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**2020 – 4th Quarter Report**  
**Support for Conducting Systems &**  
**Performance Audits of Clean Air Status and**  
**Trends Network (CASTNET) Sites and**  
**National Atmospheric Deposition Program**  
**(NADP) Monitoring Stations - II**

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**Prepared for:**

**U. S. Environmental Protection Agency**

**Prepared by:**



**4577E NW 6<sup>th</sup> St Ext.**  
**Gainesville, FL 32609**

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## List of Acronyms and Abbreviations

% diff	percent difference
A/D	analog to digital converter
ARS	Air Resource Specialists, Inc.
ASTM	American Society for Testing and Materials
BLM-WSO	Bureau of Land Management – Wyoming State Office
CAL	Central Analytical Laboratory
CASTNET	Clean Air Status and Trends Network
CMAQ	Community Multiscale Air Quality
DAS	data acquisition system
deg	degree
DVM	digital voltmeter
ECCC	Environment and Climate Change Canada
EEMS	Environmental, Engineering & Measurement Services, Inc.
EPA	U.S. Environmental Protection Agency
ESC	Environmental Systems Corporation
FSA	Field Systems Audit
FSAD	Field Site Audit Database
GPS	geographical positioning system
HAL	Mercury Analytical Laboratory
LADCO	Lake Michigan Air Directors Consortium
lpm	liters per minute
MLM	Multilayer Model
MN PCA	Minnesota Pollution Control Agency
m/s	meters per second
mv	millivolt
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NYDEC	New York Department of Conservation
NYSERDA	New York State Energy Research and Development Authority
PE	Performance Evaluation
QAPP	Quality Assurance Project Plan
SCDHEC	South Carolina Department of Health and Environmental Control
SOP	standard operating procedure
TDEP	Total Deposition
TEI	Thermo Environmental Instruments
USDA-FS	United States Department of Agriculture – Forest Service
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USNO	United States Naval Observatory
VDC	volts direct current
WDEQ	Wyoming Department of Environmental Quality
WDNR	Wisconsin Department of Natural Resources

WRR  
WSLH

World Radiation Reference  
Wisconsin State Laboratory of Hygiene

## 1.0 CASTNET Quarterly Report

### 1.1 Introduction

The Clean Air Status and Trends Network (CASTNET) is a national air monitoring program established in 1988 by the US EPA. Nearly all CASTNET sites measure weekly concentrations of acidic gases and particles to provide accountability for EPA's emission reduction programs. Most sites measure ground-level ozone as well as supplemental measurements such as meteorology and/or other trace gas concentrations.

Ambient concentrations are used to estimate deposition rates of the various pollutants with the objective of determining relationships between emissions, air quality, deposition, and ecological effects. In conjunction with other national monitoring networks, CASTNET data are used to determine the effectiveness of national emissions control programs and to assess temporal trends and spatial deposition patterns in atmospheric pollutants. CASTNET data are also used for long-range transport model evaluations and critical loads research.

Historically, CASTNET pollutant flux measurements have been reported as the aggregate product of weekly measured concentrations and model-estimated deposition velocities. The Multi-layer Model (MLM) was used to derive deposition velocity estimates from on-site meteorological parameters, land use types, and site characteristics. In 2011, EPA discontinued meteorological measurements at most EPA-sponsored CASTNET sites.

Currently, CASTNET pollutant flux estimates are calculated as the aggregate product of weekly measured chemical concentrations and gridded model-estimated deposition velocities. Total deposition is assessed using the NADP's Total Deposition Hybrid Method (TDEP; EPA, 2015c; Schwede and Lear, 2014), which combines data from established ambient monitoring networks and chemical-transport models. To estimate dry deposition, ambient measurement data from CASTNET and other networks were merged with dry deposition rates and flux output from the Community Multiscale Air Quality (CMAQ) modeling system.

Since 2011 nearly all CASTNET ozone monitors have adhered to the requirements for State or Local Air Monitoring Stations (SLAMS) as specified by the EPA in 40 CFR Part 58. As such, the ozone data collected must meet the requirements in 40 CFR Part 58 Appendix A, which defines the quality assurance (QA) requirements for gaseous pollutant ambient air monitoring. The audits performed by EEMS under this contract fulfilled the requirement for annual performance evaluation audits of pollutant monitors in the network. The QA requirements can be found at:

<https://www.epa.gov/amtic/regulations-guidance-and-monitoring-plans>

Currently 94 sites at 92 distinct locations measure ground-level ozone concentrations. Annual performance evaluation (PE), ozone audit data are submitted to the Air Quality System (AQS) database.

As of December 2020, the network is comprised of 97 active rural sampling sites across the United States and Canada, cooperatively operated by the Environmental Protection Agency (EPA), the National Park Service (NPS), Bureau of Land Management – Wyoming State Office (BLM-WSO) and several independent partners. Wood Environment and Infrastructure Solutions (Wood) is responsible for operating the EPA sponsored sites, and Air Resource Specialists, Inc. (ARS) is responsible for operating the NPS and BLM-WSO sponsored sites

## 1.2 Project Objectives

The objectives of this project are to establish an independent and unbiased program of performance and systems audits for all CASTNET sampling sites. Ongoing Quality Assurance (QA) programs are an essential part of any long-term monitoring network.

Performance audits verify that all reported variables are consistent with the accuracy goals as defined in the CASTNET Quality Assurance Project Plan (QAPP). The parameter specific accuracy goals are presented in Table 1.

**Table 1. Performance Audit Challenge and Acceptance Criteria**

Sensor	Parameter	Audit Challenge	Acceptance Criteria
Precipitation	Response	10 manual tips	1 DAS count per tip
Precipitation	Accuracy	2 introductions of known amounts of water	$\leq \pm 10.0\%$ of input amount
Relative Humidity	Accuracy	Compared to reference instrument or standard solution	$\leq \pm 10.0\%$ RH
Solar Radiation	Accuracy	Compared to WRR traceable standard	$\leq \pm 10.0\%$ of daytime average
Surface Wetness	Response	Distilled water spray mist	Positive response
Surface Wetness	Sensitivity	1% decade resistance	N/A
Temperature	Accuracy	Comparison to 3 NIST measured baths (~ 0° C, ambient, ~ full-scale)	$\leq \pm 0.5^\circ$ C
Temperature Difference	Accuracy	Comparison to station temperature sensor	$\leq \pm 0.50^\circ$ C

Sensor	Parameter	Audit Challenge	Acceptance Criteria
Shelter Temperature	Accuracy	Comparison to station temperature sensor	$\leq \pm 2.0^\circ \text{ C}$
Wind Direction	Orientation Accuracy	Parallel to alignment rod/crossarm, or sighted to distant point	$\leq \pm 5^\circ$ from degrees true
Wind Direction	Linearity	Eight cardinal points on test fixture	$\leq \pm 5^\circ$ mean absolute error
Wind Direction	Response Threshold	Starting torque tested with torque gauge	< 10 g-cm Climatronics; < 20 g-cm R.M. Young
Wind Speed	Accuracy	Shaft rotational speed generated and measured with certified synchronous motor	$\leq \pm 0.5$ mps below 5.0 mps input; $\leq \pm 5.0\%$ of input at or above 5.0 mps
Wind Speed	Starting Threshold	Starting torque tested with torque gauge	< 0.5 g-cm
Mass Flow Controller	Flow Rate	Comparison with Primary Standard	$\leq \pm 5.0\%$ of designated rate
Ozone	Slope	Linear regression of multi-point test gas concentration as measured with a certified transfer standard	$0.9000 \leq m \leq 1.1000$
Ozone	Intercept		$-5.0 \text{ ppb} \leq b \leq 5.0 \text{ ppb}$
Ozone	Correlation Coefficient		$0.9950 \leq r$
Ozone	Percent Difference	Comparison with Level 2 standard concentration	$\leq \pm 15.1\%$ of test gas concentration and $\leq \pm 0.0015$ ppm actual difference
DAS	Accuracy	Comparison with certified standard	$\leq \pm 0.003$ VDC

Performance audits are conducted using standards that are traceable to the National Institute of Standards and Technology (NIST), or another authoritative organization, at least annually.

Field site systems audits (FSA) are intended to provide a qualitative appraisal of the total measurement system. Site planning, organization, and operation are evaluated to ensure that good Quality Assurance/Quality Control (QA/QC) practices are being applied. At a minimum the following audit issues were addressed at each site systems audit:

- Site locations and configurations match those provided in the CASTNET QAPP.
- Meteorological instruments are in good physical and operational condition and are sited to meet EPA ambient monitoring guidelines (EPA-600/4-82-060).
- Sites are accessible, orderly, and if applicable, compliant with OSHA safety standards.
- Sampling lines are free of leaks, kinks, visible contamination, weathering, and moisture.
- Site shelters provide adequate temperature control.

- All ambient air quality instruments are functional, being operated in the appropriate range, and the zero-air supply desiccant is unsaturated.
- All instruments are in current calibration.
- Site documentation (maintenance schedules, on-site SOPs, etc.) is current and log book records are complete.
- All maintenance and on-site SOPs are performed on schedule.
- Corrective actions are documented and appropriate for required maintenance/repair activity.
- Site operators demonstrate an adequate knowledge and ability to perform required site activities, including documentation and maintenance activities.

### 1.3 CASTNET Sites Visited Fourth Quarter 2020

This report consists of the systems and performance, and other audit results from the CASTNET sites visited during the fourth quarter (October through December) of 2020. The site locations, sponsor, visit dates, and parameters audited are included in Table 2. The number of sites visited during this period were fewer than scheduled due to the impact of the COVID-19 pandemic.

**Table 2. CASTNET Site Audit Visits**

Site ID	Sponsor	Date	FSA	O3 PE	SO2	CO	NOy	FLOW
HOX148	EPA	10/3/2020	1	1				1
UVL124	EPA	10/6/2020	1	1				1
ANA115	EPA	10/7/2020	1	1				1
DEN417	NPS	10/7/2020	1	1				1
SPD111	EPA	10/12/2020	1	1				1
GRS420	NPS	10/14/2020		1			1	
ESP127	EPA	10/16/2020	1	1				1
CAT175	EPA	10/20/2020	1					1
SAN189	EPA	10/22/2020		1				
OXF122	EPA	11/2/2020		1				
SAL133	EPA	11/4/2020	1	1				1
BVL130	EPA	11/5/2020		1	1	1	1	



Site ID	Sponsor	Date	FSA	O3 PE	SO2	CO	NOy	FLOW
MCK131	EPA	11/7/2020		1				
MCK231	EPA	11/7/2020		1				
CKT136	EPA	11/8/2020		1				
QAK172	EPA	11/9/2020		1				
VPI120	EPA	11/10/2020		1				
JOT403	NPS	11/12/2020	1	1				1
PAR107	EPA	11/12/2020		1				
CDR119	EPA	11/13/2020		1				
DEV412	NPS	11/13/2020	1	1				
BWR139	EPA	11/15/2020		1				
PNF126	EPA	11/15/2020	1	1			1	1
STK138	EPA	11/18/2020		1				
UMA009	EPA	11/23/2020	1	1				1
VIN140	EPA	12/4/2020		1				
PED108	EPA	12/6/2020		1				
ALH157	EPA	12/7/2020		1				
CDZ171	EPA	12/8/2020		1				
CND125	EPA	12/12/2020		1				
BFT142	EPA	12/16/2020		1				

## 1.4 Audit Results

The observations and results of the systems and performance audits are included in Appendix A, *CASTNET Audit Report Forms* by site, arranged by audit date. Photographs of site conditions are included within each system report where necessary. Copies of the spot reports that were sent following the audit of each site are included as Appendix B, *CASTNET Site Spot Report Forms*. The Ozone PE results and observations are included in Appendix C, *CASTNET Ozone Performance Evaluation Forms*.

Results of the PE audits of the gaseous pollutant monitors other than ozone, were submitted immediately following the PE and are not included in this report. All TTP PE results of gaseous pollutant monitors are uploaded to AQS and are available there. All audit data and reports are available from the EPA CASTNET website: <https://java.epa.gov/castnet/reportPage.do>

## 2.0 NADP Quarterly Report

### 2.1 Introduction

The National Atmospheric Deposition Program (NADP) operates two precipitation chemistry networks and two atmospheric concentration networks. The National Trends Network (NTN) has been measuring acidic precipitation since 1978. The network currently has more than 250 sites. The precipitation event-based Atmospheric Integrated Research Monitoring Network (AIRMoN) began operation in 1992, and as of July 2019 is no longer in operation. The Mercury Deposition Network (MDN) measures total mercury in precipitation samples from approximately 90 stations. The MDN began operation in 1996 and includes sites throughout the US and Canada. The Atmospheric Mercury Network (AMNet) and the Ammonia Monitoring Network (AMoN) measure ambient concentrations of mercury and ammonia, respectively.

The NADP and other long-term monitoring networks provide critical information to the EPA regarding evaluating the effectiveness of emission reduction control programs from the power industry. The networks of the NADP are sponsored by several federal, state, and local agencies as well as private organizations.

The NADP Program Office (PO) operates and administers the two precipitation chemistry networks (NTN and MDN), two atmospheric concentration networks (AMNet and AMoN), and two analytical laboratories (CAL and HAL), from the Wisconsin State Lab of Hygiene (WSLH) at the University of Wisconsin in Madison. The network equipment depot (NED) is also located at the WSLH.

### 2.2 Project Objectives

The objective of this project is to perform independent and unbiased evaluations of the sites along with its operations. These evaluations provide quality assurance pertaining to siting, sample collection and handling, equipment operation and maintenance, record keeping and field laboratory procedures.

More specifically, the surveys determine and report findings based on an established methodology consisting of completing a site questionnaire, testing the equipment and documenting with photographs the location, siting criteria, existing equipment, and any issues encountered that require such documentation.

### 2.3 NADP Sites Visited Fourth Quarter 2020

This report presents the NADP sites surveyed during the fourth quarter (October through December) of 2020. The station locations, sponsors, network, and dates of the surveys are presented in Table 3. The number of sites visited during this period were fewer than scheduled due to the impact of the COVID-19 pandemic.

**Table 3. NADP Site Survey Visits**

Site ID	Sponsor	Date	NTN	MDN	AMON
WI10	Potawatomi Community	10/2/2020	1	1	
MI95	EPA	10/3/2020			1
MI51	EPA	10/6/2020			1
AK03	NPS	10/7/2020	1		
MI52	EPA / LADCO	10/7/2020	1	1	1
AK01	USDA-FS	10/8/2020	1		
TN04	EPA	10/12/2020	1		1
TN12	NPS	10/13/2020		1	
TN00	NOAA	10/15/2020	1		
TN07	EPA	10/16/2020			1
MT95	Northern Cheyenne Tribe	10/19/2020		1	
MT96	Fort Peck Tribes	10/20/2020	1		
NY91	EPA	10/20/2020			1
ND00	NPS	10/21/2020	1		
NY96	Suffolk County NY	10/21/2020	1	1	
MA14	Nantucket Land Council	10/22/2020	1		
NE98	EPA	10/22/2020			1
TN14	USGS	10/22/2020	1		
NY43	NYSERDA / NYDEC	10/30/2020	1	1	
OH09	EPA	11/2/2020			1

Site ID	Sponsor	Date	NTN	MDN	AMON
IN41	Purdue University	11/3/2020	1		
IN20	USGS / EPA	11/4/2020	1		1
IL11	EPA	11/5/2020			1
KY29	EPA	11/8/2020			1
OH99	EPA	11/9/2020			1
VA13	EPA	11/10/2020			1
CA67	NPS	11/12/2020	1		1
WV18	EPA	11/12/2020			1
WV05	EPA	11/13/2020			1
MD06	EPA	11/15/2020			1
NC02	EPA	11/15/2020			1
IL37	EPA	11/18/2020			1
WA04	EPA	11/23/2020			1
ID02	USDA-FS	11/24/2020	1		
IN22	USGS / EPA / LADCO	12/4/2020	1	1	1
VA24	EPA	12/6/2020			1
IL46	EPA	12/7/2020	1		1
KY98	EPA	12/8/2020			1
NC06	EPA	12/11/2020			1
NC26	EPA	12/12/2020			1

## 2.4 Survey Results

Site survey results are entered into a relational database. The database in turn generates Site Spot Reports which are distributed among the interested parties as soon as all the site data has been entered. Database tables with all the data collected and reviewed are then sent to the NADP Program Office and to the U.S. EPA Project Officers.

Other items gathered during the surveys (i.e., photographs, Belfort charts, etc.) are uploaded to the EPA OneDrive account where the NADP PO and the U.S. EPA POs can access them and download them as needed.

Given the volume of data generated, and the fact that data is distributed and/or is available via the internet, no survey results are included in this report.

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**APPENDIX A**

**CASTNET Audit Report Forms**

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*HOX148-Eric Hebert-10/03/2020*

1	10/3/2020	Computer	Dell	07062	Inspiron 15	Unknown
2	10/3/2020	DAS	Campbell	000426	CR3000	2533
3	10/3/2020	Elevation	Elevation	None	1	None
4	10/3/2020	Filter pack flow pump	Thomas	06029	107CA18B	060400022669
5	10/3/2020	Flow Rate	Apex	000866	AXMC105LPMDPCV	illegible
6	10/3/2020	Infrastructure	Infrastructure	none	none	none
7	10/3/2020	Modem	Digi	07204	LR54	unknown
8	10/3/2020	Ozone	ThermoElectron Inc	000614	49i A1NAA	1009241794
9	10/3/2020	Ozone Standard	ThermoElectron Inc	000495	49i A3NAA	0622717849
10	10/3/2020	Sample Tower	Aluma Tower	000131	B	none
11	10/3/2020	Shelter Temperature	Campbell	none	107-L	none
12	10/3/2020	Siting Criteria	Siting Criteria	None	1	None
13	10/3/2020	Temperature	RM Young	06405	41342	14038
14	10/3/2020	Zero air pump	Werther International	06938	C 70/4	000829164



# DAS Data Form

DAS Time Max Error:

Mfg	Serial Number	Site	Technician	Site Visit Date	Parameter	Use Desc.
Campbell	2533	HOX148	Eric Hebert	10/03/2020	DAS	Primary

Das Date:	<input type="text" value="10/3 /2020"/>	Audit Date:	<input type="text" value="10/3 /2020"/>
Das Time:	<input type="text" value="11:33:32"/>	Audit Time:	<input type="text" value="11:33:30"/>
Das Day:	<input type="text" value="277"/>	Audit Day:	<input type="text" value="277"/>
Low Channel:		High Channel:	
Avg Diff:	<input type="text" value="0.0000"/>	Max Diff:	<input type="text" value="0.0001"/>
		Avg Diff:	<input type="text" value="0.0000"/>
		Max Diff:	<input type="text" value="0.0001"/>

Mfg	<input type="text" value="Datel"/>	Parameter	<input type="text" value="DAS"/>
Serial Number	<input type="text" value="4000392"/>	Tfer Desc.	<input type="text" value="Source generator (D"/>
Tfer ID	<input type="text" value="01321"/>		
Slope	<input type="text" value="1.00000"/>	Intercept	<input type="text" value="0.00000"/>
Cert Date	<input type="text" value="1/22/2015"/>	CorrCoff	<input type="text" value="1.00000"/>
Mfg	<input type="text" value="Fluke"/>	Parameter	<input type="text" value="DAS"/>
Serial Number	<input type="text" value="86590148"/>	Tfer Desc.	<input type="text" value="DVM"/>
Tfer ID	<input type="text" value="01310"/>		
Slope	<input type="text" value="1.00000"/>	Intercept	<input type="text" value="0.00000"/>
Cert Date	<input type="text" value="2/4/2020"/>	CorrCoff	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
7	0.0000	0.0000	0.0000	V	V	0.0000
7	0.1000	0.1002	0.1002	V	V	0.0000
7	0.3000	0.3003	0.3003	V	V	0.0000
7	0.5000	0.5003	0.5003	V	V	0.0000
7	0.7000	0.7009	0.7010	V	V	0.0001
7	0.9000	0.9010	0.9011	V	V	0.0001
7	1.0000	1.0013	1.0014	V	V	0.0001

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	illegible	HOX148	Eric Hebert	10/03/2020	Flow Rate	000866

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>	<b>Cal Factor Zero</b>	0
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>Cal Factor Full Scale</b>	1.01
0.88%	1.32%	<b>Rotometer Reading:</b>	1.45

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	0.03	0.000	0.03	l/m	l/m	
primary	leak check	0.000	0.000	0.10	0.000	0.07	l/m	l/m	
primary	test pt 1	1.491	1.510	1.49	0.000	1.50	l/m	l/m	-0.66%
primary	test pt 2	1.493	1.510	1.49	0.000	1.50	l/m	l/m	-0.66%
primary	test pt 3	1.496	1.520	1.49	0.000	1.50	l/m	l/m	-1.32%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	5.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	3.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	180 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1009241794	HOX148	Eric Hebert	10/03/2020	Ozone	000614

<b>Slope:</b>	0.98482	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.16381	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180930075	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01115		
<b>Slope</b>	0.99490	<b>Intercept</b>	0.32220
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.43	0.10	0.35	ppb		0.25
primary	2	13.58	13.32	13.20	ppb		-0.12
primary	3	35.25	35.10	34.69	ppb	-1.17	
primary	4	68.85	68.87	68.02	ppb	-1.24	
primary	5	106.94	107.16	105.70	ppb	-1.37	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	737.1 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.20	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.012	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	98.9 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.73 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	706.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	33.4 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	91.1 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.4 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.73 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	706.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	14038	HOX148	Eric Hebert	10/03/2020	Temperature	06405

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.22	0.28		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	-0.07	-0.20	0.000	0.1	C	0.28
primary	Temp Mid Range	26.98	26.64	0.000	26.8	C	0.18
primary	Temp High Range	48.47	47.96	0.000	48.2	C	0.19

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	HOX148	Eric Hebert	10/03/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
1.16	1.18		

<b>Mfg</b>	Extech	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	22.66	22.35	0.000	23.5	C	1.14
primary	Temp Mid Range	21.81	21.51	0.000	22.7	C	1.18

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type B"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	~ 30 km	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	10 m	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>		<b>Status</b>	pass

# Field Systems Comments

1 **Parameter:** SiteOpsProcedures

The ozone analyzer sample inlet filter is replaced and a Z/S/P check is performed every two weeks.

2 **Parameter:** SitingCriteriaCom

There is a co-generating and smelting facility in Cadillac approximately 30 km to the northeast. The site is located in a hay field which is cut 2 or 3 times per year.

3 **Parameter:** ShelterCleanNotes

The shelter has been repaired since the previous audit visit.

4 **Parameter:** MetSensorComme

Met tower removed and temperature installed in naturally aspirated shield on the west leg of the sample tower.

5 **Parameter:** MetOpMaintCom

The signal cables are showing signs of wear with the outer insulation missing in a few places.



# Field Systems Data Form

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Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Hoxeyville"/>
Operating Group	<input type="text" value="private"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="26-165-9991"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="R.M. Young"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="woodlands - mixed"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="gently rolling"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="Yes"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(231) 862-3750"/>	Audit Latitude	<input type="text" value="44.180787"/>
Site Address 1	<input type="text" value="10637 South 9 Rd."/>	Audit Longitude	<input type="text" value="-85.738964"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="297"/>
County	<input type="text" value="Wexford"/>	Audit Declination	<input type="text" value="-5"/>
City, State	<input type="text" value="Cadillac, MI"/>		
Zip Code	<input type="text" value="49601"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Time Zone	<input type="text" value="Eastern"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

**Driving Directions** From Cadillac proceed west on route 55 for approximately 12.5 miles. Turn left (south) on Hoxeyville Road (S13) and continue approximately 2 miles to the first stop sign. Turn right (west) on an unmarked road and continue approximately 2 miles to 9 road. Turn left (south) on 9 road which is not paved and continue approximately 1 mile, the site is on the left.

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

- |    |  |                                     |      |
|----|--|-------------------------------------|------|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A  |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A  |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A  |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> | West |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |      |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A  |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A  |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A  |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A  |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A  |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A  |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Signs of wear
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 15 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 15 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> | Flow line only          |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- |                                     |  |  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
|-------------------------------------|--|--|--|--|-----------------|--------------------------|--|--------------------------|-------------------------------------|--|-------------------------------------|--|
| 1                                   | Do the DAS instruments appear to be in good condition and well maintained?           | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 2                                   | Are all the components of the DAS operational? (printers, modem, backup, etc)        | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 3                                   | Do the analyzer and sensor signal leads pass through lightning protection circuitry? | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 4                                   | Are the signal connections protected from the weather and well maintained?           | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 5                                   | Are the signal leads connected to the correct DAS channel?                           | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 6                                   | Are the DAS, sensor translators, and shelter properly grounded?                      | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 7                                   | Does the instrument shelter have a stable power source?                              | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 8                                   | Is the instrument shelter temperature controlled?                                    | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 9                                   | Is the met tower stable and grounded?  | <table border="1"><tr><td><b>Stable</b></td><td></td><td><b>Grounded</b></td></tr><tr><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td></td><td><input checked="" type="checkbox"/></td></tr></table> | <b>Stable</b>                                  |  | <b>Grounded</b> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/> |  |
| <b>Stable</b>                       |  | <b>Grounded</b>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| <input type="checkbox"/>            |  | <input type="checkbox"/>   |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 10                                  | Is the sample tower stable and grounded?   | <table border="1"><tr><td><b>Stable</b></td><td></td><td><b>Grounded</b></td></tr><tr><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td></td><td><input checked="" type="checkbox"/></td></tr></table> | <b>Stable</b>                                  |  | <b>Grounded</b> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/> |  |
| <b>Stable</b>                       |  | <b>Grounded</b>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| <input type="checkbox"/>            |  | <input type="checkbox"/>   |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/>  |  |  |                 |                          |  |                          |                                     |  |                                     |  |
| 11                                  | Tower comments?  |  | <input type="text" value="Met tower removed"/> |  |                 |                          |  |                          |                                     |  |                                     |  |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID

Technician

Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone analyzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	Oct 2014	<input type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Oct 2014	<input type="checkbox"/>
Field Ops Manual	<input checked="" type="checkbox"/>	June 1987	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID

Technician

Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed mornings
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF, call-in
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input type="checkbox"/>	<input type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Inspiron 15	Unknown	07062
DAS	Campbell	CR3000	2533	000426
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CA18B	060400022669	06029
Flow Rate	Apex	AXMC105LPMDPC	illegible	000866
Infrastructure	Infrastructure	none	none	none
Modem	Digi	LR54	unknown	07204
Ozone	ThermoElectron Inc	49i A1NAA	1009241794	000614
Ozone Standard	ThermoElectron Inc	49i A3NAA	0622717849	000495
Sample Tower	Aluma Tower	B	none	000131
Shelter Temperature	Campbell	107-L	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342	14038	06405
Zero air pump	Werther International	C 70/4	000829164	06938

## *Site Inventory by Site Visit*

<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>	
<i>SAL133-Korey Devins-11/04/2020</i>						
1	11/4/2020	Computer	Dell	07011	Inspiron 15	Unknown
2	11/4/2020	DAS	Campbell	000351	CR3000	2129
3	11/4/2020	Elevation	Elevation	None	1	None
4	11/4/2020	Filter pack flow pump	Thomas	00765	107CA110	0000141
5	11/4/2020	Flow Rate	Apex	000547	AXMC105LPMDPCV	50743
6	11/4/2020	Infrastructure	Infrastructure	none	none	none
7	11/4/2020	Modem	Digi	07206	LR54	unknown
8	11/4/2020	Ozone	ThermoElectron Inc	000622	49i A1NAA	1009241785
9	11/4/2020	Ozone Standard	ThermoElectron Inc	000371	49i A3NAA	0726124692
10	11/4/2020	Sample Tower	Aluma Tower	none	B	AT-51065-5-G-A
11	11/4/2020	Shelter Temperature	Campbell	none	107-L	none
12	11/4/2020	Siting Criteria	Siting Criteria	None	1	None
13	11/4/2020	Temperature	RM Young	06410	41342	14043
14	11/4/2020	Zero air pump	Werther International	06876	C 70/4	000814286

# DAS Data Form

DAS Time Max Error:

Mfg  Serial Number  Site  Technician  Site Visit Date  Parameter  Use Desc.

Das Date:  Audit Date   
 Das Time:  Audit Time   
 Das Day:  Audit Day

Low Channel:  High Channel:   
 Avg Diff:  Max Diff:  Avg Diff:  Max Diff:

Mfg  Parameter   
 Serial Number  Tfer Desc.   
 Tfer ID   
 Slope  Intercept   
 Cert Date  CorrCoff   
 Mfg  Parameter   
 Serial Number  Tfer Desc.   
 Tfer ID   
 Slope  Intercept   
 Cert Date  CorrCoff

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
7	0.0000	-0.0001	0.0000	V	V	0.0001
7	0.1000	0.0999	0.0999	V	V	0.0000
7	0.3000	0.2997	0.2997	V	V	0.0000
7	0.5000	0.4995	0.4995	V	V	0.0000
7	0.7000	0.6995	0.6994	V	V	-0.0001
7	0.9000	0.8993	0.8992	V	V	-0.0001
7	1.0000	0.9992	0.9991	V	V	-0.0001

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	50743	SAL133	Korey Devins	11/04/2020	Flow Rate	000547

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>
0.00%	0.00%

<b>Cal Factor Zero</b>	0.01
<b>Cal Factor Full Scale</b>	1.01
<b>Rotometer Reading:</b>	1.5

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	0.00	0.000	0.01	l/m	l/m	
primary	leak check	0.000	0.000	-0.01	0.000	-0.03	l/m	l/m	
primary	test pt 1	1.482	1.500	1.50	0.000	1.50	l/m	l/m	0.00%
primary	test pt 2	1.481	1.500	1.50	0.000	1.50	l/m	l/m	0.00%
primary	test pt 3	1.481	1.500	1.50	0.000	1.50	l/m	l/m	0.00%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	See comments	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	2.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	2.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	270 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1009241785	SAL133	Korey Devins	11/04/2020	Ozone	000622

<b>Slope:</b>	0.99920	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.32976	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.44	0.14	-0.16	ppb		-0.3
primary	2	14.77	14.48	14.03	ppb		-0.45
primary	3	34.82	34.54	34.20	ppb	-0.99	
primary	4	67.15	66.89	66.64	ppb	-0.37	
primary	5	110.83	110.59	110.10	ppb	-0.44	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	742.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.017	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	112.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.70 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	701.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	34.9 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	93.5 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.5 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.72 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	702.4 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	14043	SAL133	Korey Devins	11/04/2020	Temperature	06410

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.20	0.43		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	0.20	0.07	0.000	0.5	C	0.43
primary	Temp Mid Range	26.25	25.91	0.000	25.8	C	-0.09
primary	Temp High Range	46.74	46.24	0.000	46.2	C	-0.07

<b>Sensor Component</b>	Shield	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	SAL133	Korey Devins	11/04/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.31	0.60		

<b>Mfg</b>	Extech	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	24.64	24.32	0.000	24.5	C	0.2
primary	Temp Mid Range	24.86	24.53	0.000	24.7	C	0.12
primary	Temp Mid Range	24.05	23.73	0.000	24.3	C	0.6

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type B"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>



# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	20 m	<b>Status</b>	Fail
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	20 m	<b>Status</b>	Fail

# Site Visit Comments

<u>Parameter</u>	<u>Site</u>	<u>Technician</u>	<u>S.V. Date</u>	<u>Component</u>	<u>Mfg</u>	<u>Serial No.</u>	<u>Hazard</u>	<u>Problem</u>
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Flow Rate	SAL133	Korey Devins	11/04/2020	Moisture Present	Apex	3760	<input type="checkbox"/>	<input type="checkbox"/>
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The filter sample tubing has drops of moisture in low sections outside the shelter.

# Field Systems Comments

1 **Parameter:** SiteOpsProcedures

The ozone inlet filter is replaced and a zero/span/precision test is performed every two weeks.

2 **Parameter:** SitingCriteriaCom

The site is located next to a field usually planted with corn or soy beans.

3 **Parameter:** ShelterCleanNotes

The shelter is in fair condition, ants are present. It is clean, neat, and well organized.

4 **Parameter:** MetOpMaintCom

The temperature signal cable is showing signs of wear.

# Field Systems Data Form

F-02058-1500-S1-rev002

Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Lagro"/>
Operating Group	<input type="text" value="private"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="18-169-9991"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="Climatronics"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="agriculture"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="flat"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="Yes"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(260) 782-2428"/>	Audit Latitude	<input type="text" value="40.816038"/>
Site Address 1	<input type="text" value="Hamilton Road"/>	Audit Longitude	<input type="text" value="-85.661407"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="250"/>
County	<input type="text" value="Wabash"/>	Audit Declination	<input type="text" value="-5"/>
City, State	<input type="text" value="Lagro, IN"/>		
Zip Code	<input type="text" value="46941"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Time Zone	<input type="text" value="Eastern"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input checked="" type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>
Shelter Working Room <input checked="" type="checkbox"/>	Make <input type="text" value="Ekto"/>	Model <input type="text" value="8810"/>	Shelter Size <input type="text" value="640 cuft"/>
Shelter Clean <input checked="" type="checkbox"/>	Notes <input type="text" value="The shelter is in fair condition, ants are present. It is clean, neat, and well organized."/>		
Site OK <input checked="" type="checkbox"/>	Notes <input type="text"/>		

**Driving Directions**

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S4-rev002

Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Signs of wear
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 15 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 15 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> | Flow line only          |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID  Technician  Site Visit Date

DAS, sensor translators, and peripheral equipment operations and maintenance

- 1 Do the DAS instruments appear to be in good condition and well maintained?
- 2 Are all the components of the DAS operational? (printers, modem, backup, etc)
- 3 Do the analyzer and sensor signal leads pass through lightning protection circuitry?
- 4 Are the signal connections protected from the weather and well maintained?
- 5 Are the signal leads connected to the correct DAS channel?
- 6 Are the DAS, sensor translators, and shelter properly grounded?
- 7 Does the instrument shelter have a stable power source?
- 8 Is the instrument shelter temperature controlled?
- 9 Is the met tower stable and grounded?

Stable	Grounded
<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
- 10 Is the sample tower stable and grounded?

Stable	Grounded
<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
- 11 Tower comments?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

Site ID  Technician  Site Visit Date

DAS, sensor translators, and peripheral equipment operations and maintenance



# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID  Technician  Site Visit Date

Documentation

Does the site have the required instrument and equipment manuals?

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ozone analyzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

Does the site have the required and most recent QC documents and report forms?

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Oct 2014	<input checked="" type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

Site ID  Technician  Site Visit Date

Documentation

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

Site ID  Technician  Site Visit Date

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID  Technician  Site Visit Date

## Site operation procedures

- |   |  |                                     |                           |
|---|--|-------------------------------------|---------------------------|
| 1 | Is the filter pack being changed every Tuesday as scheduled?                         | <input checked="" type="checkbox"/> | Filter changed afternoons |
| 2 | Are the Site Status Report Forms being completed and filed correctly?                | <input checked="" type="checkbox"/> |                           |
| 3 | Are data downloads and backups being performed as scheduled?                         | <input type="checkbox"/>            | No longer required        |
| 4 | Are general observations being made and recorded? How?                               | <input checked="" type="checkbox"/> | SSRF, logbook             |
| 5 | Are site supplies on-hand and replenished in a timely fashion?                       | <input checked="" type="checkbox"/> |                           |
| 6 | Are sample flow rates recorded? How?   | <input checked="" type="checkbox"/> | SSRF, call-in             |
| 7 | Are samples sent to the lab on a regular schedule in a timely fashion?               | <input checked="" type="checkbox"/> |                           |
| 8 | Are filters protected from contamination during handling and shipping? How?          | <input checked="" type="checkbox"/> | Clean gloves on and off   |
| 9 | Are the site conditions reported regularly to the field operations manager or staff? | <input checked="" type="checkbox"/> |                           |

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input type="checkbox"/> <input type="text"/>	<input type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

Site ID  Technician  Site Visit Date

## Site operation procedures

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Inspiron 15	Unknown	07011
DAS	Campbell	CR3000	2129	000351
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CA110	0000141	00765
Flow Rate	Apex	AXMC105LPMDPC	50743	000547
Infrastructure	Infrastructure	none	none	none
Modem	Digi	LR54	unknown	07206
Ozone	ThermoElectron Inc	49i A1NAA	1009241785	000622
Ozone Standard	ThermoElectron Inc	49i A3NAA	0726124692	000371
Sample Tower	Aluma Tower	B	AT-51065-5-G-A	none
Shelter Temperature	Campbell	107-L	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342	14043	06410
Zero air pump	Werther International	C 70/4	000814286	06876

## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*UVL124-Eric Hebert-10/06/2020*

1	10/6/2020	Computer	Dell	07012	Inspiron 15	Unknown
2	10/6/2020	DAS	Campbell	000347	CR3000	2126
3	10/6/2020	Elevation	Elevation	None	1	None
4	10/6/2020	Filter pack flow pump	Thomas	02973	107CAB18	0493002467
5	10/6/2020	Flow Rate	Apex	000666	AXMC105LPMDPCV	54763
6	10/6/2020	Infrastructure	Infrastructure	none	none	none
7	10/6/2020	Modem	Digi	07167	LR54	unknown
8	10/6/2020	Ozone	ThermoElectron Inc	000680	49i A1NAA	1030244792
9	10/6/2020	Ozone Standard	ThermoElectron Inc	000438	49i A3NAA	CM08200014
10	10/6/2020	Sample Tower	Aluma Tower	03557	A	none
11	10/6/2020	Shelter Temperature	Campbell	none	107-L	none
12	10/6/2020	Siting Criteria	Siting Criteria	None	1	None
13	10/6/2020	Temperature	RM Young	06504	41342	14624
14	10/6/2020	Zero air pump	Werther International	06936	C 70/4	000829169

# DAS Data Form

DAS Time Max Error:

<b>Mfg</b>	<b>Serial Number</b>	<b>Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Use Desc.</b>
Campbell	2126	UVL124	Eric Hebert	10/06/2020	DAS	Primary

<b>Das Date:</b>	<input type="text" value="10/6 /2020"/>	<b>Audit Date</b>	<input type="text" value="10/6 /2020"/>
<b>Das Time:</b>	<input type="text" value="12:20:00"/>	<b>Audit Time</b>	<input type="text" value="12:20:00"/>
<b>Das Day:</b>	<input type="text" value="280"/>	<b>Audit Day</b>	<input type="text" value="280"/>

<b>Low Channel:</b>	<b>High Channel:</b>		
<b>Avg Diff:</b>	<b>Max Diff:</b>	<b>Avg Diff:</b>	<b>Max Diff:</b>
<input type="text" value="0.0001"/>	<input type="text" value="0.0001"/>	<input type="text" value="0.0001"/>	<input type="text" value="0.0001"/>

<b>Mfg</b>	<input type="text" value="Date1"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="4000392"/>	<b>Tfer Desc.</b>	<input type="text" value="Source generator (D"/>
<b>Tfer ID</b>	<input type="text" value="01321"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="1/22/2015"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>
<b>Mfg</b>	<input type="text" value="Fluke"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="86590148"/>	<b>Tfer Desc.</b>	<input type="text" value="DVM"/>
<b>Tfer ID</b>	<input type="text" value="01310"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="2/4/2020"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
7	0.0000	0.0002	0.0003	V	V	0.0001
7	0.1000	0.1000	0.1000	V	V	0.0000
7	0.3000	0.3000	0.3000	V	V	0.0000
7	0.5000	0.5001	0.5000	V	V	-0.0001
7	0.7000	0.7001	0.7001	V	V	0.0000
7	0.9000	0.9002	0.9001	V	V	-0.0001
7	1.0000	1.0003	1.0002	V	V	-0.0001

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	54763	UVL124	Eric Hebert	10/06/2020	Flow Rate	000666

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>
0.66%	0.66%

<b>Cal Factor Zero</b>	0.01
<b>Cal Factor Full Scale</b>	1.02
<b>Rotometer Reading:</b>	1.4

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	0.00	0.000	0.02	l/m	l/m	
primary	leak check	0.000	0.000	0.02	0.000	0.05	l/m	l/m	
primary	test pt 1	1.487	1.510	1.48	0.000	1.50	l/m	l/m	-0.66%
primary	test pt 2	1.487	1.510	1.48	0.000	1.50	l/m	l/m	-0.66%
primary	test pt 3	1.488	1.510	1.48	0.000	1.50	l/m	l/m	-0.66%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	5.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	3.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	360 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1030244792	UVL124	Eric Hebert	10/06/2020	Ozone	000680

<b>Slope:</b>	0.95010	<b>Slope:</b>	0.00000
<b>Intercept</b>	-2.66192	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99997	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180930075	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01115		
<b>Slope</b>	0.99490	<b>Intercept</b>	0.32220
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.21	-0.11	-2.30	ppb		-2.19
primary	2	14.27	14.01	10.48	ppb		-3.53
primary	3	33.99	33.84	29.07	ppb	-15.16	
primary	4	66.66	66.67	60.60	ppb	-9.54	
primary	5	108.04	108.26	100.40	ppb	-7.53	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	736.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.20	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.009	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	110.1 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	1.3 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.46 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	717.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	36.7 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	101.1 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.7 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	717.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	1 %	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass



# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	14624	UVL124	Eric Hebert	10/06/2020	Temperature	06504

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.14	0.19		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	0.21	0.08	0.000	0.3	C	0.19
primary	Temp Mid Range	26.37	26.03	0.000	26.2	C	0.18
primary	Temp High Range	47.84	47.33	0.000	47.4	C	0.05

<b>Sensor Component</b>	Shield	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	UVL124	Eric Hebert	10/06/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.24	0.68		

<b>Mfg</b>	Extech	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	25.22	24.89	0.000	25.6	C	0.68
primary	Temp Mid Range	26.95	26.61	0.000	26.7	C	0.04
primary	Temp Mid Range	27.34	27.00	0.000	27.0	C	0.01

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	30 m	<b>Status</b>	Fail
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	30 m	<b>Status</b>	Fail

# Field Systems Comments

1 **Parameter:** SiteOpsProcedures

Ozone sample train leak-check performed every two weeks.

2 **Parameter:** SitingCriteriaCom

The site is located in an active agriculture field usually planted with beans or corn.

3 **Parameter:** ShelterCleanNotes

The shelter is clean and in good condition.

4 **Parameter:** MetOpMaintCom

Met tower removed and temperature mounted in naturally aspirated shield on sample tower.

# Field Systems Data Form

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Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Ellington"/>
Operating Group	<input type="text" value="private"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="26-157-9991"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="R.M. Young"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry, wet"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="agriculture"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="flat"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="Yes"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(989) 673-5901"/>	Audit Latitude	<input type="text" value="43.613572"/>
Site Address 1	<input type="text" value="1821 E. Dickerson Rd."/>	Audit Longitude	<input type="text" value="-83.359869"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="202"/>
County	<input type="text" value="Tuscola"/>	Audit Declination	<input type="text" value="-7"/>
City, State	<input type="text" value="Unionville, MI"/>		
Zip Code	<input type="text" value="48767"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Time Zone	<input type="text" value="Eastern"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

Driving Directions

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 12 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> | Flow line only          |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- 1 Do the DAS instruments appear to be in good condition and well maintained?
- 2 Are all the components of the DAS operational? (printers, modem, backup, etc)
- 3 Do the analyzer and sensor signal leads pass through lightning protection circuitry?
- 4 Are the signal connections protected from the weather and well maintained?
- 5 Are the signal leads connected to the correct DAS channel?
- 6 Are the DAS, sensor translators, and shelter properly grounded?
- 7 Does the instrument shelter have a stable power source?
- 8 Is the instrument shelter temperature controlled?
- 9 Is the met tower stable and grounded?  

<b>Stable</b>
<input type="checkbox"/>
<input checked="" type="checkbox"/>

<b>Grounded</b>
<input type="checkbox"/>
<input type="checkbox"/>
- 10 Is the sample tower stable and grounded?  

<b>Stable</b>
<input type="checkbox"/>
<input checked="" type="checkbox"/>

<b>Grounded</b>
<input type="checkbox"/>
<input type="checkbox"/>
- 11 Tower comments?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID

Technician

Site Visit Date

## Documentation

### Does the site have the required instrument and equipment manuals?

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone analyzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

### Does the site have the required and most recent QC documents and report forms?

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	Oct 2014	<input checked="" type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Oct 2014	<input checked="" type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	4/3/2018	<input checked="" type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

### Site operation procedures

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

### Are regular operational QA/QC checks performed on meteorological instruments?

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

### Are regular operational QA/QC checks performed on the ozone analyzer?

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID  Technician  Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed mornings
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	With noted exceptions
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook, call-in
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input type="checkbox"/>	<input type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Inspiron 15	Unknown	07012
DAS	Campbell	CR3000	2126	000347
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CAB18	0493002467	02973
Flow Rate	Apex	AXMC105LPMDPC	54763	000666
Infrastructure	Infrastructure	none	none	none
Modem	Digi	LR54	unknown	07167
Ozone	ThermoElectron Inc	49i A1NAA	1030244792	000680
Ozone Standard	ThermoElectron Inc	49i A3NAA	CM08200014	000438
Sample Tower	Aluma Tower	A	none	03557
Shelter Temperature	Campbell	107-L	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342	14624	06504
Zero air pump	Werther International	C 70/4	000829169	06936

## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*ANA115-Eric Hebert-10/07/2020*

1	10/7/2020	Computer	Dell	07017	Inspiron 15	9K2MC12
2	10/7/2020	DAS	Campbell	000339	CR3000	2118
3	10/7/2020	Elevation	Elevation	None	1	None
4	10/7/2020	Filter pack flow pump	Thomas	06025	107CAB18	060400022682
5	10/7/2020	Flow Rate	Apex	000650	AXMC105LPMDPCV	54767
6	10/7/2020	Infrastructure	Infrastructure	none	none	none
7	10/7/2020	Modem	Digi	07197	LR54	unknown
8	10/7/2020	Ozone	ThermoElectron Inc	000699	49i A1NAA	1030244804
9	10/7/2020	Ozone Standard	ThermoElectron Inc	000686	49i A3NAA	1030244818
10	10/7/2020	Sample Tower	Aluma Tower	000180	B	none
11	10/7/2020	Shelter Temperature	Campbell	none	107-L	none
12	10/7/2020	Siting Criteria	Siting Criteria	None	1	None
13	10/7/2020	Temperature	RM Young	06535	41342	14796
14	10/7/2020	Zero air pump	Werther International	06933	C 70/4	000836202

# DAS Data Form

DAS Time Max Error:

<b>Mfg</b>	<b>Serial Number</b>	<b>Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Use Desc.</b>
Campbell	2118	ANA115	Eric Hebert	10/07/2020	DAS	Primary

<b>Das Date:</b>	<input type="text" value="10/7 /2020"/>	<b>Audit Date</b>	<input type="text" value="10/7 /2020"/>
<b>Das Time:</b>	<input type="text" value="09:44:32"/>	<b>Audit Time</b>	<input type="text" value="09:44:30"/>
<b>Das Day:</b>	<input type="text" value="281"/>	<b>Audit Day</b>	<input type="text" value="281"/>

<b>Low Channel:</b>	<b>High Channel:</b>		
<b>Avg Diff:</b>	<b>Max Diff:</b>	<b>Avg Diff:</b>	<b>Max Diff:</b>
<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>	<input type="text" value="0.0000"/>

<b>Mfg</b>	<input type="text" value="Datel"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="4000392"/>	<b>Tfer Desc.</b>	<input type="text" value="Source generator (D"/>
<b>Tfer ID</b>	<input type="text" value="01321"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="1/22/2015"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>
<b>Mfg</b>	<input type="text" value="Fluke"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="86590148"/>	<b>Tfer Desc.</b>	<input type="text" value="DVM"/>
<b>Tfer ID</b>	<input type="text" value="01310"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="2/4/2020"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
7	0.0000	0.0000	0.0000	V	V	0.0000
7	0.1000	0.1000	0.1000	V	V	0.0000
7	0.3000	0.3000	0.3000	V	V	0.0000
7	0.5000	0.5001	0.5001	V	V	0.0000
7	0.7000	0.7001	0.7001	V	V	0.0000
7	0.9000	0.9002	0.9002	V	V	0.0000
7	1.0000	1.0002	1.0002	V	V	0.0000



# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	54767	ANA115	Eric Hebert	10/07/2020	Flow Rate	000650

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>	<b>Cal Factor Zero</b>	0.01
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>Cal Factor Full Scale</b>	1.01
0.00%	0.00%	<b>Rotometer Reading:</b>	1.45

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	0.00	0.000	0.01	l/m	l/m	
primary	leak check	0.000	0.000	0.04	0.000	0.05	l/m	l/m	
primary	test pt 1	1.483	1.500	1.50	0.000	1.50	l/m	l/m	0.00%
primary	test pt 2	1.479	1.500	1.50	0.000	1.50	l/m	l/m	0.00%
primary	test pt 3	1.483	1.500	1.49	0.000	1.50	l/m	l/m	0.00%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	5.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	3.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	180 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1030244804	ANA115	Eric Hebert	10/07/2020	Ozone	000699

<b>Slope:</b>	1.02018	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.02164	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180930075	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01115		
<b>Slope</b>	0.99490	<b>Intercept</b>	0.32220
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.35	0.02	0.01	ppb		-0.01
primary	2	13.39	13.13	13.39	ppb		0.26
primary	3	34.59	34.44	35.21	ppb	2.21	
primary	4	67.81	67.83	69.27	ppb	2.1	
primary	5	109.87	110.10	112.30	ppb	1.98	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	730.3 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.052	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	95.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	1.2 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.73 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	695.4 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	38.6 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	95.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	1.2 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.68 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	695.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	14796	ANA115	Eric Hebert	10/07/2020	Temperature	06535

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.12	0.23		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	0.25	0.12	0.000	0.4	C	0.23
primary	Temp Mid Range	25.39	25.06	0.000	25.1	C	0.06
primary	Temp High Range	47.53	47.03	0.000	47.0	C	-0.07

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	ANA115	Eric Hebert	10/07/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.71	0.89		

<b>Mfg</b>	Extech	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	25.42	25.09	0.000	26.0	C	0.89
primary	Temp Mid Range	25.90	25.57	0.000	26.1	C	0.53

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type B"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>

# Field Systems Comments

1 **Parameter:** DasComments

The met tower has been removed. The DAS controls the shelter heating and cooling.

2 **Parameter:** SiteOpsProcedures

The ozone inlet filter is changed and a Z/S/P is performed every two weeks.

3 **Parameter:** SitingCriteriaCom

Site is confined within a fenced area that is somewhat small. There is available space adjacent to the fenced area that could be utilized to improve the instrument siting.

4 **Parameter:** ShelterCleanNotes

The shelter is in fair condition, however somewhat cluttered.

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass

# Field Systems Data Form

F-02058-1500-S1-rev002

Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Pinckney"/>
Operating Group	<input type="text" value="University of MI"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="26-161-9991"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="Climatronics"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry, wet, Hg"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="woodland - mixed"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="flat"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="Marginally"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(734) 426-0060"/>	Audit Latitude	<input type="text" value="42.416636"/>
Site Address 1	<input type="text" value="8420 Strawberry Lake Rd."/>	Audit Longitude	<input type="text" value="-83.902143"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="266"/>
County	<input type="text" value="Washtenaw"/>	Audit Declination	<input type="text" value="-6.6"/>
City, State	<input type="text" value="Dexter, MI"/>		
Zip Code	<input type="text" value="48130"/>	<b>Present</b>	
Time Zone	<input type="text" value="Eastern"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Primary Operator	<input type="text"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Glasses <input type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Safety Hard Hat <input checked="" type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Security Fence <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
		Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

**Driving Directions** From Ann Arbor take I-94 west to exit 169 to Dexter, turning right (north) to Dexter. Continue a few miles to the stop sign and turn left. Continue approximately one block to the small park in the center of town and turn right (north). Continue through Dexter, across the railroad tracks and river. Turn left (west) just across the river on Huron River Drive. Continue about 8 miles on Huron River Drive which becomes a dirt road after the intersection of North Territorial Rd. The site is on the left, just past the first sharp turn in the road (to the right) where it becomes Strawberry Lake Road.



# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S4-rev002

Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 12 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> | Flow line only          |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- |                                     |  |  |                                     |                          |                          |                          |  |
|-------------------------------------|--|--|-------------------------------------|--------------------------|--------------------------|--------------------------|--|
| 1                                   | Do the DAS instruments appear to be in good condition and well maintained?           | <input checked="" type="checkbox"/>  |                                     |                          |                          |                          |  |
| 2                                   | Are all the components of the DAS operational? (printers, modem, backup, etc)        | <input checked="" type="checkbox"/>  |                                     |                          |                          |                          |  |
| 3                                   | Do the analyzer and sensor signal leads pass through lightning protection circuitry? | <input checked="" type="checkbox"/>  | Met sensors only                    |                          |                          |                          |  |
| 4                                   | Are the signal connections protected from the weather and well maintained?           | <input checked="" type="checkbox"/>  |                                     |                          |                          |                          |  |
| 5                                   | Are the signal leads connected to the correct DAS channel?                           | <input checked="" type="checkbox"/>  |                                     |                          |                          |                          |  |
| 6                                   | Are the DAS, sensor translators, and shelter properly grounded?                      | <input checked="" type="checkbox"/>  |                                     |                          |                          |                          |  |
| 7                                   | Does the instrument shelter have a stable power source?                              | <input checked="" type="checkbox"/>  |                                     |                          |                          |                          |  |
| 8                                   | Is the instrument shelter temperature controlled?                                    | <input checked="" type="checkbox"/>  |                                     |                          |                          |                          |  |
| 9                                   | Is the met tower stable and grounded?  | <table border="1"><tr><td><b>Stable</b></td><td><b>Grounded</b></td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table> | <b>Stable</b>                       | <b>Grounded</b>          | <input type="checkbox"/> | <input type="checkbox"/> |  |
| <b>Stable</b>                       | <b>Grounded</b>  |  |                                     |                          |                          |                          |  |
| <input type="checkbox"/>            | <input type="checkbox"/>   |  |                                     |                          |                          |                          |  |
| 10                                  | Is the sample tower stable and grounded?   | <table border="1"><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                          |                          |  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>   |  |                                     |                          |                          |                          |  |
| 11                                  | Tower comments?  |  | Sample tower not grounded           |                          |                          |                          |  |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID

Technician

Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone analyzer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Oct 2014	<input checked="" type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

Site operation procedures

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

Are regular operational QA/QC checks performed on meteorological instruments?

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

Are regular operational QA/QC checks performed on the ozone analyzer?

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID

Technician

Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed mornings
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook, call-in
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input type="checkbox"/>	<input type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Inspiron 15	9K2MC12	07017
DAS	Campbell	CR3000	2118	000339
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CAB18	060400022682	06025
Flow Rate	Apex	AXMC105LPMDPC	54767	000650
Infrastructure	Infrastructure	none	none	none
Modem	Digi	LR54	unknown	07197
Ozone	ThermoElectron Inc	49i A1NAA	1030244804	000699
Ozone Standard	ThermoElectron Inc	49i A3NAA	1030244818	000686
Sample Tower	Aluma Tower	B	none	000180
Shelter Temperature	Campbell	107-L	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342	14796	06535
Zero air pump	Werther International	C 70/4	000836202	06933



## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
------------------------	------------------	------------	-----------------	---------------------	----------------------

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*DEN417-Martin Valvur-10/07/2020*

1	10/7/2020	Computer	Hewlett Packard	none	ProBook	5CB22906R7
2	10/7/2020	DAS	Environmental Sys Corp	90600	8816	2274
3	10/7/2020	Elevation	Elevation	None	1	None
4	10/7/2020	Filter pack flow pump	Thomas	none	107CAB18B	099800009754
5	10/7/2020	Flow Rate	Tylan	90966	FC280SAV	AW9706011
6	10/7/2020	Infrastructure	Infrastructure	none	none	none
7	10/7/2020	Met tower	Glen Martin Engineering	none	unknown	none
8	10/7/2020	MFC power supply	Tylan	90967	RO-32	FP9706004
9	10/7/2020	Modem	US Robotics	none	33.6 fax modem	unknown
10	10/7/2020	Ozone	ThermoElectron Inc	90778	49C	49C-77033-384
11	10/7/2020	Ozone Standard	ThermoElectron Inc	none	49C	49C-71310-368
12	10/7/2020	Printer	Canon	none	PC425	unknown
13	10/7/2020	Sample Tower	Aluma Tower	none	B	AT-71102-71-5
14	10/7/2020	Shelter Temperature	ARS	none	none	006
15	10/7/2020	Siting Criteria	Siting Criteria	None	1	None
16	10/7/2020	Temperature2meter	RM Young	none	41342	018533
17	10/7/2020	Zero air pump	Werther International	none	PC70/4	526281

# DAS Data Form

DAS Time Max Error:

Mfg	Serial Number	Site	Technician	Site Visit Date	Parameter	Use Desc.
Environmental Sys	2274	DEN417	Martin Valvur	10/07/2020	DAS	Primary

**Das Date:**       **Audit Date:**   
**Das Time:**       **Audit Time:**   
**Das Day:**       **Audit Day:**

**Low Channel:**      **High Channel:**  
**Avg Diff:**      **Max Diff:**      **Avg Diff:**      **Max Diff:**  
                 

<b>Mfg</b>	<input type="text" value="HY"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="12010039329"/>	<b>Tfer Desc.</b>	<input type="text" value="Source generator (D"/>
<b>Tfer ID</b>	<input type="text" value="01322"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="6/15/2014"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>
<b>Mfg</b>	<input type="text" value="Fluke"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="95740243"/>	<b>Tfer Desc.</b>	<input type="text" value="DVM"/>
<b>Tfer ID</b>	<input type="text" value="01312"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="1/28/2020"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
4	0.0000	-0.0002	-0.0003	V	V	-0.0001
4	0.1000	0.1001	0.1000	V	V	-0.0001
4	0.3000	0.2996	0.2998	V	V	0.0002
4	0.5000	0.4997	0.4995	V	V	-0.0002
4	0.7000	0.6994	0.6993	V	V	-0.0001
4	0.9000	0.8997	0.8992	V	V	-0.0005
4	1.0000	0.9997	0.9994	V	V	-0.0003

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Tylan	AW9706011	DEN417	Martin Valvur	10/07/2020	Flow Rate	90966

<b>Mfg</b>	Tylan
<b>SN/Owner ID</b>	FP9706004 90967
<b>Parameter:</b>	MFC power supply

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	122974	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01416		
<b>Slope</b>	1.00000	<b>Intercept</b>	0.00000
<b>Cert Date</b>	5/6/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>
0.49%	0.70%

<b>Cal Factor Zero</b>	0.004
<b>Cal Factor Full Scale</b>	5.589
<b>Rotometer Reading:</b>	3.15

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	-0.21	0.0000	0.06	l/m	l/m	
primary	leak check	0.000	0.000	-0.22	0.0000	0.05	l/m	l/m	
primary	test pt 1	3.016	3.020	2.62	0.0000	3.04	l/m	l/m	0.70%
primary	test pt 2	3.026	3.030	2.62	0.0000	3.04	l/m	l/m	0.36%
primary	test pt 3	3.033	3.030	2.62	0.0000	3.04	l/m	l/m	0.40%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	5.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	0.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	360 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	49C-77033-384	DEN417	Martin Valvur	10/07/2020	Ozone	90778

<b>Slope:</b>	0.98810	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.66287	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	49CPS-70008-364	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01110		
<b>Slope</b>	1.00260	<b>Intercept</b>	0.03590
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.10	0.06	0.72	ppb		0.66
primary	2	15.89	15.81	16.36	ppb		0.55
primary	3	34.86	34.73	35.06	ppb	0.95	
primary	4	64.90	64.69	64.31	ppb	-0.59	
primary	5	114.82	114.48	113.90	ppb	-0.51	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	703 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.9	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.008	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	0.0001	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	1.000	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	85.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.61 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	692.0 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	34.4 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	69.6 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.61 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	691.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# 2 Meter Temperature Data Form

Calc. Difference

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	018533	DEN417	Martin Valvur	10/07/2020	Temperature2meter	none

<b>Mfg</b>	Fluke	<b>Parameter</b>	Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.07	0.1		

UseDescription	Test type	InputTmpRaw	InputTmpCorrected	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Rang	0.00	0.02	0.0000	0.00C		-0.02
primary	Temp Mid Range	24.95	24.96	0.0000	24.87C		-0.09
primary	Temp High Rang	47.47	47.47	0.0000	47.37C		-0.1

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	Functioning	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ARS	006	DEN417	Martin Valvur	10/07/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.60	0.74		

<b>Mfg</b>	Fluke	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	23.01	23.02	0.000	23.5	C	0.48
primary	Temp Mid Range	24.25	24.26	0.000	23.5	C	-0.74
primary	Temp Mid Range	24.15	24.16	0.000	23.6	C	-0.58

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8814"/>	<input type="text" value="896 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type B"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass



# Field Systems Comments

1 **Parameter:** SiteOpsProcComm

The site operator uses one gloved hand, and the same glove, to remove and install the filter pack. Leak checks are performed when the ambient temperature is above -10 C.

2 **Parameter:** ShelterCleanNotes

The shelter is in good condition, clean, neat, and very well organized.

# Field Systems Data Form

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Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="NPS/EPA"/>	USGS Map	<input type="text" value="Healy C-4"/>
Operating Group	<input type="text" value="NPS"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="02-068-0003"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="Climatronics"/>		
Air Pollutant Analyzer	<input type="text" value="ozone, IMPROVE"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry, wet"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="woodland - mixed"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="complex"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="No"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(907) 683-9638"/>	Audit Latitude	<input type="text" value="63.7232"/>
Site Address 1	<input type="text" value="mile 238 Parks Highway"/>	Audit Longitude	<input type="text" value="-148.9676"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="663"/>
County	<input type="text" value="Denali Borough"/>	Audit Declination	<input type="text" value="19.3"/>
City, State	<input type="text" value="Denali Park, AK"/>		
Zip Code	<input type="text" value="99755"/>	Fire Extinguisher <input type="checkbox"/>	<input type="text"/>
Time Zone	<input type="text" value="Alaska Time Zone"/>	First Aid Kit <input type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input checked="" type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

Driving Directions

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 12 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input type="checkbox"/>            |                         |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- |                                     |  |  |                      |  |          |                                     |  |                                     |  |
|-------------------------------------|--|--|----------------------|--|----------|-------------------------------------|--|-------------------------------------|--|
| 1                                   | Do the DAS instruments appear to be in good condition and well maintained?           | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 2                                   | Are all the components of the DAS operational? (printers, modem, backup, etc)        | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 3                                   | Do the analyzer and sensor signal leads pass through lightning protection circuitry? | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 4                                   | Are the signal connections protected from the weather and well maintained?           | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 5                                   | Are the signal leads connected to the correct DAS channel?                           | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 6                                   | Are the DAS, sensor translators, and shelter properly grounded?                      | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 7                                   | Does the instrument shelter have a stable power source?                              | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 8                                   | Is the instrument shelter temperature controlled?                                    | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 9                                   | Is the met tower stable and grounded?  | <table border="1"><tr><td>Stable</td><td></td><td>Grounded</td></tr><tr><td><input checked="" type="checkbox"/></td><td></td><td><input checked="" type="checkbox"/></td></tr></table> | Stable               |  | Grounded | <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/> |  |
| Stable                              |  | Grounded   |                      |  |          |                                     |  |                                     |  |
| <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 10                                  | Is the sample tower stable and grounded?   | <table border="1"><tr><td>Stable</td><td></td><td>Grounded</td></tr><tr><td><input checked="" type="checkbox"/></td><td></td><td><input checked="" type="checkbox"/></td></tr></table> | Stable               |  | Grounded | <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/> |  |
| Stable                              |  | Grounded   |                      |  |          |                                     |  |                                     |  |
| <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |  |
| 11                                  | Tower comments?  |  | <input type="text"/> |  |          |                                     |  |                                     |  |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ozone analyzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text" value="Dataview"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
HASP	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Ozone z/s/p Control Charts	<input checked="" type="checkbox"/>	<input type="text" value="Dataview"/>	<input checked="" type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="Monthly"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Monthly"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Alarm values only"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Quarterly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID  Technician  Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed various times
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	One set of gloves only
9	Are the site conditions reported regularly to the field operations manager or staff?	<input type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> As needed	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> As needed	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

The site operator uses one gloved hand, and the same glove, to remove and install the filter pack. Leak checks are performed when the ambient temperature is above -10 C.

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Hewlett Packard	ProBook	5CB22906R7	none
DAS	Environmental Sys Corp	8816	2274	90600
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CAB18B	099800009754	none
Flow Rate	Tylan	FC280SAV	AW9706011	90966
Infrastructure	Infrastructure	none	none	none
Met tower	Glen Martin Engineering	unknown	none	none
MFC power supply	Tylan	RO-32	FP9706004	90967
Modem	US Robotics	33.6 fax modem	unknown	none
Ozone	ThermoElectron Inc	49C	49C-77033-384	90778
Ozone Standard	ThermoElectron Inc	49C	49C-71310-368	none
Printer	Canon	PC425	unknown	none
Sample Tower	Aluma Tower	B	AT-71102-7I-5	none
Shelter Temperature	ARS	none	006	none
Siting Criteria	Siting Criteria	1	None	None
Temperature2meter	RM Young	41342	018533	none
Zero air pump	Werther International	PC70/4	526281	none

## *Site Inventory by Site Visit*

<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>	
<i>SPD111-Eric Hebert-10/12/2020</i>						
1	10/12/2020	Computer	Dell	07057	Inspiron 15	4H4MC12
2	10/12/2020	DAS	Campbell	000342	CR3000	2121
3	10/12/2020	Elevation	Elevation	None	1	None
4	10/12/2020	Filter pack flow pump	Thomas	04857	107CAB18	060300020002
5	10/12/2020	Flow Rate	Apex	000887	AXMC105LPMDPCV	illegible
6	10/12/2020	Infrastructure	Infrastructure	none	none	none
7	10/12/2020	Modem	Digi	07188	LR54	unknown
8	10/12/2020	Ozone	ThermoElectron Inc	000742	49i A1NAA	1105347313
9	10/12/2020	Ozone Standard	ThermoElectron Inc	000437	49i A3NAA	CM08200013
10	10/12/2020	Sample Tower	Aluma Tower	03548	A	none
11	10/12/2020	Shelter Temperature	Campbell	none	107-L	none
12	10/12/2020	Siting Criteria	Siting Criteria	None	1	None
13	10/12/2020	Temperature	RM Young	04314	41342	4011
14	10/12/2020	Zero air pump	Werther International	06928	C 70/4	000822222

# DAS Data Form

DAS Time Max Error:

Mfg	Serial Number	Site	Technician	Site Visit Date	Parameter	Use Desc.
Campbell	2121	SPD111	Eric Hebert	10/12/2020	DAS	Primary

Das Date:	<input type="text" value="10/12/2020"/>	Audit Date:	<input type="text" value="10/12/2020"/>
Das Time:	<input type="text" value="09:45:00"/>	Audit Time:	<input type="text" value="09:46:30"/>
Das Day:	<input type="text" value="286"/>	Audit Day:	<input type="text" value="286"/>

Low Channel:	High Channel:		
Avg Diff:	Max Diff:	Avg Diff:	Max Diff:
<input type="text" value="0.0002"/>	<input type="text" value="0.0004"/>	<input type="text" value="0.0002"/>	<input type="text" value="0.0004"/>

Mfg	<input type="text" value="Datel"/>	Parameter	<input type="text" value="DAS"/>
Serial Number	<input type="text" value="4000392"/>	Tfer Desc.	<input type="text" value="Source generator (D"/>
Tfer ID	<input type="text" value="01321"/>		
Slope	<input type="text" value="1.00000"/>	Intercept	<input type="text" value="0.00000"/>
Cert Date	<input type="text" value="1/22/2015"/>	CorrCoff	<input type="text" value="1.00000"/>
Mfg	<input type="text" value="Fluke"/>	Parameter	<input type="text" value="DAS"/>
Serial Number	<input type="text" value="86590148"/>	Tfer Desc.	<input type="text" value="DVM"/>
Tfer ID	<input type="text" value="01310"/>		
Slope	<input type="text" value="1.00000"/>	Intercept	<input type="text" value="0.00000"/>
Cert Date	<input type="text" value="2/4/2020"/>	CorrCoff	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
7	0.0000	0.0000	0.0000	V	V	0.0000
7	0.1000	0.1000	0.0999	V	V	-0.0001
7	0.3000	0.3001	0.2999	V	V	-0.0002
7	0.5000	0.5001	0.4999	V	V	-0.0002
7	0.7000	0.7001	0.6998	V	V	-0.0003
7	0.9000	0.9001	0.8998	V	V	-0.0003
7	1.0000	1.0002	0.9998	V	V	-0.0004

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	illegible	SPD111	Eric Hebert	10/12/2020	Flow Rate	000887

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>	<b>Cal Factor Zero</b>	0.02
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>Cal Factor Full Scale</b>	0.97
4.66%	5.06%	<b>Rotometer Reading:</b>	1.5

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	0.00	0.000	0.02	l/m	l/m	
primary	leak check	0.000	0.000	0.03	0.000	0.05	l/m	l/m	
primary	test pt 1	1.550	1.570	1.55	0.000	1.50	l/m	l/m	-4.46%
primary	test pt 2	1.550	1.570	1.55	0.000	1.50	l/m	l/m	-4.46%
primary	test pt 3	1.557	1.580	1.55	0.000	1.50	l/m	l/m	-5.06%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	5.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	3.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	180 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347313	SPD111	Eric Hebert	10/12/2020	Ozone	000742

<b>Slope:</b>	0.98127	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.93412	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180930075	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01115		
<b>Slope</b>	0.99490	<b>Intercept</b>	0.32220
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.25	-0.07	-1.00	ppb		-0.93
primary	2	13.83	13.57	12.11	ppb		-1.46
primary	3	34.85	34.70	33.35	ppb	-3.97	
primary	4	67.98	68.00	65.97	ppb	-3.03	
primary	5	115.18	115.44	112.20	ppb	-2.85	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	723.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.005	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	95.3 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.68 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	694.0 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	38.4 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	115.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.66 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	694.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	4011	SPD111	Eric Hebert	10/12/2020	Temperature	04314

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.10	0.18		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	0.07	-0.06	0.000	0.1	C	0.18
primary	Temp Mid Range	27.32	26.98	0.000	27.0	C	0.06
primary	Temp High Range	48.47	47.96	0.000	48.0	C	0.07

<b>Sensor Component</b>	Shield	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	SPD111	Eric Hebert	10/12/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
1.43	1.67		

<b>Mfg</b>	Extech	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	26.06	25.73	0.000	27.1	C	1.33
primary	Temp Mid Range	23.39	23.08	0.000	24.8	C	1.67
primary	Temp Mid Range	24.20	23.88	0.000	25.2	C	1.3

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	100 m	<b>Status</b>	Fail
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass

# Field Systems Comments

**1 Parameter:** DasComments

The sample tower is an older Type A tower and some small cracks are present in the tower legs. The tower clamps are very rusty. The site operator mentioned that the tower is scheduled for replacement. It was discussed that the new tower should not impact the NADP equipment. The current tower location is meeting NADP siting criteria.

**2 Parameter:** SitingCriteriaCom

The site is in a pasture with as many as 75 cattle. The cattle are fed within 100 meters of the site. When the site is visited the cattle approach to within 10 meters of the site.

**3 Parameter:** ShelterCleanNotes

The shelter is in good condition. The shelter is clean, neat, well organized and well maintained.

**4 Parameter:** MetOpMaintCom

The temperature signal wire was found to be loose and the signal was intermittent. The signal wire was tightened during the audit.

# Field Systems Data Form

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Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Ausmus"/>
Operating Group	<input type="text" value="private"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="47-025-9991"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="R.M. Young"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry, wet"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="Agriculture, dairy, woodland - mixed"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="rolling / complex"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="Marginally"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="4238698159"/>	Audit Latitude	<input type="text" value="36.46983"/>
Site Address 1	<input type="text" value="718 Russell Hill Road"/>	Audit Longitude	<input type="text" value="-83.826511"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="361"/>
County	<input type="text" value="Claiborne"/>	Audit Declination	<input type="text" value="-5.1"/>
City, State	<input type="text" value=", TN"/>		
Zip Code	<input type="text" value="37870"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Time Zone	<input type="text" value="Eastern"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input checked="" type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

**Driving Directions**

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Signs of wear
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

The temperature signal wire was found to be loose and the signal was intermittent. The signal wire was tightened during the audit.

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 12 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> | Flow line only          |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

1	Do the DAS instruments appear to be in good condition and well maintained?	<input checked="" type="checkbox"/>							
2	Are all the components of the DAS operational? (printers, modem, backup, etc)	<input checked="" type="checkbox"/>							
3	Do the analyzer and sensor signal leads pass through lightning protection circuitry?	<input checked="" type="checkbox"/>	Met sensors only						
4	Are the signal connections protected from the weather and well maintained?	<input checked="" type="checkbox"/>							
5	Are the signal leads connected to the correct DAS channel?	<input checked="" type="checkbox"/>							
6	Are the DAS, sensor translators, and shelter properly grounded?	<input checked="" type="checkbox"/>							
7	Does the instrument shelter have a stable power source?	<input checked="" type="checkbox"/>							
8	Is the instrument shelter temperature controlled?	<input checked="" type="checkbox"/>							
9	Is the met tower stable and grounded?	<table border="1"><thead><tr><th>Stable</th><th>Grounded</th></tr></thead><tbody><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table>	Stable	Grounded	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Stable	Grounded								
<input type="checkbox"/>	<input type="checkbox"/>								
<input checked="" type="checkbox"/>	<input type="checkbox"/>								
10	Is the sample tower stable and grounded?								
11	Tower comments?		Met tower removed						

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

The sample tower is an older Type A tower and some small cracks are present in the tower legs. The tower clamps are very rusty. The site operator mentioned that the tower is scheduled for replacement. It was discussed that the new tower should not impact the NADP equipment. The current tower location is meeting NADP siting criteria.



# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID  Technician  Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone analyzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	Nov 2011	<input type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Feb 2014	<input checked="" type="checkbox"/>
Field Ops Manual	<input checked="" type="checkbox"/>	July 1990	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="As needed"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input checked="" type="checkbox"/>	<input type="text" value="As needed"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID

Technician

Site Visit Date

## Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed afternoons
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF, call-in
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Inspiron 15	4H4MC12	07057
DAS	Campbell	CR3000	2121	000342
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CAB18	060300020002	04857
Flow Rate	Apex	AXMC105LPMDPC	illegible	000887
Infrastructure	Infrastructure	none	none	none
Modem	Digi	LR54	unknown	07188
Ozone	ThermoElectron Inc	49i A1NAA	1105347313	000742
Ozone Standard	ThermoElectron Inc	49i A3NAA	CM08200013	000437
Sample Tower	Aluma Tower	A	none	03548
Shelter Temperature	Campbell	107-L	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342	4011	04314
Zero air pump	Werther International	C 70/4	000822222	06928

## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*ESP127-Eric Hebert-10/16/2020*

1	10/16/2020	Computer	Dell	07060	Inspiron 15	894MC12
2	10/16/2020	DAS	Campbell	000352	CR3000	2130
3	10/16/2020	Elevation	Elevation	None	1	None
4	10/16/2020	Filter pack flow pump	Thomas	02975	107CAB18	0493002476
5	10/16/2020	Flow Rate	Apex	000808	AXMC105LPMDPCV	illegible
6	10/16/2020	Infrastructure	Infrastructure	none	none	none
7	10/16/2020	Modem	Digi	07131	LR54	unknown
8	10/16/2020	Ozone	ThermoElectron Inc	000734	49i A1NAA	1105347317
9	10/16/2020	Ozone Standard	ThermoElectron Inc	000327	49i A3NAA	0622717852
10	10/16/2020	Sample Tower	Aluma Tower	03550	A	none
11	10/16/2020	Shelter Temperature	Campbell	none	107-L	none
12	10/16/2020	Siting Criteria	Siting Criteria	None	1	None
13	10/16/2020	Temperature	RM Young	06406	41342VC	14039
14	10/16/2020	Zero air pump	Werther International	06874	C 70/4	000815256

# DAS Data Form

DAS Time Max Error:

Mfg	Serial Number	Site	Technician	Site Visit Date	Parameter	Use Desc.
Campbell	2130	ESP127	Eric Hebert	10/16/2020	DAS	Primary

**Das Date:**       **Audit Date:**   
**Das Time:**       **Audit Time:**   
**Das Day:**       **Audit Day:**

**Low Channel:**      **High Channel:**  
**Avg Diff:**      **Max Diff:**      **Avg Diff:**      **Max Diff:**  
                 

<b>Mfg</b>	<input type="text" value="Date1"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="4000392"/>	<b>Tfer Desc.</b>	<input type="text" value="Source generator (D"/>
<b>Tfer ID</b>	<input type="text" value="01321"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="1/22/2015"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>
<b>Mfg</b>	<input type="text" value="Fluke"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="86590148"/>	<b>Tfer Desc.</b>	<input type="text" value="DVM"/>
<b>Tfer ID</b>	<input type="text" value="01310"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="2/4/2020"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
7	0.0000	0.0000	0.0000	V	V	0.0000
7	0.1000	0.1000	0.0999	V	V	-0.0001
7	0.3000	0.3001	0.3000	V	V	-0.0001
7	0.5000	0.5002	0.5001	V	V	-0.0001
7	0.7000	0.7003	0.7001	V	V	-0.0002
7	0.9000	0.9004	0.9002	V	V	-0.0002
7	1.0000	1.0004	1.0002	V	V	-0.0002

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	illegible	ESP127	Eric Hebert	10/16/2020	Flow Rate	000808

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>	<b>Cal Factor Zero</b>	0.08
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>Cal Factor Full Scale</b>	1.009
0.66%	0.66%	<b>Rotometer Reading:</b>	1.5

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	-0.01	0.000	0.01	l/m	l/m	
primary	leak check	0.000	0.000	0.00	0.000	0.05	l/m	l/m	
primary	test pt 1	1.490	1.510	1.49	0.000	1.50	l/m	l/m	-0.66%
primary	test pt 2	1.491	1.510	1.49	0.000	1.50	l/m	l/m	-0.66%
primary	test pt 3	1.492	1.510	1.49	0.000	1.50	l/m	l/m	-0.66%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	4.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	3.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	270 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347317	ESP127	Eric Hebert	10/16/2020	Ozone	000734

<b>Slope:</b>	0.96253	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.43361	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180930075	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01115		
<b>Slope</b>	0.99490	<b>Intercept</b>	0.32220
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.13	-0.19	0.35	ppb		0.54
primary	2	14.12	13.86	13.60	ppb		-0.26
primary	3	32.53	32.37	31.61	ppb	-2.38	
primary	4	69.55	69.58	67.51	ppb	-3.02	
primary	5	111.97	112.22	108.40	ppb	-3.46	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	738.4 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.30	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.003	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	88.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.72 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	704.3 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	32.7 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	92.5 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.69 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	705.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	Pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass



# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	14039	ESP127	Eric Hebert	10/16/2020	Temperature	06406

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.14	0.33		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	-0.11	-0.24	0.000	0.1	C	0.33
primary	Temp Mid Range	28.36	28.01	0.000	28.1	C	0.05
primary	Temp High Range	45.89	45.40	0.000	45.4	C	0.03

<b>Sensor Component</b>	Shield	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	ESP127	Eric Hebert	10/16/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.59	0.82		

<b>Mfg</b>	Extech	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	23.05	22.74	0.000	23.6	C	0.82
primary	Temp Mid Range	24.85	24.53	0.000	24.9	C	0.36

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
-------------------------	-------------	------------------	--	---------------	------

## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass

# Field Systems Comments

1 **Parameter:** DocumentationCo

The chain-of-custody section of the SSRF is not being completed by the site operator.

2 **Parameter:** ShelterCleanNotes

The shelter has been improved since the previous audit, however there is still some rot in the walls.

# Field Systems Data Form

F-02058-1500-S1-rev002

Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Silver Point"/>
Operating Group	<input type="text" value="private, TN DEC"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="47-041-9991"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="Climatronics"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="woodland - mixed"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="rolling - complex"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="No"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(615) 597-6556"/>	Audit Latitude	<input type="text" value="36.038831"/>
Site Address 1	<input type="text" value="Craft Center Rd."/>	Audit Longitude	<input type="text" value="-85.732965"/>
Site Address 2	<input type="text" value="Hurricane Bridge"/>	Audit Elevation	<input type="text" value="302"/>
County	<input type="text" value="DeKalb"/>	Audit Declination	<input type="text" value="-3.5"/>
City, State	<input type="text" value="Smithville, TN"/>		
Zip Code	<input type="text" value="37166"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Time Zone	<input type="text" value="Central"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>
Shelter Working Room <input checked="" type="checkbox"/>	Make <input type="text" value="Ekto"/> Model <input type="text" value="8810"/>	Shelter Size	<input type="text" value="640 cuft"/>
Shelter Clean <input checked="" type="checkbox"/>	Notes	<input type="text" value="The shelter has been improved since the previous audit, however there is still some rot in the walls."/>	
Site OK <input checked="" type="checkbox"/>	Notes	<input type="text"/>	

**Driving Directions**

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

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Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	Moderately clean
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 12 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> |                         |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- |                                     |  |   |                           |                 |                                     |                          |  |
|-------------------------------------|--|---|---------------------------|-----------------|-------------------------------------|--------------------------|--|
| 1                                   | Do the DAS instruments appear to be in good condition and well maintained?           | <input checked="" type="checkbox"/>   |                           |                 |                                     |                          |  |
| 2                                   | Are all the components of the DAS operational? (printers, modem, backup, etc)        | <input checked="" type="checkbox"/>   |                           |                 |                                     |                          |  |
| 3                                   | Do the analyzer and sensor signal leads pass through lightning protection circuitry? | <input checked="" type="checkbox"/>   | Met sensors only          |                 |                                     |                          |  |
| 4                                   | Are the signal connections protected from the weather and well maintained?           | <input checked="" type="checkbox"/>   |                           |                 |                                     |                          |  |
| 5                                   | Are the signal leads connected to the correct DAS channel?                           | <input checked="" type="checkbox"/>   |                           |                 |                                     |                          |  |
| 6                                   | Are the DAS, sensor translators, and shelter properly grounded?                      | <input checked="" type="checkbox"/>   |                           |                 |                                     |                          |  |
| 7                                   | Does the instrument shelter have a stable power source?                              | <input checked="" type="checkbox"/>   |                           |                 |                                     |                          |  |
| 8                                   | Is the instrument shelter temperature controlled?                                    | <input checked="" type="checkbox"/>   |                           |                 |                                     |                          |  |
| 9                                   | Is the met tower stable and grounded?  | <table border="1"><tr><td><b>Stable</b></td><td><b>Grounded</b></td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>            | <b>Stable</b>             | <b>Grounded</b> | <input type="checkbox"/>            | <input type="checkbox"/> |  |
| <b>Stable</b>                       | <b>Grounded</b>  |   |                           |                 |                                     |                          |  |
| <input type="checkbox"/>            | <input type="checkbox"/>   |   |                           |                 |                                     |                          |  |
| 10                                  | Is the sample tower stable and grounded?   | <table border="1"><tr><td><b>Stable</b></td><td><b>Grounded</b></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr></table> | <b>Stable</b>             | <b>Grounded</b> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |  |
| <b>Stable</b>                       | <b>Grounded</b>  |   |                           |                 |                                     |                          |  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>   |   |                           |                 |                                     |                          |  |
| 11                                  | Tower comments?  |   | sample tower not grounded |                 |                                     |                          |  |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID  Technician  Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ozone analyzer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	Oct 2010	<input type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Nov 2010	<input type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?  Minimal information
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?  Chain-of-custody not used
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

The chain-of-custody section of the SSRF is not being completed by the site operator.

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="As needed"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input checked="" type="checkbox"/>	<input type="text" value="As needed"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID

Technician

Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF, call-in
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook, call-in
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input type="checkbox"/>	<input type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Inspiron 15	894MC12	07060
DAS	Campbell	CR3000	2130	000352
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CAB18	0493002476	02975
Flow Rate	Apex	AXMC105LPMDPC	illegible	000808
Infrastructure	Infrastructure	none	none	none
Modem	Digi	LR54	unknown	07131
Ozone	ThermoElectron Inc	49i A1NAA	1105347317	000734
Ozone Standard	ThermoElectron Inc	49i A3NAA	0622717852	000327
Sample Tower	Aluma Tower	A	none	03550
Shelter Temperature	Campbell	107-L	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342VC	14039	06406
Zero air pump	Werther International	C 70/4	000815256	06874

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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### *CAT175-Korey Devins-10/20/2020*

1	10/20/2020	DAS	Campbell	000412	CR3000	2532
2	10/20/2020	Elevation	Elevation	None	1	None
3	10/20/2020	Filter pack flow pump	Brailsford	none	TD-4X2N	1016
4	10/20/2020	Flow Rate	Apex	000644	AXMC105LPMDPCV	illegible
5	10/20/2020	Infrastructure	Infrastructure	none	none	none
6	10/20/2020	Modem	Raven	06660	V4221-V	0918425101
7	10/20/2020	Sample Tower	Aluma Tower	666359	B	none
8	10/20/2020	Shield (10 meter)	RM Young	none	41003	none
9	10/20/2020	Siting Criteria	Siting Criteria	None	1	None
10	10/20/2020	Temperature	RM Young	06409	41342VO	14042
11	10/20/2020	UPS	ProSine	04576	1000w	unknown

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	illegible	CAT175	Korey Devins	10/20/2020	Flow Rate	000644

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>	<b>Cal Factor Zero</b>	0
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>Cal Factor Full Scale</b>	0
1.03%	1.32%	<b>Rotometer Reading:</b>	1.5

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	0.01	0.000	0.01	l/m	l/m	
primary	leak check	0.000	0.000	0.01	0.000	0.00	l/m	l/m	
primary	test pt 1	1.491	1.510	1.47	0.000	1.50	l/m	l/m	-0.79%
primary	test pt 2	1.484	1.510	1.47	0.000	1.49	l/m	l/m	-1.32%
primary	test pt 3	1.488	1.510	1.47	0.000	1.50	l/m	l/m	-0.99%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Fair	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	See comments	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	4.5 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	1.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	180 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass



# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	14042	CAT175	Korey Devins	10/20/2020	Temperature	06409

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.09	0.14		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	0.13	0.00	0.000	0.0	C	0.01
primary	Temp Mid Range	27.15	26.81	0.000	26.9	C	0.12
primary	Temp High Range	47.52	47.02	0.000	47.2	C	0.14

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810 (s/n 1977-1)"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type B"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Not installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Poor"/>	Status	<input type="text" value="Fail"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Poor"/>	Status	<input type="text" value="Fail"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Fair"/>	Status	<input type="text" value="pass"/>

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass

# Site Visit Comments

Parameter	Site	Technician	S.V. Date	Component	Mfg	Serial No.	Hazard	Problem
-----------	------	------------	-----------	-----------	-----	------------	--------	---------

Flow Rate	CAT175	Korey Devins	10/20/2020	Moisture Present	Apex	4212	<input type="checkbox"/>	<input type="checkbox"/>
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There is moisture present in the dry deposition sample train inside the shelter.

# Field Systems Comments

1 **Parameter:** DasComments

The shelter is not temperature controlled. The site is solar and DC battery powered. The met tower has been removed and the temperature is being measured from the sample tower at 10 meters above ground.

2 **Parameter:** DocumentationCo

The site copies of the SSRF are no longer kept onsite.

3 **Parameter:** ShelterCleanNotes

The shelter is seriously deteriorated with rot and mold on the walls. The vegetation has been allowed to grow. The shelter roof has been repaired.

4 **Parameter:** PollAnalyzerCom

Ozone monitoring is no longer being conducted at the site.

# Field Systems Data Form

F-02058-1500-S1-rev002

Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Claryville"/>
Operating Group	<input type="text" value="private"/>	Map Scale	<input type="text"/>
AQS #	<input type="text"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="R.M. Young"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text" value="41.9423"/>
Deposition Measurement	<input type="text" value="dry"/>	QAPP Longitude	<input type="text" value="-74.5519"/>
Land Use	<input type="text" value="woodland - mixed"/>	QAPP Elevation Meters	<input type="text" value="765"/>
Terrain	<input type="text" value="complex"/>	QAPP Declination	<input type="text" value="13.5"/>
Conforms to MLM	<input type="text" value="No"/>	QAPP Declination Date	<input type="text" value="2/22/2006"/>
Site Telephone	<input type="text" value="(845) 798-0947"/>	Audit Latitude	<input type="text" value="41.942325"/>
Site Address 1	<input type="text" value="Wildcat Mt. Road"/>	Audit Longitude	<input type="text" value="-74.551999"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="754"/>
County	<input type="text" value="Ulster"/>	Audit Declination	<input type="text" value="-13.2"/>
City, State	<input type="text" value="Claryville, NY"/>		
Zip Code	<input type="text" value="12725"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Time Zone	<input type="text" value="Eastern"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

Driving Directions

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S4-rev002

Site ID  Technician  Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	Natural aspiration
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	N/A
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	N/A

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> | Ozone not measured      |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | N/A                     |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 18 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input type="checkbox"/>            | N/A                     |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input type="checkbox"/>            | N/A                     |
| 8 | Are there moisture traps in the sample lines?                                      | <input type="checkbox"/>            |                         |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

**Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:**

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID  Technician  Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

1	Do the DAS instruments appear to be in good condition and well maintained?	<input checked="" type="checkbox"/>							
2	Are all the components of the DAS operational? (printers, modem, backup, etc)	<input checked="" type="checkbox"/>							
3	Do the analyzer and sensor signal leads pass through lightning protection circuitry?	<input checked="" type="checkbox"/>	Met sensors only						
4	Are the signal connections protected from the weather and well maintained?	<input checked="" type="checkbox"/>							
5	Are the signal leads connected to the correct DAS channel?	<input checked="" type="checkbox"/>							
6	Are the DAS, sensor translators, and shelter properly grounded?	<input checked="" type="checkbox"/>							
7	Does the instrument shelter have a stable power source?	<input type="checkbox"/>	Solar power						
8	Is the instrument shelter temperature controlled?	<input type="checkbox"/>	Shelter not temperature controlled						
9	Is the met tower stable and grounded?	<input type="checkbox"/>	<table border="1"><tr><td><b>Stable</b></td><td><b>Grounded</b></td></tr><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table>	<b>Stable</b>	<b>Grounded</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Stable</b>	<b>Grounded</b>								
<input type="checkbox"/>	<input type="checkbox"/>								
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
10	Is the sample tower stable and grounded?	<input checked="" type="checkbox"/>	<table border="1"><tr><td><b>Stable</b></td><td><b>Grounded</b></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table>	<b>Stable</b>	<b>Grounded</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
<b>Stable</b>	<b>Grounded</b>								
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								
11	Tower comments?		Met tower removed						

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

The shelter is not temperature controlled. The site is solar and DC battery powered. The met tower has been removed and the temperature is being measured from the sample tower at 10 meters above ground.

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID  Technician  Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ozone analyzer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filter pack flow controller	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	Oct 2001	<input type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Oct 2015	<input checked="" type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	N/A	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?  Not present
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  N/A

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

### Site operation procedures

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

### Are regular operational QA/QC checks performed on meteorological instruments?

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

### Are regular operational QA/QC checks performed on the ozone analyzer?

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID

Technician

Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed mornings 95% of the time
2	Are the Site Status Report Forms being completed and filed correctly?	<input type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input type="checkbox"/>	
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF, logbook
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID  Technician  Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
DAS	Campbell	CR3000	2532	000412
Elevation	Elevation	1	None	None
Filter pack flow pump	Brailsford	TD-4X2N	1016	none
Flow Rate	Apex	AXMC105LPMDPC	illegible	000644
Infrastructure	Infrastructure	none	none	none
Modem	Raven	V4221-V	0918425101	06660
Sample Tower	Aluma Tower	B	none	666359
Shield (10 meter)	RM Young	41003	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342VO	14042	06409
UPS	ProSine	1000w	unknown	04576

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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### *JOT403-Martin Valvur-11/13/2020*

1	11/13/2020	DAS	Environmental Sys Corp	90599	8816	2271
2	11/13/2020	Elevation	Elevation	None	1	None
3	11/13/2020	Filter pack flow pump	Thomas	none	illegible	illegible
4	11/13/2020	flow rate	Tylan	03378	FC280AV	AW9403016
5	11/13/2020	Infrastructure	Infrastructure	none	none	none
6	11/13/2020	MFC power supply	Tylan	03683	RO-32	FP9403017
7	11/13/2020	Modem	Sierra wireless	none	GX450	Unknown
8	11/13/2020	Ozone	ThermoElectron Inc	none	49i A3NAA	1160770010
9	11/13/2020	Ozone Standard	ThermoElectron Inc	none	49i A1NAA	1130950194
10	11/13/2020	Sample Tower	Aluma Tower	923310	B	none
11	11/13/2020	Shelter Temperature	ARS	none	none	none
12	11/13/2020	Siting Criteria	Siting Criteria	None	1	None
13	11/13/2020	Temperature2meter	RM Young	none	41342	14960
14	11/13/2020	Zero air pump	Werther International	none	PC70/4	606491

# DAS Data Form

DAS Time Max Error:

Mfg	Serial Number	Site	Technician	Site Visit Date	Parameter	Use Desc.
Environmental Sys	2271	JOT403	Martin Valvur	11/13/2020	DAS	Primary

**Das Date:**       **Audit Date:**   
**Das Time:**       **Audit Time:**   
**Das Day:**       **Audit Day:**

**Low Channel:**      **High Channel:**  
**Avg Diff:**      **Max Diff:**      **Avg Diff:**      **Max Diff:**  
                 

<b>Mfg</b>	<input type="text" value="HY"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="12010039329"/>	<b>Tfer Desc.</b>	<input type="text" value="Source generator (D"/>
<b>Tfer ID</b>	<input type="text" value="01322"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="6/15/2014"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>
<b>Mfg</b>	<input type="text" value="Fluke"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="95740243"/>	<b>Tfer Desc.</b>	<input type="text" value="DVM"/>
<b>Tfer ID</b>	<input type="text" value="01312"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="1/28/2020"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
15	0.0000	-0.0005	-0.0005	V	V	0.0000
15	0.1000	0.0999	0.0999	V	V	0.0000
15	0.3000	0.2997	0.2999	V	V	0.0002
15	0.5000	0.4996	0.4998	V	V	0.0002
15	0.7000	0.6998	0.7003	V	V	0.0005
15	0.9000	0.8999	0.9004	V	V	0.0005
15	1.0000	0.9996	1.0000	V	V	0.0004



# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Tylan	AW9403016	JOT403	Martin Valvur	11/13/2020	flow rate	03378

<b>Mfg</b>	Tylan
<b>SN/Owner ID</b>	FP9403017 03683
<b>Parameter:</b>	MFC power supply

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	122974	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01416		
<b>Slope</b>	1.00000	<b>Intercept</b>	0.00000
<b>Cert Date</b>	5/6/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>
0.35%	0.64%

<b>Cal Factor Zero</b>	0.071
<b>Cal Factor Full Scale</b>	5.487
<b>Rotometer Reading:</b>	3.3

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	-0.07	0.0000	0.04	l/m	l/m	
primary	leak check	0.000	0.000	-0.07	0.0000	0.03	l/m	l/m	
primary	test pt 1	2.982	2.980	0.00	0.0000	3.00	l/m	l/m	0.64%
primary	test pt 2	2.993	2.990	0.00	0.0000	3.00	l/m	l/m	0.23%
primary	test pt 3	2.994	2.990	0.00	0.0000	3.00	l/m	l/m	0.17%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Poor	<b>Status</b>	Fail
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	4.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	-0.5 cm	<b>Status</b>	Fail
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	225 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1160770010	JOT403	Martin Valvur	11/13/2020	Ozone	none

<b>Slope:</b>	0.98833	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.15462	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	49CPS-70008-364	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01110		
<b>Slope</b>	1.00260	<b>Intercept</b>	0.03590
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.10	0.06	0.39	ppb		0.33
primary	2	17.26	17.17	17.16	ppb		-0.01
primary	3	37.94	37.80	37.24	ppb	-1.49	
primary	4	67.41	67.19	66.49	ppb	-1.05	
primary	5	109.72	109.39	108.40	ppb	-0.91	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	661.3 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	0.999	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	1.0006	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	88.1 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.63 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	645.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	34.2 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	45.1 kHz	<b>Status</b>	Fail
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.66 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	645.3 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# 2 Meter Temperature Data Form

Calc. Difference

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
RM Young	14960	JOT403	Martin Valvur	11/13/2020	Temperature2meter	none

<b>Mfg</b>	Fluke	<b>Parameter</b>	Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

**DAS 1:**    **DAS 2:**

**Abs Avg Err**   **Abs Max Err**   **Abs Avg Err**   **Abs Max Err**

       

UseDescription	Test type	InputTmpRaw	InputTmpCorrected	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Rang	-0.01	0.01	0.0000	-0.09C		-0.1
primary	Temp Mid Range	23.93	23.94	0.0000	23.73C		-0.21
primary	Temp High Rang	47.45	47.45	0.0000	47.15C		-0.3

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	Functioning	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ARS	none	JOT403	Martin Valvur	11/13/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.15	0.26		

<b>Mfg</b>	Fluke	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	26.24	26.25	0.000	26.2	C	-0.03
primary	Temp Mid Range	22.88	22.89	0.000	23.2	C	0.26
primary	Temp Mid Range	24.59	24.60	0.000	24.8	C	0.16

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="ShelterOne"/>	<input type="text" value="E8129-28036"/>	<input type="text" value="768 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type B"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Not installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>

# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass

# Site Visit Comments

Parameter	Site	Technician	S.V. Date	Component	Mfg	Serial No.	Hazard	Problem
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Flow Rate	JOT403	Martin Valvur	11/13/2020	Filter Position	Tylan	744	<input type="checkbox"/>	<input type="checkbox"/>
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The filter attachment plate is mounted too low in the enclosure resulting in the filter being exposed to wind-driven rain and in the standard geometric orientation.

Ozone	JOT403	Martin Valvur	11/13/2020	Cell B Freq.	ThermoElectron	4607	<input type="checkbox"/>	<input type="checkbox"/>
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This analyzer diagnostic check is outside the manufacturer's recommended value.

# Field Systems Comments

1 **Parameter:** DocumentationCo

Hardcopies of manuals and documentation are no longer maintained on site. All information is maintained on the internet.

2 **Parameter:** ShelterCleanNotes

The shelter is in good condition, clean and well organized but not grounded.



# Field Systems Data Form

F-02058-1500-S1-rev002

Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="NPS/EPA"/>	USGS Map	<input type="text" value="Yucca Valley South"/>
Operating Group	<input type="text" value="NPS"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="06-071-9002"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="RM Young"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone, IMPROVE"/>	QAPP Latitude	<input type="text" value="34.0714"/>
Deposition Measurement	<input type="text" value="dry, wet"/>	QAPP Longitude	<input type="text" value="-116.3906"/>
Land Use	<input type="text" value="desert"/>	QAPP Elevation Meters	<input type="text" value="1244"/>
Terrain	<input type="text" value="complex"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="No"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(760) 228-1927"/>	Audit Latitude	<input type="text" value="34.069569"/>
Site Address 1	<input type="text"/>	Audit Longitude	<input type="text" value="-116.388933"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="1243"/>
County	<input type="text" value="San Bernardino"/>	Audit Declination	<input type="text" value="12"/>
City, State	<input type="text" value="Yucca Valley, CA"/>		
Zip Code	<input type="text" value="92284"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="Inspected March 2014"/>
Time Zone	<input type="text" value="Pacific"/>	First Aid Kit <input checked="" type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

Driving Directions

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S4-rev002

Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	N/A
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	N/A
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 12 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input type="checkbox"/>            |                         |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- |                                     |  |  |   |                          |                                     |                                     |  |
|-------------------------------------|--|--|---|--------------------------|-------------------------------------|-------------------------------------|--|
| 1                                   | Do the DAS instruments appear to be in good condition and well maintained?           | <input checked="" type="checkbox"/>  |   |                          |                                     |                                     |  |
| 2                                   | Are all the components of the DAS operational? (printers, modem, backup, etc)        | <input checked="" type="checkbox"/>  |   |                          |                                     |                                     |  |
| 3                                   | Do the analyzer and sensor signal leads pass through lightning protection circuitry? | <input checked="" type="checkbox"/>  | Met sensors only                          |                          |                                     |                                     |  |
| 4                                   | Are the signal connections protected from the weather and well maintained?           | <input checked="" type="checkbox"/>  |   |                          |                                     |                                     |  |
| 5                                   | Are the signal leads connected to the correct DAS channel?                           | <input checked="" type="checkbox"/>  |   |                          |                                     |                                     |  |
| 6                                   | Are the DAS, sensor translators, and shelter properly grounded?                      | <input type="checkbox"/>   | Shelter not grounded                      |                          |                                     |                                     |  |
| 7                                   | Does the instrument shelter have a stable power source?                              | <input checked="" type="checkbox"/>  |   |                          |                                     |                                     |  |
| 8                                   | Is the instrument shelter temperature controlled?                                    | <input checked="" type="checkbox"/>  |   |                          |                                     |                                     |  |
| 9                                   | Is the met tower stable and grounded?  | <table border="1"><tr><td><b>Stable</b></td><td><b>Grounded</b></td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table> | <b>Stable</b>                             | <b>Grounded</b>          | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |  |
| <b>Stable</b>                       | <b>Grounded</b>  |  |   |                          |                                     |                                     |  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>  |  |   |                          |                                     |                                     |  |
| 10                                  | Is the sample tower stable and grounded?   | <table border="1"><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>   | <input checked="" type="checkbox"/>       | <input type="checkbox"/> |                                     |                                     |  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>   |  |   |                          |                                     |                                     |  |
| 11                                  | Tower comments?  |  | The sample tower is bolted to the shelter |                          |                                     |                                     |  |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID  Technician  Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ozone analyzer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text" value="Dataview"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
HASP	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Analyzer Diagnostics Tests	<input type="checkbox"/>	<input type="text" value="Alarm values only"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID

Technician

Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed morinings
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input type="checkbox"/>	<input type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Every 2 weeks	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input type="checkbox"/>	<input type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
DAS	Environmental Sys Corp	8816	2271	90599
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	illegible	illegible	none
flow rate	Tylan	FC280AV	AW9403016	03378
Infrastructure	Infrastructure	none	none	none
MFC power supply	Tylan	RO-32	FP9403017	03683
Modem	Sierra wireless	GX450	Unknown	none
Ozone	ThermoElectron Inc	49i A3NAA	1160770010	none
Ozone Standard	ThermoElectron Inc	49i A1NAA	1130950194	none
Sample Tower	Aluma Tower	B	none	923310
Shelter Temperature	ARS	none	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature2meter	RM Young	41342	14960	none
Zero air pump	Werther International	PC70/4	606491	none

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*DEV412-Martin Valvur-11/14/2020*

1	11/14/2020	Computer	Hewlett Packard	none	8470p	CNU3389GGZ
2	11/14/2020	DAS	Environmental Sys Corp	90654	8816	2567
3	11/14/2020	Met tower	Glen Martin Engineering	none	unknown	none
4	11/14/2020	Modem	Hughesnet	none	HN9000	unknown
5	11/14/2020	Ozone	ThermoElectron Inc	90566	49C	49C-59337-322
6	11/14/2020	Sample Tower	Aluma Tower	none	FOT-10	218298EE3
7	11/14/2020	Shelter Temperature	ARS	none	unknown	none
8	11/14/2020	Temperature	Vaisala	none	HMP45AC	Z1730043
9	11/14/2020	Zero air pump	Werther International	none	C 70/4	000915005

# DAS Data Form

DAS Time Max Error:

Mfg	Serial Number	Site	Technician	Site Visit Date	Parameter	Use Desc.
Environmental Sys	2567	DEV412	Martin Valvur	11/14/2020	DAS	Primary

**Das Date:**       **Audit Date:**   
**Das Time:**       **Audit Time:**   
**Das Day:**       **Audit Day:**

**Low Channel:**      **High Channel:**  
**Avg Diff:**      **Max Diff:**      **Avg Diff:**      **Max Diff:**  
                 

<b>Mfg</b>	<input type="text" value="HY"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="12010039329"/>	<b>Tfer Desc.</b>	<input type="text" value="Source generator (D"/>
<b>Tfer ID</b>	<input type="text" value="01322"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="6/15/2014"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>
<b>Mfg</b>	<input type="text" value="Fluke"/>	<b>Parameter</b>	<input type="text" value="DAS"/>
<b>Serial Number</b>	<input type="text" value="95740243"/>	<b>Tfer Desc.</b>	<input type="text" value="DVM"/>
<b>Tfer ID</b>	<input type="text" value="01312"/>		
<b>Slope</b>	<input type="text" value="1.00000"/>	<b>Intercept</b>	<input type="text" value="0.00000"/>
<b>Cert Date</b>	<input type="text" value="1/28/2020"/>	<b>CorrCoff</b>	<input type="text" value="1.00000"/>

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
16	0.0000	0.0001	-0.0003	V	V	-0.0004
16	0.1000	0.1000	0.1000	V	V	0.0000
16	0.3000	0.2995	0.2996	V	V	0.0001
16	0.5000	0.4995	0.4997	V	V	0.0002
16	0.7000	0.6998	0.6996	V	V	-0.0002
16	0.9000	0.8995	0.8996	V	V	0.0001
16	1.0000	1.0000	1.0002	V	V	0.0002

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	49C-59337-322	DEV412	Martin Valvur	11/14/2020	Ozone	90566

<b>Slope:</b>	0.98540	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.23248	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	49CPS-70008-364	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01110		
<b>Slope</b>	1.00260	<b>Intercept</b>	0.03590
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.18	0.14	0.09	ppb		-0.05
primary	2	14.88	14.80	14.28	ppb		-0.52
primary	3	33.62	33.49	32.64	ppb	-2.57	
primary	4	65.35	65.14	63.88	ppb	-1.95	
primary	5	112.61	112.28	110.50	ppb	-1.6	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	757.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	0.987	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	1.0002	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	82.9 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.5 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.74 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	734.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	36.8 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	79.0 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.74 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	734.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Vaisala	Z1730043	DEV412	Martin Valvur	11/14/2020	Temperature	none

<b>Mfg</b>	Fluke	<b>Parameter</b>	Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
1.57	3.72		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	17.47	17.48	0.0000	17.9	C	0.38
primary	Temp Mid Range	19.16	19.17	0.0000	18.6	C	-0.6
primary	Temp Mid Range	20.12	20.13	0.0000	23.9	C	3.72

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Not properly sited	<b>Status</b>	Fail
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ARS	none	DEV412	Martin Valvur	11/14/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.06	0.07		

<b>Mfg</b>	Fluke	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	22.48	22.49	0.000	22.4	C	-0.05
primary	Temp Mid Range	22.79	22.80	0.000	22.9	C	0.05
primary	Temp Mid Range	24.28	24.29	0.000	24.2	C	-0.07

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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# Site Visit Comments

Parameter	Site	Technician	S.V. Date	Component	Mfg	Serial No.	Hazard	Problem
-----------	------	------------	-----------	-----------	-----	------------	--------	---------

Temperature	DEV412	Martin Valvur	11/14/2020	Properly Sited	Vaisala	4608	<input type="checkbox"/>	<input type="checkbox"/>
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This sensor is not mounted as stated in the QAPP with respect to orientation.

# Field Systems Comments

1 **Parameter:** SiteOpsProcComm

Dry deposition samples are not collected at this site.

2 **Parameter:** MetSensorComme

The temperature and humidity combination sensor is mounted in a non-aspirated shield on the south side of the tower. The sensor cannot be submerged and therefore was only challenged in air side-by-side with the RTD standard. Audit results are not comparable with other submergible sensors.



# Field Systems Data Form

F-02058-1500-S1-rev002

Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="NPS"/>	USGS Map	<input type="text"/>
Operating Group	<input type="text" value="NPS"/>	Map Scale	<input type="text"/>
AQS #	<input type="text"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="Climatronics"/>		
Air Pollutant Analyzer	<input type="text"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="(760) 786-2497"/>	Audit Latitude	<input type="text" value="36.508819"/>
Site Address 1	<input type="text" value="PO Box 579"/>	Audit Longitude	<input type="text" value="-116.847697"/>
Site Address 2	<input type="text" value="Hwy 190"/>	Audit Elevation	<input type="text" value="131"/>
County	<input type="text" value="Inyo"/>	Audit Declination	<input type="text" value="13.3"/>
City, State	<input type="text" value="Death Valley, CA"/>		
Zip Code	<input type="text" value="92328"/>	Fire Extinguisher <input type="checkbox"/>	<input type="text"/>
Time Zone	<input type="text" value="Pacific"/>	First Aid Kit <input type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input type="checkbox"/>	<input type="text"/>
Shelter Working Room <input checked="" type="checkbox"/>	Make <input type="text"/>	Model <input type="text"/>	Shelter Size <input type="text"/>
Shelter Clean <input checked="" type="checkbox"/>	Notes <input type="text"/>		
Site OK <input checked="" type="checkbox"/>	Notes <input type="text"/>		

**Driving Directions** From Las Vegas take route 160 west to Pahrump. Turn onto 178 to Shoshone. At the stop sign in Shoshone turn right onto route 127 toward Death Valley. In Death Valley Junction, just past the Amargosa Theater, turn left onto Highway 190. Continue to the park. Approximately 3 miles past the Furnace Creek Ranch, turn right at the sign for Cow Creek and the park administratin offices. Take the first left and continue up the hill past the park housing, bearing left and continuing uphill. The site is past the locked gate on the service road to the water supply facilities.

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |       |
|----|--|-------------------------------------|-------|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A   |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A   |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> |       |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input type="checkbox"/>            | south |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |       |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A   |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A   |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A   |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A   |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A   |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A   |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

The temperature and humidity combination sensor is mounted in a non-aspirated shield on the south side of the tower. The sensor cannot be submerged and therefore was only challenged in air side-by-side with the RTD standard. Audit results are not comparable with other submergible sensors.

# Field Systems Data Form

F-02058-1500-S4-rev002

Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | N/A                     |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> | N/A                     |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | N/A                     |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- |                                     |  |  |                           |          |                                     |                                     |  |
|-------------------------------------|--|--|---------------------------|----------|-------------------------------------|-------------------------------------|--|
| 1                                   | Do the DAS instruments appear to be in good condition and well maintained?           | <input checked="" type="checkbox"/>  |                           |          |                                     |                                     |  |
| 2                                   | Are all the components of the DAS operational? (printers, modem, backup, etc)        | <input checked="" type="checkbox"/>  |                           |          |                                     |                                     |  |
| 3                                   | Do the analyzer and sensor signal leads pass through lightning protection circuitry? | <input checked="" type="checkbox"/>  | Met sensors only          |          |                                     |                                     |  |
| 4                                   | Are the signal connections protected from the weather and well maintained?           | <input checked="" type="checkbox"/>  |                           |          |                                     |                                     |  |
| 5                                   | Are the signal leads connected to the correct DAS channel?                           | <input checked="" type="checkbox"/>  |                           |          |                                     |                                     |  |
| 6                                   | Are the DAS, sensor translators, and shelter properly grounded?                      | <input type="checkbox"/>   | shelter not grounded      |          |                                     |                                     |  |
| 7                                   | Does the instrument shelter have a stable power source?                              | <input checked="" type="checkbox"/>  |                           |          |                                     |                                     |  |
| 8                                   | Is the instrument shelter temperature controlled?                                    | <input checked="" type="checkbox"/>  |                           |          |                                     |                                     |  |
| 9                                   | Is the met tower stable and grounded?  | <table border="1"><tr><td>Stable</td><td>Grounded</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input checked="" type="checkbox"/></td></tr></table> | Stable                    | Grounded | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |  |
| Stable                              | Grounded   |  |                           |          |                                     |                                     |  |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/>  |  |                           |          |                                     |                                     |  |
| 10                                  | Is the sample tower stable and grounded?   | <table border="1"><tr><td>Stable</td><td>Grounded</td></tr><tr><td><input checked="" type="checkbox"/></td><td><input type="checkbox"/></td></tr></table>            | Stable                    | Grounded | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |  |
| Stable                              | Grounded   |  |                           |          |                                     |                                     |  |
| <input checked="" type="checkbox"/> | <input type="checkbox"/>   |  |                           |          |                                     |                                     |  |
| 11                                  | Tower comments?  |  | sample tower not grounded |          |                                     |                                     |  |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID

Technician

Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone analyzer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Shelter air conditioner	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text" value="Dataview"/>	<input checked="" type="checkbox"/>
SSRF	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
HASP	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID  Technician  Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	N/A
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	N/A
3	Are data downloads and backups being performed as scheduled?	<input checked="" type="checkbox"/>	N/A
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	Dataview
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	N/A
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	N/A
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	N/A
9	Are the site conditions reported regularly to the field operations manager or staff?	<input type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> N/A	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

Dry deposition samples are not collected at this site.



# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Hewlett Packard	8470p	CNU3389GGZ	none
DAS	Environmental Sys Corp	8816	2567	90654
Met tower	Glen Martin Engineering	unknown	none	none
Modem	Hughesnet	HN9000	unknown	none
Ozone	ThermoElectron Inc	49C	49C-59337-322	90566
Sample Tower	Aluma Tower	FOT-10	218298EE3	none
Shelter Temperature	ARS	unknown	none	none
Temperature	Vaisala	HMP45AC	Z1730043	none
Zero air pump	Werther International	C 70/4	000915005	none

## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*PNF126-Eric Hebert-11/15/2020*

1	11/15/2020	Computer	Dell	0759	Inspiron 15	Unknown
2	11/15/2020	DAS	Campbell	illegible	CR3000	3817
3	11/15/2020	Elevation	Elevation	None	1	None
4	11/15/2020	Filter pack flow pump	Thomas	06030	107CAB18	060400022677
5	11/15/2020	Flow Rate	Apex	000550	AXMC105LPMDPCV	50740
6	11/15/2020	Infrastructure	Infrastructure	none	none	none
7	11/15/2020	Modem	Digi	07200	LR54	unknown
8	11/15/2020	Ozone	ThermoElectron Inc	000741	49i A1NAA	1105347316
9	11/15/2020	Ozone Standard	ThermoElectron Inc	000363	49i A3NAA	0726124691
10	11/15/2020	Sample Tower	Aluma Tower	000178	B	none
11	11/15/2020	Shelter Temperature	Campbell	none	107-L	none
12	11/15/2020	Siting Criteria	Siting Criteria	None	1	None
13	11/15/2020	Temperature	RM Young	04687	41342	6701
14	11/15/2020	Zero air pump	Werther International	06885	C 70/4	000814270
15	11/15/2020	Zero air pump	Teledyne	000774	701H	610

# DAS Data Form

DAS Time Max Error:

Mfg  Serial Number  Site  Technician  Site Visit Date  Parameter  Use Desc.

Das Date:  Audit Date:   
 Das Time:  Audit Time:   
 Das Day:  Audit Day:

Low Channel:  High Channel:   
 Avg Diff:  Max Diff:  Avg Diff:  Max Diff:

Mfg  Parameter   
 Serial Number  Tfer Desc.   
 Tfer ID   
 Slope  Intercept   
 Cert Date  CorrCoff   
 Mfg  Parameter   
 Serial Number  Tfer Desc.   
 Tfer ID   
 Slope  Intercept   
 Cert Date  CorrCoff

Channel	Input	DVM Output	DAS Output	InputUnit	OutputUnit	Difference
7	0.0000	0.0000	0.0000	V	V	0.0000
7	0.1000	0.1000	0.1000	V	V	0.0000
7	0.3000	0.3001	0.3001	V	V	0.0000
7	0.5000	0.5002	0.5001	V	V	-0.0001
7	0.7000	0.7003	0.7002	V	V	-0.0001
7	0.9000	0.9004	0.9002	V	V	-0.0002
7	1.0000	1.0004	1.0003	V	V	-0.0001

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	50740	PNF126	Eric Hebert	11/15/2020	Flow Rate	000550

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	131818	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01417		
<b>Slope</b>	1.00032	<b>Intercept</b>	-0.02240
<b>Cert Date</b>	2/17/2020	<b>CorrCoff</b>	0.99997

<b>DAS 1:</b>	<b>DAS 2:</b>	<b>Cal Factor Zero</b>	0
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>Cal Factor Full Scale</b>	0.98
4.46%	4.46%	<b>Rotometer Reading:</b>	1.55

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	-0.01	0.000	-0.01	l/m	l/m	
primary	leak check	0.000	0.000	0.00	0.000	0.00	l/m	l/m	
primary	test pt 1	1.544	1.570	1.53	0.000	1.50	l/m	l/m	-4.46%
primary	test pt 2	1.544	1.570	1.53	0.000	1.50	l/m	l/m	-4.46%
primary	test pt 3	1.545	1.570	1.53	0.000	1.50	l/m	l/m	-4.46%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	5.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	2.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	360 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347316	PNF126	Eric Hebert	11/15/2020	Ozone	000741

<b>Slope:</b>	1.00058	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.08738	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180930075	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01115		
<b>Slope</b>	0.99490	<b>Intercept</b>	0.32220
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.53	0.20	0.22	ppb		0.02
primary	2	17.98	17.51	17.51	ppb		0
primary	3	36.70	36.08	36.44	ppb	0.99	
primary	4	70.03	69.15	69.23	ppb	0.12	
primary	5	105.96	104.79	104.90	ppb	0.1	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	646.3 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.40	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.003	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	90.5 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.61 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	623.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	36.4 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	114.2 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	1.2 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.66 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	623.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	6701	PNF126	Eric Hebert	11/15/2020	Temperature	04687

<b>Mfg</b>	Extech	<b>Parameter</b>	Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.19	0.23		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	0.15	0.02	0.000	0.3	C	0.23
primary	Temp Mid Range	24.93	24.60	0.000	24.8	C	0.18
primary	Temp High Range	49.67	49.15	0.000	49.3	C	0.16

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	PNF126	Eric Hebert	11/15/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.61	1.10		

<b>Mfg</b>	Extech	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	H232734	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01227		
<b>Slope</b>	1.00797	<b>Intercept</b>	0.12950
<b>Cert Date</b>	2/14/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	26.46	26.12	0.000	26.5	C	0.37
primary	Temp Mid Range	24.68	24.36	0.000	24.7	C	0.37
primary	Temp Mid Range	23.63	23.31	0.000	24.4	C	1.1

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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## Infrastructure Data For

Site ID  Technician  Site Visit Date

Shelter Make	Shelter Model	Shelter Size
<input type="text" value="Ekto"/>	<input type="text" value="8810"/>	<input type="text" value="640 cuft"/>

Sensor Component	<input type="text" value="Sample Tower Type"/>	Condition	<input type="text" value="Type B"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Conduit"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Met Tower"/>	Condition	<input type="text" value="N/A"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Moisture Trap"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Power Cables"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Temp Control"/>	Condition	<input type="text" value="Functioning"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Rotometer"/>	Condition	<input type="text" value="Installed"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Tower"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Condition"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Door"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Roof"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter Floor"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Shelter walls"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Excessive mold present"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Signal Cable"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Tubing Type"/>	Condition	<input type="text" value="3/8 teflon"/>	Status	<input type="text" value="pass"/>
Sensor Component	<input type="text" value="Sample Train"/>	Condition	<input type="text" value="Good"/>	Status	<input type="text" value="pass"/>



# Siting Criteria Form

<b>Sensor Component</b>	Large point source of So2 or Nox	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City > 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 1,000 to 10,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	City 10,000 to 50,000	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Feedlot operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Large parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Limited agriculture operations	<b>Condition</b>	5 m	<b>Status</b>	pass
<b>Sensor Component</b>	Major industrial source	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road < or = 100 per da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Secondary road >100 vehicles/da	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Small parking lot	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Major highway, airport, or rail yard	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass
<b>Sensor Component</b>	Intensive agriculture operations	<b>Condition</b>	<input type="text"/>	<b>Status</b>	pass

# Field Systems Comments

1 **Parameter:** SiteOpsProcComm

The site operator was not available for the systems audit. The reported information was obtained from the site log and site documentation.

2 **Parameter:** DasComments

The sample towers are not grounded.

3 **Parameter:** SitingCriteriaCom

The site is in a mountain bowl. The wind pattern from this site would be expected to follow up and down slope patterns. The site is also located in a hay field which is cut 2 or 3 times per year.

4 **Parameter:** ShelterCleanNotes

The shelter is in fair condition.

# Field Systems Data Form

F-02058-1500-S1-rev002

Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text" value="Carvers Gap"/>
Operating Group	<input type="text" value="USFS/private"/>	Map Scale	<input type="text"/>
AQS #	<input type="text" value="37-011-9991"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text" value="R.M. Young"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text" value="woodland - mixed"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text" value="complex"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text" value="No"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text" value="8287331643"/>	Audit Latitude	<input type="text" value="36.105435"/>
Site Address 1	<input type="text" value="end of paved road"/>	Audit Longitude	<input type="text" value="-82.045015"/>
Site Address 2	<input type="text" value="Roaring Creek Road"/>	Audit Elevation	<input type="text" value="1216"/>
County	<input type="text" value="Avery"/>	Audit Declination	<input type="text" value="-6.3"/>
City, State	<input type="text" value=", NC"/>		
Zip Code	<input type="text" value="28657"/>	Fire Extinguisher <input checked="" type="checkbox"/>	<input type="text" value="New in 2015"/>
Time Zone	<input type="text" value="Eastern"/>	First Aid Kit <input type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input checked="" type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input checked="" type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input checked="" type="checkbox"/>	<input type="text"/>

Shelter Working Room  Make  Model  Shelter Size

Shelter Clean  Notes

Site OK  Notes

Driving Directions

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> | N/A |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input checked="" type="checkbox"/> | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S4-rev002

Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 12 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 12 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input checked="" type="checkbox"/> | Flow line only          |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> | Clean and dry           |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- 1 Do the DAS instruments appear to be in good condition and well maintained?
- 2 Are all the components of the DAS operational? (printers, modem, backup, etc)
- 3 Do the analyzer and sensor signal leads pass through lightning protection circuitry?
- 4 Are the signal connections protected from the weather and well maintained?
- 5 Are the signal leads connected to the correct DAS channel?
- 6 Are the DAS, sensor translators, and shelter properly grounded?
- 7 Does the instrument shelter have a stable power source?
- 8 Is the instrument shelter temperature controlled?
- 9 Is the met tower stable and grounded?

<b>Stable</b>	<b>Grounded</b>
<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
- 10 Is the sample tower stable and grounded?

<b>Stable</b>	<b>Grounded</b>
<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
- 11 Tower comments?

Met tower removed

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID  Technician  Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone analyzer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input checked="" type="checkbox"/>	Oct 2001	<input type="checkbox"/>
HASP	<input checked="" type="checkbox"/>	Oct 2015	<input checked="" type="checkbox"/>
Field Ops Manual	<input checked="" type="checkbox"/>	Oct 2015	<input checked="" type="checkbox"/>
Calibration Reports	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?  Minimal information
- 2 Are the Site Status Report Forms being completed and current?  Ozone checks on filter off date
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Monthly"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID  Technician  Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	Filter changed mornings
2	Are the Site Status Report Forms being completed and filed correctly?	<input type="checkbox"/>	Ozone checks on filter off date
3	Are data downloads and backups being performed as scheduled?	<input type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input checked="" type="checkbox"/>	SSRF
5	Are site supplies on-hand and replenished in a timely fashion?	<input type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF, call-in
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	One set of gloves only
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input type="checkbox"/>	<input type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

The site operator was not available for the systems audit. The reported information was obtained from the site log and site documentation.

# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Inspiron 15	Unknown	0759
DAS	Campbell	CR3000	3817	illegible
Elevation	Elevation	1	None	None
Filter pack flow pump	Thomas	107CAB18	060400022677	06030
Flow Rate	Apex	AXMC105LPMDPC	50740	000550
Infrastructure	Infrastructure	none	none	none
Modem	Digi	LR54	unknown	07200
Ozone	ThermoElectron Inc	49i A1NAA	1105347316	000741
Ozone Standard	ThermoElectron Inc	49i A3NAA	0726124691	000363
Sample Tower	Aluma Tower	B	none	000178
Shelter Temperature	Campbell	107-L	none	none
Siting Criteria	Siting Criteria	1	None	None
Temperature	RM Young	41342	6701	04687
Zero air pump	Teledyne	701H	610	000774
Zero air pump	Werther International	C 70/4	000814270	06885

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*UMA009-Martin Valvur-11/23/2020*

1	11/23/2020	Computer	Dell	07288	Latitude	H3NJJX2
2	11/23/2020	DAS	Campbell	000883	CR6	13312
3	11/23/2020	Filter pack flow pump	Permotec	none	BL30EB	432201630446
4	11/23/2020	Flow Rate	Apex	000602	AXMC105LPMDPCV	illegible
5	11/23/2020	Modem	Digi	01740	LR54	Unknown
6	11/23/2020	Ozone	ThermoElectron Inc	000881	49i A1ZCA	1200706581
7	11/23/2020	Sample Tower	Aluma Tower	none	FOT-10	Unknown
8	11/23/2020	Shelter Temperature	Campbell	none	107-L	none
9	11/23/2020	Temperature	RM Young	07280	41342VC	031771
10	11/23/2020	Zero air pump	Werther International	06914	C 70/4	000829156

# Flow Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
Apex	illegible	UMA009	Martin Valvur	11/23/2020	Flow Rate	000602

<b>Mfg</b>	BIOS	<b>Parameter</b>	Flow Rate
<b>Serial Number</b>	122974	<b>Tfer Desc.</b>	BIOS 220-H
<b>Tfer ID</b>	01416		
<b>Slope</b>	1.00000	<b>Intercept</b>	0.00000
<b>Cert Date</b>	5/6/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>
0.66%	0.66%

<b>Cal Factor Zero</b>	-0.01
<b>Cal Factor Full Scale</b>	1.01
<b>Rotometer Reading:</b>	3

Desc.	Test type	Input l/m	Input Corr_	MfcDisp.	OutputSignal	Output S E	InputUnit	OutputSignalI	PctDifference
primary	pump off	0.000	0.000	0.00	0.000	-0.01	l/m	l/m	
primary	leak check	0.000	0.000	0.00	0.000	-0.01	l/m	l/m	
primary	test pt 1	3.024	3.020	2.96	0.000	3.00	l/m	l/m	-0.66%
primary	test pt 2	3.022	3.020	2.96	0.000	3.00	l/m	l/m	-0.66%
primary	test pt 3	3.018	3.020	2.96	0.000	3.00	l/m	l/m	-0.66%

<b>Sensor Component</b>	Leak Test	<b>Condition</b>		<b>Status</b>	pass
<b>Sensor Component</b>	Tubing Condition	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Position	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Rotometer Condition	<b>Condition</b>	Clean and dry	<b>Status</b>	pass
<b>Sensor Component</b>	Moisture Present	<b>Condition</b>	No moisture present	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Distance	<b>Condition</b>	6.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Depth	<b>Condition</b>	4.0 cm	<b>Status</b>	pass
<b>Sensor Component</b>	Filter Azimuth	<b>Condition</b>	300 deg	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1200706581	UMA009	Martin Valvur	11/23/2020	Ozone	000881

<b>Slope:</b>	1.01124	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.04290	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	49CPS-70008-364	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01110		
<b>Slope</b>	1.00260	<b>Intercept</b>	0.03590
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.16	0.12	0.07	ppb		-0.05
primary	2	16.90	16.82	17.10	ppb		0.28
primary	3	35.27	35.14	35.61	ppb	1.33	
primary	4	66.64	66.43	67.29	ppb	1.29	
primary	5	117.24	116.90	118.20	ppb	1.11	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	704.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.026	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	100.4 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	1.0 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.71 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	692.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	30.3 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	91.9 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.69 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	691.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Temperature Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
RM Young	031771	UMA009	Martin Valvur	11/23/2020	Temperature	07280

<b>Mfg</b>	Fluke	<b>Parameter</b>	Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>Abs Avg Err</b>	<b>Abs Max Err</b>	<b>Abs Avg Err</b>	<b>Abs Max Err</b>
0.03	0.04		

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Low Range	-0.01	0.01	0.000	0.0	C	0.01
primary	Temp Mid Range	23.60	23.61	0.000	23.6	C	-0.03
primary	Temp High Range	47.40	47.40	0.000	47.4	C	0.04

<b>Sensor Component</b>	Shield	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	Blower	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Properly Sited	<b>Condition</b>	Properly sited	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

# Shelter Temperature Data For

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
Campbell	none	UMA009	Martin Valvur	11/23/2020	Shelter Temperature	none

DAS 1:		DAS 2:	
Abs Avg Err	Abs Max Err	Abs Avg Err	Abs Max Err
0.26	0.34		

<b>Mfg</b>	Fluke	<b>Parameter</b>	Shelter Temperature
<b>Serial Number</b>	3275143	<b>Tfer Desc.</b>	RTD
<b>Tfer ID</b>	01229		
<b>Slope</b>	1.00026	<b>Intercept</b>	-0.01710
<b>Cert Date</b>	1/29/2020	<b>CorrCoff</b>	1.00000

UseDesc.	Test type	InputTmpRaw	InputTmpCorr.	OutputTmpSignal	OutputSignalEng	OSE Unit	Difference
primary	Temp Mid Range	21.91	21.92	0.000	21.7	C	-0.18
primary	Temp Mid Range	24.88	24.89	0.000	24.6	C	-0.34
primary	Temp Mid Range	25.87	25.88	0.000	25.6	C	-0.26

<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass
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# Field Systems Data Form

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Site ID  Technician  Site Visit Date

Site Sponsor (agency)	<input type="text" value="EPA"/>	USGS Map	<input type="text"/>
Operating Group	<input type="text" value="EPA"/>	Map Scale	<input type="text"/>
AQS #	<input type="text"/>	Map Date	<input type="text"/>
Meteorological Type	<input type="text"/>		
Air Pollutant Analyzer	<input type="text" value="Ozone"/>	QAPP Latitude	<input type="text"/>
Deposition Measurement	<input type="text" value="dry"/>	QAPP Longitude	<input type="text"/>
Land Use	<input type="text"/>	QAPP Elevation Meters	<input type="text"/>
Terrain	<input type="text"/>	QAPP Declination	<input type="text"/>
Conforms to MLM	<input type="text"/>	QAPP Declination Date	<input type="text"/>
Site Telephone	<input type="text"/>	Audit Latitude	<input type="text" value="46.202975"/>
Site Address 1	<input type="text"/>	Audit Longitude	<input type="text" value="-117.954886"/>
Site Address 2	<input type="text"/>	Audit Elevation	<input type="text" value="678"/>
County	<input type="text" value="Columbia"/>	Audit Declination	<input type="text" value="14.2"/>
City, State	<input type="text" value="Dayton, WA"/>		
Zip Code	<input type="text" value="99328"/>	Fire Extinguisher <input type="checkbox"/>	<input type="text"/>
Time Zone	<input type="text" value="Pacific"/>	First Aid Kit <input type="checkbox"/>	<input type="text"/>
Primary Operator	<input type="text"/>	Safety Glasses <input type="checkbox"/>	<input type="text"/>
Primary Op. Phone #	<input type="text"/>	Safety Hard Hat <input type="checkbox"/>	<input type="text"/>
Primary Op. E-mail	<input type="text"/>	Climbing Belt <input type="checkbox"/>	<input type="text"/>
Backup Operator	<input type="text"/>	Security Fence <input type="checkbox"/>	<input type="text"/>
Backup Op. Phone #	<input type="text"/>	Secure Shelter <input type="checkbox"/>	<input type="text"/>
Backup Op. E-mail	<input type="text"/>	Stable Entry Steps <input type="checkbox"/>	<input type="text"/>
Shelter Working Room <input checked="" type="checkbox"/>	Make <input type="text" value="Ekto"/>	Model <input type="text" value="423 SP"/>	Shelter Size <input type="text"/>
Shelter Clean <input checked="" type="checkbox"/>	Notes <input type="text"/>		
Site OK <input checked="" type="checkbox"/>	Notes <input type="text"/>		
Driving Directions	<input type="text" value="Site name is Confederated Tribes of the Umatilla Indian Reservation."/>		

# Field Systems Data Form

F-02058-1500-S3-rev002

Site ID

Technician

Site Visit Date

- |    |  |                                     |     |
|----|--|-------------------------------------|-----|
| 1  | Are wind speed and direction sensors sited so as to avoid being influenced by obstructions?  | <input checked="" type="checkbox"/> | N/A |
| 2  | Are wind sensors mounted so as to minimize tower effects? (i.e. wind sensors should be mounted atop the tower or on a horizontally extended boom >2x the max diameter of the tower into the prevailing wind)     | <input checked="" type="checkbox"/> | N/A |
| 3  | Are the tower and sensors plumb?   | <input checked="" type="checkbox"/> |     |
| 4  | Are the temperature shields pointed north or positioned to avoid radiated heat sources such as buildings, walls, etc?  | <input checked="" type="checkbox"/> |     |
| 5  | Are temperature and RH sensors sited to avoid unnatural conditions? (i.e. ground below sensors should be natural surface and not steeply sloped. Ridges, hollows, and areas of standing water should be avoided) | <input checked="" type="checkbox"/> |     |
| 6  | Is the solar radiation sensor plumb?   | <input checked="" type="checkbox"/> | N/A |
| 7  | Is it sited to avoid shading, or any artificial or reflected light?  | <input checked="" type="checkbox"/> | N/A |
| 8  | Is the rain gauge plumb?   | <input checked="" type="checkbox"/> | N/A |
| 9  | Is it sited to avoid sheltering effects from buildings, trees, towers, etc?  | <input checked="" type="checkbox"/> | N/A |
| 10 | Is the surface wetness sensor sited with the grid surface facing north?  | <input type="checkbox"/>            | N/A |
| 11 | Is it inclined approximately 30 degrees?   | <input checked="" type="checkbox"/> | N/A |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S4-rev002

Site ID

Technician

Site Visit Date

1	Do all the meteorological sensors appear to be intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	Temperature only
2	Are all the meteorological sensors operational online, and reporting data?	<input checked="" type="checkbox"/>	Temperature only
3	Are the shields for the temperature and RH sensors clean?	<input checked="" type="checkbox"/>	
4	Are the aspirated motors working?	<input checked="" type="checkbox"/>	N/A
5	Is the solar radiation sensor's lens clean and free of scratches?	<input checked="" type="checkbox"/>	N/A
6	Is the surface wetness sensor grid clean and undamaged?	<input checked="" type="checkbox"/>	N/A
7	Are the sensor signal and power cables intact, in good condition, and well maintained?	<input checked="" type="checkbox"/>	
8	Are the sensor signal and power cable connections protected from the elements and well maintained?	<input checked="" type="checkbox"/>	

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S5-rev002

Site ID

Technician

Site Visit Date

**Siting Criteria: Are the pollutant analyzers and deposition equipment sited in accordance with 40 CFR 58, Appendix E**

- |   |   |                                     |  |
|---|---|-------------------------------------|--|
| 1 | Do the sample inlets have at least a 270 degree arc of unrestricted airflow?          | <input checked="" type="checkbox"/> |  |
| 2 | Are the sample inlets 3 - 15 meters above the ground?                                 | <input checked="" type="checkbox"/> |  |
| 3 | Are the sample inlets > 1 meter from any major obstruction, and 20 meters from trees? | <input checked="" type="checkbox"/> |  |

**Pollutant analyzers and deposition equipment operations and maintenance**

- |   |  |                                     |                         |
|---|--|-------------------------------------|-------------------------|
| 1 | Do the analyzers and equipment appear to be in good condition and well maintained? | <input checked="" type="checkbox"/> |                         |
| 2 | Are the analyzers and monitors operational, on-line, and reporting data?           | <input checked="" type="checkbox"/> |                         |
| 3 | Describe ozone sample tube.  |                                     | 1/4 teflon by 10 meters |
| 4 | Describe dry dep sample tube.  |                                     | 3/8 teflon by 10 meters |
| 5 | Are in-line filters used in the ozone sample line? (if yes indicate location)      | <input checked="" type="checkbox"/> | At inlet only           |
| 6 | Are sample lines clean, free of kinks, moisture, and obstructions?                 | <input checked="" type="checkbox"/> |                         |
| 7 | Is the zero air supply desiccant unsaturated?                                      | <input checked="" type="checkbox"/> |                         |
| 8 | Are there moisture traps in the sample lines?                                      | <input type="checkbox"/>            | No                      |
| 9 | Is there a rotometer in the dry deposition filter line, and is it clean?           | <input checked="" type="checkbox"/> |                         |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S6-rev002

Site ID

Technician

Site Visit Date

## DAS, sensor translators, and peripheral equipment operations and maintenance

- |                                     |  |  |                      |  |          |                                     |  |                                     |                      |
|-------------------------------------|--|--|----------------------|--|----------|-------------------------------------|--|-------------------------------------|----------------------|
| 1                                   | Do the DAS instruments appear to be in good condition and well maintained?           | <input checked="" type="checkbox"/>  | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 2                                   | Are all the components of the DAS operational? (printers, modem, backup, etc)        | <input checked="" type="checkbox"/>  | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 3                                   | Do the analyzer and sensor signal leads pass through lightning protection circuitry? | <input type="checkbox"/>   | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 4                                   | Are the signal connections protected from the weather and well maintained?           | <input checked="" type="checkbox"/>  | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 5                                   | Are the signal leads connected to the correct DAS channel?                           | <input checked="" type="checkbox"/>  | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 6                                   | Are the DAS, sensor translators, and shelter properly grounded?                      | <input checked="" type="checkbox"/>  | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 7                                   | Does the instrument shelter have a stable power source?                              | <input checked="" type="checkbox"/>  | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 8                                   | Is the instrument shelter temperature controlled?                                    | <input checked="" type="checkbox"/>  | <input type="text"/> |  |          |                                     |  |                                     |                      |
| 9                                   | Is the met tower stable and grounded?  | <table border="1"><tr><td>Stable</td><td></td><td>Grounded</td></tr><tr><td><input type="checkbox"/></td><td></td><td><input type="checkbox"/></td></tr></table>                       | Stable               |  | Grounded | <input type="checkbox"/>            |  | <input type="checkbox"/>            | <input type="text"/> |
| Stable                              |  | Grounded   |                      |  |          |                                     |  |                                     |                      |
| <input type="checkbox"/>            |  | <input type="checkbox"/>   |                      |  |          |                                     |  |                                     |                      |
| 10                                  | Is the sample tower stable and grounded?   | <table border="1"><tr><td>Stable</td><td></td><td>Grounded</td></tr><tr><td><input checked="" type="checkbox"/></td><td></td><td><input checked="" type="checkbox"/></td></tr></table> | Stable               |  | Grounded | <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/> | <input type="text"/> |
| Stable                              |  | Grounded   |                      |  |          |                                     |  |                                     |                      |
| <input checked="" type="checkbox"/> |  | <input checked="" type="checkbox"/>  |                      |  |          |                                     |  |                                     |                      |
| 11                                  | Tower comments?  |  | <input type="text"/> |  |          |                                     |  |                                     |                      |

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S7-rev002

Site ID  Technician  Site Visit Date

**Documentation**

**Does the site have the required instrument and equipment manuals?**

	Yes	No	N/A		Yes	No	N/A
Wind speed sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Wind direction sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Data logger	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature sensor	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Strip chart recorder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Relative humidity sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Computer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Solar radiation sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Modem	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Surface wetness sensor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Printer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wind sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Zero air pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Temperature translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Filter flow pump	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Humidity sensor translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Surge protector	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Solar radiation translator	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	UPS	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tipping bucket rain gauge	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Lightning protection device	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ozone analyzer	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter heater	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack flow controller	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shelter air conditioner	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Filter pack MFC power supply	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				

**Does the site have the required and most recent QC documents and report forms?**

	Present		Current
Station Log	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
SSRF	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Site Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
HASP	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Field Ops Manual	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Calibration Reports	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Ozone z/s/p Control Charts	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
Preventive maintenance schedule	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

- 1 Is the station log properly completed during every site visit?
- 2 Are the Site Status Report Forms being completed and current?
- 3 Are the chain-of-custody forms properly used to document sample transfer to and from lab?
- 4 Are ozone z/s/p control charts properly completed and current?  Control charts not used

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S8-rev002

Site ID  Technician  Site Visit Date

**Site operation procedures**

- 1 Has the site operator attended a formal CASTNET training course? If yes, when and who instructed?
- 2 Has the backup operator attended a formal CASTNET training course? If yes, when and who instructed?
- 3 Is the site visited regularly on the required Tuesday schedule?
- 4 Are the standard CASTNET operational procedures being followed by the site operator?
- 5 Is the site operator(s) knowledgeable of, and able to perform the required site activities? (including documentation)

**Are regular operational QA/QC checks performed on meteorological instruments?**

QC Check Performed		Frequency	Compliant
Multipoint Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Visual Inspections	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Translator Zero/Span Tests (climatronics)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Manual Rain Gauge Test	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Confirm Reasonableness of Current Values	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Test Surface Wetness Response	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>

**Are regular operational QA/QC checks performed on the ozone analyzer?**

QC Check Performed		Frequency	Compliant
Multi-point Calibrations	<input checked="" type="checkbox"/>	<input type="text" value="Semiannually"/>	<input checked="" type="checkbox"/>
Automatic Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Zero/Span Tests	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
Automatic Precision Level Tests	<input checked="" type="checkbox"/>	<input type="text" value="Daily"/>	<input checked="" type="checkbox"/>
Manual Precision Level Test	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
Analyzer Diagnostics Tests	<input checked="" type="checkbox"/>	<input type="text"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at inlet)	<input checked="" type="checkbox"/>	<input type="text" value="Every 2 weeks"/>	<input checked="" type="checkbox"/>
In-line Filter Replacement (at analyze)	<input checked="" type="checkbox"/>	<input type="text" value="N/A"/>	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>
Zero Air Desiccant Check	<input checked="" type="checkbox"/>	<input type="text" value="Weekly"/>	<input checked="" type="checkbox"/>

- 1 Do multi-point calibration gases go through the complete sample train including all filters?
- 2 Do automatic and manual z/s/p gasses go through the complete sample train including all filters?
- 3 Are the automatic and manual z/s/p checks monitored and reported? If yes, how?

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:

# Field Systems Data Form

F-02058-1500-S9-rev002

Site ID  Technician  Site Visit Date

Site operation procedures

1	Is the filter pack being changed every Tuesday as scheduled?	<input checked="" type="checkbox"/>	
2	Are the Site Status Report Forms being completed and filed correctly?	<input checked="" type="checkbox"/>	
3	Are data downloads and backups being performed as scheduled?	<input checked="" type="checkbox"/>	No longer required
4	Are general observations being made and recorded? How?	<input type="checkbox"/>	
5	Are site supplies on-hand and replenished in a timely fashion?	<input checked="" type="checkbox"/>	
6	Are sample flow rates recorded? How?	<input checked="" type="checkbox"/>	SSRF
7	Are samples sent to the lab on a regular schedule in a timely fashion?	<input checked="" type="checkbox"/>	
8	Are filters protected from contamination during handling and shipping? How?	<input checked="" type="checkbox"/>	Clean gloves on and off
9	Are the site conditions reported regularly to the field operations manager or staff?	<input checked="" type="checkbox"/>	

QC Check Performed	Frequency	Compliant
Multi-point MFC Calibrations	<input checked="" type="checkbox"/> Semiannually	<input checked="" type="checkbox"/>
Flow System Leak Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Filter Pack Inspection	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Flow Rate Setting Checks	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Visual Check of Flow Rate Rotometer	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
In-line Filter Inspection/Replacement	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>
Sample Line Check for Dirt/Water	<input checked="" type="checkbox"/> Weekly	<input checked="" type="checkbox"/>

Provide any additional explanation (photograph or sketch if necessary) regarding conditions listed above, or any other features, natural or man-made, that may affect the monitoring parameters:



# Field Systems Data Form

F-02058-1500-S10-rev002

Site ID

Technician

Site Visit Date

## Site Visit Sensors

Parameter	Manufacturer	Model	S/N	Client ID
Computer	Dell	Latitude	H3NJJX2	07288
DAS	Campbell	CR6	13312	000883
Filter pack flow pump	Permotec	BL30EB	432201630446	none
Flow Rate	Apex	AXMC105LPMDPC	illegible	000602
Modem	Digi	LR54	Unknown	01740
Ozone	ThermoElectron Inc	49i A1ZCA	1200706581	000881
Sample Tower	Aluma Tower	FOT-10	Unknown	none
Shelter Temperature	Campbell	107-L	none	none
Temperature	RM Young	41342VC	031771	07280
Zero air pump	Werther International	C 70/4	000829156	06914

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**APPENDIX B**

**CASTNET Site Spot Report Forms**

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# EEMS Spot Report

Data Compiled: 1/31/2021 11:28:26

Site Visit Date Site Technician

12/07/2020 ALH157 Martin Valvur

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.99253	unitless	P
2	Ozone Intercept	P	0	5	4	-0.4139	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
4	Ozone % difference avg	P	7	10	4	2.2	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.13	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.71	ppb	P

# EEMS Spot Report

Data Compiled: 1/28/2021 19:25:35

SiteVisitDate	Site	Technician
10/07/2020	ANA115	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	12	0.12	c	P
2	Temperature max error	P	4	0.5	12	0.23	c	P
3	Ozone Slope	P	0	1.1	4	1.02018	unitless	P
4	Ozone Intercept	P	0	5	4	0.02164	ppb	P
5	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
6	Ozone % difference avg	P	7	10	4	2.1	%	P
7	Ozone Absolute Difference g1	P	7	3	1	-0.01	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	0.26	ppb	P
9	Flow Rate average % difference	P	10	5	4	0.00	%	P
10	Flow Rate max % difference	P	10	5	4	0.00	%	P
11	DAS Voltage average error	P	7	0.003	63	0.0000	V	P
12	Shelter Temperature average error	P	5	2	12	0.71	c	P
13	Shelter Temperature max error	P	5	2	12	0.89	c	P

## Field Systems Comments

**1 Parameter:** DasComments

The met tower has been removed. The DAS controls the shelter heating and cooling.

**2 Parameter:** SiteOpsProcedures

The ozone inlet filter is changed and a Z/S/P is performed every two weeks.

**3 Parameter:** SitingCriteriaCom

Site is confined within a fenced area that is somewhat small. There is available space adjacent to the fenced area that could be utilized to improve the instrument siting.

**4 Parameter:** ShelterCleanNotes

The shelter is in fair condition, however somewhat cluttered.

# EEMS Spot Report

Data Compiled: 1/31/2021 11:29:48

SiteVisitDate	Site	Technician
12/16/2020	BFT142	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	1.0039	unitless	P
2	Ozone Intercept	P	0	5	4	-0.77559	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	1.8	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.85	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.57	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:30:54

SiteVisitDate	Site	Technician
11/06/2020	BVL130	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.96538	unitless	P
2	Ozone Intercept	P	0	5	4	-0.39174	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	4.6	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.37	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.85	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:31:51

SiteVisitDate	Site	Technician
11/15/2020	BWR139	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.98884	unitless	P
2	Ozone Intercept	P	0	5	4	-0.14904	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	1.7	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.05	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.36	ppb	P



# EEMS Spot Report

Data Compiled: 1/29/2021 08:22:48

SiteVisitDate	Site	Technician
10/20/2020	CAT175	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	21	0.09	c	P
2	Temperature max error	P	4	0.5	21	0.14	c	P
3	Flow Rate average % difference	P	10	5	6	1.04	%	P
4	Flow Rate max % difference	P	10	5	6	1.32	%	P

## Field Performance Comments

1 **Parameter:** Flow Rate **SensorComponent:** Moisture Present **CommentCode:** 204

There is moisture present in the dry deposition sample train inside the shelter.

## Field Systems Comments

1 **Parameter:** DasComments

The shelter is not temperature controlled. The site is solar and DC battery powered. The met tower has been removed and the temperature is being measured from the sample tower at 10 meters above ground.

2 **Parameter:** DocumentationCo

The site copies of the SSRF are no longer kept onsite.

3 **Parameter:** ShelterCleanNotes

The shelter is seriously deteriorated with rot and mold on the walls. The vegetation has been allowed to grow. The shelter roof has been repaired.

4 **Parameter:** PollAnalyzerCom

Ozone monitoring is no longer being conducted at the site.

# EEMS Spot Report

Data Compiled: 1/31/2021 11:33:02

SiteVisitDate	Site	Technician
11/13/2020	CDR119	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.98394	unitless	P
2	Ozone Intercept	P	0	5	4	-0.09674	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	2.0	%	P
5	Ozone Absolute Difference g1	P	7	3	1	0.01	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.37	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:33:52

SiteVisitDate	Site	Technician
12/08/2020	CDZ171	Martin Valvur

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.99764	unitless	P
2	Ozone Intercept	P	0	5	4	0.01650	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
4	Ozone % difference avg	P	7	10	4	0.3	%	P
5	Ozone Absolute Difference g1	P	7	3	1	0.02	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.02	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:35:02

SiteVisitDate	Site	Technician
11/08/2020	CKT136	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.98431	unitless	P
2	Ozone Intercept	P	0	5	4	-0.25993	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
4	Ozone % difference avg	P	7	10	4	2.7	%	P
5	Ozone Absolute Difference g1	P	7	3	1	0.01	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.66	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:37:21

SiteVisitDate	Site	Technician
12/12/2020	CND125	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	1.01001	unitless	P
2	Ozone Intercept	P	0	5	4	-0.50766	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	1.0	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.44	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.39	ppb	P

# EEMS Spot Report

Data Compiled: 1/28/2021 19:42:36

SiteVisitDate	Site	Technician
10/07/2020	DEN417	Martin Valvur

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature2meter average error	P	5	0.5	3	0.07	c	P
2	Temperature2meter max error	P	5	0.5	3	0.10	c	P
3	Ozone Slope	P	0	1.1	4	0.98810	unitless	P
4	Ozone Intercept	P	0	5	4	0.66287	ppb	P
5	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
6	Ozone % difference avg	P	7	10	4	1.4	%	P
7	Ozone Absolute Difference g1	P	7	3	1	0.66	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	0.55	ppb	P
9	Flow Rate average % difference	P	10	5	9	0.48	%	P
10	Flow Rate max % difference	P	10	5	9	0.70	%	P
11	DAS Voltage average error	P	4	0.003	84	0.0002	V	P
12	Shelter Temperature average error	P	5	2	21	0.60	c	P
13	Shelter Temperature max error	P	5	2	21	0.74	c	P

## Field Systems Comments

**1 Parameter:** SiteOpsProcComm

The site operator uses one gloved hand, and the same glove, to remove and install the filter pack. Leak checks are performed when the ambient temperature is above -10 C.

**2 Parameter:** ShelterCleanNotes

The shelter is in good condition, clean, neat, and very well organized.



# EEMS Spot Report

Data Compiled: 1/29/2021 10:23:49

SiteVisitDate	Site	Technician
11/14/2020	DEV412	Martin Valvur

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	3	1.57	c	Fail
2	Temperature max error	P	4	0.5	3	3.72	c	Fail
3	Ozone Slope	P	0	1.1	4	0.98540	unitless	P
4	Ozone Intercept	P	0	5	4	-0.23248	ppb	P
5	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
6	Ozone % difference avg	P	7	10	4	2.4	%	P
7	Ozone Absolute Difference g1	P	7	3	1	-0.05	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	-0.52	ppb	P
9	DAS Voltage average error	P	16	0.003	14	0.0002	V	P
10	Shelter Temperature average error	P	5	2	3	0.06	c	P
11	Shelter Temperature max error	P	5	2	3	0.07	c	P

## Field Performance Comments

1 **Parameter:** Temperature      **SensorComponent:** Properly Sited      **CommentCode:** 190

This sensor is not mounted as stated in the QAPP with respect to orientation.

## Field Systems Comments

1 **Parameter:** SiteOpsProcComm

Dry deposition samples are not collected at this site.

2 **Parameter:** MetSensorComme

The temperature and humidity combination sensor is mounted in a non-aspirated shield on the south side of the tower. The sensor cannot be submerged and therefore was only challenged in air side-by-side with the RTD standard. Audit results are not comparable with other submergible sensors.

# EEMS Spot Report

Data Compiled: 1/29/2021 08:45:35

SiteVisitDate	Site	Technician
10/16/2020	ESP127	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	6	0.14	c	P
2	Temperature max error	P	4	0.5	6	0.33	c	P
3	Ozone Slope	P	0	1.1	4	0.96253	unitless	P
4	Ozone Intercept	P	0	5	4	0.43361	ppb	P
5	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
6	Ozone % difference avg	P	7	10	4	2.7	%	P
7	Ozone Absolute Difference g1	P	7	3	1	0.54	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	-0.26	ppb	P
9	Flow Rate average % difference	P	10	5	3	0.66	%	P
10	Flow Rate max % difference	P	10	5	3	0.66	%	P
11	DAS Voltage average error	P	7	0.003	84	0.0001	V	P
12	Shelter Temperature average error	P	5	2	12	0.59	c	P
13	Shelter Temperature max error	P	5	2	12	0.82	c	P

## Field Systems Comments

**1 Parameter:** DocumentationCo

The chain-of-custody section of the SSRF is not being completed by the site operator.

**2 Parameter:** ShelterCleanNotes

The shelter has been improved since the previous audit, however there is still some rot in the walls.

# EEMS Spot Report

Data Compiled: 1/31/2021 11:38:25

SiteVisitDate	Site	Technician
10/14/2020	GRS420	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.97265	unitless	P
2	Ozone Intercept	P	0	5	4	-0.03298	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	2.7	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.02	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.29	ppb	P

# EEMS Spot Report

Data Compiled: 1/28/2021 18:51:03

SiteVisitDate	Site	Technician
10/03/2020	HOX148	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	12	0.22	c	P
2	Temperature max error	P	4	0.5	12	0.28	c	P
3	Ozone Slope	P	0	1.1	4	0.98482	unitless	P
4	Ozone Intercept	P	0	5	4	0.16381	ppb	P
5	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
6	Ozone % difference avg	P	7	10	4	1.2	%	P
7	Ozone Absolute Difference g1	P	7	3	1	0.25	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	-0.12	ppb	P
9	Flow Rate average % difference	P	10	5	2	0.88	%	P
10	Flow Rate max % difference	P	10	5	2	1.32	%	P
11	DAS Voltage average error	P	7	0.003	77	0.0000	V	P
12	Shelter Temperature average error	P	5	2	12	1.16	c	P
13	Shelter Temperature max error	P	5	2	12	1.18	c	P

## Field Systems Comments

**1 Parameter:** SiteOpsProcedures

The ozone analyzer sample inlet filter is replaced and a Z/S/P check is performed every two weeks.

**2 Parameter:** SitingCriteriaCom

There is a co-generating and smelting facility in Cadillac approximately 30 km to the northeast. The site is located in a hay field which is cut 2 or 3 times per year.

**3 Parameter:** ShelterCleanNotes

The shelter has been repaired since the previous audit visit.

**4 Parameter:** MetSensorComme

Met tower removed and temperature installed in naturally aspirated shield on the west leg of the sample tower.

**5 Parameter:** MetOpMaintCom

The signal cables are showing signs of wear with the outer insulation missing in a few places.

# EEMS Spot Report

Data Compiled: 1/29/2021 09:54:43

SiteVisitDate	Site	Technician
11/13/2020	JOT403	Martin Valvur

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature2meter average error	P	5	0.5	3	0.20	c	P
2	Temperature2meter max error	P	5	0.5	3	0.30	c	P
3	Ozone Slope	P	0	1.1	4	0.98833	unitless	P
4	Ozone Intercept	P	0	5	4	0.15462	ppb	P
5	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
6	Ozone % difference avg	P	7	10	4	0.9	%	P
7	Ozone Absolute Difference g1	P	7	3	1	0.33	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	-0.01	ppb	P
9	Flow Rate average % difference	P	10	5	12	0.35	%	P
10	Flow Rate max % difference	P	10	5	12	0.64	%	P
11	DAS Voltage average error	P	15	0.003	63	0.0003	V	P
12	Shelter Temperature average error	P	5	2	21	0.15	c	P
13	Shelter Temperature max error	P	5	2	21	0.26	c	P



## Field Performance Comments

- 1 **Parameter:** Flow Rate **SensorComponent:** Filter Position **CommentCode:** 71

The filter attachment plate is mounted too low in the enclosure resulting in the filter being exposed to wind-driven rain and in the standard geometric orientation.

- 2 **Parameter:** Ozone **SensorComponent:** Cell B Freq. **CommentCode:** 99

This analyzer diagnostic check is outside the manufacturer's recommended value.

## Field Systems Comments

- 1 **Parameter:** DocumentationCo

Hardcopies of manuals and documentation are no longer maintained on site. All information is maintained on the internet.

- 2 **Parameter:** ShelterCleanNotes

The shelter is in good condition, clean and well organized but not grounded.

# EEMS Spot Report

Data Compiled: 1/31/2021 11:39:29

SiteVisitDate	Site	Technician
11/07/2020	MCK131	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.97873	unitless	P
2	Ozone Intercept	P	0	5	4	-0.57646	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
4	Ozone % difference avg	P	7	10	4	3.8	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.44	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.78	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:40:27

SiteVisitDate	Site	Technician
11/07/2020	MCK231	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.99707	unitless	P
2	Ozone Intercept	P	0	5	4	-0.65291	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	2.0	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.7	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.53	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:41:24

SiteVisitDate	Site	Technician
11/02/2020	OXF122	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.99756	unitless	P
2	Ozone Intercept	P	0	5	4	-0.36609	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	1.4	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.34	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.41	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:42:25

SiteVisitDate	Site	Technician
11/12/2020	PAR107	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.98329	unitless	P
2	Ozone Intercept	P	0	5	4	-0.77807	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	3.9	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.88	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-1.02	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:43:31

SiteVisitDate	Site	Technician
12/06/2020	PED108	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.97700	unitless	P
2	Ozone Intercept	P	0	5	4	-0.03784	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	2.4	%	P
5	Ozone Absolute Difference g1	P	7	3	1	0.00	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.38	ppb	P

# EEMS Spot Report

Data Compiled: 1/29/2021 10:41:55

SiteVisitDate	Site	Technician
11/15/2020	PNF126	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	9	0.19	c	P
2	Temperature max error	P	4	0.5	9	0.23	c	P
3	Ozone Slope	P	0	1.1	4	1.00058	unitless	P
4	Ozone Intercept	P	0	5	4	0.08738	ppb	P
5	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
6	Ozone % difference avg	P	7	10	4	0.3	%	P
7	Ozone Absolute Difference g1	P	7	3	1	0.02	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	0.00	ppb	P
9	Flow Rate average % difference	P	10	5	6	4.46	%	P
10	Flow Rate max % difference	P	10	5	6	4.46	%	P
11	DAS Voltage average error	P	7	0.003	84	0.0001	V	P
12	Shelter Temperature average error	P	5	2	18	0.61	c	P
13	Shelter Temperature max error	P	5	2	18	1.1	c	P

## Field Systems Comments

**1 Parameter:** SiteOpsProcComm

The site operator was not available for the systems audit. The reported information was obtained from the site log and site documentation.

**2 Parameter:** DasComments

The sample towers are not grounded.

**3 Parameter:** SitingCriteriaCom

The site is in a mountain bowl. The wind pattern from this site would be expected to follow up and down slope patterns. The site is also located in a hay field which is cut 2 or 3 times per year.

**4 Parameter:** ShelterCleanNotes

The shelter is in fair condition.



# EEMS Spot Report

Data Compiled: 1/31/2021 11:44:52

SiteVisitDate	Site	Technician
11/09/2020	QAK172	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.97826	unitless	P
2	Ozone Intercept	P	0	5	4	-0.27934	ppb	P
3	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
4	Ozone % difference avg	P	7	10	4	3.1	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.24	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.63	ppb	P

# EEMS Spot Report

Data Compiled: 1/29/2021 09:15:39

SiteVisitDate	Site	Technician
11/04/2020	SAL133	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	12	0.20	c	P
2	Temperature max error	P	4	0.5	12	0.43	c	P
3	Ozone Slope	P	0	1.1	4	0.99920	unitless	P
4	Ozone Intercept	P	0	5	4	-0.32976	ppb	P
5	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
6	Ozone % difference avg	P	7	10	4	1.2	%	P
7	Ozone Absolute Difference g1	P	7	3	1	-0.3	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	-0.45	ppb	P
9	Flow Rate average % difference	P	10	5	4	0.00	%	P
10	Flow Rate max % difference	P	10	5	4	0.00	%	P
11	DAS Voltage average error	P	7	0.003	77	0.0001	V	P
12	Shelter Temperature average error	P	5	2	18	0.31	c	P
13	Shelter Temperature max error	P	5	2	18	0.60	c	P

## Field Performance Comments

- 1 **Parameter:** Flow Rate                      **SensorComponent:** Moisture Present                      **CommentCode:** 72  
The filter sample tubing has drops of moisture in low sections outside the shelter.

## Field Systems Comments

- 1 **Parameter:** SiteOpsProcedures  
The ozone inlet filter is replaced and a zero/span/precision test is performed every two weeks.
- 2 **Parameter:** SitingCriteriaCom  
The site is located next to a field usually planted with corn or soy beans.
- 3 **Parameter:** ShelterCleanNotes  
The shelter is in fair condition, ants are present. It is clean, neat, and well organized.
- 4 **Parameter:** MetOpMaintCom  
The temperature signal cable is showing signs of wear.

# EEMS Spot Report

Data Compiled: 1/31/2021 11:46:02

SiteVisitDate	Site	Technician
10/22/2020	SAN189	Martin Valvur

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	1.00548	unitless	P
2	Ozone Intercept	P	0	5	4	0.03634	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
4	Ozone % difference avg	P	7	10	4	1.1	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.15	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	0.41	ppb	P

# EEMS Spot Report

Data Compiled: 1/28/2021 20:00:43

SiteVisitDate	Site	Technician
10/12/2020	SPD111	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	18	0.10	c	P
2	Temperature max error	P	4	0.5	18	0.18	c	P
3	Ozone Slope	P	0	1.1	4	0.98127	unitless	P
4	Ozone Intercept	P	0	5	4	-0.93412	ppb	P
5	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
6	Ozone % difference avg	P	7	10	4	5.1	%	P
7	Ozone Absolute Difference g1	P	7	3	1	-0.93	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	-1.46	ppb	P
9	Flow Rate average % difference	P	10	5	2	4.66	%	P
10	Flow Rate max % difference	P	10	5	2	5.06	%	Fail
11	DAS Voltage average error	P	7	0.003	77	0.0002	V	P
12	Shelter Temperature average error	P	5	2	18	1.43	c	P
13	Shelter Temperature max error	P	5	2	18	1.67	c	P

## Field Systems Comments

**1 Parameter:** DasComments

The sample tower is an older Type A tower and some small cracks are present in the tower legs. The tower clamps are very rusty. The site operator mentioned that the tower is scheduled for replacement. It was discussed that the new tower should not impact the NADP equipment. The current tower location is meeting NADP siting criteria.

**2 Parameter:** SitingCriteriaCom

The site is in a pasture with as many as 75 cattle. The cattle are fed within 100 meters of the site. When the site is visited the cattle approach to within 10 meters of the site.

**3 Parameter:** ShelterCleanNotes

The shelter is in good condition. The shelter is clean, neat, well organized and well maintained.

**4 Parameter:** MetOpMaintCom

The temperature signal wire was found to be loose and the signal was intermittent. The signal wire was tightened during the audit.

# EEMS Spot Report

Data Compiled: 1/31/2021 11:47:04

SiteVisitDate	Site	Technician
11/18/2020	STK138	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.99445	unitless	P
2	Ozone Intercept	P	0	5	4	-0.39568	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
4	Ozone % difference avg	P	7	10	4	1.9	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.28	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.57	ppb	P

# EEMS Spot Report

Data Compiled: 1/29/2021 11:20:40

SiteVisitDate	Site	Technician
11/23/2020	UMA009	Martin Valvur

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	3	0.03	c	P
2	Temperature max error	P	4	0.5	3	0.04	c	P
3	Ozone Slope	P	0	1.1	4	1.01124	unitless	P
4	Ozone Intercept	P	0	5	4	0.04290	ppb	P
5	Ozone correlation	P	0	0.995	4	1.00000	unitless	P
6	Ozone % difference avg	P	7	10	4	1.4	%	P
7	Ozone Absolute Difference g1	P	7	3	1	-0.05	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	0.28	ppb	P
9	Flow Rate average % difference	P	10	5	3	0.66	%	P
10	Flow Rate max % difference	P	10	5	3	0.66	%	P
11	Shelter Temperature average error	P	5	2	3	0.26	c	P
12	Shelter Temperature max error	P	5	2	3	0.34	c	P



# EEMS Spot Report

Data Compiled: 1/28/2021 19:09:03

SiteVisitDate	Site	Technician
10/06/2020	UVL124	Eric Hebert

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Temperature average error	P	4	0.5	18	0.14	c	P
2	Temperature max error	P	4	0.5	18	0.19	c	P
3	Ozone Slope	P	0	1.1	4	0.95010	unitless	P
4	Ozone Intercept	P	0	5	4	-2.66192	ppb	P
5	Ozone correlation	P	0	0.995	4	0.99997	unitless	P
6	Ozone % difference avg	P	7	10	4	13.9	%	Fail
7	Ozone Absolute Difference g1	P	7	3	1	-2.19	ppb	P
8	Ozone Absolute Difference g2	P	7	1.5	1	-3.53	ppb	Fail
9	Flow Rate average % difference	P	10	5	4	0.66	%	P
10	Flow Rate max % difference	P	10	5	4	0.66	%	P
11	DAS Voltage average error	P	7	0.003	84	0.0001	V	P
12	Shelter Temperature average error	P	5	2	18	0.24	c	P
13	Shelter Temperature max error	P	5	2	18	0.68	c	P

## Field Systems Comments

**1 Parameter:** SiteOpsProcedures

Ozone sample train leak-check performed every two weeks.

**2 Parameter:** SitingCriteriaCom

The site is located in an active agriculture field usually planted with beans or corn.

**3 Parameter:** ShelterCleanNotes

The shelter is clean and in good condition.

**4 Parameter:** MetOpMaintCom

Met tower removed and temperature mounted in naturally aspirated shield on sample tower.

# EEMS Spot Report

Data Compiled: 1/31/2021 11:48:04

SiteVisitDate	Site	Technician
12/04/2020	VIN140	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	1.00141	unitless	P
2	Ozone Intercept	P	0	5	4	-0.00927	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99999	unitless	P
4	Ozone % difference avg	P	7	10	4	0.3	%	P
5	Ozone Absolute Difference g1	P	7	3	1	0.07	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	0.08	ppb	P

# EEMS Spot Report

Data Compiled: 1/31/2021 11:53:14

SiteVisitDate	Site	Technician
11/10/2020	VPI120	Korey Devins

## Records with valid pass/fail criteria

Line	Audited Parameter	DAS	Ch. #	Criteria +/-	Counts	QaResult	Units	Pass/Fail
1	Ozone Slope	P	0	1.1	4	0.96927	unitless	P
2	Ozone Intercept	P	0	5	4	-0.54355	ppb	P
3	Ozone correlation	P	0	0.995	4	0.99998	unitless	P
4	Ozone % difference avg	P	7	10	4	4.6	%	P
5	Ozone Absolute Difference g1	P	7	3	1	-0.44	ppb	P
6	Ozone Absolute Difference g2	P	7	1.5	1	-0.84	ppb	P

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**APPENDIX C**

**CASTNET Ozone Performance Evaluation Forms**

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*GRS420-Eric Hebert-10/14/2020*

1	10/14/2020	DAS	Environmental Sys Corp	GRSM-LR	8864	C2599
2	10/14/2020	Ozone	ThermoElectron Inc	none	49i A3NAA	1023943903
3	10/14/2020	Ozone Standard	ThermoElectron Inc	none	49i A1NAA	1130450193
4	10/14/2020	Zero air pump	Werther International	none	PC70/4	531385

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1023943903	GRS420	Eric Hebert	10/14/2020	Ozone	none

<b>Slope:</b>	0.97265	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.03298	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180930075	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01115		
<b>Slope</b>	0.99490	<b>Intercept</b>	0.32220
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.25	-0.07	-0.09	ppb		-0.02
primary	2	15.33	15.08	14.79	ppb		-0.29
primary	3	36.13	35.99	34.79	ppb	-3.39	
primary	4	64.64	64.64	62.78	ppb	-2.92	
primary	5	106.97	107.19	104.30	ppb	-2.73	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	693 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.001	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	63.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.64 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	684.0 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	32.6 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	71.6 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.68 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	683.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*SAN189-Martin Valvur-10/22/2020*

1	10/22/2020	DAS	Campbell	000360	CR3000	2138
2	10/22/2020	Ozone	ThermoElectron Inc	000685	49i A1NAA	1030244789
3	10/22/2020	Ozone Standard	ThermoElectron Inc	000367	49i A3NAA	0726124683
4	10/22/2020	Zero air pump	Werther International	06875	C 70/4	000814272



# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag</b>	<b>Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1030244789		SAN189	Martin Valvur	10/22/2020	Ozone	000685

<b>Slope:</b>	1.00548	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.03634	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	49CPS-70008-364	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01110		
<b>Slope</b>	1.00260	<b>Intercept</b>	0.03590
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.11	0.07	-0.08	ppb		-0.15
primary	2	14.90	14.82	15.23	ppb		0.41
primary	3	37.76	37.62	37.91	ppb	0.77	
primary	4	65.60	65.39	65.55	ppb	0.24	
primary	5	114.00	113.66	114.40	ppb	0.65	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	724.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.023	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	94.3 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.69 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	691.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	32.4 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	93.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.68 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	691.1 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*OXF122-Korey Devins-11/02/2020*

1	11/2/2020	DAS	Campbell	000425	CR3000	2528
2	11/2/2020	Ozone	ThermoElectron Inc	000610	49i A1NAA	1009241778
3	11/2/2020	Ozone Standard	ThermoElectron Inc	000545	49i A3NAA	0929938241
4	11/2/2020	Zero air pump	Werther International	06908	C 70/4	000821900

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1009241778	OXF122	Korey Devins	11/02/2020	Ozone	000610

<b>Slope:</b>	0.99756	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.36609	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.44	0.14	-0.20	ppb		-0.34
primary	2	15.10	14.81	14.40	ppb		-0.41
primary	3	34.71	34.43	33.86	ppb	-1.67	
primary	4	66.36	66.10	65.73	ppb	-0.56	
primary	5	109.83	109.59	108.90	ppb	-0.63	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	742.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.030	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	121.6 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.59 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	709.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	33.2 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	99.9 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.69 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	709.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*BVL130-Korey Devins-11/06/2020*

1	11/6/2020	DAS	Campbell	000332	CR3000	2111
2	11/6/2020	Ozone	ThermoElectron Inc	000739	49i A1NAA	1105347318
3	11/6/2020	Ozone Standard	ThermoElectron Inc	000512	49i A3NAA	0922236890
4	11/6/2020	Zero air pump	Werther International	06926	PC70/4	000836218

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347318	BVL130	Korey Devins	11/06/2020	Ozone	000739

<b>Slope:</b>	0.96538	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.39174	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.43	0.13	-0.24	ppb		-0.37
primary	2	14.86	14.57	13.72	ppb		-0.85
primary	3	35.35	35.07	33.40	ppb	-4.88	
primary	4	67.87	67.61	64.82	ppb	-4.21	
primary	5	111.64	111.40	107.20	ppb	-3.84	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	747.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	0.973	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	99.5 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.69 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	722.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	36.4 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	98.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.3 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.72 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	723.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*MCK131-Korey Devins-11/07/2020*

1	11/7/2020	DAS	Campbell	000429	CR3000	2535
2	11/7/2020	Ozone	ThermoElectron Inc	000613	49i A1NAA	1009241783
3	11/7/2020	Ozone Standard	ThermoElectron Inc	000366	49i A3NAA	0726124695
4	11/7/2020	Zero air pump	Werther International	06911	PC70/4	000829167

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1009241783	MCK131	Korey Devins	11/07/2020	Ozone	000613

<b>Slope:</b>	0.97873	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.57646	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.44	0.14	-0.30	ppb		-0.44
primary	2	15.50	15.21	14.43	ppb		-0.78
primary	3	35.67	35.39	33.77	ppb	-4.68	
primary	4	68.72	68.46	66.30	ppb	-3.21	
primary	5	108.46	108.22	105.50	ppb	-2.55	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	741.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.003	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	80.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.70 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	734.1 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	37.5 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	87.0 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.71 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	735.0 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*MCK231-Korey Devins-11/07/2020*

1	11/7/2020	DAS	Campbell	000359	CR3000	2137
2	11/7/2020	Ozone	ThermoElectron Inc	000682	49i A1NAA	1030244796
3	11/7/2020	Ozone Standard	ThermoElectron Inc	000544	49i A3NAA	0929938242
4	11/7/2020	Zero air pump	Werther International	06924	C 70/4	000836205



# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1030244796	MCK231	Korey Devins	11/07/2020	Ozone	000682

<b>Slope:</b>	0.99707	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.65291	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.44	0.14	-0.56	ppb		-0.7
primary	2	15.50	15.21	14.68	ppb		-0.53
primary	3	35.67	35.39	34.52	ppb	-2.49	
primary	4	68.72	68.46	67.55	ppb	-1.34	
primary	5	108.46	108.22	107.30	ppb	-0.85	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	741.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.017	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	83.4 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.68 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	715.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	37.8 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	86.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.74 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	716.4 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*CKT136-Korey Devins-11/08/2020*

1	11/8/2020	DAS	Campbell	000336	CR3000	2115
2	11/8/2020	Ozone	ThermoElectron Inc	000744	49i A1NAA	1105347324
3	11/8/2020	Ozone Standard	ThermoElectron Inc	000200	49i A3NAA	0607315738
4	11/8/2020	Zero air pump	Werther International	06878	C 70/4	000815254

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347324	CKT136	Korey Devins	11/08/2020	Ozone	000744

<b>Slope:</b>	0.98431	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.25993	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.34	0.04	0.05	ppb		0.01
primary	2	15.52	15.23	14.57	ppb		-0.66
primary	3	35.41	35.13	34.14	ppb	-2.86	
primary	4	67.93	67.67	66.33	ppb	-2	
primary	5	113.59	113.35	111.40	ppb	-1.74	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	735.3 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.008	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	90.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.73 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	708.4 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	38.9 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	93.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.70 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	709.0 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*QAK172-Korey Devins-11/09/2020*

1	11/9/2020	DAS	Campbell	000418	CR3000	2518
2	11/9/2020	Ozone	ThermoElectron Inc	000729	49i A1NAA	1105347323
3	11/9/2020	Ozone Standard	ThermoElectron Inc	000513	49i A3NAA	0922236889
4	11/9/2020	Zero air pump	Werther International	06870	PC70/4	000814278

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347323	QAK172	Korey Devins	11/09/2020	Ozone	000729

<b>Slope:</b>	0.97826	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.27934	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.41	0.11	-0.13	ppb		-0.24
primary	2	15.40	15.11	14.48	ppb		-0.63
primary	3	35.30	35.02	33.97	ppb	-3.04	
primary	4	68.32	68.06	66.26	ppb	-2.68	
primary	5	112.53	112.29	109.60	ppb	-2.42	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	734.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.014	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	102.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	1.0 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.76 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	695.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	35.9 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	94.3 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.72 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	696.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*VPI120-Korey Devins-11/10/2020*

1	11/10/2020	DAS	Campbell	000402	CR3000	2514
2	11/10/2020	Ozone	ThermoElectron Inc	000690	49i A1NAA	1030244800
3	11/10/2020	Ozone Standard	ThermoElectron Inc	000328	49i A3NAA	0622717850
4	11/10/2020	Zero air pump	Werther International	06929	C 70/4	000829173

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1030244800	VPI120	Korey Devins	11/10/2020	Ozone	000690

<b>Slope:</b>	0.96927	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.54355	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99998	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.34	0.04	-0.40	ppb		-0.44
primary	2	14.96	14.67	13.83	ppb		-0.84
primary	3	34.58	34.30	32.60	ppb	-5.08	
primary	4	66.82	66.56	63.55	ppb	-4.63	
primary	5	110.92	110.68	107.00	ppb	-3.38	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	708.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.000	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	0.998	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	106.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.71 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	680.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	36.2 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	96.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.70 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	681.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*PAR107-Korey Devins-11/12/2020*

1	11/12/2020	DAS	Campbell	000333	CR3000	2112
2	11/12/2020	Ozone	ThermoElectron Inc	000689	49i A1NAA	1030244802
3	11/12/2020	Ozone Standard	ThermoElectron Inc	000436	49i A3NAA	CM08200012
4	11/12/2020	Zero air pump	Werther International	06907	C 70/4	000829179



# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1030244802	PAR107	Korey Devins	11/12/2020	Ozone	000689

<b>Slope:</b>	0.98329	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.77807	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.38	0.08	-0.80	ppb		-0.88
primary	2	15.29	15.00	13.98	ppb		-1.02
primary	3	35.09	34.81	33.60	ppb	-3.54	
primary	4	67.70	67.44	65.51	ppb	-2.9	
primary	5	111.51	111.27	108.60	ppb	-2.43	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	717.3 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.009	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	81.3 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.58 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	689.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	34.8 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	85.2 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.49 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	690.1 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*CDR119-Korey Devins-11/13/2020*

1	11/13/2020	DAS	Campbell	None	CR3000	4935
2	11/13/2020	Ozone	ThermoElectron Inc	000705	49i A1NAA	1030244807
3	11/13/2020	Ozone Standard	ThermoElectron Inc	000365	49i A3NAA	0726124688
4	11/13/2020	Zero air pump	Werther International	06335	C 70/4	000829172

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1030244807	CDR119	Korey Devins	11/13/2020	Ozone	000705

<b>Slope:</b>	0.98394	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.09674	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.33	0.03	0.04	ppb		0.01
primary	2	15.09	14.80	14.43	ppb		-0.37
primary	3	34.65	34.37	33.61	ppb	-2.24	
primary	4	67.14	66.88	65.71	ppb	-1.76	
primary	5	111.18	110.94	109.10	ppb	-1.67	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	741.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.005	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	90.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.71 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	710.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	35.6 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	90.9 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.72 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	711.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*BWR139-Korey Devins-11/15/2020*

1	11/15/2020	DAS	Campbell	000431	CR3000	2536
2	11/15/2020	Ozone	ThermoElectron Inc	000618	49i A1NAA	1009241789
3	11/15/2020	Ozone Standard	ThermoElectron Inc	000697	49i A3NAA	1030244814
4	11/15/2020	Zero air pump	Werther International	06877	C 70/4	000815258

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1009241789	BWR139	Korey Devins	11/15/2020	Ozone	000618

<b>Slope:</b>	0.98884	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.14904	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.47	0.17	0.12	ppb		-0.05
primary	2	15.37	15.08	14.72	ppb		-0.36
primary	3	35.03	34.75	34.12	ppb	-1.83	
primary	4	67.57	67.31	66.41	ppb	-1.35	
primary	5	111.80	111.56	110.20	ppb	-1.23	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	758.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.30	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.023	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	90.3 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.4 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.73 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	727.0 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	31.9 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	103.2 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.73 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	728.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*STK138-Eric Hebert-11/18/2020*

1	11/18/2020	DAS	Campbell	000349	CR3000	2128
2	11/18/2020	Ozone	ThermoElectron Inc	000625	49i A1NAA	1009241797
3	11/18/2020	Ozone Standard	ThermoElectron Inc	000688	49i A3NAA	1030244817
4	11/18/2020	Zero air pump	Werther International	06915	C 70/4	000829162

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1009241797	STK138	Eric Hebert	11/18/2020	Ozone	000625

<b>Slope:</b>	0.99445	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.39568	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.35	0.05	-0.23	ppb		-0.28
primary	2	15.70	15.41	14.84	ppb		-0.57
primary	3	34.34	34.06	33.23	ppb	-2.47	
primary	4	68.72	68.46	68.02	ppb	-0.64	
primary	5	113.38	113.14	112.00	ppb	-1.01	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	731 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.003	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	100.9 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	1.0 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.69 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	705.5 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	35.5 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	91.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	1.3 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.62 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	705.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*VIN140-Korey Devins-12/04/2020*

1	12/4/2020	DAS	Campbell	000358	CR3000	2136
2	12/4/2020	Ozone	ThermoElectron Inc	000740	49i A1NAA	1105347311
3	12/4/2020	Ozone Standard	ThermoElectron Inc	000546	49i A3NAA	0929938239
4	12/4/2020	Zero air pump	Werther International	06906	C 70/4	000821908



# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347311	VIN140	Korey Devins	12/04/2020	Ozone	000740

<b>Slope:</b>	1.00141	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.00927	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.41	0.11	0.18	ppb		0.07
primary	2	14.93	14.64	14.72	ppb		0.08
primary	3	34.53	34.25	34.25	ppb	0	
primary	4	66.62	66.36	66.16	ppb	-0.3	
primary	5	109.62	109.38	109.70	ppb	0.29	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	748 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.20	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.015	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	97.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.8 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.70 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	706.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	36.9 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	87.3 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.5 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.70 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	707.1 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*PED108-Korey Devins-12/06/2020*

1	12/6/2020	DAS	Campbell	000406	CR3000	2511
2	12/6/2020	Ozone	ThermoElectron Inc	000732	49i A1NAA	1105347319
3	12/6/2020	Ozone Standard	ThermoElectron Inc	000214	49i A3NAA	0622717855
4	12/6/2020	Zero air pump	Werther International	06883	C 70/4	000815257

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1105347319	PED108	Korey Devins	12/06/2020	Ozone	000732

<b>Slope:</b>	0.97700	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.03784	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.42	0.12	0.12	ppb		0
primary	2	15.16	14.87	14.49	ppb		-0.38
primary	3	34.87	34.59	33.75	ppb	-2.46	
primary	4	67.26	67.00	65.33	ppb	-2.52	
primary	5	110.66	110.42	107.90	ppb	-2.31	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	744.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	0.996	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	88.1 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.59 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	713.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	29.8 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	106.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.4 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.56 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	714.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*ALH157-Martin Valvur-12/07/2020*

1	12/7/2020	DAS	Campbell	000428	CR3000	2534
2	12/7/2020	Ozone	ThermoElectron Inc	000615	49i A1NAA	1009241787
3	12/7/2020	Ozone Standard	ThermoElectron Inc	000329	49i A3NAA	0622717853
4	12/7/2020	Zero air pump	Werther International	06925	C 70/4	000836220

# Ozone Data Form

Mfg	Serial Number	Tag Site	Technician	Site Visit Date	Parameter	Owner ID
ThermoElectron Inc	1009241787	ALH157	Martin Valvur	12/07/2020	Ozone	000615

<b>Slope:</b>	0.99253	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.41390	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	49CPS-70008-364	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01110		
<b>Slope</b>	1.00260	<b>Intercept</b>	0.03590
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.13	0.09	-0.04	ppb		-0.13
primary	2	16.99	16.91	16.20	ppb		-0.71
primary	3	38.68	38.54	37.74	ppb	-2.1	
primary	4	67.15	66.94	65.85	ppb	-1.64	
primary	5	116.06	115.72	114.60	ppb	-0.97	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	751 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.007	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	97.9 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.67 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	725.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	32.9 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	92.2 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.5 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.68 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	725.1 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*CDZ171-Martin Valvur-12/08/2020*

1	12/8/2020	DAS	Campbell	000355	CR3000	2133
2	12/8/2020	Ozone	ThermoElectron Inc	000727	49i A1NAA	1105347320
3	12/8/2020	Ozone Standard	ThermoElectron Inc	000220	49i A3NAA	0622717868
4	12/8/2020	Zero air pump	Werther International	06879	C 70/4	000814275

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347320	CDZ171	Martin Valvur	12/08/2020	Ozone	000727

<b>Slope:</b>	0.99764	<b>Slope:</b>	0.00000
<b>Intercept</b>	0.01650	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	0.99999	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	49CPS-70008-364	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01110		
<b>Slope</b>	1.00260	<b>Intercept</b>	0.03590
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.11	0.07	0.09	ppb		0.02
primary	2	13.35	13.27	13.25	ppb		-0.02
primary	3	35.83	35.70	35.46	ppb	-0.67	
primary	4	67.57	67.35	67.49	ppb	0.21	
primary	5	118.42	118.07	117.70	ppb	-0.31	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	752 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	-0.10	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.019	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	90.4 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.78 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	712.2 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	32.4 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	94.8 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.86 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	711.6 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*CND125-Korey Devins-12/12/2020*

1	12/12/2020	DAS	Campbell	000499	CR3000	3816
2	12/12/2020	Ozone	ThermoElectron Inc	000692	49i A1NAA	1030244803
3	12/12/2020	Ozone Standard	ThermoElectron Inc	000376	49i A3NAA	0726124693
4	12/12/2020	Zero air pump	Werther International	06868	C 70/4	000814284



# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1030244803	CND125	Korey Devins	12/12/2020	Ozone	000692

<b>Slope:</b>	1.01001	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.50766	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.38	0.08	-0.36	ppb		-0.44
primary	2	15.16	14.87	14.48	ppb		-0.39
primary	3	34.99	34.71	34.51	ppb	-0.58	
primary	4	68.11	67.85	67.99	ppb	0.21	
primary	5	112.39	112.15	112.80	ppb	0.58	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	746.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.40	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.033	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	98.1 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.6 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.71 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	714.9 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	35.8 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	102.7 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.4 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.75 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	715.5 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass

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## *Site Inventory by Site Visit*

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<i>Site Visit Date</i>	<i>Parameter</i>	<i>Mfg</i>	<i>Owner ID</i>	<i>Model Number</i>	<i>Serial Number</i>
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*BFT142-Korey Devins-12/16/2020*

1	12/16/2020	DAS	Campbell	000498	CR3000	3815
2	12/16/2020	Ozone	ThermoElectron Inc	000746	49i A1NAA	1105347315
3	12/16/2020	Ozone Standard	ThermoElectron Inc	000330	49i A3NAA	0622717854
4	12/16/2020	Zero air pump	Werther International	06898	C 70/4	000821905

# Ozone Data Form

<b>Mfg</b>	<b>Serial Number</b>	<b>Tag Site</b>	<b>Technician</b>	<b>Site Visit Date</b>	<b>Parameter</b>	<b>Owner ID</b>
ThermoElectron Inc	1105347315	BFT142	Korey Devins	12/16/2020	Ozone	000746

<b>Slope:</b>	1.00390	<b>Slope:</b>	0.00000
<b>Intercept</b>	-0.77559	<b>Intercept</b>	0.00000
<b>CorrCoff:</b>	1.00000	<b>CorrCoff:</b>	0.00000

<b>Mfg</b>	ThermoElectron Inc	<b>Parameter</b>	ozone
<b>Serial Number</b>	1180030022	<b>Tfer Desc.</b>	Ozone primary stan
<b>Tfer ID</b>	01114		
<b>Slope</b>	0.99950	<b>Intercept</b>	0.29010
<b>Cert Date</b>	1/14/2020	<b>CorrCoff</b>	0.99999

<b>DAS 1:</b>	<b>DAS 2:</b>		
<b>A Avg % Diff:</b>	<b>A Max % Dif</b>	<b>A Avg %Diff</b>	<b>A Max % Dif</b>
0.0%	0.0%		

UseDescription	ConcGroup	Tfer Raw	Tfer Corr	Site	Site Unit	RelPerDif	AbsDif
primary	1	0.51	0.22	-0.63	ppb		-0.85
primary	2	14.97	14.68	14.11	ppb		-0.57
primary	3	34.40	34.12	33.44	ppb	-2.01	
primary	4	65.79	65.53	64.94	ppb	-0.9	
primary	5	108.36	108.12	107.80	ppb	-0.3	

<b>Sensor Component</b>	Audit Pressure	<b>Condition</b>	760 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Sample Train	<b>Condition</b>	Good	<b>Status</b>	pass
<b>Sensor Component</b>	Minimum distance from road met	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Inlet Filter Condition	<b>Condition</b>	Moderately clean	<b>Status</b>	pass
<b>Sensor Component</b>	26.6 degree unobstructed rule	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Tree dewline >10m or below inlet	<b>Condition</b>	True	<b>Status</b>	pass
<b>Sensor Component</b>	Offset	<b>Condition</b>	0.30	<b>Status</b>	pass
<b>Sensor Component</b>	Span	<b>Condition</b>	1.023	<b>Status</b>	pass
<b>Sensor Component</b>	Zero Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Fullscale Voltage	<b>Condition</b>	N/A	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Freq.	<b>Condition</b>	92.4 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Noise	<b>Condition</b>	0.7 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Flow	<b>Condition</b>	0.65 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Pressure	<b>Condition</b>	726.8 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Cell A Tmp.	<b>Condition</b>	34.5 C	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Freq.	<b>Condition</b>	103.0 kHz	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Noise	<b>Condition</b>	0.9 ppb	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Flow	<b>Condition</b>	0.64 lpm	<b>Status</b>	pass
<b>Sensor Component</b>	Cell B Pressure	<b>Condition</b>	727.7 mmHg	<b>Status</b>	pass
<b>Sensor Component</b>	Line Loss	<b>Condition</b>	Not tested	<b>Status</b>	pass
<b>Sensor Component</b>	System Memo	<b>Condition</b>		<b>Status</b>	pass