



UTAH DEPARTMENT of
**ENVIRONMENTAL
QUALITY**

Division of Air Quality

Annual Monitoring Network Plan 2018



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Introduction

Each year, the Air Monitoring Section of the Utah Division of Air Quality (DAQ) produces a Monitoring Network Plan. The purpose of the document is to apprise the stakeholders (public, private, government) and other entities of the current state and the upcoming changes to the state's Air Quality Monitoring Network. DAQ continually seeks input from the aforementioned parties on improvements to the current level of service or to provide additional accommodations where requested and needed. The Annual Monitoring Network Plan reflects the necessary network changes DAQ implements to enhance the quality, coverage, reliability, and cost efficiency of the division's monitoring efforts.

In 2018, the Air Quality Monitoring Network underwent the following changes:

- The new Magna station was relocated to another location in Magna and is due to begin operations
- A new site was found at the same airport location for the Spanish Fork station that must be moved due to site construction

Additionally, the Air Monitoring Section has identified the site for the Near-Road Monitoring site located at 49th S and I-15. Work is underway to install the infrastructure and required elements necessary for the monitoring station.

Statement of Compliance

According to the requirement of 40 CFR 58, Subpart B, all stations and monitors deployed within Utah's air quality monitoring network meet the requirements of appendices A, C, D, and E of the aforementioned subpart. As of 2018, Utah's air quality monitoring network has no active Prevention of Serious Deterioration (PSD) air monitoring program stations.

Primary Monitor Designation

A primary monitor is defined as the one "identified by the monitoring organization that provides concentration data used for comparison to the NAAQS. For any specific site, only one monitor for each pollutant can be designated in AQS as primary monitor for a given period of time. The primary monitor identifies the default data source for creating a combined site record for purposes of NAAQS comparisons." (40 CFR 58.1) Each year, Utah DAQ carefully chooses and designates suitable primary monitors for each monitoring station and each pollutant according to data completeness and integrity. The primary monitors are designated prior to data certification in Q1 of the following year during the regular QC process. A table listing primary monitors for 2017 follows below.

Network Changes

Utah's air quality monitoring network will undergo several changes during 2018. Most of these changes involve relocation of several of the stations currently in the network. The stations that are to be moved are Magna and Spanish Fork. A new station, Copperview, will begin monitoring in the summer of 2018.

Magna Station Relocation

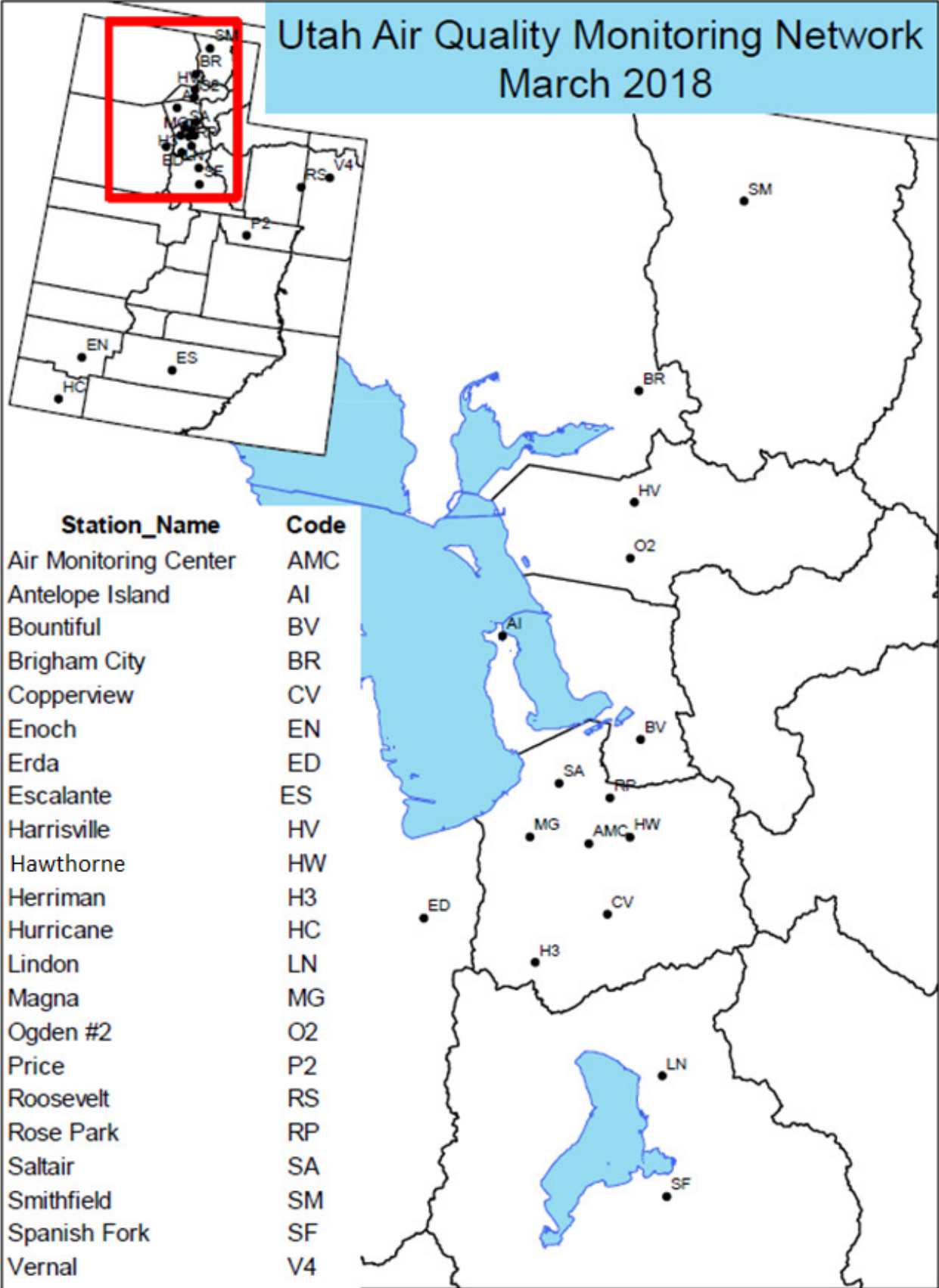
Air pollution data collection at the Magna station discontinued in the Q1 of 2018. The station will be moved from its previous location at 2935 South 8560 West, Magna to 9228 West 2700 South, Magna. The monitoring activities at the new location are expected to resume in Q3 of 2018, or as soon as possible after that.

In addition to moving the station, high-volume lead (Pb) samplers have been removed. Continuous PM samplers and ozone, sulfur dioxide (SO₂), and nitrogen oxides (NO_x) analyzers will be installed at the new location.

Spanish Fork Station Relocation

The Spanish Fork station is located in the south-west corner of the Spanish Fork Airport at 2050 North 300 West, Spanish Fork, and is expected to be moved from its current location to a new location on the airport premises. The move is the consequence of the current construction and upgrading efforts at the airport, and the new location is yet to be determined. Additionally, a continuous PM_{2.5} monitor was added to Spanish Fork station in Q1 of 2018.

Utah Air Quality Monitoring Network March 2018



Site Parameters

County	Site	PM 2.5			PM 10			PM Coarse	Speciation PM 2.5	Lead	O ₃	NO _x	NO _y	SO ₂	CO	Hg	NH ₃	Toxics PAMS	MET.
		Primary	Co-located	Real-time	Primary	Co-located	Real-time												
Cache	Smithfield	1/1	1/6	X	1/1	1/6	X			X	X								X
Box Elder	Brigham City	1/1		X						X									X
Weber	Ogden #2	1/1		X	1/1		X	X		X	X			X					X
	Harrisville									X									X
Davis	Bountiful	1/1		X	1/1	1/6			X	X	X							X	X
	Antelope Island																		X
Salt Lake	AMC														X	X			X
	Hawthorne	1/1		X	1/1			X	X		X	X	X	X	X				X
	Herriman			X	1/1		X	X			X	X							X
	Magna	1/1		X	1/1		X			X	X		X						X
	Rose Park	1/1	1/6	X			X	X											X
	Saltair																		X
	<i>Copperview</i>	X		X						X	X	X	X	X					X
Tooele	Erda	1/1		X						X	X								X
Utah	Lindon	1/1	1/6	X	1/1		X	X	X										X
	Spanish Fork	1/1		X						X									X
Uintah	Vernal			X						X	X								X
Duchesne	Roosevelt			X						X	X								X
Carbon	Price #2									X	X								X
Garfield	Escalante									X									
Washington	Hurricane			X						X	X								X

Current Site Addresses

County	EPA AIRS Code	Station Name - Code	Station Address	UTM	UTM	Elevation (meters)
				Northing	Easting	
Cache	490050007	Smithfield - SM	675 West 220 North, Smithfield	4632671	429270	1377
Box Elder	490030003	Brigham City - BR	140 West Fishburn Dr., Brigham City	4593978	415045	1334
Weber	490571003	Harrisville - HV	425 West 2550 North, Harrisville	4572829	417416	1331
	490570002	Ogden #2 - O2	228 East 32nd Street, Ogden	4562188	418249	1316
Davis	490116001	Antelope Island - AI	Great Salt Lake	4543850	396506	1359
	490110004	Bountiful - BV	1380 North 200 West, Bountiful	4528382	425434	1309
Salt Lake	490353011	Air Monitoring Center, AMC	2861 West Parkway Blvd., West Valley	4507220	418827	1292
	490353006	Hawthorne - HW	1675 South 600 East, Salt Lake City	4509639	426361	1306
	490353012	Herriman #3- H3	14058 Mirabella Drive, Herriman	4483371	412184	1534
	490353005	Saltair - SA	6640 West 1680 North, Salt Lake City	4505959	411322	1282
	490351007	Magna - MG	2935 South 8560 West, Magna	4507397	406134	1317
	490353010	Rose Park - RP	1354 West Goodwin Ave., Salt Lake City	4516479	421458	1295
	490352005	Copperview - CV	8449 South Monroe St. Midvale	4527825	424683	1290
Utah	490494001	Lindon - LN	50 North Main Street, Lindon	4465692	439400	1442
	490495010	Spanish Fork - SF	Spanish Fork Airport, Spanish Fork	4443095	443761	1380

Current Site Addresses

County	EPA AIRS Code	Station Name - Code	Station Address	UTM		Elevation (meters)
				Northing	Easting	
Tooele	490450004	Erda - ED	2163 West Erda Way, Erda	4495298	385355	1320
Duchesne	490130002	Roosevelt - RS	290 South 1000 West, Roosevelt	4460879	584230	1588
Uintah	490471003	Vernal - V4	628 North 1700 West, Vernal	4480337	622012	1667
Carbon	490071003	Price #2 - P2	351 South 2500 East, Price	4382915	519750	1740
Garfield	490170004	Escalante - ES	755 West Main, Escalante	4181091	445865	1789
Washington	490530007	Hurricane - HC	147 North 870 West, Hurricane	4117231	295368	992
Iron	490210005	Enoch - EN	325 East N. Minersville, Enoch	4181701	318968	1692

2017 Primary Monitor Designations

Federal equivalent method (FEM) PM_{2.5} monitor data was not used prior to January 1, 2015, as it did not meet quality assurance requirements. As of January 1, 2015, FEM PM_{2.5} monitoring was used for data substitution and co-locations as required in 49 CFR Part 50 Appendix N and 40 CFR Part 58 Appendix A 3.2

Site Name	Site Number	POC	Start	End
BR	490030003	3	1/1/2017	12/31/2017
SM	490050007	3	1/1/2017	12/31/2017
BV	490110004	3	1/1/2017	12/31/2017
MG	490351001	1	1/1/2017	12/31/2017
HW	490353006	4	1/1/2017	12/31/2017
RP	490353010	3	1/1/2017	12/12/2017
		4	12/13/2017	12/31/2017
H3	490353013	3	1/1/2017	12/31/2017
ED	490450004	3	1/1/2017	12/31/2017
NP	490490002	3	1/1/2017	12/31/2017
LN	490494001	1	1/1/2017	12/31/2017
SF	490495010	1	1/1/2017	12/31/2017
O2	490570002	5	1/1/2017	2/16/2017
		3	2/17/2016	12/31/2017

Detailed Site Information

Site: Air Monitoring Center (AMC)	Longitude: -111.9612	Station Type: SPM
AQS#: 49-035-3011	Latitude: 40.7118	MSA: Salt Lake City
Address: 2861 West Parkway Blvd.	Elevation (m): 1292	
City: West Valley		
County: Salt Lake		

Site Objective:

This site is established to determine Mercury in Wet Deposition and Dry Deposition.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located at the Air Monitoring Center, in the city of West Valley, Salt Lake County.

Can data from this site be used to evaluate NAAQS?: No

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Dry Dep. Mercury	Cold Vapor Atomic Absorption	Continuous	Population Exposure	SPM- Transport Regional
Wet Dep. Mercury	Manual NADP MDN	Integrated 7 days	Population Exposure	SPM- Transport Regional
Ammonia	Manual NADP AMoN	Integrated 14 days	Population Exposure	SPM- Transport Regional

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Pressure	Barometric Pressure Transducer	Continuous	2 meters	Urban
Relative Humidity	Elec. Thin Film	Continuous	4 meters	Urban
Leaf Wetness		Continuous	4 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	4 meters	Urban
Wind Direction	Sonic 2D	Continuous	4 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	4 meters	Urban
Wind Speed	Sonic 2D	Continuous	4 meters	Urban

Site: Antelope Island (AI)
AQS#: 49-011-6001
Address: Antelope Island
City: N/A
County: Davis

Longitude: -112.2313
Latitude: 41.0393
Elevation (m): 1359

Station Type: SPM
MSA: Ogden-Clearfield

Site Objective:

This site is established to collect meteorological information for air quality modeling inputs.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is on Antelope Island State Park, near the ranger residences, in Davis County.

Can data from this site be used to evaluate NAAQS?: No

Parameter	Sampling & Analysis Method	Meteorological Parameters:		
		Operating Schedule	Tower Height	Spatial Scale
Relative Humidity	Elec. Thin Film	Continuous	6 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	6 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	6 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	6 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	6 meters	Urban

Site: Bountiful Viewmont (BV)	Longitude: -111.8845	Station Type: SLAMS
AQS#: 490110004	Latitude: 40.903	MSA: Ogden-Clearfield
Address: 1380 North 200 West	Elevation (m): 1309	
City: Bountiful		
County: Davis		

Site Objective:

The Bountiful Viewmont site is established to determine public exposure to air pollution. The site also monitors emissions from nearby oil refineries and local sand and gravel operations. Previous monitoring and saturation studies have recorded high ozone concentrations. This site is chosen for intensive speciation of PM_{2.5} under the EPA Chemical Speciation Network (CSN) and gaseous Volatile Organic Compounds under the EPA National Air Toxics Trends Network (NTTN) including hexavalent chromium and carbonyl compounds. Nitrogen dioxide is monitored in support of the ozone monitoring.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located near Viewmont High School at the north end of the city of Bountiful, Davis County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS-High Neighborhood
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Synchronized Hybrid Ambient Real Time Particulate Monitor	Continuous	Air Quality Index	SLAMS- Population Neighborhood
PM ₁₀ Metals	Manual Gravimetric	1 in 6 days	Population Exposure	SLAMS- Population Neighborhood
PM ₁₀ Metals Co-located	Manual Gravimetric	6 samples/year	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Speciation	Manual EPA CSN	1 in 6 days	Population Exposure	SLAMS- Population Neighborhood
VOC	Manual EPA NTTN	1 in 6 days	Population Exposure	SLAMS- Population Neighborhood
Semi-volatile	Manual EPA NTTN	1 in 6 days	Population Exposure	SLAMS- Population Neighborhood
Carbonyl compounds	Manual EPA NTTN	1 in 6 days	Population Exposure	SLAMS- Population Neighborhood
Black Carbon	Aethalometer	Continuous	Population Exposure	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Pressure	Barometric Pressure Transducer	Continuous	1 meter	Urban
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Brigham City (BR)
AQS#: 49-003-0003
Address: 140 West Fishburn Dr.
City: Brigham City
County: Box Elder

Longitude: -112.0176
Latitude: 41.4929
Elevation (m): 1334

Station Type: SLAMS
MSA: Ogden-Clearfield

Site Objective:

This site is established to determine the boundary of ozone concentrations greater than the NAAQS and PM_{2.5} comparison to Cache County.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located in a neighborhood area of Brigham City in Box Elder County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	Population Exposure	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Copperview (CV)
AQS#: 490352005
Address: 8449 South Monroe St.
City: Midvale
County: Salt Lake

Longitude: -111.894127
Latitude: 40.597938
Elevation (m): 1290

Station Type: SLAMS
MSA: Salt Lake City

Site Objective:

Site established to assess population exposure in southeast Salt Lake County.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located in a neighborhood area of Midvale in Salt Lake County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Carbon Monoxide, Trace	Instrumental Gas Phase Correlation	Continuous	Population Exposure	SLAMS-High Neighborhood
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS-High Neighborhood
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS-High Neighborhood
NOy Trace Level	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
SO2 Trace Level	Pulsed Fluorescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	Population Exposure	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Enoch (EN)
AQS#: 490210005
Address: 325 East N. Minersville
City: Enoch
County: Iron

Longitude: -113.055525
Latitude: 37.74743
Elevation (m): 1692

Station Type: SLAMS
MSA: Not in MSA

Site Objective:

Site established to contain SPM equipment to assess population exposure in Iron County prior to full-scale monitoring.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located in a county area near Enoch.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	SPM	NA
Ozone	Instrumental Ultra Violet	Continuous	SPM	NA
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	SPM	NA

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Erda (ED)
AQS#: 490450004
Address: 2163 West Erda Way
City: Erda
County: Tooele

Longitude: -112.3550
Latitude: 40.6005
Elevation (m): 1320

Station Type: SLAMS
MSA: Salt Lake City

Site Objective:

This site is established to determine population exposure to air pollutants.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located in the city of Erda, Tooele County. It is the main monitor for Tooele county.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS- Population Neighborhood
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS- High Neighborhood
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Synchronized Hybrid Ambient Real Time Particulate Monitor	Continuous	Air Quality Index	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Relative Humidity	Elec. Thin Film	Continuous	3 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Escalante (ES)
AQS#: 490170004
Address: 755 West Main
City: Escalante
County: Garfield

Longitude: -111.614722
Latitude: 37.775556
Elevation (m): 1789

Station Type: SPM
MSA: NA

Site Objective:

This site is established to measure ozone near Escalante National Monument.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located at the Escalante National Monument visitor's center in Escalante, Garfield County. This site is funded by the Bureau of Land Management.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	Regional

Site: Harrisville (HV)
AQS#: 490571003
Address: 425 West 2550 North
City: Harrisville
County: Weber

Longitude: -111.9865
Latitude: 41.3028
Elevation (m): 1331

Station: SLAMS
MSA: Ogden-Clearfield

Site Objective:

This site is established in response to an ozone saturation study indicating this as a potentially high ozone concentration area.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located on the grounds of Majestic Elementary School in the city of Harrisville, Weber County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Hawthorne (HW)
AQS#: 490353006
Address: 1675 South 600 East
City: Salt Lake City
County: Salt Lake

Longitude: -111.8721
Latitude: 40.7343
Elevation (m): 1306

Station Type: SLAMS
MSA: Salt Lake City

Site Objective:

This site is established to represent population exposure in the Salt Lake City area. The Hawthorne site is also designated as the EPA NCore site for Utah.

Does the site meet the objective:

Yes, all current objectives are met. NCore monitoring began in January 2011.

Site Description:

The site is located at Hawthorne Elementary School in the southeast section of Salt Lake City, Salt Lake County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Carbon Monoxide, Trace	Instrumental Gas Phase Correlation	Continuous	Population Exposure	SLAMS-High Neighborhood
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS-High Neighborhood
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS-High Neighborhood
NOy Trace Level	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
SO2 Trace Level	Pulsed Fluorescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Speciation	Manual EPA CSN	1 in 3 days	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Real Time NCore	Continuous Gravimetric	Continuous	Air Pollution Index	SLAMS- Population Neighborhood
PM ₁₀	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{coarse}	Manual Gravimetric Subtraction	Daily	Population Exposure	SLAMS- Population Neighborhood
Organic & Elemental Carbon	NIDR	Continuous	Population Exposure	SLAMS- Population Neighborhood
PAMS C2 to C12	Instrumental Gas Chromatography	Continuous	Ozone modeling	Population Neighborhood
Visibility	Instrumented	Continuous	Public Information	Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Pressure	Barometric Pressure Transducer	Continuous	3 meters	Urban
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban
Solar Radiation	Elec. EPPLY	Continuous	4 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Herriman #3 (H3)
AQS#: 490353012
Address: 14058 Mirabella Drive
City: Herriman
County: Salt Lake

Longitude: -112.036305
Latitude: 40.496408
Elevation (m): 1534

Station Type: SLAMS
MSA: Salt Lake City

Site Objective:

This site is established to assess population exposure in southwest Salt Lake County.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located at Fort Herriman Middle School in southwest Salt Lake County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS- Population Neighborhood
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS- Population Neighborhood
PM ₁₀	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM ₁₀ Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Instrumental/ Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
Wind Speed	Instrumental/ Elec. Chopped Signal Level 1	Continuous	10 meters	Urban
Barometric Pressure	Pressure Transducer	Continuous	10 meters	Urban
Relative Humidity	Instrumental/ Elect. Thin Film	Continuous	10 meters	Urban

Site: Hurricane (HC)
AQS#: 490530007
Address: 147 North 870 West
City: Hurricane
County: Washington

Longitude: -113.3051 **Station Type:** SLAMS
Latitude: 37.1791 **MSA:** St George
Elevation (m): 992

Site Objective:

This site is established to determine population exposure to ozone in Washington County.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

This site is located behind the Hurricane City offices.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	High Winter Ozone Study	Regional
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	High Winter Ozone Study	Regional
PM _{2.5} Real Time	Synchronized Hybrid Ambient Real Time Particulate Monitor	Continuous	Air Quality Index	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Regional
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Regional
WD Sigma	Elec. EPA Method	Continuous	10 meters	Regional
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Regional
Barometric Pressure	Pressure Transducer	Continuous	2 meters	Regional

Site: Lindon (LN)
AQS#: 490494001
Address: 50 North Main Street
City: Lindon
County: Utah

Longitude: -111.7133
Latitude: 40.3396
Elevation (m): 1442

Station Type: SLAMS
MSA: Provo - Orem

Site Objective:

This site is established to determine PM emissions from commercial and industrial sources. Historically, this site has reported the highest PM values in Utah County.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located at the Lindon Elementary School in the City of Lindon, Utah County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5}	Manual Gravimetric Co-located	1 in 6 days	Precision and Accuracy Assessment	SLAMS- Population Neighborhood
PM _{2.5} Speciation	Manual EPA CSN	1 in 6 days	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS- Population Neighborhood
PM ₁₀	Manual Gravimetric	Daily	Population Exposure	SLAMS-Impact Neighborhood
PM ₁₀ Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS-Impact Neighborhood
Carbon Monoxide	Instrumental Gas Phase Correlation	Continuous	Population Exposure	SLAMS- Population Neighborhood
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS-High Neighborhood
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS- Population Neighborhood

Parameter	Sampling & Analysis Method	Meteorological Parameters:		Spatial Scale
		Operating Schedule	Tower Height	
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Magna (MG)
AQS#: 490351001
Address: 2935 South 8560 West
City: Magna
County: Salt Lake

Longitude: -112.0947
Latitude: 40.7068
Elevation (m): 1317

Station Type: SLAMS
MSA: Salt Lake City

Site Objective:

This site is established to determine particulate matter and Pb concentrations from Kennecott smelter.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located on the roof of Brockbank Junior High School in the city of Magna in western Salt Lake County.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM ₁₀	Manual Gravimetric	Daily	Population Exposure	SLAMS-High Neighborhood
Pb	Manual Gravimetric	1 in 6 days	Population Exposure	SLAMS-High Neighborhood
Pb Co-located	Manual Gravimetric	1 in 12 days	Population Exposure	SLAMS-High Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Ogden #2 (O2)
AQS#: 490570002
Address: 228 East 32nd Street
City: Ogden
County: Weber

Longitude: -111.9751
Latitude: 41.207
Elevation (m): 1316

Station Type: SLAMS
MSA: Ogden-Clearfield

Site Objective:

This site is established to replace the original Ogden site to determine population exposure to air pollutants.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located in the city of Ogden in Weber County.

Can data from this site be used to evaluate NAAQS?: Yes

Gas/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Carbon Monoxide	Instrumental Gas Phase Correlation	Continuous	Population Exposure	SLAMS-Population Neighborhood
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS-Population Neighborhood
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS-High Neighborhood
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS-High Neighborhood
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS-High Neighborhood
PM ₁₀	Manual Gravimetric	Daily	Population Exposure	SLAMS-High Neighborhood
PM ₁₀ Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS-High Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Price #2 (P2)
AQS#: 490071003
Address: 351 South 2500 East
City: Price
County: Carbon

Longitude: -110.77
Latitude: 39.5958
Elevation (m): 1740

Station Type: SPM
MSA: Price

Site Objective:

This site is established in response to a three state ozone study. It is funded by the Bureau of Land Management.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

This site is located in a farm field 3.6 Km east of Price.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	High Ozone Winter Study	Regional
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	High Ozone Winter Study	Regional

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Regional
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Regional
WD Sigma	Elec. EPA Method	Continuous	10 meters	Regional
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Regional

Site: Roosevelt (RS)	Longitude: -110.009	Station Type: SPM
AQS#: 490130002	Latitude: 40.2941	MSA: NA
Address: 290 South 1000 West	Elevation (m): 1588	
City: Roosevelt		
County: Duchesne		

Site Objective:

This site is established to determine maximum ozone and PM_{2.5} concentrations in Duchesne County.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located in the city park Northwest section of Roosevelt.

Can data from this site be used to evaluate NAAQS?: Yes

Gas/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	High Ozone Winter Study	Regional
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	High Ozone Winter Study	Regional
PM _{2.5} Real Time	Synchronized Hybrid Ambient Real Time Particulate Monitor	Continuous	Population Exposure	Regional

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Sonic Method	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Sonic Method	Continuous	10 meters	Urban
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	2 meters	Urban
Temperature Difference	Math Channel	Continuous	2-10 meters	Urban

Site: Rose Park (RP)	Longitude: -111.9309	Station Type: SLAMS
AQS#: 490353010	Latitude: 40.7955	MSA: Salt Lake City
Address: 1354 West Goodwin Avenue	Elevation (m): 1295	
City: Salt Lake City		
County: Salt Lake		

Site Objective:

This site is established to better represent PM_{2.5} exposure in the area of Salt Lake City.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located in the community of Rose Park at the north end of Salt Lake City, Salt Lake County.

Can data from this site be used to evaluate NAAQS?: Yes

Parameter	Sampling & Analysis Method	Gas/Particulate Parameters:		Spatial Scale
		Operating Schedule	Monitoring Objective	
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5}	Manual Gravimetric Co-located	1 in 6 days	Precision and Accuracy Assessment	SLAMS- Population Neighborhood

Meteorological Parameters:				
Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal	Continuous	10 meters	Urban

Site: Saltair (SA)
AQS#: 490353005
Address: 6640 West 1680 North
City: Salt Lake City
County: Salt Lake

Longitude: -112.0497
Latitude: 40.8061
Elevation (m) 1282

Station Type: SPM
MSA: Salt Lake City

Site Objective:

This site is established to collect meteorological information for air quality models.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located west of the Salt Lake Airport in Salt Lake County.

Can data from this site be used to evaluate NAAQS?: No

Parameter	Sampling & Analysis Method	Meteorological Parameters:		Spatial Scale
		Operating Schedule	Tower Height	
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban
Solar Radiation	Elec. LiCor	Continuous	2 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Smithfield (SM)
AQS#: 490050007
Address: 675 West 220 North
City: Smithfield
County: Cache

Longitude: -111.851944
Latitude: 41.842778
Elevation (m): 1377

Station Type: SLAMS
MSA: Logan

Site Objective:

This site is established to replace the Logan site and determine general population exposure.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

This site is located at Birch Creek Elementary School in Cache County. It is approximately 7 miles north of Logan.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
Nitrogen Dioxide	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5}	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM _{2.5}	Manual Gravimetric	1 in 6 days	Precision and Accuracy	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS- Population Neighborhood
PM _{2.5} Real Time	Synchronized Hybrid Ambient Real Time Particulate Monitor	Continuous	Air Quality Index	SLAMS- Population Neighborhood
PM ₁₀	Manual Gravimetric	Daily	Population Exposure	SLAMS- Population Neighborhood
PM ₁₀	Manual Gravimetric Co-located	1 in 6 days	Precision and Accuracy Assessment	SLAMS- Population Neighborhood
PM ₁₀ Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS- Population Neighborhood

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban
Solar Radiation	LiCor	Continuous	10 meters	Urban
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Spanish Fork (SF)
AQS#: 490495010
Address: 312 West 2050 North
City: Spanish Fork
County: Utah

Longitude: -111.6603
Latitude: 40.1364
Elevation (m): 1380

Station Type: SLAMS
MSA: Provo - Orem

Site Objective:

This site is established to determine the boundary of the high ozone and PM_{2.5} concentrations in Utah County.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

The site is located at the Spanish Fork airport in the city of Spanish Fork, Utah County.

Can data from this site be used to evaluate NAAQS?: Yes

Parameter	Sampling & Analysis Method	Gas/Particulate Parameters:		Spatial Scale
		Operating Schedule	Monitoring Objective	
Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS-Population Neighborhood
PM _{2.5}	Manual Gravimetric	Daily days	Population Exposure	SLAMS-Transport Regional
PM _{2.5} Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS-Transport Regional

Parameter	Sampling & Analysis Method	Meteorological Parameters:		Spatial Scale
		Operating Schedule	Tower Height	
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Urban
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Urban
WD Sigma	Elec. EPA Method	Continuous	10 meters	Urban
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Urban

Site: Vernal (V4)
AQS#: 490471003
Address: 628 North 1700 West
City: Vernal
County: Uintah

Longitude: -109.560733
Latitude: 40.464971
Elevation (m): 1667

Station Type: SLAMS
MSA: NA

Site Objective:

This site is established was set up in response to an ozone study.

Does the site meet the objective:

Yes, all objectives are met.

Can data from this site be used to evaluate NAAQS?: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Ozone	Instrumental Ultra Violet	Continuous	High Winter Ozone Study	Regional
Nitrogen Dioxide	Instrumental Ultra Violet	Continuous	High Winter Ozone Study	Regional
PM _{2.5} Real Time	Instrumental Ultra Violet	Continuous	Air Quality Index	SLAMS-Population

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Regional
Ambient Temperature	Elec. Resistance	Continuous	10 meters	Regional
Wind Direction	Elec. Resistance Level 1	Continuous	10 meters	Regional
WD Sigma	Elec. EPA Method	Continuous	10 meters	Regional
Wind Speed	Elec. Chopped Signal Level 1	Continuous	10 meters	Regional
Barometric pressure	Pressure Transducer	Continuous	2 meters	Regional