



# Wyoming Ambient Air Monitoring Annual Network Plan 2007



# TABLE OF CONTENTS

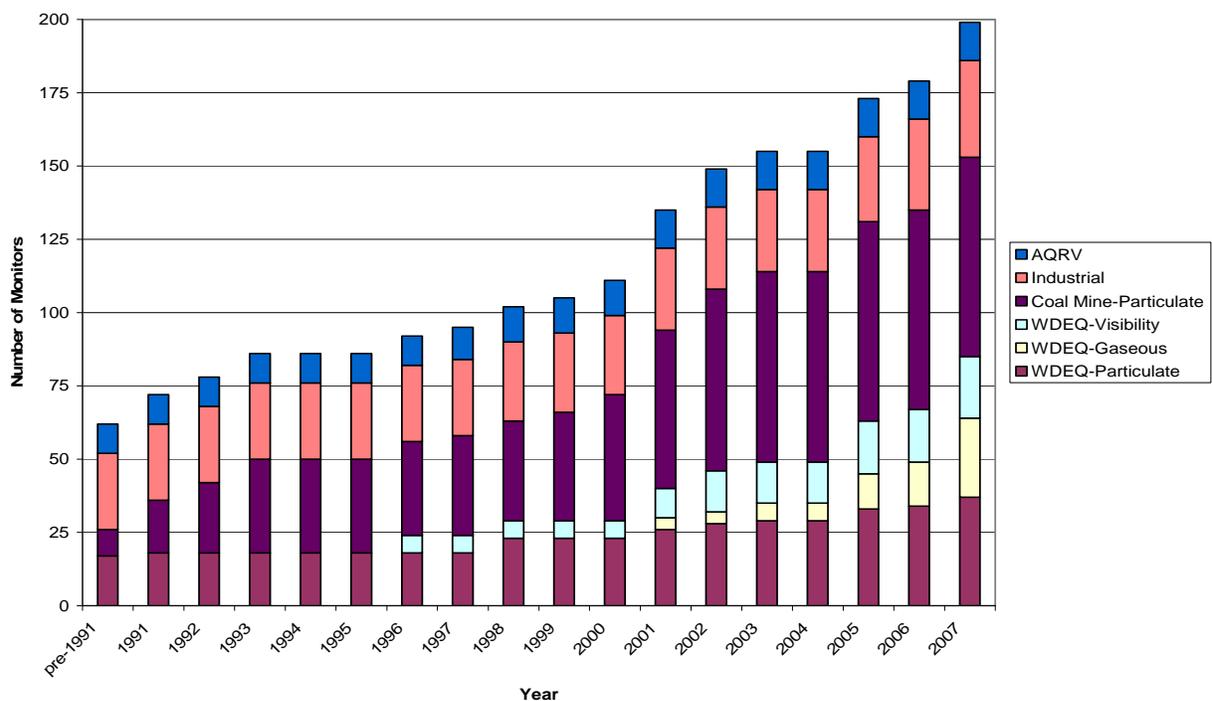
1.0	Introduction.....	1
1.1	AQD Monitoring History.....	1
1.2	General Monitoring Goals and Objectives .....	2
2.0	Air Monitoring Plan in 2007.....	5
2.1	State and Local Air Monitoring Sites (SLAMS) .....	5
2.1.1	Casper .....	5
2.1.2	Cheyenne.....	6
2.1.3	Cody.....	7
2.1.4	Gillette.....	7
2.1.5	Jackson.....	8
2.1.6	Lander .....	10
2.1.7	Laramie .....	11
2.1.8	Rock Springs.....	12
2.1.9	Sheridan – Highland Park .....	13
2.1.10	Sheridan – Police Station.....	14
2.2	Special Purpose Monitoring (SPM).....	15
2.2.1	Arvada.....	15
2.2.2	Boulder.....	16
2.2.3	Cloud Peak .....	17
2.2.4	Jonah .....	17
2.2.5	Pinedale.....	18
2.2.6	South Campbell County .....	18
2.2.6	South Daniel.....	19
2.2.7	Thunder Basin.....	19
2.2.8	Wamsutter .....	20
2.2.9	Wright .....	21
2.2.10	Powder River Basin (PRB) NO <sub>x</sub> .....	21
2.2.11	PRB PM <sub>2.5</sub> .....	22
2.3	Industrial Monitoring Sites .....	22
2.4	IMPROVE Network.....	22
2.5	NCore Multi Pollutant Site .....	23
3.0	Compliance with NAAQS .....	23
3.1	Particulate Matter (PM-10).....	23
3.2	Particulate Matter (PM-2.5).....	25
3.3	Nitrogen Dioxides (NO <sub>2</sub> ) .....	26
3.4	Sulfur Oxides .....	26
3.5	Carbon Monoxide .....	26
3.6	Ozone .....	26
4.0	Future Air Monitoring Modifications .....	27
4.1	Murphy Ridge .....	27
4.2	South Pass .....	28
4.3	Wyoming Range .....	28
4.4	Southwest Wyoming Network Assessment .....	28
5.0	Conclusion .....	28
	Appendix A.....	30

# 1.0 Introduction

The United States Environmental Protection Agency (EPA) through the Code of Federal Regulations (CFR) and the Performance Partnership Agreement requires the State of Wyoming Department of Environmental Quality, Air Quality Division (AQD) to complete the Wyoming Ambient Air Monitoring Annual Network Plan for the state's ambient air monitoring sites. The Wyoming Department of Environmental Quality (WDEQ) strives to protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

## 1.1 AQD Monitoring History

Since the 1970's the AQD Monitoring Program has been working actively to evaluate monitoring requirements and use resources effectively in the state of Wyoming. In 2006, the Monitoring Program was combined with the emissions inventory, regional haze and planning staff to create the Air Quality Resource Management Program. The Air Quality Resource Management Program will benefit the Division by looking at monitored data in conjunction with emission inventory trends and planned development to shape AQD's air quality management policies in the future. Not only does AQD run SLAMS sites to monitor public health, but also runs or oversees several special purpose monitors to track impacts from the many industrial sources that reside in Wyoming. AQD also helps fund and evaluate data from Air Quality Related Value (AQRV) monitoring, within Wyoming such as visibility and acid deposition. The following graph shows the number of monitors AQD runs or oversees by year since 1991.



## **1.2 General Monitoring Goals and Objectives**

The Wyoming AQD has the responsibility to protect, conserve, and enhance the quality of Wyoming's air resource. AQD helps ensure the ambient air quality in the State of Wyoming is maintained in accordance with the National Ambient Air Quality Standards (NAAQS). To carry out this goal, AQD operates and maintains a network of ambient air quality monitors and requires industrial pollution sources to conduct source specific ambient air monitoring.

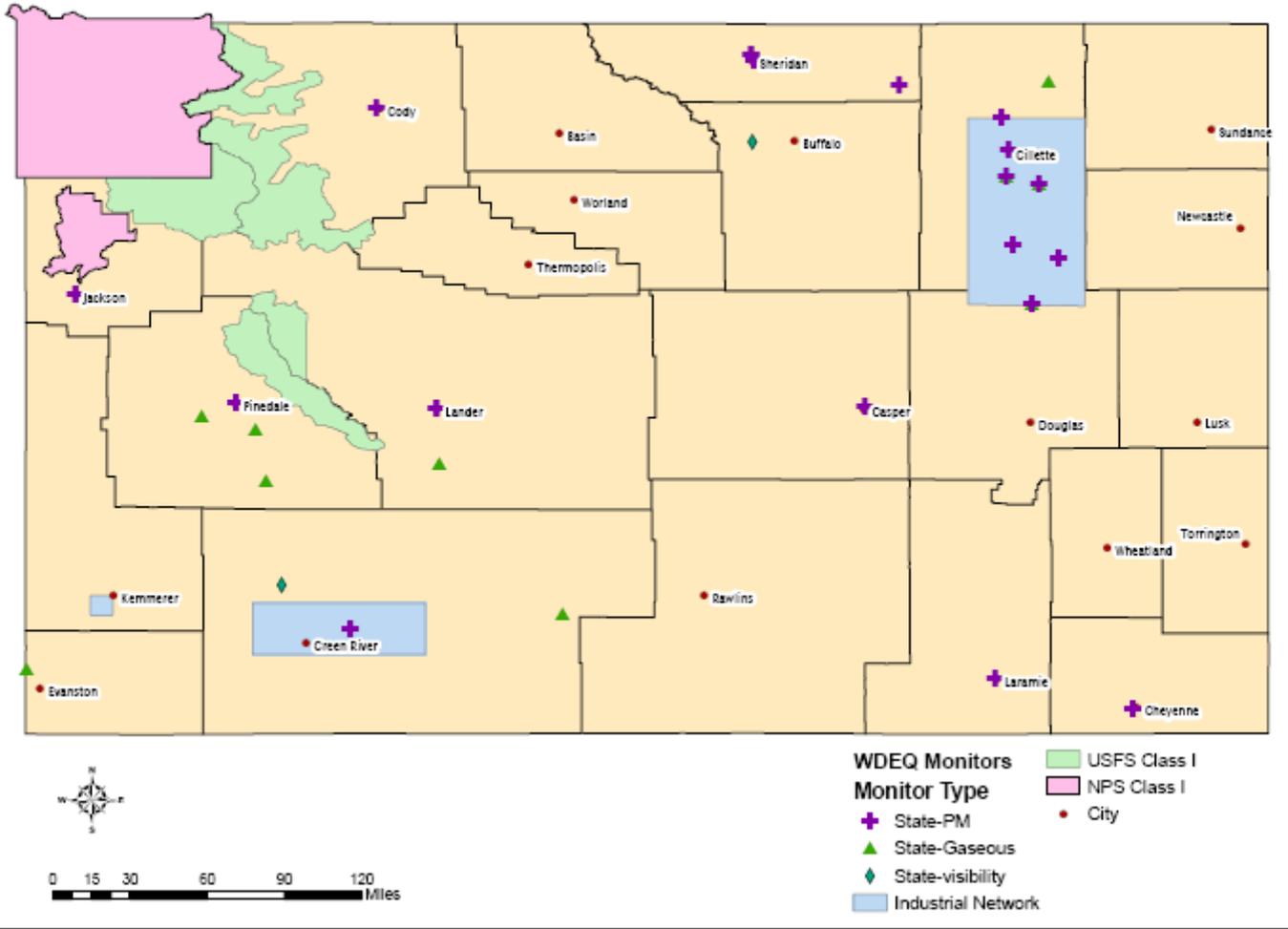
The Wyoming monitoring network is designed to meet the following six basic ambient air monitoring objectives:

1. to determine highest concentration expected to occur in the area covered by the network;
2. to determine representative concentrations in areas of high population density;
3. to determine the impact on ambient pollution levels of significant sources or source categories;
4. to determine general background concentration levels;
5. to determine the extent of regional pollutant transport among populated areas, and in support of secondary standards; and
6. to determine the welfare-related impacts in more rural and remote areas (such as visibility impairment and effects on vegetation).

The following map shows the Wyoming monitor locations separated into Particulate Matter, Gaseous and Visibility sites. The shaded areas on the map denote large industrial networks in Campbell, Sweetwater, and Lincoln Counties.

Any proposed site changes and or additions for the subsequent year will be highlighted in the table following the state map. This table provides a brief overview of the Wyoming Monitoring Network.

# WDEQ Air Quality Monitors



## Overview of Wyoming Monitors

Name	County	PARAMETER									
		PM10 (manual)	PM10 TEOM	PM2.5	NOx	O3	SO2	CO	Camera	Met	Other
Laramie	Albany Co	X									
Thunder Basin	Campbell Co				X	X			X	X	VISIBILITY
Campbell County	Campbell Co	X			X	X				X	
Belle Ayr Mine	Campbell Co			X	X					X	
Wright	Campbell Co	X									
Gillette	Campbell Co	X									
Black Thunder Mine	Campbell Co			X							
Buckskin Mine	Campbell Co			X							
Antelope Mine	Converse Co			X	X					X	
Lander	Fremont Co	X		X							
South Pass	Fremont Co		X		X	X	X		X	X	AEROSOL
Cloud Peak	Johnson Co								X	X	VISIBILITY
Cheyenne	Laramie Co	X		X							
Casper	Natrona Co	X									
Cody	Park Co	X									
Sheridan - Highland Park	Sheridan Co	X		X							
Sheridan - Police Station	Sheridan Co	X		X							
Arvada	Sheridan Co	X									
Jonah	Sublette Co		X		X	X			X	X	
Boulder	Sublette Co		X		X	X			X	X	VISIBILITY
Daniel South	Sublette Co		X		X	X			X	X	
Pinedale	Sublette Co			X							
Wamsutter	Sweetwater Co		X		X	X	X			X	
Rock Springs	Sweetwater Co	X									
Jackson	Teton Co	X		X							
Murphy Ridge	Uinta Co		X		X	X	X	X	X	X	

## 2.0 Air Monitoring Plan in 2007

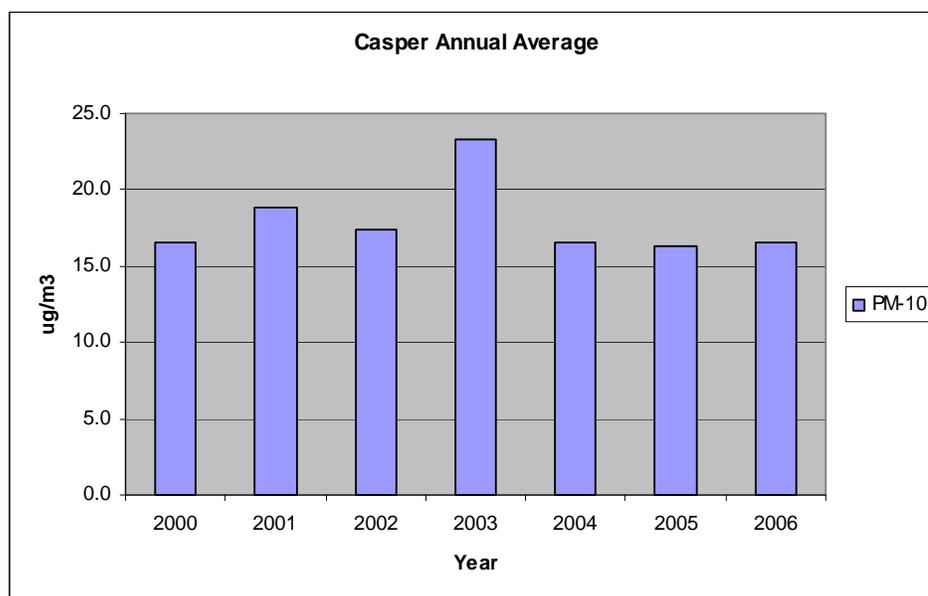
### 2.1 State and Local Air Monitoring Sites (SLAMS)

SLAMS are used for supplying general monitoring data for criteria pollutants and determining compliance with the NAAQS. SLAMS are relatively stable sites that must meet and follow specific quality assurance, monitoring methodology, sampling objective and siting requirements. AQD SLAMS sites have been placed in Wyoming's most populous towns with the purpose of determining compliance with NAAQS for the protection of public health. The eleven sites specified as Wyoming SLAMS locations are described below:

#### 2.1.1 Casper

Casper Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Casper	City, County Bldg; Center & C Streets (Casper MSA)	56-025-0001	PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	No planned changes
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/3	No planned changes
Casper collocated			PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	No planned changes

This site is located in downtown Casper, a city of approximately 52,000 people. Casper is the second largest city in Wyoming, located in Natrona County near the center of the state. PM<sub>10</sub> sampling began at this site in 1991. A collocated PM<sub>10</sub> sampler was added in 2001. The Casper monitoring site is one of the PM<sub>10</sub> collocated sites in the Wyoming monitoring network. AQD requested money in the FY 2009-2010 budget to add PM<sub>2.5</sub> sampling at the Casper site. We are interested in monitoring PM<sub>2.5</sub> concentrations in Casper because it is heavily populated.

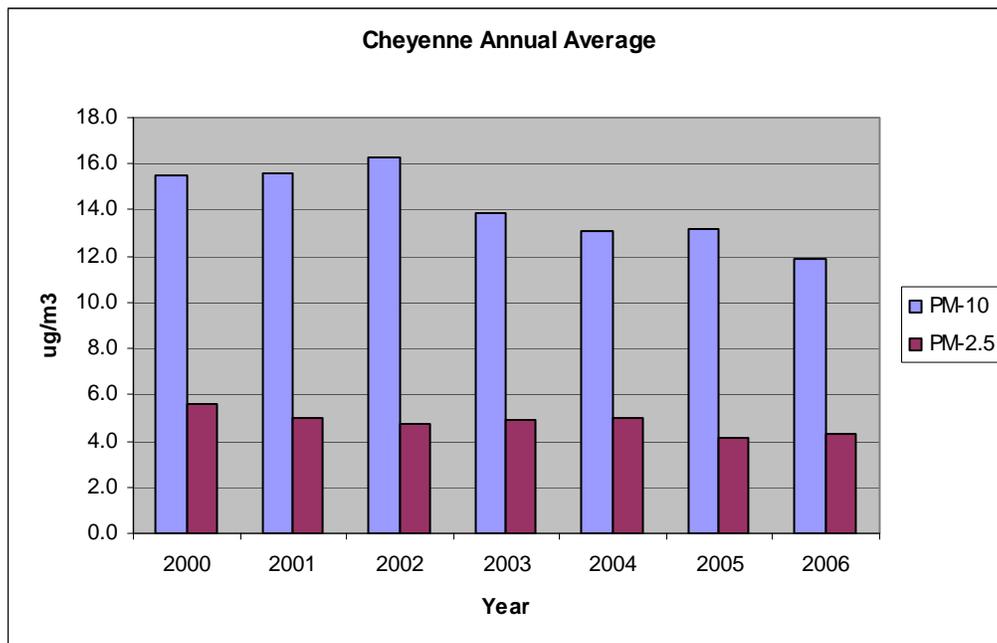


PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>

## 2.1.2 Cheyenne

Cheyenne Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Cheyenne	State Office Building 23 <sup>rd</sup> & Central Ave. (Cheyenne MSA)	56-021-0001	PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
Cheyenne collocated			PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/6	No planned changes

The Cheyenne monitoring site is located in downtown Cheyenne on a State of Wyoming building. Cheyenne's population is approximately 55,000 people; it is the capital and largest city in Wyoming. The PM<sub>10</sub> sampling began at this site in 1991. A collocated PM<sub>10</sub> sampler was added in 2002. The PM<sub>2.5</sub> monitors were installed in 1998. As part of a network-wide effort, the Hi-Vol PM<sub>10</sub> monitors at this site will be exchanged for Partisol PM<sub>10</sub> monitors in late 2007.

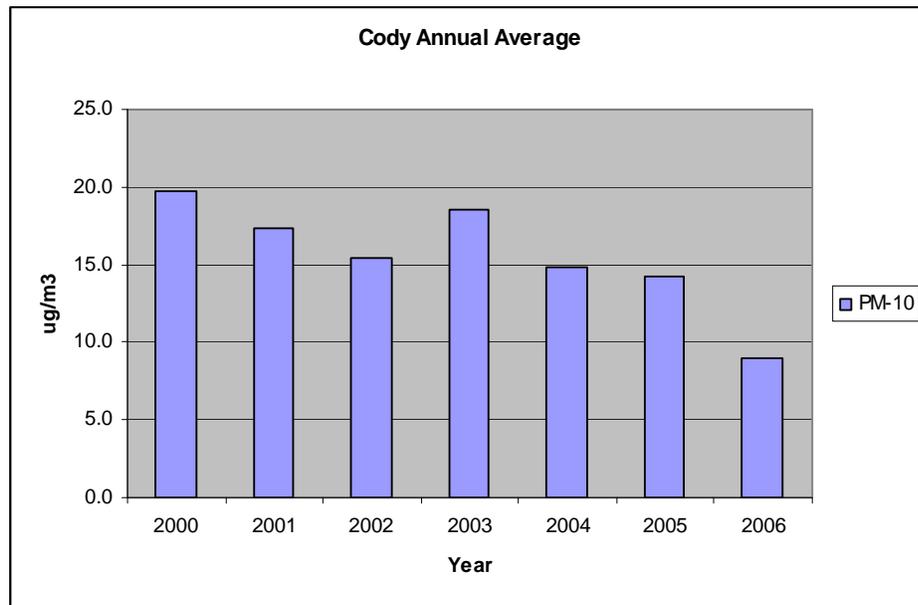


PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>  
 PM<sub>2.5</sub> NAAQS is 15.0 µg/m<sup>3</sup>

### 2.1.3 Cody

Cody Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Cody	Cody Jr. High School	56-029-0001	PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	Change from Hi-Vol to Partisol in 2007

Cody is located in the northwest portion of the state situated in Park County; its population is approximately 9,200. PM<sub>10</sub> sampling began at this site in 1988. As part of a network wide effort, the Hi-Vol PM<sub>10</sub> monitors at this site will be exchanged for Partisol PM<sub>10</sub> monitors in late 2007. Additionally, AQD will add PM<sub>2.5</sub> monitoring in Cody in late 2007. AQD is interested in monitoring PM<sub>2.5</sub> concentrations in Cody to oversee impacts from wintertime sanding, wood smoke, summertime forest fires, and the nearby lake bed that can be exposed when available water is low.

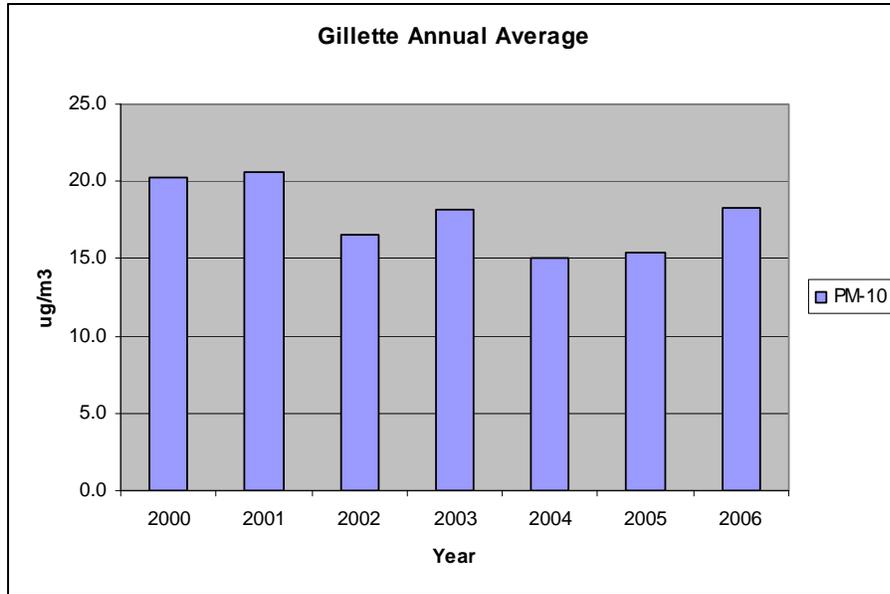


PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>

### 2.1.4 Gillette

Gillette Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Gillette	1000 West 8 <sup>th</sup> Street	56-005-1002	PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	No planned changes

Gillette is located in Campbell County Wyoming; its population is approximately 24,000 and is considered a micropolitan area. PM<sub>10</sub> sampling began at this site in 1991.



PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>

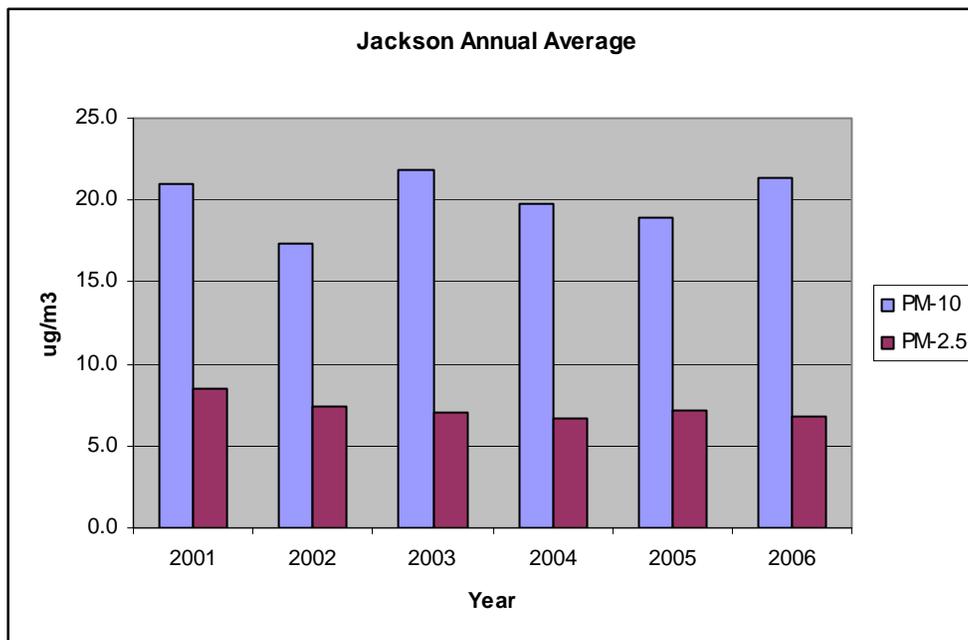
### 2.1.5 Jackson



Jackson Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Jackson	200 S. Willow	56-039-0006	PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007

Jackson Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007. Site moved to Fire Station in 2007
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	Site moved to Fire Station in 2007
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/6	Site moved to Fire Station in 2007

Jackson is located in Teton County in northwest Wyoming. Jackson is considered a micropolitan area with a population of approximately 9,200. Jackson PM<sub>10</sub> sampling began at this site in 2001. The PM<sub>2.5</sub> monitors were also installed in 2001. In early 2007, the monitors were moved from the County Building to the Fire Station due to obstructions from trees and complaints from local residents about noise. As part of a network wide effort, the Hi-Vol PM<sub>10</sub> monitors at this site will be exchanged for Partisol PM<sub>10</sub> monitors in late 2007.



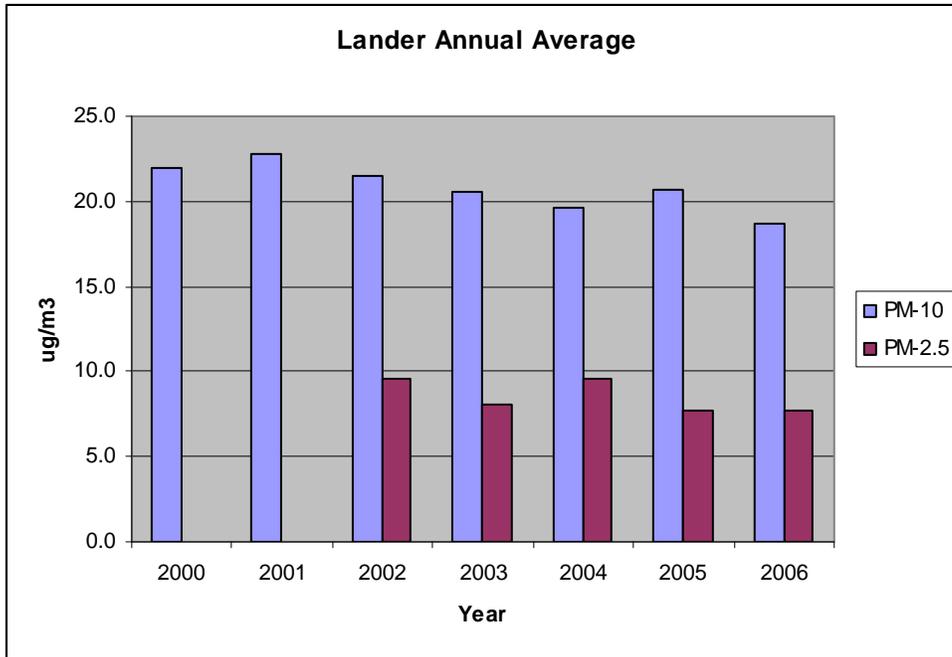
PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>  
 PM<sub>2.5</sub> NAAQS is 15.0 µg/m<sup>3</sup>

## 2.1.6 Lander



Lander Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Lander	600 Washington	56-013-1003	PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
Lander collocated			PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/6	No planned changes

The Lander monitoring site is located at 600 Washington. Lander is located in Fremont County and has a population of approximately 7,000. PM<sub>10</sub> sampling began at this site in 1989. The PM<sub>2.5</sub> monitors were installed in 2001. As part of a network wide effort, the Hi-Vol PM<sub>10</sub> monitors at this site will be exchanged for Partisol PM<sub>10</sub> monitors in late 2007.



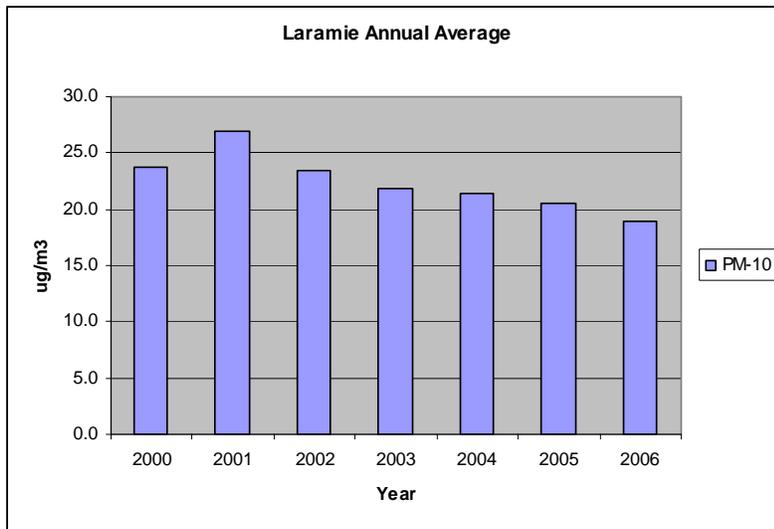
PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>  
 PM<sub>2.5</sub> NAAQS is 15.0 µg/m<sup>3</sup>

### 2.1.7 Laramie



Laramie Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Laramie	406 Ivinson	56-001-0006	PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	No planned changes

Laramie is located in the southeast portion of Wyoming in Albany County. Laramie has a population of approximately 25,000 and is considered a micropolitan area. PM<sub>10</sub> sampling began at this site in 1989. AQD requested money in the FY 2009-2010 budget to add PM<sub>2.5</sub> sampling to Laramie. AQD is interested in monitoring PM<sub>2.5</sub> concentrations in Laramie to oversee impacts from wintertime sanding, wood smoke, and summertime forest fires.

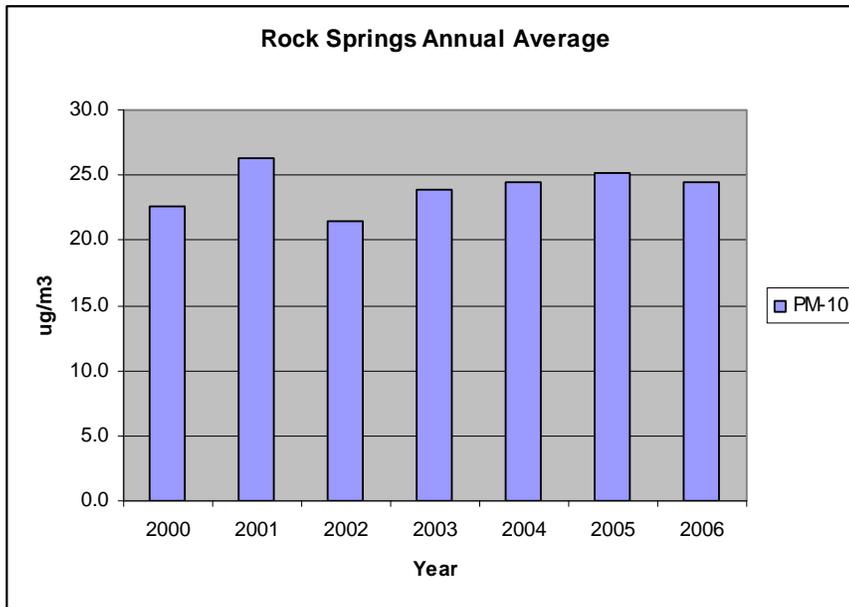


PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>

### 2.1.8 Rock Springs

Rock Springs Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Rock Springs	625 Ahsay Ave.	56-037-0007	PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	Change from Hi-Vol to Partisol in 2007

Rock Springs is located in Sweetwater County in southwest Wyoming. Rock Springs is a micropolitan area and has a population of approximately 19,000. PM<sub>10</sub> sampling began at this site in 1989. As part of a network wide effort, the Hi-Vol PM<sub>10</sub> monitors at this site will be exchanged for Partisol PM<sub>10</sub> monitors in late 2007. Additionally, AQD will add PM<sub>2.5</sub> monitoring in Rock Springs in late 2007. AQD is interested in monitoring PM<sub>2.5</sub> concentrations in Rock Springs due to the substantial population growth and energy development occurring in the area.

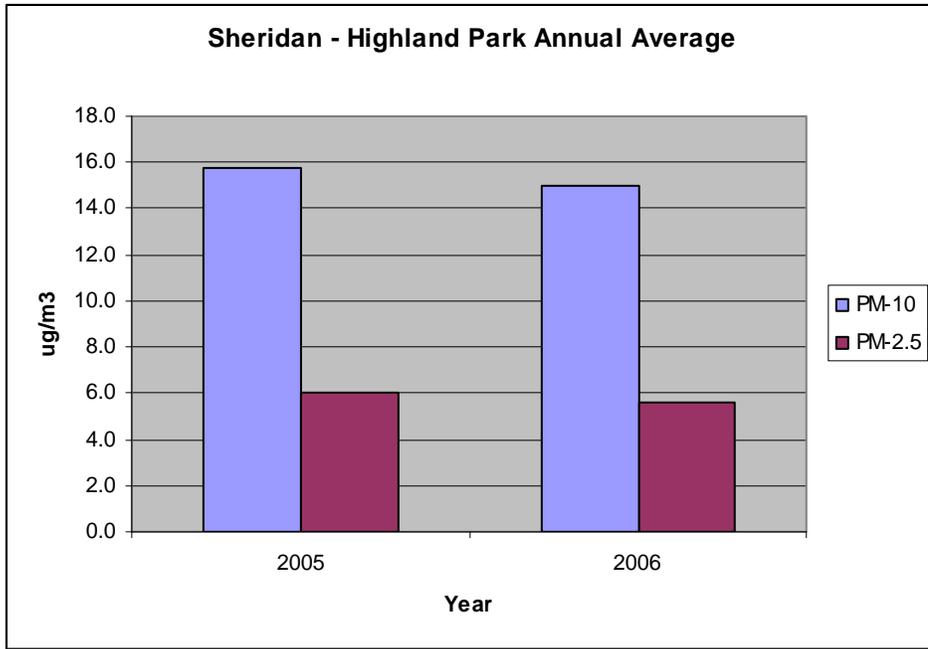


PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>

### 2.1.9 Sheridan – Highland Park

Sheridan – Highland Park Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Sheridan – Highland Park	1301 Avon	56-033-0003	PM <sub>10</sub>	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/3	Change from Hi-Vol to Partisol in 2007
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/6	No planned changes

Sheridan – Highland Park is one of two monitors in the city of Sheridan, a micropolitan area. Sheridan is located in Sheridan County and has a population of approximately 16,000. In June of 2005, the PM<sub>10</sub> and PM<sub>2.5</sub> sampling was moved from the Sheridan Middle School to the Highland Park School, when the Middle School was torn down. Prior to 2005 PM<sub>10</sub> had been monitored at the Middle School since 1998. As part of a network-wide effort, the Hi-Vol PM<sub>10</sub> monitors at this site will be exchanged for Partisol PM<sub>10</sub> monitors in late 2007. A collocated monitor will also be placed at the Highland Park Station to fulfill collocation requirements for the SLAMS network.

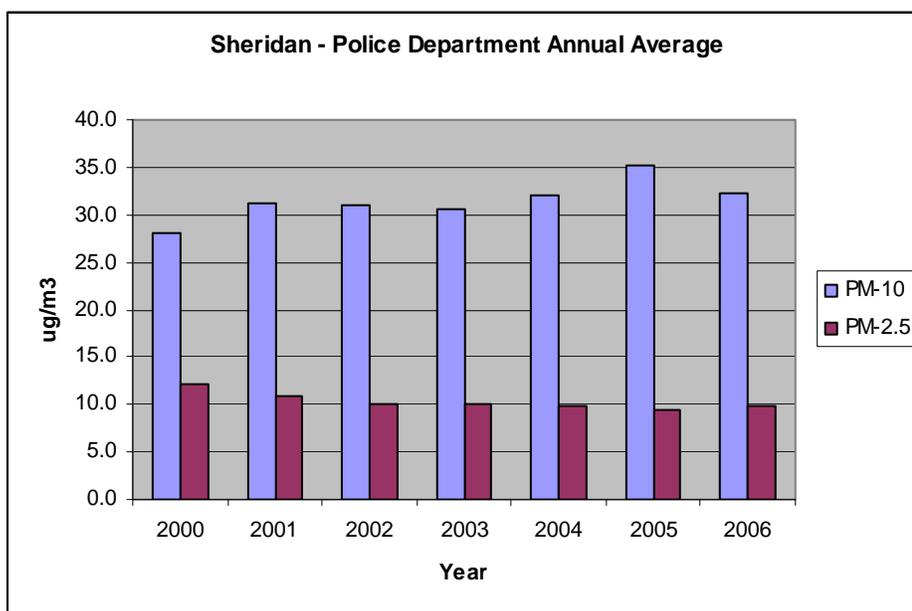


PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>  
 PM<sub>2.5</sub> NAAQS is 15.0 µg/m<sup>3</sup>

### 2.1.10 Sheridan – Police Station

Sheridan – Police Station Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Sheridan – Police Station	45 West 12 <sup>th</sup> Street	56-033-0002	PM <sub>10</sub>	Gravimetric	Neighborhood	1/1 Oct-Mar 1/3 Apr-Sep	Change Hi-Vol to TEOM in 2007.
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/1 Oct-Mar 1/3 Apr-Sep	Change Hi-Vol to TEOM in 2007.
Sheridan – Police Station collocated			PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	Move collocated to Highland Park
			PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	Move collocated to Highland Park
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
Sheridan – Police Station collocated			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/6	No planned changes

The Sheridan – Police Station site is one of the oldest monitoring sites in Wyoming. Sheridan has a population of approximately 16,000 and is considered a micropolitan area. PM<sub>10</sub> sampling began at this site in 1985. A collocated PM<sub>10</sub> sampler was added in 1989. PM<sub>2.5</sub> sampling started in 1998 at this site. Sheridan is a non-attainment area for 24-hour PM<sub>10</sub>. Because of this, the Police Station monitoring site runs on an everyday sampling schedule from October through March. Due to the age of the samplers at this site and the extensive maintenance requirements for gravimetric monitors, AQD will change out the PM<sub>10</sub> Hi-Vol samplers with a TEOM beginning October 1, 2007. This will allow AQD to run year-round everyday sampling in Sheridan in an efficient and cost effective manner.



PM<sub>10</sub> NAAQS is 50 µg/m<sup>3</sup>  
 PM<sub>2.5</sub> NAAQS is 15.0 µg/m<sup>3</sup>

## 2.2 Special Purpose Monitoring (SPM)

SPMs are used to support the SLAMS sites and provide special studies and information needed by the State and local agencies to support air program activities. The SPMs can be adjusted to accommodate changing circumstances, needs and priorities. The nine SPM locations in Wyoming include:

### 2.2.1 Arvada

Arvada Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Arvada	Adjacent to Arvada Elementary School	56-033-0099	PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	Currently not operating
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/6	Currently not operating

Arvada is located in Sheridan County in northern Wyoming. This monitoring location was chosen for an SPM because it is the largest community in an area of extensive coal bed methane development. Unfortunately, the site has not been running since May of 2007 because AQD cannot find an operator for the site. AQD continues to advertise for an operator in the area to continue the operation of this site.

### 2.2.2 Boulder



Boulder Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Boulder	5 mi. SW of Boulder, WY	56-035-0099	Ozone	Real Time	Urban	Hourly	No planned changes
			Nitric Oxide	Real Time	Urban	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Urban	Hourly	No planned changes
			Oxides of Nitrogen	Real Time	Urban	Hourly	No planned changes
			PM <sub>10</sub>	Gravimetric	Urban	1/1	No planned changes
			PM <sub>10</sub> @LTP	Gravimetric	Urban	1/1	No planned changes

The Boulder Site is located approximately 5 miles southwest of Boulder, Wyoming and is used to track air quality in an area of natural gas development. The Boulder Station includes gaseous (NO<sub>x</sub> and ozone), continuous particulate (PM<sub>10</sub> TEOM), nephelometer, camera system and meteorological monitoring. The Boulder Monitoring Station was also a hub for AQD's 2007

Upper Green Winter Ozone Study. During this study, which took place from February –March 2007, the site also housed a trace CO monitor, aethelometer, and UV radiometers. Shell Exploration and Production assisted with funding for this site and uses the site, since December 2006, to monitor for ammonia.

### 2.2.3 Cloud Peak



The Cloud Peak Site is located approximately 15 miles west of Buffalo, WY and is used to track visibility and meteorology in the area. The Cloud Peak Station includes a nephelometer, transmissometer, camera system and meteorological monitoring.

### 2.2.4 Jonah

Jonah Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Jonah	Jonah Field – Encana field office	56-035-0098	Ozone	Real Time	Urban	Hourly	No planned changes
			Nitric Oxide	Real Time	Urban	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Urban	Hourly	No planned changes
			Oxides of Nitrogen	Real Time	Urban	Hourly	No planned changes
			PM <sub>10</sub>	Gravimetric	Urban	1/1	No planned changes
			PM <sub>10</sub> @LTP	Gravimetric	Urban	1/1	No planned changes

The Jonah monitor is located in the Jonah Field, at the EnCana field office, an area of heavy oil and gas development. The Jonah Station includes gaseous (NO<sub>x</sub> and ozone), continuous particulate (PM<sub>10</sub> TEOM), camera system and meteorological monitoring. As development has continued in the Jonah Field, AQD has determined that monitoring for ozone at this site has decreased value due to heavy NO titration. AQD is contracting a network review in late 2007 for Southwest Wyoming, the appropriateness of Jonah Field monitoring will be addressed in this network review. As a result, components of the station or the entire station may need to be moved in 2008.

## 2.2.5 Pinedale

Pinedale Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Pinedale	101 East Hennick	56-035-0705	PM <sub>2.5</sub>	Gravimetric	Regional	1/3	No planned changes

Pinedale is located in Sublette County with a population of approximately 1,800 people. PM<sub>2.5</sub> sampling started in 2005 at this site.

## 2.2.6 South Campbell County



South Campbell County Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
South Campbell County	15 mi. SSW of Gillette	56-005-0456	Ozone	Real Time	Regional	Hourly	No planned changes
			Nitric Oxide	Real Time	Regional	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Regional	Hourly	No planned changes

South Campbell County Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
			Oxides of Nitrogen	Real Time	Regional	Hourly	No planned changes
			PM <sub>10</sub>	Gravimetric	Regional	1/3	No planned changes
			PM <sub>10</sub> @LTP	Gravimetric	Regional	1/3	No planned changes

The Campbell County site is located approximately 15 miles southwest of Gillette and is used to track air quality in an area of heavy coal-bed methane development. This station includes PM<sub>10</sub>, gaseous (NO<sub>x</sub> and ozone), and meteorological monitoring.

### 2.2.6 South Daniel

South Daniel Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
South Daniel	5 mi. south of Daniel	56-035-0100	Ozone	Real Time	Regional	Hourly	No planned changes
			Nitric Oxide	Real Time	Regional	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Regional	Hourly	No planned changes
			Oxides of Nitrogen	Real Time	Regional	Hourly	No planned changes
			PM <sub>10</sub>	Gravimetric	Regional	1/1	No planned changes
			PM <sub>10</sub> @LTP	Gravimetric	Regional	1/1	No planned changes

The South Daniel monitor is located in Sublette County and is used to track air quality upwind of an area of extensive natural gas development. The South Daniel Station includes gaseous (NO<sub>x</sub> and ozone), continuous particulate (PM<sub>10</sub> TEOM), camera system and meteorological monitoring.

### 2.2.7 Thunder Basin

Thunder Basin Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Thunder Basin	30 mi. NE of Gillette	56-005-0123	Ozone	Real Time	Regional	Hourly	No planned changes
			Nitric Oxide	Real Time	Regional	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Regional	Hourly	No planned changes
			Oxides of Nitrogen	Real Time	Regional	Hourly	No planned changes

The Thunder Basin Site is located approximately 30 miles northeast of Gillette, Wyoming and is used to track visibility, meteorology, and air quality in the area. The Thunder Basin Station includes gaseous (NO<sub>x</sub> and ozone), continuous particulate (PM<sub>10</sub> TEOM), nephelometer, transmissometer, camera system and meteorological monitoring.

### 2.2.8 Wamsutter



Wamsutter Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Wamsutter	2 mi. west of Wamsutter	56-037-0200	Ozone	Real Time	Regional	Hourly	No planned changes
			Sulfur Dioxide	Real Time	Regional	Hourly	No planned changes
			Nitric Oxide	Real Time	Regional	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Regional	Hourly	No planned changes
			Oxides of Nitrogen	Real Time	Regional	Hourly	No planned changes
			PM <sub>10</sub>	Gravimetric	Regional	1/1	No planned changes
			PM <sub>10</sub> @LTP	Gravimetric	Regional	1/1	No planned changes

The Wamsutter Site is near the town of Wamsutter in Sweetwater County and is used to track meteorology and air quality downwind of an area of extensive natural gas development. The Wamsutter Station includes gaseous (NO<sub>x</sub>, SO<sub>2</sub>, and ozone), continuous particulate (PM<sub>10</sub> TEOM), and meteorological monitoring. This station began operations on March 13, 2006.

## 2.2.9 Wright

Wright Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Wright	Adjacent to Wright Junior - Senior High School	56-005-0099	PM <sub>10</sub>	Gravimetric	Neighborhood	1/6	No planned changes
			PM <sub>10</sub> @LTP	Gravimetric	Neighborhood	1/6	No planned changes

The Wright monitoring site is located in Campbell County in northern Wyoming. Wright is a community located west of the southern group of the Power River Basin coal mines. The purpose of this monitor is to track population exposure to PM<sub>10</sub> in a community that is downwind of the coal mines.

## 2.2.10 Powder River Basin (PRB) NO<sub>x</sub>

The Powder River Basin NO<sub>x</sub> network began operation in January 2001 through a cooperative agreement between AQD and the Wyoming Mining Association. The purpose of the network is to monitor regional NO<sub>2</sub> concentrations in the Powder River Basin. The Belle Ayr Monitor is located near the rail road and represents a “maximum concentration” in and around the coal mines. The Antelope monitor is located away from mining activities and is considered to be background. AQD also collects and uploads data from the Thunder Basin Coal Company’s monitor at the Tracy Ranch; this monitoring site is considered downwind of mining activity. AQD did not list the Tracy Ranch monitor below because the monitor is funded solely by the Thunder Basin Coal Company. Upgrades to the monitor facilities, including new trailers and telemetry are being proposed for 2008.

PRB NO <sub>x</sub> Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Antelope Mine	Converse County	56-009-0819	Nitric Oxide	Real Time	Regional	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Regional	Hourly	No planned changes
			Oxides of Nitrogen	Real Time	Regional	Hourly	No planned changes
Belle Ayr Mine	Campbell County	56-005-0892	Nitric Oxide	Real Time	Micro Scale	Hourly	No planned changes
			Nitrogen Dioxide	Real Time	Micro Scale	Hourly	No planned changes
			Oxides of Nitrogen	Real Time	Micro Scale	Hourly	No planned changes

### 2.2.11 PRB PM<sub>2.5</sub>

The Powder River Basin PM<sub>2.5</sub> Network began official operation in 1999. The purpose of the network is to characterize ambient fine particulate at and around the PRB coal mines. One monitor is located at each “group” of mines (north, middle and south) and one monitor is located away from mining activities to represent background. No changes are planned for 2007 at these monitors.

PRB PM <sub>2.5</sub> Monitoring Site Specifications							
Site Name	Location	AQS ID	Parameter	Analysis Method	Scale	Operating Schedule	Operational Status
Antelope Mine	Converse County	56-009-0819	PM <sub>2.5</sub>	Gravimetric	Regional	1/3	No planned changes
Belle Ayr Mine	Campbell County	56-005-0892	PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
Black Thunder Mine	Campbell County	56-005-0877	PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
Black Thunder Mine Collocated			PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes
Buckskin Mine	Campbell County	56-005-0899	PM <sub>2.5</sub>	Gravimetric	Neighborhood	1/3	No planned changes

### 2.3 Industrial Monitoring Sites

Historically, AQD has required several industrial sources in the state to conduct ambient monitoring for criteria pollutants in and around specific facilities. AQD’s largest industrial network is at the Power River Basin coal mines and consists of approximately 50 PM<sub>10</sub> monitoring locations. AQD also requires extensive networks of PM<sub>10</sub> monitoring at the Trona facilities outside of Green River and coal mines in southwest Wyoming. As facilities obtain construction or modification permits from AQD’s New Source Review program, they are often required to monitor for compliance with the ambient air quality standards downwind of their facilities. The monitoring program receives these data on a quarterly basis and checks for compliance with NAAQS and makes sure the facilities are following appropriate quality assurance measures.

### 2.4 IMPROVE Network

The purpose of the Interagency Monitoring of Protected Visual Environments (IMPROVE) network is to establish current visibility and aerosol conditions along with characterization of broad regional trends and visibility conditions using monitoring data collected in or near Class I Areas across the United States. Wyoming has five (5) IMPROVE locations which include: Yellowstone National Park, Est. 1988; Bridger Wilderness Area, Est. 1988; North Absaroka Wilderness Area, Est. 2000; Thunder Basin National Grasslands, Est. 2002; and Cloud Peak Wilderness Area, Est. 2002.

## 2.5 NCore Multi Pollutant Site

Each state's monitoring program will be required to have an NCore monitoring site established by January 1, 2011. The NCore site will collect data for trace level sulfur dioxide (SO<sub>2</sub>), trace level nitrogen oxide (NO<sub>x</sub>), carbon monoxide (CO), ozone (O<sub>3</sub>), PM<sub>10</sub>, and PM<sub>2.5</sub>.

The proposed NCore site in Wyoming will be located in or near the city of Cheyenne. The proposed site location will meet the urban residential area criteria and will be located in the most populous city in the state. AQD is currently beginning the process of equipment selection required at this site.

## 3.0 Compliance with NAAQS

The primary purpose of the AQD's SLAMS and SPM networks is to evaluate compliance with NAAQS. AQD's SLAMS and SPMs employ reference or equivalent method technologies and are run according to SLAMS or PSD quality assurance specifications and therefore may be compared with NAAQS. AQD's SLAMS and SPM networks currently operate under project specific quality assurance plans, which are available in the State Offices for viewing. AQD is currently working with Region 8 staff to develop a general monitoring quality assurance plan that references the specific project plans.

The following tables show 2004 through 2006 data and design values for each SLAMS and SPM monitor. All sites operated by AQD are in compliance with NAAQS from 2004-2006.

### 3.1 Particulate Matter (PM-10)

In the Wyoming Monitoring Network there are seventeen (17) sites with PM<sub>10</sub> monitors. Four (4) of these sites have continuous PM<sub>10</sub> monitors. Compliance with the annual PM<sub>10</sub> NAAQS is determined by the three year average of the annual mean. The three year average of the means must be below 50µg/m<sup>3</sup>. To comply with the 24-hour PM<sub>10</sub> NAAQS, a monitor must record one or less "exceedence"( 24-hour concentration greater than 150 µg/m<sup>3</sup>) per year over a three year period. The design value is the average number of exceedances per year from 2004-2006.

PM <sub>10</sub> Compliance with NAAQS of 50 µg/m <sup>3</sup> Annual Arithmetic Mean (µg/m <sup>3</sup> )					
Site Name	2004	2005	2006	Average ('04-'06)	In Compliance
Casper	16	16*	20	17	Yes
Cheyenne	13	14*	13	13	Yes
Cody	15	14	9	13	Yes
Gillette	15*	15	19	16	Yes
Jackson	20	19	21*	20	Yes
Lander	20	21	19*	20	Yes
Laramie	21	20	19	20	Yes

<b>PM<sub>10</sub> Compliance with NAAQS of 50 µg/m<sup>3</sup> Annual Arithmetic Mean (µg/m<sup>3</sup>)</b>					
Site Name	2004	2005	2006	Average ('04-'06)	In Compliance
Rock Springs	24	25	24	24	Yes
Sheridan – Highland Park	N/A	16*	16*	N/A	N/A
Sheridan – Police Dept.	30	33	31	31	Yes
Arvada	14	16	16*	15	Yes
Boulder	N/A	9	10	N/A	
Jonah	N/A	10	16*	N/A	Yes
South Campbell County	10	13*	19*	14	Yes
South Daniel	N/A	9*	8*	N/A	N/A
Wamsutter	N/A	N/A	15	N/A	N/A
Wright	16	17	14	16	Yes

N/A – data not available

\* - site has one or more quarterly reports that did not meet data completeness

<b>PM<sub>10</sub> Compliance with NAAQS of 150 µg/m<sup>3</sup> Highest 24- Hour Average (µg/m<sup>3</sup>)</b>					
Site Name	2004	2005	2006	Average Exceedence ('04-'06)	In Compliance
Casper	85	60	44	0	Yes
Cheyenne	39	35	42	0	Yes
Cody	55	44	24	0	Yes
Gillette	39	51	65	0	Yes
Jackson	51	66	80	0	Yes
Lander	53	77	49	0	Yes
Laramie	88	52	57	0	Yes
Rock Springs	88	54	67	0	Yes
Sheridan – Highland Park	N/A	30	43	N/A	N/A
Sheridan – Police Dept.	114	110	140	0	Yes
Arvada	36	138	51	0	Yes
Boulder	N/A	40	32	N/A	N/A
Jonah	N/A	61	87	N/A	N/A
South Campbell County	29	40	136	0	Yes
South Daniel	N/A	37	30	N/A	N/A
Wamsutter	N/A	N/A	73	N/A	N/A
Wright	42	52	57	0	Yes

N/A – data not available

### 3.2 Particulate Matter (PM-2.5)

There are six (6) state run monitoring sites that collect PM<sub>2.5</sub> data along with the four monitors in the PRB PM<sub>2.5</sub> network. All ten monitors can be compared to the Annual PM<sub>2.5</sub> NAAQS as defined by 40 CFR 58.30. The annual PM<sub>2.5</sub> is attained when the 3 year average is less than or equal to 15 µg/m<sup>3</sup>. Compliance with the 24-hour PM<sub>2.5</sub> NAAQS is met when the 3year average of the 98<sup>th</sup> percentile concentration is less than or equal to 35 µg/m<sup>3</sup>.

<b>PM<sub>2.5</sub> Compliance with NAAQS of 15.0 µg/m<sup>3</sup> Annual Arithmetic Mean (µg/m<sup>3</sup>)</b>					
Site Name	2004	2005	2006	Average ('04-'06)	In Compliance
Cheyenne	5.0	4.1	4.3	4.5	Yes
Jackson	6.7	6.8	6.8	6.8	Yes
Lander	9.6	7.7	7.7	8.4	Yes
Pinedale	N/A	5.5*	7.1	N/A	N/A
Sheridan – Highland Park	N/A	6.0*	5.7	N/A	N/A
Sheridan – Police Dept.	10.0	9.5	9.8	9.8	Yes
Antelope Mine	3.3	3.2	3.9	3.5	Yes
Belle Ayr Mine	4.7	4.7	5.5*	5.0	Yes
Black Thunder Mine	5.7	6.4	6.3*	6.2	Yes
Buckskin Mine	5.5	5.1	5.2	5.3	Yes

N/A – data not available

\* - site has one or more quarterly reports that did not meet data completeness

<b>PM<sub>2.5</sub> Compliance with NAAQS of 35 µg/m<sup>3</sup> 98% 24- Hour Average (µg/m<sup>3</sup>)</b>					
Site Name	2004	2005	2006	Average ('04-'06)	In Compliance
Cheyenne	16	9	13	13	Yes
Jackson	23	30	20	24	Yes
Lander	40	30	23	31	Yes
Pinedale	N/A	N/A	17	N/A	N/A
Sheridan – Highland Park	N/A	N/A	13	N/A	N/A
Sheridan – Police Dept.	39	33	24	32	Yes
Antelope Mine	9	7	12	9	Yes
Belle Ayr Mine	11	10	16	12	Yes
Black Thunder Mine	17	19	22	19	Yes
Buckskin Mine	12	12	12	12	Yes

N/A – data not available

### 3.3 Nitrogen Dioxides (NO<sub>2</sub>)

Currently there are six (6) state run sites that monitor for NO<sub>2</sub>. The PRB NO<sub>x</sub> network consists of two monitors. Compliance with the NO<sub>2</sub> NAAQS is determined by the annual average concentration less than or equal to 0.053 ppm.

NO <sub>2</sub> Compliance with NAAQS of 0.053 ppm Annual Arithmetic Mean (ppm)					
Site Name	2004	2005	2006	Average ('04-'06)	In Compliance
Boulder	N/A	0.004	0.004	N/A	N/A
Jonah	0.011	0.010	0.010	0.010	N/A
South Campbell County	0.005	0.004	0.003	0.004	Yes
South Daniel	N/A	0.003	0.003	N/A	N/A
Thunder Basin	0.002	0.002	0.002	0.002	Yes
Wamsutter	N/A	N/A	0.007	N/A	N/A
Antelope Mine	0.004	0.005*	0.004*	0.004	Yes
Belle Ayr Mine	0.007	0.008	0.009	0.008	Yes

N/A – data not available

\* - site has one or more quarterly reports that did not meet data completeness

### 3.4 Sulfur Oxides

As of the end of 2006, Wamsutter is the only special purpose monitoring site that includes SO<sub>2</sub>. There are no SO<sub>2</sub> SLAMS sites in Wyoming. Wamsutter data will not be compared to the NAAQS in this Network Plan because the monitor has been running for less than 1 year. AQD has not reported any exceedances of the 3-hour and 24-hour SO<sub>2</sub> standards at Wamsutter. Data from this monitor will be reported in the 2008 Network Plan.

### 3.5 Carbon Monoxide

In 2006, the State of Wyoming did not operate any sites monitoring for CO. One site, Murphy Ridge, will monitor CO beginning in 2007 which will be reported in the 2008 Network Plan.

### 3.6 Ozone

AQD operates six (6) O<sub>3</sub> monitoring sites in Wyoming, and all of the sites are SPMs. To comply with the 8-hour ozone NAAQS, the daily maximum 8-hour ozone averages are ranked over a year. The 3 year average of the 4<sup>th</sup> highest yearly value must be less than or equal to 0.08 ppm.

<b>O<sub>3</sub> Compliance with NAAQS of 0.08 ppm 4<sup>th</sup> Highest 8-Hour Average (ppm)</b>					
Site Name	2004	2005	2006	DV ('04-'06)	In Compliance
Boulder	N/A	0.079	0.072	N/A	N/A
Jonah	N/A	0.076	0.069	N/A	N/A
South Campbell County	0.061	0.063	0.065	0.063	Yes
South Daniel	N/A	0.066	0.074	N/A	N/A
Thunder Basin	0.065	0.059	0.072	0.065	Yes
Wamsutter	N/A	N/A	0.067	N/A	N/A

N/A – data not available

## 4.0 Future Air Monitoring Modifications

At this time, AQD is not planning to add or remove any SLAMS monitors in 2007.

Modifications to the PM<sub>10</sub> SLAMS network will be made in 2007 and 2008. AQD is replacing the older Hi-vol monitors with Partisol low-vol monitors. AQD and Region 8 have agreed on the locations discussed in Section 2.1. AQD will also replace the Sheridan Police Station PM<sub>10</sub> monitors with a continuous PM<sub>10</sub> monitor. This change has also been discussed and approved by Region 8.

The State of Wyoming is experiencing rapid energy development, especially in the northeast and southwest quadrants of the State. AQD continues to add new special purpose monitoring sites to monitor for possible impacts from increased development. In 2006, AQD signed an agreement with six natural gas producers that operate in the Pinedale Anticline and Jonah Natural Gas Fields to share costs for six monitoring stations in southwest Wyoming (known as the “Southwest Wyoming Operators Agreement”). As of December 2006, three (Boulder, Jonah and Daniel South) of the six sites are operational. The remaining three stations (Murphy Ridge, South Pass and Wyoming Range) will be placed in 2007 and 2008.

### 4.1 *Murphy Ridge*

The Murphy Ridge Air Quality Monitoring Station will begin operation during 2007. The station is located in the Town of Bear River, approximately ten miles north of Evanston on the border of Utah. The Murphy Ridge site is located approximately 1 mile from the Murphy Ridge NADP wet deposition site. The purpose of this station is to monitor the air masses coming from Utah and to provide insight on these air masses in conjunction with the data collected from the Murphy Ridge NADP monitor. This site will monitor NO<sub>x</sub>, ozone, PM<sub>10</sub> (continuous), SO<sub>2</sub>, CO and meteorology. The site is also equipped with a camera.

## **4.2 South Pass**

The South Pass Air Quality Monitoring Station will also begin operation in 2007. The station is located on South Pass at the southern end of the Wind River Range. The purpose of this station is to monitor air quality on the southern end of the range which sees air masses from both the Upper Green River Basin to the northwest and from the southwestern corner of the State. The station will have NO<sub>x</sub>, ozone, SO<sub>2</sub>, PM<sub>10</sub> (continuous), meteorology, a camera, and the B and C modules of an IMPROVE-type aerosol monitor. The gaseous and aerosol measurements will be used in conjunction with NADP data from the South Pass NADP site to examine nitrogen and sulfur in various phases. Additionally the aerosol concentrations of nitrates, sulfates, and carbon can be used to compare with aerosol concentrations collected at the north end of the range and at all IMPROVE-type aerosol samples collected throughout Wyoming.

## **4.3 Wyoming Range**

The Wyoming Range site will be the last site placed of the six included in the Operators Agreement. This site was originally envisioned to go in the Wyoming Range, west of the Upper Green River Basin. However, AQD has decided to delay placement of this site until a network assessment is conducted for the Southwest area. The results of the network assessment will determine final placement and types of monitoring that will take place at this site. AQD expects to place the site in mid-2008. Please see Section 4.4 for more information.

## **4.4 Southwest Wyoming Network Assessment**

In light of the rapid energy development slated to take place in the next several years in southwest Wyoming, AQD has committed to performing a network assessment for criteria pollutants and meteorological parameters in this area. The purpose of the assessment is to determine efficient and effective placement of gaseous, particulate, and meteorological monitoring stations in the current Southwest Wyoming network. Results of the network assessment will be used to guide future monitor placement in Southwest Wyoming. The network assessment will be performed, with the help of a contractor, in early 2008. AQD will also solicit the help of an External Advisory Committee which will consist of public participants, federal land managers, EPA, environmental organizations and industry to help evaluate assessment methods and the results. This network assessment is intended to fulfill part of the 40 CFR Part 58.10 requirements.

## **5.0 Conclusion**

There is an ongoing effort to help ensure the Wyoming Ambient Air Monitoring Network demonstrates adequate coverage across the entire state. As the state's population and industry changes, AQD works to make sure the monitoring needs in the State of Wyoming are being met. At this time, AQD plans to add monitors in 2007 to determine impacts from energy development and population growth around Wyoming. AQD is also changing out old equipment at several community monitoring locations to increase the reliability and efficiency of the PM<sub>10</sub> monitoring network.

Data collected at AQD monitoring stations through 2006 show that all monitors are attaining NAAQS. AQD continually evaluates data collected at AQD, industrial and AQRV monitors to

determine if changes in policy are needed to continue to manage the air resource in the State of Wyoming.

Any comments pertaining to the Wyoming Ambient Air Monitoring Annual Network Plan should be sent to the following contact by January 31, 2008.

Ms. Cara Keslar  
Monitoring Section Supervisor  
Wyoming Air Quality Division  
122 West 25<sup>th</sup> Street, 2-E  
Cheyenne, WY 82002  
(307) 777-8684  
[ckesla@state.wy.us](mailto:ckesla@state.wy.us)

## Appendix A

AQD ID	Site Name	Address	Land Use Type	Location Type	Monitor Type	Monitor Objective	Longitude	Latitude	Site Start Date
56-025-0001	Casper	City County Bldg - Center & C Streets	Commercial	Urban And Center City	SLAMS	Population Exposure	-106.3	42.851	1/1/1967
56-021-0001	Cheyenne	State Office Bldg 23rd & Central Avenue	Residential	Urban And Center City	SLAMS	Population Exposure	-104.8	41.14	1/1/1979
56-029-0001	Cody	Cody Jr High School	Residential	Suburban	SLAMS	Population Exposure	-109.1	44.533	1/1/1975
56-005-1002	Gillette	1000 West 8th St	Mobile	Urban And Center City	SLAMS	Population Exposure	-105.5	44.288	1/1/1978
56-039-0006	Jackson	200 So Willow - Teton County Building	Commercial	Urban And Center City	SLAMS	Population Exposure	-110.8	43.481	6/13/2001
56-013-1003	Lander	600 Washington	Residential	Suburban	SLAMS	Highest Concentration, General/Background	-108.7	42.841	1/1/1987
56-001-0006	Laramie	406 Iverson	Commercial	Urban And Center City	SLAMS	Populations Exposure	-105.6	41.312	1/1/1968
56-037-0007	Rock Springs	625 Ahsay Ave	Residential	Urban And Center City	SLAMS	Population Exposure	-109.2	41.592	1/1/1983
56-033-0002	Sheridan - Police Station	45 West 12th St	Commercial	Urban And Center City	SLAMS	Highest Concentration, Population Exposure	-107	44.833	10/5/1983
56-033-0003	Sheridan-Highland Park	1301 Avon	Residential	Urban And Center City	SLAMS	Population Exposure	-107	44.806	7/1/2005
56-009-0819	Antelope	Antelope Site 3	Industrial	Rural	Special Purpose	General/Background	-105.4	43.427	9/1/1982
56-033-0099	Arvada	Adjacent to Arvada Elem. School	Residential	Rural	Special Purpose	General/Background	-106.1	44.654	11/1/2002
56-005-0892	Belle Ayr	Belle Ayr Ba-4,5N,5S	Industrial	Rural	Special Purpose	Highest Concentration, Source Oriented	-105.3	44.099	7/9/1991
56-005-0877	Black Thunder PM2.5	Black Thunder BTM 26-2	Industrial	Rural	Special Purpose	General/Background	-105.2	43.677	1/1/1985

<b>AQD ID</b>	<b>Site Name</b>	<b>Address</b>	<b>Land Use Type</b>	<b>Location Type</b>	<b>Monitor Type</b>	<b>Monitor Objective</b>	<b>Longitude</b>	<b>Latitude</b>	<b>Site Start Date</b>
56-035-0099	Boulder	5 miles southwest of Boulder, Wy	Desert	Rural	Special Purpose	Source Oriented, General/Background	-109.8	42.719	2/1/2005
56-005-0899	Buckskin	Triton Coal Gillette, Wy	Industrial	Rural	Special Purpose	General/Background	-105.6	44.472	4/10/1994
56-005-0456	Campbell County	Approx 15 Miles SSW of Gillette, Wy	Desert	Rural	Special Purpose	Source Oriented, General/Background	-105.5	44.147	7/15/2003
56-035-0100	Daniel South	5 miles south of Daniel	Desert	Rural	Special Purpose	General/Background	-110.1	42.791	7/1/2005
56-035-0098	Jonah	Approx 40 Miles NW of Farson, Wy	Industrial	Rural	Special Purpose	Source Oriented	-109.7	42.429	11/5/2004
56-035-0705	Pinedale	101 East Hennick	Residential	Suburban	Special Purpose	Population Exposure	-109.7	42.429	7/1/2005
56-005-0123	Thunder Basin	Thunder Basin Grassland Site 30 Mi N-NE of Gillette, Wy	Desert	Rural	Special Purpose	General/Background	-105.3	44.672	5/1/2001
56-037-0200	Wamsutter	2 miles west of Wamsutter, Wy	Desert	Rural	Special Purpose	Source Oriented, General/Background	-108	41.678	3/1/2006
56-005-0099	Wright	Adjacent To Wright Jr-Senior High School	Residential	Rural	Special Purpose	General/Background, Population Exposure	-105.5	43.758	11/1/2002