E-07
ENGWESA002	5/28/15 8:30	pCi/m^3	1.95E-06	J	3.31E-06	4.98E-08	3.43E-05		1.12E-05	3.20E-07
ENGWESA003	5/28/15 9:06	pCi/m^3	7.24E-06	J	8.28E-06	9.63E-07	5.08E-05	J	1.99E-05	2.97E-06
ENGWESA004	5/28/15 9:30	pCi/m^3	1.79E-06	J	4.30E-06	4.06E-07	3.65E-05	J	1.73E-05	1.89E-06
ENGWESA005	5/27/15 15:08	pCi/m^3	7.72E-07	J	2.36E-06	3.82E-07	4.28E-05	J	1.39E-05	7.07E-07
ENGWESA006	5/27/15 16:50	pCi/m^3	-5.84E-07	UJ	2.34E-06	5.31E-07	2.54E-05	J	1.02E-05	5.35E-07
ENGWESA007	5/27/15 12:00	pCi/m^3	3.73E-06	J	4.91E-06	6.36E-08	4.32E-05	J	1.44E-05	1.09E-06
ENGWESA008	5/27/15 15:38	pCi/m^3	7.87E-06	J	6.61E-06	7.48E-07	4.61E-05	J	1.49E-05	2.39E-07
ENGWESA009	5/28/15 10:42	pCi/m^3								
ENGWESA010	5/28/15 11:06	pCi/m^3	4.63E-06	J	4.80E-06	6.44E-07	3.82E-05		1.25E-05	7.94E-07
ENGWESA011	5/27/15 9:10	pCi/m^3	1.97E-06	J	3.02E-06	2.03E-07	2.51E-05	J	9.81E-06	2.06E-07
ENGWESA012	5/27/15 10:36	pCi/m^3	2.06E-06	J	3.50E-06	4.06E-07	2.69E-05		1.09E-05	2.39E-07
ENGWESA013	5/27/15 11:17	pCi/m^3	2.11E-06	J	5.06E-06	4.81E-07	1.95E-05	J	1.31E-05	1.19E-06
ENGWESA001	6/24/15 12:15	pCi/m^3	1.95E-06	J	4.21E-06	8.89E-07	3.13E-05		1.29E-05	8.94E-07
ENGWESA002	6/24/15 9:40	pCi/m^3	1.01E-06	J	2.43E-06	2.30E-07	3.05E-05		1.17E-05	6.63E-08
ENGWESA003	6/24/15 10:40	pCi/m^3	2.39E-06	U	5.74E-06	5.42E-07	3.45E-05	J	1.84E-05	5.51E-07
ENGWESA004	6/24/15 11:40	pCi/m^3	6.64E-06	J	5.81E-06	5.68E-08	3.47E-05		1.19E-05	2.13E-07
ENGWESA005	6/23/15 10:30	pCi/m^3	2.94E-06	J	3.81E-06	3.62E-07	1.38E-05	J	7.27E-06	5.18E-07
ENGWESA006	6/24/15 13:00	pCi/m^3	3.20E-06	J	4.07E-06	7.51E-07	3.19E-05		1.11E-05	8.94E-07
ENGWESA007	6/23/15 9:38	pCi/m^3	9.82E-06	J	7.10E-06	2.36E-07	2.94E-05		1.16E-05	6.82E-08
ENGWESA008	6/23/15 11:25	pCi/m^3	3.87E-06	J	5.08E-06	6.61E-08	3.39E-05		1.29E-05	1.49E-06
ENGWESA009	6/23/15 13:26	pCi/m^3	7.54E-06	J	7.31E-06	7.71E-08	3.32E-05		1.34E-05	9.10E-07
ENGWESA010	6/23/15 14:10	pCi/m^3	3.05E-06	J	5.20E-06	7.84E-08	3.16E-05		1.32E-05	5.04E-07
ENGWESA011	6/23/15 8:59	pCi/m^3	3.16E-06	J	3.84E-06	2.12E-07	2.39E-05		9.78E-06	5.24E-07
ENGWESA012	6/23/15 14:50	pCi/m^3	1.36E-05	J	9.57E-06	7.75E-08	4.13E-05		1.53E-05	1.54E-06
ENGWESA013	6/23/15 15:30	pCi/m^3	6.83E-06	J	5.98E-06	5.83E-08	3.49E-05		1.23E-05	6.19E-08

APPENDIX C

COMPARISON OF ISOTOPIC RESULTS TO NRC EFFLUENT LIMITS

Comparison of Isotopic Results to NRC Appendix B Effluent Limits							
Client ID	Analyte	Sample Date	uCi/ml		Sample Date	uCi/ml	NRC Eff Limit
ENGWESA001	AC-227	5/27/2015	1.46E-17		6/24/2015	-5.48E-19	1.00E-15
ENGWESA002	AC-227	5/28/2015	7.11E-18		6/24/2015	6.41E-18	1.00E-15
ENGWESA003	AC-227	5/28/2015	6.45E-18		6/24/2015	8.10E-19	1.00E-15
ENGWESA004	AC-227	5/28/2015	6.49E-18		6/24/2015	1.69E-18	1.00E-15
ENGWESA005	AC-227	5/27/2015	6.78E-18		6/23/2015	5.00E-18	1.00E-15
ENGWESA006	AC-227	5/27/2015	1.04E-17		6/24/2015	3.69E-18	1.00E-15
ENGWESA007	AC-227	5/27/2015	8.20E-18		6/23/2015	5.00E-18	1.00E-15
ENGWESA008	AC-227	5/27/2015	3.42E-18		6/23/2015	3.80E-18	1.00E-15
ENGWESA009	AC-227	5/28/2015			6/23/2015	3.04E-18	1.00E-15
ENGWESA010	AC-227	5/28/2015	8.73E-18		6/23/2015	3.90E-18	1.00E-15
ENGWESA011	AC-227	5/27/2015	6.58E-18		6/23/2015	1.63E-18	1.00E-15
ENGWESA012	AC-227	5/27/2015	1.24E-18		6/23/2015	1.99E-19	1.00E-15
ENGWESA013	AC-227	5/27/2015	4.24E-18		6/23/2015	-3.26E-18	1.00E-15
ENGWESA001	AC-228	5/27/2015	1.70E-16		6/24/2015	1.91E-17	2.00E-11
ENGWESA002	AC-228	5/28/2015	1.66E-16		6/24/2015	7.75E-17	2.00E-11
ENGWESA003	AC-228	5/28/2015	2.14E-16		6/24/2015	1.15E-16	2.00E-11
ENGWESA004	AC-228	5/28/2015	1.16E-16		6/24/2015	1.78E-16	2.00E-11
ENGWESA005	AC-228	5/27/2015	-5.33E-18		6/23/2015	1.26E-16	2.00E-11
ENGWESA006	AC-228	5/27/2015	-2.39E-16		6/24/2015	6.61E-17	2.00E-11
ENGWESA007	AC-228	5/27/2015	1.78E-16		6/23/2015	1.81E-16	2.00E-11
ENGWESA008	AC-228	5/27/2015	1.63E-16		6/23/2015	4.46E-17	2.00E-11
ENGWESA009	AC-228	5/28/2015			6/23/2015	-8.45E-18	2.00E-11
ENGWESA010	AC-228	5/28/2015	1.14E-16		6/23/2015	4.61E-17	2.00E-11
ENGWESA011	AC-228	5/27/2015	2.31E-16		6/23/2015	1.38E-16	2.00E-11
ENGWESA012	AC-228	5/27/2015	-1.02E-17		6/23/2015	9.22E-17	2.00E-11
ENGWESA013	AC-228	5/27/2015	3.27E-16		6/23/2015	1.33E-16	2.00E-11
ENGWESA001	BI-214	5/27/2015	1.52E-16		6/24/2015	4.71E-17	2.00E-12
ENGWESA002	BI-214	5/28/2015	1.61E-16		6/24/2015	8.67E-17	2.00E-12
ENGWESA003	BI-214	5/28/2015	1.09E-16		6/24/2015	5.49E-17	2.00E-12
ENGWESA004	BI-214	5/28/2015	8.94E-17		6/24/2015	1.40E-16	2.00E-12
ENGWESA005	BI-214	5/27/2015	1.01E-16		6/23/2015	7.55E-18	2.00E-12
ENGWESA006	BI-214	5/27/2015	4.51E-17		6/24/2015	1.31E-16	2.00E-12
ENGWESA007	BI-214	5/27/2015	2.16E-16		6/23/2015	3.74E-17	2.00E-12
ENGWESA008	BI-214	5/27/2015	5.24E-17		6/23/2015	2.27E-16	2.00E-12
ENGWESA009	BI-214	5/28/2015			6/23/2015	6.98E-17	2.00E-12
ENGWESA010	BI-214	5/28/2015	1.13E-16		6/23/2015	-2.02E-17	2.00E-12
ENGWESA011	BI-214	5/27/2015	1.42E-16		6/23/2015	5.87E-17	2.00E-12
ENGWESA012	BI-214	5/27/2015	3.63E-17		6/23/2015	5.21E-17	2.00E-12
ENGWESA013	BI-214	5/27/2015	2.23E-17		6/23/2015	3.74E-17	2.00E-12

Comparison of Isotopic Results to NRC Appendix B Effluent Limits							
Client ID	Analyte	Sample Date	uCi/ml		Sample Date	uCi/ml	NRC Eff Limit
ENGWESA001	PB-210	5/27/2015	8.89E-15		6/24/2015	8.51E-15	6.00E-13
ENGWESA002	PB-210	5/28/2015	1.14E-14		6/24/2015	9.67E-15	6.00E-13
ENGWESA003	PB-210	5/28/2015	9.09E-15		6/24/2015	1.01E-14	6.00E-13
ENGWESA004	PB-210	5/28/2015	7.43E-15		6/24/2015	1.03E-14	6.00E-13
ENGWESA005	PB-210	5/27/2015	9.97E-15		6/23/2015	9.31E-15	6.00E-13
ENGWESA006	PB-210	5/27/2015	6.55E-15		6/24/2015	1.00E-15	6.00E-13
ENGWESA007	PB-210	5/27/2015	7.31E-15		6/23/2015	1.06E-14	6.00E-13
ENGWESA008	PB-210	5/27/2015	8.85E-15		6/23/2015	9.34E-15	6.00E-13
ENGWESA009	PB-210	5/28/2015			6/23/2015	9.50E-15	6.00E-13
ENGWESA010	PB-210	5/28/2015	6.20E-15		6/23/2015	9.78E-15	6.00E-13
ENGWESA011	PB-210	5/27/2015	8.42E-15		6/23/2015	1.08E-14	6.00E-13
ENGWESA012	PB-210	5/27/2015	9.05E-15		6/23/2015	1.25E-14	6.00E-13
ENGWESA013	PB-210	5/27/2015	2.02E-14		6/23/2015	9.92E-15	6.00E-13
ENGWESA001	PB-214	5/27/2015	2.92E-17		6/24/2015	1.19E-16	1.00E-09
ENGWESA002	PB-214	5/28/2015	5.73E-17		6/24/2015	1.12E-16	1.00E-09
ENGWESA003	PB-214	5/28/2015	1.25E-16		6/24/2015	3.23E-17	1.00E-09
ENGWESA004	PB-214	5/28/2015	6.76E-17		6/24/2015	8.59E-17	1.00E-09
ENGWESA005	PB-214	5/27/2015	1.06E-16		6/23/2015	3.64E-17	1.00E-09
ENGWESA006	PB-214	5/27/2015	-3.19E-17		6/24/2015	8.47E-17	1.00E-09
ENGWESA007	PB-214	5/27/2015	1.68E-16		6/23/2015	3.86E-17	1.00E-09
ENGWESA008	PB-214	5/27/2015	1.02E-17		6/23/2015	5.95E-17	1.00E-09
ENGWESA009	PB-214	5/28/2015			6/23/2015	4.63E-17	1.00E-09
ENGWESA010	PB-214	5/28/2015	3.27E-17		6/23/2015	6.64E-17	1.00E-09
ENGWESA011	PB-214	5/27/2015	9.75E-17		6/23/2015	7.02E-17	1.00E-09
ENGWESA012	PB-214	5/27/2015	3.25E-18		6/23/2015	9.01E-17	1.00E-09
ENGWESA013	PB-214	5/27/2015	1.22E-16		6/23/2015	1.17E-16	1.00E-09
ENGWESA001	K-40	5/27/2015	9.26E-16		6/24/2015	7.48E-16	6.00E-10
ENGWESA002	K-40	5/28/2015	5.69E-16		6/24/2015	9.78E-16	6.00E-10
ENGWESA003	K-40	5/28/2015	1.31E-15		6/24/2015	7.54E-16	6.00E-10
ENGWESA004	K-40	5/28/2015	3.62E-16		6/24/2015	1.03E-15	6.00E-10
ENGWESA005	K-40	5/27/2015	4.23E-16		6/23/2015	7.88E-16	6.00E-10
ENGWESA006	K-40	5/27/2015	3.34E-16		6/24/2015	-6.94E-17	6.00E-10
ENGWESA007	K-40	5/27/2015	1.50E-15		6/23/2015	5.59E-16	6.00E-10
ENGWESA008	K-40	5/27/2015	4.09E-16		6/23/2015	7.61E-16	6.00E-10
ENGWESA009	K-40	5/28/2015			6/23/2015	6.84E-16	6.00E-10
ENGWESA010	K-40	5/28/2015	4.07E-16		6/23/2015	5.16E-16	6.00E-10
ENGWESA011	K-40	5/27/2015	1.63E-15		6/23/2015	1.36E-15	6.00E-10
ENGWESA012	K-40	5/27/2015	8.61E-16		6/23/2015	1.12E-15	6.00E-10
ENGWESA013	K-40	5/27/2015	5.26E-16		6/23/2015	1.05E-15	6.00E-10

Comparison of Isotopic Results to NRC Appendix B Effluent Limits							
Client ID	Analyte	Sample Date	uCi/ml		Sample Date	uCi/ml	NRC Eff Limit
ENGWESA001	PA-231	5/27/2015	6.31E-17		6/24/2015	7.07E-16	8.00E-15
ENGWESA002	PA-231	5/28/2015	9.50E-16		6/24/2015	-2.38E-16	8.00E-15
ENGWESA003	PA-231	5/28/2015	-2.36E-16		6/24/2015	-4.68E-16	8.00E-15
ENGWESA004	PA-231	5/28/2015	2.49E-16		6/24/2015	-3.29E-16	8.00E-15
ENGWESA005	PA-231	5/27/2015	-8.81E-16		6/23/2015	8.39E-16	8.00E-15
ENGWESA006	PA-231	5/27/2015	2.05E-16		6/24/2015	8.85E-16	8.00E-15
ENGWESA007	PA-231	5/27/2015	-4.21E-16		6/23/2015	-4.38E-16	8.00E-15
ENGWESA008	PA-231	5/27/2015	7.96E-16		6/23/2015	-9.23E-16	8.00E-15
ENGWESA009	PA-231	5/28/2015			6/23/2015	6.21E-16	8.00E-15
ENGWESA010	PA-231	5/28/2015	2.80E-15		6/23/2015	8.74E-16	8.00E-15
ENGWESA011	PA-231	5/27/2015	8.74E-17		6/23/2015	1.26E-15	8.00E-15
ENGWESA012	PA-231	5/27/2015	9.05E-16		6/23/2015	7.07E-16	8.00E-15
ENGWESA013	PA-231	5/27/2015	2.16E-16		6/23/2015	-7.66E-16	8.00E-15
ENGWESA001	TH-230	5/27/2015	2.36E-17		6/24/2015	1.75E-17	3.00E-14
ENGWESA002	TH-230	5/28/2015	2.76E-17		6/24/2015	8.08E-18	3.00E-14
ENGWESA003	TH-230	5/28/2015	2.76E-17		6/24/2015	1.90E-17	3.00E-14
ENGWESA004	TH-230	5/28/2015	3.14E-17		6/24/2015	3.87E-17	3.00E-14
ENGWESA005	TH-230	5/27/2015	2.93E-17		6/23/2015	3.39E-17	3.00E-14
ENGWESA006	TH-230	5/27/2015	3.08E-17		6/24/2015	1.05E-17	3.00E-14
ENGWESA007	TH-230	5/27/2015	5.81E-17		6/23/2015	2.93E-17	3.00E-14
ENGWESA008	TH-230	5/27/2015	3.17E-17		6/23/2015	1.93E-17	3.00E-14
ENGWESA009	TH-230	5/28/2015			6/23/2015	3.05E-17	3.00E-14
ENGWESA010	TH-230	5/28/2015	4.14E-17		6/23/2015	2.66E-17	3.00E-14
ENGWESA011	TH-230	5/27/2015	3.65E-17		6/23/2015	2.23E-17	3.00E-14
ENGWESA012	TH-230	5/27/2015	3.51E-17		6/23/2015	4.96E-17	3.00E-14
ENGWESA013	TH-230	5/27/2015	4.39E-17		6/23/2015	1.78E-17	3.00E-14
ENGWESA001	TH-232	5/27/2015	2.75E-18		6/24/2015	7.10E-18	5.00E-14
ENGWESA002	TH-232	5/28/2015	1.18E-17		6/24/2015	6.78E-19	5.00E-14
ENGWESA003	TH-232	5/28/2015	8.91E-18		6/24/2015	2.35E-18	5.00E-14
ENGWESA004	TH-232	5/28/2015	1.45E-17		6/24/2015	1.68E-17	5.00E-14
ENGWESA005	TH-232	5/27/2015	1.16E-17		6/23/2015	1.06E-17	5.00E-14
ENGWESA006	TH-232	5/27/2015	1.66E-17		6/24/2015	5.82E-18	5.00E-14
ENGWESA007	TH-232	5/27/2015	1.68E-17		6/23/2015	1.08E-17	5.00E-14
ENGWESA008	TH-232	5/27/2015	8.38E-18		6/23/2015	4.32E-18	5.00E-14
ENGWESA009	TH-232	5/28/2015			6/23/2015	6.92E-18	5.00E-14
ENGWESA010	TH-232	5/28/2015	1.50E-17		6/23/2015	7.44E-18	5.00E-14
ENGWESA011	TH-232	5/27/2015	1.64E-17		6/23/2015	6.18E-18	5.00E-14
ENGWESA012	TH-232	5/27/2015	1.13E-17		6/23/2015	2.12E-17	5.00E-14
ENGWESA013	TH-232	5/27/2015	1.80E-17		6/23/2015	3.21E-18	5.00E-14

Comparison of Isotopic Results to NRC Appendix B Effluent Limits							
Client ID	Analyte	Sample Date	uCi/ml		Sample Date	uCi/ml	NRC Eff Limit
ENGWESA001	U-234	5/27/2015	3.94E-17		6/24/2015	3.60E-17	6.00E-14
ENGWESA002	U-234	5/28/2015	3.13E-17		6/24/2015	3.10E-17	6.00E-14
ENGWESA003	U-234	5/28/2015	3.59E-17		6/24/2015	3.73E-17	6.00E-14
ENGWESA004	U-234	5/28/2015	4.40E-17		6/24/2015	2.96E-17	6.00E-14
ENGWESA005	U-234	5/27/2015	4.99E-17		6/23/2015	2.34E-17	6.00E-14
ENGWESA006	U-234	5/27/2015	2.81E-17		6/24/2015	3.03E-17	6.00E-14
ENGWESA007	U-234	5/27/2015	4.69E-17		6/23/2015	4.42E-17	6.00E-14
ENGWESA008	U-234	5/27/2015	2.66E-17		6/23/2015	3.64E-17	6.00E-14
ENGWESA009	U-234	5/28/2015			6/23/2015	4.64E-17	6.00E-14
ENGWESA010	U-234	5/28/2015	5.33E-17		6/23/2015	3.55E-17	6.00E-14
ENGWESA011	U-234	5/27/2015	2.78E-17		6/23/2015	2.52E-17	6.00E-14
ENGWESA012	U-234	5/27/2015	3.71E-17		6/23/2015	5.48E-17	6.00E-14
ENGWESA013	U-234	5/27/2015	1.81E-17		6/23/2015	2.58E-17	6.00E-14
ENGWESA001	U-235	5/27/2015	5.20E-18		6/24/2015	1.95E-18	6.00E-14
ENGWESA002	U-235	5/28/2015	1.95E-18		6/24/2015	1.01E-18	6.00E-14
ENGWESA003	U-235	5/28/2015	7.24E-18		6/24/2015	2.39E-18	6.00E-14
ENGWESA004	U-235	5/28/2015	1.79E-18		6/24/2015	6.64E-18	6.00E-14
ENGWESA005	U-235	5/27/2015	7.72E-19		6/23/2015	2.94E-18	6.00E-14
ENGWESA006	U-235	5/27/2015	-5.84E-19		6/24/2015	3.20E-18	6.00E-14
ENGWESA007	U-235	5/27/2015	3.73E-18		6/23/2015	9.82E-18	6.00E-14
ENGWESA008	U-235	5/27/2015	7.87E-18		6/23/2015	3.87E-18	6.00E-14
ENGWESA009	U-235	5/28/2015			6/23/2015	7.54E-18	6.00E-14
ENGWESA010	U-235	5/28/2015	4.63E-18		6/23/2015	3.05E-18	6.00E-14
ENGWESA011	U-235	5/27/2015	1.97E-18		6/23/2015	3.16E-18	6.00E-14
ENGWESA012	U-235	5/27/2015	2.06E-18		6/23/2015	1.36E-17	6.00E-14
ENGWESA013	U-235	5/27/2015	2.11E-18		6/23/2015	6.83E-18	6.00E-14
ENGWESA001	U-238	5/27/2015	3.36E-17		6/24/2015	3.13E-17	6.00E-14
ENGWESA002	U-238	5/28/2015	3.43E-17		6/24/2015	3.05E-17	6.00E-14
ENGWESA003	U-238	5/28/2015	5.08E-17		6/24/2015	3.45E-17	6.00E-14
ENGWESA004	U-238	5/28/2015	3.65E-17		6/24/2015	3.47E-17	6.00E-14
ENGWESA005	U-238	5/27/2015	4.28E-17		6/23/2015	1.38E-17	6.00E-14
ENGWESA006	U-238	5/27/2015	2.54E-17		6/24/2015	3.19E-17	6.00E-14
ENGWESA007	U-238	5/27/2015	4.32E-17		6/23/2015	2.94E-17	6.00E-14
ENGWESA008	U-238	5/27/2015	4.61E-17		6/23/2015	3.39E-17	6.00E-14
ENGWESA009	U-238	5/28/2015			6/23/2015	3.32E-17	6.00E-14
ENGWESA010	U-238	5/28/2015	3.82E-17		6/23/2015	3.16E-17	6.00E-14
ENGWESA011	U-238	5/27/2015	2.51E-17		6/23/2015	2.39E-17	6.00E-14
ENGWESA012	U-238	5/27/2015	2.69E-17		6/23/2015	4.13E-17	6.00E-14
ENGWESA013	U-238	5/27/2015	1.95E-17		6/23/2015	3.49E-17	6.00E-14

APPENDIX D

VALIDATED VOLATILE ORGANIC COMPOUND RESULTS

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	1,1,1-Trichloroethane			1,2-Dichloroethane			1,4-Dichlorobenzene			2-Butanone (Methyl Ethyl Ketone)			2-Propanol			4-Methyl-2-pentanone		
			Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL
ENGWESA001	5/13/2015 11:05:00 AM	UG/M3	ND	U	0.094	ND	U	0.076	ND	U	0.11	0.20		0.074	ND	U	0.22	ND	U	0.17
ENGWESA001	5/27/2015 4:33:00 PM	UG/M3	ND	U	0.079	ND	U	0.063	ND	U	0.096	0.13		0.062	ND	U	0.19	ND	U	0.14
ENGWESA001	6/10/2015 11:01:00 AM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.099	0.17		0.064	ND	U	0.19	ND	U	0.15
ENGWESA001	6/24/2015 12:00:00 PM	UG/M3	ND	U	0.080	ND	U	0.064	ND	U	0.097	0.16		0.063	ND	U	0.19	ND	U	0.15
ENGWESA001	7/8/2015 3:33 PM	UG/M3	ND	U	0.079	ND	U	0.064	ND	U	0.096	0.18		0.062	ND	U	0.19	ND	U	0.15
ENGWESA001	7/22/2015 2:24 PM	UG/M3	ND	U	0.080	ND	U	0.065	ND	U	0.098	0.18		0.063	ND	U	0.19	ND	U	0.15
ENGWESA001 FD	6/10/2015 11:08:00 AM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.099	0.13		0.064	ND	U	0.19	ND	U	0.15
ENGWESA005	5/13/2015 11:35:00 AM	UG/M3	ND	U	0.093	ND	U	0.075	ND	U	0.11	0.27		0.073	ND	U	0.22	ND	U	0.17
ENGWESA005	5/27/2015 3:14:00 PM	UG/M3	ND	U	0.079	ND	U	0.064	ND	U	0.096	0.14		0.062	ND	U	0.19	ND	U	0.15
ENGWESA005	6/10/2015 10:13:00 AM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.099	0.22		0.064	ND	U	0.19	ND	U	0.15
ENGWESA005	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.086	ND	U	0.069	ND	U	0.10	0.19		0.068	ND	U	0.20	ND	U	0.16
ENGWESA005	7/8/2015 3:33 PM	UG/M3	ND	U	0.074	ND	U	0.059	ND	U	0.090	0.20		0.058	0.21		0.18	ND	U	0.14
ENGWESA005	7/22/2015 2:24 PM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.098	0.16		0.064	ND	U	0.19	ND	U	0.15
ENGWESA005 FD	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.086	ND	U	0.069	ND	U	0.10	0.17		0.068	ND	U	0.20	ND	U	0.16
ENGWESA007	5/13/2015 11:25:00 AM	UG/M3	ND	U	0.093	ND	U	0.075	ND	U	0.11	0.27		0.073	0.24		0.22	ND	U	0.17
ENGWESA007	5/27/2015 12:32:00 PM	UG/M3	ND	U	0.080	ND	U	0.064	ND	U	0.097	0.17		0.062	0.23		0.19	ND	U	0.15
ENGWESA007	6/10/2015 10:03:00 AM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.098	0.22		0.063	0.22		0.19	ND	U	0.15
ENGWESA007	6/23/2015 10:05:00 AM	UG/M3	ND	U	0.086	ND	U	0.069	ND	U	0.10	0.25		0.068	0.22		0.20	ND	U	0.16
ENGWESA007	7/8/2015 3:33 PM	UG/M3	ND	U	0.074	ND	U	0.059	ND	U	0.090	0.21		0.058	ND	U	0.18	ND	U	0.14
ENGWESA007	7/22/2015 2:24 PM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.098	0.17		0.064	ND	U	0.19	ND	U	0.15
ENGWESA007 FD	7/8/2015 3:33 PM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.098	0.21		0.064	ND	U	0.19	ND	U	0.15

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	1,1,1-Trichloroethane			1,2-Dichloroethane			1,4-Dichlorobenzene			2-Butanone (Methyl Ethyl Ketone)			2-Propanol			4-Methyl-2-pentanone		
ENGWESA008	5/13/2015 12:05:00 PM	UG/M3	ND	U	0.094	ND	U	0.076	ND	U	0.11	0.24		0.074	ND	U	0.22	ND	U	0.17
ENGWESA008	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.079	ND	U	0.064	ND	U	0.096	0.15		0.062	ND	U	0.19	ND	U	0.15
ENGWESA008	6/10/2015 10:40:00 AM	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.099	0.24		0.064	0.22		0.19	ND	U	0.15
ENGWESA008	6/23/2015 11:45:00 AM	UG/M3	ND	U	0.086	ND	U	0.069	ND	U	0.10	0.17		0.067	ND	U	0.20	ND	U	0.16
ENGWESA008	07/22/2015 11:29	UG/M3	ND	U	0.081	ND	U	0.065	ND	U	0.098	0.19		0.064	ND	U	0.19	ND	U	0.15
ENGWESA008	7/22/2015 2:24 PM	UG/M3	ND	U	0.074	ND	U	0.060	ND	U	0.090	0.23		0.058	0.24		0.18	ND	U	0.14
ENGWESA008 FD	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.079	ND	U	0.064	ND	U	0.096	0.14		0.062	ND	U	0.19	ND	U	0.15
ENGWESA011	5/13/2015 11:45:00 AM	UG/M3	ND	U	0.092	ND	U	0.074	ND	U	0.11	0.27		0.072	ND	U	0.22	ND	U	0.17
ENGWESA011	5/27/2015 10:30:00 AM	UG/M3	ND	U	0.080	ND	U	0.065	ND	U	0.098	0.18		0.063	ND	U	0.19	ND	U	0.15
ENGWESA011	6/10/2015 11:23:00 AM	UG/M3	ND	U	0.080	ND	U	0.064	ND	U	0.097	0.24		0.063	0.21		0.19	ND	U	0.15
ENGWESA011	6/23/2015 12:00:00 PM	UG/M3	ND	U	0.086	ND	U	0.069	ND	U	0.10	0.18		0.067	ND	U	0.20	ND	U	0.16
ENGWESA011	07/08/2015 14:44	UG/M3	ND	U	0.074	ND	U	0.060	ND	U	0.090	0.22		0.058	ND	U	0.18	ND	U	0.14
ENGWESA011	07/22/2015 07:40	UG/M3	ND	U	0.082	ND	U	0.066	ND	U	0.099	0.18		0.064	ND	U	0.19	ND	U	0.15
ENGWESA011 FD	5/13/2015 11:45:00 AM	UG/M3	ND	U	0.092	ND	U	0.074	ND	U	0.11	0.28		0.072	ND	U	0.22	ND	U	0.17
ENGWESA011 FD	07/08/2015 14:44	UG/M3	ND	U	0.074	ND	U	0.060	ND	U	0.090	0.24		0.058	ND	U	0.18	ND	U	0.14

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Acetone			Benzene			Carbon Tetrachloride			Chlorobenzene			Chloroform			Cyclohexane		
			Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL
ENGWESA001	5/13/2015 11:05:00 AM	UG/M3	0.30		0.15	ND	U	0.29	0.32		0.087	ND	U	0.086	ND	U	0.078	ND	U	0.11
ENGWESA001	5/27/2015 4:33:00 PM	UG/M3	ND	U	0.13	ND	U	0.24	0.26		0.073	ND	U	0.072	ND	U	0.065	ND	U	0.090
ENGWESA001	6/10/2015 11:01:00 AM	UG/M3	0.17		0.13	ND	U	0.25	0.23		0.075	ND	U	0.074	ND	U	0.067	ND	U	0.093
ENGWESA001	6/24/2015 12:00:00 PM	UG/M3	ND	U	0.13	ND	U	0.25	0.24		0.074	ND	U	0.073	ND	U	0.066	ND	U	0.092
ENGWESA001	7/8/2015 3:33 PM	UG/M3	0.15		0.13	0.28		0.24	0.26		0.073	ND	U	0.072	ND	U	0.065	ND	U	0.091
ENGWESA001	7/22/2015 2:24 PM	UG/M3	ND	U	0.13	0.36		0.25	0.33		0.074	ND	U	0.073	ND	U	0.066	ND	U	0.092
ENGWESA001 FD	6/10/2015 11:08:00 AM	UG/M3	0.16		0.13	ND	U	0.25	0.24		0.075	ND	U	0.074	ND	U	0.067	ND	U	0.093
ENGWESA005	5/13/2015 11:35:00 AM	UG/M3	0.39		0.15	ND	U	0.29	0.32		0.086	ND	U	0.085	ND	U	0.077	ND	U	0.11
ENGWESA005	5/27/2015 3:14:00 PM	UG/M3	ND	U	0.13	ND	U	0.24	0.25		0.073	ND	U	0.072	ND	U	0.065	ND	U	0.091
ENGWESA005	6/10/2015 10:13:00 AM	UG/M3	0.21		0.13	ND	U	0.25	0.30		0.075	ND	U	0.074	ND	U	0.067	ND	U	0.093
ENGWESA005	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.14	ND	U	0.27	0.22		0.080	ND	U	0.078	ND	U	0.071	ND	U	0.099
ENGWESA005	7/8/2015 3:33 PM	UG/M3	0.18		0.12	0.29		0.23	0.20		0.068	ND	U	0.067	ND	U	0.061	0.10		0.085
ENGWESA005	7/22/2015 2:24 PM	UG/M3	ND	U	0.13	0.28		0.25	0.25		0.075	ND	U	0.074	ND	U	0.067	0.10		0.093
ENGWESA005 FD	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.14	ND	U	0.27	0.19		0.080	ND	U	0.078	ND	U	0.071	ND	U	0.099
ENGWESA007	5/13/2015 11:25:00 AM	UG/M3	0.41		0.15	0.31		0.29	0.35		0.086	ND	U	0.085	ND	U	0.077	ND	U	0.11
ENGWESA007	5/27/2015 12:32:00 PM	UG/M3	ND	U	0.13	ND	U	0.25	0.28		0.074	ND	U	0.073	ND	U	0.066	ND	U	0.092
ENGWESA007	6/10/2015 10:03:00 AM	UG/M3	0.25		0.13	ND	U	0.25	0.27		0.074	ND	U	0.073	ND	U	0.067	0.11		0.092
ENGWESA007	6/23/2015 10:05:00 AM	UG/M3	ND	U	0.14	ND	U	0.27	0.24		0.080	ND	U	0.078	ND	U	0.071	0.12		0.099
ENGWESA007	7/8/2015 3:33 PM	UG/M3	0.16		0.12	0.32		0.23	0.22		0.068	ND	U	0.067	ND	U	0.061	0.094		0.084
ENGWESA007	7/22/2015 2:24 PM	UG/M3	ND	U	0.13	0.26		0.25	0.26		0.075	ND	U	0.074	ND	U	0.067	0.13		0.093
ENGWESA007 FD	7/8/2015 3:33 PM	UG/M3	ND	U	0.13	0.30		0.25	0.31		0.075	ND	U	0.074	ND	U	0.067	0.12		0.093

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Acetone			Benzene			Carbon Tetrachloride			Chlorobenzene			Chloroform			Cyclohexane		
ENGWESA008	5/13/2015 12:05:00 PM	UG/M3	0.41		0.15	0.33		0.29	0.38		0.087	ND	U	0.086	ND	U	0.078	ND	U	0.11
ENGWESA008	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.13	ND	U	0.24	0.28		0.073	ND	U	0.072	ND	U	0.065	ND	U	0.091
ENGWESA008	6/10/2015 10:40:00 AM	UG/M3	0.22		0.13	ND	U	0.25	0.28		0.075	ND	U	0.074	0.085		0.067	ND	U	0.093
ENGWESA008	6/23/2015 11:45:00 AM	UG/M3	ND	U	0.14	ND	U	0.27	0.22		0.079	ND	U	0.078	ND	U	0.071	ND	U	0.099
ENGWESA008	07/22/2015 11:29	UG/M3	ND	U	0.13	0.27		0.25	0.29		0.075	ND	U	0.074	ND	U	0.067	0.10		0.093
ENGWESA008	7/22/2015 2:24 PM	UG/M3	0.19		0.12	0.37		0.23	0.25		0.068	ND	U	0.067	ND	U	0.061	ND	U	0.085
ENGWESA008 FD	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.13	ND	U	0.24	0.27		0.073	ND	U	0.072	ND	U	0.065	ND	U	0.091
ENGWESA011	5/13/2015 11:45:00 AM	UG/M3	0.36		0.15	0.30		0.28	0.34		0.085	ND	U	0.084	ND	U	0.076	ND	U	0.10
ENGWESA011	5/27/2015 10:30:00 AM	UG/M3	ND	U	0.13	ND	U	0.25	0.26		0.074	ND	U	0.073	ND	U	0.066	ND	U	0.092
ENGWESA011	6/10/2015 11:23:00 AM	UG/M3	0.23		0.13	ND	U	0.25	0.27		0.074	ND	U	0.073	ND	U	0.066	ND	U	0.092
ENGWESA011	6/23/2015 12:00:00 PM	UG/M3	ND	U	0.14	ND	U	0.27	0.19		0.080	ND	U	0.078	ND	U	0.071	ND	U	0.099
ENGWESA011	07/08/2015 14:44	UG/M3	0.16		0.12	0.29		0.23	0.21		0.068	ND	U	0.068	ND	U	0.061	ND	U	0.085
ENGWESA011	07/22/2015 07:40	UG/M3	ND	U	0.13	ND	U	0.25	0.25		0.076	ND	U	0.074	ND	U	0.068	ND	U	0.094
ENGWESA011 FD	5/13/2015 11:45:00 AM	UG/M3	0.38		0.15	0.31		0.28	0.35		0.085	ND	U	0.084	ND	U	0.076	ND	U	0.10
ENGWESA011 FD	07/08/2015 14:44	UG/M3	0.16		0.12	0.29		0.23	0.19		0.068	ND	U	0.068	ND	U	0.061	ND	U	0.085

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Ethanol			Ethyl Acetate			Ethyl Benzene			Heptane			Hexane			m,p-Xylene		
			Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL
ENGWESA001	5/13/2015 11:05:00 AM	UG/M3	ND	UJ-	0.57	ND	U	0.30	ND	U	0.086	0.18		0.10	0.16		0.088	0.21		0.083
ENGWESA001	5/27/2015 4:33:00 PM	UG/M3	ND	U	0.48	ND	U	0.25	0.076		0.072	0.22		0.084	0.13		0.074	0.23		0.070
ENGWESA001	6/10/2015 11:01:00 AM	UG/M3	ND	U	0.49	ND	U	0.26	0.083		0.074	0.26		0.087	0.21		0.076	0.25		0.072
ENGWESA001	6/24/2015 12:00:00 PM	UG/M3	ND	U	0.48	ND	U	0.25	0.085		0.073	0.19		0.085	0.27		0.075	0.28		0.071
ENGWESA001	7/8/2015 3:33 PM	UG/M3	ND	U	0.48	ND	U	0.25	0.088		0.072	0.28		0.084	0.34		0.074	0.25		0.070
ENGWESA001	7/22/2015 2:24 PM	UG/M3	ND	U	0.49	ND	U	0.26	0.096		0.073	0.42		0.086	0.68		0.075	0.30		0.071
ENGWESA001 FD	6/10/2015 11:08:00 AM	UG/M3	ND	U	0.49	ND	U	0.26	ND	U	0.074	0.24		0.087	0.21		0.076	0.20		0.072
ENGWESA005	5/13/2015 11:35:00 AM	UG/M3	ND	UJ-	0.57	ND	U	0.30	0.094		0.085	0.21		0.10	0.22		0.088	0.27		0.083
ENGWESA005	5/27/2015 3:14:00 PM	UG/M3	ND	U	0.48	ND	U	0.25	0.079		0.072	0.13		0.085	0.15		0.074	0.22		0.070
ENGWESA005	6/10/2015 10:13:00 AM	UG/M3	ND	U	0.49	ND	U	0.26	0.10		0.074	0.17		0.087	0.33		0.076	0.30		0.072
ENGWESA005	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.52	ND	U	0.27	0.097		0.078	0.17		0.092	0.23		0.081	0.28		0.076
ENGWESA005	7/8/2015 3:33 PM	UG/M3	ND	U	0.45	ND	U	0.23	0.14		0.067	0.19		0.079	2.0		0.069	0.38		0.065
ENGWESA005	7/22/2015 2:24 PM	UG/M3	ND	U	0.49	ND	U	0.26	0.10		0.074	0.20		0.086	0.84		0.076	0.32		0.072
ENGWESA005 FD	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.52	ND	U	0.27	0.081		0.078	0.14		0.092	0.25		0.081	0.24		0.076
ENGWESA007	5/13/2015 11:25:00 AM	UG/M3	ND	UJ-	0.57	0.41		0.30	0.14		0.085	0.25		0.10	0.35		0.088	0.42		0.083
ENGWESA007	5/27/2015 12:32:00 PM	UG/M3	ND	U	0.48	0.31		0.25	0.093		0.073	0.15		0.085	0.31		0.075	0.27		0.071
ENGWESA007	6/10/2015 10:03:00 AM	UG/M3	ND	U	0.49	0.35		0.26	0.14		0.073	0.22		0.086	0.41		0.076	0.43		0.071
ENGWESA007	6/23/2015 10:05:00 AM	UG/M3	ND	U	0.52	0.51		0.27	0.17		0.078	0.25		0.092	0.33		0.081	0.52		0.076
ENGWESA007	7/8/2015 3:33 PM	UG/M3	ND	U	0.45	0.29		0.23	0.13		0.067	0.24		0.079	0.27		0.069	0.38		0.065
ENGWESA007	7/22/2015 2:24 PM	UG/M3	ND	U	0.49	0.41		0.26	0.12		0.074	0.21		0.087	0.31	J	0.076	0.36		0.072
ENGWESA007 FD	7/8/2015 3:33 PM	UG/M3	ND	U	0.49	0.49		0.26	0.12		0.074	0.24		0.086	0.48	J	0.076	0.37		0.072

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Ethanol			Ethyl Acetate			Ethyl Benzene			Heptane			Hexane			m,p-Xylene		
ENGWESA008	5/13/2015 12:05:00 PM	UG/M3	ND	UJ-	0.57	ND	U	0.30	0.088		0.086	0.23		0.10	0.30		0.088	0.26		0.083
ENGWESA008	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.48	ND	U	0.25	0.074		0.072	0.12		0.084	0.19		0.074	0.22		0.070
ENGWESA008	6/10/2015 10:40:00 AM	UG/M3	ND	U	0.49	ND	U	0.26	0.11		0.074	0.19		0.087	0.30		0.076	0.36		0.072
ENGWESA008	6/23/2015 11:45:00 AM	UG/M3	ND	U	0.52	ND	U	0.27	0.080		0.078	0.13		0.092	0.27		0.081	0.22		0.076
ENGWESA008	07/22/2015 11:29	UG/M3	ND	U	0.49	ND	U	0.26	0.094		0.074	0.18		0.086	0.34		0.076	0.29		0.072
ENGWESA008	7/22/2015 2:24 PM	UG/M3	ND	U	0.45	ND	U	0.24	0.14		0.067	0.23		0.079	0.29		0.069	0.37		0.065
ENGWESA008 FD	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.48	ND	U	0.25	0.073		0.072	0.11		0.084	0.21		0.074	0.20		0.070
ENGWESA011	5/13/2015 11:45:00 AM	UG/M3	ND	UJ-	0.56	ND	U	0.29	0.085		0.084	0.20		0.098	0.21		0.086	0.23		0.082
ENGWESA011	5/27/2015 10:30:00 AM	UG/M3	ND	U	0.49	ND	U	0.26	ND	U	0.073	0.12		0.086	0.23		0.075	0.18		0.071
ENGWESA011	6/10/2015 11:23:00 AM	UG/M3	ND	U	0.48	ND	U	0.25	0.12		0.073	0.17		0.085	0.32		0.075	0.35		0.071
ENGWESA011	6/23/2015 12:00:00 PM	UG/M3	ND	U	0.52	ND	U	0.27	0.082		0.078	0.14		0.092	0.23		0.081	0.23		0.076
ENGWESA011	07/08/2015 14:44	UG/M3	ND	U	0.45	ND	U	0.24	0.11		0.068	0.14		0.079	0.24		0.070	0.31		0.066
ENGWESA011	07/22/2015 07:40	UG/M3	ND	U	0.50	ND	U	0.26	0.081		0.074	0.17		0.087	0.24		0.077	0.25		0.072
ENGWESA011 FD	5/13/2015 11:45:00 AM	UG/M3	ND	UJ-	0.56	ND	U	0.29	0.086		0.084	0.20		0.098	0.26		0.086	0.23		0.082
ENGWESA011 FD	07/08/2015 14:44	UG/M3	ND	U	0.45	ND	U	0.24	0.12		0.068	0.16		0.079	0.34		0.070	0.30		0.066

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Methyl tert-butyl ether			Naphthalene			o-Xylene			Propylbenzene			Styrene			Tetrachloroethene		
			Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL	Result	Final Q	RL
ENGWESA001	5/13/2015 11:05:00 AM	UG/M3	ND	U	0.089	ND	U	0.23	ND	U	0.089	ND	U	0.10	ND	U	0.095	ND	U	0.098
ENGWESA001	5/27/2015 4:33:00 PM	UG/M3	ND	U	0.075	ND	U	0.20	0.082		0.075	ND	U	0.086	ND	U	0.080	0.18		0.083
ENGWESA001	6/10/2015 11:01:00 AM	UG/M3	ND	U	0.078	ND	U	0.20	0.081		0.078	ND	U	0.088	ND	U	0.083	0.14		0.085
ENGWESA001	6/24/2015 12:00:00 PM	UG/M3	ND	U	0.076	ND	U	0.20	0.077		0.076	ND	U	0.087	ND	U	0.081	0.24		0.084
ENGWESA001	7/8/2015 3:33 PM	UG/M3	ND	U	0.075	ND	U	0.20	0.082		0.075	ND	U	0.086	ND	U	0.080	0.24		0.083
ENGWESA001	7/22/2015 2:24 PM	UG/M3	ND	U	0.076	ND	U	0.20	0.090		0.076	ND	U	0.087	ND	U	0.082	0.15		0.084
ENGWESA001 FD	6/10/2015 11:08:00 AM	UG/M3	ND	U	0.078	ND	U	0.20	ND	U	0.078	ND	U	0.088	ND	U	0.083	0.12		0.085
ENGWESA005	5/13/2015 11:35:00 AM	UG/M3	ND	U	0.089	ND	U	0.23	ND	U	0.089	ND	U	0.10	ND	U	0.095	ND	U	0.098
ENGWESA005	5/27/2015 3:14:00 PM	UG/M3	ND	U	0.075	ND	U	0.20	ND	U	0.075	ND	U	0.086	ND	U	0.080	ND	U	0.083
ENGWESA005	6/10/2015 10:13:00 AM	UG/M3	ND	U	0.077	ND	U	0.20	0.092		0.077	ND	U	0.088	ND	U	0.082	ND	U	0.085
ENGWESA005	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.082	ND	U	0.21	0.087		0.082	ND	U	0.094	ND	U	0.087	ND	U	0.090
ENGWESA005	7/8/2015 3:33 PM	UG/M3	ND	U	0.070	ND	U	0.18	0.12		0.070	ND	U	0.080	ND	U	0.075	ND	U	0.078
ENGWESA005	7/22/2015 2:24 PM	UG/M3	ND	U	0.077	ND	U	0.20	0.099		0.077	ND	U	0.088	ND	U	0.082	0.088		0.085
ENGWESA005 FD	6/23/2015 10:50:00 AM	UG/M3	ND	U	0.082	ND	U	0.21	ND	U	0.082	ND	U	0.094	ND	U	0.087	ND	U	0.090
ENGWESA007	5/13/2015 11:25:00 AM	UG/M3	ND	U	0.089	ND	U	0.23	0.13		0.089	ND	U	0.10	ND	U	0.095	ND	U	0.098
ENGWESA007	5/27/2015 12:32:00 PM	UG/M3	ND	U	0.076	ND	U	0.20	0.085		0.076	ND	U	0.087	ND	U	0.081	ND	U	0.084
ENGWESA007	6/10/2015 10:03:00 AM	UG/M3	ND	U	0.077	ND	U	0.20	0.14		0.077	ND	U	0.088	ND	U	0.082	0.093		0.085
ENGWESA007	6/23/2015 10:05:00 AM	UG/M3	ND	U	0.082	ND	U	0.21	0.16		0.082	ND	U	0.094	ND	U	0.088	0.10		0.090
ENGWESA007	7/8/2015 3:33 PM	UG/M3	ND	U	0.070	ND	U	0.18	0.13		0.070	ND	U	0.080	ND	U	0.075	0.086		0.077
ENGWESA007	7/22/2015 2:24 PM	UG/M3	ND	U	0.077	ND	U	0.20	0.11		0.077	ND	U	0.088	ND	U	0.082	0.10		0.085
ENGWESA007 FD	7/8/2015 3:33 PM	UG/M3	ND	U	0.077	ND	U	0.20	0.11		0.077	ND	U	0.088	ND	U	0.082	0.10		0.085

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Methyl tert-butyl ether			Naphthalene			o-Xylene			Propylbenzene			Styrene			Tetrachloroethene		
ENGWESA008	5/13/2015 12:05:00 PM	UG/M3	ND	U	0.090	ND	U	0.23	ND	U	0.090	ND	U	0.10	ND	U	0.096	ND	U	0.099
ENGWESA008	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.075	ND	U	0.20	ND	U	0.075	ND	U	0.086	ND	U	0.080	ND	U	0.083
ENGWESA008	6/10/2015 10:40:00 AM	UG/M3	ND	U	0.078	ND	U	0.20	0.11		0.078	ND	U	0.088	ND	U	0.083	ND	U	0.085
ENGWESA008	6/23/2015 11:45:00 AM	UG/M3	ND	U	0.082	ND	U	0.21	ND	U	0.082	ND	U	0.093	ND	U	0.087	ND	U	0.090
ENGWESA008	07/22/2015 11:29	UG/M3	ND	U	0.077	ND	U	0.20	0.092		0.077	ND	U	0.088	ND	U	0.082	0.10		0.085
ENGWESA008	7/22/2015 2:24 PM	UG/M3	ND	U	0.070	ND	U	0.18	0.12		0.070	ND	U	0.080	ND	U	0.075	ND	U	0.078
ENGWESA008 FD	5/27/2015 4:00:00 PM	UG/M3	ND	U	0.075	ND	U	0.20	ND	U	0.075	ND	U	0.086	ND	U	0.080	ND	U	0.083
ENGWESA011	5/13/2015 11:45:00 AM	UG/M3	ND	U	0.088	ND	U	0.23	ND	U	0.088	ND	U	0.10	ND	U	0.094	ND	U	0.097
ENGWESA011	5/27/2015 10:30:00 AM	UG/M3	ND	U	0.076	ND	U	0.20	ND	U	0.076	ND	U	0.087	ND	U	0.082	ND	U	0.084
ENGWESA011	6/10/2015 11:23:00 AM	UG/M3	ND	U	0.076	ND	U	0.20	0.11		0.076	ND	U	0.087	ND	U	0.081	ND	U	0.084
ENGWESA011	6/23/2015 12:00:00 PM	UG/M3	ND	U	0.082	ND	U	0.21	ND	U	0.082	ND	U	0.094	ND	U	0.087	ND	U	0.090
ENGWESA011	07/08/2015 14:44	UG/M3	ND	U	0.071	ND	U	0.18	0.098		0.071	ND	U	0.081	ND	U	0.075	ND	U	0.078
ENGWESA011	07/22/2015 07:40	UG/M3	ND	U	0.078	ND	U	0.20	ND	U	0.078	ND	U	0.089	ND	U	0.083	0.12		0.086
ENGWESA011 FD	5/13/2015 11:45:00 AM	UG/M3	ND	U	0.088	ND	U	0.23	ND	U	0.088	ND	U	0.10	ND	U	0.094	ND	U	0.097
ENGWESA011 FD	07/08/2015 14:44	UG/M3	ND	U	0.071	ND	U	0.18	0.10		0.071	ND	U	0.081	ND	U	0.075	ND	U	0.078

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Toluene			Trichloroethene		
			Result	Final Q	RL	Result	Final Q	RL
ENGWESA001	5/13/2015 11:05:00 AM	UG/M3	0.52		0.078	ND	U	0.084
ENGWESA001	5/27/2015 4:33:00 PM	UG/M3	0.43		0.066	ND	U	0.071
ENGWESA001	6/10/2015 11:01:00 AM	UG/M3	0.59		0.068	ND	U	0.073
ENGWESA001	6/24/2015 12:00:00 PM	UG/M3	0.46		0.067	ND	U	0.072
ENGWESA001	7/8/2015 3:33 PM	UG/M3	0.55		0.066	ND	U	0.071
ENGWESA001	7/22/2015 2:24 PM	UG/M3	0.53		0.067	ND	U	0.072
ENGWESA001 FD	6/10/2015 11:08:00 AM	UG/M3	0.47		0.068	ND	U	0.073
ENGWESA005	5/13/2015 11:35:00 AM	UG/M3	0.56		0.078	ND	U	0.084
ENGWESA005	5/27/2015 3:14:00 PM	UG/M3	0.43		0.066	ND	U	0.071
ENGWESA005	6/10/2015 10:13:00 AM	UG/M3	0.54		0.068	ND	U	0.073
ENGWESA005	6/23/2015 10:50:00 AM	UG/M3	0.48		0.072	ND	U	0.077
ENGWESA005	7/8/2015 3:33 PM	UG/M3	19		0.062	ND	U	0.066
ENGWESA005	7/22/2015 2:24 PM	UG/M3	0.57		0.068	ND	U	0.073
ENGWESA005 FD	6/23/2015 10:50:00 AM	UG/M3	0.40		0.072	ND	U	0.077
ENGWESA007	5/13/2015 11:25:00 AM	UG/M3	0.99		0.078	ND	U	0.084
ENGWESA007	5/27/2015 12:32:00 PM	UG/M3	0.57		0.067	ND	U	0.072
ENGWESA007	6/10/2015 10:03:00 AM	UG/M3	0.73		0.068	ND	U	0.072
ENGWESA007	6/23/2015 10:05:00 AM	UG/M3	0.94		0.072	ND	U	0.077
ENGWESA007	7/8/2015 3:33 PM	UG/M3	0.86		0.062	ND	U	0.066
ENGWESA007	7/22/2015 2:24 PM	UG/M3	0.73		0.068	ND	U	0.073
ENGWESA007 FD	7/8/2015 3:33 PM	UG/M3	0.74		0.068	ND	U	0.073

CLIENTSAMPID	SAMPDATETIME	UNITS (ug/m3)	Toluene			Trichloroethene		
ENGWESA008	5/13/2015 12:05:00 PM	UG/M3	0.64		0.079	ND	U	0.084
ENGWESA008	5/27/2015 4:00:00 PM	UG/M3	0.34		0.066	ND	U	0.071
ENGWESA008	6/10/2015 10:40:00 AM	UG/M3	0.48		0.068	ND	U	0.073
ENGWESA008	6/23/2015 11:45:00 AM	UG/M3	0.34		0.072	ND	U	0.077
ENGWESA008	07/22/2015 11:29	UG/M3	0.50		0.068	ND	U	0.073
ENGWESA008	7/22/2015 2:24 PM	UG/M3	0.62		0.062	ND	U	0.066
ENGWESA008 FD	5/27/2015 4:00:00 PM	UG/M3	0.34		0.066	ND	U	0.071
ENGWESA011	5/13/2015 11:45:00 AM	UG/M3	0.47		0.077	ND	U	0.083
ENGWESA011	5/27/2015 10:30:00 AM	UG/M3	0.32		0.067	ND	U	0.072
ENGWESA011	6/10/2015 11:23:00 AM	UG/M3	0.54		0.067	ND	U	0.072
ENGWESA011	6/23/2015 12:00:00 PM	UG/M3	0.36		0.072	ND	U	0.077
ENGWESA011	07/08/2015 14:44	UG/M3	0.58		0.062	ND	U	0.066
ENGWESA011	07/22/2015 07:40	UG/M3	0.46		0.068	ND	U	0.073
ENGWESA011 FD	5/13/2015 11:45:00 AM	UG/M3	0.47		0.077	ND	U	0.083
ENGWESA011 FD	07/08/2015 14:44	UG/M3	0.62		0.062	ND	U	0.066

APPENDIX E

GAMMA DOSIMETRY RESULTS

Occupational Radiation Exposure Report

Accredited by the "National Institute of Standards and Technology through NVLAP for the specific scope of accreditation under lab code 100555-0"

REPORT NO: 15011 **ACCOUNT NO:** 79807 **LOCATION:** 00003LOC

DATE BADGES RECEIVED:	07/30/2015
DATE BADGES REPORTED:	FEB 17, 2016
PAGE: 1 OF: 1	
LICENSE NO:	
PURCHASE ORDER	

NOTIFICATION LEVELS

DEEP	SHALLOW	EXTREMITY

REPORT TO:
AUXIER AND ASSOCIATES INC
13570 ST CHARLES ROCK RD

BRIDGETON, MO 63044

BILL ABERNATHY

SHIP TO:
AUXIER AND ASSOCIATES INC
13570 ST CHARLES ROCK RD

BRIDGETON, MO 63044

BILL ABERNATHY

WEARER NUMBER	SLOT NUMBER	PROCESS CONTROL NUMBER	NAME (LAST) OR OTHER DESIGNATION	F I	M I	ID TYPE	SSN/ID	BIRTH DATE	SEX	BT	BR	BP	SERVICE	DOSE EQUIVALENT IN MILLIREMS FOR PERIODS INDICATED BELOW																
														MONITORING PERIOD		CURRENT					QUARTER TO DATE			YEAR TO DATE				LIFETIME TO DATE		
														FIRST DAY	LAST DAY	DEEP	EYE	SHALL.	NEUT	PROC. NOTES	DEEP	EYE	SHALL.	DEEP	EYE	SHALL.	NO. RPTS	DEEP	DOSE HISTORY ADJUSTMENT	INCEPTION DATE LIFETIME TOTAL
5		0225985	AMBIENT DETECTOR 1			1				14	WB		Q	04/15/2015	07/14/2015	28	28	28			28	28	28	28	28	28	1	28		04/01/2015
6		0225985	AMBIENT DETECTOR 2			1				14	WB		Q	04/15/2015	07/14/2015	23	23	23			23	23	23	23	23	23	1	23		04/01/2015
7		0225985	AMBIENT DETECTOR 3			1				14	WB		Q	04/15/2015	07/14/2015	24	24	24			24	24	24	24	24	24	1	24		04/01/2015
8		0225985	AMBIENT DETECTOR 4			1				14	WB		Q	04/15/2015	07/14/2015	28	28	29			28	28	29	28	28	29	1	28		04/01/2015
9		0225985	AMBIENT DETECTOR 5			1				14	WB		Q	04/15/2015	07/14/2015	23	23	23			23	23	23	23	23	23	1	23		04/01/2015
10		0225985	AMBIENT DETECTOR 6			1				14	WB		Q	04/15/2015	07/14/2015	24	24	25			24	24	25	24	24	25	1	24		04/01/2015
11		0225985	AMBIENT DETECTOR 7			1				14	WB		Q	04/15/2015	07/14/2015	35	35	35			35	35	35	35	35	35	1	35		04/01/2015
12		0225985	AMBIENT DETECTOR 8			1				14	WB		Q	04/15/2015	07/14/2015	25	25	25			25	25	25	25	25	25	1	25		04/01/2015
13		0225985	AMBIENT DETECTOR 9			1				14	WB		Q	04/15/2015	07/14/2015	26	26	26			26	26	26	26	26	26	1	26		04/01/2015
14		0225985	AMBIENT DETECTOR 10			1				14	WB		Q	04/15/2015	07/14/2015	70	70	70			70	70	70	70	70	70	1	70		04/01/2015
15		0225985	AMBIENT DETECTOR 11			1				14	WB		Q	04/15/2015	07/14/2015	34	34	34			34	34	34	34	34	34	1	34		04/01/2015
16		0225985	AMBIENT DETECTOR 12			1				14	WB		Q	04/15/2015	07/14/2015	25	25	26			25	25	26	25	25	26	1	25		04/01/2015
17		0225985	AMBIENT DETECTOR 13			1				14	WB		Q	04/15/2015	07/14/2015	27	27	27			27	27	27	27	27	27	1	27		04/01/2015
57		0225985	AMBIENT DETECTOR 11A			1				14	WB		Q	04/15/2015	07/14/2015	25	25	25			25	25	25	25	25	25	1	25		04/01/2016
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

SEE LAST PAGE FOR COMPLETE REPORT DETAILS BY COLUMN NUMBER

IT IS RECOMMENDED THAT YOU KEEP THIS REPORT FOR YOUR RECORDS

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U.S./Canada: (800)251-3331
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REPORTS APPROVED FPM/TPM Template Version: 5 StartDt: 2/17/2016 End Dt: 2/17/2016

APPENDIX F

ALPHA TRACK ETCH DETECTOR RESULTS

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

EPA Method #402-R-92-004
Alpha Track
NRPP Device Code 8205
NRSB Device Code 12001

Laboratory Report for:

Auxier & Associates Inc - Cecilia Greene
9821 Cogdill Road Suite 1
Knoxville TN 37932

Property Tested:

Westlake Landfill
13570 Saint Charles Rock Road
Bridgeton MO 63044

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
1823298	2834139	05/01/2015	07/23/2015	Room #3	< 0.4
1823299	2834140	05/01/2015	07/23/2015	Room #4	< 0.4
1823300	2834145	05/01/2015	07/23/2015	Room #9	< 0.4
1823301	2834143	05/01/2015	07/23/2015	Room #7	< 0.4
1823302	2834141	05/01/2015	07/23/2015	Room #5	< 0.4
1823303	2834144	05/01/2015	07/23/2015	Room #8	< 0.4
1823304	2834142	05/01/2015	07/23/2015	Room #6	< 0.4
1823305	2834137	05/01/2015	07/23/2015	Room #1	< 0.4
1823306	2834146	05/01/2015	07/23/2015	Room #10	< 0.4
1823307	2834149	05/01/2015	07/23/2015	Room #13	< 0.4

Comment: Your Alpha Track results are for informational purposes only. EPA protocol for long term testing of 91 to 365 days has not been met. A copy of this report was emailed to cgreene@auxier.com.

Distributed by: National Safety Products

Date Received: 07/29/2015 Date Logged: 07/30/2015 Date Analyzed: 08/03/2015 Date Reported: 08/05/2015

Report Reviewed By: M. Gray Report Approved By: Carolyn K. Allen

Carolyn K. Allen, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 15 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques, and operation of the dwelling. Interference with test conditions may influence the test results.

This report may only be transferred to a third party in its entirety. Analytical results relate to the samples AS RECEIVED BY THE LABORATORY. Results shown on this report represent levels of radon gas measured between the dates shown in the room or area of the site identified above as "Property Tested". Incorrect information will affect results. The results may not be construed as either predictive or supportive of measurements conducted in any area of this structure at any other time. AccuStar Labs, its employees and agents are not responsible for the consequences of any action taken or not taken based upon the results reported or any verbal or written interpretation of the results.

AccuStar
Professional Radon Laboratory Services Since 1984

Radon in Air

NELAC NY 11769
NRPP 101193 AL
NRSB ARL0017

EPA Method #402-R-92-004
Alpha Track
NRPP Device Code 8205
NRSB Device Code 12001

Laboratory Report for:

Auxier & Associates Inc - Cecilia Greene
9821 Cogdill Road Suite 1
Knoxville TN 37932

Property Tested:

Westlake Landfill
13570 Saint Charles Rock Road
Bridgeton MO 63044

Log Number	Device Number	Test Exposure Duration:		Area Tested	Result (pCi/L)
1823308	2834148	05/01/2015	07/23/2015	Room #12	< 0.4
1823309	2834147	05/01/2015	07/23/2015	Room #11	< 0.4
1823310	2834138	05/01/2015	07/24/2015	Room #2	< 0.4

Comment: Your Alpha Track results are for informational purposes only. EPA protocol for long term testing of 91 to 365 days has not been met. A copy of this report was emailed to cgreene@auxier.com.

Distributed by: National Safety Products

Date Received: 07/29/2015 Date Logged: 07/30/2015 Date Analyzed: 08/03/2015 Date Reported: 08/05/2015

Report Reviewed By: M. Gray Report Approved By: Carolyn K. Allen

Carolyn K. Allen, President, AccuStar Labs

Disclaimer:

The uncertainty of this radon measurement is ~+/- 15 %. Factors contributing to uncertainty include statistical variations, daily and seasonal variations in radon concentrations, sample collection techniques, and operation of the dwelling. Interference with test conditions may influence the test results.

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11 Awl Street Medway MA 02053 888-480-8812 FAX 508-533-8831

APPENDIX G

METEOROLOGICAL STATION DATA

Date	Local Std Time	Air Temp (F)	Dew Point Temp (F)	Wet Bulb Temp (F)	Rel Hum (%)	Stn Pres (in)	Sea Lev Pres (in)	Wind Speed (kt)	Wind Dir (deg)	Precip Total
5/1/2015	0:51:00	48	33	41	56	29.35	30.09	5.2	100	-
5/1/2015	1:51:00	48	33	41	56	29.35	30.09	2.6	90	-
5/1/2015	2:51:00	47	33	41	58	29.36	30.11	4.3	60	-
5/1/2015	3:51:00	46	33	40	61	29.36	30.11	2.6	80	-
5/1/2015	4:51:00	44	33	39	65	29.39	30.14	M	0	-
5/1/2015	5:51:00	46	35	41	66	29.41	30.16	M	0	-
5/1/2015	6:51:00	50	37	44	61	29.43	30.18	2.6	60	-
5/1/2015	7:51:00	53	35	45	51	29.43	30.19	M	0	-
5/1/2015	8:51:00	56	36	47	47	29.44	30.19	M	0	-
5/1/2015	9:51:00	59	34	47	39	29.43	30.19	M	0	-
5/1/2015	10:51:00	61	33	48	35	29.44	30.19	M	0	-
5/1/2015	11:51:00	64	35	50	34	29.41	30.17	5.2	120	-
5/1/2015	12:51:00	68	37	52	32	29.41	30.16	2.6		-
5/1/2015	13:51:00	68	36	52	31	29.39	30.15	M	0	-
5/1/2015	14:51:00	69	34	52	28	29.36	30.11	2.6	90	-
5/1/2015	15:51:00	69	36	53	30	29.34	30.09	2.6		-
5/1/2015	16:51:00	70	36	53	29	29.34	30.1	5.2	110	-
5/1/2015	17:51:00	70	35	53	28	29.34	30.09	M	0	-
5/1/2015	18:51:00	67	35	51	31	29.35	30.1	4.3	70	-
5/1/2015	19:51:00	63	37	50	38	29.36	30.11	2.6	80	-
5/1/2015	20:51:00	61	38	50	43	29.36	30.11	5.2	160	-
5/1/2015	21:51:00	59	39	49	48	29.37	30.12	M	0	-
5/1/2015	22:51:00	59	40	50	50	29.36	30.11	M	0	-
5/1/2015	23:51:00	59	41	50	51	29.36	30.1	M	0	-
5/2/2015	0:51:00	58	39	49	49	29.36	30.1	2.6	180	-
5/2/2015	1:51:00	59	39	49	48	29.36	30.1	M	0	-
5/2/2015	2:51:00	58	40	49	51	29.35	30.09	M	0	-
5/2/2015	3:51:00	56	40	48	55	29.35	30.1	2.6	210	-
5/2/2015	4:51:00	58	39	49	49	29.34	30.09	M	0	-
5/2/2015	5:51:00	57	42	50	57	29.37	30.11	2.6	100	-
5/2/2015	6:51:00	62	42	52	48	29.37	30.12	M	0	-
5/2/2015	7:51:00	65	40	52	40	29.38	30.12	7	220	-
5/2/2015	8:51:00	66	40	53	39	29.36	30.11	13	220	-
5/2/2015	9:51:00	71	43	56	37	29.35	30.1	7.8	200	-
5/2/2015	10:51:00	74	43	57	33	29.34	30.08	6.1		-
5/2/2015	11:51:00	76	41	57	29	29.31	30.05	9.6	210	-
5/2/2015	12:51:00	78	40	58	26	29.29	30.03	M	0	-
5/2/2015	13:51:00	79	41	58	26	29.27	30.01	8.7	220	-
5/2/2015	14:51:00	79	42	59	27	29.25	29.99	M	0	-
5/2/2015	15:51:00	78	39	57	25	29.24	29.98	2.6	230	-
5/2/2015	16:51:00	79	40	58	25	29.23	29.96	M	0	-
5/2/2015	17:51:00	74	45	58	36	29.22	29.97	6.1	80	-
5/2/2015	18:51:00	73	44	57	35	29.23	29.96	6.1	90	-
5/2/2015	19:51:00	72	43	56	35	29.24	29.97	7	100	-
5/2/2015	20:51:00	72	44	57	37	29.24	29.98	8.7	130	-
5/2/2015	21:51:00	70	44	56	39	29.24	29.97	8.7	150	-
5/2/2015	22:51:00	70	43	56	38	29.23	29.96	8.7	170	-
5/2/2015	23:51:00	69	43	55	39	29.24	29.97	5.2	180	-
5/3/2015	0:51:00	68	43	55	41	29.24	29.97	7	180	-
5/3/2015	1:51:00	67	43	54	42	29.24	29.97	4.3	180	-
5/3/2015	2:51:00	67	43	54	42	29.23	29.96	5.2	180	-

5/3/2015	3:51:00	65	43	54	45	29.24	29.97	7	150	-
5/3/2015	4:51:00	64	42	53	45	29.23	29.96	6.1	170	-
5/3/2015	5:51:00	64	43	53	47	29.25	29.98	6.1	180	-
5/3/2015	6:51:00	67	45	55	45	29.26	29.99	7.8	200	-
5/3/2015	7:51:00	71	46	57	41	29.27	30.01	12.2	210	-
5/3/2015	8:51:00	75	50	61	42	29.27	30	7	210	-
5/3/2015	9:51:00	78	51	62	39	29.26	29.98	8.7	200	-
5/3/2015	10:51:00	81	51	63	35	29.25	29.97	12.2	210	-
5/3/2015	11:51:00	82	51	64	34	29.23	29.96	14.8	220	-
5/3/2015	12:51:00	83	51	64	33	29.21	29.94	7.8	170	-
5/3/2015	13:51:00	85	50	64	30	29.2	29.93	11.3	200	-
5/3/2015	14:51:00	85	48	63	28	29.19	29.92	14.8	190	-
5/3/2015	15:51:00	84	47	63	28	29.18	29.91	14.8	180	-
5/3/2015	16:51:00	83	46	62	27	29.18	29.91	11.3	180	-
5/3/2015	17:51:00	81	46	61	29	29.18	29.91	7.8	180	-
5/3/2015	18:51:00	80	48	62	33	29.18	29.91	7.8	170	-
5/3/2015	19:51:00	78	50	62	38	29.21	29.94	7	180	T
5/3/2015	20:51:00	77	50	61	39	29.21	29.93	8.7	180	T
5/3/2015	21:51:00	75	50	61	42	29.2	29.93	9.6	190	-
5/3/2015	22:51:00	74	51	61	45	29.22	29.95	7	200	-
5/3/2015	23:51:00	74	53	62	48	29.25	29.98	7.8	210	-
5/4/2015	0:51:00	73	53	61	50	29.24	29.97	11.3	210	-
5/4/2015	1:51:00	72	53	61	51	29.24	29.96	7	220	-
5/4/2015	2:51:00	72	54	61	53	29.25	29.97	9.6	210	-
5/4/2015	3:51:00	71	54	61	55	29.26	29.98	8.7	220	T
5/4/2015	4:51:00	70	55	61	59	29.29	30.01	7.8	210	T
5/4/2015	5:51:00	69	57	62	66	29.32	30.04	6.1	220	T
5/4/2015	6:51:00	69	60	64	73	29.34	30.06	5.2	200	0.01
5/4/2015	7:51:00	71	60	64	68	29.35	30.08	4.3	180	-
5/4/2015	8:51:00	75	60	66	60	29.35	30.07	7	200	-
5/4/2015	9:51:00	78	59	66	52	29.35	30.08	7.8	210	-
5/4/2015	10:51:00	81	58	67	46	29.37	30.1	9.6	250	-
5/4/2015	11:51:00	83	57	67	41	29.36	30.08	11.3	240	-
5/4/2015	12:51:00	83	57	67	41	29.35	30.08	8.7	240	-
5/4/2015	13:51:00	84	58	68	41	29.34	30.06	6.1	250	-
5/4/2015	14:51:00	85	58	68	40	29.31	30.03	7	210	-
5/4/2015	15:51:00	85	57	67	39	29.3	30.03	7.8	220	-
5/4/2015	16:51:00	86	55	67	35	29.29	30.02	7.8	200	-
5/4/2015	17:51:00	83	55	66	38	29.28	30.01	7	210	-
5/4/2015	18:51:00	82	53	65	37	29.3	30.03	6.1	180	-
5/4/2015	19:51:00	80	55	65	42	29.32	30.05	5.2	160	-
5/4/2015	20:51:00	79	54	64	42	29.34	30.07	7.8	180	-
5/4/2015	21:51:00	77	53	63	43	29.35	30.07	9.6	180	-
5/4/2015	22:51:00	76	53	62	45	29.36	30.08	11.3	200	-
5/4/2015	23:51:00	75	53	62	46	29.37	30.1	7.8	190	-
5/5/2015	0:51:00	73	54	62	52	29.38	30.11	7	220	-
5/5/2015	1:51:00	73	54	62	52	29.38	30.1	7.8	200	-
5/5/2015	2:51:00	71	54	61	55	29.38	30.1	6.1	210	-
5/5/2015	3:51:00	70	54	61	57	29.38	30.11	4.3	200	-
5/5/2015	4:51:00	68	54	60	61	29.39	30.11	M	0	-
5/5/2015	5:51:00	68	55	60	63	29.41	30.14	6.1	200	-
5/5/2015	6:51:00	71	55	62	57	29.41	30.15	9.6	210	-
5/5/2015	7:51:00	74	56	63	54	29.43	30.16	9.6	220	-

5/5/2015	8:51:00	77	57	65	50	29.44	30.16	9.6	220	-
5/5/2015	9:51:00	82	55	66	40	29.43	30.15	9.6	230	-
5/5/2015	10:51:00	84	55	66	37	29.41	30.14	8.7	270	-
5/5/2015	11:51:00	84	56	67	38	29.4	30.13	5.2	180	-
5/5/2015	12:51:00	83	54	65	37	29.39	30.11	6.1	220	-
5/5/2015	13:51:00	82	56	66	41	29.39	30.11	7.8	190	T
5/5/2015	14:51:00	82	54	65	38	29.37	30.09	12.2	190	-
5/5/2015	15:51:00	81	56	66	42	29.35	30.08	9.6	180	-
5/5/2015	16:51:00	81	57	66	44	29.35	30.08	7	170	-
5/5/2015	17:51:00	81	55	65	41	29.34	30.07	4.3	220	-
5/5/2015	18:51:00	80	55	65	42	29.35	30.08	4.3	170	-
5/5/2015	19:51:00	78	55	64	45	29.37	30.09	7.8	120	-
5/5/2015	20:51:00	76	57	64	52	29.38	30.11	6.1	150	-
5/5/2015	21:51:00	74	58	64	58	29.38	30.1	6.1	150	-
5/5/2015	22:51:00	74	57	64	56	29.38	30.1	7	160	-
5/5/2015	23:51:00	74	56	63	54	29.38	30.1	6.1	170	-
5/6/2015	0:51:00	73	56	63	55	29.36	30.09	6.1	170	-
5/6/2015	1:51:00	71	56	62	59	29.35	30.08	7	160	-
5/6/2015	2:51:00	70	56	62	61	29.35	30.08	6.1	160	-
5/6/2015	3:51:00	69	55	61	61	29.35	30.08	7	160	-
5/6/2015	4:51:00	67	55	60	66	29.36	30.09	6.1	170	-
5/6/2015	5:51:00	68	55	60	63	29.37	30.1	7.8	160	-
5/6/2015	6:51:00	72	55	62	55	29.39	30.11	7	180	-
5/6/2015	7:51:00	75	55	63	50	29.38	30.11	7	180	-
5/6/2015	8:51:00	79	55	64	44	29.37	30.1	12.2	210	-
5/6/2015	9:51:00	82	56	66	41	29.37	30.1	8.7	160	-
5/6/2015	10:51:00	83	55	66	38	29.36	30.09	13	180	-
5/6/2015	11:51:00	85	53	66	33	29.34	30.06	12.2	180	-
5/6/2015	12:51:00	86	53	66	32	29.31	30.04	9.6	190	-
5/6/2015	13:51:00	86	49	64	28	29.3	30.02	14.8	170	-
5/6/2015	14:51:00	87	51	65	29	29.28	30	13.9	140	-
5/6/2015	15:51:00	86	53	66	32	29.26	29.99	8.7	160	-
5/6/2015	16:51:00	85	51	65	31	29.25	29.98	13	160	-
5/6/2015	17:51:00	83	50	64	32	29.25	29.98	15.6	170	-
5/6/2015	18:51:00	82	50	63	33	29.25	29.97	7.8	160	-
5/6/2015	19:51:00	80	50	62	35	29.26	29.98	8.7	160	-
5/6/2015	20:51:00	79	52	63	39	29.27	29.99	7	160	-
5/6/2015	21:51:00	77	53	63	43	29.27	29.99	7.8	160	-
5/6/2015	22:51:00	75	53	62	46	29.28	30	6.1	150	-
5/6/2015	23:51:00	74	53	62	48	29.28	30	7	150	-
5/7/2015	0:51:00	73	52	61	48	29.26	29.98	8.7	140	-
5/7/2015	1:51:00	72	51	60	48	29.26	29.98	7.8	150	-
5/7/2015	2:51:00	71	51	60	49	29.26	29.98	7	140	-
5/7/2015	3:51:00	69	51	59	53	29.25	29.98	7	150	-
5/7/2015	4:51:00	69	51	59	53	29.25	29.97	7.8	150	-
5/7/2015	5:51:00	69	51	59	53	29.26	29.99	7.8	140	-
5/7/2015	6:51:00	73	52	61	48	29.27	30	11.3	160	-
5/7/2015	7:51:00	74	53	62	48	29.28	30	13.9	170	-
5/7/2015	8:51:00	79	57	65	47	29.28	30	9.6	190	-
5/7/2015	9:51:00	82	58	67	44	29.28	30	9.6	180	-
5/7/2015	10:51:00	83	58	67	43	29.27	29.99	14.8	180	-
5/7/2015	11:51:00	82	59	68	46	29.25	29.97	9.6	170	-
5/7/2015	12:51:00	83	58	67	43	29.22	29.95	12.2	200	-

5/7/2015	13:51:00	86	59	69	40	29.21	29.93	14.8	200	-
5/7/2015	14:51:00	85	60	69	43	29.18	29.91	11.3	190	-
5/7/2015	15:51:00	84	59	68	43	29.17	29.89	11.3	210	-
5/7/2015	16:51:00	83	60	68	46	29.17	29.89	12.2	170	-
5/7/2015	17:51:00	80	57	66	45	29.17	29.9	7	180	T
5/7/2015	18:51:00	80	59	67	49	29.17	29.9	6.1	170	-
5/7/2015	19:51:00	80	60	67	51	29.19	29.91	4.3	160	-
5/7/2015	20:51:00	75	61	66	62	29.22	29.94	12.2	330	-
5/7/2015	21:51:00	73	62	66	69	29.22	29.94	5.2	40	-
5/7/2015	22:51:00	71	62	65	73	29.21	29.94	4.3	90	-
5/7/2015	23:51:00	70	61	64	73	29.2	29.93	2.6	60	-
5/8/2015	0:51:00	72	62	66	71	29.2	29.92	M	0	-
5/8/2015	1:51:00	69	62	65	79	29.19	29.91	2.6	40	-
5/8/2015	2:51:00	68	62	64	81	29.19	29.91	4.3	70	-
5/8/2015	3:51:00	68	62	64	81	29.2	29.93	5.2	120	-
5/8/2015	4:51:00	71	61	65	71	29.2	29.92	7	150	-
5/8/2015	5:51:00	71	60	64	68	29.21	29.94	2.6	160	-
5/8/2015	6:51:00	73	60	65	64	29.21	29.94	7	170	-
5/8/2015	7:51:00	75	60	66	60	29.21	29.93	7.8	170	-
5/8/2015	8:51:00	77	62	67	60	29.2	29.93	8.7	160	-
5/8/2015	9:51:00	69	63	65	81	29.23	29.96	13	240	0.11
5/8/2015	10:51:00	69	65	66	87	29.22	29.96	5.2	320	0.07
5/8/2015	11:51:00	69	64	66	84	29.21	29.95	2.6	290	0.08
5/8/2015	12:51:00	70	66	67	87	29.18	29.91	6.1	80	0.04
5/8/2015	13:51:00	71	64	67	79	29.19	29.93	2.6	150	T
5/8/2015	14:51:00	73	65	68	76	29.19	29.92	M	0	-
5/8/2015	15:51:00	75	65	69	71	29.18	29.91	2.6	180	-
5/8/2015	16:51:00	74	63	67	69	29.18	29.91	5.2	210	-
5/8/2015	17:51:00	74	63	67	69	29.18	29.91	4.3	240	-
5/8/2015	18:51:00	71	64	67	79	29.2	29.93	5.2	290	-
5/8/2015	19:51:00	69	64	66	84	29.2	29.94	M	0	-
5/8/2015	20:51:00	68	63	65	84	29.23	29.96	4.3	320	-
5/8/2015	21:51:00	68	64	65	87	29.23	29.97	M	0	-
5/8/2015	22:51:00	67	63	65	87	29.24	29.98	M	0	-
5/8/2015	23:51:00	67	63	65	87	29.26	29.99	2.6	300	-
5/9/2015	0:51:00	68	64	66	87	29.26	30	2.6	330	-
5/9/2015	1:51:00	67	64	65	90	29.26	30	2.6	350	-
5/9/2015	2:51:00	66	63	64	90	29.27	30.01	4.3	350	-
5/9/2015	3:51:00	66	62	64	87	29.25	29.98	7	360	-
5/9/2015	4:51:00	66	62	64	87	29.26	30	5.2	60	-
5/9/2015	5:51:00	65	62	63	90	29.28	30.01	2.6	70	-
5/9/2015	6:51:00	67	62	64	84	29.28	30.01	7	40	-
5/9/2015	7:51:00	68	62	64	81	29.28	30.02	7	70	-
5/9/2015	8:51:00	68	62	64	81	29.28	30.02	7.8	80	-
5/9/2015	9:51:00	69	62	65	79	29.29	30.02	9.6	100	-
5/9/2015	10:51:00	69	63	65	81	29.28	30.02	7	80	0.02
5/9/2015	11:51:00	69	65	66	87	29.26	30	8.7	90	0.07
5/9/2015	12:51:00	70	65	67	84	29.24	29.97	7	50	0.04
5/9/2015	13:51:00	70	66	67	87	29.23	29.96	7.8	40	0.14
5/9/2015	14:51:00	72	67	69	84	29.2	29.94	6.1	60	T
5/9/2015	15:51:00	72	64	67	76	29.2	29.93	8.7	60	-
5/9/2015	16:51:00	72	65	68	79	29.19	29.93	9.6	110	0.01
5/9/2015	17:51:00	70	65	67	84	29.19	29.93	6.1	160	0.03

5/9/2015	18:51:00	70	65	67	84	29.19	29.92	4.3	120	T
5/9/2015	19:51:00	69	65	66	87	29.2	29.94	2.6	100	-
5/9/2015	20:51:00	68	65	66	90	29.21	29.95	M	0	-
5/9/2015	21:51:00	68	64	65	87	29.21	29.95	4.3	180	-
5/9/2015	22:51:00	68	65	66	90	29.22	29.95	6.1	200	T
5/9/2015	23:51:00	68	65	66	90	29.21	29.94	M	0	0.01
5/10/2015	0:51:00	68	65	66	90	29.19	29.93	4.3	120	0.02
5/10/2015	1:51:00	66	64	65	93	29.19	29.92	2.6	110	-
5/10/2015	2:51:00	68	64	65	87	29.18	29.92	5.2	150	-
5/10/2015	3:51:00	68	64	65	87	29.19	29.93	6.1	170	-
5/10/2015	4:51:00	68	63	65	84	29.18	29.92	4.3	160	-
5/10/2015	5:51:00	68	64	65	87	29.18	29.91	5.2	120	-
5/10/2015	6:51:00	70	65	67	84	29.2	29.94	7	130	-
5/10/2015	7:51:00	72	64	67	76	29.23	29.96	7	180	-
5/10/2015	8:51:00	74	64	68	71	29.23	29.96	7.8	170	-
5/10/2015	9:51:00	76	63	68	64	29.21	29.94	7	190	-
5/10/2015	10:51:00	79	63	69	58	29.21	29.94	5.2	220	-
5/10/2015	11:51:00	81	64	70	56	29.21	29.93	6.1	170	-
5/10/2015	12:51:00	82	64	70	55	29.21	29.94	7	180	-
5/10/2015	13:51:00	83	65	71	55	29.19	29.92	7.8	150	-
5/10/2015	14:51:00	83	65	71	55	29.17	29.9	13	180	-
5/10/2015	15:51:00	83	64	71	53	29.15	29.88	11.3	200	T
5/10/2015	16:51:00	72	63	66	73	29.19	29.93	8.7	210	0.53
5/10/2015	17:51:00	72	65	68	79	29.18	29.92	6.1	180	-
5/10/2015	18:51:00	71	63	66	76	29.19	29.92	7.8	170	-
5/10/2015	19:51:00	69	62	65	79	29.2	29.93	6.1	160	-
5/10/2015	20:51:00	68	62	64	81	29.21	29.95	7.8	150	-
5/10/2015	21:51:00	68	61	64	78	29.2	29.94	6.1	140	-
5/10/2015	22:51:00	68	62	64	81	29.21	29.94	7.8	150	T
5/10/2015	23:51:00	68	62	64	81	29.2	29.92	6.1	160	T
5/11/2015	0:51:00	68	62	64	81	29.17	29.9	7	180	0.02
5/11/2015	1:51:00	67	63	65	87	29.16	29.88	5.2	190	0.05
5/11/2015	2:51:00	67	62	64	84	29.16	29.88	7.8	210	0.05
5/11/2015	3:51:00	66	62	64	87	29.16	29.89	6.1	230	0.11
5/11/2015	4:51:00	66	61	63	84	29.16	29.89	7	150	0.14
5/11/2015	5:51:00	65	62	63	90	29.16	29.89	6.1	130	0.06
5/11/2015	6:51:00	65	61	63	87	29.15	29.89	7	140	0.07
5/11/2015	7:51:00	65	61	63	87	29.16	29.9	6.1	170	0.05
5/11/2015	8:51:00	67	61	63	81	29.16	29.9	12.2	180	T
5/11/2015	9:51:00	68	60	63	76	29.17	29.91	11.3	200	-
5/11/2015	10:51:00	69	60	64	73	29.16	29.9	13	230	-
5/11/2015	11:51:00	68	58	62	71	29.17	29.91	14.8	250	-
5/11/2015	12:51:00	71	56	62	59	29.18	29.91	17.4	230	-
5/11/2015	13:51:00	73	53	61	50	29.18	29.92	20	250	-
5/11/2015	14:51:00	74	49	60	41	29.18	29.91	17.4	250	-
5/11/2015	15:51:00	73	47	59	40	29.19	29.93	13.9	250	-
5/11/2015	16:51:00	72	46	58	40	29.21	29.94	12.2	250	-
5/11/2015	17:51:00	70	44	56	39	29.22	29.96	15.6	280	-
5/11/2015	18:51:00	68	43	55	41	29.25	29.99	13.9	270	-
5/11/2015	19:51:00	64	43	53	47	29.27	30.02	11.3	280	-
5/11/2015	20:51:00	63	44	53	50	29.3	30.05	9.6	270	-
5/11/2015	21:51:00	61	44	52	54	29.32	30.07	12.2	270	-
5/11/2015	22:51:00	60	44	52	56	29.33	30.07	9.6	280	-

5/11/2015	23:51:00	58	42	50	55	29.34	30.09	7	270	-
5/12/2015	0:51:00	56	43	49	62	29.34	30.08	6.1	260	-
5/12/2015	1:51:00	55	42	49	62	29.35	30.09	8.7	260	-
5/12/2015	2:51:00	55	41	48	59	29.37	30.11	9.6	280	-
5/12/2015	3:51:00	53	39	46	59	29.38	30.13	12.2	290	-
5/12/2015	4:51:00	53	38	46	57	29.41	30.16	13.9	280	-
5/12/2015	5:51:00	53	38	46	57	29.43	30.18	13.9	270	-
5/12/2015	6:51:00	55	38	47	53	29.46	30.2	19.1	280	-
5/12/2015	7:51:00	58	38	48	48	29.47	30.23	13.9	290	-
5/12/2015	8:51:00	60	37	49	43	29.49	30.24	13	310	-
5/12/2015	9:51:00	63	37	50	38	29.49	30.24	14.8	300	-
5/12/2015	10:51:00	65	38	52	37	29.49	30.25	14.8	310	-
5/12/2015	11:51:00	66	37	52	34	29.5	30.26	14.8	330	-
5/12/2015	12:51:00	67	38	52	35	29.52	30.27	14.8	310	-
5/12/2015	13:51:00	69	38	53	32	29.5	30.26	13	300	-
5/12/2015	14:51:00	70	38	54	31	29.49	30.25	12.2	280	-
5/12/2015	15:51:00	70	39	54	32	29.49	30.25	7.8	310	-
5/12/2015	16:51:00	69	36	53	30	29.49	30.25	6.1	310	-
5/12/2015	17:51:00	68	39	53	35	29.49	30.25	5.2	290	-
5/12/2015	18:51:00	65	40	52	40	29.49	30.25	4.3	300	-
5/12/2015	19:51:00	63	40	51	43	29.52	30.27	4.3	320	-
5/12/2015	20:51:00	60	41	50	50	29.52	30.28	2.6	310	-
5/12/2015	21:51:00	57	43	50	60	29.54	30.3	M	0	-
5/12/2015	22:51:00	56	43	50	62	29.54	30.29	M	0	-
5/12/2015	23:51:00	54	43	49	67	29.54	30.3	M	0	-
5/13/2015	0:51:00	53	43	48	69	29.53	30.29	M	0	-
5/13/2015	1:51:00	52	44	48	74	29.55	30.31	M	0	-
5/13/2015	2:51:00	52	43	48	72	29.57	30.32	M	0	-
5/13/2015	3:51:00	53	42	48	66	29.57	30.32	7.8	30	-
5/13/2015	4:51:00	52	40	46	64	29.57	30.33	6.1	60	-
5/13/2015	5:51:00	53	42	48	66	29.6	30.36	6.1	80	-
5/13/2015	6:51:00	56	42	49	60	29.63	30.39	8.7	80	-
5/13/2015	7:51:00	58	42	50	55	29.65	30.41	11.3	100	-
5/13/2015	8:51:00	61	42	51	50	29.66	30.42	9.6	100	-
5/13/2015	9:51:00	63	42	52	46	29.64	30.4	9.6	80	-
5/13/2015	10:51:00	65	43	54	45	29.64	30.4	5.2	90	-
5/13/2015	11:51:00	67	43	54	42	29.61	30.37	6.1	80	-
5/13/2015	12:51:00	68	43	55	41	29.58	30.34	5.2		-
5/13/2015	13:51:00	69	43	55	39	29.57	30.33	8.7	130	-
5/13/2015	14:51:00	69	44	56	41	29.55	30.31	7	100	-
5/13/2015	15:51:00	70	44	56	39	29.53	30.29	8.7	100	-
5/13/2015	16:51:00	69	45	56	42	29.52	30.28	9.6	90	-
5/13/2015	17:51:00	67	45	55	45	29.5	30.27	13	90	-
5/13/2015	18:51:00	66	45	55	47	29.52	30.27	8.7	110	-
5/13/2015	19:51:00	64	46	54	52	29.52	30.27	8.7	100	-
5/13/2015	20:51:00	62	47	54	58	29.52	30.28	7	80	-
5/13/2015	21:51:00	63	48	55	58	29.52	30.27	8.7	90	-
5/13/2015	22:51:00	62	48	54	60	29.5	30.25	9.6	100	-
5/13/2015	23:51:00	62	47	54	58	29.49	30.24	7.8	110	-
5/14/2015	0:51:00	62	47	54	58	29.49	30.24	7.8	120	-
5/14/2015	1:51:00	60	47	53	62	29.49	30.23	7	110	-
5/14/2015	2:51:00	61	46	53	58	29.49	30.23	6.1	110	-
5/14/2015	3:51:00	61	46	53	58	29.47	30.22	7.8	120	-

5/14/2015	4:51:00	61	46	53	58	29.46	30.21	12.2	120	T
5/14/2015	5:51:00	61	47	54	60	29.47	30.22	12.2	140	T
5/14/2015	6:51:00	61	48	54	63	29.49	30.24	9.6	140	T
5/14/2015	7:51:00	60	50	55	70	29.49	30.24	12.2	150	T
5/14/2015	8:51:00	59	52	55	78	29.47	30.23	9.6	140	0.02
5/14/2015	9:51:00	60	55	57	84	29.44	30.19	13	130	0.03
5/14/2015	10:51:00	62	56	59	81	29.43	30.18	11.3	140	T
5/14/2015	11:51:00	63	55	58	75	29.4	30.15	13	140	T
5/14/2015	12:51:00	66	57	61	73	29.36	30.11	13	130	T
5/14/2015	13:51:00	68	58	62	71	29.34	30.09	9.6	150	T
5/14/2015	14:51:00	72	60	65	66	29.31	30.06	9.6	160	T
5/14/2015	15:51:00	75	57	64	54	29.3	30.04	13.9	180	-
5/14/2015	16:51:00	77	58	65	52	29.28	30.01	12.2	160	T
5/14/2015	17:51:00	76	55	63	48	29.25	29.98	13.9	160	-
5/14/2015	18:51:00	75	56	64	52	29.24	29.98	12.2	170	-
5/14/2015	19:51:00	73	56	63	55	29.25	29.99	12.2	170	-
5/14/2015	20:51:00	72	56	62	57	29.26	30.01	11.3	170	-
5/14/2015	21:51:00	71	56	62	59	29.27	30.01	13	180	-
5/14/2015	22:51:00	70	55	61	59	29.27	30.01	9.6	190	-
5/14/2015	23:51:00	69	54	60	59	29.26	30	11.3	180	-
5/15/2015	0:51:00	69	53	60	57	29.25	29.99	7	200	-
5/15/2015	1:51:00	69	53	60	57	29.24	29.98	6.1	210	-
5/15/2015	2:51:00	68	54	60	61	29.24	29.97	6.1	220	-
5/15/2015	3:51:00	68	54	60	61	29.24	29.97	5.2	210	-
5/15/2015	4:51:00	69	55	61	61	29.25	29.98	7.8	210	-
5/15/2015	5:51:00	69	57	62	66	29.27	30	4.3	180	-
5/15/2015	6:51:00	71	58	63	64	29.29	30.02	5.2	180	-
5/15/2015	7:51:00	76	62	67	62	29.3	30.02	9.6	230	-
5/15/2015	8:51:00	79	64	69	60	29.29	30.02	8.7	220	-
5/15/2015	9:51:00	83	66	72	57	29.29	30.01	7	250	-
5/15/2015	10:51:00	85	66	72	53	29.27	30	5.2	210	-
5/15/2015	11:51:00	84	66	72	55	29.25	29.97	8.7	210	T
5/15/2015	12:51:00	85	66	72	53	29.22	29.95	7.8	180	T
5/15/2015	13:51:00	69	63	65	81	29.3	30.03	19.1	200	0.19
5/15/2015	14:51:00	69	64	66	84	29.25	29.98	4.3	190	0.12
5/15/2015	15:51:00	70	64	66	81	29.24	29.97	6.1	160	0.04
5/15/2015	16:51:00	72	65	68	79	29.22	29.95	7	130	-
5/15/2015	17:51:00	72	66	68	82	29.2	29.94	M	0	T
5/15/2015	18:51:00	73	66	68	79	29.22	29.95	7	150	T
5/15/2015	19:51:00	70	65	67	84	29.23	29.96	4.3	100	-
5/15/2015	20:51:00	71	65	67	81	29.26	29.98	7	140	-
5/15/2015	21:51:00	71	66	68	84	29.25	29.98	7.8	160	-
5/15/2015	22:51:00	71	66	68	84	29.25	29.97	8.7	160	-
5/15/2015	23:51:00	70	65	67	84	29.24	29.97	7.8	170	-
5/16/2015	0:51:00	70	64	66	81	29.22	29.94	11.3	160	-
5/16/2015	1:51:00	70	64	66	81	29.21	29.94	9.6	170	T
5/16/2015	2:51:00	70	64	66	81	29.2	29.94	11.3	170	T
5/16/2015	3:51:00	70	65	67	84	29.21	29.95	4.3	180	T
5/16/2015	4:51:00	69	64	66	84	29.22	29.95	7.8	150	-
5/16/2015	5:51:00	70	65	67	84	29.26	29.99	7	160	-
5/16/2015	6:51:00	71	65	67	81	29.27	30.01	5.2	170	T
5/16/2015	7:51:00	71	67	68	87	29.29	30.03	6.1	180	0.02
5/16/2015	8:51:00	71	66	68	84	29.29	30.02	7	160	0.01

5/16/2015	9:51:00	73	68	70	84	29.28	30.02	5.2	170	0.03
5/16/2015	10:51:00	75	67	70	76	29.27	30	5.2	190	T
5/16/2015	11:51:00	76	66	69	71	29.25	29.98	11.3	170	0.02
5/16/2015	12:51:00	74	67	69	79	29.24	29.97	7.8	200	0.01
5/16/2015	13:51:00	73	66	68	79	29.23	29.96	11.3	180	T
5/16/2015	14:51:00	78	67	71	69	29.21	29.94	12.2	190	-
5/16/2015	15:51:00	79	66	70	65	29.19	29.92	12.2	160	-
5/16/2015	16:51:00	78	65	70	64	29.18	29.91	12.2	160	-
5/16/2015	17:51:00	78	65	70	64	29.19	29.92	8.7	160	-
5/16/2015	18:51:00	76	65	69	69	29.19	29.92	7.8	160	-
5/16/2015	19:51:00	74	65	68	74	29.2	29.93	9.6	150	-
5/16/2015	20:51:00	73	65	68	76	29.21	29.94	13	150	-
5/16/2015	21:51:00	73	66	68	79	29.19	29.92	8.7	140	-
5/16/2015	22:51:00	73	67	69	82	29.16	29.89	11.3	140	-
5/16/2015	23:51:00	73	67	69	82	29.15	29.88	8.7	150	-
5/17/2015	0:51:00	74	66	69	76	29.17	29.9	9.6	170	-
5/17/2015	1:51:00	74	66	69	76	29.16	29.89	7	160	-
5/17/2015	2:51:00	74	66	69	76	29.17	29.9	6.1	170	-
5/17/2015	3:51:00	73	66	68	79	29.16	29.88	8.7	150	-
5/17/2015	4:51:00	74	66	69	76	29.18	29.91	7.8	170	-
5/17/2015	5:51:00	66	61	63	84	29.19	29.92	7	20	0.15
5/17/2015	6:51:00	68	63	65	84	29.19	29.92	7.8	130	-
5/17/2015	7:51:00	72	63	66	73	29.19	29.92	8.7	170	-
5/17/2015	8:51:00	73	62	66	69	29.14	29.87	18.2	140	-
5/17/2015	9:51:00	76	60	66	58	29.14	29.87	14.8	170	-
5/17/2015	10:51:00	77	62	67	60	29.18	29.91	12.2	200	-
5/17/2015	11:51:00	76	61	67	60	29.14	29.87	14.8	160	-
5/17/2015	12:51:00	80	63	69	56	29.18	29.91	11.3	220	-
5/17/2015	13:51:00	81	62	69	53	29.17	29.9	15.6	200	-
5/17/2015	14:51:00	82	62	69	51	29.17	29.9	13	200	-
5/17/2015	15:51:00	81	61	68	51	29.18	29.9	19.1	210	-
5/17/2015	16:51:00	81	61	68	51	29.19	29.91	13	220	-
5/17/2015	17:51:00	79	63	69	58	29.2	29.93	15.6	200	-
5/17/2015	18:51:00	78	64	69	62	29.22	29.95	8.7	190	-
5/17/2015	19:51:00	76	64	68	67	29.22	29.95	7	190	-
5/17/2015	20:51:00	75	65	69	71	29.25	29.98	7.8	200	-
5/17/2015	21:51:00	74	65	68	74	29.27	30	7.8	190	-
5/17/2015	22:51:00	73	65	68	76	29.27	30	7	220	-
5/17/2015	23:51:00	72	65	68	79	29.27	30	5.2	210	-
5/18/2015	0:51:00	70	64	66	81	29.28	30	2.6	210	-
5/18/2015	1:51:00	68	64	66	87	29.27	30	M	0	-
5/18/2015	2:51:00	69	64	66	84	29.27	30	M	0	-
5/18/2015	3:51:00	68	64	66	87	29.28	30.01	M	0	-
5/18/2015	4:51:00	67	64	65	90	29.29	30.02	2.6	180	-
5/18/2015	5:51:00	69	65	66	87	29.31	30.04	2.6	190	-
5/18/2015	6:51:00	70	65	67	84	29.33	30.06	6.1	200	-
5/18/2015	7:51:00	75	66	69	74	29.33	30.06	6.1	230	-
5/18/2015	8:51:00	77	67	70	71	29.34	30.07	6.1	270	-
5/18/2015	9:51:00	78	67	71	69	29.35	30.08	6.1	230	-
5/18/2015	10:51:00	81	67	72	63	29.34	30.07	4.3		-
5/18/2015	11:51:00	83	66	72	57	29.34	30.07	2.6	310	-
5/18/2015	12:51:00	83	65	71	55	29.34	30.07	8.7	320	-
5/18/2015	13:51:00	85	65	72	51	29.34	30.07	8.7	310	-

5/18/2015	14:51:00	83	67	72	59	29.34	30.07	11.3	300	-
5/18/2015	15:51:00	81	63	69	54	29.35	30.08	13.9	320	-
5/18/2015	16:51:00	78	60	67	54	29.36	30.09	13.9	320	-
5/18/2015	17:51:00	76	56	64	50	29.37	30.1	11.3	300	-
5/18/2015	18:51:00	73	55	62	53	29.38	30.11	7	310	-
5/18/2015	19:51:00	70	53	60	55	29.39	30.12	7.8	320	-
5/18/2015	20:51:00	67	51	58	57	29.41	30.15	7.8	330	-
5/18/2015	21:51:00	64	51	57	63	29.44	30.17	7.8	340	-
5/18/2015	22:51:00	62	48	54	60	29.44	30.18	11.3	350	-
5/18/2015	23:51:00	59	47	53	65	29.46	30.19	7	360	-
5/19/2015	0:51:00	56	45	50	67	29.47	30.21	6.1	350	-
5/19/2015	1:51:00	54	42	48	64	29.49	30.22	6.1	350	-
5/19/2015	2:51:00	52	42	47	69	29.49	30.22	5.2	360	-
5/19/2015	3:51:00	50	39	45	66	29.49	30.22	8.7	340	-
5/19/2015	4:51:00	49	39	44	69	29.49	30.24	7.8	350	-
5/19/2015	5:51:00	49	37	44	63	29.5	30.25	7.8	350	-
5/19/2015	6:51:00	50	36	44	59	29.52	30.27	9.6	360	-
5/19/2015	7:51:00	52	38	45	59	29.52	30.28	6.1	350	-
5/19/2015	8:51:00	55	40	48	57	29.52	30.28	7.8	350	-
5/19/2015	9:51:00	56	41	49	57	29.52	30.27	5.2		-
5/19/2015	10:51:00	59	43	51	56	29.52	30.27	7.8	340	-
5/19/2015	11:51:00	61	43	52	52	29.49	30.25	7.8	330	-
5/19/2015	12:51:00	63	44	53	50	29.47	30.23	11.3	360	-
5/19/2015	13:51:00	65	45	54	49	29.47	30.22	6.1	60	-
5/19/2015	14:51:00	65	45	54	49	29.44	30.19	5.2	10	-
5/19/2015	15:51:00	65	45	54	49	29.44	30.2	6.1	20	-
5/19/2015	16:51:00	65	45	54	49	29.43	30.18	7.8	40	-
5/19/2015	17:51:00	63	44	53	50	29.41	30.16	8.7	40	-
5/19/2015	18:51:00	62	44	53	52	29.4	30.16	7	40	-
5/19/2015	19:51:00	61	44	52	54	29.39	30.14	7	40	-
5/19/2015	20:51:00	60	44	52	56	29.41	30.17	5.2	20	-
5/19/2015	21:51:00	58	44	51	60	29.41	30.17	4.3	10	-
5/19/2015	22:51:00	58	44	51	60	29.41	30.16	7	40	-
5/19/2015	23:51:00	58	44	51	60	29.4	30.14	5.2	60	-
5/20/2015	0:51:00	57	43	50	60	29.38	30.12	6.1	70	-
5/20/2015	1:51:00	57	42	50	57	29.38	30.12	7	80	-
5/20/2015	2:51:00	56	42	49	60	29.36	30.11	11.3	80	-
5/20/2015	3:51:00	55	42	49	62	29.35	30.1	12.2	90	-
5/20/2015	4:51:00	55	42	49	62	29.34	30.09	11.3	90	T
5/20/2015	5:51:00	54	43	49	67	29.35	30.1	12.2	90	T
5/20/2015	6:51:00	54	43	49	67	29.35	30.11	11.3	90	-
5/20/2015	7:51:00	53	42	48	66	29.35	30.1	13.9	90	T
5/20/2015	8:51:00	53	42	48	66	29.37	30.13	8.7	100	T
5/20/2015	9:51:00	51	43	47	74	29.36	30.11	6.1	60	0.02
5/20/2015	10:51:00	49	43	46	80	29.36	30.12	7.8	80	0.14
5/20/2015	11:51:00	49	43	46	80	29.33	30.09	9.6	60	0.03
5/20/2015	12:51:00	49	44	47	83	29.32	30.08	7.8	50	0.02
5/20/2015	13:51:00	49	43	46	80	29.34	30.09	12.2	30	T
5/20/2015	14:51:00	48	43	46	83	29.34	30.1	9.6	20	0.02
5/20/2015	15:51:00	48	44	46	86	29.34	30.1	12.2	40	0.01
5/20/2015	16:51:00	49	43	46	80	29.35	30.11	7.8	30	-
5/20/2015	17:51:00	49	43	46	80	29.35	30.11	8.7	10	-
5/20/2015	18:51:00	49	42	46	77	29.37	30.13	7.8	20	-

5/20/2015	19:51:00	49	42	46	77	29.37	30.13	8.7	10	-
5/20/2015	20:51:00	48	41	45	77	29.39	30.15	7	10	-
5/20/2015	21:51:00	48	41	45	77	29.39	30.16	6.1	350	-
5/20/2015	22:51:00	48	41	45	77	29.4	30.16	7	340	-
5/20/2015	23:51:00	49	41	45	74	29.4	30.17	7	330	-
5/21/2015	0:51:00	49	41	45	74	29.4	30.17	7	320	-
5/21/2015	1:51:00	49	42	46	77	29.4	30.16	7	310	-
5/21/2015	2:51:00	48	41	45	77	29.41	30.18	7.8	320	-
5/21/2015	3:51:00	48	42	45	80	29.41	30.18	6.1	310	-
5/21/2015	4:51:00	47	40	44	77	29.44	30.21	7.8	330	-
5/21/2015	5:51:00	47	40	44	77	29.44	30.22	7.8	330	-
5/21/2015	6:51:00	49	40	45	71	29.44	30.22	12.2	340	-
5/21/2015	7:51:00	50	39	45	66	29.47	30.23	9.6	320	-
5/21/2015	8:51:00	52	40	46	64	29.47	30.23	8.7	330	-
5/21/2015	9:51:00	53	40	47	62	29.46	30.22	9.6	320	-
5/21/2015	10:51:00	58	43	50	58	29.46	30.22	2.6	300	-
5/21/2015	11:51:00	58	41	50	53	29.47	30.23	8.7	320	-
5/21/2015	12:51:00	63	43	53	48	29.46	30.22	7	280	-
5/21/2015	13:51:00	64	42	53	45	29.44	30.21	6.1	360	-
5/21/2015	14:51:00	64	40	52	42	29.44	30.2	M	0	-
5/21/2015	15:51:00	65	40	52	40	29.43	30.19	9.6	320	-
5/21/2015	16:51:00	66	41	53	40	29.41	30.17	7.8	280	-
5/21/2015	17:51:00	65	41	53	42	29.4	30.16	7.8	290	-
5/21/2015	18:51:00	62	42	52	48	29.41	30.17	5.2	280	-
5/21/2015	19:51:00	61	42	51	50	29.41	30.18	4.3	240	-
5/21/2015	20:51:00	58	43	50	58	29.41	30.18	2.6	220	-
5/21/2015	21:51:00	57	42	50	57	29.41	30.17	M	0	-
5/21/2015	22:51:00	55	42	49	62	29.41	30.17	5.2	230	-
5/21/2015	23:51:00	54	43	49	67	29.41	30.18	4.3	230	-
5/22/2015	0:51:00	54	43	49	67	29.41	30.18	5.2	240	-
5/22/2015	1:51:00	53	43	48	69	29.43	30.18	6.1	250	-
5/22/2015	2:51:00	53	43	48	69	29.44	30.19	5.2	260	-
5/22/2015	3:51:00	53	43	48	69	29.44	30.2	5.2	270	-
5/22/2015	4:51:00	53	43	48	69	29.44	30.2	6.1	250	-
5/22/2015	5:51:00	55	44	49	67	29.47	30.22	6.1	260	-
5/22/2015	6:51:00	59	46	52	62	29.47	30.23	7	260	-
5/22/2015	7:51:00	63	47	54	56	29.49	30.23	7.8	250	-
5/22/2015	8:51:00	67	49	57	53	29.49	30.24	6.1	260	-
5/22/2015	9:51:00	70	50	59	49	29.49	30.24	5.2		-
5/22/2015	10:51:00	73	50	60	44	29.49	30.23	4.3	270	-
5/22/2015	11:51:00	75	51	61	43	29.49	30.24	2.6	180	-
5/22/2015	12:51:00	74	51	61	45	29.49	30.24	6.1	240	-
5/22/2015	13:51:00	74	50	60	43	29.47	30.23	7	250	-
5/22/2015	14:51:00	73	49	59	43	29.47	30.23	7.8	250	-
5/22/2015	15:51:00	75	48	60	39	29.47	30.22	8.7	260	-
5/22/2015	16:51:00	74	49	60	41	29.47	30.22	7	270	-
5/22/2015	17:51:00	73	48	59	41	29.47	30.22	4.3	280	-
5/22/2015	18:51:00	71	49	59	46	29.47	30.23	5.2	280	-
5/22/2015	19:51:00	69	49	58	49	29.49	30.23	4.3	320	-
5/22/2015	20:51:00	66	50	57	57	29.49	30.24	M	0	-
5/22/2015	21:51:00	67	51	58	57	29.49	30.24	M	0	-
5/22/2015	22:51:00	67	52	59	59	29.49	30.23	M	0	-
5/22/2015	23:51:00	66	52	58	61	29.49	30.22	M	0	-

5/23/2015	0:51:00	64	52	57	65	29.49	30.23	2.6	110	-
5/23/2015	1:51:00	65	51	57	61	29.49	30.24	M	0	-
5/23/2015	2:51:00	65	52	58	63	29.52	30.25	M	0	-
5/23/2015	3:51:00	65	52	58	63	29.52	30.27	M	0	-
5/23/2015	4:51:00	64	53	58	68	29.53	30.27	M	0	T
5/23/2015	5:51:00	64	56	59	75	29.55	30.29	M	0	T
5/23/2015	6:51:00	67	55	60	66	29.55	30.3	4.3		-
5/23/2015	7:51:00	67	54	60	63	29.56	30.31	5.2	130	T
5/23/2015	8:51:00	72	53	61	51	29.55	30.3	8.7	150	-
5/23/2015	9:51:00	74	48	59	40	29.54	30.28	12.2	150	-
5/23/2015	10:51:00	76	48	60	37	29.53	30.28	12.2	150	-
5/23/2015	11:51:00	77	49	61	37	29.52	30.26	12.2	150	-
5/23/2015	12:51:00	78	48	61	35	29.5	30.25	9.6	170	-
5/23/2015	13:51:00	78	50	62	38	29.47	30.22	8.7	140	-
5/23/2015	14:51:00	78	50	62	38	29.46	30.2	11.3	160	-
5/23/2015	15:51:00	78	49	61	36	29.43	30.16	13	120	-
5/23/2015	16:51:00	77	49	61	37	29.41	30.16	9.6	170	-
5/23/2015	17:51:00	76	48	60	37	29.4	30.14	8.7	140	-
5/23/2015	18:51:00	75	47	59	37	29.4	30.13	8.7	140	-
5/23/2015	19:51:00	74	47	59	38	29.41	30.15	7.8	160	-
5/23/2015	20:51:00	72	49	59	44	29.4	30.14	7.8	140	-
5/23/2015	21:51:00	69	50	58	51	29.38	30.11	7	100	-
5/23/2015	22:51:00	70	51	59	51	29.38	30.11	6.1	100	-
5/23/2015	23:51:00	68	53	59	59	29.37	30.1	7	110	-
5/24/2015	0:51:00	70	53	60	55	29.36	30.09	7	130	-
5/24/2015	1:51:00	67	54	60	63	29.35	30.08	7	110	-
5/24/2015	2:51:00	66	54	59	65	29.34	30.07	6.1	100	-
5/24/2015	3:51:00	66	54	59	65	29.34	30.07	6.1	100	-
5/24/2015	4:51:00	65	54	59	68	29.32	30.06	8.7	110	-
5/24/2015	5:51:00	67	55	60	66	29.33	30.07	8.7	120	-
5/24/2015	6:51:00	70	56	62	61	29.32	30.05	9.6	130	-
5/24/2015	7:51:00	73	59	64	62	29.31	30.04	9.6	160	-
5/24/2015	8:51:00	76	61	67	60	29.29	30.02	15.6	150	-
5/24/2015	9:51:00	79	63	69	58	29.27	30	8.7	180	-
5/24/2015	10:51:00	82	62	69	51	29.26	29.98	20	180	-
5/24/2015	11:51:00	82	64	70	55	29.24	29.97	17.4	180	-
5/24/2015	12:51:00	85	62	70	46	29.22	29.95	13	180	-
5/24/2015	13:51:00	85	62	70	46	29.2	29.93	14.8	160	-
5/24/2015	14:51:00	85	64	71	49	29.16	29.89	17.4	160	-
5/24/2015	15:51:00	85	64	71	49	29.15	29.88	13.9	160	-
5/24/2015	16:51:00	83	64	71	53	29.15	29.88	20	150	-
5/24/2015	17:51:00	82	64	70	55	29.14	29.87	12.2	170	T
5/24/2015	18:51:00	79	66	70	65	29.14	29.87	11.3	180	T
5/24/2015	19:51:00	79	65	70	62	29.14	29.87	14.8	170	T
5/24/2015	20:51:00	72	64	67	76	29.16	29.89	13.9	170	0.1
5/24/2015	21:51:00	71	66	68	84	29.13	29.85	12.2	140	0.14
5/24/2015	22:51:00	70	64	66	81	29.13	29.86	13	160	T
5/24/2015	23:51:00	70	64	66	81	29.12	29.85	13.9	160	-
5/25/2015	0:51:00	71	65	67	81	29.12	29.85	11.3	180	-
5/25/2015	1:51:00	71	65	67	81	29.11	29.83	8.7	180	T
5/25/2015	2:51:00	71	65	67	81	29.13	29.85	9.6	180	-
5/25/2015	3:51:00	71	65	67	81	29.14	29.86	9.6	170	-
5/25/2015	4:51:00	71	64	67	79	29.17	29.89	8.7	200	-

5/25/2015	5:51:00	71	63	66	76	29.2	29.93	11.3	210	-
5/25/2015	6:51:00	71	60	64	68	29.23	29.95	14.8	230	-
5/25/2015	7:51:00	72	60	65	66	29.25	29.98	13.9	240	-
5/25/2015	8:51:00	75	61	66	62	29.26	29.99	12.2	250	-
5/25/2015	9:51:00	77	61	67	58	29.26	30	11.3	200	-
5/25/2015	10:51:00	79	61	68	54	29.25	29.98	8.7	210	-
5/25/2015	11:51:00	82	61	69	49	29.24	29.96	7	210	-
5/25/2015	12:51:00	84	62	70	48	29.22	29.95	7	180	-
5/25/2015	13:51:00	85	62	70	46	29.21	29.94	9.6	190	-
5/25/2015	14:51:00	85	64	71	49	29.2	29.93	14.8	150	-
5/25/2015	15:51:00	85	66	72	53	29.19	29.92	9.6	170	-
5/25/2015	16:51:00	84	67	73	57	29.15	29.88	13	150	-
5/25/2015	17:51:00	83	66	72	57	29.16	29.88	13.9	150	-
5/25/2015	18:51:00	80	66	71	62	29.17	29.9	15.6	160	-
5/25/2015	19:51:00	79	65	70	62	29.19	29.92	11.3	160	-
5/25/2015	20:51:00	77	66	70	69	29.19	29.92	9.6	150	-
5/25/2015	21:51:00	75	65	69	71	29.2	29.93	7.8	140	-
5/25/2015	22:51:00	75	66	69	74	29.19	29.91	12.2	150	-
5/25/2015	23:51:00	74	66	69	76	29.16	29.89	12.2	150	-
5/26/2015	0:51:00	74	66	69	76	29.14	29.86	9.6	150	-
5/26/2015	1:51:00	74	67	69	79	29.12	29.85	13	150	-
5/26/2015	2:51:00	74	67	69	79	29.11	29.83	13	160	-
5/26/2015	3:51:00	73	64	67	74	29.09	29.81	9.6	150	-
5/26/2015	4:51:00	73	67	69	82	29.08	29.8	13.9	130	T
5/26/2015	5:51:00	74	67	69	79	29.09	29.81	15.6	160	T
5/26/2015	6:51:00	68	63	65	84	29.11	29.84	12.2	210	0.15
5/26/2015	7:51:00	70	64	66	81	29.12	29.85	12.2	220	T
5/26/2015	8:51:00	73	63	67	71	29.11	29.84	15.6	210	-
5/26/2015	9:51:00	76	62	67	62	29.12	29.85	14.8	240	-

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
5/26/2015 10:00	12.6	165	21.5	80.4	30.7
5/26/2015 11:00	14.6	171	22.3	72.3	30.7
5/26/2015 12:00	13.8	172	23.2	65.9	30.7
5/26/2015 13:00	13.8	176	23.6	62.8	30.7
5/26/2015 14:00	14	171	23.2	64	30.7
5/26/2015 15:00	13.2	169	23.7	64.2	30.7
5/26/2015 16:00	11.3	164	24.2	64.1	30.7
5/26/2015 17:00	11.9	174	25.3	59.5	30.7
5/26/2015 18:00	12.4	179	25.6	55.5	30.7
5/26/2015 19:00	9.5	168	25.8	54.2	30.7
5/26/2015 20:00	6.6	162	25.2	56.8	30.7
5/26/2015 21:00	5.5	149	24	61	30.8
5/26/2015 22:00	7.7	132	23.3	65.8	30.8
5/26/2015 23:00	8.4	144	22.8	69.1	30.8
5/27/2015 0:00	6.4	153	22	72.7	30.8
5/27/2015 1:00	7	153	21.7	74.5	30.8
5/27/2015 2:00	6.6	154	21.2	77.5	30.8
5/27/2015 3:00	6.7	156	20.7	80.4	30.8
5/27/2015 4:00	7.1	156	20.6	82	30.8
5/27/2015 5:00	5.5	157	20.2	84.6	30.8
5/27/2015 6:00	5.4	158	20.1	85.8	30.8
5/27/2015 7:00	7	157	20.4	85.6	30.8
5/27/2015 8:00	9.5	165	20.3	84.7	30.8
5/27/2015 9:00	8.7	155	20.6	79.9	30.8
5/27/2015 10:00	7.8	162	21.5	72.4	30.8
5/27/2015 11:00	10.4	181	22.7	71.2	30.8
5/27/2015 12:00	8.6	181	24.2	68	30.8
5/27/2015 13:00	9	206	25.6	62.1	30.8
5/27/2015 14:00	7.3	242	26.1	59.1	30.8
5/27/2015 15:00	8.4	251	26.8	51.8	30.8
5/27/2015 16:00	7.8	258	27.4	45.9	30.8
5/27/2015 17:00	8	254	27.6	43.8	30.8
5/27/2015 18:00	7.5	276	27.4	45.9	30.8
5/27/2015 19:00	6.7	289	26.9	48.1	30.8
5/27/2015 20:00	5.3	316	25.9	52.2	30.8
5/27/2015 21:00	2.7	352	23.8	61.8	30.8
5/27/2015 22:00	2.4	10	22.3	67.3	30.8
5/27/2015 23:00	2.1	21	21.4	68.5	30.8
5/28/2015 0:00	2	353	19.9	76.2	30.8
5/28/2015 1:00	1.2	30	18.5	83.5	30.8
5/28/2015 2:00	1	238	18.4	82.7	30.8
5/28/2015 3:00	1.3	15	17.6	87.5	30.8
5/28/2015 4:00	1.6	8	16.8	92.3	30.8
5/28/2015 5:00	1.9	348	16.3	94.7	30.8
5/28/2015 6:00	1.7	334	16.2	95.4	30.8
5/28/2015 7:00	2.6	340	17.5	88.7	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
5/28/2015 8:00	3.6	13	21.1	73.1	30.8
5/28/2015 9:00	5.1	64	23	65.4	30.8
5/28/2015 10:00	4.4	67	25.2	59.4	30.8
5/28/2015 11:00	4.6	81	26.6	58.6	30.8
5/28/2015 12:00	4.7	101	28.1	60.9	30.8
5/28/2015 13:00	5.2	129	28.6	60.4	30.8
5/28/2015 14:00	5.3	142	28.7	59.3	30.8
5/28/2015 15:00	8.5	153	27.7	60	30.8
5/28/2015 16:00	7.2	198	21.5	83.9	30.8
5/28/2015 17:00	2.7	113	25.9	72.9	30.8
5/28/2015 18:00	3.8	119	27.9	64.4	30.8
5/28/2015 19:00	4.3	150	27.9	61.6	30.8
5/28/2015 20:00	4	152	26.6	64	30.8
5/28/2015 21:00	2.6	128	25.4	69.8	30.8
5/28/2015 22:00	3.1	128	24.5	71.3	30.8
5/28/2015 23:00	3.8	131	23.5	74.9	30.8
5/29/2015 0:00	4.2	136	22.8	77.3	30.8
5/29/2015 1:00	4.8	138	22.5	79.6	30.8
5/29/2015 2:00	5.5	142	22.5	80.4	30.8
5/29/2015 3:00	5.1	137	22.5	81.2	30.8
5/29/2015 4:00	5.9	142	22.2	82.5	30.8
5/29/2015 5:00	5.4	146	21.8	85.4	30.8
5/29/2015 6:00	5	145	21.5	87.8	30.8
5/29/2015 7:00	5.5	153	21.7	88	30.8
5/29/2015 8:00	7	160	23.2	81.2	30.8
5/29/2015 9:00	6.7	164	24.4	76.6	30.8
5/29/2015 10:00	7.2	161	25.8	69.8	30.8
5/29/2015 11:00	6.9	181	26.6	66.7	30.8
5/29/2015 12:00	8.8	194	26.7	65.8	30.8
5/29/2015 13:00	8.6	188	26.9	65.9	30.8
5/29/2015 14:00	10.1	208	28	59.8	30.8
5/29/2015 15:00	9.3	199	28.4	59.5	30.8
5/29/2015 16:00	8.7	194	28	60.8	30.8
5/29/2015 17:00	7.5	180	26.3	70.6	30.8
5/29/2015 18:00	5.6	184	26.4	72.6	30.8
5/29/2015 19:00	5.1	153	26	73.6	30.8
5/29/2015 20:00	4.5	144	25	79.6	30.8
5/29/2015 21:00	3.6	140	24	85.3	30.8
5/29/2015 22:00	2.7	120	23.4	85.8	30.8
5/29/2015 23:00	3.9	136	22.3	89.1	30.8
5/30/2015 0:00	4.8	217	21.1	96.3	30.8
5/30/2015 1:00	3.8	9	20.1	100.3	30.8
5/30/2015 2:00	2.6	61	20.3	99.8	30.8
5/30/2015 3:00	4.6	158	20.4	98.5	30.8
5/30/2015 4:00	2.6	157	20.1	98.1	30.8
5/30/2015 5:00	3	174	20	98.4	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
5/30/2015 6:00	2.1	195	19.9	99.1	30.8
5/30/2015 7:00	1.5	88	20	99.5	30.8
5/30/2015 8:00	2.2	114	20.4	97.9	30.8
5/30/2015 9:00	2.1	13	20.7	96.1	30.8
5/30/2015 10:00	2	85	21.1	93.1	30.8
5/30/2015 11:00	4.4	187	21.5	91.5	30.8
5/30/2015 12:00	6	262	21.1	92.8	30.8
5/30/2015 13:00	5.8	307	20.5	94	30.8
5/30/2015 14:00	8.6	324	20.2	93.9	30.8
5/30/2015 15:00	7.3	324	20.6	89	30.8
5/30/2015 16:00	8.4	314	21.6	83.8	30.8
5/30/2015 17:00	9	316	22.1	82.6	30.8
5/30/2015 18:00	10.1	324	22.8	79.6	30.8
5/30/2015 19:00	9.8	308	21.2	87	30.8
5/30/2015 20:00	10.2	295	20.4	86.8	30.8
5/30/2015 21:00	9.8	290	19.4	89.9	30.8
5/30/2015 22:00	8.8	286	18.5	95.4	30.8
5/30/2015 23:00	8.3	316	17.8	97.8	30.8
5/31/2015 0:00	9.2	355	15.8	97.9	30.8
5/31/2015 1:00	9.5	353	14.9	95.3	30.8
5/31/2015 2:00	9.5	349	14.2	96.4	30.8
5/31/2015 3:00	9.6	342	13.7	96	30.8
5/31/2015 4:00	10	340	13	95.7	30.8
5/31/2015 5:00	9.8	340	12.2	91.2	30.8
5/31/2015 6:00	8.2	351	11.9	89.4	30.8
5/31/2015 7:00	7.8	345	11.7	88.1	30.8
5/31/2015 8:00	5.5	339	11.9	87.5	30.8
5/31/2015 9:00	7.5	337	12.2	87.1	30.8
5/31/2015 10:00	7.5	336	12.4	86.4	30.8
5/31/2015 11:00	7.1	342	12.7	85.1	30.8
5/31/2015 12:00	7.4	353	13	84.4	30.8
5/31/2015 13:00	7.4	356	13.4	82	30.8
5/31/2015 14:00	7.2	353	14	81.1	30.8
5/31/2015 15:00	5.8	350	14.4	80.4	30.8
5/31/2015 16:00	7.3	343	14.3	81.1	30.8
5/31/2015 17:00	7.9	347	14.2	81.7	30.8
5/31/2015 18:00	7.4	352	14.1	82.8	30.8
5/31/2015 19:00	5.7	359	14.2	83.6	30.8
5/31/2015 20:00	5.3	5	14.1	84.9	30.8
5/31/2015 21:00	4.7	8	14.1	85.6	30.8
5/31/2015 22:00	5.1	24	14	85.4	30.8
5/31/2015 23:00	5.5	19	13.9	85.8	30.8
6/1/2015 0:00	5.4	23	13.8	87.9	30.8
6/1/2015 1:00	4.9	25	13.4	91.9	30.8
6/1/2015 2:00	3.7	357	13.3	92.6	30.8
6/1/2015 3:00	5	352	13.5	91.5	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/1/2015 4:00	5.3	358	13.3	92.4	30.8
6/1/2015 5:00	5.3	355	13	96.7	30.8
6/1/2015 6:00	5.6	353	12.8	99.3	30.8
6/1/2015 7:00	6.5	349	12.7	100.9	30.8
6/1/2015 8:00	6.1	9	13	98.1	30.8
6/1/2015 9:00	5.7	7	13.5	94.4	30.9
6/1/2015 10:00	5.4	13	14.2	91.4	30.9
6/1/2015 11:00	5.6	6	14.6	90.1	30.9
6/1/2015 12:00	4.6	332	15.6	87.1	30.9
6/1/2015 13:00	4.8	7	16.9	79	30.8
6/1/2015 14:00	6.3	0	17.1	78.1	30.8
6/1/2015 15:00	6.1	359	17.1	77.2	30.9
6/1/2015 16:00	6.2	14	17.5	77.3	30.8
6/1/2015 17:00	6	17	17.9	76	30.9
6/1/2015 18:00	6.1	14	17.5	77.9	30.8
6/1/2015 19:00	5.4	16	17.6	77.4	30.8
6/1/2015 20:00	3.3	16	17.6	78.5	30.8
6/1/2015 21:00	3	1	17.4	80.3	30.8
6/1/2015 22:00	3	358	17.1	83.9	30.8
6/1/2015 23:00	2	360	17	85.7	30.8
6/2/2015 0:00	2.3	18	16.7	88.1	30.8
6/2/2015 1:00	1.9	1	16.4	89.9	30.8
6/2/2015 2:00	1.1	30	15.8	92.8	30.8
6/2/2015 3:00	2.3	18	16.1	91.3	30.8
6/2/2015 4:00	2.1	33	16	92.7	30.8
6/2/2015 5:00	1.8	57	15.7	94.5	30.8
6/2/2015 6:00	2.2	9	14.5	99.9	30.8
6/2/2015 7:00	2.5	26	14.7	96.7	30.8
6/2/2015 8:00	4.1	39	16.5	83.8	30.8
6/2/2015 9:00	4.2	33	18.1	71.9	30.8
6/2/2015 10:00	4.6	12	18.7	68.4	30.8
6/2/2015 11:00	6	16	19.4	66.5	30.8
6/2/2015 12:00	6.4	33	20.4	62	30.8
6/2/2015 13:00	5.3	52	21.5	57.2	30.8
6/2/2015 14:00	4.3	39	22.4	55.3	30.8
6/2/2015 15:00	4.1	80	23	54.5	30.8
6/2/2015 16:00	3.6	93	23.5	54.7	30.8
6/2/2015 17:00	4.4	84	23.8	54	30.8
6/2/2015 18:00	4.5	53	22.7	57.8	30.8
6/2/2015 19:00	4.5	76	22.3	59.9	30.8
6/2/2015 20:00	3.3	94	21.3	64.7	30.8
6/2/2015 21:00	3.7	88	20.1	70.7	30.8
6/2/2015 22:00	2.9	104	18.8	76.3	30.8
6/2/2015 23:00	1.9	124	17.7	81.5	30.8
6/3/2015 0:00	1.6	121	16.8	86.3	30.8
6/3/2015 1:00	2	116	16.3	88.9	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/3/2015 2:00	3	129	15.9	89.3	30.8
6/3/2015 3:00	2.8	140	15.5	89.6	30.8
6/3/2015 4:00	1.7	134	14.8	93.4	30.8
6/3/2015 5:00	2.3	142	14.9	92.1	30.8
6/3/2015 6:00	2.8	140	15.6	88.5	30.8
6/3/2015 7:00	3.1	141	16.1	86.3	30.8
6/3/2015 8:00	5.1	151	16.7	83.4	30.8
6/3/2015 9:00	4.4	137	17.2	82.8	30.8
6/3/2015 10:00	4.8	138	18.1	79.2	30.8
6/3/2015 11:00	5.6	157	18.6	75.9	30.8
6/3/2015 12:00	4.7	150	20.3	68.9	30.8
6/3/2015 13:00	4.5	146	22.2	63.7	30.8
6/3/2015 14:00	4.9	160	23.2	61.3	30.8
6/3/2015 15:00	4.9	158	23.8	59.8	30.8
6/3/2015 16:00	6.7	192	23.6	60.7	30.8
6/3/2015 17:00	4.4	172	24	59.4	30.8
6/3/2015 18:00	4.5	134	24.1	62.7	30.7
6/3/2015 19:00	3.7	124	23.4	64.7	30.8
6/3/2015 20:00	2.6	122	23.4	65.7	30.8
6/3/2015 21:00	2.5	123	22.5	69.4	30.8
6/3/2015 22:00	2.8	145	22	72.8	30.8
6/3/2015 23:00	1.9	110	21.6	74.9	30.8
6/4/2015 0:00	2.5	132	21.2	75.3	30.8
6/4/2015 1:00	3.7	139	20.8	77.3	30.8
6/4/2015 2:00	4.3	162	20.2	80.8	30.8
6/4/2015 3:00	4.2	169	20	82.3	30.8
6/4/2015 4:00	3.3	152	19.5	85	30.8
6/4/2015 5:00	4.1	182	19.4	85.2	30.8
6/4/2015 6:00	4.3	168	18.6	93.2	30.8
6/4/2015 7:00	3	169	18.7	92.7	30.8
6/4/2015 8:00	3.8	156	19.1	93	30.8
6/4/2015 9:00	3.3	184	20	89.6	30.8
6/4/2015 10:00	5.2	188	20.5	86.1	30.8
6/4/2015 11:00	5.9	187	22.9	81.2	30.8
6/4/2015 12:00	6	228	20.6	87.7	30.8
6/4/2015 13:00	2.2	122	20.3	93.3	30.8
6/4/2015 14:00	3.6	173	21.5	92.7	30.8
6/4/2015 15:00	7.2	206	21.7	93.7	30.8
6/4/2015 16:00	4.6	219	22.8	87.4	30.8
6/4/2015 17:00	6.4	215	23.8	80.6	30.8
6/4/2015 18:00	3.3	160	24.6	76.9	30.8
6/4/2015 19:00	4	94	24.4	76.2	30.7
6/4/2015 20:00	5.6	198	23.8	80.1	30.8
6/4/2015 21:00	4.5	206	22.8	85.7	30.8
6/4/2015 22:00	1.4	171	22.1	89.2	30.8
6/4/2015 23:00	1.6	158	21.7	91.6	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/5/2015 0:00	1	116	20.7	96.7	30.8
6/5/2015 1:00	2	106	20.5	25.6	30.8
6/5/2015 2:00	1.3	160	20.4	1.5	30.8
6/5/2015 3:00	1.8	142	20.9	1.5	30.8
6/5/2015 4:00	2.4	171	21.1	66.3	30.8
6/5/2015 5:00	2.3	126	21.4	91.1	30.8
6/5/2015 6:00	6	100	20.8	93.9	30.8
6/5/2015 7:00	4.1	172	19.1	100.9	30.8
6/5/2015 8:00	4.9	195	19.7	99.1	30.8
6/5/2015 9:00	6.2	221	20.9	92.2	30.8
6/5/2015 10:00	5.9	242	22.2	84.5	30.8
6/5/2015 11:00	7.1	219	24.4	76.1	30.8
6/5/2015 12:00	7.5	250	25.8	66.4	30.8
6/5/2015 13:00	5.6	302	26.8	62.4	30.8
6/5/2015 14:00	7.1	286	27.6	59.5	30.8
6/5/2015 15:00	6.1	291	27.6	59.4	30.8
6/5/2015 16:00	6.5	287	28.4	56.5	30.8
6/5/2015 17:00	7.3	283	28.2	58.1	30.8
6/5/2015 18:00	6.4	266	28.1	59.1	30.8
6/5/2015 19:00	4.8	264	28.1	61.4	30.8
6/5/2015 20:00	4.3	326	27.1	66	30.8
6/5/2015 21:00	3	339	25.8	74	30.8
6/5/2015 22:00	1.7	84	24.6	80.7	30.8
6/5/2015 23:00	2.9	32	23.8	83.8	30.8
6/6/2015 0:00	3.4	8	23.3	85.1	30.8
6/6/2015 1:00	5.1	16	22.7	80.3	30.8
6/6/2015 2:00	6.9	20	21.1	76.1	30.8
6/6/2015 3:00	6	19	19.3	78.2	30.8
6/6/2015 4:00	5.3	26	18.3	80.7	30.8
6/6/2015 5:00	4.6	20	17.4	83.3	30.8
6/6/2015 6:00	3.4	18	16.7	85.2	30.8
6/6/2015 7:00	3.9	20	17.1	82.9	30.8
6/6/2015 8:00	5.3	15	18.1	79.6	30.8
6/6/2015 9:00	5	17	19.4	75.1	30.8
6/6/2015 10:00	3.7	356	21.5	67.3	30.8
6/6/2015 11:00	5.1	342	22.3	68	30.8
6/6/2015 12:00	4.4	339	24	64	30.8
6/6/2015 13:00	5.3	315	25.3	61.6	30.8
6/6/2015 14:00	5.4	323	26	59.2	30.8
6/6/2015 15:00	5.2	359	27.4	56.5	30.8
6/6/2015 16:00	5.1	352	28.2	54.4	30.8
6/6/2015 17:00	4.4	2	29	52.9	30.8
6/6/2015 18:00	3.5	58	29.7	51	30.8
6/6/2015 19:00	3.3	55	28.4	55.3	30.8
6/6/2015 20:00	2.7	27	27.4	61.8	30.8
6/6/2015 21:00	3	41	25.8	68.5	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/6/2015 22:00	3	84	25.3	68.7	30.7
6/6/2015 23:00	2	104	24.8	72.1	30.7
6/7/2015 0:00	1.7	118	24.3	74.8	30.8
6/7/2015 1:00	1.1	112	23.5	78.6	30.8
6/7/2015 2:00	1.3	132	23.2	80.7	30.8
6/7/2015 3:00	2.9	139	23.3	80.1	30.8
6/7/2015 4:00	3.5	155	23	82.5	30.8
6/7/2015 5:00	3.4	157	22.6	85.2	30.7
6/7/2015 6:00	5.3	160	22.8	84.3	30.7
6/7/2015 7:00	6.7	163	23.1	83.6	30.7
6/7/2015 8:00	8.1	178	24.4	79.2	30.7
6/7/2015 9:00	9.3	179	26.1	74.2	30.8
6/7/2015 10:00	9.8	180	27.3	70.8	30.7
6/7/2015 11:00	9.8	186	28.8	67.6	30.7
6/7/2015 12:00	10.5	184	29.9	63.3	30.7
6/7/2015 13:00	10.4	186	30.9	60.1	30.7
6/7/2015 14:00	12.1	192	31.8	55.5	30.7
6/7/2015 15:00	12.9	195	32.3	52.9	30.7
6/7/2015 16:00	12.9	189	32.5	50	30.7
6/7/2015 17:00	12.2	183	32.9	49.7	30.7
6/7/2015 18:00	14.4	187	32.4	50.4	30.7
6/7/2015 19:00	11.8	187	31.9	52.5	30.7
6/7/2015 20:00	9.6	180	30.8	57.4	30.7
6/7/2015 21:00	7.3	179	29.9	61.2	30.7
6/7/2015 22:00	6.7	176	29.4	63.7	30.7
6/7/2015 23:00	6.8	178	28.7	65.2	30.7
6/8/2015 0:00	8.9	224	27.2	69.4	30.7
6/8/2015 1:00	9.3	316	23.3	79	30.7
6/8/2015 2:00	4.4	273	20.6	97.7	30.7
6/8/2015 3:00	7.4	258	20.7	95.3	30.7
6/8/2015 4:00	8.6	241	20.5	95.4	30.7
6/8/2015 5:00	8	181	20.5	96.7	30.7
6/8/2015 6:00	5.6	194	20.5	96.2	30.7
6/8/2015 7:00	3.7	266	20.8	95.5	30.7
6/8/2015 8:00	3.8	213	21.2	93.4	30.7
6/8/2015 9:00	5.3	200	21.6	91.3	30.7
6/8/2015 10:00	4.9	225	22.1	88.9	30.7
6/8/2015 11:00	5.7	230	23.2	83.8	30.7
6/8/2015 12:00	5.4	232	24.1	79.9	30.7
6/8/2015 13:00	6.9	207	25.9	73.9	30.7
6/8/2015 14:00	8.8	272	27.7	54.7	30.7
6/8/2015 15:00	9.1	267	28.5	48	30.7
6/8/2015 16:00	9.7	255	29.1	48.6	30.7
6/8/2015 17:00	8.7	254	28.6	49	30.7
6/8/2015 18:00	5.2	255	28.2	48.8	30.7
6/8/2015 19:00	4.7	247	27.9	51	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/8/2015 20:00	5.9	318	26	64.4	30.7
6/8/2015 21:00	2.1	299	24.7	67.8	30.7
6/8/2015 22:00	1.3	31	23.5	73.1	30.7
6/8/2015 23:00	1.1	145	22.4	80.1	30.8
6/9/2015 0:00	2.4	175	22.1	81.3	30.7
6/9/2015 1:00	4.4	194	21.7	83.4	30.7
6/9/2015 2:00	4.8	197	21.1	87.4	30.7
6/9/2015 3:00	5	194	20.7	89	30.7
6/9/2015 4:00	4.1	191	20.2	90.8	30.7
6/9/2015 5:00	3.7	189	19.9	92.1	30.7
6/9/2015 6:00	3.4	189	19.5	93.5	30.7
6/9/2015 7:00	2.6	183	20.1	90.5	30.7
6/9/2015 8:00	3.7	190	21.8	83.6	30.7
6/9/2015 9:00	4.4	211	24.2	73.1	30.7
6/9/2015 10:00	5.3	275	27.1	53.6	30.7
6/9/2015 11:00	6.6	273	28.4	44.3	30.7
6/9/2015 12:00	5.7	267	30	43.5	30.7
6/9/2015 13:00	6.8	236	31.1	37.3	30.7
6/9/2015 14:00	5.9	262	31.6	34.5	30.7
6/9/2015 15:00	5.9	265	32.1	31.2	30.7
6/9/2015 16:00	5.3	247	32.3	33.9	30.7
6/9/2015 17:00	7.3	202	31.8	38.1	30.7
6/9/2015 18:00	8	204	31.6	37.9	30.7
6/9/2015 19:00	8.9	203	31.2	38.8	30.7
6/9/2015 20:00	4.8	191	30.6	42.6	30.7
6/9/2015 21:00	3	181	28.6	48.9	30.7
6/9/2015 22:00	2.2	172	27.1	50.4	30.7
6/9/2015 23:00	2.7	167	26.1	56	30.7
6/10/2015 0:00	3.2	166	25.4	64.5	30.7
6/10/2015 1:00	3.3	171	24.3	69.9	30.8
6/10/2015 2:00	3.5	174	23.7	72.3	30.7
6/10/2015 3:00	4.6	168	23.5	69.9	30.7
6/10/2015 4:00	3.8	170	23	70.6	30.7
6/10/2015 5:00	3.6	170	22.2	74.2	30.7
6/10/2015 6:00	3.8	169	21.8	75.3	30.7
6/10/2015 7:00	5.3	171	22.3	72	30.7
6/10/2015 8:00	6.5	187	23.9	65.5	30.7
6/10/2015 9:00	7.1	189	25.9	61.1	30.7
6/10/2015 10:00	8.7	202	27.9	56.9	30.7
6/10/2015 11:00	8.2	199	29.8	51.9	30.7
6/10/2015 12:00	8.9	191	31.3	46.8	30.7
6/10/2015 13:00	8.6	188	32.3	46.3	30.7
6/10/2015 14:00	7.3	192	33.2	45.5	30.7
6/10/2015 15:00	7.7	186	33.5	43.5	30.7
6/10/2015 16:00	7.6	191	34.1	41	30.7
6/10/2015 17:00	7.5	187	34.3	40	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/10/2015 18:00	7.3	175	34.1	39.1	30.7
6/10/2015 19:00	7.1	166	33.6	38	30.7
6/10/2015 20:00	7.8	158	32.4	43.1	30.7
6/10/2015 21:00	5	148	30.7	49	30.7
6/10/2015 22:00	6	145	29.4	56	30.7
6/10/2015 23:00	5.7	167	28.9	57.3	30.7
6/11/2015 0:00	3.6	169	27.9	59.6	30.7
6/11/2015 1:00	4.7	153	27.5	59.7	30.7
6/11/2015 2:00	3.7	174	26.8	63.2	30.7
6/11/2015 3:00	4.5	336	26	68.2	30.7
6/11/2015 4:00	3.4	13	25	72.8	30.7
6/11/2015 5:00	2.2	29	23.6	78.4	30.7
6/11/2015 6:00	2.9	83	23.3	78.9	30.7
6/11/2015 7:00	2.5	149	24.2	77.4	30.7
6/11/2015 8:00	3.7	159	26.2	69.6	30.7
6/11/2015 9:00	5.5	185	27.2	61	30.7
6/11/2015 10:00	5.5	178	27.6	64.2	30.8
6/11/2015 11:00	7.4	185	29.1	58.9	30.7
6/11/2015 12:00	9.4	186	30.4	52.9	30.7
6/11/2015 13:00	10	181	31.3	47.9	30.7
6/11/2015 14:00	9.6	170	31.6	49.6	30.7
6/11/2015 15:00	10.3	183	32.1	43.3	30.7
6/11/2015 16:00	9.5	172	32.7	43.9	30.7
6/11/2015 17:00	8.7	169	32.6	43.6	30.7
6/11/2015 18:00	8.6	168	32.2	45.8	30.7
6/11/2015 19:00	8.4	168	32.1	46.6	30.7
6/11/2015 20:00	7.8	155	31.3	50.6	30.7
6/11/2015 21:00	5.9	150	30.1	55	30.7
6/11/2015 22:00	6	144	29.5	58.3	30.7
6/11/2015 23:00	7.4	155	29.2	57.7	30.7
6/12/2015 0:00	7.8	157	28.7	63.8	30.7
6/12/2015 1:00	7.2	172	28.5	65	30.7
6/12/2015 2:00	6.9	184	27.9	68	30.7
6/12/2015 3:00	6.6	187	27	72.6	30.7
6/12/2015 4:00	6.5	175	26.3	72.8	30.7
6/12/2015 5:00	5.7	176	26.1	76.1	30.7
6/12/2015 6:00	7.4	178	26	78.4	30.7
6/12/2015 7:00	7.8	176	26	78.7	30.7
6/12/2015 8:00	7.6	177	26.5	77.5	30.7
6/12/2015 9:00	9.4	182	27.4	70.1	30.7
6/12/2015 10:00	11.9	193	28.9	69.3	30.7
6/12/2015 11:00	11.4	193	29.3	67.9	30.7
6/12/2015 12:00	12.1	195	29.4	67.7	30.7
6/12/2015 13:00	14.7	206	30.6	62.3	30.7
6/12/2015 14:00	12.2	208	31.4	59.5	30.7
6/12/2015 15:00	13.3	209	32.1	55.2	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/12/2015 16:00	8.2	190	31.8	50.6	30.7
6/12/2015 17:00	8.3	194	31.9	56.2	30.7
6/12/2015 18:00	9	179	25.2	69.2	30.7
6/12/2015 19:00	4.9	181	25.9	46.4	30.7
6/12/2015 20:00	5.4	174	27.6	20.6	30.7
6/12/2015 21:00	4.2	165	26.7	70.5	30.7
6/12/2015 22:00	6.1	156	26.7	72.6	30.7
6/12/2015 23:00	8	184	26.1	76.3	30.7
6/13/2015 0:00	5.6	176	24.1	79.5	30.8
6/13/2015 1:00	5.9	196	23.7	82.2	30.7
6/13/2015 2:00	3.5	174	23.2	85.1	30.7
6/13/2015 3:00	3.6	157	23.2	84.6	30.8
6/13/2015 4:00	3.2	165	23.3	83	30.8
6/13/2015 5:00	3.5	168	23	83.4	30.7
6/13/2015 6:00	3	156	22.8	87.2	30.7
6/13/2015 7:00	5.4	167	24.1	83.5	30.8
6/13/2015 8:00	6.2	173	25.1	79.8	30.8
6/13/2015 9:00	6.8	168	26.2	66.2	30.8
6/13/2015 10:00	7.3	174	27.3	69.3	30.8
6/13/2015 11:00	8.3	166	28.2	69.3	30.8
6/13/2015 12:00	8	176	28.7	68.4	30.8
6/13/2015 13:00	6.2	153	29.2	66	30.8
6/13/2015 14:00	6.7	144	30.1	60.6	30.8
6/13/2015 15:00	7.7	153	30.7	57	30.7
6/13/2015 16:00	8.6	152	30.3	58.7	30.7
6/13/2015 17:00	7.1	169	27.9	54	30.7
6/13/2015 18:00	8.5	161	29.9	62.1	30.7
6/13/2015 19:00	8	150	29.2	62.8	30.7
6/13/2015 20:00	6.9	149	28.7	65.8	30.7
6/13/2015 21:00	9.8	168	27.4	69	30.8
6/13/2015 22:00	6.9	220	24.2	81.9	30.8
6/13/2015 23:00	1.5	144	23.7	85.3	30.8
6/14/2015 0:00	1.3	113	23.8	86.3	30.8
6/14/2015 1:00	4.2	147	24.8	82.1	30.7
6/14/2015 2:00	7.3	163	25.4	79.2	30.8
6/14/2015 3:00	7.7	165	24.9	80.3	30.7
6/14/2015 4:00	7.4	158	24.3	82.6	30.8
6/14/2015 5:00	5.7	172	24	83.7	30.7
6/14/2015 6:00	5.7	166	23.8	84.2	30.8
6/14/2015 7:00	7.1	180	24.1	82.3	30.8
6/14/2015 8:00	6.7	180	24.5	78.1	30.8
6/14/2015 9:00	7.1	179	25.5	63.4	30.8
6/14/2015 10:00	7.6	177	24.6	82.6	30.8
6/14/2015 11:00	4.9	185	22.4	97.6	30.8
6/14/2015 12:00	5.8	185	23.9	91.5	30.8
6/14/2015 13:00	7.3	209	26	82.7	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/14/2015 14:00	5.9	183	26	80.8	30.8
6/14/2015 15:00	5.3	151	26.5	40.9	30.8
6/14/2015 16:00	5.2	177	25.5	85	30.8
6/14/2015 17:00	3.2	196	26.1	34.6	30.8
6/14/2015 18:00	3.5	149	26.5	25.1	30.7
6/14/2015 19:00	4.7	133	25.1	87.5	30.8
6/14/2015 20:00	3.7	168	22.6	97.2	30.8
6/14/2015 21:00	2.5	163	22.4	95.8	30.8
6/14/2015 22:00	3.3	160	23	89.1	30.8
6/14/2015 23:00	4.2	150	23.6	93.7	30.8
6/15/2015 0:00	4.4	157	23.7	84.4	30.8
6/15/2015 1:00	3.7	157	23.5	46.3	30.8
6/15/2015 2:00	4.3	151	23.3	92.7	30.8
6/15/2015 3:00	4.6	166	23.4	89.9	30.8
6/15/2015 4:00	5.3	177	23.3	88.5	30.8
6/15/2015 5:00	4.2	178	22.9	89.8	30.8
6/15/2015 6:00	5	153	23	89.5	30.8
6/15/2015 7:00	5	153	23.3	72.4	30.8
6/15/2015 8:00	6.5	166	23.9	47.2	30.8
6/15/2015 9:00	6.9	179	24.4	11	30.8
6/15/2015 10:00	7.7	180	25.6	12.2	30.8
6/15/2015 11:00	8.8	191	27.6	68	30.8
6/15/2015 12:00	7.9	188	29.1	52.1	30.8
6/15/2015 13:00	8.4	224	28.6	66.4	30.8
6/15/2015 14:00	4	136	24.7	41.9	30.8
6/15/2015 15:00	6.3	155	28.3	75.3	30.8
6/15/2015 16:00	7.8	162	30.6	62.6	30.7
6/15/2015 17:00	9.4	174	30.3	64	30.8
6/15/2015 18:00	6.2	213	28.5	52.4	30.7
6/15/2015 19:00	3.9	213	25.1	67.7	30.8
6/15/2015 20:00	8	187	25.8	1.5	30.8
6/15/2015 21:00	6	177	24.9	30.7	30.8
6/15/2015 22:00	5.8	188	24.4	77.3	30.8
6/15/2015 23:00	5	177	24.1	81.9	30.8
6/16/2015 0:00	5.8	184	23.8	87	30.8
6/16/2015 1:00	6.4	193	23.6	87.9	30.8
6/16/2015 2:00	5.6	200	23.3	88.7	30.8
6/16/2015 3:00	4.8	212	23.2	90.3	30.8
6/16/2015 4:00	4.1	191	23	92.4	30.8
6/16/2015 5:00	2.1	249	23	91.9	30.8
6/16/2015 6:00	1.8	255	23.2	92.6	30.8
6/16/2015 7:00	1.7	33	23.1	93.5	30.8
6/16/2015 8:00	2.1	354	23.2	92.7	30.8
6/16/2015 9:00	2.6	15	23.6	86.1	30.8
6/16/2015 10:00	3.8	13	24.3	87.1	30.8
6/16/2015 11:00	5.8	3	24.8	56.3	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/16/2015 12:00	3.8	26	26.4	25.6	30.8
6/16/2015 13:00	5.2	4	27.1	67	30.8
6/16/2015 14:00	4.4	24	27.6	71.6	30.8
6/16/2015 15:00	4.4	13	27.7	32.4	30.8
6/16/2015 16:00	3.9	52	27.7	56.2	30.8
6/16/2015 17:00	3.3	119	26.4	56.6	30.8
6/16/2015 18:00	3.1	151	24.7	47.8	30.8
6/16/2015 19:00	2.1	141	24.2	92.4	30.8
6/16/2015 20:00	2.1	100	24	94.9	30.8
6/16/2015 21:00	2.1	150	23.9	95.7	30.8
6/16/2015 22:00	3.9	178	23.3	95	30.8
6/16/2015 23:00	2.9	142	22.7	96.4	30.8
6/17/2015 0:00	2.6	124	22.4	96.6	30.8
6/17/2015 1:00	4.3	156	22.1	94.7	30.8
6/17/2015 2:00	3.8	156	21.9	95.4	30.8
6/17/2015 3:00	3.2	151	21.9	97.3	30.8
6/17/2015 4:00	4.8	155	22	96.4	30.8
6/17/2015 5:00	4.2	173	22.2	92.8	30.8
6/17/2015 6:00	3.5	161	22.1	93.5	30.8
6/17/2015 7:00	3.5	165	22.3	86.9	30.8
6/17/2015 8:00	4.1	166	22.8	2.6	30.8
6/17/2015 9:00	4.8	171	23.6	86.2	30.8
6/17/2015 10:00	5.7	183	23.9	87.8	30.8
6/17/2015 11:00	6.9	191	23.8	80.1	30.8
6/17/2015 12:00	5.4	181	23.7	1.5	30.8
6/17/2015 13:00	8	186	24	36.5	30.8
6/17/2015 14:00	9.1	190	23.8	38	30.8
6/17/2015 15:00	6.3	195	24.8	1.5	30.8
6/17/2015 16:00	7.5	210	25.3	1.5	30.8
6/17/2015 17:00	10.4	205	25.4	1.5	30.8
6/17/2015 18:00	9	210	25.7	1.5	30.8
6/17/2015 19:00	6.5	205	25.7	1.5	30.8
6/17/2015 20:00	5.1	187	25.3	1.5	30.8
6/17/2015 21:00	5.7	189	24.9	1.5	30.8
6/17/2015 22:00	4.4	190	24.3	1.5	30.8
6/17/2015 23:00	3.4	187	23.9	1.5	30.8
6/18/2015 0:00	1.7	193	23.5	1.5	30.8
6/18/2015 1:00	1.7	196	23.3	1.5	30.8
6/18/2015 2:00	1.9	179	23.2	1.5	30.8
6/18/2015 3:00	2.7	167	23.3	1.5	30.8
6/18/2015 4:00	2.1	178	23.1	1.5	30.8
6/18/2015 5:00	1.2	145	23	1.5	30.8
6/18/2015 6:00	2.3	156	22.9	1.5	30.8
6/18/2015 7:00	3.5	176	23.2	1.5	30.8
6/18/2015 8:00	4.1	200	24.8	1.5	30.8
6/18/2015 9:00	7.6	190	25.4	1.8	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/18/2015 10:00	7.5	210	25.5	1.5	30.8
6/18/2015 11:00	8.2	225	26.1	13.4	30.8
6/18/2015 12:00	9.2	208	24.4	13.7	30.8
6/18/2015 13:00	4.5	182	23.1	1.5	30.8
6/18/2015 14:00	2.1	215	23.2	2.2	30.8
6/18/2015 15:00	2.7	59	23.2	8.5	30.8
6/18/2015 16:00	3.9	30	22.8	1.5	30.8
6/18/2015 17:00	3.5	80	22.4	1.5	30.8
6/18/2015 18:00	3	53	22.9	1.5	30.8
6/18/2015 19:00	3.7	13	22.9	1.5	30.8
6/18/2015 20:00	4	36	23	1.5	30.7
6/18/2015 21:00	4	41	22.8	1.5	30.8
6/18/2015 22:00	3.5	81	22.8	1.5	30.8
6/18/2015 23:00	3.1	92	22.9	1.5	30.8
6/19/2015 0:00	2.7	101	22.8	1.5	30.8
6/19/2015 1:00	3.4	24	22.2	12.5	30.8
6/19/2015 2:00	3	28	22	98.2	30.8
6/19/2015 3:00	3.7	28	22	97.4	30.7
6/19/2015 4:00	3	29	22	97.3	30.8
6/19/2015 5:00	3.2	35	22	96.6	30.8
6/19/2015 6:00	4.2	29	21.8	96.9	30.8
6/19/2015 7:00	5.4	28	21.8	96.6	30.8
6/19/2015 8:00	7.3	43	22.1	94	30.8
6/19/2015 9:00	6.5	38	22.1	89.3	30.7
6/19/2015 10:00	7.1	37	22.2	92	30.8
6/19/2015 11:00	6.6	39	22	96.2	30.8
6/19/2015 12:00	5.4	21	21.8	97.6	30.7
6/19/2015 13:00	6.1	9	22	97.4	30.7
6/19/2015 14:00	6.5	17	22.3	35.8	30.7
6/19/2015 15:00	8.1	11	23.1	1.5	30.7
6/19/2015 16:00	10	2	22.8	1.5	30.7
6/19/2015 17:00	11.6	356	22.6	1.5	30.7
6/19/2015 18:00	12	353	22	88.9	30.7
6/19/2015 19:00	9.9	349	22.5	87.9	30.7
6/19/2015 20:00	9	336	22.7	35.2	30.7
6/19/2015 21:00	8.5	325	22.4	87.8	30.7
6/19/2015 22:00	8.8	327	22.2	87.6	30.7
6/19/2015 23:00	8.1	339	21.7	91	30.7
6/20/2015 0:00	5.8	342	21.7	90.3	30.7
6/20/2015 1:00	5.3	313	21.7	89.6	30.7
6/20/2015 2:00	5.1	301	21.7	89.2	30.7
6/20/2015 3:00	4.7	294	21.3	87.2	30.7
6/20/2015 4:00	4.2	289	21.1	94.2	30.7
6/20/2015 5:00	4.7	284	20.9	94.1	30.7
6/20/2015 6:00	5.4	277	20.7	96.3	30.7
6/20/2015 7:00	4.1	288	20.6	97.9	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/20/2015 8:00	3.3	277	21.1	64.5	30.7
6/20/2015 9:00	2.7	218	22.1	39.7	30.7
6/20/2015 10:00	4.3	268	24.2	1.5	30.8
6/20/2015 11:00	4.2	308	25.7	15.4	30.7
6/20/2015 12:00	4.5	194	26.8	60.6	30.8
6/20/2015 13:00	4.7	181	27.5	57.1	30.8
6/20/2015 14:00	5.2	188	28.9	59.3	30.7
6/20/2015 15:00	5	166	30.5	56.3	30.7
6/20/2015 16:00	6.5	167	30.9	56.8	30.7
6/20/2015 17:00	6.5	152	31.9	56.5	30.7
6/20/2015 18:00	8.2	158	31.7	60	30.7
6/20/2015 19:00	8	158	31.6	61.7	30.7
6/20/2015 20:00	7.8	161	31.3	65.1	30.7
6/20/2015 21:00	6.9	163	30.1	71.6	30.7
6/20/2015 22:00	6.7	164	29.5	75.5	30.7
6/20/2015 23:00	4.9	172	28.8	79.1	30.7
6/21/2015 0:00	12.3	360	25.4	55.1	30.8
6/21/2015 1:00	5.8	10	22.4	81.9	30.7
6/21/2015 2:00	2.1	60	21.9	86.9	30.8
6/21/2015 3:00	5.3	324	22.5	81.9	30.8
6/21/2015 4:00	2.9	328	23.2	72	30.8
6/21/2015 5:00	8.6	326	22.1	63.4	30.8
6/21/2015 6:00	3.2	175	20.2	94.8	30.8
6/21/2015 7:00	6.5	213	20.5	93.7	30.8
6/21/2015 8:00	9.3	172	20.6	91.9	30.8
6/21/2015 9:00	6.9	201	20.7	91	30.8
6/21/2015 10:00	7.5	232	20.8	62.3	30.8
6/21/2015 11:00	7.8	203	21.7	54.3	30.8
6/21/2015 12:00	12	208	25.2	51.8	30.8
6/21/2015 13:00	9.6	202	28.3	65	30.8
6/21/2015 14:00	6.3	215	29.3	58.1	30.8
6/21/2015 15:00	3.5	293	28.2	65.6	30.8
6/21/2015 16:00	3.4	162	27.5	73	30.8
6/21/2015 17:00	4.7	19	27.4	61.4	30.8
6/21/2015 18:00	5.2	14	27.3	79.2	30.8
6/21/2015 19:00	4.1	46	27.3	80.1	30.8
6/21/2015 20:00	3.5	65	26.9	46.6	30.8
6/21/2015 21:00	4.5	82	26.1	15.9	30.8
6/21/2015 22:00	2	45	25.7	13.1	30.8
6/21/2015 23:00	1.4	120	25.1	88.2	30.8
6/22/2015 0:00	1.5	174	24.8	90	30.8
6/22/2015 1:00	1.5	176	24.8	90.2	30.8
6/22/2015 2:00	3.7	156	25.1	80.4	30.8
6/22/2015 3:00	4.5	163	25.4	85.1	30.8
6/22/2015 4:00	4.8	166	25.3	82.3	30.8
6/22/2015 5:00	4.1	168	24.9	69.4	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/22/2015 6:00	5.2	161	24.4	83.8	30.8
6/22/2015 7:00	6.3	175	24.8	48.7	30.8
6/22/2015 8:00	7.6	180	25.5	53.2	30.8
6/22/2015 9:00	9.1	182	26.6	78.5	30.8
6/22/2015 10:00	11.2	198	27.6	68.5	30.8
6/22/2015 11:00	8.7	189	28.6	68.1	30.8
6/22/2015 12:00	8.7	183	29.6	70	30.8
6/22/2015 13:00	9.5	186	30.5	66.9	30.8
6/22/2015 14:00	8.8	204	31.4	64.2	30.7
6/22/2015 15:00	8.6	190	32	62.9	30.7
6/22/2015 16:00	8.6	187	32.1	62.5	30.7
6/22/2015 17:00	9.9	175	32.3	61.4	30.7
6/22/2015 18:00	9.5	173	32.3	61.7	30.7
6/22/2015 19:00	9.1	179	31.9	62	30.7
6/22/2015 20:00	8.6	170	31.1	62.6	30.7
6/22/2015 21:00	7.9	175	30	66.2	30.7
6/22/2015 22:00	6.1	185	29	71.2	30.8
6/22/2015 23:00	5.8	181	28.5	73.7	30.7
6/23/2015 0:00	7	236	28.2	73.1	30.8
6/23/2015 1:00	10.1	217	26.8	65.5	30.8
6/23/2015 2:00	9.5	197	25.4	74	30.8
6/23/2015 3:00	5.2	245	24.7	71.1	30.8
6/23/2015 4:00	3.4	200	23.9	76.1	30.8
6/23/2015 5:00	3.4	15	23.2	83.3	30.8
6/23/2015 6:00	3.3	21	23	83.9	30.8
6/23/2015 7:00	1.9	178	23.7	83.3	30.8
6/23/2015 8:00	3.1	279	24.6	80.6	30.8
6/23/2015 9:00	7.1	322	24.7	80.5	30.8
6/23/2015 10:00	9.7	344	24.6	74.6	30.8
6/23/2015 11:00	4.5	28	25.7	69.2	30.8
6/23/2015 12:00	4.4	354	27.6	63.1	30.8
6/23/2015 13:00	6.8	343	28	64.1	30.8
6/23/2015 14:00	6	336	28.8	55	30.8
6/23/2015 15:00	5.9	335	29.3	52.9	30.8
6/23/2015 16:00	6	344	29.6	49.7	30.8
6/23/2015 17:00	6.4	337	29.4	50.4	30.8
6/23/2015 18:00	6.9	308	29.3	50.5	30.8
6/23/2015 19:00	7.2	331	27.9	28.3	30.8
6/23/2015 20:00	5.9	334	26.3	19	30.8
6/23/2015 21:00	5.5	18	24.9	66.9	30.8
6/23/2015 22:00	4.9	350	24.2	66.1	30.8
6/23/2015 23:00	3.1	45	23.2	69.2	30.8
6/24/2015 0:00	1.8	8	22.1	73.2	30.8
6/24/2015 1:00	1.2	229	21.3	79	30.8
6/24/2015 2:00	1.8	37	20.7	84.5	30.8
6/24/2015 3:00	1.4	152	20.3	89.4	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/24/2015 4:00	0.9	104	20.2	88.8	30.8
6/24/2015 5:00	1.3	69	20.3	87.6	30.8
6/24/2015 6:00	1.8	28	20.2	88.5	30.8
6/24/2015 7:00	2.9	17	20.8	80.7	30.8
6/24/2015 8:00	3.1	33	22.6	78.7	30.8
6/24/2015 9:00	4.8	20	24.5	52.1	30.9
6/24/2015 10:00	5.1	47	25.2	12.8	30.9
6/24/2015 11:00	6.9	33	25.1	32.1	30.9
6/24/2015 12:00	5.9	10	25.3	1.5	30.9
6/24/2015 13:00	8.2	354	25.1	1.5	30.8
6/24/2015 14:00	7.8	17	25.2	24.5	30.9
6/24/2015 15:00	6.7	71	27	49.1	30.8
6/24/2015 16:00	5.3	115	28.9	40.6	30.8
6/24/2015 17:00	5.9	133	29.6	33.2	30.8
6/24/2015 18:00	7.9	145	29.6	47.3	30.8
6/24/2015 19:00	6.1	149	29.7	48.8	30.8
6/24/2015 20:00	3.5	138	29.3	43.8	30.8
6/24/2015 21:00	2.7	100	27.8	46	30.8
6/24/2015 22:00	2.5	86	27.1	4.6	30.8
6/24/2015 23:00	2.8	77	26.5	31.4	30.8
6/25/2015 0:00	3	98	26.7	1.5	30.8
6/25/2015 1:00	5.6	145	26.3	1.5	30.8
6/25/2015 2:00	7.8	152	25.5	50.4	30.8
6/25/2015 3:00	6.6	163	25.6	28.3	30.8
6/25/2015 4:00	5	182	25.6	1.5	30.8
6/25/2015 5:00	5.2	194	25.7	1.5	30.8
6/25/2015 6:00	9.3	289	25.2	22.1	30.8
6/25/2015 7:00	8.2	1	22.2	84.4	30.8
6/25/2015 8:00	5.2	3	22	83.5	30.8
6/25/2015 9:00	2.7	221	23.3	78.1	30.8
6/25/2015 10:00	6.4	153	23.7	66.1	30.8
6/25/2015 11:00	6.1	211	24.7	27.4	30.8
6/25/2015 12:00	6.2	178	27.8	11.1	30.8
6/25/2015 13:00	8.2	181	30.6	56.4	30.8
6/25/2015 14:00	11.9	206	31.7	55.9	30.8
6/25/2015 15:00	12.8	207	32.3	55.8	30.7
6/25/2015 16:00	12.2	203	32.8	55.7	30.8
6/25/2015 17:00	12	200	33.1	56	30.7
6/25/2015 18:00	7	199	32.4	59.3	30.7
6/25/2015 19:00	16.7	312	26.2	62.6	30.7
6/25/2015 20:00	5.3	22	20.9	95.1	30.8
6/25/2015 21:00	3.1	114	21.9	39.4	30.8
6/25/2015 22:00	9.2	313	21.3	98.5	30.8
6/25/2015 23:00	3.8	61	20.8	101	30.8
6/26/2015 0:00	4.9	105	20.7	98.8	30.8
6/26/2015 1:00	2.8	130	20.4	98.8	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/26/2015 2:00	3.1	156	20.7	96.8	30.7
6/26/2015 3:00	3.6	331	20.7	95.3	30.7
6/26/2015 4:00	3.6	321	20.8	94.2	30.7
6/26/2015 5:00	3.1	313	21.1	93.5	30.8
6/26/2015 6:00	3.4	323	21.1	95.7	30.8
6/26/2015 7:00	4.3	14	20.4	99.8	30.8
6/26/2015 8:00	4.2	74	20.3	100.3	30.8
6/26/2015 9:00	3.6	114	20.9	98.3	30.8
6/26/2015 10:00	3.7	146	21.4	94.8	30.8
6/26/2015 11:00	5.1	169	22.5	6.8	30.7
6/26/2015 12:00	6.4	186	23.8	1.5	30.8
6/26/2015 13:00	7.9	206	24.4	36.7	30.7
6/26/2015 14:00	6.2	206	25.2	47.3	30.7
6/26/2015 15:00	6.6	261	26.5	1.5	30.7
6/26/2015 16:00	8.3	298	25.9	29.3	30.7
6/26/2015 17:00	9	327	26	2.6	30.7
6/26/2015 18:00	9.5	321	24.7	1.5	30.7
6/26/2015 19:00	9	320	23.7	16.9	30.7
6/26/2015 20:00	10.6	332	22.9	65.7	30.7
6/26/2015 21:00	10.4	332	22.4	77.1	30.7
6/26/2015 22:00	8.5	331	21.5	52.8	30.7
6/26/2015 23:00	8.2	327	21.1	86.9	30.8
6/27/2015 0:00	9.4	330	20.9	85.9	30.7
6/27/2015 1:00	10	332	20.7	87.2	30.8
6/27/2015 2:00	9.1	338	20.5	87.1	30.7
6/27/2015 3:00	9	333	20.1	86.2	30.7
6/27/2015 4:00	8.1	326	19.9	86.6	30.8
6/27/2015 5:00	7.8	333	19.5	89.3	30.8
6/27/2015 6:00	8.6	335	19.5	87.9	30.8
6/27/2015 7:00	10.2	350	19.1	85.2	30.8
6/27/2015 8:00	8.5	350	18.6	84	30.8
6/27/2015 9:00	8.6	345	19.2	81	30.8
6/27/2015 10:00	8.3	339	20.3	76.5	30.8
6/27/2015 11:00	6.2	317	22.1	70.1	30.8
6/27/2015 12:00	6.6	314	23.1	63.5	30.8
6/27/2015 13:00	6.5	313	23.9	62.3	30.8
6/27/2015 14:00	8.6	316	24.8	43.4	30.8
6/27/2015 15:00	7.9	312	25.6	17.1	30.8
6/27/2015 16:00	7	315	25.4	3.6	30.8
6/27/2015 17:00	6.8	324	24.6	1.5	30.8
6/27/2015 18:00	6.1	291	24.5	1.5	30.8
6/27/2015 19:00	4.4	285	24.5	1.5	30.8
6/27/2015 20:00	4.1	298	23.7	5.5	30.8
6/27/2015 21:00	2.8	329	22.8	33	30.8
6/27/2015 22:00	1.6	271	21.4	78.4	30.8
6/27/2015 23:00	1.4	175	20.8	82.3	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/28/2015 0:00	2.9	181	20.3	89.5	30.8
6/28/2015 1:00	3.1	183	19.7	93.5	30.8
6/28/2015 2:00	3.1	187	19.3	93.4	30.8
6/28/2015 3:00	2.5	184	18.8	94.5	30.8
6/28/2015 4:00	2.8	187	18.5	94.9	30.8
6/28/2015 5:00	2.6	187	18.1	96.8	30.8
6/28/2015 6:00	2.6	173	18.1	94.4	30.8
6/28/2015 7:00	3.6	177	18.9	75.8	30.8
6/28/2015 8:00	5.3	196	20.2	8.8	30.8
6/28/2015 9:00	6.1	196	21.9	55.4	30.8
6/28/2015 10:00	7.3	199	23.6	70.3	30.8
6/28/2015 11:00	8.4	202	25	65.3	30.8
6/28/2015 12:00	8.6	196	25.7	30.6	30.8
6/28/2015 13:00	8.3	194	25.6	1.5	30.8
6/28/2015 14:00	7	209	25.5	20.2	30.7
6/28/2015 15:00	6.2	45	23.9	15.3	30.8
6/28/2015 16:00	7.4	137	27	7.6	30.7
6/28/2015 17:00	9.9	158	27.4	51.1	30.7
6/28/2015 18:00	8.3	164	27.2	55.1	30.7
6/28/2015 19:00	8.1	155	26.8	56.8	30.7
6/28/2015 20:00	7.5	155	25.1	32.5	30.7
6/28/2015 21:00	8.5	135	20.7	85.2	30.7
6/28/2015 22:00	3.5	145	19.1	94.7	30.7
6/28/2015 23:00	5.4	169	20.8	41.7	30.7
6/29/2015 0:00	4.4	180	21.3	1.5	30.7
6/29/2015 1:00	5	266	21.7	5.4	30.7
6/29/2015 2:00	2.5	158	21.1	10.3	30.7
6/29/2015 3:00	4.6	185	20.9	1.5	30.7
6/29/2015 4:00	7.7	207	20.9	1.5	30.7
6/29/2015 5:00	6.9	216	20.8	25	30.7
6/29/2015 6:00	5.9	211	20.5	67.8	30.7
6/29/2015 7:00	5.9	224	20.9	64.2	30.7
6/29/2015 8:00	5.3	258	21.5	1.5	30.7
6/29/2015 9:00	6.5	295	21.4	1.5	30.7
6/29/2015 10:00	8.1	322	22.9	10.3	30.7
6/29/2015 11:00	9	330	23.8	1.5	30.7
6/29/2015 12:00	8.2	319	24.5	1.5	30.7
6/29/2015 13:00	7.9	300	25.5	1.5	30.7
6/29/2015 14:00	8.3	289	26.2	1.5	30.7
6/29/2015 15:00	8	286	27.1	4.5	30.7
6/29/2015 16:00	7.8	282	27.8	15.1	30.7
6/29/2015 17:00	7	293	28.2	20.7	30.7
6/29/2015 18:00	4.9	305	28.1	16.7	30.7
6/29/2015 19:00	4	27	27.6	17	30.7
6/29/2015 20:00	4.2	179	24.4	73.2	30.7
6/29/2015 21:00	2	163	23.7	78.5	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
6/29/2015 22:00	3.4	181	22.9	82.1	30.7
6/29/2015 23:00	3.2	181	22.4	86	30.7
6/30/2015 0:00	2.5	189	21.9	89.5	30.7
6/30/2015 1:00	2.5	181	21.7	91.1	30.7
6/30/2015 2:00	3	180	21.4	92.3	30.7
6/30/2015 3:00	4.6	191	21.1	96.3	30.7
6/30/2015 4:00	3.4	189	21	96.1	30.7
6/30/2015 5:00	3.7	194	20.8	94.5	30.7
6/30/2015 6:00	3.7	192	20.5	93.2	30.7
6/30/2015 7:00	4.3	199	20.7	92	30.7
6/30/2015 8:00	4.3	207	21.5	10.4	30.7
6/30/2015 9:00	5	203	22.4	1.5	30.8
6/30/2015 10:00	4.7	204	23.6	1.5	30.7
6/30/2015 11:00	5.3	208	25.2	1.5	30.7
6/30/2015 12:00	5.8	191	26.1	1.5	30.7
6/30/2015 13:00	6.8	200	27.1	21.6	30.7
6/30/2015 14:00	8.5	203	27.8	1.5	30.7
6/30/2015 15:00	8.9	211	28.4	28.5	30.7
6/30/2015 16:00	9.1	229	28.9	55.1	30.7
6/30/2015 17:00	10.7	221	28.6	59.6	30.7
6/30/2015 18:00	8.9	229	28.4	61.1	30.7
6/30/2015 19:00	7.8	250	28	35.3	30.7
6/30/2015 20:00	5.8	280	27.4	7.6	30.7
6/30/2015 21:00	3.3	276	26.2	21.2	30.7
6/30/2015 22:00	2.5	251	25.7	1.5	30.7
6/30/2015 23:00	2.4	225	24.9	31.1	30.8
7/1/2015 0:00	2.4	186	23.5	59.3	30.7
7/1/2015 1:00	3.7	186	23.3	86.2	30.7
7/1/2015 2:00	4.2	194	23.1	90.4	30.7
7/1/2015 3:00	3.6	209	23.2	89	30.7
7/1/2015 4:00	3.9	192	22.7	88.4	30.7
7/1/2015 5:00	6.5	200	22.3	94.6	30.7
7/1/2015 6:00	5.7	254	22.2	95.2	30.8
7/1/2015 7:00	5.1	199	22.1	92.7	30.7
7/1/2015 8:00	5.6	200	22.3	19.3	30.7
7/1/2015 9:00	7	193	22.4	1.5	30.7
7/1/2015 10:00	9.2	197	22.7	1.5	30.8
7/1/2015 11:00	9.8	208	23.4	1.5	30.8
7/1/2015 12:00	9.7	204	24.6	10.7	30.7
7/1/2015 13:00	10	211	26	1.5	30.8
7/1/2015 14:00	6.9	232	27.6	2.2	30.8
7/1/2015 15:00	7.5	305	28.1	15.9	30.7
7/1/2015 16:00	7.4	289	28.3	8.6	30.7
7/1/2015 17:00	4.6	337	27.8	1.5	30.7
7/1/2015 18:00	3.8	16	27.9	19.9	30.7
7/1/2015 19:00	2.6	13	27.4	9.2	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/1/2015 20:00	4.4	165	22.4	58.2	30.7
7/1/2015 21:00	2.7	72	21	96.9	30.7
7/1/2015 22:00	4.2	37	21.1	96.2	30.7
7/1/2015 23:00	2.4	72	21.5	36.1	30.7
7/2/2015 0:00	2.6	171	22	1.5	30.7
7/2/2015 1:00	2.6	69	21.9	1.5	30.7
7/2/2015 2:00	3	34	22.1	1.5	30.7
7/2/2015 3:00	3.2	28	22.1	1.5	30.7
7/2/2015 4:00	2	70	22.2	1.5	30.7
7/2/2015 5:00	3.5	30	22.1	1.5	30.7
7/2/2015 6:00	4	23	21.9	1.5	30.7
7/2/2015 7:00	8.8	3	19.5	95.6	30.7
7/2/2015 8:00	7.9	0	18.2	94.4	30.7
7/2/2015 9:00	6.9	15	17.6	91.4	30.7
7/2/2015 10:00	6.3	15	17.9	87.3	30.7
7/2/2015 11:00	6.3	6	18.5	85.2	30.7
7/2/2015 12:00	6.8	13	19.7	36.8	30.7
7/2/2015 13:00	6	10	21.1	64.2	30.7
7/2/2015 14:00	7.7	5	22.9	52.1	30.7
7/2/2015 15:00	6.3	1	24.2	22.6	30.7
7/2/2015 16:00	7	6	24.5	3.2	30.7
7/2/2015 17:00	7.1	359	24.6	1.5	30.7
7/2/2015 18:00	7.5	357	24.4	1.5	30.7
7/2/2015 19:00	7	357	23.6	12.9	30.7
7/2/2015 20:00	6.5	357	23	25.2	30.7
7/2/2015 21:00	6.7	353	21.7	75.9	30.7
7/2/2015 22:00	4.9	360	20.8	47	30.8
7/2/2015 23:00	3.9	10	20.3	27.9	30.8
7/3/2015 0:00	3.7	338	20.2	58.5	30.8
7/3/2015 1:00	4	334	20.2	82.3	30.7
7/3/2015 2:00	4.2	317	20.1	81.9	30.7
7/3/2015 3:00	4.6	322	19.7	85.4	30.7
7/3/2015 4:00	4.1	322	19.4	86.2	30.7
7/3/2015 5:00	4.2	327	19.4	87.3	30.7
7/3/2015 6:00	4.2	332	19.3	87.9	30.8
7/3/2015 7:00	3.8	344	19	83.2	30.7
7/3/2015 8:00	4.6	348	19.8	53.2	30.7
7/3/2015 9:00	5.2	332	20.8	2	30.8
7/3/2015 10:00	6.1	330	21.7	1.5	30.7
7/3/2015 11:00	7.2	344	22.7	3.1	30.8
7/3/2015 12:00	5.3	342	24.2	1.5	30.7
7/3/2015 13:00	6.6	336	25.2	1.5	30.7
7/3/2015 14:00	7.6	351	25.7	1.5	30.8
7/3/2015 15:00	7.6	0	26.1	18	30.7
7/3/2015 16:00	7.4	353	26.7	1.5	30.7
7/3/2015 17:00	6.5	336	26.4	2.4	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/3/2015 18:00	7.3	343	25.8	8.9	30.7
7/3/2015 19:00	6.8	333	25.8	1.5	30.7
7/3/2015 20:00	5.8	331	25.5	1.5	30.7
7/3/2015 21:00	3.6	348	24.4	1.5	30.7
7/3/2015 22:00	1.8	20	23.1	1.5	30.7
7/3/2015 23:00	2	2	22.2	1.5	30.8
7/4/2015 0:00	1.3	15	21.5	1.5	30.8
7/4/2015 1:00	1.1	54	21	1.5	30.8
7/4/2015 2:00	2	11	20.8	1.5	30.8
7/4/2015 3:00	1.8	12	20.4	1.5	30.8
7/4/2015 4:00	1.3	39	20	35.1	30.8
7/4/2015 5:00	1.4	41	19.7	97.5	30.8
7/4/2015 6:00	0.9	152	19.5	98.2	30.8
7/4/2015 7:00	0.8	76	19.3	74.3	30.8
7/4/2015 8:00	1.6	354	21.1	16.3	30.8
7/4/2015 9:00	2	70	23.3	37	30.8
7/4/2015 10:00	2.4	28	25.4	7.2	30.8
7/4/2015 11:00	3.7	9	25.9	5.2	30.8
7/4/2015 12:00	4.4	8	26.5	1.5	30.8
7/4/2015 13:00	3.9	17	26.9	40	30.8
7/4/2015 14:00	4.7	20	27.2	29.1	30.8
7/4/2015 15:00	6.2	349	27.4	54.8	30.8
7/4/2015 16:00	8	352	27.6	18.3	30.8
7/4/2015 17:00	7.1	0	27.6	1.5	30.8
7/4/2015 18:00	6	9	27.3	32.3	30.8
7/4/2015 19:00	4.6	18	26.8	3.3	30.8
7/4/2015 20:00	3.4	26	26	1.5	30.8
7/4/2015 21:00	3	46	24.9	1.5	30.8
7/4/2015 22:00	1.6	65	23.7	1.5	30.8
7/4/2015 23:00	1.8	90	23	1.5	30.8
7/5/2015 0:00	1.4	101	22.2	1.5	30.8
7/5/2015 1:00	2	96	22	1.5	30.8
7/5/2015 2:00	1.2	155	21.3	67	30.8
7/5/2015 3:00	0.9	82	20.2	61.7	30.8
7/5/2015 4:00	0.8	68	19.5	86.7	30.8
7/5/2015 5:00	1	92	19.2	88.6	30.8
7/5/2015 6:00	1.1	125	19	71.9	30.8
7/5/2015 7:00	1	100	19.7	22	30.8
7/5/2015 8:00	1	89	22.4	7.7	30.8
7/5/2015 9:00	3.1	142	24.4	1.5	30.8
7/5/2015 10:00	4.1	175	25.8	1.5	30.8
7/5/2015 11:00	5.8	195	26.9	1.5	30.8
7/5/2015 12:00	4.5	190	28.4	24.7	30.8
7/5/2015 13:00	5.1	196	28.9	18.5	30.8
7/5/2015 14:00	3.7	122	30	50	30.8
7/5/2015 15:00	3.6	124	30.7	50.1	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/5/2015 16:00	4.5	146	30.4	34.6	30.8
7/5/2015 17:00	4.6	138	30.5	8.1	30.8
7/5/2015 18:00	4.6	141	30.5	1.5	30.8
7/5/2015 19:00	5.3	172	29.5	42.4	30.8
7/5/2015 20:00	4.8	150	28.7	1.5	30.8
7/5/2015 21:00	3.4	138	27.5	50	30.8
7/5/2015 22:00	2.5	127	26.2	1.5	30.8
7/5/2015 23:00	3.4	130	25.7	1.5	30.8
7/6/2015 0:00	5.2	139	25.2	1.5	30.8
7/6/2015 1:00	4.4	137	24.7	25.5	30.8
7/6/2015 2:00	4.1	145	24.1	80.4	30.8
7/6/2015 3:00	3	155	23.5	50.7	30.8
7/6/2015 4:00	3.4	143	23.1	1.8	30.8
7/6/2015 5:00	3.4	143	22.7	86.6	30.8
7/6/2015 6:00	3.4	140	22.5	86.4	30.8
7/6/2015 7:00	3.2	135	23.1	34.4	30.8
7/6/2015 8:00	6.2	145	24.4	59.4	30.8
7/6/2015 9:00	6.7	154	26.3	71.9	30.8
7/6/2015 10:00	6.7	166	27.9	1.5	30.8
7/6/2015 11:00	7.2	186	29	13.5	30.8
7/6/2015 12:00	7.6	177	30.1	67.2	30.8
7/6/2015 13:00	7.8	190	30.8	64.8	30.8
7/6/2015 14:00	7	175	30.9	52.3	30.8
7/6/2015 15:00	4.3	107	29.9	21.8	30.8
7/6/2015 16:00	4.1	142	27.3	24.5	30.8
7/6/2015 17:00	3.5	334	29.7	61	30.7
7/6/2015 18:00	4.4	136	29.3	44	30.7
7/6/2015 19:00	5.5	151	29.2	15.4	30.7
7/6/2015 20:00	5.6	145	28.9	1.5	30.7
7/6/2015 21:00	6.6	150	28.6	1.5	30.7
7/6/2015 22:00	7.3	158	28.3	1.5	30.7
7/6/2015 23:00	6.7	147	27.5	1.5	30.7
7/7/2015 0:00	8.7	159	27.3	1.5	30.7
7/7/2015 1:00	7.8	171	26.9	31.2	30.7
7/7/2015 2:00	7.8	172	26.5	78.4	30.7
7/7/2015 3:00	7.5	176	26.2	78.5	30.7
7/7/2015 4:00	11.7	207	26.2	42.3	30.8
7/7/2015 5:00	10	230	25	12.8	30.7
7/7/2015 6:00	5.9	204	23.6	35	30.7
7/7/2015 7:00	6.9	196	23	1.5	30.7
7/7/2015 8:00	6.6	196	22.9	1.5	30.7
7/7/2015 9:00	6	209	23.1	1.5	30.7
7/7/2015 10:00	7.3	232	23	12.3	30.7
7/7/2015 11:00	8.1	314	20.7	20.1	30.8
7/7/2015 12:00	7.4	313	20.3	1.5	30.8
7/7/2015 13:00	7.1	311	20.5	1.5	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/7/2015 14:00	8.5	332	20.4	32.5	30.8
7/7/2015 15:00	8.7	346	20.6	56.5	30.8
7/7/2015 16:00	8.6	341	20.3	1.5	30.8
7/7/2015 17:00	8.4	346	19.9	31.1	30.8
7/7/2015 18:00	7.7	354	19.3	91	30.8
7/7/2015 19:00	7	6	19.1	72	30.8
7/7/2015 20:00	4.6	18	19.3	1.5	30.8
7/7/2015 21:00	3	33	19.4	1.5	30.8
7/7/2015 22:00	1.8	63	19.5	1.5	30.8
7/7/2015 23:00	1.4	116	19.1	1.5	30.8
7/8/2015 0:00	2.7	87	18.7	1.5	30.8
7/8/2015 1:00	3.5	83	18.6	1.5	30.8
7/8/2015 2:00	3.3	82	18.4	66.2	30.8
7/8/2015 3:00	3.2	77	18.4	88.8	30.8
7/8/2015 4:00	3.6	42	17.9	89.5	30.8
7/8/2015 5:00	4.3	47	17.4	84.7	30.8
7/8/2015 6:00	4.4	32	16.9	90	30.8
7/8/2015 7:00	4.2	35	16.5	88.7	30.8
7/8/2015 8:00	4.9	40	16	90.7	30.8
7/8/2015 9:00	5	41	15.2	89.5	30.8
7/8/2015 10:00	5.4	30	14.6	92.7	30.8
7/8/2015 11:00	5.3	25	14.6	94.2	30.8
7/8/2015 12:00	5	37	14.5	97.1	30.8
7/8/2015 13:00	5.3	41	15.1	97.3	30.8
7/8/2015 14:00	6.6	62	15.7	95.5	30.8
7/8/2015 15:00	5.8	66	16	97.1	30.8
7/8/2015 16:00	6.3	61	16.5	98.6	30.8
7/8/2015 17:00	4.5	48	17	93	30.8
7/8/2015 18:00	4.7	61	17.4	98.5	30.7
7/8/2015 19:00	4.7	88	18.1	98.9	30.7
7/8/2015 20:00	2.6	98	19	99	30.7
7/8/2015 21:00	4.6	136	19.9	91.1	30.7
7/8/2015 22:00	4.2	186	20.4	96.9	30.7
7/8/2015 23:00	7.5	202	21.9	93.5	30.7
7/9/2015 0:00	9	242	21.7	90.3	30.7
7/9/2015 1:00	6.5	278	19.7	94.3	30.8
7/9/2015 2:00	7.8	264	18.8	95.2	30.8
7/9/2015 3:00	8.5	274	17.6	91.1	30.8
7/9/2015 4:00	7.4	268	16.8	93.2	30.7
7/9/2015 5:00	8	251	16.6	90.5	30.8
7/9/2015 6:00	6.9	261	16.4	90.4	30.8
7/9/2015 7:00	7.9	266	16.3	90	30.8
7/9/2015 8:00	6.8	251	16.6	87.8	30.8
7/9/2015 9:00	7.3	253	16.9	87.7	30.8
7/9/2015 10:00	6.3	254	17.3	85.3	30.8
7/9/2015 11:00	5.4	236	17.9	81.8	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/9/2015 12:00	5.6	267	19	78.5	30.8
7/9/2015 13:00	5.4	271	20	73.1	30.8
7/9/2015 14:00	4.6	254	21.6	62.5	30.8
7/9/2015 15:00	3.3	298	23	1.5	30.8
7/9/2015 16:00	3.7	235	24.3	3.7	30.8
7/9/2015 17:00	3.1	24	24.2	2.2	30.8
7/9/2015 18:00	3.3	28	24.1	25.7	30.8
7/9/2015 19:00	4.5	12	23.4	11.4	30.8
7/9/2015 20:00	3.7	26	22.4	69	30.8
7/9/2015 21:00	3.6	27	21.7	14.6	30.8
7/9/2015 22:00	2.6	27	21.1	14.5	30.8
7/9/2015 23:00	3	71	20.7	77.2	30.8
7/10/2015 0:00	3	58	20.6	79.3	30.8
7/10/2015 1:00	1.9	106	20.5	79.9	30.8
7/10/2015 2:00	2.3	66	19.4	71.4	30.8
7/10/2015 3:00	3.3	89	19.2	90.7	30.8
7/10/2015 4:00	2.8	89	19.1	90.1	30.8
7/10/2015 5:00	2.6	34	18.7	1.5	30.8
7/10/2015 6:00	3.1	19	18.8	1.5	30.8
7/10/2015 7:00	3.6	14	18.7	1.5	30.8
7/10/2015 8:00	3.7	23	18.9	1.5	30.8
7/10/2015 9:00	4.5	25	19.6	1.9	30.8
7/10/2015 10:00	3.4	19	20.9	29.8	30.8
7/10/2015 11:00	3.1	29	22.7	1.5	30.8
7/10/2015 12:00	2.6	355	24	1.5	30.8
7/10/2015 13:00	2.7	214	23.9	1.5	30.8
7/10/2015 14:00	2.6	354	24.7	1.5	30.8
7/10/2015 15:00	1.9	53	25	1.5	30.8
7/10/2015 16:00	3	352	25.5	1.5	30.8
7/10/2015 17:00	2.4	69	26.6	16.4	30.8
7/10/2015 18:00	3.1	81	26.5	2.9	30.8
7/10/2015 19:00	2.5	129	26.4	27.9	30.8
7/10/2015 20:00	1.7	102	26.1	20.2	30.8
7/10/2015 21:00	2.3	85	24.3	1.5	30.8
7/10/2015 22:00	2.2	81	23.6	1.5	30.8
7/10/2015 23:00	2.2	75	23.1	1.5	30.8
7/11/2015 0:00	2.5	77	22.8	1.5	30.8
7/11/2015 1:00	2.8	73	22.7	1.5	30.8
7/11/2015 2:00	2.3	87	22.3	1.5	30.8
7/11/2015 3:00	2.2	108	22.1	1.5	30.8
7/11/2015 4:00	2.5	106	22.3	1.5	30.8
7/11/2015 5:00	2.4	96	22.3	1.5	30.8
7/11/2015 6:00	2.3	105	22.2	1.5	30.8
7/11/2015 7:00	2.1	104	22.3	1.5	30.8
7/11/2015 8:00	2.2	112	23.4	1.5	30.8
7/11/2015 9:00	3.3	129	24.7	1.5	30.8

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/11/2015 10:00	3.9	142	26.3	1.5	30.8
7/11/2015 11:00	4.8	180	28.4	57.1	30.8
7/11/2015 12:00	6.4	190	30	66.3	30.8
7/11/2015 13:00	8.5	204	31.2	60	30.8
7/11/2015 14:00	9.5	204	31.7	57.4	30.8
7/11/2015 15:00	8.8	197	32	57.8	30.8
7/11/2015 16:00	8.8	192	32.6	55.1	30.8
7/11/2015 17:00	8.8	194	33	52.2	30.8
7/11/2015 18:00	7.5	172	32.6	54.3	30.8
7/11/2015 19:00	6.9	170	32.3	53.8	30.8
7/11/2015 20:00	5.3	163	31.3	58.1	30.8
7/11/2015 21:00	5.4	165	30.4	61.9	30.8
7/11/2015 22:00	4.6	167	29.6	65.5	30.8
7/11/2015 23:00	4.1	169	29.1	67.3	30.8
7/12/2015 0:00	3.6	166	27.6	45.9	30.8
7/12/2015 1:00	7.1	303	26.1	56.2	30.8
7/12/2015 2:00	6.4	305	23.7	65.1	30.8
7/12/2015 3:00	5.8	221	23.1	48.8	30.8
7/12/2015 4:00	7.3	223	22.9	57.5	30.8
7/12/2015 5:00	8.8	259	24.2	10.4	30.8
7/12/2015 6:00	7.4	203	23.9	34.8	30.8
7/12/2015 7:00	4.6	187	23.3	63.1	30.8
7/12/2015 8:00	3.5	166	24.4	14.8	30.8
7/12/2015 9:00	4	170	26.7	3.4	30.8
7/12/2015 10:00	6.9	193	28.2	11.4	30.8
7/12/2015 11:00	5	177	29.8	64.1	30.8
7/12/2015 12:00	5	172	31.2	61.7	30.8
7/12/2015 13:00	5.2	179	32.3	58.3	30.8
7/12/2015 14:00	5.8	206	32.8	55.5	30.8
7/12/2015 15:00	5.8	212	33.6	51.3	30.8
7/12/2015 16:00	6.8	209	34	53.4	30.7
7/12/2015 17:00	8.8	208	34	52.3	30.7
7/12/2015 18:00	9.3	202	33.8	50.2	30.7
7/12/2015 19:00	9.3	206	33.3	52.9	30.7
7/12/2015 20:00	5.9	188	32.3	58.3	30.7
7/12/2015 21:00	4.1	175	31.2	62.8	30.7
7/12/2015 22:00	4.1	162	30.6	66.5	30.7
7/12/2015 23:00	3.8	169	29.8	69.9	30.7
7/13/2015 0:00	4	172	28.9	72.4	30.7
7/13/2015 1:00	3.8	166	28.2	74.5	30.7
7/13/2015 2:00	3.8	158	27.6	76.5	30.7
7/13/2015 3:00	4.4	168	27.2	77.7	30.7
7/13/2015 4:00	4.2	170	26.7	80.1	30.7
7/13/2015 5:00	4.7	172	26.3	81.1	30.7
7/13/2015 6:00	4.7	174	26	82.1	30.7
7/13/2015 7:00	5.3	179	26.2	81.3	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/13/2015 8:00	7.6	182	27.2	51.9	30.7
7/13/2015 9:00	11.2	204	28.3	59.6	30.7
7/13/2015 10:00	9.2	199	29.6	52.9	30.7
7/13/2015 11:00	7.2	190	31.2	66.8	30.7
7/13/2015 12:00	9.1	192	32	63.9	30.7
7/13/2015 13:00	9.2	193	33	60.4	30.7
7/13/2015 14:00	11.6	207	33.7	58.3	30.7
7/13/2015 15:00	12.4	210	34.4	55.6	30.7
7/13/2015 16:00	12.2	214	35	54.3	30.7
7/13/2015 17:00	11	205	35.1	56.4	30.7
7/13/2015 18:00	11.4	201	34.8	57.7	30.7
7/13/2015 19:00	10.2	204	34.2	60.6	30.7
7/13/2015 20:00	9.5	205	33	65.5	30.7
7/13/2015 21:00	7.9	187	32.2	69.7	30.7
7/13/2015 22:00	6.7	193	31.7	71	30.7
7/13/2015 23:00	4.1	197	31	73.3	30.7
7/14/2015 0:00	5.8	195	30.6	75.4	30.6
7/14/2015 1:00	6.6	203	29.9	79.1	30.6
7/14/2015 2:00	6.2	210	29.4	80	30.7
7/14/2015 3:00	7.2	228	29.3	78	30.7
7/14/2015 4:00	5.9	239	29.1	77.5	30.7
7/14/2015 5:00	5.3	266	28.8	78.3	30.7
7/14/2015 6:00	3.9	258	28.1	80.9	30.7
7/14/2015 7:00	4.3	237	28	58.8	30.7
7/14/2015 8:00	6.6	213	28.5	1.5	30.7
7/14/2015 9:00	5	223	29.9	36.8	30.7
7/14/2015 10:00	5.3	246	31.4	57.4	30.7
7/14/2015 11:00	6	237	32.7	48.9	30.7
7/14/2015 12:00	7.7	219	33.4	47.4	30.7
7/14/2015 13:00	9.9	208	33.5	38.4	30.7
7/14/2015 14:00	11.3	205	33.8	52.8	30.7
7/14/2015 15:00	12	213	34	48.4	30.7
7/14/2015 16:00	11.4	226	34.6	45.2	30.7
7/14/2015 17:00	10.8	260	35.1	44.8	30.7
7/14/2015 18:00	9.6	301	34.8	27.6	30.6
7/14/2015 19:00	9.8	331	33.2	54.8	30.7
7/14/2015 20:00	9.6	347	31.2	62.7	30.7
7/14/2015 21:00	7.7	348	29.7	61.9	30.7
7/14/2015 22:00	3	5	28.4	69.7	30.7
7/14/2015 23:00	1.3	333	27.2	73.9	30.7
7/15/2015 0:00	1.6	344	26.4	67	30.7
7/15/2015 1:00	1.5	17	25.7	78.4	30.7
7/15/2015 2:00	2.5	10	25.2	81.3	30.7
7/15/2015 3:00	2.8	25	24.5	83.9	30.7
7/15/2015 4:00	3.6	50	24.1	1.6	30.7
7/15/2015 5:00	3.9	62	23.3	60.8	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/15/2015 6:00	4.2	74	22.3	74.3	30.8
7/15/2015 7:00	2.8	43	22.6	72.9	30.8
7/15/2015 8:00	3.7	41	23.8	69.6	30.8
7/15/2015 9:00	3.9	38	24.9	51.3	30.8
7/15/2015 10:00	4.1	16	26.2	38.1	30.8
7/15/2015 11:00	5.4	24	26.9	13.4	30.8
7/15/2015 12:00	7.3	359	27	4	30.8
7/15/2015 13:00	7.2	2	27.5	1.6	30.8
7/15/2015 14:00	8.8	354	27.8	1.5	30.8
7/15/2015 15:00	7.3	0	28.6	1.6	30.8
7/15/2015 16:00	7.3	5	28.5	41.6	30.8
7/15/2015 17:00	7.9	19	28.7	1.5	30.8
7/15/2015 18:00	6.8	6	29.1	4	30.8
7/15/2015 19:00	7.8	347	28.3	1.5	30.8
7/15/2015 20:00	5.7	51	27.2	19.1	30.8
7/15/2015 21:00	3.7	86	26.6	58.8	30.7
7/15/2015 22:00	2.7	91	26.5	64.5	30.8
7/15/2015 23:00	2.1	62	26	67.3	30.8
7/16/2015 0:00	2.2	64	25.3	72.5	30.8
7/16/2015 1:00	3.2	83	24.6	72	30.8
7/16/2015 2:00	4	78	24.1	79.6	30.8
7/16/2015 3:00	3	95	23.9	80.3	30.8
7/16/2015 4:00	2.4	102	23.7	80.7	30.8
7/16/2015 5:00	2.5	114	23.9	80.4	30.8
7/16/2015 6:00	3	121	23.8	80.8	30.8
7/16/2015 7:00	4.2	136	23.9	80.6	30.8
7/16/2015 8:00	3.5	135	24.6	78.5	30.8
7/16/2015 9:00	3.9	133	26.2	44.3	30.8
7/16/2015 10:00	5	138	26.8	11.8	30.8
7/16/2015 11:00	4.6	128	28.2	1.5	30.8
7/16/2015 12:00	4.8	135	29.4	1.6	30.8
7/16/2015 13:00	5.2	129	30.8	8.7	30.7
7/16/2015 14:00	5.1	142	31.3	18.4	30.7
7/16/2015 15:00	4.1	123	32.6	55.5	30.7
7/16/2015 16:00	5.5	134	32.9	44.7	30.7
7/16/2015 17:00	6.5	138	32.5	38.2	30.7
7/16/2015 18:00	7.3	143	32.3	53.3	30.7
7/16/2015 19:00	9.6	152	31.8	37.5	30.7
7/16/2015 20:00	8.5	147	31.1	45.4	30.7
7/16/2015 21:00	7.7	146	29.9	72.5	30.7
7/16/2015 22:00	5.4	140	29.3	48	30.7
7/16/2015 23:00	5.5	144	28.8	1.5	30.7
7/17/2015 0:00	5.9	155	28.5	1.5	30.7
7/17/2015 1:00	5.5	174	28.1	61	30.7
7/17/2015 2:00	5.3	177	27.9	1.5	30.7
7/17/2015 3:00	5.7	181	27.7	1.5	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/17/2015 4:00	5	181	27.2	1.5	30.7
7/17/2015 5:00	4.2	177	26.8	1.5	30.7
7/17/2015 6:00	4.8	176	26.5	1.5	30.7
7/17/2015 7:00	5	179	26.7	1.5	30.7
7/17/2015 8:00	7.9	196	27.6	1.5	30.7
7/17/2015 9:00	10.6	202	28.4	2.5	30.7
7/17/2015 10:00	11.4	204	29	16.8	30.7
7/17/2015 11:00	10.4	197	30.3	65.4	30.7
7/17/2015 12:00	11.5	200	30.7	56	30.7
7/17/2015 13:00	10	201	31.8	59.9	30.7
7/17/2015 14:00	10.8	205	32.9	48.5	30.7
7/17/2015 15:00	9.1	204	32.3	1.6	30.7
7/17/2015 16:00	10	199	31.5	1.7	30.7
7/17/2015 17:00	10.3	203	32.3	8.4	30.7
7/17/2015 18:00	8.9	209	32.6	1.6	30.7
7/17/2015 19:00	8.2	195	32.9	1.6	30.7
7/17/2015 20:00	7.3	189	32.1	1.5	30.7
7/17/2015 21:00	4.2	183	31	1.5	30.7
7/17/2015 22:00	3.7	174	30.2	1.5	30.7
7/17/2015 23:00	3.5	173	29.6	1.5	30.8
7/18/2015 0:00	4.7	174	29.2	1.5	30.7
7/18/2015 1:00	4.4	168	28.8	1.5	30.7
7/18/2015 2:00	3.8	162	29	1.5	30.7
7/18/2015 3:00	4.6	174	29	1.5	30.7
7/18/2015 4:00	4.9	174	28.6	1.5	30.7
7/18/2015 5:00	4.7	177	28.2	1.5	30.7
7/18/2015 6:00	4.4	182	27.9	1.5	30.7
7/18/2015 7:00	5	196	27.6	1.5	30.7
7/18/2015 8:00	7.3	201	28.6	1.5	30.7
7/18/2015 9:00	7.4	200	29.3	1.5	30.8
7/18/2015 10:00	9.1	201	30.4	24.5	30.8
7/18/2015 11:00	8.1	210	31.1	11	30.7
7/18/2015 12:00	10.8	219	30.8	10.1	30.8
7/18/2015 13:00	10.5	239	30.9	1.6	30.8
7/18/2015 14:00	8.8	222	30.8	1.6	30.8
7/18/2015 15:00	6.7	178	31	1.6	30.7
7/18/2015 16:00	6.9	169	32.1	10.8	30.7
7/18/2015 17:00	8.7	181	32.6	15.7	30.7
7/18/2015 18:00	8.7	184	32.6	1.6	30.7
7/18/2015 19:00	7.1	193	32.8	1.6	30.7
7/18/2015 20:00	3.7	202	32.2	1.5	30.7
7/18/2015 21:00	2.2	173	31.1	1.5	30.7
7/18/2015 22:00	4.5	151	30.9	1.5	30.8
7/18/2015 23:00	5.1	160	30.5	1.5	30.8
7/19/2015 0:00	5.8	156	30.2	1.5	30.8
7/19/2015 1:00	7	167	29.8	1.5	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/19/2015 2:00	7	179	29.2	1.5	30.8
7/19/2015 3:00	5.5	176	28.4	1.5	30.7
7/19/2015 4:00	4.9	176	28	1.5	30.7
7/19/2015 5:00	3.4	58	27.8	1.5	30.8
7/19/2015 6:00	5.1	21	26.5	37.3	30.8
7/19/2015 7:00	14.2	339	23.4	75.3	30.8
7/19/2015 8:00	9.1	340	21.4	96	30.8
7/19/2015 9:00	6.9	328	21.5	94.4	30.8
7/19/2015 10:00	4.2	246	21.9	42.6	30.8
7/19/2015 11:00	4.4	254	22.2	1.5	30.8
7/19/2015 12:00	5.9	190	22.9	1.5	30.8
7/19/2015 13:00	7.6	237	24.2	84.9	30.8
7/19/2015 14:00	7.4	247	26	74.7	30.8
7/19/2015 15:00	5.6	212	27.1	13.3	30.7
7/19/2015 16:00	5.2	199	27.1	1.5	30.7
7/19/2015 17:00	3.8	190	27.9	1.5	30.7
7/19/2015 18:00	3.3	301	28.4	1.5	30.7
7/19/2015 19:00	6.8	2	27.2	1.5	30.7
7/19/2015 20:00	4.2	33	26.1	68.9	30.8
7/19/2015 21:00	4.1	55	24.9	59.8	30.7
7/19/2015 22:00	2.8	52	23.6	1.5	30.7
7/19/2015 23:00	2.6	64	23.7	1.5	30.8
7/20/2015 0:00	2.1	138	23.6	1.5	30.7
7/20/2015 1:00	1.6	139	23.7	1.5	30.7
7/20/2015 2:00	1.6	130	23.3	1.5	30.7
7/20/2015 3:00	1.4	127	22.8	1.5	30.7
7/20/2015 4:00	2.3	175	22.9	1.5	30.7
7/20/2015 5:00	1.8	160	22.5	3.3	30.7
7/20/2015 6:00	2.2	185	22.2	95.7	30.7
7/20/2015 7:00	2.6	158	22.4	95.8	30.7
7/20/2015 8:00	3.1	126	24.2	79.1	30.7
7/20/2015 9:00	3.1	235	23.8	2.4	30.7
7/20/2015 10:00	4.9	229	23.9	23.8	30.7
7/20/2015 11:00	5.5	270	22.5	1.9	30.7
7/20/2015 12:00	2.5	123	23	1.5	30.7
7/20/2015 13:00	2.6	121	25.3	61.5	30.7
7/20/2015 14:00	5.4	182	26.8	10	30.7
7/20/2015 15:00	6.8	192	26.5	1.5	30.7
7/20/2015 16:00	7.3	207	26.5	1.5	30.7
7/20/2015 17:00	7.4	212	26.7	1.5	30.7
7/20/2015 18:00	6.4	230	27.6	23.9	30.7
7/20/2015 19:00	6	232	28.4	61	30.7
7/20/2015 20:00	3.8	288	28.1	17.4	30.7
7/20/2015 21:00	2.3	227	26.8	1.5	30.7
7/20/2015 22:00	3.5	193	25.9	1.5	30.7
7/20/2015 23:00	4.3	208	25.4	75.4	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/21/2015 0:00	5.9	343	24.6	83.6	30.7
7/21/2015 1:00	2.2	217	23.5	87.1	30.7
7/21/2015 2:00	3	197	23.6	33.7	30.7
7/21/2015 3:00	1.3	214	23.1	1.5	30.7
7/21/2015 4:00	3.2	269	23.4	1.5	30.7
7/21/2015 5:00	4.4	299	23.2	1.5	30.7
7/21/2015 6:00	3.6	285	22.6	1.5	30.7
7/21/2015 7:00	5.1	306	22.4	50.3	30.7
7/21/2015 8:00	5.4	295	23.3	1.5	30.7
7/21/2015 9:00	8	323	24	8.1	30.7
7/21/2015 10:00	8	317	24.5	69.6	30.7
7/21/2015 11:00	6.2	323	25.3	67.8	30.7
7/21/2015 12:00	6.9	338	26.3	43.5	30.8
7/21/2015 13:00	6.9	328	27	2.1	30.7
7/21/2015 14:00	5.5	325	27.7	24.8	30.8
7/21/2015 15:00	5.9	333	28	14.8	30.8
7/21/2015 16:00	6.2	328	28	1.6	30.8
7/21/2015 17:00	6	333	27.9	1.5	30.7
7/21/2015 18:00	6.5	349	27.6	1.8	30.7
7/21/2015 19:00	6	352	27.4	1.5	30.7
7/21/2015 20:00	5.8	348	26.6	17.4	30.7
7/21/2015 21:00	3	2	24.8	50.5	30.7
7/21/2015 22:00	2.1	29	23.6	1.5	30.7
7/21/2015 23:00	1.8	18	22.4	75.8	30.8
7/22/2015 0:00	1.8	12	21.8	87	30.7
7/22/2015 1:00	1.1	43	21.2	90.8	30.8
7/22/2015 2:00	1.2	42	20.6	94.4	30.8
7/22/2015 3:00	2	24	20.5	92.1	30.8
7/22/2015 4:00	1.9	34	19.9	92.7	30.8
7/22/2015 5:00	1.6	13	19.5	92.7	30.8
7/22/2015 6:00	1.4	354	19	93.9	30.8
7/22/2015 7:00	1.7	347	20	58.2	30.8
7/22/2015 8:00	2.2	23	22.2	1.5	30.8
7/22/2015 9:00	3.8	77	24.2	28.9	30.8
7/22/2015 10:00	3.7	100	26.4	40.4	30.8
7/22/2015 11:00	5.5	96	26.7	14.1	30.8
7/22/2015 12:00	4.1	122	27.9	1.6	30.8
7/22/2015 13:00	4.7	117	28.3	1.6	30.8
7/22/2015 14:00	4.6	92	29.2	9	30.8
7/22/2015 15:00	4.1	95	28.5	1.5	30.7
7/22/2015 16:00	3.4	100	28	1.5	30.8
7/22/2015 17:00	2.4	118	27.9	4.5	30.8
7/22/2015 18:00	3	129	27.3	1.5	30.8
7/22/2015 19:00	3.1	86	26.8	51.8	30.7
7/22/2015 20:00	3.4	75	26.7	47.3	30.8
7/22/2015 21:00	3.1	84	25.8	63.2	30.7

Date Time	WS(MPH)	WD(DEG)	AT(C)	RH(%)	BP(InH)
7/22/2015 22:00	2.2	45	25.3	65.8	30.7
7/22/2015 23:00	2.2	19	24.8	20.1	30.8
7/23/2015 0:00	2.9	15	24.2	1.5	30.8
7/23/2015 1:00	3.6	18	23.9	1.5	30.8
7/23/2015 2:00	3.2	57	23.9	1.5	30.7
7/23/2015 3:00	3	52	23.3	1.5	30.7
7/23/2015 4:00	3.2	73	23	1.5	30.8
7/23/2015 5:00	2.3	34	22.5	1.5	30.8
7/23/2015 6:00	1.9	4	22.5	1.5	30.8
7/23/2015 7:00	2.9	35	22.6	1.5	30.8
7/23/2015 8:00	3.2	61	23.2	1.5	30.8
7/23/2015 9:00	4.4	68	25.2	38.4	30.8
7/23/2015 10:00	5.1	74	26.3	53.8	30.8
7/23/2015 11:00	5.1	81	27.9	5.3	30.8
7/23/2015 12:00	4.6	75	28.9	9.6	30.8
7/23/2015 13:00	5.4	61	29.4	22.2	30.8
7/23/2015 14:00	4.9	58	30	41.5	30.8
7/23/2015 15:00	4.7	41	30.4	30.8	30.8
7/23/2015 16:00	4.4	42	30.4	7.7	30.8
7/23/2015 17:00	5.8	26	30.3	1.6	30.8
7/23/2015 18:00	7.5	12	29.8	1.5	30.7
7/23/2015 19:00	7	14	28.9	1.5	30.8
7/23/2015 20:00	5.2	26	28.1	1.5	30.7
7/23/2015 21:00	3.2	18	26.3	23.9	30.8
7/23/2015 22:00	2.6	23	25.1	1.5	30.8
7/23/2015 23:00	2.3	38	24.3	1.5	30.8

APPENDIX H

AUXIER AND ASSOCIATES PROCEDURES

PROCEDURE 5.1
CALIBRATION PROCEDURE FOR PM 2.5 AIR MONITORING

1.0 PURPOSE

1.1 To describe the procedures for calibrating, checking and adjusting the flow of the Mass Flow Controllers (MFC) of high volume samplers used to perform PM 2.5 monitoring. PM10 and PM2.5 monitoring samples the airborne fraction of particles that can be inhaled into the respiratory system, i.e., particles of aerodynamic diameter less than 10 micrometers (µm). Atmospheric particles commonly occur in two distinct modes: the fine (< 2.5 µm) mode and the coarse (2.5-10.0 µm) mode. The fine or accumulation mode (also termed the respirable particulate matter) is attributed to growth of particles from the gas phase and subsequent agglomeration, while the coarse mode is made of mechanically abraded or ground particles.

2.0 RESPONSIBILITY

2.1 The Project Manager and Site Coordinator are responsible for assuring that this procedure is implemented.

2.2 Survey team personnel are responsible for following this procedure.

NOTE: Do not attempt to perform calibration or flow check of samplers under windy conditions. Short-term wind velocity fluctuations will produce variable pressure readings by the orifice transfer standard's manometer. The measurement will be less precise because of the pressure variations.

3.0 CALIBRATION PROCEDURE

3.1 Summary

During calibration, a certified calibration orifice using 5 different plates (18, 13, 10, 7, and 5) that simulate dust loading on the filter is connected to the inlet of the sampler. The pressure drop across the orifice as measured by a manometer (ΔH_2O) is converted to a flowrate (Q_a) in cubic meters per minute (cmm) using the slope and intercept of the orifice calibration curve and corrected to the temperature and pressure at the time of calibration. The flowrate as measured by the sampler's rotometer in cubic feet per minute (cfm) is recorded and corrected to the temperature and pressure at the time of calibration (IC). Q_a in cfm and IC are used to generate a calibration curve. The slope and intercept of the calibration curve are used when performing quality control (QC) checks of the system. The correlation coefficient of the curve is used to ensure that the relationship between the 5 calibration points is sufficiently linear. Monthly average temperature and barometric pressure values are used to establish the sampler set points.

NOTE: EPA guidelines require 5 readings in the range of 32-46 cfm, with at least three readings in the 36-44 cfm range. #8-32 x1/2 standard pan or round head machine screws and nuts may be used to block (close) any number of holes on any of the resistance plates to obtain readings in the desired resistance range.

3.2 Frequency

3.2.1 Every 6 months;

3.2.2 After any repairs that might affect sampler calibration (e.g., replacing the motor);

3.2.3 If the results of a field flow-check exceed quality control limits (e.g., greater than ±7% from the sampler's indicated flow rate); or

3.2.4 Whenever a field flow-check or performance audit indicates that the sampler is out (or nearly out) of the acceptable flow-rate range.

3.3 Equipment and Materials

3.3.1 Orifice transfer standard with calibration traceable to NIST

3.3.2 Orifice standard Certificate of Conformance

3.3.3 A water or oil manometer, with a 0-400 mm (0-16”) range and a minimum scale division of 2 mm (0.1”).

3.3.4 PM 2.5 Calibration Form

3.3.5 Temperature and barometric pressure at the time of calibration.

3.3.6 Average temperature in Celsius and average pressure in in. Hg for either the month in which the calibration takes place, or the month during which sampling will take place, as most appropriate.

3.4 Pre-Calibration

3.4.1 Using the PM 2.5 Calibration Form, record:

3.4.1.1 The project name, location, date, and operator name.

3.4.1.2 Sampler Model, MFC serial number, calibrator Orifice Serial No.

3.4.1.3 The barometric pressure in in. Hg and ambient temperature in Celsius and at the time of the calibration. The electronic spreadsheet will then calculate the barometric pressure in mm Hg and the temperature in Kelvin.

3.4.1.4 The average monthly average monthly barometric pressure in in. Hg and the temperature in Celsius, for the month in which the calibration is taking place. The electronic spreadsheet will then automatically calculate the barometric pressure in mm Hg and the temperature in Kelvin.

Average Monthly Temperature and Pressure

Month	Air Temp (F)	Air Temp (C)	Stn Pres (in)
January	28	-2	29
February	28	-2	29
March	43	9	29
April	58	15	29
May	69	21	29
June	78	25	29
July	77	25	29
August	80	26	29
September	70	21	29
October	59	15	29
November	41	5	29
December	39	4	29

3.4.1.5 The "Orifice Calibration Curve relationship" (slope, intercept and correlation coefficient) values, which are found in the Certificate of Conformance. These values are tabulated on page 2 of the Certificate of NIST Traceable Calibration. Use the slope, intercept and correlation coefficient associate with the Q actual (Q_a) values for PM 2.5 sampling. Do not use the Q_{std} values.

3.5 Rotometer Calibration

This calibration occurs during instrument set-up, and should be checked at each calibration.

3.5.1 Using the "Orifice Calibration Curve" slope and intercept, calculate the inches of water, ΔH, which correlates to 40 CFM.

3.5.2 Assemble the manometer according to manufacturer instructions.

3.5.3 Install the 8X10 adapter with the plate that is closest to providing 40 CFM as calculated in step 3.5.1 and through trial and error measurements of the various plates, i.e., install the plate that results in the water displacement as calculated in 3.5.1.

3.5.4 Operate the system for at least 5 minutes at normal line voltage to equilibrate the Rotometer.

3.5.5 If necessary, adjust the Rotometer so the top of the red float reads 40 CFM (1.13 cmm) by GENTLY loosening the lock nut, adjusting the rotometer with small adjustments, and GENTLY tightening the lock nut.

3.6 Calibration Data Collection

3.6.1 Carefully remove the probe containing the anemometer wire. Unscrew the metal clamp and carefully remove the probe. Put the rubber tip on for safety.

WARNING: Always carefully handle the probe tip of the MFC. It is a sensitive hot wire anemometer probe.

WARNING: Ensure that there is no filter in the filter holder

3.6.2 Mount the 8X10 Adapter Plate (AD 810) supplied with the Calibration Kit to the 8X10 Filter Holder Assembly. Make certain that the Adapter Plate is firmly tightened onto the Filter Holder Assembly so that the sponge rubber is squeezed. (Finger–tight then ½ additional turn with screwdriver, plier, etc). This will ensure there are no air leaks. Check all gaskets and replace any questionable ones.

3.6.3 Mount the calibration orifice tank with the No. 18 resistance plate in place on the sampler.

3.6.4 Perform a leak check.

WARNING: Never run the motor for greater than 30 seconds with the orifice blocked to avoid overheating.

WARNING: Never try this leak test procedure with a manometer connected to the side tap on the calibration orifice or the blower motor. Liquid from the manometer could be drawn into the system and cause motor damage.

3.6.4.1 Turn on the sampler.

3.6.4.2 Cover the hole on top of the orifice and the pressure tap with your hands.

3.6.4.3 Listen for a high-pitched squealing sound made by escaping air. If this sound is heard, a leak is present and the top loading adapter hold-down nuts need to be re-tightened. All leaks must be eliminated before proceeding with the calibration. When the system is determined to be leak-free, turn off the sampler.

3.6.5 Assemble the manometer according to manufacturer instructions (attached).

3.6.6 Inspect the connecting tubing of the manometer for crimps or cracks.

3.6.7 Connect one leg of the water manometer to the pressure tap of the calibration orifice using the length of rubber tubing. Leave the other side of the manometer open to atmosphere. Both valves on the manometer have to be open for the liquid to flow freely. To read the manometer, sum the displacement of the liquid (one side goes up, one side goes down) on both sides of the manometer. The manometer must be held or mounted vertically to insure accurate readings.

3.6.8 Turn the air sampler on and after five minutes to allow stabilization, record the water manometer reading in the “Total in. H2O” column, and the rotometer reading in the “I” column of the PM 2.5 Calibration Form.

3.6.9 Repeat steps 3.5.4 – 3.5.8 for the remaining resistance plates (13, 10, 7 and 5).

3.6.10 Turn the sampler off and remove the orifice tank.

3.6.11 Reinstall the anemometer probe, being sure to rotate the probe such that the scribed axial line is “up” (facing flow).

3.7 Calculate Calibration Linear Regression

3.7.1 As the ΔH and I columns are populated, the electronic version of the PM 2.5 calibration form will automatically calculate the slope (mhv), intercept (bhv) and correlation coefficient (rhv) for the calibration data points.

A five-point calibration should yield a regression equation with a correlation coefficient of rhv > 0.990. All five calibration points should be in the 32 to 46 cfm range, and at least three of the calibration points should be within the acceptable operation limits of 36 to 44 cfm. If all conditions are not met, confer with the Project Manager to determine course of action. A graph is presented at the bottom of the spreadsheet which may show which data points are not sufficiently linear, and need to be re-measured.

This data is used only to assess the calibration points to see if any should be rerun. It is not used for subsequent data reduction. Average values for temperature and pressure during sampling periods are used for data reduction.

3.8 Calculate the Sampler Flow Rate (SFR) and Sampler Set Point (SSP)

3.8.1 The electronic version of the PM2.5 calibration form will automatically calculate the SFR and the SSP.

3.9 Adjust the MFC to agree with the SSP.

3.9.1 Load the sampler with a Micro-Quartz filter.

3.9.2 Turn on the sampler and allow it to warm up to normal operating conditions.

WARNING: No one should adjust or change the rotometer screws or MFC potentiometer set screw without proper training. Do not turn the potentiometer more than a few degrees at a time. Improper adjustments can result in compromise of data, test time, and equipment damage.

NOTE: All rotometer readings will be taken by reading the position of the TOP of the red/black float-looking at eye level.

3.9.3 Adjust the MFC set screw (turning potentiometer) until the flow/pressure recorder reads the SSP flow rate by GENTLY loosening the lock nut, adjusting the potentiometer with small adjustments, and GENTLY tightening the lock nut.

3.9.4 The sampler should now be sampling at the flow rate, corrected to average monthly meteorological conditions, which will result in the designated flow rate of 40 CFM.

4.0 Equations

4.1 Calibration Equations

4.1.1 Calculate the flow rate through the orifice tank during calibration (Q_a) using the following equation.

$$Q_a = \frac{1}{m} * \sqrt{(\Delta H_2O)\frac{T_{cal}}{P_{cal}}} - b$$

Where:

Q_a = actual volumetric flow rate through the transfer standard orifice, m_3/min

ΔH_2O = pressure drop across the orifice, in inches of H2O as measured by the manometer

T_{cal} = ambient temperature during calibration, K (K = ^oC + 273)

P_{cal} = ambient barometric pressure during calibration, mm Hg

b = intercept of the orifice calibration relationship

m = slope of the orifice calibration relationship

4.1.2 Convert Q_a to cfm.

$$Q_a\ (cfm) = Q_a\ (cmm) * 35.31\ \frac{cfm}{cmm}$$

4.1.3 Correct the rotometer response to actual conditions for each test calibration point using the following equation.

$$IC = I\sqrt{\frac{T_{cal}}{P_{cal}}}$$

Where:

IC = transformed Rotometer readings

I = Rotometer readings

4.1.4 Calculating the set points

4.1.4.1 Calculate and record the sampler adjusted set point flow rate (SFR) in cfm.

$$SFR = 40\left(\left(\frac{P_m}{P_{cal}}\right)\left(\frac{T_{cal}}{T_m}\right)\right)$$

Where:

SFR = sampler's monthly adjusted set point flow rate, ccm

40 = designed sampling flow rate of PM 2.5 samplers in cfm

P_m = monthly average barometric pressure, mm Hg

P_{cal} = actual ambient barometric pressure during calibration, mm Hg

T_m = monthly average temperature, K
T_{cal} = actual ambient temperature during calibration, K

1.1.1.1 Calculate and record the sampler adjusted set point (SSP) in cfm.

$$SSP = (mhv * SFR + bhv)\left(\sqrt{\frac{P_{cal}}{T_{cal}}}\right)$$

Where :
SSP = sampler set point
mhv = slope of sampler from hi vol calibration
SFR = sampler's monthly adjusted set point flow rate
bhv = intercept of sampler from hi vol calibration
P_{cal} = actual ambient barometric pressure during calibration, mm Hg
T_{cal} = actual ambient temperature during calibration, K

The SSP is the design operating flow rate of the PM 2.5 High Volume Sampler of 40 cfm, corrected to the current ambient temperature and barometric pressure.

PROCEDURE 5.2
ONE POINT FLOW AUDIT FOR PM 2.5 AIR MONITORING

1.0 ONE POINT FLOW AUDIT

1.1 Summary

During the check, with a filter in place, the orifice (without the restrictive plates) is mounted to the sampler inlet. The pressure drop across the orifice as measured by a manometer in mm Hg is converted to a flow rate in cmm using the slope and intercept of the orifice calibration curve and corrected to the temperature and pressure at the time of the check (Q_{aofa}). The sampler flow rate in cfm is converted to actual conditions using the slope and intercept of the hi-volume calibration curve and corrected to the temperature and pressure at the time of the check (Q_{ahvfa}). The orifice is then removed and the flow rate is measured under normal conditions. The percent difference and corrected flow rate is then calculated and compared to control limits. The sampler set point is then determined for the next sampling period.

1.2 Frequency

1.2.1 The QC flow check should be performed at least monthly.

1.3 Equipment and Materials

1.3.1 Orifice transfer standard with calibration traceable to NIST.

1.3.2 Orifice standard Certificate of Conformance

1.3.3 A water or oil manometer, with a 0-400 mm (0-16”) range and a minimum scale division of 2 mm (0.1”).

1.3.4 Latest PM 2.5 Calibration forms and information.

1.3.5 One Point Flow Audit Form.

1.3.6 Temperature and barometric pressure at the time of the flow check.

1.4 Pre-Check

1.4.1 On the One Point Flow Check Form, record:

1.4.1.1 The project name, location, date, and operator name.

1.4.1.2 Instrument information:

1.4.1.2.1 PM 2.5 inlet

1.4.1.2.2 MFC serial number

1.4.1.2.3 Calibrator Orifice Serial No.

1.4.1.3 The barometric pressure in in. Hg and the ambient temperature in Celsius and at the time of the calibration. The electronic spreadsheet will then calculate the barometric pressure in mm Hg and the temperature in Kelvin.

1.4.1.4 The average monthly barometric pressure in in. Hg and the average monthly temperature in Celsius for the next sampling period. The electronic spreadsheet will then automatically calculate the barometric pressure in mm Hg and the temperature in Kelvin. These are the values required to calculate the sampler flow rate (SFR) and sampler set point (SSP).

Average Monthly Temperature and Pressure

Month	Air Temp (F)	Air Temp (C)	Stn Pres (in)
January	28	-2	29
February	28	-2	29
March	43	9	29
April	58	15	29
May	69	21	29
June	78	25	29
July	77	25	29
August	80	26	29
September	70	21	29
October	59	15	29
November	41	5	29
December	39	4	29

1.4.1.5 The "Orifice Calibration Curve relationship" (slope, intercept and correlation coefficient) values, which are found in the Certificate of Conformance. These values are tabulated on the third sheet of the Certificate of Conformance (Sheet 2 of 5). Use the slope, intercept and correlation coefficient associate with the Q actual (Q_a) values for PM 2.5 sampling. Do not use the Q_{std} values.

1.5 Data Collection

1.5.1 Place a clean quartz filter into the 8X10 filter holder.

1.5.2 Mount the 8X10 Adapter Plate supplied with the Calibration Kit to the 8X10 Filter Holder Assembly. Make certain that the Adapter Plate is firmly tightened onto the Filter Holder Assembly so that the sponge rubber is squeezed. (Finger–tight then ½ additional turn with screwdriver, plier, etc). This will ensure there are no air leaks. Check all gaskets and replace any questionable ones.

1.5.3 Mount the same calibration orifice tank that was used to calibrate the sampler, but do not use the resistance plates.

1.5.4 Perform a leak check.

WARNING: Never run the motor for greater than 30 seconds with the orifice blocked to avoid overheating.

WARNING: Never try this leak test procedure with a manometer connected to the side tap on the calibration orifice or the blower motor. Liquid from the manometer could be drawn into the system and cause motor damage.

1.5.4.1 Turn on the sampler.

1.5.4.2 Cover the hole on top of the orifice and the pressure tap with your hands.

1.5.4.3 Listen for a high-pitched squealing sound made by escaping air. If this sound is heard, a leak is present and the top loading adapter hold-down nuts need to be re-tightened. All leaks must be eliminated before proceeding with the check. When the system is determined to be leak-free, turn off the sampler.

1.5.5 Assemble the manometer according to manufacturer instructions (attached).

1.5.6 Inspect the connecting tubing of the manometer for crimps or cracks.

1.5.7 Connect one leg of the water manometer to the pressure tap of the calibration orifice using the length of rubber tubing. Leave the other side of the manometer open to atmosphere. Both valves on the manometer have to be open for the liquid to flow freely. To read the manometer, sum the displacement of the liquid (one side goes up, one side goes down) on both sides of the manometer. The manometer must be held or mounted vertically to insure accurate readings.

1.5.8 Turn the air sampler on and after five minutes to allow stabilization, record the water manometer reading in the “Total in. H2O” column, and the rotometer reading in the “Ifa” column of the PM 2.5 One Point Flow Audit Form.

1.5.9 Turn the sampler off, remove the Calibration Orifice tank, and leave the filter in place.

1.5.10 Turn the sampler on and record the rotometer reading in the “Iwocofa” column of the One Point Flow Audit form.

1.5.11 Turn the sampler off.

1.5.12 The electronic version of the One Point Audit Form will automatically calculate the percent difference and the corrected flow rate. If the percent difference is greater than 7% the sampler fails the check and must be recalibrated. If the corrected flow rate is less than 36 or greater than 44 the sampler fails the check and must be recalibrated.

1.6 Calculate the SFR and SSP for the next sampling period

1.6.1 The electronic version of the One Point Flow Audit Form will automatically calculate the SFR and the SSP.

1.7 Adjust the MFC to agree with the SSP.

1.7.1 Turn on the sampler and allow it to warm up to normal operating conditions.

WARNING: No one should adjust or change the rotometer screws or MFC potentiometer set screw without proper training. Do not turn the potentiometer more than a few degrees at a time. Improper adjustments can result in compromise of data, test time, and equipment damage.

NOTE: All rotometer readings will be taken by reading the position of the TOP of the red/black float-looking at eye level.

1.7.2 Adjust the MFC set screw (turning potentiometer) until the flow/pressure recorder reads the SSP flow rate by GENTLY loosening the lock nut, adjusting the potentiometer with small adjustments, and GENTLY tightening the lock nut.

1.7.3 The sampler should now be sampling at the designed flow rate of 40 cfm corrected to current meteorological conditions.

1.8 One Check Flow Audit Equations

1.8.1 Calculate the flow through the orifice at ambient temperature and pressure at the time of the check in cfm.

$$Q_{aofa} = \left(\frac{1}{m} * \sqrt{\Delta H_2O * \frac{T_{chk}}{P_{chk}}} - b \right) * \frac{cfm}{cmm}$$

Where:

Q_{aofa} = actual volumetric flow rate as indicated by the transfer standard orifice, m^3/min at ambient temperature and pressure at the time of the check

ΔH_2O = pressure drop across the orifice, in. H_2O as measured by the manometer

T_{chk} = ambient temperature during the check, K (K = ^{O}C + 273)

P_{chk} = ambient barometric pressure during the check, mm Hg

b = intercept of the orifice calibration relationship

m = slope of the orifice calibration relationship

$\frac{cfm}{cmm} = 35.31$

1.8.2 Calculate the flow through the MFC at ambient temperature and pressure at the time of the check.

$$Q_{ahvaf} = \frac{1}{mhv} * \sqrt{I_f * \frac{T_{chk}}{P_{chk}}} - bhv$$

Where:

Q_{ahvaf} = actual volumetric flow rate as indicated by the rotometer, m3/min at ambient temperature and pressure at the time of the check

ΔH_2O = pressure drop across the orifice, in. H_2O as measured by the manometer.
T_{chk} = ambient temperature during the check, K (K = ^{O}C + 273).
P_{chk} = ambient barometric pressure during the check, mm Hg.
bhv = intercept of the MFC calibration relationship.
mhv = slope of the MFC calibration relationship.

1.8.3 Calculate the % difference between the Q_{aofa} and the Q_{ahvfa}.

$$\%\ Diff = \frac{Q_{ahvfa} - Q_{aofa}}{Q_{aofa}} * 100$$

The percent difference should be ≤ 7%.

1.8.4 Calculate the corrected flow rate.

$$Corrected\ Flow\ Rate = Q_{ahvfa} * \frac{100 - \%\ diff}{100}$$

The corrected flow rate should be 40 cfm ± 10%, or between 36 and 44 cfm.

PROCEDURE 5.3
SAMPLING PROCEDURE FOR PM 2.5 AIR MONITORING

1.0 PURPOSE

1.0 To describe the procedures for performing PM 2.5 sampling.

2.0 RESPONSIBILITY

2.1 The Project Manager and Site Coordinator are responsible for assuring that this procedure is implemented.

2.2 Survey team personnel are responsible for following this procedure.

3.0 PROCEDURE

3.1 Perform the one point flow audit procedure if necessary.

3.2 Equipment and Materials

3.2.1 Quartz filter, pre-numbered.

3.2.2 PM 2.5 Field Data Form

3.2.3 Average temperature in Celsius and average pressure in in. Hg for the month in which the sampling took place.

Average Monthly Temperature and Pressure

Month	Air Temp (F)	Air Temp (C)	Stn Pres (in)
January	28	-2	29
February	28	-2	29
March	43	9	29
April	58	15	29
May	69	21	29
June	78	25	29
July	77	25	29
August	80	26	29
September	70	21	29
October	59	15	29
November	41	5	29
December	39	4	29

3.3 Pre-Monitoring

3.3.1 On the Field Data Sheet record:

3.3.1.1 The project name, station location, date, and the name of the operator loading the filter onto the sampler.

3.3.1.2 Sampler model, MFC serial number, and filter number.

3.3.1.3 The average temperature in degrees Celsius and Pressure in in. Hg for the sampling period as measured by the meteorological station.

3.3.1.4 The calibration curve relationships from the latest calibration.

3.3.1.5 The Sampler Flow Rate and Sampler Set Point from the latest One Point Flow Audit or the latest calibration.

3.3.2 Inspect the filter

3.3.2.1 Backlight each filter to inspect for pinholes, particles, or other visible imperfections.

3.4 Monitoring

3.4.1 Loosen the nuts that secure the inlet to the base and gently tilt back the inlet to allow access to the filter support screen.

3.4.2 Examine the filter support screen. If the screen appears dirty, wipe it clean.

3.4.3 Center the filter onto the filter holder, rough side up.

3.4.4 Tighten the thumb nuts to hold the filter securely. Check that the gasket is in good condition and has not deteriorated.

Caution: Tighten the thumb nuts evenly on alternate corners to properly align and seat the gasket. The nuts should be only hand-tightened because too much compression can damage the sealing gasket.

3.4.5 Lower the sample inlet. Secure the sample inlet to the sampler base. Open the front door of the sampler and examine the flow controller. Remove any moisture inside by wiping it with a clean cloth.

3.4.6 Energize the sampler. Allow for warm-up.

3.4.7 Observe proper SSP and adjust the MFC constant flow potentiometer if necessary to achieve the SSP.

3.4.8 Record the start time and the flow rate.

3.4.9 Secure the shelter.

3.5 Post Monitoring

3.5.1 Record the rotometer reading in column I of the PM 2.5 Field Data Form.

3.5.2 Indicate on the form whether the rotometer reading is within 10% of the Sampler Set Point.

3.5.3 De-energize the sampler

3.5.4 Remove the filter

3.5.5 Record the Sample Stop Time and calculate the elapsed time in minutes.

3.5.6 Check the porous disk

3.5.6.1 Remove the outer clamp ring (the “round cake mold pan” in which the porous disc rests) by loosening the four spring-loaded knurled finger tightening nuts

3.5.6.2 The white porous disc gets dark from the larger than 2.5 micron particles adhering to it. Wipe it with a rag. Then rub a finger over it. If it feels wet, close the cartridge. If it feels dry, re-saturate by adding more oil.

WARNING: Do NOT over-wet or it will become “super-saturated” and leak/spill the oil all over during reassembly of the PM2.5 cartridge back into the shelter assembly.

APPENDIX I

FIELD DATA FORMS

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A1	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714196	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/27/15

Average Conditions During Sampling Period

Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.2711
9	Intercept (bhv) =	14.6330
10	Correlation Coefficient (rhv) =	0.9986

Set Points During Sampling Period

11	SFR =	39.93
12	SSP =	40.7

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 12:30**	**Stop Date/Time**	**16**	**5/27/15 16:12**	**Elapsed Time (min)**	**37,662**
Flow Rate (cfm)	**14**	**41**	**Flow Rate (cfm)**	**15**	**39**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1128993	4.25E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

Auxier & Associates, Inc.
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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A2	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714197	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/28/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3532
9	Intercept (bhv) =	10.4747
10	Correlation Coefficient (rhv) =	0.9962

Set Points During Sampling Period		
11	SFR =	37.41
12	SSP =	38.8

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 14:20**	**Stop Date/Time**	**16**	**5/28/15 8:30**	**Elapsed Time (min)**	**38,530**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**40**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1118515	4.31E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A3	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714198	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/28/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3498
9	Intercept (bhv) =	10.7009
10	Correlation Coefficient (rhv) =	0.9977

Set Points During Sampling Period		
11	SFR =	38.95
12	SSP =	39.4

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 14:00**	**Stop Date/Time**	**16**	**5/28/15 9:06**	**Elapsed Time (min)**	**38,586**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**41**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1132674	4.37E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A4	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714199	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/28/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3539
9	Intercept (bhv) =	11.4688
10	Correlation Coefficient (rhv) =	0.9938

Set Points During Sampling Period		
11	SFR =	39.70
12	SSP =	41.0

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 13:45**	**Stop Date/Time**	**16**	**5/28/15 9:30**	**Elapsed Time (min)**	**38,625**
Flow Rate (cfm)	**14**	**41**	**Flow Rate (cfm)**	**15**	**39**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1132674	4.37E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
1 Station Location:	A5	3 Operator (Filter Loading):	A. Luna
Sampler Model:	PM2.5	4 Date:	5/1/15
2 MFC Serial No.	714200	5 Operator (Filter Collection):	B. Abernathy/M. Spurgeon
		6 Date:	5/27/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3661
9	Intercept (bhv) =	10.2935
10	Correlation Coefficient (rhv) =	0.9975

Set Points During Sampling Period		
11	SFR =	38.54
12	SSP =	39.8

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 11:30**	**Stop Date/Time**	**16**	**5/27/15 15:08**	**Elapsed Time (min)**	**37,658**
Flow Rate (cfm)	**14**	**40**	**Flow Rate (cfm)**	**15**	**41**	**Avg Flow Rate (cfm)**	**41**

	l cfm	**l** ml/min	**ml**
15	41	1146832	4.32E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A6	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714201	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/27/15

Average Conditions During Sampling Period

Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.3685
9	Intercept (bhv) =	10.2801
10	Correlation Coefficient (rhv) =	0.9981

Set Points During Sampling Period

11	SFR =	39.83
12	SSP =	40.0

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 12:45**	**Stop Date/Time**	**16**	**5/27/15 16:50**	**Elapsed Time (min)**	**37,685**
Flow Rate (cfm)	**14**	**40**	**Flow Rate (cfm)**	**15**	**40**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1132674	4.27E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A7	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714202	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/27/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3985
9	Intercept (bhv) =	8.2051
10	Correlation Coefficient (rhv) =	0.9987

Set Points During Sampling Period		
11	SFR =	30.00
12	SSP =	33.0

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 11:15**	**Stop Date/Time**	**16**	**5/27/15 12:00**	**Elapsed Time (min)**	**37,485**
Flow Rate (cfm)	**14**	**40**	**Flow Rate (cfm)**	**15**	**35**	**Avg Flow Rate (cfm)**	**38**

	l cfm	l ml/min	ml
15	38	1061882	3.98E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A8	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714203	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/27/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.4270
9	Intercept (bhv) =	6.7716
10	Correlation Coefficient (rhv) =	0.9944

Set Points During Sampling Period		
11	SFR =	41.00
12	SSP =	39.0

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 14:30**	**Stop Date/Time**	**16**	**5/27/15 15:38**	**Elapsed Time (min)**	**37,508**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**41**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1132674	4.25E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A9	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714204	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/28/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.4928
9	Intercept (bhv) =	4.2455
10	Correlation Coefficient (rhv) =	0.9958

Set Points During Sampling Period		
11	SFR =	38.80
12	SSP =	37.9

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	5/1/15 13:35	Stop Date/Time	16	5/28/15 10:42	Elapsed Time (min)	38,707
Flow Rate (cfm)	14	38	Flow Rate (cfm)	15	MFC off *	Avg Flow Rate (cfm)	#VALUE!

*** Power restored to MFC on 6/1/15. New filter loaded, MFC re-energized, one-point flow audit performed, and SSP set for next sampling period (June), on 6/2/15 @ 1034.**

	l cfm	l ml/min	ml
15 MFC off *		#VALUE!	#VALUE!

Is 15 within 10% of 14 (SSP set at start of sampling period)? Y N (N/A)

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A10	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714205	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/28/15

Average Conditions During Sampling Period			
Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3752
9	Intercept (bhv) =	9.8568
10	Correlation Coefficient (rhv) =	0.9902

Set Points During Sampling Period		
11	SFR =	37.84
12	SSP =	39.1

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 13:15**	**Stop Date/Time**	**16**	**5/28/15 11:06**	**Elapsed Time (min)**	**38,751**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**41**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1132674	4.39E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A11	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714206	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/27/15

Average Conditions During Sampling Period

Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.3385
9	Intercept (bhv) =	10.4031
10	Correlation Coefficient (rhv) =	0.9979

Set Points During Sampling Period

11	SFR =	38.30
12	SSP =	38.2

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 8:30**	**Stop Date/Time**	**16**	**5/27/15 9:10**	**Elapsed Time (min)**	**37,480**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**41**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1132674	4.25E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

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A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A12	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714207	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/27/15

Average Conditions During Sampling Period

Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.3421
9	Intercept (bhv) =	10.4426
10	Correlation Coefficient (rhv) =	0.9995

Set Points During Sampling Period

11	SFR =	38.50
12	SSP =	38.5

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 10:11**	**Stop Date/Time**	**16**	**5/27/15 10:36**	**Elapsed Time (min)**	**37,465**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**41**	**Avg Flow Rate (cfm)**	**40**

	l cfm	l ml/min	ml
15	40	1132674	4.24E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A13	Operator (Filter Loading): 3	A. Luna
Sampler Model:	PM2.5	Date: 4	5/1/15
MFC Serial No. 2	714208	Operator (Filter Collection): 5	B. Abernathy/M. Spurgeon
		Date: 6	5/27/15

Average Conditions During Sampling Period

Avg Monthly Pressure (in. Hg)	29	Corrected Avg Monthly Pressure (mm Hg)	736.6
Avg Monthly Temp (deg. C) 7	21	Corrected Avg Monthly Temperature (deg. K)	294.16

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.3896
9	Intercept (bhv) =	9.1088
10	Correlation Coefficient (rhv) =	0.9974

Set Points During Sampling Period

11	SFR =	38.87
12	SSP =	39.3

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/1/15 13:00**	**Stop Date/Time**	**16**	**5/27/15 11:17**	**Elapsed Time (min)**	**37,337**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**39**	**Avg Flow Rate (cfm)**	**39**

	l cfm	l ml/min	ml
15	39	1104357	4.12E+10

Is 15 within 10% of 14 (SSP set at start of sampling period)? (Y) N

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A1	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	713282	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/24/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.81	Corrected Avg Monthly Temperature (deg. K)	296.97

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3273
9	Intercept (bhv) =	12.3732
10	Correlation Coefficient (rhv) =	-0.9934

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	40.3

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/27/15 16:12**	**Stop Date/Time**	**16**	**6/24/15 12:15**	**Elapsed Time (min)**	**40,083**
Flow Rate (cfm)	**14**	**40**	**Flow Rate (cfm)**	**15**	**39**	**Avg Flow Rate (cfm)**	**40**

I cfm	I ml/min	I total ml
40	1,118,515	44,833,454,400

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A2	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/28/15
MFC Serial No. 2	714197	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/24/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.83	Corrected Avg Monthly Temperature (deg. K)	296.99

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3532
9	Intercept (bhv) =	10.4747
10	Correlation Coefficient (rhv) =	0.9962

Set Points During Sampling Period		
11	SFR =	37.32
12	SSP =	38.5

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**5/28/15 8:30**	**Stop Date/Time**	16	**6/24/15 9:40**	**Elapsed Time (min)**	**38,950**
Flow Rate (cfm)	14	**39**	**Flow Rate (cfm)**	15	**39**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,104,357	43,014,705,800

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A3	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/28/15
MFC Serial No. 2	714198	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/24/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.83	Corrected Avg Monthly Temperature (deg. K)	296.99

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3498
9	Intercept (bhv) =	10.7009
10	Correlation Coefficient (rhv) =	0.9977

Set Points During Sampling Period		
11	SFR =	37.32
12	SSP =	38.7

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/28/15 9:06**	**Stop Date/Time**	**16**	**6/24/15 10:40**	**Elapsed Time (min)**	**38,974**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**39**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,104,357	43,041,210,400

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A4	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/28/15
MFC Serial No. 2	714199	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/24/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.83	Corrected Avg Monthly Temperature (deg. K)	296.99

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3539
9	Intercept (bhv) =	11.4688
10	Correlation Coefficient (rhv) =	0.9938

Set Points During Sampling Period		
11	SFR =	37.32
12	SSP =	40.2

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**5/28/15 9:30**	**Stop Date/Time**	16	**6/24/15 11:40**	**Elapsed Time (min)**	**39,010**
Flow Rate (cfm)	14	**40**	**Flow Rate (cfm)**	15	**40**	**Avg Flow Rate (cfm)**	**40**

I cfm	I ml/min	I total ml
40	1,132,674	44,185,607,400

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A5	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	714200	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.77	Corrected Avg Monthly Temperature (deg. K)	296.93

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3661
9	Intercept (bhv) =	10.2935
10	Correlation Coefficient (rhv) =	0.9975

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	39.0

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/27/15 15:08**	**Stop Date/Time**	**16**	**6/23/15 10:30**	**Elapsed Time (min)**	**38,602**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**39**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,104,357	42,630,389,600

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection: 0.0 ppm

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A6	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	714201	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/24/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.81	Corrected Avg Monthly Temperature (deg. K)	296.97

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3685
9	Intercept (bhv) =	10.2801
10	Correlation Coefficient (rhv) =	0.9981

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	39.1

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/27/15 16:50**	**Stop Date/Time**	**16**	**6/24/15 13:00**	**Elapsed Time (min)**	**40,090**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**38**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,090,199	43,706,061,600

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecilia Greene

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A7	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	714202	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.77	Corrected Avg Monthly Temperature (deg. K)	296.93

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3644
9	Intercept (bhv) =	10.1895
10	Correlation Coefficient (rhv) =	-0.9905

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	37.5

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**5/27/15 12:00**	**Stop Date/Time**	16	**6/23/15 9:38**	**Elapsed Time (min)**	**38,738**
Flow Rate (cfm)	14	**38**	**Flow Rate (cfm)**	15	**37**	**Avg Flow Rate (cfm)**	**37**

I cfm	I ml/min	I total ml
37	1,054,803	40,860,940,600

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A8	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	714203	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.77	Corrected Avg Monthly Temperature (deg. K)	296.93

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3918
9	Intercept (bhv) =	8.4611
10	Correlation Coefficient (rhv) =	-0.9977

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	37.2

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/27/15 15:38**	**Stop Date/Time**	**16**	**6/23/15 11:25**	**Elapsed Time (min)**	**38,627**
Flow Rate (cfm)	**14**	**37**	**Flow Rate (cfm)**	**15**	**39**	**Avg Flow Rate (cfm)**	**38**

I cfm	I ml/min	I total ml
38	1,076,040	41,564,203,700

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection: 0.0 ppm

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A9	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/28/15
MFC Serial No. 2	714204	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.76	Corrected Avg Monthly Pressure (mm Hg)	781.304
Avg Monthly Temp (deg. C) 7	24.80	Corrected Avg Monthly Temperature (deg. K)	297.96

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.4928
9	Intercept (bhv) =	4.2455
10	Correlation Coefficient (rhv) =	0.9958

Set Points During Sampling Period		
11	SFR =	36.46
12	SSP =	36.6

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**6/2/15 10:34**	**Stop Date/Time**	16	**6/23/15 13:26**	**Elapsed Time (min)**	**30,412**
Flow Rate (cfm)	14	**37**	**Flow Rate (cfm)**	15	**37**	**Avg Flow Rate (cfm)**	**37**

I cfm	I ml/min	I total ml
37	1,047,723	31,863,361,700

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A10	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/28/15
MFC Serial No. 2	714205	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.79	Corrected Avg Monthly Temperature (deg. K)	296.95

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3752
9	Intercept (bhv) =	9.8568
10	Correlation Coefficient (rhv) =	0.9902

Set Points During Sampling Period		
11	SFR =	37.32
12	SSP =	38.8

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**5/28/15 11:06**	**Stop Date/Time**	16	**6/23/15 14:10**	**Elapsed Time (min)**	**37,624**
Flow Rate (cfm)	14	**39**	**Flow Rate (cfm)**	15	**37**	**Avg Flow Rate (cfm)**	**38**

I cfm	I ml/min	I total ml
38	1,076,040	40,484,935,400

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection: 0.0 ppm

Reviewed by: Cecilia Greene

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PM2.5 FIELD DATA FORM

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A11	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	714206	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.77	Corrected Avg Monthly Temperature (deg. K)	296.93

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3385
9	Intercept (bhv) =	10.4031
10	Correlation Coefficient (rhv) =	0.9979

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	37.5

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/27/15 9:10**	**Stop Date/Time**	**16**	**6/23/15 8:59**	**Elapsed Time (min)**	**38,869**
Flow Rate (cfm)	**14**	**38**	**Flow Rate (cfm)**	**15**	**40**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,097,278	42,650,091,000

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecilia Greene

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A12	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	714207	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.77	Corrected Avg Monthly Temperature (deg. K)	296.93

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3421
9	Intercept (bhv) =	10.4426
10	Correlation Coefficient (rhv) =	0.9995

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	37.8

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**5/27/15 10:36**	**Stop Date/Time**	**16**	**6/23/15 14:50**	**Elapsed Time (min)**	**39,134**
Flow Rate (cfm)	**14**	**38**	**Flow Rate (cfm)**	**15**	**40**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,104,357	43,217,907,500

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecilia Greene

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A13	Operator (Filter Loading): 5	B. Abernathy/M. Spurgeon
Sampler Model:	PM2.5	Date: 6	5/27/15
MFC Serial No. 2	714208	Operator (Filter Collection): 5	M. Spurgeon
		Date: 6	6/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.77	Corrected Avg Monthly Pressure (mm Hg)	781.558
Avg Monthly Temp (deg. C) 7	23.77	Corrected Avg Monthly Temperature (deg. K)	296.93

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3896
9	Intercept (bhv) =	9.1088
10	Correlation Coefficient (rhv) =	0.9974

Set Points During Sampling Period		
11	SFR =	37.14
12	SSP =	38.5

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**5/27/15 11:17**	**Stop Date/Time**	16	**6/23/15 15:30**	**Elapsed Time (min)**	**39,133**
Flow Rate (cfm)	14	**39**	**Flow Rate (cfm)**	15	**41**	**Avg Flow Rate (cfm)**	**40**

I cfm	I ml/min	I total ml
40	1,125,595	44,047,895,500

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection: 0.0 ppm

Reviewed by: Cecilia Greene

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A1	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/24/15
MFC Serial No. 2	713282	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	24.97	Corrected Avg Monthly Temperature (deg. K)	298.13

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3273
9	Intercept (bhv) =	12.3732
10	Correlation Coefficient (rhv) =	-0.9934

Set Points During Sampling Period		
11	SFR =	38.45
12	SSP =	40.0

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**6/24/15 12:15**	**Stop Date/Time**	16	**7/22/15 14:19**	**Elapsed Time (min)**	**40,444**
Flow Rate (cfm)	14	**39**	**Flow Rate (cfm)**	15	**38**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,090,199	44,091,991,900

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A2	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/24/15
MFC Serial No. 2	714197	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3532
9	Intercept (bhv) =	10.4747
10	Correlation Coefficient (rhv) =	0.9962

Set Points During Sampling Period		
11	SFR =	38.45
12	SSP =	38.6

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	6/24/15 9:40	Stop Date/Time	16	7/23/15 7:00	Elapsed Time (min)	41,600
Flow Rate (cfm)	14	39	Flow Rate (cfm)	15	MFC off *	Avg Flow Rate (cfm)	39

*** Area around station flooded, GFCI tripped. Circuit turned off, air filter retrieved but no new filter installed. Station will be relocated.**

I cfm	I ml/min	I total ml
39	1,104,357	43,069,900

Is the collection flow rate within 10% of the loading flow rate? **Y** **N** **(N/A)**

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

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Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A3	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/24/15
MFC Serial No. 2	714198	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3498
9	Intercept (bhv) =	10.7009
10	Correlation Coefficient (rhv) =	0.9977

Set Points During Sampling Period		
11	SFR =	38.45
12	SSP =	38.7

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**6/24/15 10:40**	**Stop Date/Time**	**16**	**7/23/15 7:27**	**Elapsed Time (min)**	**41,567**
Flow Rate (cfm)	**14**	**39**	**Flow Rate (cfm)**	**15**	**40**	**Avg Flow Rate (cfm)**	**40**

I cfm	I ml/min	I total ml
40	1,118,515	46,493,331,300

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection: 0.0 ppm

Reviewed by: Cecila Greene

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A4	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/24/15
MFC Serial No. 2	714199	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3539
9	Intercept (bhv) =	11.4688
10	Correlation Coefficient (rhv) =	0.9938

Set Points During Sampling Period		
11	SFR =	38.45
12	SSP =	40.2

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**6/24/15 11:40**	**Stop Date/Time**	16	**7/23/15 8:16**	**Elapsed Time (min)**	**41,556**
Flow Rate (cfm)	14	**40**	**Flow Rate (cfm)**	15	**40**	**Avg Flow Rate (cfm)**	**40**

I cfm	I ml/min	I total ml
40	1,132,674	47,069,395,100

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

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A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A5	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714200	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3661
9	Intercept (bhv) =	10.2935
10	Correlation Coefficient (rhv) =	0.9975

Set Points During Sampling Period		
11	SFR =	38.51
12	SSP =	39.1

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**6/23/15 10:30**	**Stop Date/Time**	16	**7/22/15 10:58**	**Elapsed Time (min)**	**41,788**
Flow Rate (cfm)	14	**39**	**Flow Rate (cfm)**	15	**34**	**Avg Flow Rate (cfm)**	**37**

I cfm	I ml/min	I total ml
37	1,033,565	43,190,610,100

Is the collection flow rate within 10% of the loading flow rate? Y (N)

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

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Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A6	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/24/15
MFC Serial No. 2	714201	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	24.97	Corrected Avg Monthly Temperature (deg. K)	298.13

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3685
9	Intercept (bhv) =	10.2801
10	Correlation Coefficient (rhv) =	0.9981

Set Points During Sampling Period		
11	SFR =	38.45
12	SSP =	39.2

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**6/24/15 13:00**	**Stop Date/Time**	**16**	**7/22/15 13:54**	**Elapsed Time (min)**	**40,374**
Flow Rate (cfm)	**14**	**38**	**Flow Rate (cfm)**	**15**	**40**	**Avg Flow Rate (cfm)**	**39**

I cfm	I ml/min	I total ml
39	1,104,357	44,587,310,200

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A7	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714202	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3644
9	Intercept (bhv) =	10.1895
10	Correlation Coefficient (rhv) =	-0.9905

Set Points During Sampling Period		
11	SFR =	38.51
12	SSP =	38.8

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**6/23/15 9:38**	**Stop Date/Time**	**16**	**7/22/15 10:30**	**Elapsed Time (min)**	**41,812**
Flow Rate (cfm)	**14**	**37**	**Flow Rate (cfm)**	**15**	**36**	**Avg Flow Rate (cfm)**	**37**

I cfm	I ml/min	I total ml
37	1,033,565	43,215,415,600

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A8	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714203	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)

Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.3918
9	Intercept (bhv) =	8.4611
10	Correlation Coefficient (rhv) =	-0.9977

Set Points During Sampling Period

11	SFR =	38.51
12	SSP =	37.7

Start of Current Sampling (loading)		End of Current Sampling (collection)			
Start Date/Time 13	6/23/15 11:25	Stop Date/Time 16	7/22/15 11:18	Elapsed Time (min)	41,753
Flow Rate (cfm) 14	39	Flow Rate (cfm) 15	35	Avg Flow Rate (cfm)	37

I cfm	I ml/min	I total ml
37	1,047,723	43,745,592,000

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection: 0.0 ppm

Reviewed by: Cecila Greene

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A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A9	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714204	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/23/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.05	Corrected Avg Monthly Temperature (deg. K)	298.21

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.4928
9	Intercept (bhv) =	4.2455
10	Correlation Coefficient (rhv) =	0.9958

Set Points During Sampling Period		
11	SFR =	38.51
12	SSP =	37.2

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**6/23/15 13:26**	**Stop Date/Time**	**16**	**7/23/15 8:37**	**Elapsed Time (min)**	**42,911**
Flow Rate (cfm)	**14**	**37**	**Flow Rate (cfm)**	**15**	**36**	**Avg Flow Rate (cfm)**	**37**

I cfm	I ml/min	I total ml
37	1,033,565	44,351,303,500

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A10	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714205	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3752
9	Intercept (bhv) =	9.8568
10	Correlation Coefficient (rhv) =	0.9902

Set Points During Sampling Period		
11	SFR =	38.51
12	SSP =	38.9

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	**13**	**6/23/15 14:10**	**Stop Date/Time**	**16**	**7/22/15 10:09**	**Elapsed Time (min)**	**41,519**
Flow Rate (cfm)	**14**	**37**	**Flow Rate (cfm)**	**15**	**35**	**Avg Flow Rate (cfm)**	**36**

I cfm	I ml/min	I total ml
36	1,019,406	42,324,737,500

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

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PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A11	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714206	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)			
Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)		
8	Slope (mhv) =	0.3385
9	Intercept (bhv) =	10.4031
10	Correlation Coefficient (rhv) =	0.9979

Set Points During Sampling Period		
11	SFR =	38.51
12	SSP =	37.5

Start of Current Sampling (loading)			End of Current Sampling (collection)				
Start Date/Time	13	**6/23/15 8:59**	**Stop Date/Time**	16	**7/22/15 7:25**	**Elapsed Time (min)**	**41,666**
Flow Rate (cfm)	14	**40**	**Flow Rate (cfm)**	15	**35**	**Avg Flow Rate (cfm)**	**38**

I cfm	I ml/min	I total ml
38	1,061,882	44,244,364,900

Is the collection flow rate within 10% of the loading flow rate? Y (N)

H_2S reading at collection:	0.0 ppm

Reviewed by: Cecila Greene

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A12	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714207	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)

Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.3421
9	Intercept (bhv) =	10.4426
10	Correlation Coefficient (rhv) =	0.9995

Set Points During Sampling Period

11	SFR =	38.51
12	SSP =	37.8

Start of Current Sampling (loading)		End of Current Sampling (collection)			
Start Date/Time 13	6/23/15 14:50	Stop Date/Time 16	7/22/15 8:12	Elapsed Time (min)	41,362
Flow Rate (cfm) 14	40	Flow Rate (cfm) 15	40	Avg Flow Rate (cfm)	40

I cfm	I ml/min	I total ml
40	1,132,674	46,849,656,400

Is the collection flow rate within 10% of the loading flow rate? (Y) N

H_2S reading at collection: 0.0 ppm

Reviewed by: Cecila Greene

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Consulting
A USA Environment, L.P. Company

PM2.5 FIELD DATA FORM

Auxier & Associates, Inc.
9821 Cogdill Road, Suite 1
Knoxville, TN 37932
(865) 675-3669

Project Name:	ENG-WES	Filter No.	TFAQ102
Station Location: 1	A13	Operator (Filter Loading): 5	M. Spurgeon
Sampler Model:	PM2.5	Date: 6	6/23/15
MFC Serial No. 2	714208	Operator (Filter Collection): 5	B. Abernathy / A. Luna
		Date: 6	7/22/15

Average Conditions During Sampling Period (from met tower data)

Avg Monthly Pressure (in. Hg)	30.75	Corrected Avg Monthly Pressure (mm Hg)	781.05
Avg Monthly Temp (deg. C) 7	25.01	Corrected Avg Monthly Temperature (deg. K)	298.17

Hi Vol Calibration Curve Relationships (station-specific)

8	Slope (mhv) =	0.3896
9	Intercept (bhv) =	9.1088
10	Correlation Coefficient (rhv) =	0.9974

Set Points During Sampling Period

11	SFR =	38.51
12	SSP =	38.6

Start of Current Sampling (loading)		End of Current Sampling (collection)			
Start Date/Time	13 6/23/15 15:30	Stop Date/Time	16 7/22/15 8:32	Elapsed Time (min)	41,342
Flow Rate (cfm)	14 41	Flow Rate (cfm)	15 35	Avg Flow Rate (cfm)	38

I cfm	I ml/min	I total ml
38	1,076,040	44,485,652,700

Is the collection flow rate within 10% of the loading flow rate? Y (N)

H_2S reading at collection: 0.0 ppm

Reviewed by: Cecila Greene

APPENDIX J

CHAINS OF CUSTODY

Chain of Custody Record

№ 1604

Eberline Services
601 Scarboro Road
Oak Ridge, TN 37830
(865) 481-0683 Phone • (865) 483-4621 Fax

EBERLINE SERVICES

REC'D MAY 29 2015

Page 1 of 1

15-05134

Purchase Order #:

Project Name: Westlake Landfill	Project Number:
Send Report To: EMSI / Auxier & Assoc.	Sampler (Print Name): BILL ABERNATHY 1
Address: Environmental Management Support, Inc. 7220 W. Jefferson Ave., Suite 406 Lakewood, CO 80235	Sampler (Print Name): MIKE SPURGEON
Auxier & Associates, Inc. 9821 Cogdill Road, Suite 1 Knoxville, TN 37932	Shipment Method: FedEx
	Airbill Number: 7737 0431 9290 2
Phone: EMSI (303) 940-3426 / A & A (865) 675-3669	Laboratory Receiving: 601 Scarboro Road Oak Ridge, TN 37830
Fax: EMSI (303) 940-3422 / A & A (865) 675-3677	(865) 481-0683

Field Sample ID		3 Sample Date	4 Sample Time	Sample Matrix	Number of Containers	Analysis Requested: Gross alpha	Gross beta	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)
ENGWESA001	4	5/27/15	1612	air filter	1	X	X	lab : select one of the filters at random (not the field blank) and split it for a field duplicate.	
ENGWESA002	5	5/28/15	0830	air filter	1	X	X		
ENGWESA003	6	5/28/15	0906	air filter	1	X	X		
ENGWESA004	7	5/28/15	0930	air filter	1	X	X		
ENGWESA005	8	5/27/15	1508	air filter	1	X	X		
ENGWESA006	9	5/27/15	1650	air filter	1	X	X		
ENGWESA007	10	5/27/15	1200	air filter	1	X	X		
ENGWESA008	11	5/27/15	1538	air filter	1	X	X		
ENGWESA009	12	5/28/15	1042	air filter	1	X	X		
ENGWESA010	13	5/28/15	1106	air filter	1	X	X		
ENGWESA011	14	5/27/15	0910	air filter	1	X	X		
ENGWESA012	15	5/27/15	1036	air filter	1	X	X		
ENGWESA013	16	5/27/15	1117	air filter	1	X	X		
Field Blank	17	5/28/15	0830	air filter	1	X	X		

Relinquished by: (Signature) 5	Received by: (Signature) 6 FEDEX 7737 0431 9290	Date: 7 5/28/15	Time: 8 1430
Relinquished by: (Signature) Fed Ex	Received by: (Signature) Kristen Coulston	Date: 5/29/15	Time: 930
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Sample Custodian Remarks (Completed By Laboratory):

QA/QC Level		Turnaround		Sample Receipt	
Level IV	☒			Total # Containers Received?	
Level I	☐	Routine	☒	COC Seals Present?	
Level II	☐	24 Hour	☐	COC Seals Intact?	
Level III	☐	1 Week	☐	Received Containers Intact?	
Other	☐	Other		Temperature?	

Chain of Custody Record

№ 1604

Eberline Services
601 Scarboro Road
Oak Ridge, TN 37830
(865) 481-0683 Phone • (865) 483-4621 Fax

EBERLINE SERVICES

Project Name: Westlake Landfill	Project Number:
Send Report To: EMSI / Auxier & Assoc.	Sampler (Print Name): Mike Spurgeon
Address: Environmental Management Support, Inc. 7220 W. Jefferson Ave., Suite 406 Lakewood, CO 80235	Sampler (Print Name):
Auxier & Associates, Inc. 9821 Cogdill Road, Suite 1 Knoxville, TN 37932	Shipment Method: FedEx
Phone: EMSI (303) 940-3426 / A & A (865) 675-3669	Airbill Number: 8070 7641 1021 2
Fax: EMSI (303) 940-3422 / A & A (865) 675-3677	Laboratory Receiving: 601 Scarboro Road Oak Ridge, TN 37830 (865) 481-0683

REC'D JUN 30 2015

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15-06117

Purchase Order #:

	Field Sample ID	3 Sample Date	4 Sample Time	Sample Matrix	Number of Containers	Gross alpha	Gross beta	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)
4	ENGWESA001	6/24/15	1215	air filter	1	X	X		
5	ENGWESA002	6/24/15	0940	air filter	1	X	X		
6	ENGWESA003	6/24/15	1040	air filter	1	X	X		
7	ENGWESA004	6/24/15	1140	air filter	1	X	X		
8	ENGWESA005	6/23/15	1030	air filter	1	X	X		
9	ENGWESA006	6/24/15	1300	air filter	1	X	X		
10	ENGWESA007	6/23/15	0938	air filter	1	X	X		
11	ENGWESA008	6/23/15	1125	air filter	1	X	X		
12	ENGWESA009	6/23/15	1326	air filter	1	X	X		
13	ENGWESA010	6/23/15	1410	air filter	1	X	X		
14	ENGWESA011	6/23/15	0859	air filter	1	X	X		
15	ENGWESA012	6/23/15	1450	air filter	1	X	X		
16	ENGWESA013	6/23/15	1530	air filter	1	X	X		
17	Field Blank	6/23/15	0830	air filter	1	X	X		

lab: select one of the filters at random (not the field blank) and split it for a field duplicate.

Relinquished by: (Signature) 5	Received by: (Signature) 6	Date: 7	Time: 8
	FEDEX 8070 7614 1021	6/24/15	1600
Relinquished by: (Signature) Fed Ex	Received by: (Signature) Kristen Conlater	Date: 6/30/15	Time: 1200
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Sample Custodian Remarks (Completed By Laboratory):

QA/QC Level	Turnaround	Sample Receipt	
Level IV ☒		Total # Containers Received?	
Level I ☐	Routine ☒	COC Seals Present?	
Level II ☐	24 Hour ☐	COC Seals Intact?	
Level III ☐	1 Week ☐	Received Containers Intact?	
Other ☐	Other ____	Temperature?	

Chain of Custody Record

№ 1604

Eberline Services
601 Scarboro Road
Oak Ridge, TN 37830
(865) 481-0683 Phone • (865) 483-4621 Fax

EBERLINE SERVICES

Project Name: Westlake Landfill	Project Number:
Send Report To: EMSI / Auxier & Assoc.	Sampler (Print Name): BILL ABERNATHY 1
Address: Environmental Management Support, Inc. 7220 W. Jefferson Ave., Suite 406	Sampler (Print Name): ALEX LUNA
Lakewood, CO 80235 Auxier & Associates, Inc.	Shipment Method: FedEx
9821 Cogdill Road, Suite 1 Knoxville, TN 37932	Airbill Number: 8045 4989 6467 2
Phone: EMSI (303) 940-3426 / A & A (865) 675-3669	Laboratory Receiving: 601 Scarboro Road Oak Ridge, TN 37830
Fax: EMSI (303) 940-3422 / A & A (865) 675-3677	(865) 481-0683

REC'D JUL 28 2015

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Purchase Order #: 15-07168

Field Sample ID		Sample 3 Date	Sample 4 Time	Sample Matrix	Number of Containers	Gross alpha	Gross beta	Comments, Special Instructions, etc.	Lab Sample ID (to be completed by lab)
ENGWESA001	4	7/22/15	1420	air filter	1	X	X	lab : select one of the filters at random (not the field blank) and split it for a field duplicate.	
ENGWESA002	5	7/24/15	1400	air filter	1	X	X		
ENGWESA003	6	7/23/15	0729	air filter	1	X	X		
ENGWESA004	7	7/23/15	0819	air filter	1	X	X		
ENGWESA005	8	7/22/15	1100	air filter	1	X	X		
ENGWESA006	9	7/22/15	1355	air filter	1	X	X		
ENGWESA007	10	7/22/15	1032	air filter	1	X	X		
ENGWESA008	11	7/22/15	1120	air filter	1	X	X		
ENGWESA009	12	7/23/15	0839	air filter	1	X	X		
ENGWESA010	13	7/22/15	1010	air filter	1	X	X		
ENGWESA011	14	7/22/15	0732	air filter	1	X	X		
ENGWESA012	15	7/22/15	0820	air filter	1	X	X		
ENGWESA013	16	7/22/15	0835	air filter	1	X	X		
Field Blank	17	7/22/15	1355	air filter	1	X	X		

Relinquished by: (Signature) 5	Received by: (Signature) 6 Kirsten Coulston	Date: 7 7/28/15	Time: 8 1115
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

Sample Custodian Remarks (Completed By Laboratory):

QA/QC Level		Turnaround		Sample Receipt	
Level IV	☒			Total # Containers Received?	
Level I	☐	Routine	☒	COC Seals Present?	
Level II	☐	24 Hour	☐	COC Seals Intact?	
Level III	☐	1 Week	☐	Received Containers Intact?	
Other	☐	Other ____		Temperature?	

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

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180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Auxier & Associates, Inc. / Environ. Management Support, Inc.

Collected by: (Print and Sign) 1 WILLIAM ABERNATHY cgreene@auxier.com

Company: A & A / EMSI Email: paulrosasco@emsidenver.com

Address: A & A - 9821 Cogdill Rd, Suite 1 Knoxville TN 37932
EMSI - 7220 W. Jefferson Ave, Ste 406 City Lakewood State CO Zip 80235

Phone: A & A - (865) 675-3669 EMSI - (303) 940-3426 Fax: A & A - (865) 675-3677 EMSI - (303) 940-3422

Project Info:
P.O. #
Project #
Project Name: Westlake Landfill

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Radiello130 # ~~Can #~~ 2	Date 3 of Collection	Time 4 of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	ENGWESA001	513NR	5/13/15	1105	See Appendix F sheet	na	na		
	ENGWESA005	514NR	5/13/15	1135	"	na	na		
	ENGWESA007	515NR	5/13/15	1125	"	na	na		
	ENGWESA008	516NR	5/13/15	1205	"	na	na		
	ENGWESA011	511NR	5/13/15	1145	"	na	na		
	Duplicate	512NR	5/13/15	1145	"	na	na		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
5	5/13/15 1440	6 FEDEX 7735 9065 4058	5/13/15 1500

Notes:
7
1 – 5/1/15 1230
5 – 5/1/15 1130
7 – 5/1/15 1115
8 – 5/1/15 1430
11 – 5/1/15 0750
DUP – 5/1/15 0750

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact? Yes No None	Work Order #

Form 1293 rev.11

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

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Project Manager: Auxier & Associates, Inc. / Environ. Management Support, Inc.

Collected by: (Print and Sign) 1 BILL ABERNATHY

Company: A & A / EMSI Email: cgreene@auxier.com, paulrosasco@emsidenver.com

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Project Info:
P.O. #
Project #
Project Name: Westlake Landfill

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Radiello130 # ~~Can #~~ 2	Date 3 of Collection	Time 4 of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	ENGWESA001	877NO	5/27/15	1633	See Appendix F sheet	na	na		
	ENGWESA005	531NR	5/27/15	1514	"	na	na		
	ENGWESA007	530NR	5/27/15	1232	"	na	na		
	ENGWESA008	882NO	5/27/15	1600	"	na	na		
	ENGWESA011	881NO	5/27/15	1030	"	na	na		
	Duplicate	880NO	5/27/15	1600	"	na	na		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
5	5/28/15 1320	6 FEDEX 773703713458	5/28/15 1430
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:
7
1 - 5/13/15 1105
5 - 5/13/15 1135
7 - 5/13/15 1125
8 - 5/13/15 1205
11 - 5/13/15 1145
DUP - 5/13/15 1205

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact? Yes No None	Work Order #

Form 1293 rev.11

Air Toxics LTD.

CHAIN-OF-CUSTODY RECORD

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Auxier & Associates, Inc. / Environ. Management Support, Inc.

Collected by: (Print and Sign) 1 Michael A Spurgeon / [signature] cgreene@auxier.com

Company: A & A / EMSI Email: paulrosasco@emsidenver.com

Address: A & A - 9821 Cogdill Rd, Suite 1 Knoxville TN 37932
EMSI - 7220 W. Jefferson Ave, Ste 406 City Lakewood State CO Zip 80235

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Project Info:
P.O. #
Project #
Project Name: Westlake Landfill

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Radiello130 # 2 ~~Can #~~	Date 3 of Collection	Time 4 of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	ENGWESA001	519NR	6-10-15	1101	See Appendix F sheet	na	na		
	ENGWESA005	518NR	6-10-15	1013	"	na	na		
	ENGWESA007	520NR	6-10-15	1003	"	na	na		
	ENGWESA008	521NR	6-10-15	1040	"	na	na		
	ENGWESA011	517NR	6-10-15	1123	"	na	na		
	Duplicate	522NR	6-10-15	1108	"	na	na		

Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
5 [signature] 6-10-15 / 1133	6 8070 7693 8067
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time
Relinquished by: (signature) Date/Time	Received by: (signature) Date/Time

Notes:
7
1 - 5/27/15 - 1633
5 - 5/27/15 - 1514
7 - 5/27/15 - 1232
8 - 5/27/15 - 1600
11 - 5/27/15 - 1030
DUP - 5/27/15 - 1633

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact? Yes No None	Work Order #

Form 1293 rev.11

Air Toxics LTD.

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Auxier & Associates, Inc. / Environ. Management Support, Inc.

Collected by: (Print and Sign) 1

Company: A & A / EMSI Email: cgreene@auxier.com, paulrosasco@emsidenver.com

Address: A & A - 9821 Cogdill Rd, Suite 1 Knoxville TN 37932; EMSI - 7220 W. Jefferson Ave, Ste 406 City Lakewood State CO Zip 80235

Phone: A & A - (865) 675-3669 EMSI - (303) 940-3426 Fax: A & A - (865) 675-3677 EMSI - (303) 940-3422

Project Info:
P.O. #
Project #
Project Name: Westlake Landfill

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Radiello130 # 2 ~~Can #~~	Date 3 of Collection	Time 4 of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	ENGWESA001	528 NR	6-24-15	1200	See Appendix F sheet	na	na		
	ENGWESA005	526 NR	6-23-15	1050	"	na	na		
	ENGWESA007	529 NR	6-23-15	1005	"	na	na		
	ENGWESA008	523 NR	6-23-15	1145	"	na	na		
	ENGWESA011	527 NR	6-23-15	1200	"	na	na		
	Duplicate	524 NR	6-23-15	1050	"	na	na		

Relinquished by: (signature) 5	Date/Time	Received by: (signature) 6	Date/Time
	6-25-15/1000	8070 7693 8076	
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: 7
1 – 6/10/15 - 1105
5 – 6/10/15 - 1020
7 – 6/10/15 – 1009
8 – 6/10/15 – 1045
11 – 6/10/15 – 1125
DUP – 6/10/15 – 1020

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact? Yes No None	Work Order #

Form 1293 rev.11

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Auxier & Associates, Inc. / Environ. Management Support, Inc.

Collected by: (Print and Sign) 1 WILLIAM J. ABERNATHY

Company: A & A / EMSI — Email: cgreene@auxier.com, paulrosasco@emsidenver.com

Address: A & A - 9821 Cogdill Rd, Suite 1 — Knoxville — TN — 37932
EMSI - 7220 W. Jefferson Ave, Ste 406 — City: Lakewood — State: CO — Zip: 80235

Phone: A & A - (865) 675-3669 EMSI - (303) 940-3426 Fax: A & A - (865) 675-3677 EMSI - (303) 940-3422

Project Info:
P.O. #
Project #
Project Name: Westlake Landfill

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Radiello130 # ~~Can #~~ 2	Date 3 of Collection	Time 4 of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	ENGWESA001	483NR	7/8/15	1533	See Appendix F sheet	na	na		
	ENGWESA005	488NR	7/8/15	1513	"	na	na		
	ENGWESA007	487NR	7/8/15	1457	"	na	na		
	ENGWESA008	489NR	7/8/15	1523	"	na	na		
	ENGWESA011	486NR	7/8/15	1444	"	na	na		
	Duplicate	485NR	7/8/15	1444	"	na	na		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
5	7/9/15 1230	6 FEDEX 7740 0980 3547	

Notes:
7
1 - 6/24/15 - 1150
5 - 6/23/15 - 1050
7 - 6/23/15 - 1005
8 - 6/23/15 - 1148
11 - 6/23/15 - 1200
DUP - 6/23/15 - 1200

Lab Use Only

Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact? Yes No None	Work Order #

Form 1293 rev.11

Air Toxics LTD.

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager: Auxier & Associates, Inc. / Environ. Management Support, Inc.

Collected by: (Print and Sign) 1 BILL ABERNATHY

Company: A & A / EMSI Email: cgreene@auxier.com, paulrosasco@emsidenver.com

Address: A & A - 9821 Cogdill Rd, Suite 1 Knoxville TN 37932
EMSI - 7220 W. Jefferson Ave, Ste 406 City Lakewood State CO Zip 80235

Phone: A & A - (865) 675-3669 EMSI - (303) 940-3426 Fax: A & A - (865) 675-3677 EMSI - (303) 940-3422

Project Info:
P.O. #
Project #
Project Name: Westlake Landfill

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Radiello130 # 2 ~~Can #~~	Date 3 of Collection	Time 4 of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
	ENGWESA001	481NR	7/22/15	1424	See Appendix F sheet	na	na		
	ENGWESA005	478NR	7/22/15	1104	"	na	na		
	ENGWESA007	480NR	7/22/15	1040	"	na	na		
	ENGWESA008	482NR	7/22/15	1129	"	na	na		
	ENGWESA011	484NR	7/22/15	0740	"	na	na		
	Duplicate	479NR	7/22/15	1040	"	na	na		

Relinquished by: (signature) 5	Date/Time	Received by: (signature) 6	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: 7
1 - 7/8/15, 1533
5 - 7/8/15, 1513
7 - 7/8/15, 1457
8 - 7/8/15, 1523
11 - 7/8/15, 1444
DUP - 7/8/15, 1444

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact? Yes No None	Work Order #

Form 1293 rev.11

Auxier & Associates, Inc.
Radiological Health, Safety and Environmental Services
A USA Environment, LP Company

Auxier & Associates, Inc.
9821 Cogdill Road
Suite 1
Knoxville, TN 37932
(423) 675-3669

CHAIN OF CUSTODY FORM

Project Name:	Westlake Landfill	Project Manager:	
Location:	Bridgeton, Missouri	Telephone No.:	865-675-3669
Sample Custodian: 1	BILL ABERNATHY / ALEX LUNA	Fax No.:	865-675-3677

SAMPLE IDENTIFICATION	2 DATE OF COLLECTION	SAMPLE DESCRIPTION	SAMPLE IDENTIFICATION	DATE OF COLLECTION	SAMPLE DESCRIPTION
AMBIENT DETECTOR 1	7/23/15	TLD	AMBIENT DETECTOR 13	7/23/15	TLD
AMBIENT DETECTOR 2	7/24/15	TLD	Duplicate #11	7/23/15	TLD
AMBIENT DETECTOR 3	7/23/15	TLD			
AMBIENT DETECTOR 4	7/23/15	TLD			
AMBIENT DETECTOR 5	7/23/15	TLD			
AMBIENT DETECTOR 6	7/23/15	TLD			
AMBIENT DETECTOR 7	7/23/15	TLD			
AMBIENT DETECTOR 8	7/23/15	TLD			
AMBIENT DETECTOR 9	7/23/15	TLD			
AMBIENT DETECTOR 10	7/23/15	TLD			
AMBIENT DETECTOR 11	7/23/15	TLD			
AMBIENT DETECTOR 12	7/23/15	TLD			

Relinquished By: 3		4 Received In Good Condition By:	Time:	Date:
Method Of Shipment: FedEx 804549896489		5		
Relinquished By:		Received In Good Condition By:	Time:	Date:
Method Of Shipment:				

FedEx

13342 LAKEFRONT DR
Earth City, MO 63045

Location:	ALNA
Device ID:	ALNA-POS2
Employee:	76145
Transaction:	860135873322

STANDARD OVERNIGHT

804549896489 1.45 lb (S) 33.70

Scheduled Delivery Date 07/28/2015

Avxier

Shipment subtotal: 33.70

Total Due: 33.70

FedEx Account: 33.70
****7074

M = Weight entered manually
S = Weight read from scale
T = Taxable item

Subject to additional charges. See FedEx Service Guide at fedex.com for details. All merchandise sales final.

Visit us at: fedex.com
Or call 1.800.GoFedEx
1.800.463.3339

July 27, 2015 7:45:18 AM

INSPECTUSA

LONG TERM (Alpha Track) Radon Test Kit INSTRUCTIONS
91 Days - 12 Month Exposure Period

Device 1#: _____

Device 2#: _____

Device 3#: _____

DO NOT OPEN SEALED BAG UNTIL YOU ARE READY TO TEST!

Instructions are provided to you with specific steps that must be followed. InspectUSA, National Safety Products, Accustar Labs, or any of its affiliates, cannot provide any warranty remedy to you for any claims, which arise due to the failure to follow instructions.

1. Check the expiration date on each device. Start your test before the expiration date or results are invalid.
2. When you are ready to start the test, cut or tear open the sealed bag that contains the black device; discard the sorbit (*little cloth looking bag*). As soon as you open the bag the device is "ON" and the test has begun. **Do NOT remove the VOID sticker** or open the black plastic housing or results will be invalid.

Save the bag, this sheet & mailing envelope for returning to lab

3. Write each device number (or place bar code) along with your name, test address, and email address on the **INFORMATION FORM** below. **Write in the test BEGINNING date!** Also indicate the location, floor level & the name of room (IE basement, living room, bedroom etc) where the device is being exposed.

4. **PLACE THE RADON DEVICE.** Device should be placed in the lowest level of the house that is regularly used for 8-10 hours per week. If you are making a follow-up measurement, the US EPA recommends placing a device on each level that is used for living space. Do not test in garage, porch, kitchen, closet, bathroom, furnace room, laundry room, root cellar, crawl space or sump. DO NOT place devices where they will be exposed to high humidity &/or noticeable drafts from open doors, windows, fireplace, heat/air conditioning vents etc. Hang or place each device at least 3 feet from exterior doors or windows & at least 2 feet off the floor. The device may be placed face-up or face-down. If performing a duplicate test, place 2 devices side by side, 4" apart. Leave each device in place & undisturbed for at least 91 days and up to 1 year.

5. **END THE RADON TEST.** Place device back in the bag (or use a zip lock bag), write the test ENDING date on the INFORMATION FORM below **(necessary for analysis). Make sure the INFORMATION FORM is complete and LEGIBLE.**

6. Record the device number(s) for your reference and ability to retrieve results online. Online results are typically available within 14 to 21 days of the lab receiving the device(s). **Get Results at: www.InspectUSA.com/results**

7. Place the device(s) & information form in the mailing package. **Write your return address & seal the mailing package closed.**
Affix proper postage! **Return IMMEDIATELY to: RADON LAB, 11 AWL STREET, MEDWAY, MA 02053**
US Priority Mail with DELIVERY CONFIRMATION is recommended.
Devices must be returned within 8 days of ending the test.
If delivery of your kit is lost or delayed, we will not be responsible for invalid results or for a free replacement kit.

Reports are emailed within 2 weeks after we receive your devices.
You may access your test results on our website **www.InspectUSA.com/results**

InspectUSA *www.InspectUSA.com*

INSPECTUSA ↑ CUT HERE **INFORMATION FORM** CUT HERE ↑

Send Report To:		**Test address:**	
Name:	Cecilia Greene - Auxier & Associates, Inc.	Name:	Westlake Landfill
Address:	9821 Cogdill Road, Suite 1	Address:	13570 St. Charles Rock Road
City, State, Zip:	Knoxville, TN 37932	City, State, Zip:	Bridgeton, MO 63044
eMail address:	cgreene@auxier.com	Tech Certification (if required):	
Check here if devices were placed 4" apart		Check here if this test is a Post Mitigation test	

Notes: 1 BILL ABERNATHY / ALEX LUNA PG 1 OF 5

Device #: 2 *2834139*	Device #: *2834140*	Device #: *2834145*
Floor level:	Floor level:	Floor level:
Name of room: 3 #3	Name of room: #4	Name of room: #9
Date Opened: 4 5/1/15	Date Opened: 5/1/15	Date Opened: 5/1/15
Date Closed: 5 7/23/15	Date Closed: 7/23/15	Date Closed: 7/23/15

Remember to affix proper postage or Post Office will not deliver to the Lab!

InspectUSA 8045 4989 6445 *www.InspectUSA.com*

INSPECTUSA

LONG TERM (Alpha Track) Radon Test Kit INSTRUCTIONS
91 Days - 12 Month Exposure Period

Device 1#: _____

Device 2#: _____

Device 3#: _____

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INSPECTUSA CUT HERE **INFORMATION FORM** CUT HERE

Send Report To:		Test address:	
Name:	Cecilia Greene - Auxier & Associates, Inc.	Name:	Westlake Landfill
Address:	9821 Cogdill Road, Suite 1	Address:	13570 St. Charles Rock Road
City, State, Zip:	Knoxville, TN 37932	City, State, Zip:	Bridgeton, MO 63044
eMail address:	cgreene@auxier.com	Tech Certification (if required):	
Check here if devices were placed 4" apart		Check here if this test is a Post Mitigation test	

Notes: 1 Pg 2 OF 5

Device #: 2 *2834143*	Device #: *2834141*	Device #: *2834144*
Floor level:	Floor level:	Floor level:
Name of room: 3 #7	Name of room: #5	Name of room: #8
Date Opened: 4 5/1/15	Date Opened: 5/1/15	Date Opened: 5/1/15
Date Closed: 5 7/23/15	Date Closed: 7/23/15	Date Closed: 7/23/15

Remember to affix proper postage or Post Office will not deliver to the Lab.

INSPECTUSA

LONG TERM (Alpha Track) Radon Test Kit INSTRUCTIONS
91 Days - 12 Month Exposure Period

Device 1#: _____

Device 2#: _____

Device 3#: _____

DO NOT OPEN SEALED BAG UNTIL YOU ARE READY TO TEST!

Instructions are provided to you with specific steps that must be followed. InspectUSA, National Safety Products, Accustar Labs, or any of its affiliates, cannot provide any warranty remedy to you for any claims, which arise due to the failure to follow instructions.

1. Check the expiration date on each device. Start your test before the expiration date or results are invalid.
2. When you are ready to start the test, cut or tear open the sealed bag that contains the black device; discard the sorbit (*little cloth looking bag*). As soon as you open the bag the device is "ON" and the test has begun. **Do NOT remove the VOID sticker** or open the black plastic housing or results will be invalid.

Save the bag, this sheet & mailing envelope for returning to lab

3. Write each device number (or place bar code) along with your name, test address, and email address on the **INFORMATION FORM** below. **Write in the test BEGINNING date!** Also indicate the location, floor level & the name of room (IE basement, living room, bedroom etc) where the device is being exposed.

4. **PLACE THE RADON DEVICE.** Device should be placed in the lowest level of the house that is regularly used for 8-10 hours per week. If you are making a follow-up measurement, the US EPA recommends placing a device on each level that is used for living space. Do NOT test in garage, porch, kitchen, closet, bathroom, furnace room, laundry room, root cellar, crawl space or sump. DO NOT place devices where they will be exposed to high humidity &/or noticeable drafts from open doors, windows, fireplace, heat/air conditioning vents etc. Hang or place each device at least 3 feet from exterior doors or windows & at least 2 feet off the floor. The device may be placed face-up or face-down. If performing a duplicate test, place 2 devices side by side, 4" apart. Leave each device in place & undisturbed for at least 91 days and up to 1 year.

5. **END THE RADON TEST.** Place device back in the bag (or use a zip lock bag), write the test ENDING date on the INFORMATION FORM below **(necessary for analysis). Make sure the INFORMATION FORM is complete and LEGIBLE.**

6. Record the device number(s) for your reference and ability to retrieve results online. Online results are typically available within 14 to 21 days of the lab receiving the device(s). **Get Results at: www.InspectUSA.com/results**

7. Place the device(s) & information form in the mailing package. **Write your return address & seal the mailing package closed.**

Affix proper postage! **Return IMMEDIATELY to: RADON LAB, 11 AWL STREET, MEDWAY, MA 02053**

US Priority Mail with DELIVERY CONFIRMATION is recommended.

Devices must be returned within 8 days of ending the test.

If delivery of your kit is lost or delayed, we will not be responsible for invalid results or for a free replacement kit.

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City, State, Zip:	Knoxville, TN 37932	City, State, Zip:	Bridgeton, MO 63044
eMail address:	cgreene@auxier.com	Tech Certification (if required):	
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Notes: 1 PG 3 OF 5

Device #: 2	*2834142*	Device #:	*2834137*	Device #:	*2834146*
Floor level:		Floor level:		Floor level:	
Name of room: 3	#6	Name of room:	#1	Name of room:	#10
Date Opened: 4	5/1/15	Date Opened:	5/1/15	Date Opened:	5/1/15
Date Closed: 5	7/23/15	Date Closed:	7/23/15	Date Closed:	7/23/15

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INSPECTUSA ↑ CUT HERE **INFORMATION FORM** CUT HERE ↑

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eMail address:	cgreene@auxier.com	Tech Certification (if required):	
Check here if devices were placed 4" apart		Check here if this test is a Post Mitigation test	

Notes: 1 PG 4 OF 5

Device #: 2	*2834149*	Device #:	*2834148*	Device #:	*2834147*
Floor level:		Floor level:		Floor level:	
Name of room: 3	#13	Name of room:	#12	Name of room:	#11
Date Opened: 4	5/1/15	Date Opened:	5/1/15	Date Opened:	5/1/15
Date Closed: 5	7/23/15	Date Closed:	7/23/15	Date Closed:	7/23/15

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LONG TERM (Alpha Track) Radon Test Kit INSTRUCTIONS
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InspectUSA *www.InspectUSA.com*

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eMail address:	cgreene@auxier.com	Tech Certification (if required):	
Check here if devices were placed 4" apart		Check here if this test is a Post Mitigation test	

Notes: 1 Pg 5 of 5

Device # 2	*2834138*	Device #	Device #
Floor level:		Floor level:	Floor level:
Name of room 3	#2	Name of room:	Name of room:
Date Opened: 4	5/1/15	Date Opened:	Date Opened:
Date Closed: 5	7/24/15	Date Closed:	Date Closed:

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InspectUSA *www.InspectUSA.com*

FedEx

13342 LAKEFRONT DR
Earth City, MO 63045

Location:	ALNA
Device ID:	ALNA-POS2
Employee:	76145
Transaction:	860135873694

STANDARD OVERNIGHT
804549896445 0.75 lb (S) 39.53

Scheduled Delivery Date 07/28/2015

Inspa tUSA

Shipment subtotal: 39.53

Total Due: 39.53

FedEx Account: 39.53
*****7074

M = Weight entered manually
S = Weight read from scale
T = Taxable item

Subject to additional charges. See FedEx Service Guide at fedex.com for details. All merchandise sales final.

Visit us at: fedex.com
Or call 1.800.GoFedEx
1.800.463.3339

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