NMED
New Mexico Environment Department

Air Quality Bureau

2023 Annual Network Review

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Air Quality Bureau
New Mexico Environment Department
July 1, 2023

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The purpose of this document is to provide information concerning the operation of the ambient air monitoring network by the New Mexico Environment Department (NMED) Air Quality Bureau (AQB) in Fiscal Year 2023 which covers the period from July 1, 2022 through June 30, 2023.

Introduction

In October 2006, US EPA issued final regulations concerning state and local agency ambient air monitoring networks. Under 40 CFR, Part 58, Subpart B, States are required to submit an annual monitoring network review to the Environmental Protection Agency (EPA) regional office in Dallas, Texas. These regulations require states to submit an annual monitoring network review to US EPA. This network plan is required to provide the framework for establishment and maintenance of an air quality surveillance system and to list any changes that are proposed to take place to the current network during the 2023 Fiscal Year. The annual monitoring network review must be made available for public inspection for at least 30 days prior to submission to EPA.

1.0 Overview

At the end of the state fiscal year June 30, 2023, the Bureau continued operating the 20 criteria air pollutant monitoring sites located in 11 of the State's 33 counties. Each air monitoring location is sited to meet the three basic monitoring objectives and at least one of the six federal criteria of: NO_2, O_3, CO, Lead, particulate matter (PM_{10} and $PM_{2.5}$), and SO_2 for ambient air monitoring networks.

In 2022/23, the Ambient Air Monitoring Section had a full-time staff of eight personnel.

Table 1 (Network Element Worksheet) contains the listing of all New Mexico Environment Department, Air Quality Bureau ambient air monitoring sites operating at the end of the state fiscal year 2023.

Site Designation Coding

The NMED-Air Quality Bureau's 20 air monitoring stations each have their own state region designation identified with a numeric-alpha code and site name (i.e.1ZB Bloomfield). The number and name represent the state's Air Quality Control Region and the letter(s) identifies the site followed by the name of the site. In addition, each site has a numeric AQS (Air Quality System) identifier code which is based on EPA's state, county and site ID (i.e. 35-045-1005) designation. The first two numbers identify the state (New Mexico is 35), the second set of three numbers refers to the county where the monitoring site is located. The third set of four numbers is the monitoring site ID number.

Figure 1 on page 6 shows the state and EPA air regions. The table below is a complete listing of all 20 air monitoring sites designation code, both state and EPA throughout the network.

NMED Site Designation	EPA - AQS Number Designation
1H - Sub Station	35-045-1005
1ZB - Bloomfield	35-045-0009
1NL - Navajo Lake	35-045-0018
2LL - Los Lunas	35-061-0008
2ZJ - Bernalillo	35-043-1001
3CRD - Coyote Ranger District	35-039-0026
3SFA - Santa Fe Airport	35-049-0021
3ZD - Taos	35-055-0005
5ZR - Carlsbad	35-015-1005
5ZS - Hobbs Jefferson	35-025-0008
6CM - Anthony	35-013-0016
6O - La Union	35-013-0008
6Q - Las Cruces Office	35-013-0025
6WM - West Mesa	35-013-0024
6ZL - Holman Road	35-013-0019
6ZK - Chaparral	35-013-0020
6ZM - Desert View	35-013-0021
6ZN - Santa Teresa	35-013-0022
6ZQ - Solano	35-013-0023
7E - Deming Airport	35-029-0003

Air Monitoring Network

NMED-AQB regulates air quality to protect public health and the environment in the State of New Mexico, excluding Bernalillo County. Air monitoring data are required by regulation and are used to determine compliance with U.S. EPA's NAAQS. Other important uses of the air monitoring data include the production of a daily Air Quality Index (AQI), daily air quality forecast report, support of short and long-term health risk assessments, identification of localized health concerns, and tracking long-term trends in air quality. New Mexico monitors four of the six NAAQS criteria pollutants: NO_2, O_3, particulate matter (PM_{10} and $PM_{2.5}$), and SO_2. NMED-AQB does not monitor for CO or Lead as New Mexico currently does not meet the criteria for monitoring these pollutants.

Air Quality Data

Overview of Monitored Parameters – Criteria Pollutants

Nitrogen Dioxide (NO_2)

NO_2 is a highly toxic, reddish brown gas that is created primarily from fuel combustion in industrial sources and vehicles. It creates an odorous haze that causes eye and sinus irritation, blocks natural sunlight and reduces visibility.

Ozone (O_3)
Ground- level O_3, also known as photochemical smog, is not emitted into the atmosphere as ozone, but rather is formed by the reactions of other pollutants. The primary pollutants entering this reaction, VOC's and oxides of nitrogen, create ozone in the presence of sunlight. Ozone is a strong irritant of the upper respiratory system and causes damage to field crops.

Sulfur Dioxide (SO_2)
SO_2 is a gaseous pollutant that is emitted primarily by industrial furnaces or power plants burning coal or oil containing sulfur. At high concentrations, breathing can be impaired. Damage to vegetation can also result.

Fine Particulate Matter ($PM_{2.5}$)
Fine particulate matter with a diameter of 2.5 microns or less is created primarily from industrial processes and fuel combustion. These particles are breathed deep into the lungs. Exposure to particle pollution is linked to a variety of significant health problems ranging from aggravated asthma to premature death in people with heart and lung disease.

Particulate Matter (PM_{10})
Particulate matter with a mean diameter of 10 microns or less is emitted from transportation and industrial sources. Exposure to particle pollution is linked to a variety of significant health problems ranging from aggravated asthma to premature death in people with heart and lung disease.

Meteorological Monitoring
NMED-AQB includes meteorological monitoring of the local area because the outcome of air pollutants is influenced by the movement and characteristics of the air mass into which they are emitted. If the air is calm and pollutants cannot disperse, then the concentration of these pollutants will build up. Conversely, if a strong and turbulent wind is blowing, the pollutant will rapidly disperse into the atmosphere and will result in lower concentrations near the pollution source. The measurements of wind speed and direction, temperature, humidity, rainfall, barometric pressure, ultraviolet radiation and solar radiation are important parameters used in the study of air quality monitoring results and to further understand the chemical reactions that occur in the atmosphere.

Monitoring Methodology
NMED-AQB air monitoring network uses Thermo Environmental Instruments iQ-Series for all gaseous monitoring. The Model 42iQ Chemiluminescence monitor collects NO/NOx/NO_2 data, the Model 43iQ Pulsed Florescence monitor collects SO_2 data and the Model 49iQ UV Photometric monitor collects Ozone data. For particulate matter sampling, NMED-AQB uses the Thermo Environmental Instruments 2025i Series Partisol FRM samplers. Three of the four 2025i samplers are $PM_{2.5}$ designated and the fourth is designated as $PM_{10.}$ NMED-AQB is also operating the BAM-1020 continuous particulate matter sampler, both PM_{10} and $PM_{2.5.}$ The BAM samplers allow for real time data as it provides particulate concentrations continuously. This also has the added benefit of letting the public know of high particulate events (via the Bureau's web page) allowing citizens that may have respiratory health conditions to take necessary precautions. The current Met One Instruments BAM 1020 samplers (both $PM_{2.5}$ and PM_{10}) will be replaced over the next year with the most current series of BAM samplers. The

BAM PM_{10} samplers will be replaced with N BAM-1020 PM_{10} samplers. While the BAM $PM_{2.5}$ sampler will be replaced with BAM-1022 samplers as these samplers do not require a sampling shelter and are "stand-alone". The Thermo Partisol 2025i $PM_{2.5}$ samplers will also be replaced with the BAM-1022 samplers and the one Partisol PM_{10} will be replaced with a N BAM-1020 sampler (N denotes most current series of BAM sampler) over the next year.

2.0 Network Review by Pollutant and Respective Air Quality Control Regions

NMED-AQB has reviewed its current ambient air quality network and proposed changes to the network implemented during Fiscal Year 2023. Current NAAQS, data trends, siting concerns, site access concerns, and other monitoring issues all contribute to any proposed network revisions.

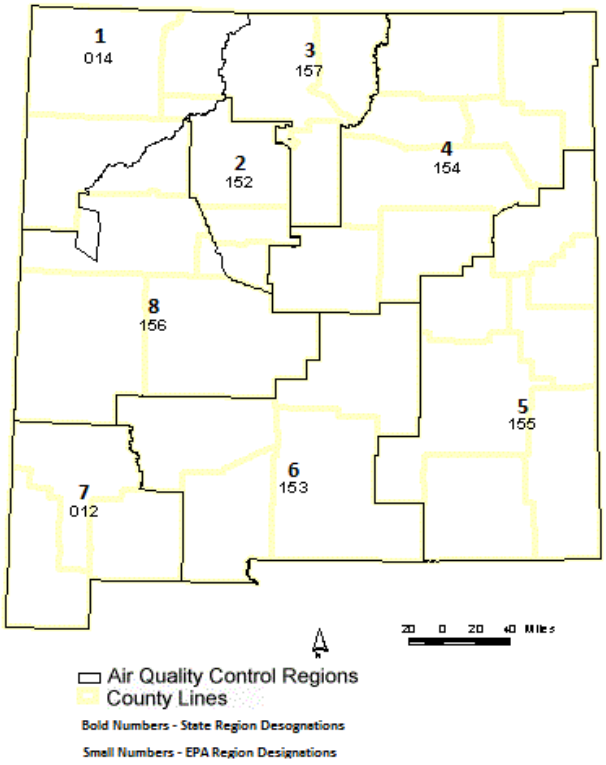
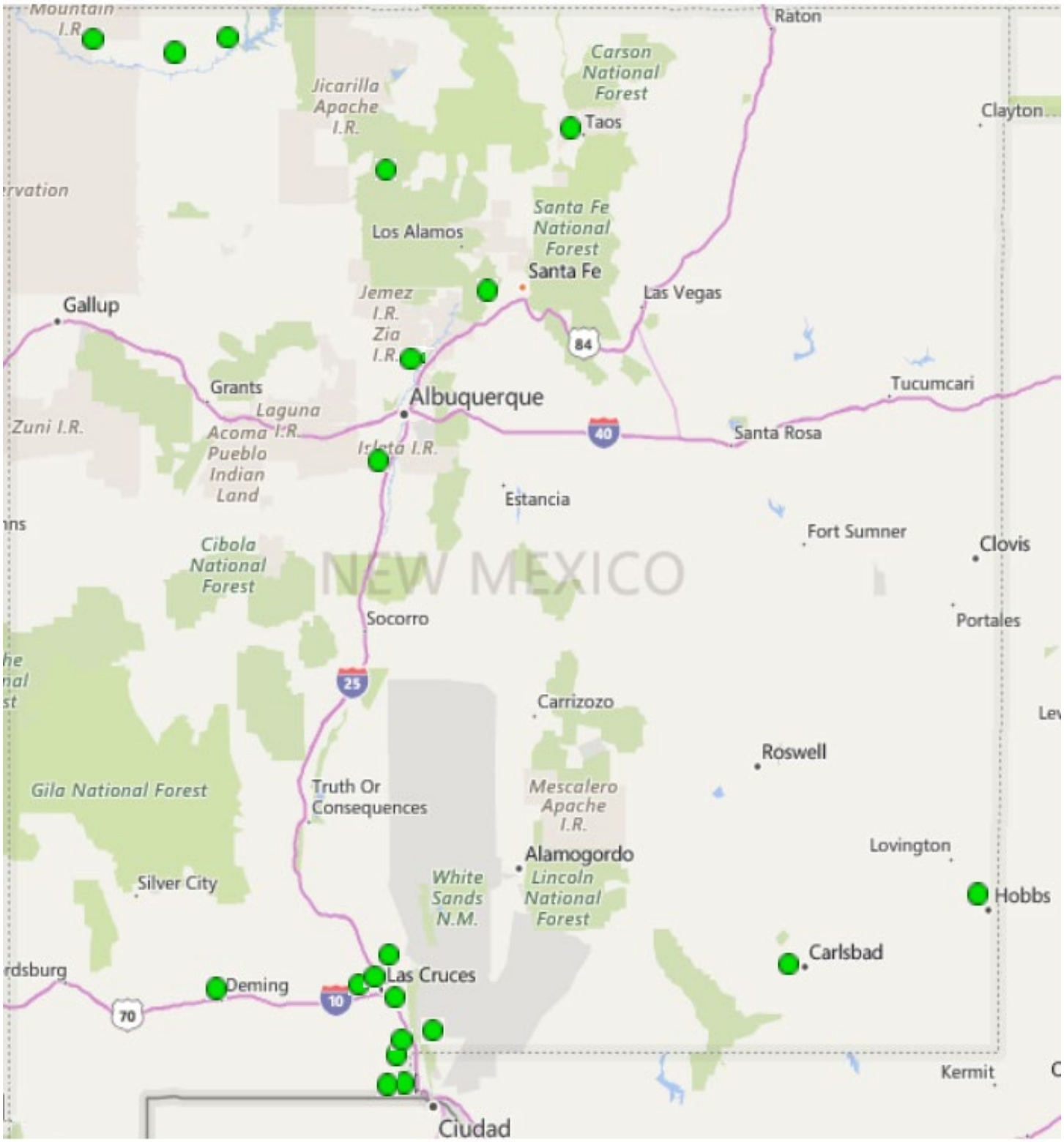


Figure 1

The Bureau's air monitoring network for 2023 consists of the sites and monitors listed in Network Elements Spreadsheet. All site changes (if any) which have occurred or planned to take place in 2023 are included along with any network modifications for 2023. Figure - 1 above is an overview of the state's and EPA's designation of Air Quality Control Regions (AQCR's). Figure - 2 on the next page depicts AQB's current monitoring network and shows the locations of monitoring sites as of 2023. The number of monitoring locations operated by the State remained unchanged throughout the 20 sites.



Monitoring Network Locations
Figure 2

Population of Metropolitan Statistical Areas (MSA's)

Albuquerque MSA	Population
Albuquerque Metro	942,000
El Paso-Las Cruces MSA	Population
Las Cruces Metro	222,285
Farmington MSA	Population
Farmington Metro	120,418
Santa Fe MSA	Population
Santa Fe Metro	155,425
Carlsbad-Artesia & Hobbs µSA	Population
Carlsbad-Artesia	60,400
Hobbs	72,452
Taos µSA	Population
Taos Micro Area	34,580

*NMED has no air monitoring stations in Bernalillo county due to the City of Albuquerque having its own monitoring group which covers the county.

Above population statistics based on US Census Bureau 2022 data.

Based on the most current population NMED's Air Quality Bureau meets the air monitoring network requirements set forth in 40 CFR Part 58 Appendices A through E.

2.1 Nitrogen Dioxide (NO_2)

The Bureau operates seven air monitoring sites in the network for Nitrogen Dioxide. Three in AQCR-1 which are in San Juan County, two in AQCR-5, one being in Eddy County and the second in Lea County and two in AQCR-6 both of which operate in Doña Ana County.

Nitrogen Dioxide (NO_2) Air Quality Control Region 1 (EPA Region 014)

The Bureau operates three air monitoring sites in AQCR-1 for Nitrogen Dioxide which are in San Juan County consisting of the Substation, Bloomfield, and Navajo Lake sites. Figure 3 indicates the location of the monitoring sites.

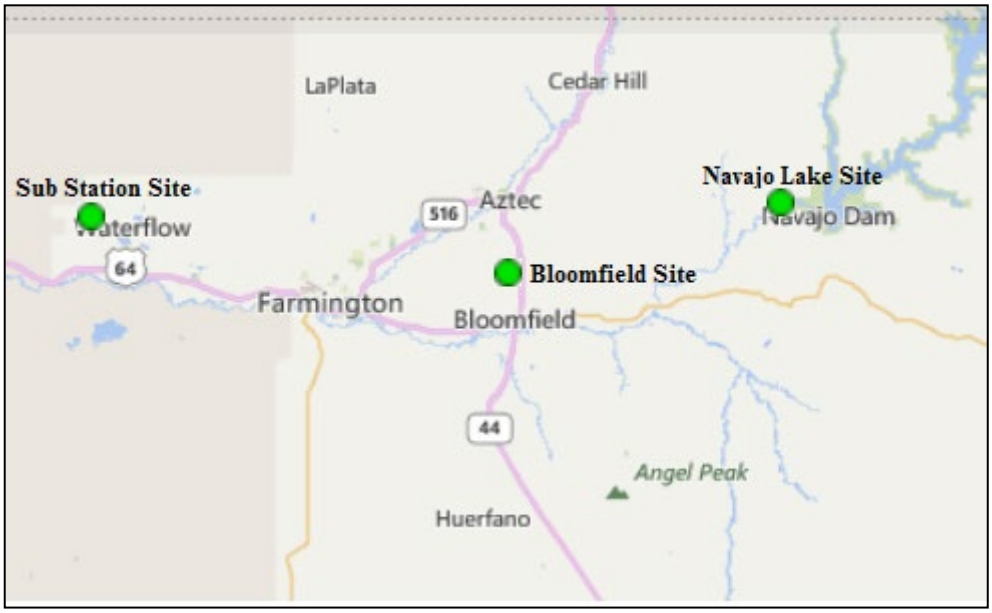


Figure 3

Substation Site AQS #: 35-045-1005:
Substation NO_2 Parameter 42602, Method 074, POC 2
The Bureau continues to operate the NO_2 monitor at the Substation air monitoring site. No changes to instrumentation occurred in FY2023.

Bloomfield Site AQS #:35-045-0009:
Bloomfield NO_2 Parameter 42602, Method 074, POC 1
The Bureau continues to operate the NO_2 monitor at the Bloomfield air monitoring site. No changes to instrumentation occurred in FY2023.

Navajo Lake Site AQS# 35-045-0018:
Navajo Lake NO_2 Parameter 42602, Method 074, POC 1
The Bureau continues to operate the NO_2 monitor at the Navajo Lake air monitoring site. No changes to instrumentation occurred in FY2023.

Nitrogen Dioxide (NO_2) Air Quality Control Region 5 (EPA Region 155)
The Bureau operates two air monitoring sites in AQCR-5, located in Eddy County, and Lea County consisting of the Carlsbad and Hobbs sites. Figure 4 indicates the location of the monitoring sites.

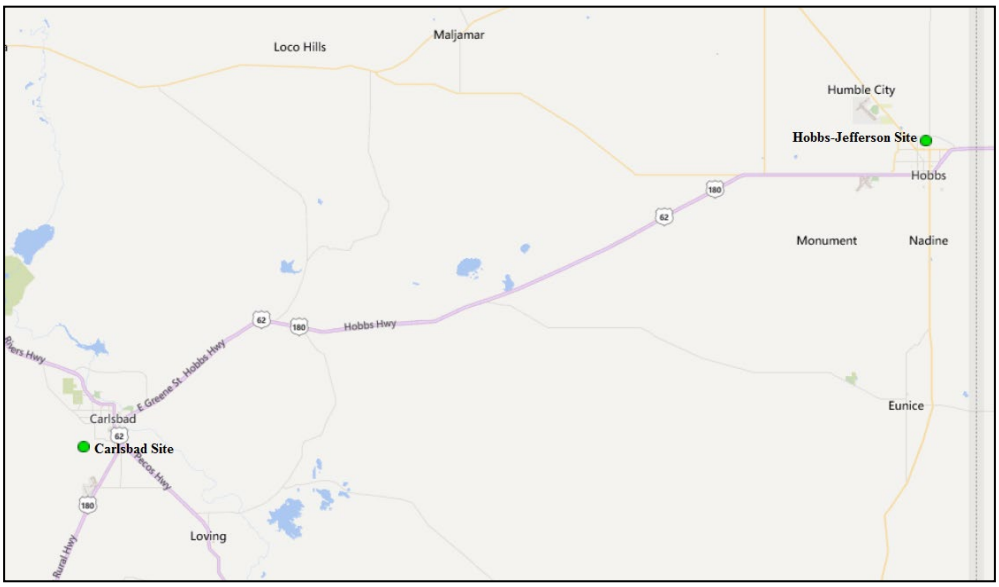


Figure 4

Carlsbad AQS #: 35-015-1005:

Carlsbad NO_2 Parameter 42602, Method 074, POC 1

The Bureau continues to operate the NO_2 monitor at the Carlsbad air monitoring site. No changes to instrumentation occurred in FY2023.

Hobbs Jefferson AQS #: 35-025-0008:

Hobbs NO_2 Parameter 42602, Method 074, POC 1

The Bureau continues to operate the NO_2 monitor at the Hobbs air monitoring site. No changes to instrumentation occurred in FY2023.

Nitrogen Dioxide (NO_2) Air Quality Control Region 6 (EPA Region 153)

The Bureau operates nine air monitoring sites in AQCR-6, located in Doña Ana County. Two of the nine monitoring sites, Desert View and Santa Teresa monitor for NO_2. Figure 5 indicates the location of the monitoring sites.

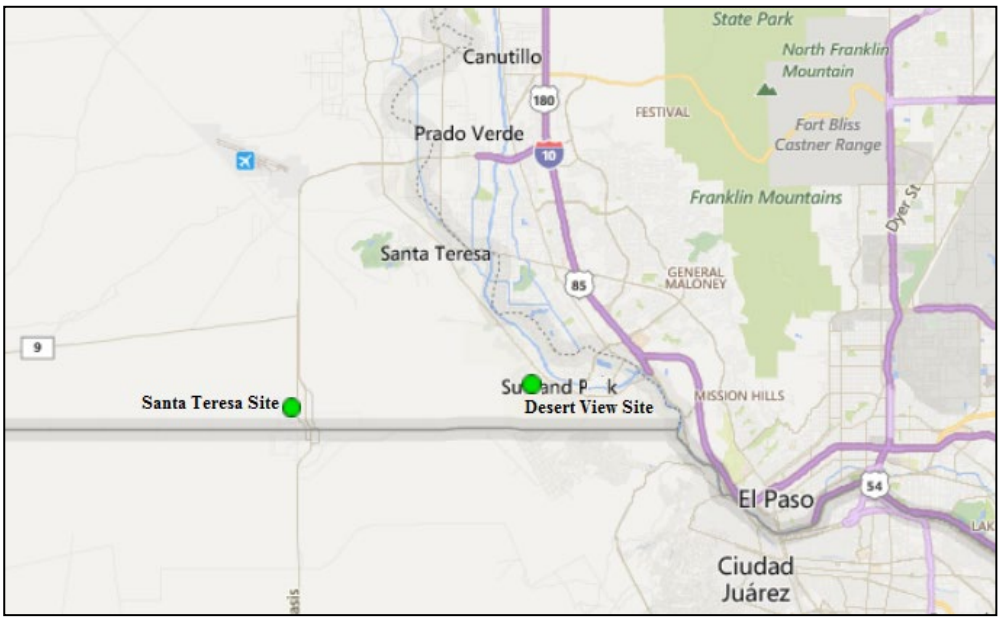


Figure 5

Desert View AQS #: 35-013-0021:
Desert View NO_2 Parameter 42602, Method 074, POC 1
The Bureau continues to operate the NO_2 monitor at the Desert View air monitoring site. No changes to instrumentation occurred in FY2023.

Santa Teresa AQS #: 35-013-0022:
Santa Teresa NO_2 Parameter 42602, Method 074, POC 1
The Bureau continues to operate the NO_2 monitor at the Santa Teresa air monitoring site. No changes to instrumentation occurred in FY2023.

2.2 Ozone (O_3)

The Bureau is continuing the operation of fourteen air monitoring sites in the network for Ozone, seven in northern New Mexico and seven in southern New Mexico. In the northern half of the state there are three sites in AQCR-1 which are in San Juan County, two sites in AQCR-2, one being in Sandoval County and the second in Valencia County, and two sites in AQCR-3, one in Santa Fe County and the second in Rio Arriba County. In the southern half of the state, there are two sites in AQCR-5, one in Lea County and the second in Eddy County and five sites in AQCR-6 which are in Doña Ana County. Figure 6 indicates the location of the northern monitoring sites and Figure 7 indicates the location of the southern monitoring sites.

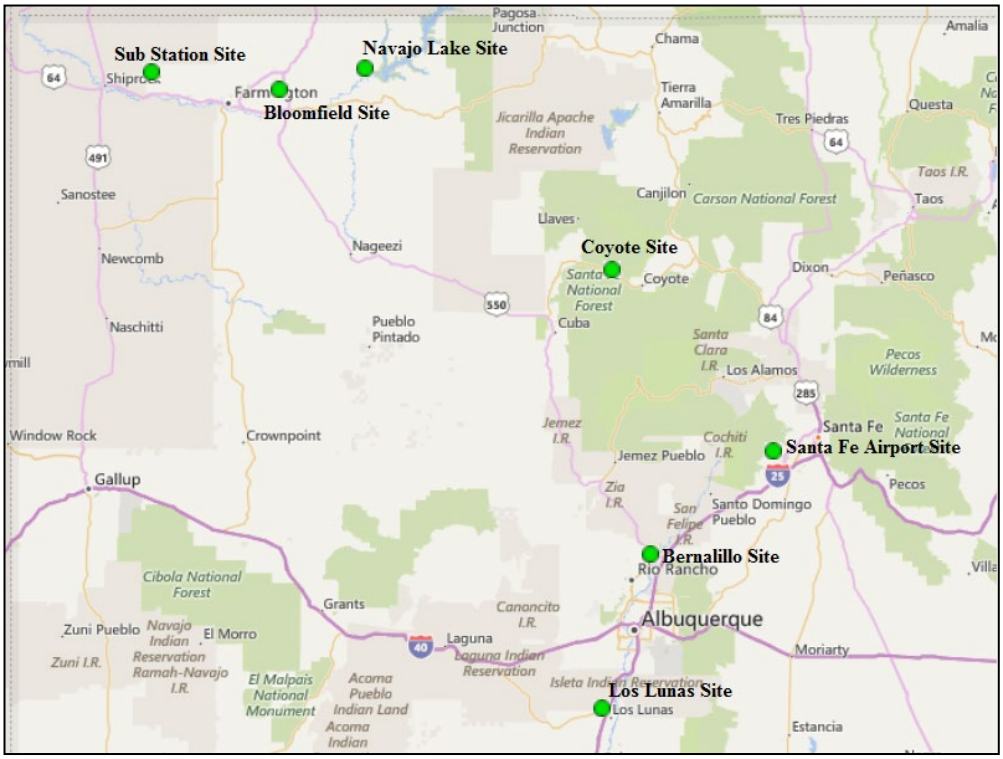


Figure 6

Figure 7

Ozone (O_3) Air Quality Control Region 1 (EPA Region 014)

The Bureau operates three air monitoring sites in AQCR-1 for Ozone which are in San Juan County consisting of the Substation, Bloomfield, and Navajo Lake sites. Figure 8 indicates the location of the monitoring sites.

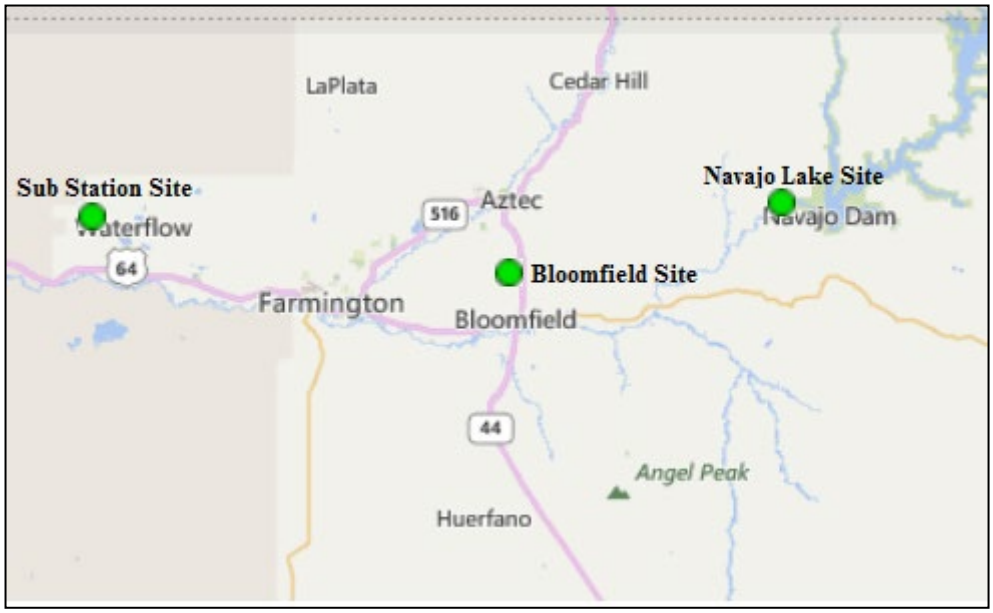


Figure 8

Substation Site AQS #: 35-045-1005:

Substation O_3 Parameter 44201, Method 047, POC 1

The Bureau continues to operate the O_3 monitor at the Substation air monitoring site. No changes to instrumentation occurred in FY2023.

Bloomfield Site AQS #:35-045-0009:

Bloomfield O_3 Parameter 44201, Method 047, POC 1

The Bureau continues to operate the O_3 monitor at the Bloomfield air monitoring site. No changes to instrumentation occurred in FY2023.

Navajo Lake Site AQS# 35-045-0018:

Navajo Lake O_3 Parameter 44201, Method 047, POC 1

The Bureau continues to operate the O_3 monitor at the Navajo Lake air monitoring site. No changes to instrumentation occurred in FY2023.

Ozone (O_3) Air Quality Control Region 2 (EPA Region 152)

The Bureau operates two ozone air monitoring sites in AQCR-2, one located in Sandoval County, and the second in Valencia County consisting of the Bernalillo and Los Lunas sites respectively. Figure 9 indicates the location of the Bernalillo and Los Lunas sites.

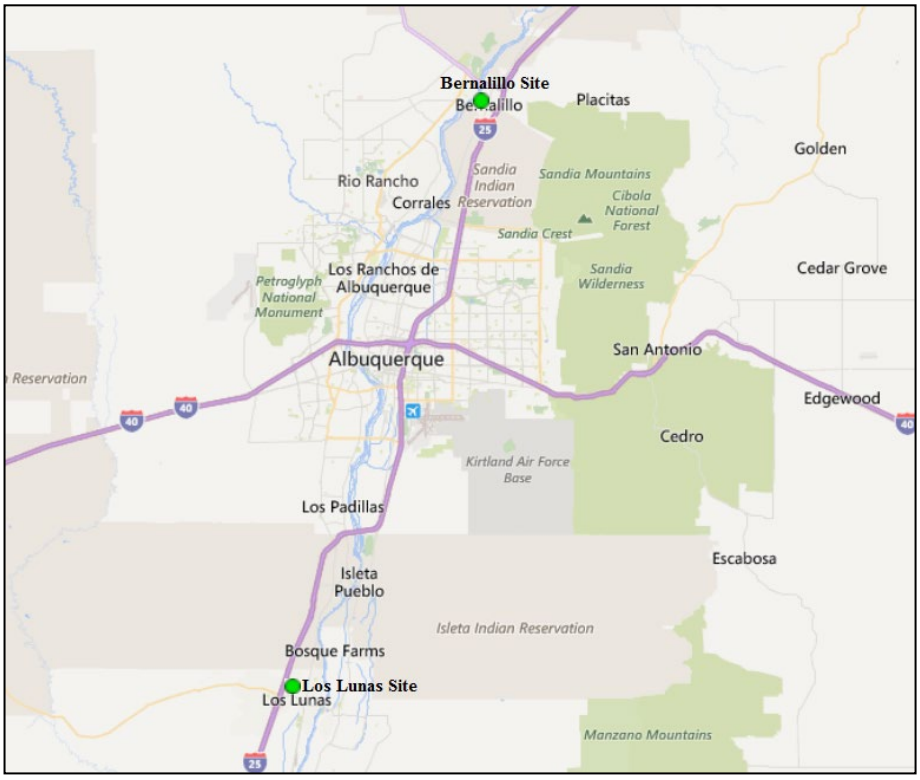


Figure 9

Bernalillo (DOT Yard) Site AQS#: 35-043-1001:

Bernalillo O_3 Parameter 44201, Method 047, POC 1

The Bureau continues to operate the Ozone monitor at the Bernalillo air monitoring site. EPA Region-6 has noted that this site is not required due to the City of Albuquerque (COA) currently operating more than the required Ozone sites for the Albuquerque MSA. However, NMED had requested to continue operating the O_3 monitor at Bernalillo and provided an explanation for continuing ozone monitoring in the 2015 Five-Year Network Assessment. NMED will continue collaborating with EPA Region-6 on appropriateness of continuing operating the Bernalillo site. No changes to instrumentation occurred in FY2023.

Los Lunas AQS #: 35-061-0008:

Los Lunas O_3 Parameter 44201, Method 047, POC 1

The Bureau continues to operate the Ozone monitor at the Los Lunas air monitoring site. No changes to instrumentation occurred in FY2023.

Ozone (O_3) Air Quality Control Region 3 (EPA Region 157)

The Bureau operates two ozone air monitoring sites in AQCR-3 located in Santa Fe County and Rio Arriba County consisting of the Santa Fe Airport and Coyote Ranger District sites. Figure 10 indicates the location of the two sites.

Figure 10

Santa Fe Airport AQS #: 35-049-0021:
Santa Fe Airport O_3 Parameter 44201, Method 047, POC 1
The Bureau continues to operate the Ozone monitor at the Santa Fe Airport air monitoring site. No changes to instrumentation occurred in FY2023.

Coyote Ranger District AQS #: 35-039-0026:
Coyote Ranger District O_3 Parameter 44201, Method 047, POC 1
The Bureau continues to operate the Ozone monitor at the Coyote Ranger District air monitoring site. No changes to instrumentation occurred in FY2023.

Ozone (O_3) Air Quality Control Region 5 (EPA Region 155)

The Bureau operates two ozone air monitoring sites in AQCR-5, located in Eddy County, and Lea County consisting of the Carlsbad and Hobbs sites. Figure 11 indicates the location of the two sites.

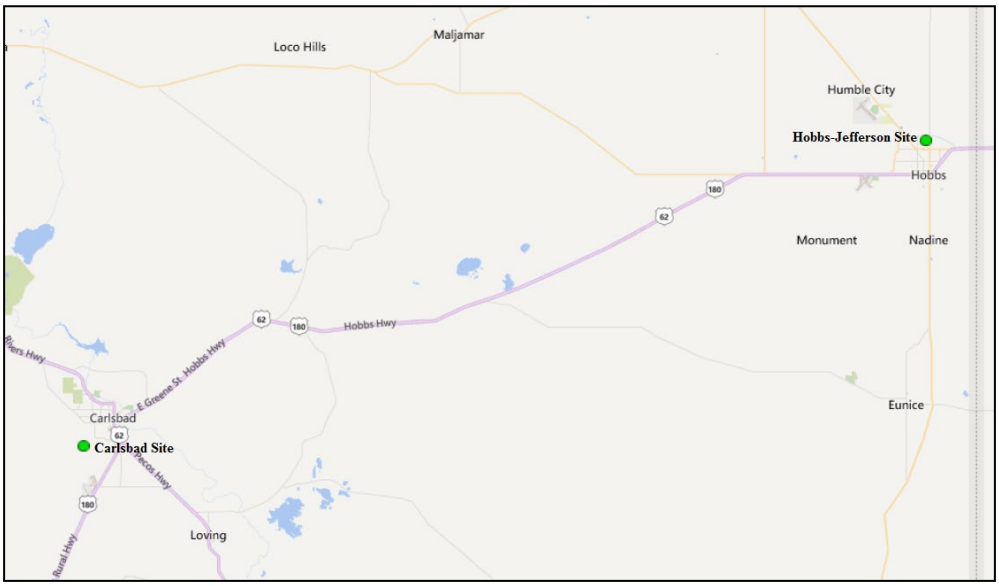


Figure 11

Carlsbad AQS #: 35-015-1005:

Carlsbad O_3 Parameter 44201, Method 047, POC 1

The Bureau continues to operate the Ozone monitor at the Carlsbad air monitoring site. No changes to instrumentation occurred in FY2023.

Hobbs Jefferson AQS #: 35-025-0008:

Hobbs Jefferson O_3 Parameter 44201, Method 047, POC 1

The Bureau continues to operate the Ozone monitor at the Hobbs air monitoring site. No changes to instrumentation occurred in FY2023.

Ozone (O_3) Air Quality Control Region 6 (EPA Region 153)

The Bureau operates a total of eight air monitoring sites in AQCR-6. Five of those sites monitor for ozone consisting of the Chaparral, Desert View, La Union, Santa Teresa, and Solano sites. Figure 12 indicates the location of the ozone monitoring sites.

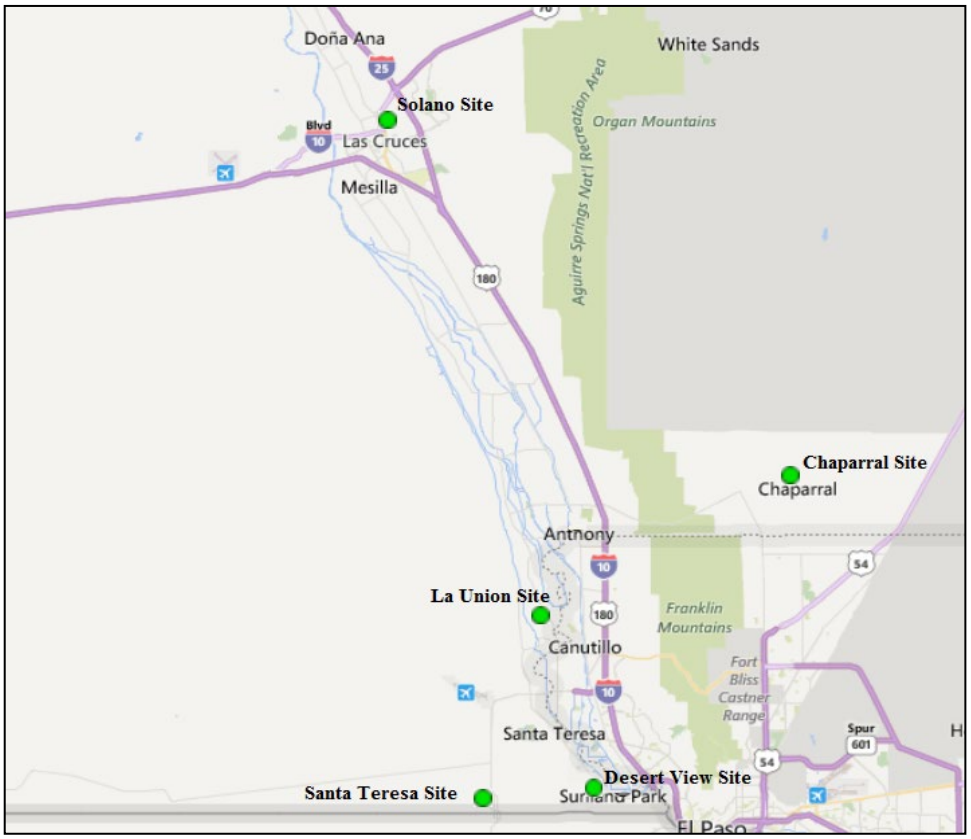


Figure 12

Chaparral AQS #: 35-013-0020:
Chaparral O_3 Parameter 44201, Method 047, POC 1
The Bureau continues to operate the Ozone monitor at the Chaparral air monitoring site. No changes to instrumentation occurred in FY2023.

Desert View AQS #: 35-013-0021:
Desert View O_3 Parameter 44201, Method 047, POC 1
The Bureau continues to operate the Ozone monitor at the Desert View air monitoring site. No changes to instrumentation occurred in FY2023.

La Union AQS #: 35-013-0008:
La Union O_3 Parameter 44201, Method 047, POC 2
The Bureau continues operating the Ozone monitor at La Union. No changes to instrumentation occurred in FY2023.

Santa Teresa AQS #: 35-013-0022:
Santa Teresa O_3 Parameter 44201, Method 047, POC 1
The Bureau continues to operate the Ozone monitor at Santa Teresa air monitoring site. No changes to instrumentation occurred in FY2023.

Solano Road AQS #: 35-013-0023:

Solano Road O_3 Parameter 44201, Method 047, POC 1

The Bureau continues operating the Ozone monitor at Solano Road. No changes to instrumentation occurred in FY2023.

2.3 Sulfur Dioxide (SO_2)

The Bureau operates two air monitoring sites in the network for Sulfur Dioxide. Both sites are in the northern half of the state in AQCR-1 which is in San Juan County consisting of the Sub Station and Bloomfield air monitoring sites. Figure 13 below indicates the location of the SO_2 monitoring sites.

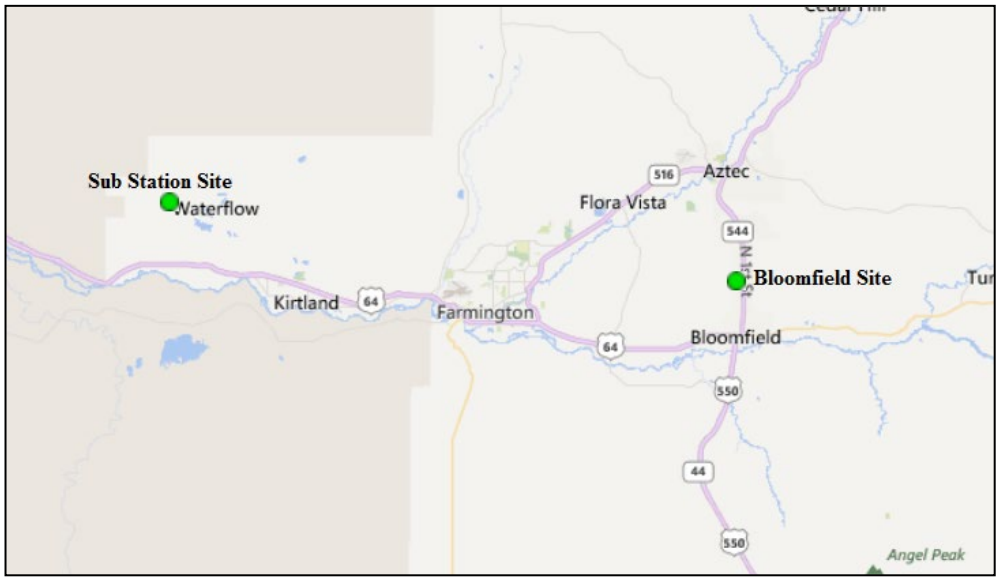


Figure 13

Sulfur Dioxide (SO_2) Air Quality Control Region 1 (EPA Region 014)

Substation SO_2 AQS #:35-045-1005

Substation SO_2 Parameter 42401, Method 060, POC 1 & Method 009, POC 3

The Bureau continues to operate the SO_2 monitor at the Substation air monitoring site. No changes to instrumentation occurred in FY2023. NMED is requesting to discontinue operation of the SO_2 monitor based on the PWEI calculation on page 30 (calculations obtained through EPA web site: www.epa.gov/air-emissions-inventories). The PWEI value indicates that it is well below 5000 as per 40CFR, Part-58, Appendix D paragraph 4.4. Therefore, no SO_2 monitoring is required.

Bloomfield SO_2 AQS #:35-045-0009

Bloomfield SO_2 Parameter 42401, Method 060, POC 1 & Method 009, POC 3

The Bureau continues to operate the SO_2 monitor at the Bloomfield air monitoring site. No changes to instrumentation occurred in FY2023. NMED is requesting to discontinue operation of the SO_2 monitor based on the PWEI calculation on page 30 (calculations obtained through EPA web site: www.epa.gov/air-emissions-inventories). The PWEI value indicates that it is well below 5000 as per 40CFR, Part-58, Appendix D paragraph 4.4. Therefore, no SO_2 monitoring is required.

2.4 Particulate Matter $PM_{2.5}$ Non-Continuous Federal Reference Method (FRM)

The Bureau currently operates three Method 145 $PM_{2.5}$ FRM Partisol samplers within the air monitoring network, all three are in Doña Ana County which is AQCR-6. The Desert View monitoring site is the designated co-location site for the FRM 145 samplers operating in the network. Figure 14 below indicates the location of the non-continuous FRM $PM_{2.5}$ monitoring sites. NMED is in the process of ordering replacement samplers for both FRM and FEM, as stated here in section 2.4, section 2.5 on page 20, sections 2.6 and 2.7 on page 23 and will install once samplers are received.

Figure 14

Particulate Matter $PM_{2.5}$ (FRM) Air Quality Control Region 6 (EPA Region 153)

Desert View AQS #: 35-013-0021:

Desert View $PM_{2.5}$ FRM (Primary) Parameter 88101, Method 145, POC 2

Desert View $PM_{2.5}$ FRM (Co-Located) Parameter 88101, Method 145, POC 3

The Desert View site is designated as the bureau's co-location site using the Thermo 2025i series Partisol $PM_{2.5}$ samplers. In 2018, this site was chosen for co-location due to the area experiencing residential and commercial development nearby in Santa Teresa and on the Mexican side along the US/Mexican border which is just one mile south of the Desert View site. There were no changes implemented in 2022. NMED requested to replace these units in the 2022 ANR with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 2 and POC 3 respectively) using approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through July 2023. These units will operate as the primary and co-located $PM_{2.5}$ samplers.

Anthony AQS#: 35-013-0016:

Anthony $PM_{2.5}$ FRM Parameter 88101, Method 145, POC 2

The Bureau continues operating a co-located Partisol 2025i FRM $PM_{2.5}$ sampler at the Anthony air monitoring site with the BAM-1020 FEM $PM_{2.5}$ to meet requirements of 40 CFR Part 58 App. A.

There were no changes implemented in 2023. NMED requested to replace this unit in the 2022 ANR with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 2 using approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through
July 2023.This unit will operate as the co-located $PM_{2.5}$ sampler.

2.5 Particulate Matter $PM_{2.5}$ Continuous (BAM-1020 Sampler)

The Bureau currently operates six Method 170 BAM-1020 $PM_{2.5}$ samplers within the air monitoring network designated as SLAMS. Three of the six samplers are in southern New Mexico's Doña Ana County at the Anthony, Santa Teresa and Las Cruces Office sites. The fourth is in Lea County at the Hobbs monitoring site. The remaining two samplers are in northern New Mexico with the fifth at the Santa Fe Airport monitoring site and the sixth at the Taos monitoring site. Figure 15 indicates the location of the Santa Fe Airport and Taos monitoring sites and Figure 16 indicates the Anthony, Las Cruces Office and Hobbs monitoring sites.

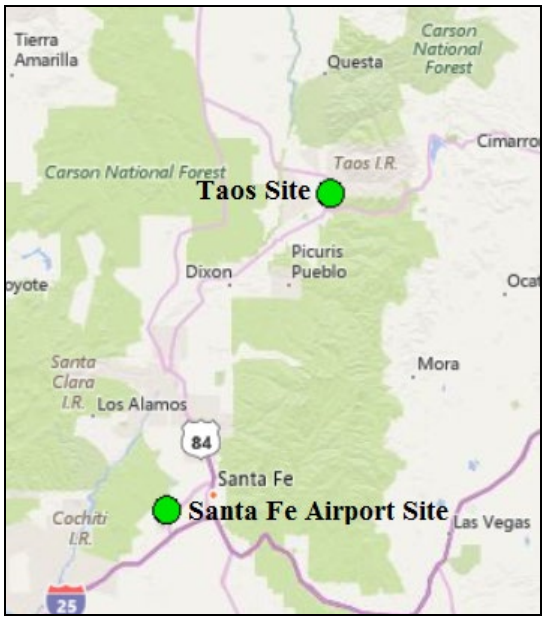


Figure 15

Figure 16

Air Quality Control Region 3 (EPA Region 157)

Santa Fe Airport AQS #: 35-049-0021:

Santa Fe Airport $PM_{2.5}$ Continuous Parameter 88101, Method 170, POC 1

The Bureau continues to operate the Met-One BAM-1020 $PM_{2.5}$ sampler, there were no changes implemented in 2023. NMED requested to replace this unit in the 2022 ANR with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 1) using pre-approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through July 2023.

Taos AQS #: 35-055-0005:

Taos $PM_{2.5}$ Continuous Parameter 88101, Method 170, POC 1

The Bureau continues to operate the Met-One BAM-1020 $PM_{2.5}$ sampler, there were no changes implemented in 2023. NMED requested to replace this unit in the 2022 ANR with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 1) using pre-approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through July 2023.

Air Quality Control Region 5 (EPA Region 155)

Hobbs Jefferson AQS#: 35-025-0008:

Hobbs Jefferson $PM_{2.5}$ Continuous Parameter 88101, Method 170, POC 2

The Bureau continues to operate the Met-One BAM-1020 $PM_{2.5}$ sampler, there were no changes implemented in 2023. NMED requested to replace this unit in the 2022 ANR with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 2) using pre-approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through July 2023.

Air Quality Control Region 6 (EPA Region 153)

Anthony AQS #: 35-013-0016:

Anthony $PM_{2.5}$ Continuous Parameter 88101, Method 170, POC 1

The Bureau continues to operate the Met-One BAM-1020 $PM_{2.5}$ sampler. The Anthony site is the designated co-location site for the FEM Method 170 samplers operating in the network. NMED requested to replace this unit in the 2022 ANR with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 1) using approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through July 2023. This unit will operate as the primary $PM_{2.5}$ sampler.

Las Cruces Office AQS #: 35-013-0025:

Las Cruces $PM_{2.5}$ Continuous Parameter 88101, Method 170, POC 2

The Bureau continues to operate the Met-One BAM-1020 $PM_{2.5}$ sampler and is the Bureau's Regional Transport particulate site, there were no changes implemented in 2023. NMED is requesting to replace this unit with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 2) using approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through July 2023.

Santa Teresa AQS #: 35-013-0022:

Santa Teresa $PM_{2.5}$ Continuous Parameter 88101, Method 170, POC 1

The Bureau continues to operate the Met-One BAM-1020 $PM_{2.5}$ sampler, there were no changes implemented in 2023. NMED is requesting to replace this unit with a Met One Instruments BAM-1022 FEM $PM_{2.5}$ sampler (Parameter 88101, Method 209, POC 1) using approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1022 units and will install the units May through July 2023.

2.6 Particulate Matter PM_{10} Non-Continuous Federal Reference Method (FRM)

The Bureau operates one non-continuous Thermo Partisol 2025i FRM sampler in the monitoring network as the primary for PM_{10} particulate matter. The sampler meets the EPA requirement set forth in 40CFR Part58 Appendix D based on population category and concentration of particulate matter 10 microns or less in aerodynamic diameter (PM_{10}). This sampler is currently located at the Anthony air monitoring site which also contains a Met-One BAM-1020 PM_{10} continuous sampler as the assigned co-located sampler for the PM_{10} FRM sampler per EPA requirements.

Air Quality Control Region 6 (EPA Region 153)

Anthony PM_{10} FRM Parameter 81102, Method 127, POC 1

The Bureau continues to operate the Partisol 2025i non-continuous sampler as the designated primary sampler for PM_{10} particulate matter. Figure 17 indicates the location of the PM_{10} monitoring site, there were no changes implemented in 2023. However, NMED plans to replace this unit using approved EPA funding from the American Rescue Plan with a Met One Instruments BAM-1020 FEM sampler (Parameter 81102, Method 122, POC 1). This will eliminate having to get filters processed and

weighed by the lab and will capture all exceptional wind events that occur. With this approved funding, AQB has purchased the BAM-1020 units and will install the units May through July 2023.This unit will operate as the primary PM_{10} sampler.

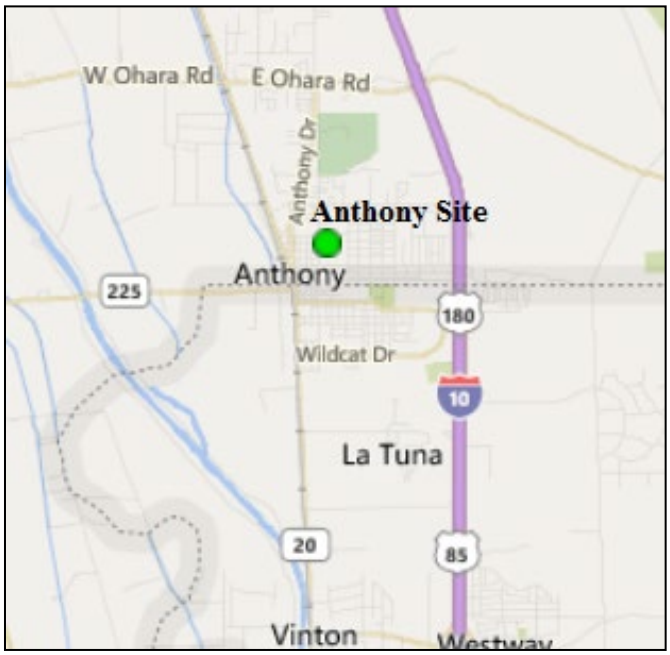


Figure 17

2.7 Particulate Matter PM_{10} Continuous (BAM Sampler)

The Bureau operates seven Method 122 BAM-1020 PM_{10} continuous samplers throughout the monitoring network. Figure 18 indicates the location of the northern New Mexico monitoring site where one of the seven BAM-1020 PM_{10} samplers in the network is operating as a SLAMS monitor. Six of the seven BAM-1020 PM_{10} continuous samplers are located and operating in the Bureau's southern network as SLAMS monitors. Figure 19 indicates the locations of the six BAM-1020 PM_{10} samplers in the southern network.

PM_{10} Air Quality Control Region 1 (EPA Region 014)

Sub Station Site AQS #:35-045-1005:

Sub Station PM_{10} Continuous Parameter 81102, Method 122, POC 2

The Bureau continues to operate a Met-One BAM-1020 FEM PM_{10} sampler to obtain representative sampling of PM_{10} for San Juan County, there were no changes implemented in 2023. This sampler will be upgraded with the most current model of the BAM-1020 PM_{10} during FY24. The parameter, method and POC will not change. With this approved funding, AQB has purchased the BAM-1020 units and will install them May through July 2023.

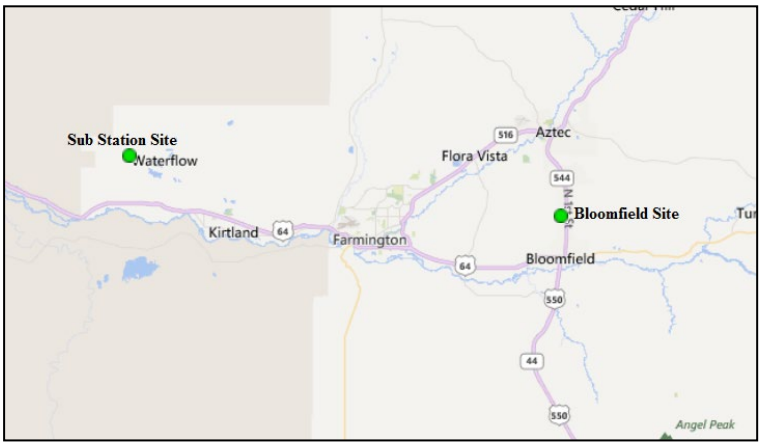


Figure18

PM$_{10}$ Air Quality Control Region 6 (EPA Region 153)

Anthony AQS #: 35-013-0016:

Anthony PM$_{10}$ Continuous Parameter 81102, Method 122, POC 2

The Bureau continues to operate the Met-One BAM-1020 FEM PM$_{10}$ continuous sampler, there were no changes implemented in 2023. NMED is requesting to replace this unit with a Met One Instruments BAM-1020 FEM PM$_{10}$ sampler (Parameter 81102, Method 122, POC 2) using approved EPA funding from the American Rescue Plan. With this approved funding, AQB has purchased the BAM-1020 units and will install them May through July 2023.This unit will operate as the co-located PM$_{10}$ sampler.

Chaparral AQS #: 35-013-0020:

Chaparral PM$_{10}$ Continuous Parameter 81102, Method 122, POC 2

The Bureau continues to operate the Met-One BAM-1020 FEM PM$_{10}$ continuous sampler, there were no changes implemented in 2023. This sampler will be upgraded with the most current model of BAM-1020 PM$_{10}$ during FY24 using 105 Grant funding. The parameter, method and POC will not change. AQB has purchased the BAM-1020 units and will install them May through July 2023.

Desert View AQS #: 35-013-0021:

Desert View PM$_{10}$ Continuous Parameter 81102, Method 122, POC 2

The Bureau continues to operate the Met-One BAM-1020 FEM PM$_{10}$ continuous sampler, there were no changes implemented in 2023. This sampler will be upgraded with the most current model of the BAM-1020 PM$_{10}$ during FY24 using 105 Grant funding. The parameter, method and POC will not change. AQB has purchased the BAM-1020 units and will install them May through July 2023.

Holman Road AQS #: 35-013-0019:

Holman Road PM_{10} Continuous Parameter 81102, Method 122, POC 2

The Bureau continues to operate the Met-One BAM-1020 FEM PM_{10} continuous sampler, there were no changes implemented in 2023. This sampler will be upgraded with the most current model of the BAM-1020 PM_{10} during FY24 using 105 Grant funding. The parameter, method and POC will not change. AQB has purchased the BAM-1020 units and will install them May through July 2023.

West Mesa AQS #: 35-013-0024:

West Mesa PM_{10} Continuous Parameter 81102, Method 122, POC 2

The Bureau continues to operate the Met-One BAM-1020 FEM PM_{10} continuous sampler, there were no changes implemented in 2023. This sampler will be upgraded with the most current model of the BAM-1020 PM_{10} during FY24 using 105 Grant funding. The parameter, method and POC will not change. AQB has purchased the BAM-1020 units and will install them May through July 2023.

PM_{10} Air Quality Control Region 7 (EPA Region 012)

Deming Airport AQS #: 35-029-0003:

Deming Airport PM_{10} Continuous Parameter 81102, Method 122, POC 2

The Bureau continues to operate the Met-One BAM-1020 FEM PM_{10} continuous sampler, there were no changes implemented in 2023. This sampler will be upgraded with the most current model of the BAM-1020 PM_{10} during FY24 using 105 Grant funding. The parameter, method and POC will not change. AQB has purchased the BAM-1020 units and will install them May through July 2023.

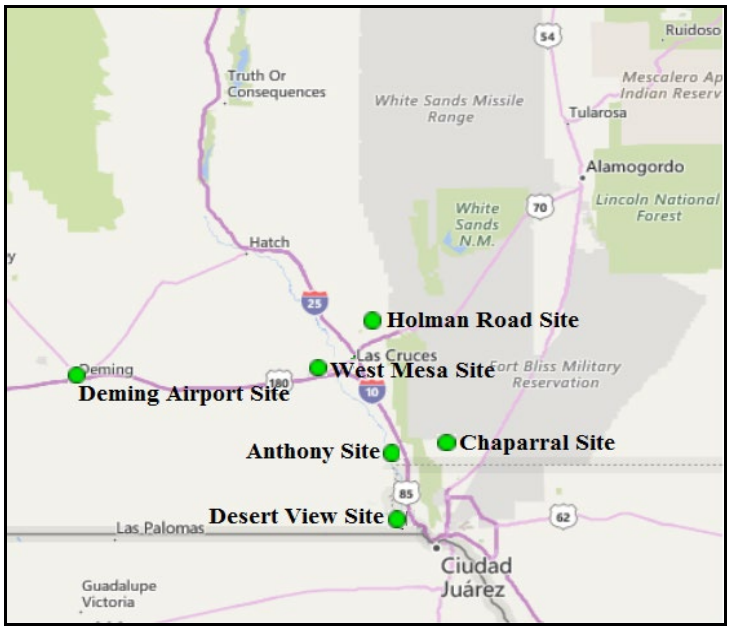


Figure 19

3.0 Other Projects

There are three other projects continuing in New Mexico and are supported by NMED/AQB staff.

1. Northern air monitoring staff continue with the NADP-sponsored project to collect passive ammonia monitoring data in San Juan County, New Mexico. This project will continue if federal funds are available. Ammonia is a precursor of fine particulate matter which adversely affects public health and visibility. This continued study will augment the baseline data collected in 2007 to assess any significant changes in ambient ammonia levels.

2. NMED-AQB is in the process of preparing to install a Synspec GC955 BTEX analyzer at the Carlsbad air monitoring station as part of the American Rescue Plan Carlsbad Community project. The analyzer was purchased and delivered to the distributor J.J. Wilbur Company on March 10th, who are completing operational tests to ensure the unit is operating accordingly. J.J. Wilbur Company informed NMED on May 9th that the analyzer is having an issue with the Photo Ion Detector (PID) and will be shipped back to manufacturer Synspec for repair. NMED will be notified when the analyzer is repaired and ready for shipment to the monitoring site. Analyzer training will be conducted on site once the analyzer is received. This project period is from April 1, 2023 to March 31, 2026 according to the project plan.

3. NMED-AQB has completed the first phase of the collaborative two-year research study with EPA's Research Triangle Park. The Remote Operated Canister Study (ROCS) operated from May through October 2021. Sampling was performed at NMED's Carlsbad and Hobbs air monitoring stations. NMED is waiting on EPA– Research Triangle Park to provide information on phase 2 of the project and what NMED's role will be in Phase 2.

4.0 Summary

The intention of the Bureau is to continue to focus on pollutants of concern while also striving to continue to serve the public health needs and to satisfy the expectations of the New Mexico communities. The Bureau will inform EPA Region 6 staff early in the process of any plans to make changes or modifications to the ambient air monitoring network, other than those described in this review, to ensure that state and federal priorities continue to be aligned.

4.1 Network Modifications During FY2023

During Fiscal Year 2022, the Bureau replaced the aging Thermo i-series gaseous monitors (O3, NO_2 and SO_2) within the network with Thermo iQ series monitors. Replacement and calibration of the monitors occurred from May 12, 2021 through June 16, 2022. All monitors (both the existing Thermo i-series and new Thermo iQ series) were audited independently by QA staff to verify that all monitoring data was accurate. The table below is a timeline which summarizes when the monitors were replaced at the corresponding sites.

Summary of Gaseous Monitor Replacement

AQS number designation	NMED site designation	Monitor Model	Monitor Type	Install Date	Number of Monitors Replaced
35-045-1005	1H Sub Station	Thermo 49iQ	Ozone	3/15/2022	
35-045-1005	1H Sub Station	Thermo 42iQ	NO2	3/16/2022	3
35-045-1005	1H Sub Station	Thermo 43iQ	SO2	3/16/2022	
35-045-0009	1ZB Bloomfield	Thermo 49iQ	Ozone	4/13/2022	
35-045-0009	1ZB Bloomfield	Thermo 42iQ	NO2	5/18/2022	3
35-045-0009	1ZB Bloomfield	Thermo 43iQ	SO2	5/18/2022	
35-045-0018	1NL Navajo Lake	Thermo 49iQ	Ozone	5/19/2022	2
35-045-0018	1NL Navajo Lake	Thermo 42iQ	NO2	5/19/2022	
35-061-0008	2LL Los Lunas	Thermo 49iQ	Ozone	12/16/2021	1
35-043-1001	2ZJ Bernalillo	Thermo 49iQ	Ozone	12/8/2021	1
35-039-0026	3CRD Coyote Ranger Dist	Thermo 49iQ	Ozone	5/4/2022	1
35-049-0021	3SFA Santa Fe Airport	Thermo 49iQ	Ozone	11/18/2021	1
35-015-1005	5ZR Carlsbad	Thermo 49iQ	Ozone	6/7/2022	2
35-015-1005	5ZR Carlsbad	Thermo 42iQ	NO2	6/8/2022	
35-025-0008	5ZS Hobbs Jefferson	Thermo 49iQ	Ozone	6/6/2022	2
35-025-0008	5ZS Hobbs Jefferson	Thermo 42iQ	NO2	9/20/2022	
35-013-0008	6O La Union	Thermo 49iQ	Ozone	6/16/2022	1
35-013-0020	6ZK Chaparral	Thermo 49iQ	Ozone	9/30/2021	1
35-013-0021	6ZM Desert View	Thermo 49iQ	Ozone	5/12/2021	2
35-013-0021	6ZM Desert View	Thermo 42iQ	NO2	9/29/2021	
35-013-0022	6ZN Santa Teresa	Thermo 49iQ	Ozone	8/31/2021	2
35-013-0022	6ZN Santa Teresa	Thermo 42iQ	NO2	8/31/2021	
35-013-0023	6ZQ Solano	Thermo 49iQ	Ozone	6/16/2022	1
				Total Monitors Replaced	23

4.2 Pending System Modifications

NMED-AQB is currently in the process of preparing to replace the existing BAM-1020 PM_{10}, BAM-1020 $PM_{2.5}$ and Partisol 2025i PM_{10} and $PM_{2.5}$ samplers during this calendar year. As stated above in sections 2.5, 2.6 and 2.7. The BAM-1020 PM_{10} samplers and the only Partisol PM_{10} sampler will be replaced with the most current series of Met One Instruments BAM-1020 PM_{10} samplers. The BAM-1020 $PM_{2.5}$ samplers and the 3 Partisol $PM_{2.5}$ samplers will be replaced with Met One Instruments BAM-1022 $PM_{2.5}$ samplers. The American Rescue Plan and 105 Grant will fund the cost of sampler replacement.

Summary of Pending Particulate Sampler Replacement

AQS number designation	NMED site designation	Current Monitor Model	Monitor Type	Replacement Monitor Model	Monitor Type	Funding Source	Number of Monitors to be Replaced
35-045-1005	1H Sub Station	Met One BAM-1020	PM10	Met One BAM-1020	PM10	105 Grant	1
35-049-0021	3SFA Santa Fe Airport	Met One BAM-1020	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	1
35-055-0005	3ZD Taos	Met One BAM-1020	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	1
35-025-0008	5ZS Hobbs	Met One BAM-1020	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	1
35-013-0016	6CM Anthony	Met One BAM-1020	PM10	Met One BAM-1020	PM10	ARP Grant	
35-013-0016	6CM Anthony	Thermo Partisol 2025i	PM10	Met One BAM-1020	PM10	ARP Grant	4
35-013-0016	6CM Anthony	Met One BAM-1020	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	
35-013-0016	6CM Anthony	Thermo Partisol 2025i	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	
35-013-0025	6Q Las Cruces Office	Met One BAM-1020	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	1
35-013-0024	6WM West Mesa	Met One BAM-1020	PM10	Met One BAM-1020	PM10	105 Grant	1
35-013-0019	6ZL Holman Road	Met One BAM-1020	PM10	Met One BAM-1020	PM10	105 Grant	1
35-013-0020	6ZK Chaparral	Met One BAM-1020	PM10	Met One BAM-1020	PM10	105 Grant	1
35-013-0021	6ZM Desert View	Met One BAM-1020	PM10	Met One BAM-1020	PM10	105 Grant	
35-013-0021	6ZM Desert View	Thermo Partisol 2025i	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	3
35-013-0021	6ZM Desert View	Thermo Partisol 2025i	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	
35-013-0022	6ZN Santa Teresa	Met One BAM-1020	PM2.5	Met One BAM-1022	PM2.5	ARP Grant	1
35-029-0003	7E Deming Airport	Met One BAM-1020	PM10	Met One BAM-1020	PM10	105 Grant	1
						Total Samplers to Replace	17

5.0 Addressing New Monitoring Requirements in Monitoring Network

5.1 Lead (Pb)

Two federal criteria have been set up for Pb monitoring:

- Source-oriented – For sources over 0.5 Tons per year.
- "Non-source"-oriented in every urban area with NCore monitoring sites, that have a population of 500,000 or more.

As stated in previous annual network reviews, based on these criteria, no Pb monitors are required in regions under NMED/AQB jurisdiction.

5.2 Nitrogen Dioxide

Two federal criteria have been set up for NO_2 monitoring:

- Near-road NO_2 monitoring; 1 micro-scale site would be required in Core Based Statistical Areas (CBSA) ≥ 1 million in population at a location of expected highest hourly NO_2 concentrations sited near a major road with high Annual Average Daily Traffic (AADT) counts.
- Community-wide; required in CBSAs ≥ 1 million in population at a location of expected highest NO_2 concentrations representing neighborhood or larger (urban) spatial scale.

Based on these criteria, no new NO_2 monitors are required in the state's air quality control regions under NMED/AQB jurisdiction.

5.3 Sulfur Dioxide

Two federal criteria have been set up for SO_2 monitoring:

- Based on population per CBSA and amount of SO_2 emissions within that CBSA, that is, the Population Weighed Emissions Index (PWEI) and
- Based on individual state contribution to national SO_2 inventory in the 2020 National Emissions Inventory (NEI). Data was obtained from the EPA site: www.epa.gov/air-emissions-inventories and calculated to determine the PWEI values for SO_2.

Based on the 2020 NEI criteria as listed in the PWEI calculation table below, NMED/AQB would not require any SO_2 monitoring within the state. However, due to increased oil and gas production in southeast New Mexico the PWEI for SO_2 indicates an increase and may require an SO_2 monitor in Air Quality Control Region 5 (AQCR-5) in the near future. Placement of an SPM SO_2 monitor could be beneficial in determining if adding an SO_2 monitor to the SLAMS network is warranted. NMED-AQB would like to initiate discussion with EPA Region-6 regarding is an SPM should be added to the network.

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
San Juan	Fuel Comb. Elec. Util.	045	Sulfur Dioxide	CAP	1355.221
San Juan	Petroleum & Related Industries	045	Sulfur Dioxide	CAP	169.291
San Juan	Fuel Comb. Industrial	045	Sulfur Dioxide	CAP	89.003
San Juan	Miscellaneous	045	Sulfur Dioxide	CAP	18.586
San Juan	Fuel Comb. Other	045	Sulfur Dioxide	CAP	14.981
San Juan	Highway Vehicles	045	Sulfur Dioxide	CAP	4.342
San Juan	Waste Disposal & Recycling	045	Sulfur Dioxide	CAP	2.837
San Juan	Off-Highway	045	Sulfur Dioxide	CAP	1.330
San Juan	Storage & Transport	045	Sulfur Dioxide	CAP	0.021
				Total SO_2 Emissions	1655.612
				San Juan CBSA Population	120418
				Population x SO_2	199365517.4
				PWEI-San Juan Co.	199.366
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Sandoval	Petroleum & Related Industries	043	Sulfur Dioxide	CAP	76.864
Sandoval	Fuel Comb. Industrial	043	Sulfur Dioxide	CAP	24.469
Sandoval	Fuel Comb. Other	043	Sulfur Dioxide	CAP	19.071
Sandoval	Waste Disposal & Recycling	043	Sulfur Dioxide	CAP	10.280
Sandoval	Highway Vehicles	043	Sulfur Dioxide	CAP	5.476
Sandoval	Miscellaneous	043	Sulfur Dioxide	CAP	3.866
Sandoval	Off-Highway	043	Sulfur Dioxide	CAP	0.381
Sandoval	Other Industrial Processes	043	Sulfur Dioxide	CAP	0.251
				Total SO_2 Emissions	140.659
				Sandoval CBSA Population	153501
				Population x SO_2	21591231.61
				PWEI-Sandoval Co.	21.591
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Valencia	Fuel Comb. Industrial	061	Sulfur Dioxide	CAP	11.356
Valencia	Fuel Comb. Other	061	Sulfur Dioxide	CAP	5.387
Valencia	Highway Vehicles	061	Sulfur Dioxide	CAP	2.231
Valencia	Fuel Comb. Elec. Util.	061	Sulfur Dioxide	CAP	2.010
Valencia	Off-Highway	061	Sulfur Dioxide	CAP	1.680
Valencia	Waste Disposal & Recycling	061	Sulfur Dioxide	CAP	1.132
Valencia	Miscellaneous	061	Sulfur Dioxide	CAP	1.126
				Total SO_2 Emissions	24.923
				Valencia CBSA Population	78080
				Population x SO_2	1945959.061
				PWEI-Valencia Co.	1.946
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Rio Arriba	Petroleum & Related Industries	039	Sulfur Dioxide	CAP	26.089

Rio Arriba	Fuel Comb. Industrial	039	Sulfur Dioxide	CAP	18.731
Rio Arriba	Miscellaneous	039	Sulfur Dioxide	CAP	9.392
Rio Arriba	Fuel Comb. Other	039	Sulfur Dioxide	CAP	5.919
Rio Arriba	Highway Vehicles	039	Sulfur Dioxide	CAP	1.447
Rio Arriba	Waste Disposal & Recycling	039	Sulfur Dioxide	CAP	1.088
Rio Arriba	Off-Highway	039	Sulfur Dioxide	CAP	0.287
Rio Arriba	Storage & Transport	039	Sulfur Dioxide	CAP	0.016
Rio Arriba	Other Industrial Processes	039	Sulfur Dioxide	CAP	0.012
				Total SO_2 Emissions	62.981
				Rio Arriba CBSA Population	40048
				Population x SO_2	2522274.577
				PWEI-Rio Arriba Co.	2.522
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Santa Fe	Miscellaneous	049	Sulfur Dioxide	CAP	62.032
Santa Fe	Fuel Comb. Other	049	Sulfur Dioxide	CAP	22.584
Santa Fe	Fuel Comb. Industrial	049	Sulfur Dioxide	CAP	18.496
Santa Fe	Highway Vehicles	049	Sulfur Dioxide	CAP	6.020
Santa Fe	Waste Disposal & Recycling	049	Sulfur Dioxide	CAP	4.558
Santa Fe	Off-Highway	049	Sulfur Dioxide	CAP	3.800
Santa Fe	Fuel Comb. Elec. Util.	049	Sulfur Dioxide	CAP	0.012
				Total SO_2 Emissions	117.501
				Santa Fe CBSA Population	155664
				Population x SO_2	18290622.53
				PWEI-Santa Fe Co.	18.291
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Taos	Miscellaneous	055	Sulfur Dioxide	CAP	25.284
Taos	Fuel Comb. Other	055	Sulfur Dioxide	CAP	7.143
Taos	Fuel Comb. Industrial	055	Sulfur Dioxide	CAP	3.793
Taos	Waste Disposal & Recycling	055	Sulfur Dioxide	CAP	1.702
Taos	Highway Vehicles	055	Sulfur Dioxide	CAP	1.176
Taos	Off-Highway	055	Sulfur Dioxide	CAP	0.271
				Total SO_2 Emissions	39.371
				Taos CBSA Population	34580
				Population x SO_2	1361436.836
				PWEI-Taos County	1.361
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Eddy	Petroleum & Related Industries	015	Sulfur Dioxide	CAP	35048.697
Eddy	Fuel Comb. Industrial	015	Sulfur Dioxide	CAP	435.393
Eddy	Miscellaneous	015	Sulfur Dioxide	CAP	6.381
Eddy	Fuel Comb. Other	015	Sulfur Dioxide	CAP	5.240
Eddy	Highway Vehicles	015	Sulfur Dioxide	CAP	3.157
Eddy	Waste Disposal & Recycling	015	Sulfur Dioxide	CAP	3.157
Eddy	Off-Highway	015	Sulfur Dioxide	CAP	1.736

Eddy	Other Industrial Processes	015	Sulfur Dioxide	CAP	0.291
Eddy	Fuel Comb. Elec. Util.	015	Sulfur Dioxide	CAP	0.071
Eddy	Storage & Transport	015	Sulfur Dioxide	CAP	0.033
				Total SO_2 Emissions	35504.155
				Eddy CBSA Population	60400
				Population x SO_2	2144450973
				PWEI-Eddy Co.	2144.451
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Lea	Petroleum & Related Industries	025	Sulfur Dioxide	CAP	43445.955
Lea	Fuel Comb. Industrial	025	Sulfur Dioxide	CAP	3114.303
Lea	Fuel Comb. Elec. Util.	025	Sulfur Dioxide	CAP	9.315
Lea	Fuel Comb. Other	025	Sulfur Dioxide	CAP	5.096
Lea	Highway Vehicles	025	Sulfur Dioxide	CAP	3.574
Lea	Miscellaneous	025	Sulfur Dioxide	CAP	2.290
Lea	Waste Disposal & Recycling	025	Sulfur Dioxide	CAP	1.270
Lea	Off-Highway	025	Sulfur Dioxide	CAP	0.539
Lea	Storage & Transport	025	Sulfur Dioxide	CAP	0.029
				Total SO_2 Emissions	46582.371
				Lea CBSA Population	72452
				Population x SO_2	3374985939
				PWEI-Lea Co.	3374.986
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Doña Ana	Fuel Comb. Industrial	013	Sulfur Dioxide	CAP	31.557
Doña Ana	Fuel Comb. Elec. Util.	013	Sulfur Dioxide	CAP	16.211
Doña Ana	Fuel Comb. Other	013	Sulfur Dioxide	CAP	13.750
Doña Ana	Miscellaneous	013	Sulfur Dioxide	CAP	9.434
Doña Ana	Off-Highway	013	Sulfur Dioxide	CAP	7.814
Doña Ana	Highway Vehicles	013	Sulfur Dioxide	CAP	7.704
Doña Ana	Waste Disposal & Recycling	013	Sulfur Dioxide	CAP	6.488
Doña Ana	Petroleum & Related Industries	013	Sulfur Dioxide	CAP	1.560
Doña Ana	Other Industrial Processes	013	Sulfur Dioxide	CAP	0.047
				Total SO_2 Emissions	94.566
				Doña Ana CBSA Population	222285
				Population x SO_2	21020641.3
				PWEI-Doña Ana Co.	21.021
				SO_2 monitors required	**0**

COUNTY	TIER	COUNTY FIPS	POLLUTANT	POLLUTANT TYPE	EMISSIONS (TONS)
Luna	Fuel Comb. Industrial	029	Sulfur Dioxide	CAP	18.425
Luna	Fuel Comb. Other	029	Sulfur Dioxide	CAP	7.970
Luna	Off-Highway	029	Sulfur Dioxide	CAP	5.530
Luna	Miscellaneous	029	Sulfur Dioxide	CAP	2.264
Luna	Highway Vehicles	029	Sulfur Dioxide	CAP	1.855
Luna	Petroleum & Related Industries	029	Sulfur Dioxide	CAP	0.731
Luna	Waste Disposal & Recycling	029	Sulfur Dioxide	CAP	0.586

Luna	Other Industrial Processes	029	Sulfur Dioxide	CAP	0.380
				Total SO_2 Emissions	37.741
				Luna CBSA Population	25749
				Population x SO_2	971787.7318
				PWEI-Luna Co.	0.972
				SO_2 monitors required	**0**

SO_2 Data Requirements Rule

Per EPA Requirement that by July 1, 2016, each air agency was required to identify, for each source area on the list, the approach it will use to characterize air quality to help characterize sources listed as 2,000 tpy or larger, air agencies were to indicate by July 1, 2016 one of the three options to use which were:

Option 1: Ambient air monitoring for a source
Option 2: Air quality modeling for a source
Option 3: Federally enforceable emissions limits applicable to sources less than 2,000tpy

NMED chose the second option, but this requires operating both SO_2 monitors in the network (1H Sub Station site and the 1ZB Bloomfield site) in order to provide data for modeling. The most recent report shows that our only source of concern, the San Juan Generating Station, has reduced its SO_2 emissions since the December 2017 shut-down of the two boiler units. The modeling data also indicates that SO_2 emissions have reduced.

5.4 Ozone

During FY 2023 the exceedances of the 8-hours standard did not increase significantly from the year prior although the state experienced the largest wildfire recorded. This can be attributed to the monsoon season starting a bit earlier and lasting longer than usual. The monsoon rains were very beneficial in the northern half of the state in containing the wildfires and consequently the ozone concentrations.

The chart below is provided by EPA which tracks the number of ozone exceedances throughout the five Region-6 states. Typically, the October EPA chart is the end of the ozone season which indicates the total number of exceedances that occurred between April 1st through mid-October as well as the number of Air Quality Index Category Totals. However, this year EPA Region 6 provided data from April 1st through December 31st as indicated in the table below.

Region 6 8-Hour Ozone Exceedance Days											
preliminary data through December 31, 2022											
Applicable Standard = 70 ppb											
State/Cities	Year to Date Ozone Exceedances (# of Days)	Max. Exceedances (ppb)							Year to Date Air Quality Index Level Totals (# of Days)		
		F	S	S	M	T	W	R	Unhealthy for Sensitive Groups	Unhealthy	Very Unhealthy
New Mexico											
Albuquerque	16								16		
Carlsbad	23								23		
Carlsbad Caverns NP	18								17	1	
Hobbs	4								4		
San Juan Co.	1								1		
Southern Dona Ana Co.	20								19	1	

The chart below, also provided by EPA, provides the running 3-year Ozone Design Values for all NMED-AQB monitoring sites that measure ozone. This assists state environmental agencies in determining if the monitoring area is in attainment or non-attainment of the ozone standard and necessary courses of action that need to be implemented to achieve attainment.
Current EPA 3-Year Ozone Design Values 2019 through 2021

State Name	County Name	State FIPS	County FIPS	EPA Region	AQS Site ID	2019-2021 Design Value (ppm) [1,2]	Meets NAAQS?	CBSA Name
New Mexico	Bernalillo	35	1	6	350011012	0.072	No	Albuquerque, NM
New Mexico	Dona Ana	35	13	6	350130021	0.080	No	Las Cruces, NM
New Mexico	Eddy	35	15	6	350151005	0.077	No	Carlsbad-Artesia, NM
New Mexico	Lea	35	25	6	350250008	0.066	Yes	Hobbs, NM
New Mexico	Rio Arriba	35	39	6	350390026	0.064	Yes	Espanola, NM
New Mexico	Sandoval	35	43	6	350431001	0.068	Yes	Albuquerque, NM
New Mexico	San Juan	35	45	6	350450018	0.068	Yes	Farmington, NM
New Mexico	Santa Fe	35	49	6	350490021	0.066	Yes	Santa Fe, NM
New Mexico	Valencia	35	61	6	350610008	0.066	Yes	Albuquerque, NM

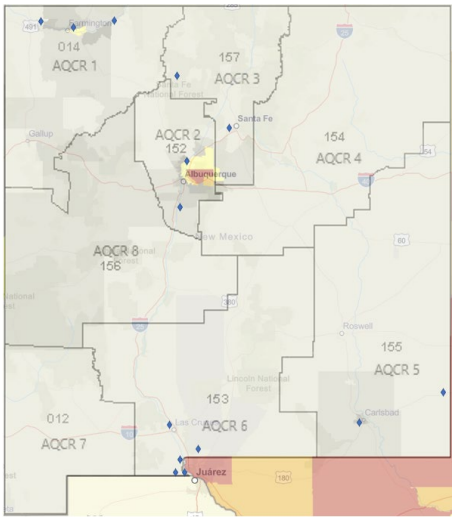
6.0 Environmental Justice Concerns

The NMED-AQB is committed to addressing environmental justice concerns related to the air quality network. Based on EPA's EJ Screen for ozone and $PM_{2.5}$, NMED's air monitoring network is providing representative data and monitoring sites have appropriate number of sampling equipment. Additionally, monitoring sites are located in areas that coincide with the pollution concentration percentages.

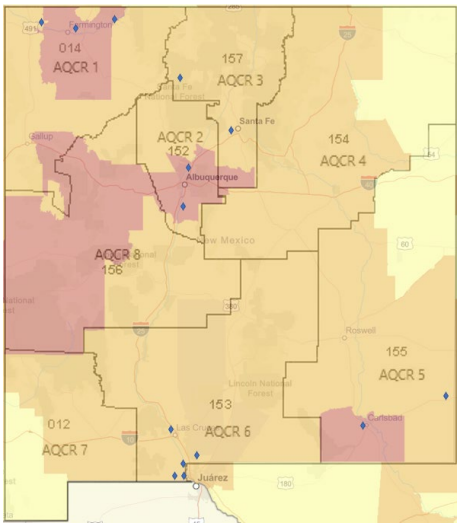
Currently, the Air Quality Bureau is pursuing to sustain funds through the American Rescue Plan to monitor volatile organic compound (VOC) air pollutants from oil and gas sources. With this grant the AQB intends to install and operate a GC955 Synspec BTEX Analyzer for a period of three years to monitor BTEX emissions at the existing Carlsbad monitoring site.

The rural nature of these communities suggests that minimal data has been historically obtained due to a lack of monitoring for VOC to adequately assess relative risk. These communities are at an increased risk to the adverse health effects from air pollution from increased oil and gas sources.

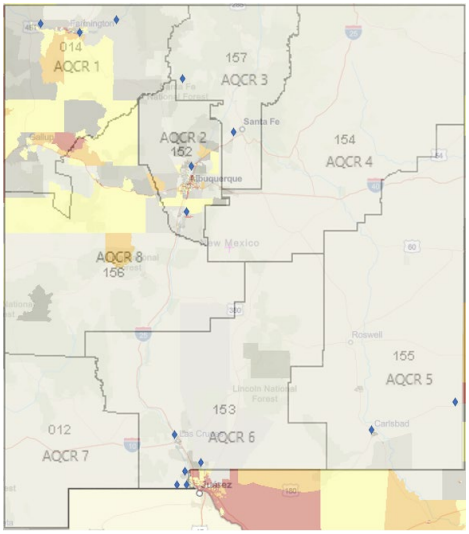
Monitoring for aromatic VOC will focus resources on the most concerning air pollutants that pose a risk to the health and well-being for the most vulnerable residents.



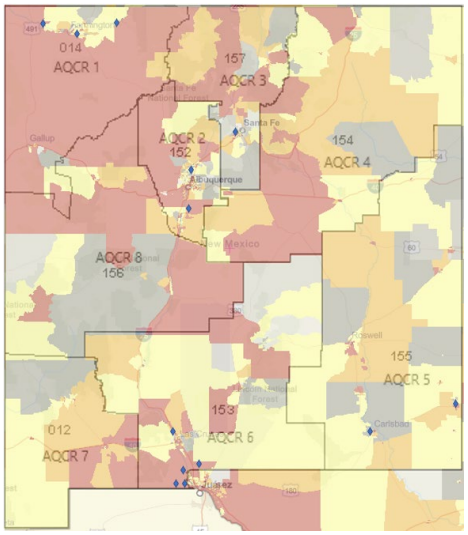
EJ Screen – Pollution & Sources (Ozone – State Percentile)



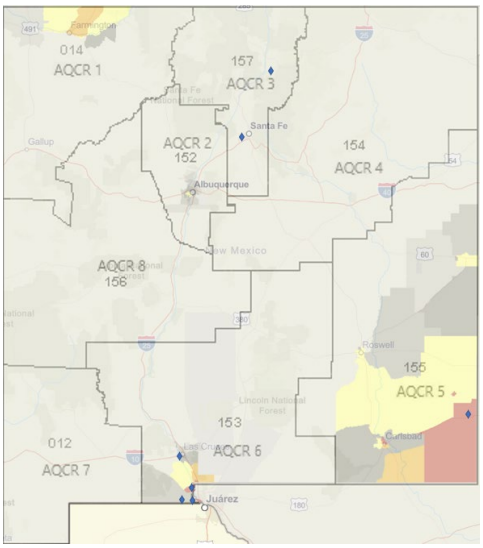
EJ Screen – Pollution & Sources (Ozone – National Percentile)



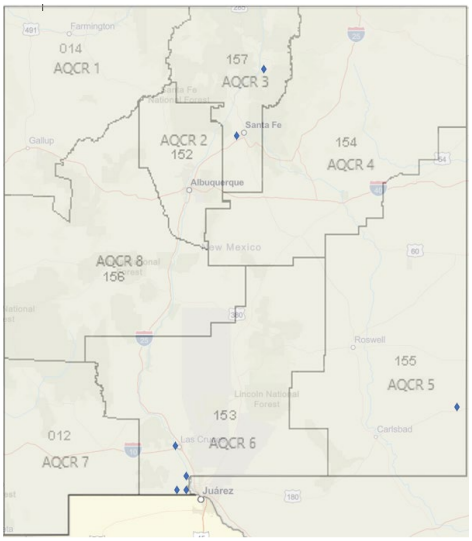
EJ Screen – Environment Justice Indexes (Ozone – State Percentile)



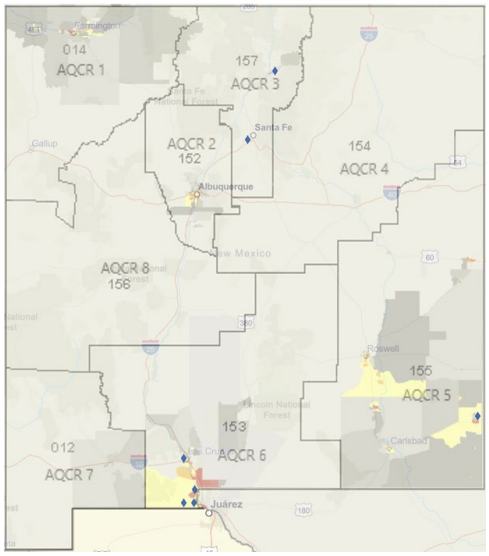
EJ Screen – Environment Justice Indexes (Ozone – National Percentile)



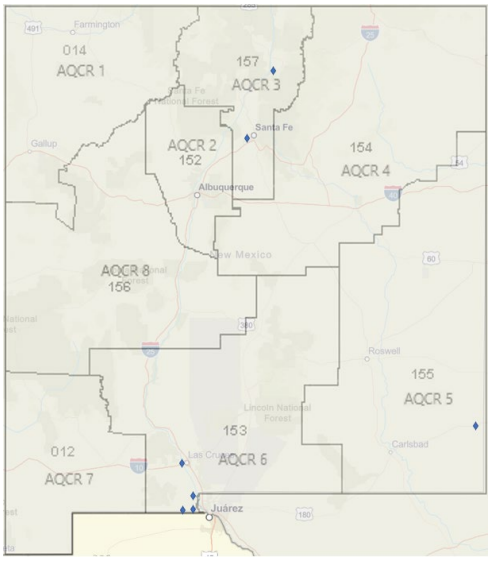
EJ Screen - Pollution & Sources (PM2.5 State Percentile)



EJ Screen - Pollution & Sources (PM2.5 National Percentile)



EJ Screen – Environment Justice Indexes (PM2.5 State Percentile)



EJ Screen – Environment Justice Indexes (PM2.5 National Percentile)

7.0 Other Issues

Position Vacancies:
At present the NMED-AQB Monitoring Section has seven positions filled with one vacancy. This consists of three Environmental Scientist & Specialist - Operational staff, two Environmental Scientist & Specialist - Advanced staff, two Environmental Scientist & Specialist – Supervisor staff and one Staff Manager.

A draft of this document was made available to the public June 1 through June 30, 2023 which was posted on our public notice web page at https://www.env.nm.gov/public-notices/ and providing the public portal for the public to comment at https://nmed.commentinput.com/comment/search. In addition, we also provided a draft of this document on our Air Quality Bureau Monitoring webpage at https://www.env.nm.gov/air-quality/monitoring/.

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TABLE 1
New Mexico Monitoring Network in 2023

Continuous Monitors & Non-Continuous Monitors

Site AQS #	Site Name	Station Type	Site Address	Latitude	Longitude	Pollutants Measured	Analysis Method	Operating Schedule	Is site proposed to be removed/moved within next 18 months?	Monitoring Objective	NAAQS Comparable ?	msa/cbsa/csa represented	Spatial Scale
35-045-1005	1H Substation	SLAMS	Shiprock Electrical Substation, Waterflow, NM 87421	36.7976	-108.4801	Ozone	U.V. Photometric	Continuous	No	General Background	Yes	Farmington MSA	Regional
		SLAMS				Nitrogen Dioxide	Chemiluminescence	Continuous		General Background	Yes	Farmington MSA	Regional
		SLAMS				Sulfur Dioxide	Pulsed Fluorescence	Continuous		Source Oriented	Yes	Farmington MSA	Regional
		SLAMS				PM_{10}	Continuous; BAM-1020	Continuous		General Background	Yes	Farmington MSA	Regional
35-045-0009	1ZB Bloomfield	SLAMS	2200 N 1st Street, Bloomfield, NM 87413	36.7421	-107.9774	Ozone	U.V. Photometric	Continuous	No	General Background	Yes	Farmington MSA	Neighborhood
		SLAMS				Nitrogen Dioxide	Chemiluminescence	Continuous		General Background	Yes	Farmington MSA	Neighborhood
		SLAMS				Sulfur Dioxide	Pulsed Fluorescence	Continuous		Source Oriented	Yes	Farmington MSA	Neighborhood
35-045-0018	1NL Navajo Lake	SLAMS	423A Highway 539, Navajo Dam, NM 87419	36.8097	-107.6514	Ozone	U.V. Photometric	Continuous	No	Regional Transport	Yes	Farmington MSA	Middle
		SLAMS				Nitrogen Dioxide	Chemiluminescence	Continuous		Regional Transport	Yes	Farmington MSA	Middle
35-061-0008	2LL Los Lunas	SLAMS	1000 W. Main St, Los Lunas, NM 87031	34.8147	-106.7410	Ozone	U.V. Photometric	Continuous	No	Population Exposure	Yes	Albuquerque MSA	Neighborhood
35-043-1001	2ZJ Bernalillo	SLAMS	600 Oak Street, Bernalillo NM 87004	35.2998	-106.5470	Ozone	U.V. Photometric	Continuous	No	Population Exposure	Yes	Albuquerque MSA	Neighborhood
35-039-0026	3CRD Coyote Ranger District	SLAMS	21 New Mexico 96, Coyote, NM, 87012	36.1877	-106.6984	Ozone	U.V. Photometric	Continuous	No	Regional Transport	Yes	Albuquerque-Santa Fe-Las Vegas CSA	Regional
35-049-0021	3SFA Santa Fe Airport	SLAMS	2001 Aviation Dr, Santa Fe, NM 87507	35.6198	-106.0797	Ozone	U.V. Photometric	Continuous	No	Population Exposure	Yes	Santa Fe MSA	Neighborhood
		SLAMS				$PM_{2.5}$	Continuous; BAM-1020	Continuous		Population Exposure	Yes	Santa Fe MSA	Neighborhood
35-055-0005	3ZD Taos	SLAMS	123 Camino de Santiago Fire Station, Taos, NM 87571	36.3833	-105.5849	$PM_{2.5}$	Continuous; BAM-1020	Continuous	No	Population Exposure	Yes	Taos µSA	Neighborhood
35-015-1005	5ZR Carlsbad	SLAMS	2811 Holland Ln., Carlsbad, NM 88220	32.3840	-104.2640	Ozone	U.V. Photometric	Continuous	No	General Background	Yes	Carlsbad-Artesia, CBSA/µSA	Urban
		SLAMS				Nitrogen Dioxide	Chemiluminescence	Continuous		General Background	Yes	Carlsbad-Artesia, CBSA/µSA	Urban
35-025-0008	5ZS Hobbs Jefferson	SLAMS	2320 N. Jefferson St., Hobbs, NM 88240	32.7268	-103.1230	Ozone	U.V. Photometric	Continuous	No	Population Exposure	Yes	Hobbs CBSA/µSA	Neighborhood
		SLAMS				Nitrogen Dioxide	Chemiluminescence	Continuous		Population Exposure	Yes	Hobbs CBSA/µSA	Neighborhood
		SLAMS				$PM_{2.5}$	Continuous; BAM-1020	Continuous		General Background	Yes	Hobbs CBSA/µSA	Neighborhood
35-013-0016	6CM Anthony	SLAMS	705 Church St., Anthony, NM 88021	32.0033	-106.5992	PM_{10}	Sequential FRM	Every 6th Day	No	Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
		SLAMS				PM_{10}	Co-Located Continuous; BAM-1020	Continuous		Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
		SLAMS				$PM_{2.5}$	Continuous; BAM-1020	Continuous		Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
		SLAMS				$PM_{2.5}$	Co-located Sequential FRM	Every 3rd Day		Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
35-013-0008	6O La Union	SLAMS	7048 McNutt, La Union, NM 88021	31.9187	-106.6330	Ozone	U.V. Photometric	Continuous	No	General Background	Yes	El Paso-Las Cruces CSA	Urban
35-013-0024	6WM West Mesa	SLAMS	West Mesa Well #46, Las Cruces, NM 88005	32.2781	-106.8649	PM_{10}	Continuous; BAM-1020	Continuous	No	Up Wind Background	Yes	El Paso-Las Cruces CSA	Urban
35-013-0019	6ZL Holman Road	SLAMS	Las Cruces Well #41, Las Cruces, NM 88012	32.4246	-106.6739	PM_{10}	Continuous; BAM-1020	Continuous	No	Population Exposure	Yes	El Paso-Las Cruces CSA	Urban
35-013-0020	6ZK Chaparral	SLAMS	680 McCombs, Chaparral, NM 88081	32.0409	-106.4095	Ozone	U.V. Photometric	Continuous	No	General Background	Yes	Not in an MSA	Urban
		SLAMS				PM_{10}	Continuous; BAM-1020	Continuous		Population Exposure	Yes	Not in an MSA	Neighborhood
35-013-0021	6ZM Desert View	SLAMS	5935A Valle Vista, Sunland Park, NM 88063	31.7961	-106.5839	Ozone	U.V. Photometric	Continuous	No	General Background	Yes	El Paso-Las Cruces CSA	Neighborhood
		SLAMS				Nitrogen Dioxide	Chemiluminescence	Continuous		Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
		SLAMS				PM_{10}	Continuous; BAM-1020	Continuous		Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
		SLAMS				$PM_{2.5}$	Sequential FRM	Every 3rd Day		Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
		SLAMS				$PM_{2.5}$	Co-located Sequential FRM	Every 3rd Day		Population Exposure	Yes	El Paso-Las Cruces CSA	Neighborhood
35-013-0022	6ZN Santa Teresa	SLAMS	104-2 Santa Teresa Int'l. Blvd., Santa Teresa, NM 88063	31.7881	-106.6826	Ozone	U.V. Photometric	Continuous	No	General Background	Yes	El Paso-Las Cruces CSA	Urban
		SLAMS				Nitrogen Dioxide	Chemiluminescence	Continuous		General Background	Yes	El Paso-Las Cruces CSA	Urban
		SLAMS				$PM_{2.5}$	Continuous; BAM-1020	Continuous		General Background	Yes	El Paso-Las Cruces CSA	Urban
35-013-0023	6ZQ Solano	SLAMS	750 N. Solano Drive, Las Cruces, NM 88001	32.3187	-106.7675	Ozone	U.V. Photometric	Continuous	No	Population Exposure	Yes	El Paso-Las Cruces CSA	Urban
35-013-0025	6Q Las Cruces	SLAMS	2301 Entrada del Sol, Las Cruces, NM 88001	32.3103	-106.7512	$PM_{2.5}$	Continuous; BAM-1020	Continuous	No	Regional Transport	Yes	El Paso-Las Cruces CSA	Neighborhood
35-029-0003	7E Deming Airport	SLAMS	3412 Raymond Reed Blvd., Deming, NM 88030	32.2558	-107.7227	PM_{10}	Continuous; BAM-1020	Continuous	No	Population Exposure	Yes	Deming CBSA/µSA	Neighborhood

All NMED/AQB sites and monitors conform to 40 CFR, Subchapter C, Part 58 appendix A