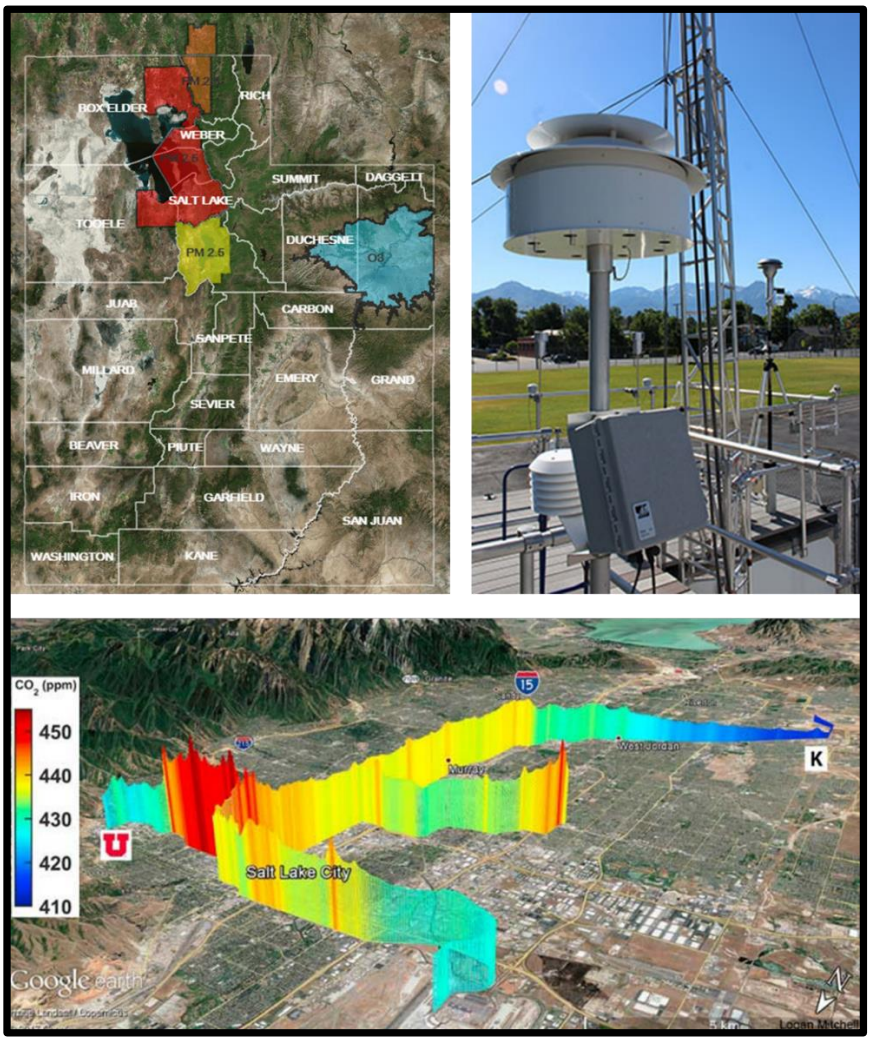
UTAH DEPARTMENT of ENVIRONMENTAL QUALITY

Division of Air Quality

Annual Monitoring Network Plan 2019



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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 2018-2019, the Air Quality Monitoring Network underwent the following changes:

- Construction of the new DEQ Technical Center facility was completed in 2019. DAQ staff is currently moving all Air Monitoring Center (AMC) operations to the new facility.
- The old AMC site in West Valley City will be closed and no longer used for meteorological data.
- A gas chromatograph was installed at the Hawthorne site to monitor VOCs from C1-C12.
- The Near Road site was installed at 49th S and I-15 and data collection started in January 2019.
- The relocated Magna station started data collection in January 2019.
- The station at Copperview was installed and started collecting data on April 18, 2018
- A station was installed at Enoch and started collecting $PM_{2.5}$ and O_3 data on January 1, 2018, and NO_x data on April 30, 2018.

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; appendix B does not apply to any stations or monitors in Utah because this appendix pertains to PSD air monitoring 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 2018 follows below.

Network Changes

Utah's Air Quality Monitoring Network will undergo several changes during 2019. Most of these changes involve relocating stations currently in the network. The stations that are to be moved in 2019 are Ogden #2 and Spanish Fork. A new station, the Inland Port Station, will be installed this year.

The Air Monitoring Center is Moving

The DAQ's Air Monitoring Center (AMC) will be moved into the new Technical Support Center (240 North 1950 West, SLC 84116), which was completed earlier this year. The meteorological monitoring at the old AMC location will cease, and the ammonia monitors will be moved to the new AMC location. The new facility will also include a new gravimetric lab for weighing particulate filters.

Automatic Gas Chromatographer Installed at Hawthorne Elementary School

A gas chromatograph was installed at the Hawthorne site on January 1, 2019 to monitor volatile organic compounds (VOCs) from methane (C1) to n-Dodecane (C-12). This instrument has been collecting data but is still being fine-tuned for optimal performance.

Near Road Monitor Installation

A site was found for the Near Road monitor on I-15 at the address 5001 Galleria Dr, Murray, UT 84123. The site has been installed and started collecting data on January 1, 2019. The site will collect data on carbon monoxide (CO), oxides of nitrogen (NO_x), ozone (O_3), and fine particulate matter (continuous $PM_{2.5}$).

Magna Station Relocation

Air pollution data collection at the Magna station discontinued in Q1 of 2018. The station was relocated from its previous location at 2935 South 8560 West, Magna to its new location at 9228 West 2700 South, Magna to better monitor the impact of emissions from Kennecott Utah Copper (KUC). The monitoring activities have resumed as of January 1, 2019. In addition to moving the station, high-volume lead (Pb) samplers have been removed. Continuous PM samplers, ozone (O_3), sulfur dioxide (SO_2), and nitrogen oxides (NO_x) analyzers were all installed at the new location.

Copperview Station Relocation

A station was installed in Copperview to compare measurements in South Valley with those at the NCORE station and the trace level instruments in the network. The site monitors fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2) and other oxides of nitrogen (NO_x), ozone (O_3), sulfur dioxide (SO_2), carbon monoxide (CO), and meteorological data.

Enoch Station Installed

A new station was installed at Enoch for background monitoring because the population has exceeded 50,000. The site monitors fine particulate matter ($PM_{2.5}$), nitrogen dioxide (NO_2) and other oxides of nitrogen (NO_x), and ozone (O_3).

Ogden Station Removed

Equipment was turned off at the Ogden site on 6/4/19, and the station will be removed on 6/12/19. This station is being relocated because the city is using the plot of land where it was stationed for development.

Pending Items

Change to Precision and Span Checks of Gaseous Monitors

The EPA's Air Quality System (AQS) has recently been updated to reflect changes in the Code of Federal Regulations (CFR). As required by those changes, DAQ will be changing the precision check of our monitors to reflect the rules in the CFR. The specific values at each monitor may vary by the ambient condition at each location, but they will be in accordance with the following:

> *"*One-Point Quality Control (QC) Check for SO2, NO2, O3, and CO. *(a) A one point QC check must be performed at least once every 2 weeks on each automated monitor used to measure SO2, NO2, O3 and CO. With the advent of automated calibration systems, more frequent checking is strongly encouraged and may be required by the PSD reviewing authority. See Reference 10 of this appendix for guidance on the review procedure. The QC check is made by challenging the monitor with a QC check gas of known concentration (effective concentration for open path monitors) between the prescribed range of 0.005 and 0.08 parts per million (ppm) for SO2, NO2, and O3, and between the prescribed range of 0.5 and 5 ppm for CO monitors."* -CFR Appendix A, 3.1.1

These changes are being made as soon as possible.

Inland Port Site Monitors

Monitors will be installed at the site of the Utah Inland Port. These monitors are being installed as specified in Utah Senate bill SB144, sponsored by Sen. Luz Escamilla. The monitors required by this bill will establish a baseline at these locations prior to the construction of the port, and also to monitor impacts on air and water quality after the port is constructed. The bill states that it

> *"directs the Department of Environmental Quality to establish and maintain monitoring facilities to measure environmental impacts from inland port development and to report the results of the monitoring."* -UT SB144

The site will include

> *"a sensor system consisting of monitors to measure levels of research-grade particulate matter, ozone, and oxides of nitrogen, and data logging equipment with internal data storage which are interconnected at all times to capture air quality readings and store data"* -UT SB144

DAQ meteorologists are studying existing meteorological data to identify appropriate monitoring sites, and DAQ will install one monitoring site upwind from site of the Inland Port, and another downwind.

Relocation of Rose Park Station to New AMC

The monitors at the Rose Park station (about 1 mile away) will eventually be moved to the new AMC location. The station has been outfitted for monitors on the roof, and there are rooms within the building for particulate monitors.

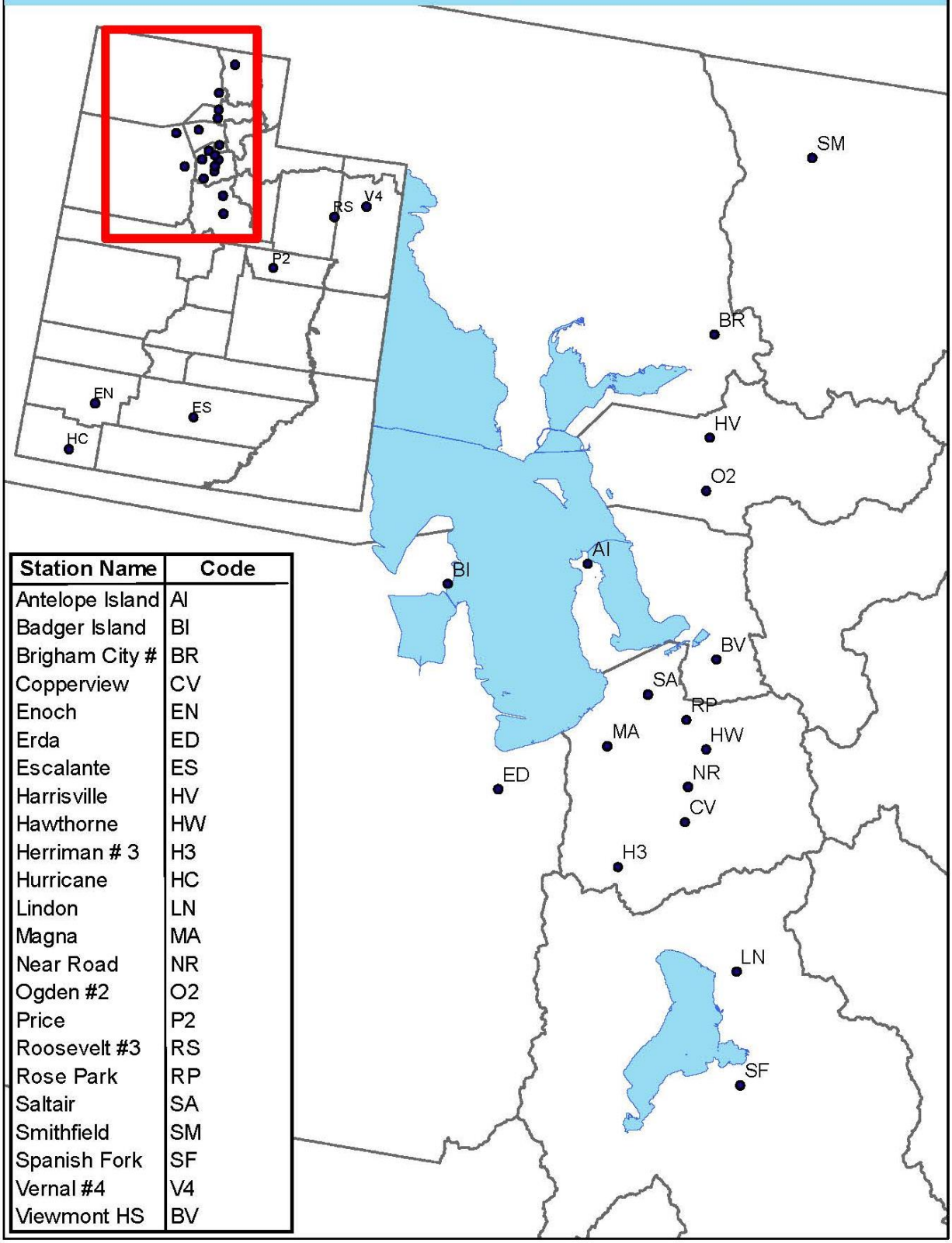
Relocation of Spanish Fork Site

Due to construction at the Spanish Fork (SF) airport site, DAQ has found a new location for the SF site at the same airport. The site has been approved by the EPA, but it is still pending approval from the FAA. The site will be moved as soon as approval is received.

Relocation of Ogden Site

The Ogden site will be relocated nearby, as the owners of the property where the station is located want to use the space for development.

Utah Air Quality Monitoring Network April 2019



Station Name	Code
Antelope Island	AI
Badger Island	BI
Brigham City #	BR
Copperview	CV
Enoch	EN
Erda	ED
Escalante	ES
Harrisville	HV
Hawthorne	HW
Herriman # 3	H3
Hurricane	HC
Lindon	LN
Magna	MA
Near Road	NR
Ogden #2	O2
Price	P2
Roosevelt #3	RS
Rose Park	RP
Saltair	SA
Smithfield	SM
Spanish Fork	SF
Vernal #4	V4
Viewmont HS	BV

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	Continuous	Primary	Co-located	Real-time												
Cache	Smithfield	1/1	1/6	X	1/1	1/6	X	X			X	X							X
Box Elder	Brigham City	1/1	1/1	X							X								X
Weber	Ogden #2	1/1	1/1	X	1/1	1/1	X	X			X	X			X				X
	Harrisville										X	X							X
Davis	Bountiful (Viewmont HS)	1/1		X	1/1	1/6			X		X	X						X	X
	Antelope Island																		X
Salt Lake	AMC															X	X		X
	Hawthorne	1/1	1/1	X	1/1			X	X		X	X	X	X	X			X	X
	Herriman	1/1		X	1/1	1/1	X	X			X	X							X
	Magna	1/1		X	1/1		X			X	X	X		X					X
	Near Road	1/1		X							X	X			X				
	Rose Park	1/1	1/6	X			X	X			X	X		X	X				X
	Saltair	1/1		X															X
	Copperview	1/1		X							X	X		X	X				X
Tooele	Erda	1/1		X							X	X							X
	Badger Island																		X
Utah	Lindon	1/1	1/6	X	1/1	1/1	X	X	X		X	X			X				X
	Spanish Fork	1/1		X							X								X
Uintah	Vernal	1/1		X							X	X							X
Duchesne	Roosevelt	1/1		X							X	X							X
Carbon	Price #2										X	X							X
Iron	Enoch	1/1		X							X	X							X
Garfield	Escalante										X								
Washington	Hurricane	1/1		X							X	X							X

Current Site Addresses

County	EPA AIRS Code	Station Name - Code	Station Address	UTM Northing	UTM Easting	Elevation (meters)
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
	490116001	Antelope Island - AI	Great Salt Lake	4543850	396506	1359
	490570002	Ogden #2 - O2	228 East 32nd Street, Ogden	4562188	418249	1316
Davis	490110004	Bountiful - BV	171 West 1370 North, Bountiful	4528360	425503	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	Great Salt Lake	4517750	411449	1282
	490354002	Near Road - NR	4951 South Galleria Dr	4501725	423823	1295
	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 Northing	UTM Easting	Elevation (meters)
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	490170006	Escalante - ES	755 West Main, Escalante	4181091	445865	1789
Washington	490530007	Hurricane - HC	147 North 870 West, Hurricane	4117231	295368	992

2017 Primary Monitor Designations

Federal equivalent method (FEM) PM2.5 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	1	1/1/2018	12/31/2018
SM	490050007	3	1/1/2018	12/31/2018
BV	490110004	1	1/1/2018	12/31/2018
MG	490351001	1	1/1/2018	12/31/2018
CV	490352005	4	05/03/2018	12/31/2018
HW	490353006	4	1/1/2018	12/31/2018
RP	490353010	3	1/1/2018	12/12/2018
H3	490353013	5	1/1/2018	12/31/2018
ED	490450004	1	1/1/2018	12/31/2018
LN	490494001	1	1/1/2018	12/31/2018
SF	490495010	1	1/1/2018	12/31/2018
O2	490570002	1	1/1/2018	2/16/2018

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 and Dry Deposition.

Does the site meet the objective:

Yes, all objectives are met.

Site Description:

This 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)	**Longitude:**	-112.2313	**Station Type:**	SPM
AQS#:	49-011-6001	**Latitude:**	41.0393	**MSA:**	Ogden-Clearfield
Address:	Antelope Island	**Elevation (m):**	1359		
City:	N/A				
County:	Davis				

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:
This site is located at Antelope Island State Park, near the ranger residences, in Davis County.
Can data from this site be used to evaluate NAAQS: No

Meteorological Parameters:

Parameter	Sampling & Analysis Method	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

Site:	Bountiful Viewmont (BV)	**Longitude:**	-111.8845	**Station Type:**	SLAMS
AQS#:	49-011-0004	**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:

This 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}	Manual Gravimetric	1 in 6 days	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)	**Longitude:**	-112.0176	**Station Type:**	SLAMS
AQS#:	49-003-0003	**Latitude:**	41.4929	**MSA:**	Ogden-Clearfield
Address:	140 West Fishburn Dr.	**Elevation (m):**	1334		
City:	Brigham City				
County:	Box Elder				

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:
This 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
Nitrogen Dioxide	Instrumental Chemiluminescence	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)	**Longitude:**	-111.894127	**Station Type:**	SLAMS
AQS#:	490352005	**Latitude:**	40.597938	**MSA:**	Salt Lake City
Address:	140 West Fishburn Dr.	**Elevation (m):**	1334		
City:	Brigham City				
County:	Salt Lake				

Site Objective:
This site is established to assess population exposure in southeast Salt Lake County.

Does the site meet the objective:
Yes, all objectives are met.

Site Description:
This 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
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
Ambient Pressure	Barometric Pressure Transducer	Continuous	10 meters	Urban

Site:	Enoch (EN)	**Longitude:**	-113.055525	**Station Type:**	SLAMS
AQS#:	490210005	**Latitude:**	37.74743	**MSA:**	Not in MSA
Address:	325 East N. Minersville	**Elevation (m):**	1692		
City:	Enoch				
County:	Iron				

Site Objective:
This site is 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:
This 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	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)	**Longitude:**	-112.3550	**Station Type:**	SLAMS
AQS#:	49-045-0004	**Latitude:**	40.6005	**MSA:**	Salt Lake City
Address:	2163 West Erda Way	**Elevation (m):**	1320		
City:	Erda				
County:	Tooele				

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:

This 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)	**Longitude:**	-111.614722	**Station Type:**	SPM
AQS#:	49-017-0006	**Latitude:**	37.775556	**MSA:**	NA
Address:	755 West Main	**Elevation (m):**	1789		
City:	Escalante				
County:	Garfield				

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:
This 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)	**Longitude:**	-111.9865	**Station**	SLAMS
AQS#:	49-057-1003	**Latitude:**	41.3028	**MSA:**	Ogden-Clearfield
Address:	425 West 2550 North	**Elevation (m):**	1331		
City:	Harrisville				
County:	Weber				

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:
This 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
Nitrogen Dioxide	Instrumental	Continuous	Population Exposure	SLAMS- Population Neighborhood
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)	**Longitude:**	-111.8721	**Station Type:**	SLAMS
AQS#:	49-035-3006	**Latitude:**	40.7343	**MSA:**	Salt Lake City
Address:	1675 South 600 East	**Elevation (m):**	1306		
City:	Salt Lake City				
County:	Salt Lake				

Site Objective:
This site is established to represent population exposure in the Salt Lake City area. This 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:
This 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
NO_y Trace Level	Instrumental Chemiluminescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
SO_2 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 input	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
Mix Layer Height	Atmospheric Lidar	Continuous	10 meters	Urban

Site:	Herriman #3 (H3)	**Longitude:**	-112.036305	**Station Type:**	SLAMS
AQS#:	49-035-3012	**Latitude:**	40.496408	**MSA:**	Salt Lake City
Address:	14058 Mirabella Drive	**Elevation (m):**	1534		
City:	Herriman				
County:	Salt Lake				

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:
This 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)	**Longitude:**	-	**Station Type:**	SLAMS
AQS#:	49-053-0007	**Latitude:**	37.	**MSA:**	St George
Address:	147 North 870 West	**Elevation (m):**	992		
City:	Hurricane				
County:	Washington				

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)	**Longitude:**	-111.7133	**Station Type:**	SLAMS
AQS#:	49-049-4001	**Latitude:**	40.3396	**MSA:**	Provo - Orem
Address:	50 North Main	**Elevation (m):**	1442		
City:	Lindon				
County:	Utah				

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:
This 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-	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

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
Mix Layer Height (MXLH)	Atmospheric Lidar	Continuous	10 meters	Urban

Site:	Magna (MA)	**Longitude:**	-112.111275	**Station Type:**	SLAMS
AQS#:	49-035-1007	**Latitude:**	40.712146	**MSA:**	Salt Lake City
Address:	9228 West 2700 South	**Elevation (m):**	1300		
City:	Magna				
County:	Salt Lake				

Site Objective:
This site is established to determine particulate matter and Pb concentrations from Kennecott smelter, as well as SO_2.
Does the site meet the objective:
Yes, all objectives are met.
Site Description:
This site is located in a trailer behind the Magna Kennecott Senior Center in Magna, UT.
Can data from this site be used to evaluate NAAQS: Yes

Gaseous/Particulate Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Monitoring Objective	Spatial Scale
$PM_{2.5}$ Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS-High Neighborhood
$PM_{2.5}$	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
SO2	Pulsed Fluorescence	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

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:	Near Road (NR)	**Longitude:**	-111.9011881	**Station Type:**	SLAMS
AQS#:	49-035-4002	**Latitude:**	40.662878	**MSA:**	Salt lake City
Address:	5001 Galleria Dr , Murray	**Elevation (m):**	1295		
City:	Murray				
County:	Salt Lake				

Site Objective:
This site is established to monitor vehicular contribution to air pollution.
Does the site meet the objective:
Yes, all objectives are met.
Site Description:
This site is located on I-15 as it crosses 50th S in Murray, UT.
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
Carbon Monoxide	Instrumental Gas Phase Correlation	Continuous	Population Exposure	SLAMS-Population Neighborhood
Trace Ozone	Instrumental Ultra Violet	Continuous	Population Exposure	SLAMS- Population Neighborhood
$PM_{2.5}$	Continuous Gravimetric	Continuous	Population Exposure	SLAMS- Population Neighborhood
SO2	Pulsed Fluorescence	Continuous	Population Exposure	SLAMS- Population Neighborhood

Site:	Ogden #2 (O2)	**Longitude:**	-111.9751	**Station Type:**	SLAMS
AQS#:	49-057-0002	**Latitude:**	41.207	**MSA:**	Ogden-Clearfield
Address:	228 East 32nd Street	**Elevation (m):**	1316		
City:	Ogden				
County:	Weber				

Site Objective:
This site is established to replace the original Ogden site and determine population exposure to air pollutants.
Does the site meet the objective:
Yes, all objectives are met.
Site Description:
This 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)	**Longitude:**	-110.77	**Station Type:**	SPM
AQS#:	49-007-1003	**Latitude:**	39.5958	**MSA:**	Price
Address:	351 South Weasel Run Road	**Elevation (m):**	1740		
City:	Price				
County:	Carbon				

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
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Regional

Site:	Roosevelt (RS)	**Longitude:**	-110.009	**Station Type:**	SPM
AQS#:	49-013-0002	**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:

This 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	10-2 meters	Urban

Site:	Rose Park (RP)	**Longitude:**	-111.9309	**Station Type:**	SLAMS
AQS#:	49-035-3010	**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 this area of Salt Lake City.
Does the site meet the objective:
Yes, all objectives are met.
Site Description:
This 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

Gas/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 Ultra Violet	Continuous	High Winter Ozone Study	SLAMS- Population Neighborhood
SO2	Pulsed Fluorescence	Continuous	Population Exposure	SLAMS- Population Neighborhood
Carbon Monoxide	Instrumental Gas Phase Correlation	Continuous	Population Exposure	SLAMS-Population Neighborhood
$PM_{2.5}$	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 Level 1	Continuous	10 meters	Urban
Relative Humidity	Elec. Thin Film	Continuous	10 meters	Urban

Site:	Saltair (SA)	**Longitude:**	-112.0497	**Station Type:**	SPM
AQS#:	49-035-3005	**Latitude:**	40.8061	**MSA:**	Salt Lake City
Address:	6640 West 1680 North	**Elevation (m)**	1282		
City:	Salt Lake City				
County:	Salt Lake				

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

Meteorological Parameters:

Parameter	Sampling & Analysis Method	Operating Schedule	Tower Height	Spatial Scale
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)	**Longitude:**	-111.851944	**Station Type:**	SLAMS
AQS#:	49-005-0007	**Latitude:**	41.842778	**MSA:**	Logan
Address:	675 West 220 North	**Elevation (m):**	1377		
City:	Smithfield				
County:	Cache				

Site Objective:
This site is established to replace 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
Black Carbon	Optical Absorption	Continuous	General/Background	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 Assessment	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
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)	**Longitude:**	-111.6603	**Station Type:**	SLAMS
AQS#:	49-049-5010	**Latitude:**	40.1364	**MSA:**	Provo - Orem
Address:	312 West 2050 North	**Elevation (m):**	1380		
City:	Spanish Fork				
County:	Utah				

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:
This 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

Gas/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 days	Population Exposure	SLAMS-Transport Regional
$PM_{2.5}$ Real Time	Continuous Gravimetric	Continuous	Air Quality Index	SLAMS-Transport Regional

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:	Vernal (V4)	**Longitude:**	-109.560733	**Station Type:**	SLAMS
AQS#:	49-047-1003	**Latitude:**	40.464971	**MSA:**	NA
Address:	628 North 1700 West	**Elevation (m):**	1667		
City:	Vernal				
County:	Uintah				

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	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