



# **Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events**

Prepared by the Air Quality Division  
State of Wyoming Department of Environmental Quality  
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## Acronyms

**AQI** – Air Quality Index

**AQS** – Air Quality System

**BACM** – Best Available Control Measures

**BACT** – Best Available Control Technology

**CFR** – United States Code of Federal Regulations

**DEQ** – Wyoming Department of Environmental Quality

**Division** – Wyoming Department of Environmental Quality - Air Quality Division

**EER** – Exceptional Events Rule

**EPA** – United States Environmental Protection Agency

**ft** - Feet

**GGRB** – Greater Green River Basin

**km** – Kilometers

**mi** - Miles

**mph** – Miles per Hour

**NAAQS** – National Ambient Air Quality Standards

**NEAP** – Natural Events Action Plan

**PM<sub>10</sub>** – Particulate Matter less than 10 micrometers in aerodynamic diameter

**PRB** – Powder River Basin

**RACT** – Reactionary Control Measures

**WAQSR** – Wyoming Air Quality Standards and Regulations

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## Internet Resources

1. Mitigation of Exceptional Events in the Code of Federal Regulations, 40 CFR Part 51.930 (<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-51/subpart-Y>)
2. Treatment of Air Quality Monitoring Data Influenced by Exceptional Events in the Code of Federal Regulations, 40 CFR Part 50.14 (<https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-50/section-50.14>)
3. EPA Mitigation Plan Checklist ([https://www.epa.gov/sites/default/files/2017-06/mitigation\\_plan\\_checklist\\_final\\_template.docx](https://www.epa.gov/sites/default/files/2017-06/mitigation_plan_checklist_final_template.docx))
4. Wyoming Department of Environmental Quality Homepage (<https://deq.wyoming.gov/>)
5. WyVisNet (<https://www.wyvisnet.com>)
6. AirNow (<https://www.airnow.gov>)
7. Air Quality Guide for Particle Pollution ([https://www.airnow.gov/sites/default/files/2021-03/air-quality-guide\\_pm\\_2015.pdf](https://www.airnow.gov/sites/default/files/2021-03/air-quality-guide_pm_2015.pdf))
8. Wyoming Air Quality Standards and Regulations (<https://rules.wyo.gov>)

# 1 Introduction

In 2007, the United States Environmental Protection Agency (EPA) promulgated the Exceptional Events Rule (EER), based on the 2005 amendments to Section 319 of the Clean Air Act, which established a process for the treatment of data influenced by Exceptional Events. Exceptional Events, as defined in 40 United States Code of Federal Regulations (CFR) Part 50.1(j), mean “an event(s) and its resulting emissions that affect air quality in such a way that there exists a clear causal relationship between the specific event(s) and the monitored exceedance(s) or violations(s), is not reasonably controllable or preventable, is an event(s) caused by human activity that is unlikely to recur at a particular location or a natural event(s), and is determined by the Administrator in accordance with 40 CFR 50.14 to be an exceptional event.” The Revised EER became effective September 30, 2016 and included the requirement for areas with recurring events to develop mitigation plans. 40 CFR Part 51.930 defines “historically documented or known seasonal events” as three (3) events of the same type and pollutant that recur in a three-year period, for which affected data has either been flagged as having been influenced by an Exceptional Event, or was the subject of an initial notification to the EPA of a potential Exceptional Event.

Under 40 CFR Part 51.930, the Wyoming Department of Environment Quality – Air Quality Division, hereafter referred to as “Division,” is required to develop and submit a high wind mitigation plan for particulate matter less than ten (10) micrometers in diameter (PM<sub>10</sub>) for Campbell and Sweetwater Counties. The mitigation plan components and how the Division is implementing them are described in detail below. This Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events meets the requirements under 40 CFR Part 51.930 and will assist both the counties of Campbell and Sweetwater in addressing blowing dust due to uncontrollable winds.

The EPA analyzed monitoring data for the three-year period 2013-2015 to identify the initial areas subject to mitigation plan requirements, and the EPA analyzed events since 2016 on a rolling three-year basis (e.g., 2016-2018; 2017-2019; and 2018-2020) to identify additional areas. According to the relevant timeframes in the Revised EER, Campbell and Sweetwater Counties had experienced more than three (3) windblown dust events, causing elevated PM<sub>10</sub> in the prior three-year period. Since the Division had submitted more than three (3) demonstrations for Campbell and Sweetwater Counties under the provisions of 40 CFR Part 50.14 in a three-year period, Campbell and Sweetwater Counties were included in Docket ID No. EPA-HQ-QAR-2022-0313 for the EPA rulemaking (Background Document Attachment A – Additional Areas Subject to Mitigation Requirements in 40 CFR Part 51.930(b)). The EPA utilized this action to provide written notice to the Division that Campbell and Sweetwater Counties are henceforth subject to the requirements in 40 CFR Part 51.930(b) and is subsequently required to develop and submit a mitigation plan to EPA in accordance with the requirements of the rule, to protect the public health of the areas from exceedances of the National Ambient Air Quality Standard (NAAQS).

## **1.1 Identification of Wyoming’s Additional Areas Subject to Mitigation Plans**

### **1.1.1 Campbell County located in the Powder River Basin**

Campbell County is located in Northeastern Wyoming. As of the 2020 United States Census, the population was 47,026, making it the third-most populous county in Wyoming. Its county seat is Gillette. The Powder River Basin (PRB) area encompasses the Powder River structural basin and Powder River energy basin. The structural basin is an asymmetric trough in Southeastern Montana and Northeastern Wyoming that trends north-south for approximately 401 km (250 mi) and is 161 km (100 mi) wide. It is bounded to the south by the Casper Arch, Laramie Mountains, and Hartville Uplift; to the west by the Bighorn Mountains; to the north by the Miles City arch in Montana; and to the east by the Black Hills. This area is an active energy development region whose industrial activities include surface coal mining, oil and gas production, coal bed natural gas production, and coal-fired electrical generation.

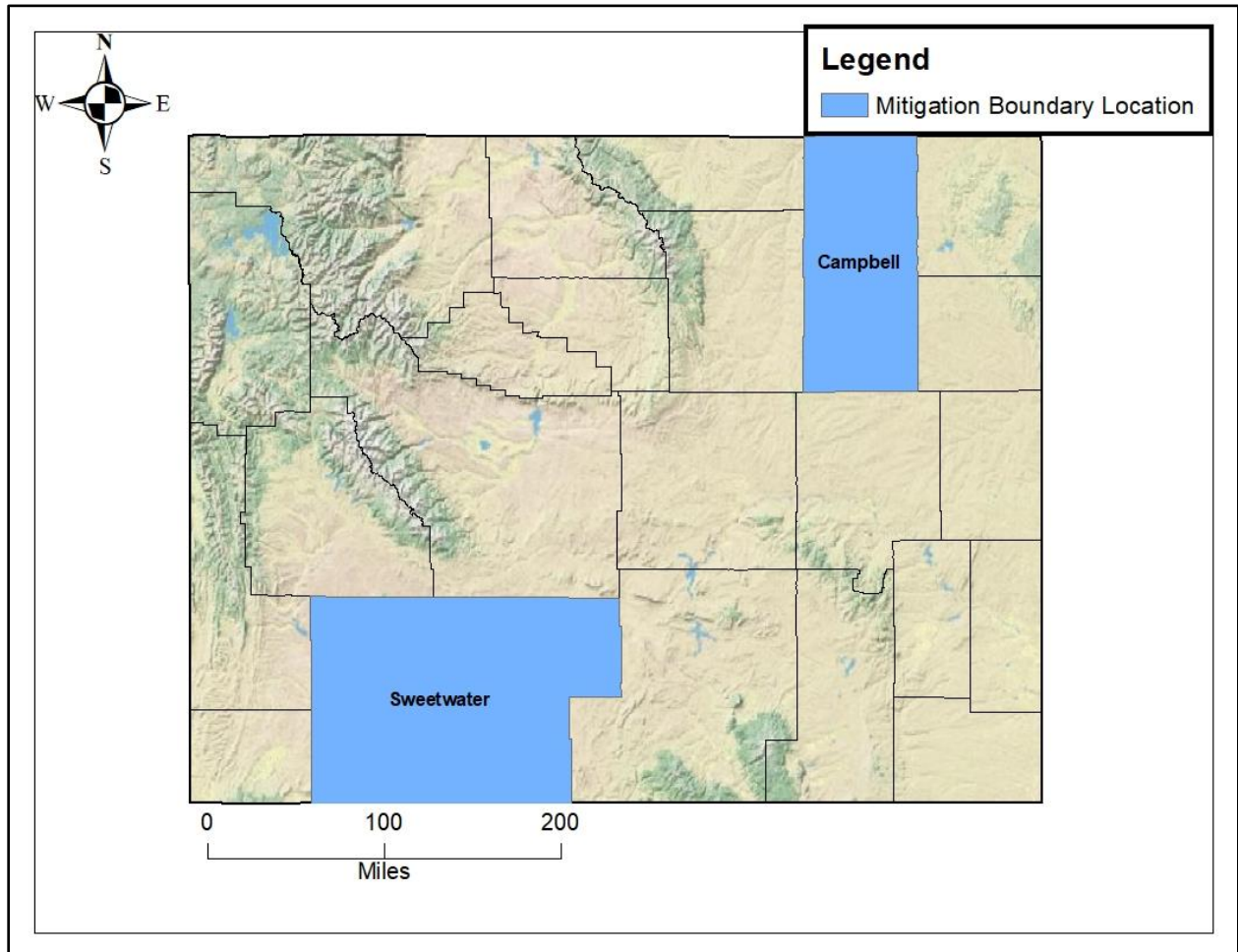
Elevations range from around 3,400 ft. to greater than 6,000 ft. above sea level. The climate is semi-arid (10-15 inches of precipitation annually) with vegetation that is primarily sagebrush and mixed grass prairie. The basin experiences relatively large seasonal and diurnal variations in temperature and seasonal variations in precipitation. Winds are largely affected by local topographic features and are predominantly from the northwest or southeast. The winds tend to be strongest in the winter and spring and calmer in the summer. The average annual wind speed measured at the Campbell County Airport near Gillette (period of record 2012-2022) is 10.9 miles per hour (mph).

### **1.1.2 Sweetwater County located in the Greater Green River Basin**

Sweetwater County is located in Southwestern Wyoming. As of the 2020 United States Census, the population was 42,272, making it the fourth-most populous county in Wyoming. Its county seat is Green River. By area, it is the largest county in Wyoming. The Greater Green River Basin (GGRB) encompasses the southwest portion of Wyoming and extends south into Northeastern Utah and Northwestern Colorado. The footprint of the basin covers 54,269 km<sup>2</sup> (20,953 mi<sup>2</sup>) in Wyoming. The GGRB is bounded on the west by the Sevier overthrust belt, on the north by the Wind River Range, to the east by the Rawlins Uplift and Sierra Madre Mountain Range, and to the south by the Uinta Mountains. This area is an active energy development region whose industrial activities include surface coal mining, oil and gas production, coal bed natural gas production, coal/gas-fired electrical generation, and mineable deposits of trona.

Elevations range from less than 6,000 ft. to greater than 9,500 ft. above sea level. The climate is semi-arid (10-15 inches of precipitation annually) with vegetation that is primarily sagebrush and mixed grass prairie. The basin experiences relatively large seasonal and diurnal temperature

variations and precipitation variations. Winds are largely affected by local topographic features and are predominantly from the southwest. The winds tend to be strongest in the winter and spring and calmer in the summer. The average annual wind speed measured at the Southwest Wyoming Regional Airport near Rock Springs (period of record 2012-2022) is 11.7 mph.



**Figure 1.** Map of Counties in the State of Wyoming Subject to Mitigation Plan Requirements

## 1.2 Mitigation Plan Requirements

The purpose of this Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events is to protect public health from exceedances of the NAAQS through the implementation of the following three mitigation plan components. At a minimum, the state must:

- Provide for the implementation of appropriate measures to protect public health from exceedances or violations of ambient air quality standards caused by Exceptional Events;



- Provide for public education concerning actions that individuals may take to reduce exposures to unhealthy levels of air quality during and following an Exceptional Event, and;
- Provide prompt public notification whenever air quality concentrations exceed or are expected to exceed an applicable ambient air quality standard.

In order to meet these requirements, each mitigation plan must contain provisions for the following:

- 1) Public notification to and education programs for affected or potentially affected communities. Such notification and education programs shall apply whenever air quality concentrations exceed or are expected to exceed a NAAQS with an average time that is less than or equal to 24 hours.
- 2) Steps to identify, study and implement mitigating measures, including approaches to address each of the following:
  - a. Measures to abate or minimize contributing controllable sources of identified pollutants.
  - b. Methods to minimize public exposure to high concentrations of identified pollutants.
  - c. Processes to collect and maintain data pertinent to the event.
  - d. Mechanisms to consult with other air quality managers in the affected area regarding the appropriate responses to abate and minimize impacts.
  - e. Provisions for periodic review and evaluation of the mitigation plan and its implementation and effectiveness by the state and interested stakeholders.

Each of these requirements is addressed in this document. To exhibit the completeness of this document and for the ease of the reviewer, Table 1 below includes a description of each air agency mitigation plan requirement and accompanying citation, in addition to the page number where the requirement is addressed in this document. This checklist is directly from the EPA Mitigation Checklist document, available on the EPA Exceptional Events Implementation Tools, Templates, and Links website. Note that the original checklist contains both EPA and air agency responsibilities. Table 1 only includes air agency responsibilities for brevity.

<b>40 CFR Part 51.930 Mitigation of Exceptional Events Regulatory Citation</b>		<b>Mitigation Plan Page Number(s)</b>
51.930(b)(2)	<b>Plan components.</b> At a minimum, each mitigation plan developed under this paragraph shall contain provisions for the following:	
51.930(b)(2)(i)	Public notification to and education programs for affected or potentially affected communities. Such notification and education programs shall apply whenever air quality concentrations exceed or are expected to exceed a national ambient air quality standard with an averaging time that is less than or equal to 24 hours.	10-11
51.930(b)(2)(ii)	Steps to identify, study and implement mitigating measures, including approaches to address each of the following:	11-15
51.930(b)(2)(ii)(A)	Measures to abate or minimize contributing controllable sources of identified pollutants.	11-15
51.930(b)(2)(ii)(B)	Methods to minimize public exposure to high concentrations of identified pollutants.	10-15
51.930(b)(2)(ii)(C)	Processes to collect and maintain data pertinent to the event.	15-22
51.930(b)(2)(ii)(D)	Mechanisms to consult with other air quality managers in the affected area regarding the appropriate responses to abate and minimize impacts.	23
51.930(b)(2)(iii)	Provisions for periodic review and evaluation of the mitigation plan and its implementation and effectiveness by the State and all interested stakeholders.	24
51.930(b)(2)(iii)(A)	With the submission of the initial mitigation plan according to the requirements in paragraph (b)(3) of this section that contains the elements in paragraph (b)(2) of this section, the State must:	
51.930(b)(2)(iii)(A)(1)	Document that a draft version of the mitigation plan was available for public comment for a minimum of 30 days;	Appendix B
51.930(b)(2)(iii)(A)(2)	Submit the public comments it received along with its mitigation plan to the Administrator; and	Appendix B
51.930(b)(2)(iii)(A)(3)	In its submission to the Administrator, for each public comment received, explain the changes made to the mitigation plan or explain why the State did not make any changes to the mitigation plan.	Appendix B
51.930(b)(2)(iii)(B)	The State shall specify in its mitigation plan the periodic review and evaluation process that it intends to follow for reviews following the initial review identified in paragraph (b)(2)(iii)(A) of this section.	24
51.930(b)(3)(i)	States shall submit their mitigation plans within 2 years of being notified that they are subject to the provisions of paragraph (b) of this section.	24

**Table 1.** Mitigation Plan Checklist

## 2 Mitigation Plan Components

### 2.1 Public Notification and Education

The Revised EER requires air agencies to provide prompt public notification whenever air quality concentrations exceed or are expected to exceed an applicable ambient air quality standard. Whenever the PM<sub>10</sub> concentration exceeds or is expected to exceed the NAAQS, the Division provides prompt public notification to the citizens of Campbell and Sweetwater Counties. This public notification is multifaceted and designed to reach the greatest number of people possible.

While Campbell and Sweetwater Counties air monitoring stations (e.g., Division and Industry) have occasionally exceeded the level of the 24-hour PM<sub>10</sub> NAAQS, due to high-wind events, it has not violated the form of the standard, which allows for up to an average of one exceedance per year over a three-year period at a monitoring station. While Campbell and Sweetwater Counties are in attainment of the PM<sub>10</sub> NAAQS, it is feasible that Exceptional Events, especially those related to wildfires, high wind dust events, prescribed fires, stratospheric ozone intrusions, volcanic, and seismic activities, will lead to requests for exclusion of exceedances under the EER.

The Division is committed to disseminating the current air quality information, research, and air quality programs to the public at large. Data from the Division's air monitoring stations are used for near real-time public notification of air pollution events, air quality forecasting, and the analysis and/or modeling for strategic plan development, including the preparation of the Wyoming Department of Environmental Quality's (DEQ's) Quality Management Plan. As a whole, the Division's air monitoring network successfully meets the needs for monitoring, planning, and public notification purposes.

The Division maintains a robust near real-time air monitoring network to support the accurate mapping of data and transmittal of episodic air quality alerts for Campbell and Sweetwater Counties. The dissemination of this large quantity of current air quality information is accomplished through several mediums. Data from the criteria pollutants that are measured continuously are available to the public in near real-time, through:

- Wyoming DEQ's Website
- Wyoming's Air Quality Monitoring Network (WyVisNet) has near real-time ambient air monitoring concentration and will announce High Winds and Blowing Dust Health Notifications to inform the public. See Appendix D for more information.
- U.S. EPA's AirNow System reports the NowCast Air Quality Index (AQI), provided from the Division as near real-time concentration data, for display on an interactive map.

The public notification system's foundation is identifying exceedances that are occurring or may occur in the near future. The identification relies on near real-time data reported from WyVisNet, Wyoming's industrial monitoring networks, and forecasts from the Division. This

enables rapid identification of exceedances and potential exceedances so that alerts and warnings are distributed properly. The Division will send High Winds and Blowing Dust Health Notifications to the local representatives on the “Industrial” list and interested stakeholders.

The Division will work with interested stakeholders to educate the public regarding issues associated with elevated levels of PM<sub>10</sub> in Campbell and Sweetwater Counties. Elements of the program include: what steps will be taken to control fugitive dust emissions during future high wind events; and, how to minimize personal exposure to high concentrations of PM<sub>10</sub> during high wind conditions. The public education program includes but is not limited to:

- An information brochure (High Winds and Blowing Dust Health Notification Brochure) will be developed and posted on the Wyoming DEQ website, WyVisNet, and available at the Division’s field offices.
- *Air Quality Guide for Particle Pollution.*; The guide identifies populations that could be affected depending on the AQI level (e.g., the very young or elderly and those with respiratory disease) and provides recommendations for reducing exposure (e.g., limiting outdoor exertion).
- The WyVisNet front-page map provides near real-time air quality conditions with color coding to correspond to health effects information to assist the public with interpreting the monitored air quality data. The Division uses the EPA’s AQI guidance and advisory levels as the basis for the health effect level colors and descriptors. WyVisNet also includes Health Effects Details.
- Appendix D includes an example of the High Winds and Blowing Dust Health Notification and recommendation language included when high winds are forecasted by the Division.
- Facilities with coal stockpiles in Campbell and Sweetwater Counties subject to 40 CFR Part 60 Subpart Y are required to develop site-specific Fugitive Dust Control Plans.

This public notification and education process discussed in this section fulfills the 40 CFR Part 51.930(b)(2)(i) requirements while working to minimize public exposure to high concentrations of identified pollutants per 40 CFR Part 51.930(b)(2)(ii)(B). As discussed, the public is notified promptly regarding PM<sub>10</sub> exceedances or expected exceedances. The education programs and components that have been put into place are ongoing and apply regardless of exceedance status.

## **2.2 Mitigation Methods**

The Revised EER requires a mitigation plan to include steps to identify, study and implement mitigating measures. The following section details various activities to reduce high wind dust in Campbell and Sweetwater Counties.

The following table on the next page describes state regulations and control measures implemented in the State of Wyoming, including Sweetwater and Campbell Counties as well as voluntary and state-only measures:

Rule/ Ordinance	Description
<p>WAQSR Chapter 6: Permitting Requirements</p>	<p>Section 2(a)(i) Any person who plans to construct any new facility or source, modify any existing facility or source, or to engage in the use of which may cause the issuance of or an increase in the issuance of air contaminants into the air of this state shall obtain a construction permit from the State of Wyoming, Department of Environmental Quality before any actual work is begun on the facility.</p> <p>Section 4. (b)(i)(A)(I)  A permit to construct pursuant to Chapter 6, Section 2 shall be issued only if the conditions of Chapter 6, Section 2 are complied with and if the predicted impact (over and above the baseline concentration) of emissions defined above is less than the maximum allowable increment shown in Table 1 for the classification of the area in which the impact is predicted, and if the ambient standard for the pollutant(s) is not exceeded.</p> <p>Section 2(c)(v) The proposed facility will utilize the Best Available Control Technology with consideration of the technical practicability and economic reasonableness of reducing or eliminating the emissions resulting from the facility. For large mining operations, specific measures normally required and to be considered include but are not limited to:</p> <ul style="list-style-type: none"> <li>(A) The paving of access roads;</li> <li>(B) The treating of major haul roads with a suitable dust suppressant;</li> <li>(C) The treatment of temporary haul roads;</li> <li>(D) The use of silos, trough barns, or similar enclosed containers for the storage of large volumes of material awaiting load out and shipment;</li> <li>(E) The treatment of active work areas; and</li> <li>(F) The treatment of temporary ore stockpiles.</li> </ul>

<b>Rule/ Ordinance</b>	<b>Description</b>
<p>WAQSR Chapter 8: Nonattainment Area Regulations</p>	<p>Section 1(a) Chapter 8 establishes regulations specific to areas not attaining the National Ambient Air Quality Standards. Section 2 applies exclusively to Sweetwater County, Wyoming particulate matter regulations. This includes specifications of the maximum allowable particulate matter emission rate for each of the listed sources measured as specified in Chapter 3, Section 2(h)(iv) of the WAQSR. Additionally, Fugitive Dust Control measures are required for delineated activities and sources and must adhere to completion schedules. Fugitive dust control measures may include, but are not limited to: vacuum sweeping or paving unpaved roads, reclaiming distressed areas, enclosing active coal stockpiles or install dust suppression systems, minimizing equipment movement, and proper product handling and storage.</p>
<p>WAQSR Chapter 3: General Emission Standards</p>	<p>Section 2(a) Visible emissions of any contaminant discharged into the atmosphere from any single new source of emission whatsoever as determined by a qualified observer shall be limited to 20 percent opacity.</p> <p>Section 2(b) Visible emissions of any contaminant discharged into the atmosphere from any single existing source of emission whatsoever as determined by a qualified observer shall be limited to 40 percent opacity. This limitation shall not apply to existing incinerators or wood waste burners.</p> <p>Section 2(c) The emissions of visible air pollutants from gasoline engines shall be eliminated except for periods not exceeding five consecutive seconds.</p> <p>Section 2(d) The emissions of visible air pollutants from stationary or portable diesel engines as determined by a qualified observer shall be limited to 30 percent opacity below 7500 feet elevation except for periods not exceeding ten consecutive seconds.</p> <p>Section 2(e) Unless restricted by more stringent emission limits established elsewhere in the Wyoming Air Quality Standards and Regulations or permit conditions, any single source may discharge for a period or periods aggregating not more than 6 minutes in any hour contaminants;</p> <p>Section 2(f) Fugitive Dust. Sources operating within the State of Wyoming are required to control fugitive dust emissions. The following control measures or any equivalent method approved by the Division</p>

Rule/ Ordinance	Description
	Administrator shall be considered appropriate for minimizing fugitive dust: <ul style="list-style-type: none"> <li>(i) Construction/Demolition Activities</li> <li>(ii) Handling and Transporting of Materials</li> <li>(iii) Agricultural Practices</li> </ul>
WAQSR Chapter 10: Smoke Management	Section 1(a) Chapter 10 establishes restrictions and requirements on specific burning practices. Section 2 regulates refuse burning; open burning of trade wastes, for salvage operations, for fire hazards, and for firefighting training; and vegetative material open burning. Section 3 specifically regulates emissions from wood waste burners. Section 4 regulates sources of vegetative burning for the management of air quality emissions and impacts from smoke on public health and visibility.

**Table 2.** Existing State Regulations

**2.2.1 Voluntary and State-Only Measures**

In addition to the measures discussed above, other activities result in the reduction of PM<sub>10</sub> emissions. Best Available Control Measures (BACM) must be implemented for anthropogenic sources contributing to NAAQS exceedances in attainment and unclassifiable areas. The BACM for PM<sub>10</sub> are defined (in 59 Federal Register 42010, August 16, 1994) as techniques that achieve the maximum degree of emissions reductions from a source as determined on a case-by-case basis considering technological and economic feasibility.

The varied operational parameters at individual facilities make the uniform application of all control measures impractical. If a reactionary control measure (RACT) is impractical or unfeasible, the facilities have the obligation to document the rationale for not implementing it. The Division may require an economic analysis for a control measure to demonstrate feasibility at individual facilities. Excessive economic impact is considered justification for not implementing specific control measures if it is demonstrated on a case-by-case basis.

A mitigation plan requires the identification, study, and implementation of practical mitigating measures as necessary. A mitigation plan allows for the use of pilot tests for new emission reduction techniques, but the plan must then include a timely schedule for conducting studies and implementing measures that are technologically and economically feasible. No new emission techniques requiring pilot tests have been identified in this document. To be able to flag ambient air quality data that is adversely influenced by high winds, it is in the best interest of all facilities to implement BACM.

Three classifications of control measures are identified in this document

- Best Available Control Technology (BACT) and Division Required Measures

As described above, the facilities in Campbell and Sweetwater Counties all employ BACT as identified in their air quality permits, and all comply with the Division's dust control requirements. These BACT- and Division-required measures control PM<sub>10</sub> emissions and reduce the dust generated from the mining process.

- BACM

This second category of BACM measures does not belong in the BACT measures because they are not current requirements in Campbell and Sweetwater Counties' air quality permits. BACM is similar to BACT, in that they must be employed continuously by the facilities so that they are in place before a high wind event occurs. BACM primarily addresses the principal facilities-controlled source of fugitive dust.

- RACT

RACT are those not currently required by individual air quality permits but are actions that can be taken during a high wind event, depending on site-specific conditions. This document recognizes that not all Reactionary Control Measures can be conducted by all mining operations. When facilities in Campbell and Sweetwater Counties are experiencing a high wind event, the operators should implement the RACT as practical for their operation. The duration of a high wind event may influence the practicality and feasibility of RACT. Because of the density of the ambient monitoring systems and the number of real-time monitors in Campbell and Sweetwater Counties, most of the facilities are uniquely prepared to institute reactionary control measures when a high wind event occurs. Some facilities, however, do not operate multiple office staffing shifts and it may be impossible for them to implement reactionary control measures during off-shift hours.

## **2.3 Processes to Collect and Maintain Data**

The Revised EER and 40 CFR Part 51.930(b)(2)(ii)(C) require air regulatory agencies to develop processes to collect and maintain data pertinent to the event. The EPA defines "historically documented" or "known seasonal" events as those events of the same type and pollutant that recur annually, seasonally, or throughout the year. The high wind events of Campbell and Sweetwater Counties affecting PM<sub>10</sub> ambient air monitoring data qualify.

The Division collects ambient air and meteorological monitoring data from its stations located throughout Wyoming continuously. In populated towns and cities of Wyoming, the Division has State and Local Air Monitoring Stations (SLAMS). SLAMS usually consist of continuous PM<sub>10</sub> and or PM<sub>2.5</sub> monitors that are directly polled into the Division's AirVision software. Their data, along with Special Purpose Monitors (SPMs) that monitor for PM<sub>10</sub> and or PM<sub>2.5</sub> are displayed for public consumption on WyVisNet.



PM<sub>10</sub> monitoring data from the Division stations are presented on WyVisNet as a 24-hour rolling average consisting of the latest hourly value and the previous 23 hourly values. The 24-hour rolling averages for PM<sub>10</sub> can be visually displayed with different colors according to the concentration breakpoints in 40 CFR Part 58 Appendix G. WyVisNet has the functionality to alert the public by posting announcements, including hyperlinks to other websites, on the homepage. Please see Appendix H: WyVisNet Live Site Webpage Announcement Example for an example of a WyVisNet live site webpage announcement. These announcements will be posted strictly on monitoring station webpages in the affected counties.

Presently, the Division does not have any PM<sub>10</sub> monitors in Campbell County, but the Division has operated multiple PM<sub>10</sub> monitors in the county and never observed an exceedance of the 24-hour PM<sub>10</sub> NAAQS. Campbell County was one (1) such station that continuously monitored for PM<sub>10</sub> from 2008-2018. Additionally, filter-based PM<sub>10</sub> monitoring was conducted at Gillette SLAMS from 1985-2021. For a brief one (1) year period (2011-2012), the Division placed a mobile gaseous trailer, which included continuous PM<sub>10</sub> monitoring, in the city of Gillette as well. Meteorological monitoring, however, has been in operation at the Thunder Basin station in Northern Campbell County since 2003. The map below (Figure 2) illustrates historical Division PM<sub>10</sub> monitoring in Campbell County.

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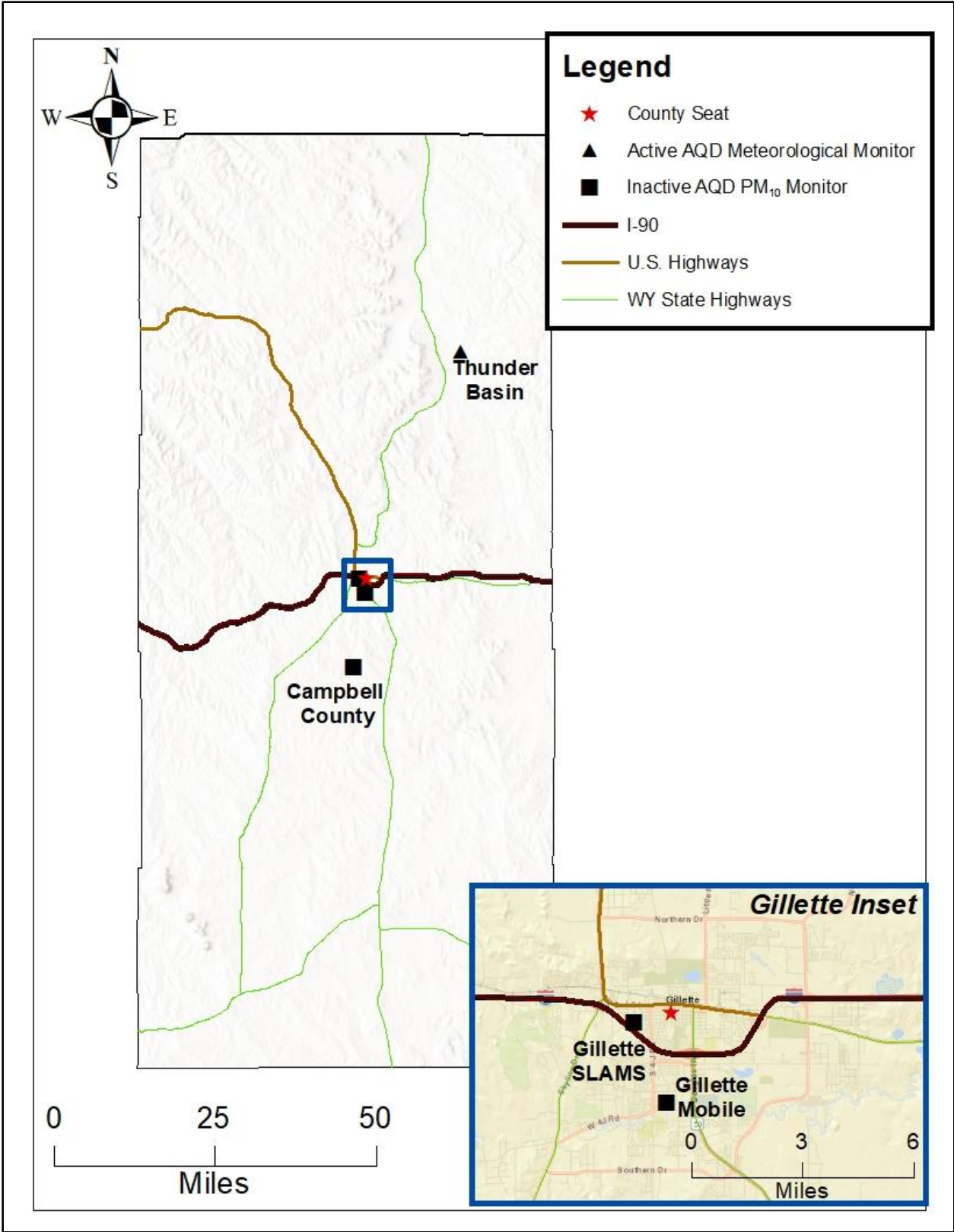


Figure 2. Historical Division PM<sub>10</sub> Monitoring in Campbell County

Coal mining is a key industrial activity in Campbell County, which is part of the PRB. Tables 3 and 4 below list coal mining operations in the PRB and current coal mine PM<sub>10</sub> monitors. Figure 3 details the location of these PRB coal mines and PM<sub>10</sub> monitors in Campbell County. At the time of publication, coal mining operations represent the only industrial ambient air monitoring in Campbell County.

North PRB	Central PRB	South PRB
Buckskin Mine	Caballo Mine	Black Thunder Mine
Rawhide Mine	Belle Ayr Mine	North Antelope Rochelle Mine
Eagle Butte Mine	Cordero Rojo Mine	Antelope Mine
Dry Fork Mine	Coal Creek Mine	
Wyodak Mine		

**Table 3.** Coal Mines in Campbell County

AQS Site ID	Site Name	Site Type	Latitude	Longitude
56-005-0014	Black Thunder Site 6	Industry-Coal	43.65	-105.21
56-005-0015	Black Thunder Site 15	Industry-Coal	43.79	-105.37
56-005-0017	Buckskin West	Industry-Coal	44.4708	-105.5791
56-005-0084	School Creek SC-1	Industry-Coal	43.64073	-105.37029
56-005-0086	School Creek SC-3	Industry-Coal	43.57372	-105.15455
56-005-0087	School Creek SC-2	Industry-Coal	43.61944	-105.19292
56-005-0303	Coal Creek Site 3	Industry-Coal	43.90296	-105.25129
56-005-0802	Belle Ayr BA-1	Industry-Coal	44.13554	-105.42401
56-005-0808	Eagle Butte EB-3	Industry-Coal	44.39429	-105.53027
56-005-0826	Rawhide Hilltop Site	Industry-Coal	44.40219	-105.45219
56-005-0841	Coal Creek Site 7	Industry-Coal	43.98727	-105.30866
56-005-0869	NARM RO-1	Industry-Coal	43.53064	-105.22166
56-005-0875	Black Thunder Mine Site 3	Industry-Coal	43.70223	-105.19952
56-005-0885	Cordero Rojo Site E-10	Industry-Coal	44.03415	-105.32186
56-005-0886	Caballo Mine CB-8	Industry-Coal	44.11295	-105.31091
56-005-0891	Black Thunder BTM 36-2	Industry-Coal	43.65052	-105.21391
56-005-0892	Belle Ayr BA-4	Industry-Coal	44.09707	-105.34326
56-005-0893	Belle Ayr BA-3	Industry-Coal	44.07014	-105.46996
56-005-0895	Rawhide North Site	Industry-Coal	44.42515	-105.47308
56-005-0897	Dry Fork Mine Site 4	Industry-Coal	44.31544	-105.43852

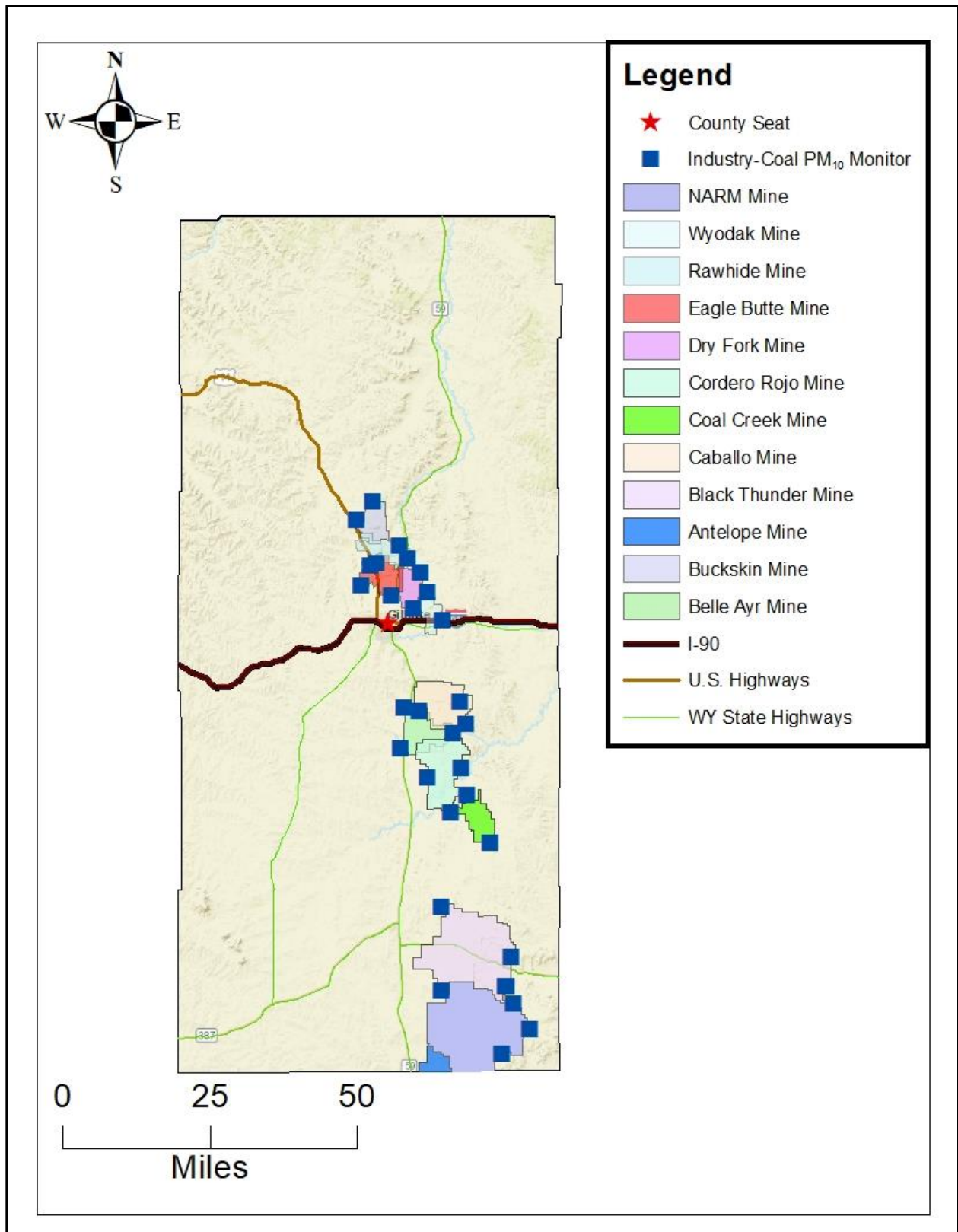
AQS Site ID	Site Name	Site Type	Latitude	Longitude
56-005-0898	Belle Ayr Ranch House	Industry-Coal	44.14108	-105.46062
56-005-0908	Caballo Mine CB-9	Industry-Coal	44.15237	-105.32375
56-005-1003	Cordero Rojo Site W-11	Industry-Coal	44.0185	-105.40523
56-005-1009	Cordero Rojo Site S-11	Industry-Coal	43.95688	-105.34874
56-005-1879	Dry Fork Site DF-2	Industry-Coal	44.37811	-105.42129
56-005-1899	Buckskin Mine North Site	Industry-Coal	44.50268	-105.53978
56-005-1906	Eagle Butte EB-31	Industry-Coal	44.35561	-105.56589
56-005-2900	Eagle Butte EB-5	Industry-Coal	44.33763	-105.49415
56-005-2901	Eagle Butte Rawhide School Monitor	Industry-Coal	44.39043	-105.54528
56-005-5555	Wyodak Site 5	Industry-Coal	44.34375	-105.40334
56-005-6666	Wyodak Site 6	Industry-Coal	44.2955	-105.36876

**Table 4.** List of Industrial PM<sub>10</sub> Monitoring Sites in Campbell County

The Division, in working cooperatively with the coal mines of the Powder River Basin (PRB) of Campbell and Converse Counties and County officials, developed the Natural Events Action Plan for the Coal Mines of the Powder River Basin of Campbell & Converse Counties, Wyoming. A Natural Events Action Plan (NEAP) was an option in the EPA 1996 Natural Events Policy. In March 2007, EPA Region 8 approved the PRB NEAP. The PRB NEAP was a specific document to respond to high wind events (greater than 20 miles per hour) at coal mines in the PRB. The PRB NEAP established a working agreement with the National Weather Service (NWS) to predict high wind and blowing dust advisories in the PRB. The PRB NEAP took the important step of notifying the public when high wind and blowing dust events could occur. In addition, when a high wind event could occur, an email was sent by the Division to parties interested in inclusion with high wind forecast information from the NWS.

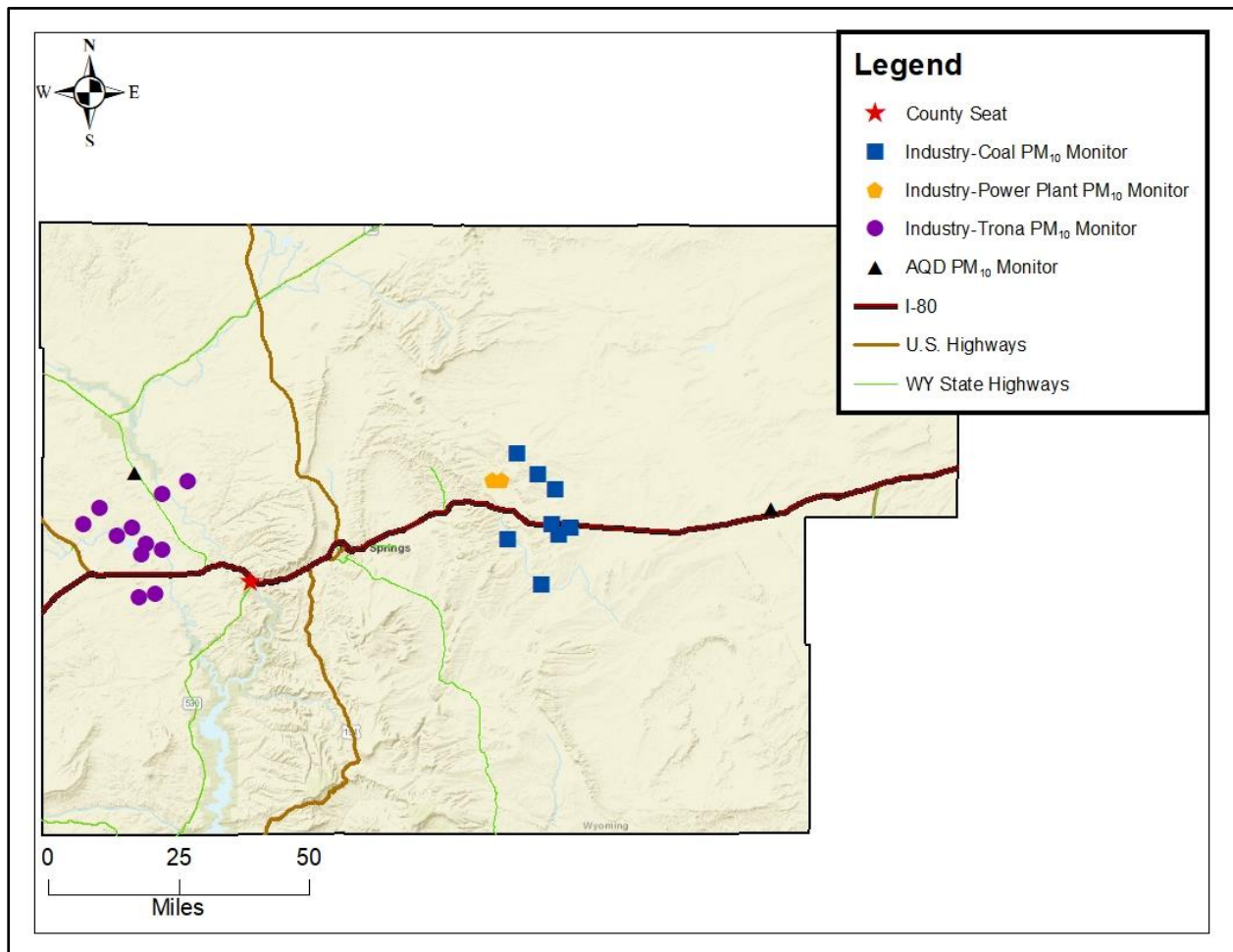
In January 2007, the EPA promulgated the EER. The EER did not provide any regulatory language for NEAPs already in place. A condition of the PRB NEAP was to perform a five-year review to ensure the ongoing effectiveness of the program. The Division initiated the five-year review in 2012. During the review, the Division accounted for the finalization of EER guidance to truly evaluate the NEAP. The Division completed the five-year review in September 2014. Key aspects of the PRB NEAP five-year review conclusion and decision pertinent to the Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events follow.

- The PRB NEAP was a useful tool in controlling dust from high wind events and created a mutual agreement to minimize particulate matter emissions to keep the area attaining the PM<sub>10</sub> 24-hour NAAQS.
- As regulation and technology changed, the PRB NEAP became outdated and many sections created inconsistencies with current practices.
- The Division considered discontinuing the PRB NEAP to be the best option to create consistency with the EER. The use of the PRB NEAP was discontinued as of September 16, 2014.



**Figure 3.** Industrial PM<sub>10</sub> Monitoring in Campbell County

In Sweetwater County, there are two (2) Special Purpose Monitoring (SPM) continuous PM<sub>10</sub> monitors maintained by the Division, Moxa Arch (since 2010) and Wamsutter (since 2006). These SPMs also are equipped with meteorological monitors. Historically, the Division operated filter-based PM<sub>10</sub> monitors at Rock Springs SLAMS from 1985-2020. Mobile gaseous stations, equipped with continuous PM<sub>10</sub> monitors, have also been in operation in Rock Springs (2013-2014) and James Town (2020-2021). Like Campbell County, there are several industrial PM<sub>10</sub> monitors in Sweetwater County. The map below (Figure 4) shows industrial PM<sub>10</sub> monitoring along with the Division's active PM<sub>10</sub> monitors for Sweetwater County. Following the map, Table 5 contains a list of Division and industrial PM<sub>10</sub> monitors in Sweetwater County.



**Figure 4.** Division and Industrial PM<sub>10</sub> Monitoring in Sweetwater County

AQS Site ID	Site Name	Site Type	Latitude	Longitude
56-037-0010	Granger Site 1	Industry-Trona	41.64591	-109.92952
56-037-0012	TATA Site 3	Industry-Trona	41.58501	-109.76922
56-037-0014	TATA Site 4	Industry-Trona	41.60436	-109.75456
56-037-0017	Solvay Downwind	Industry-Trona	41.50116	-109.73075
56-037-0018	Bridger Coal JB-6	Industry-Coal	41.71777	-108.62256
56-037-0026	Westvaco Site 0026	Industry-Trona	41.63909	-109.795
56-037-0027	Black Butte Pit 15	Industry-Coal	41.63994	-108.58039
56-037-0028	TATA Site 5	Industry-Trona	41.59361	-109.71115
56-037-0200	Wamsutter	AQD SPM	41.67771	-108.02415
56-037-0300	Moxa Arch	AQD SPM	41.75056	-109.78833
56-037-0812	Sisecam Site 3	Industry-Trona	41.70972	-109.7125
56-037-0847	Solvay Site #1	Industry-Trona	41.49551	-109.77581
56-037-0851	Jim Bridger Site 851	Industry-Power Plant	41.73746	-108.77027
56-037-0860	Bridger Coal JB-4	Industry-Coal	41.79259	-108.72952
56-037-0862	Granger Site 7	Industry-Trona	41.67978	-109.88576
56-037-0867	Bridger Coal JB-5	Industry-Coal	41.74959	-108.67088
56-037-0868	Black Butte Mine Downwind Pit 10	Industry-Coal	41.62413	-108.6145
56-037-0898	Sisecam Site 4	Industry-Trona	41.73528	-109.64056
56-037-0901	Jim Bridger Site 901	Industry-Power Plant	41.73793	-108.7947
56-037-1002	Westvaco Site 002	Industry-Trona	41.62113	-109.83474
56-037-1236	Black Butte Upwind	Industry-Coal	41.61487	-108.75383
56-037-1414	Black Butte Pit 14	Industry-Coal	41.52167	-108.66222
56-037-1868	Black Butte Mine I-80 Site	Industry-Coal	41.64704	-108.63247

**Table 5.** List of PM<sub>10</sub> Monitoring Sites in Sweetwater County

Whenever an exceedance is observed from a Division or industrial monitor, the Division updates an internal spreadsheet that has the following information: date of exceedance, Air Quality System (AQS) Site ID, Primary Quality Assurance Organization, the measured concentration of the pollutant, the date the Division was notified (for industrial monitors), the date the EPA was notified, information on any qualifier codes added to the AQS record, alleged circumstances of the exceedance (e.g., high winds), and the current status.

Data from Division stations and most of the industrial facilities in Wyoming are uploaded to the EPA's AQS per 40 CFR Part 58 requirements. If warranted, informational qualifier codes (e.g., IJ for high winds) are present in the data upon uploading to AQS. Pursuant to the initial notification process, request for exclusion qualifier codes (e.g., RJ for a high wind Exceptional Event) are added to the data in AQS once EPA Region 8 has responded to the Division's initial notification letter.

## 2.4 Mechanisms to Consult with other Air Quality Managers

The Division has a history of coordination with local and county governments, the Wyoming Mining Association, health departments, permitted facilities, and interested stakeholders to educate the public about the problems associated with elevated levels of PM<sub>10</sub>. The PRB NEAP for high wind events was a successful tool used by the PRB coal mines and the Division. More information about the PRB NEAP is presented in Section 2.3. The 2007 EER included high wind Exceptional Events, prescribed and wildfire Exceptional Events, and other occurrences that influence data.

The Division will include some elements from the PRB NEAP into this Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events and add additional elements as follows.

- The Division will forecast for High Winds and Blowing Dust Health Notifications on Monday-Friday, excluding holidays. Forecasts will be valid for a 24-hour period beginning at midnight of the current day. For example, a forecast completed on Monday will be valid from midnight Tuesday to midnight Wednesday. An extension for an additional 24-hour period may be included if conditions warrant. The criteria for High Winds and Blowing Dust Health Notification forecasts are:
  - Average sustained wind speeds of 25 mph or higher for a minimum of six (6) hours.
  - Lack of widespread, uniform snow cover.
  - Lack of sustained precipitation during the forecast period.
- If a High Winds and Blowing Dust Health Notification is forecasted, the Division forwards the message to industrial stakeholders and interested parties via email.

The Division has and continues to investigate and address additional, potential PM<sub>10</sub> High Wind Events at facilities identified and addressed in this document for the Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events. At a minimum, the investigation involves Division representatives, the company operating the monitor which is affected by the PM<sub>10</sub> High Wind event, or the organization or government agency operating the monitor which is affected by the PM<sub>10</sub> High Wind event.

As detailed in Section 2.1, the Division developed public information and notification to use the DEQ's near real-time monitoring data website WyVisNet, EPA's AirNow website, forecast discussions and air quality alerts when applicable to notify local state and county government and the public of impending events expected to affect air quality and public health. For the development of this Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events, the Division plans to communicate and coordinate with industry and interested stakeholders.



## **2.5 Periodic Review, Evaluation, and Public Comment**

The Division made provisions for periodic review and evaluation of the Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events and its implementation and effectiveness by the State and interested stakeholders. A draft version of this Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events will be posted on the Division's webpage for a 30-day public comment. An example of the public notice communication is included in Appendix B, consistent with the requirements of 40 CFR Part 51.930(b)(2)(iii)(A)(2).

40 CFR Part 51.930(b)(2)(iii)(B) requires that agencies specify in the mitigation plan the periodic review and evaluation process after the plan's initial review. Every five (5) years the Division will review the Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events and make appropriate updates to the plan. The process should include an assessment of the following:

- Adequacy of the public notification process.
- Adequacy of the public education component of the mitigation plan.
- Conditions causing violations of the PM<sub>10</sub> standard within the applicable geographic areas.
- Status of the implementation of mitigation efforts.
- Adequacy of the mitigation efforts being implemented.

The Division will implement the public notification and education process and will evaluate new technology methods of communication as they become available. The evaluation of this Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events will also consider conditions that contribute to PM<sub>10</sub> exceedances in Campbell and Sweetwater Counties, the status and effectiveness of control measures and availability of new control measures, and methods to build upon the current consultation process.

## **3 Submission of Mitigation Plans**

The EPA notified the Division that Campbell and Sweetwater Counties were subject to 40 CFR Part 51.930(b) on April 27, 2022. The Division will submit this Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events to the EPA by the deadline of April 27, 2024, within the two-year window pursuant to 40 CFR Part 51.930(b)(3)(i).

## **Appendix A: Additional Areas Subject to Mitigation Requirements**

**Background Document:**  
**Identifying Additional Areas Subject to the Mitigation Plan  
Requirements Under the Exceptional Events Rule  
(Docket ID No. EPA-HQ-OAR-2022-0313)**

**U.S. Environmental Protection Agency**  
**April 2022**

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## 1.0 Overview

This document contains relevant background information supporting the Environmental Protection Agency's (EPA) 2022 Notice of Availability (NOA) and related notification letters disseminated by the EPA to states with areas newly subject to mitigation plan requirements. This document is included in Docket ID No. EPA-HQ-OAR-2022-0313 for the NOA titled, "Identifying Additional Areas Subject to Mitigation Plan Requirements Under the 2016 Exceptional Events Rule." This document describes the steps the EPA followed to identify new areas that will require mitigation plans. Additionally, the required components of mitigation plans are discussed in Section 3.1.

### 1.1 Mitigation Plan Requirements

According to the 2016 Exceptional Events Rule (Rule), states requesting to exclude data from regulatory determinations due to exceptional events must take measures to protect public health. For areas with historically documented or known seasonal exceptional events, air agencies must develop mitigation plans.<sup>1</sup> The EPA uses recurrence to identify areas that have historically documented or known seasonal events. Mitigation plans ensure that air agencies take appropriate and reasonable actions to protect public health from exceedances or violations of the National Ambient Air Quality Standards (NAAQS).<sup>2</sup> Mitigation plans protect public health through public notification, minimization of exposure, and relevant source mitigation measures.

The Rule specifies the mitigation plan requirement applies to events of the same type and pollutant (such as high wind dust/particulate matter (PM), wildfire/ozone, fireworks/PM) that recur in a 3-year period that meet either of the following:<sup>3</sup>

- Three events or event seasons for which air agencies submitted an exceptional events demonstration in a 3-year period; or
- Three events or event seasons that are the subject of an initial notification of a potential exceptional event in a 3-year period regardless of whether the state submits a demonstration.

The initial notification process was first required in the 2016 Exceptional Events Rule.<sup>4</sup> As noted in the preamble to the Rule, initial notifications may be conveyed as an official letter, electronic mail, or other means of communication from an air agency official with authority to do so. Initial notifications are intended to promote early and frequent communication between air agencies and EPA Regional offices when air agencies first begin to consider developing an exceptional events demonstration.

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<sup>1</sup> 40 CFR 51.930(b)(1).

<sup>2</sup> 2016 Revisions to the Exceptional Events Rule: Update to Frequently Asked Questions, February 12, 2020, pg. 34; <https://www.epa.gov/air-quality-analysis/updated-exceptional-events-rule-faqs>.

<sup>3</sup> 40 CFR 51.930(b)(1)(i).

<sup>4</sup> 40 CFR 50.14(c)(2).

## **2.0 Identifying Areas Subject to Mitigation Plans Under the Exceptional Events Rule**

### **2.1 Initial Areas Subject to Mitigation Plan Requirements**

The preamble of the Rule identified 29 initial areas with historically documented or known seasonal events that required development of mitigation plans. Because the initial notification was a new requirement in the Rule, the EPA could not use it to define how often events recur (*i.e.*, recurrence) for the initial areas that were determined to be subject to the mitigation plan requirements in the same Rule. For those areas, the EPA defined recurrence as:<sup>5</sup>

- Three events or event seasons for which an air agency submitted a demonstration within a 3-year period; or
- Three events or event seasons in a 3-year period that resulted in a NAAQS exceedance or violation for which the air agency had previously flagged events for concurrence in Air Quality System (AQS) (regardless of whether the air agency submitted a demonstration).

Using air quality monitoring data contained within AQS for the period January 1, 2013, through December 31, 2015, the EPA initially identified 29 areas required to submit mitigation plans within 2 years of the effective date of the Rule.<sup>6</sup>

### **2.2 Identifying Subsequent Areas Subject to Mitigation Plan Requirements**

Following promulgation of the Rule, the EPA instituted an internal tracking system and developed implementation tools, notably, the Exceptional Events Submission and Tracking System (EETS), which facilitates the identification of areas for which air agencies submit initial notifications and/or demonstrations. EETS also assists the EPA in identifying areas with recurring events. The EPA used the following steps when developing the list of additional areas identified in the 2022 NOA. (See Attachment A.)

#### **Step 1: Compiled Preliminary List of Areas**

The EPA used initial notifications and demonstrations including those submitted through the EETS, data in AQS, and other sources of information to identify recurring events of the same type and pollutants (*i.e.*, high wind dust/PM, wildfire/ozone, fireworks/PM). In the same manner that the EPA analyzed monitoring data for the 3-year period 2013-2015 to identify the initial areas, the EPA analyzed events since 2016 on a rolling 3-year basis (*e.g.*, 2016-2018; 2017-2019; and 2018-2020) to identify additional areas subject to mitigation plan requirements. Areas with three recurring events in a 3-year period were added to this preliminary list of areas.

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<sup>5</sup> 81 FR 68272

<sup>6</sup> 81 FR 68272, Table 6 - Areas Subject to the Mitigation Requirements in 40 CFR 51.930(b), October 3, 2016.

## **Step 2: Developed Final List of Areas**

The EPA analyzed the preliminary list evaluating event seasons and area boundaries. The EPA evaluated the data to determine if there was a season with multiple events. Known as seasonality, the EPA may treat a season with multiple events of the same type and pollutant as a single event season for purposes of developing a mitigation plan.<sup>7</sup> For this action, the EPA identified boundaries for areas requiring mitigation plans as county boundaries or, in some cases, the boundaries of an existing nonattainment area.

Based on the EPA's review of air quality data and other information, the EPA prepared the final list for inclusion in the notification letters signed by the Regional offices and in the NOA. Attachment A contains the final list of areas.

### **3.0 Developing Mitigation Plans**

#### **3.1 Mitigation Plan Components**

The Rule specifies the requirements for mitigation plans. At a minimum, the Rule requires air agencies to develop mitigation plans with the following components:

1. Public notification and education programs for affected or potentially affected communities.
2. Steps to identify, study, and implement mitigating measures, including:
  - a. measures to abate or minimize contributing controllable sources;
  - b. methods to minimize public exposure to high concentrations of identified pollutants;
  - c. processes to collect and maintain data pertinent to the event; and
  - d. mechanisms to consult with other air quality managers in the affected area with regards to appropriate responses to abate and minimize impacts.
3. Provisions for periodic review and evaluation of the mitigation plan and its implementation and effectiveness by the State and all interested stakeholders.<sup>8</sup>

Implementation guidance published by the EPA<sup>9</sup> states that, if possible, air agencies should notify the public of the actual or anticipated event at least 48 hours in advance. Outreach mechanisms include web site alerts, National Weather Service alerts, telephone or text bulletins, and television or radio campaigns or other messaging campaigns. Public notification and education may include adoption of methods for forecasting/detection, consultation with appropriate health department personnel regarding health advisories and recommended actions to reduce exposure. More information on the required components for an exceptional events

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<sup>7</sup> 81 FR 68272

<sup>8</sup> 40 CFR 51.930 (b)(2).

<sup>9</sup> 2016 Revisions to the Exceptional Events Rule: Update to Frequently Asked Questions, US EPA, February 12, 2020, pg. 35; <https://www.epa.gov/air-quality-analysis/updated-exceptional-events-rule-faqs>.

mitigation plan can be found in 40 CFR 51.930(b)(2), and a Mitigation Plan Checklist designed to facilitate the development of a mitigation plan can be found, along with other implementation resources, on EPA's exceptional events website at: <https://www.epa.gov/air-quality-analysis/exceptional-events-implementation-tools-templates-and-links>.

### **3.2 The EPA's Review of Mitigation Plans**

Air agencies with areas requiring mitigation plans must submit mitigation plans to the applicable EPA Regional Administrator within 2 years of notification of this requirement. After this initial 2-year timeframe, even if a demonstration otherwise satisfies the Exceptional Events Rule criteria, the EPA will not concur with an air agency's request to exclude data that have been influenced by an event of the type that is the subject of a required mitigation plan until a mitigation plan for the relevant area has been determined by the EPA to be complete.

The EPA Regional offices review mitigation plans submitted by air agencies for "completeness" (*i.e.*, inclusion of the required components in Section 3.1) and to ensure that the public comment process was followed. However, the EPA does not "approve" the plans. As noted in the Rule preamble, we believe this maximizes the flexibility of the air agency while providing for the protection of public health through the EPA's review of the required plan content and through the required public review process. Further, if air agencies have other pre-existing plans (*e.g.*, emergency episode plans, smoke management plans, or previously developed mitigation plans) that also meet the mitigation plan requirements, then air agencies can submit those plans with a cross-reference explaining how the existing plans also meet the 2016 Rule requirements.

Once an agency has submitted a mitigation plan, the EPA will review each submitted plan and verify that it includes the required elements. The EPA will notify the submitting air agency, usually within 60 days of receipt of the plan, that it has reviewed the mitigation plan and will either verify that the plan contains the required elements or identify any missing elements.

### **4.0 Conclusion**

The 2016 Exceptional Events Rule described the framework for identifying areas subject to the mitigation plan requirements of the Rule but did not establish a specific process for providing notice to states with areas newly identified as being subject to mitigation plan requirements.

This document describes the steps the EPA followed to determine event seasons and identify additional areas subject to the mitigation plan requirements. The EPA generally anticipates following this process every 5 years to identify any new areas with recurring events of the same type and pollutant that require mitigation plans to protect public health.



## Attachment A

### Additional Areas Subject to the Mitigation Requirements in 40 CFR 51.930(b)<sup>a</sup>

Pollutant	AQS Flag <sup>b</sup>	AQS Flag description	State	County/Nonattainment area boundary
Ozone	RT	Wildfire-U.S.	NV	Washoe
Ozone	RT	Wildfire-U.S.	CA	Tehama (Tuscan Buttes)
Ozone	RT	Wildfire-U.S.	CA	Ventura
PM <sub>10</sub>	RJ	High Winds	CA	Ventura
PM <sub>10</sub>	RJ	High Winds	WY	Campbell
PM <sub>10</sub>	RJ	High Winds	WY	Sweetwater
PM <sub>10</sub>	RJ	High Winds	NM	Bernalillo
PM <sub>10</sub>	RT	Wildfire- U.S.	CA	Santa Barbara
PM <sub>10</sub>	RT	Wildfire-U.S.	CA	San Joaquin Valley
PM <sub>2.5</sub>	RT	Wildfire- U.S.	CA	Butte
PM <sub>2.5</sub>	RT	Wildfire-U.S.	CA	San Joaquin Valley
PM <sub>2.5</sub>	RT	Wildfire-U.S.	CA	South Coast
PM <sub>2.5</sub>	RH	Fireworks	CA	San Joaquin Valley
PM <sub>2.5</sub>	RH	Fireworks	CA	South Coast
PM <sub>2.5</sub>	RJ	High Winds	CA	San Joaquin Valley

<sup>a</sup> The EPA identified these counties using data submitted through the Exceptional Events Submission and Tracking System, EPA's AQS, and other sources for the January 1, 2016 - December 31, 2020, timeframe. The EPA used these data to identify areas with three events or event seasons within a 3-year period.

<sup>b</sup> The complete list of AQS qualifier codes and descriptions is available at <https://www.epa.gov/aqs/aqs-code-list>.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8**

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Ref: 8ARD-PM

Nancy E. Vehr, Administrator  
Air Quality Division  
Wyoming Department of Environmental Quality  
200 West 17<sup>th</sup> Street, Third Floor  
Cheyenne, Wyoming 82002

Dear Ms. Vehr:

I am writing to inform you that the U.S. Environmental Protection Agency has finalized a list of additional areas subject to the mitigation plan requirements found in the 2016 Exceptional Events Rule and codified at 40 CFR 51.930. The enclosed background document includes a table that summarizes the portions of Wyoming the Agency has determined to have frequently recurring exceptional events of the same type and pollutant. The process that the Agency followed to identify additional areas subject to mitigation plans and the required components of mitigation plans are contained in the background document, which is also in the docket established for this rulemaking (Docket ID No. EPA-HQ-OAR-2022-0313) and on the EPA's Exceptional Events web site at <https://www.epa.gov/air-quality-analysis/treatment-air-quality-data-influenced-exceptional-events-homepage-exceptional>.

Section 319(b) of the Clean Air Act expresses Congress's intent that, in promulgating the Exceptional Events Rule, the protection of public health be the highest priority. The Agency believes fulfilling its obligation to identify additional areas with historically documented or recurrent exceptional events is an important step in fulfilling the Agency's mission to protect public health.

If you have questions or concerns, please do not hesitate to contact me at (303) 312-6416, or your staff may contact Adam Eisele, of my staff, at (303) 312-6246 or at [eisele.adam@epa.gov](mailto:eisele.adam@epa.gov).

Sincerely,

 Recoverable Signature

**X** Carl Daly

Signed by: CARL DALY

**Carl Daly**  
Acting Director  
Air and Radiation Division

Enclosure

## **Appendix B: Public Notice Comments and Division Response**

A draft version of this Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events was posted on the Division's webpage for a 30-day public comment period beginning on Monday, March 18, 2024 and ending at the close of the business day on Friday, April 19, 2024. Three (3) comments were received.

The language about the public comment notice, the three (3) comments received, and the Division's response to each comment have been added to this Appendix.

# PM<sub>10</sub> High Wind Mitigation Plan Released for Public Comment

PUBLIC NOTICE

STATE OF WYOMING

Department of Environmental Quality -Air Quality Division

PM<sub>10</sub> High Wind Mitigation Plan

The Wyoming Air Quality Division (AQD) will submit a Mitigation Plan for High Wind Exceptional Events affecting Campbell and Sweetwater Counties to EPA Region 8 in accordance with 40 CFR 51.930. The AQD is soliciting comments from the interested public on this mitigation plan. The plan is available for public comment, and the public will be allowed a period of thirty (30) days to submit written comments. Public comments must be received no later than April 19, 2024. All comments received by the close of business on April 19, 2024 will be submitted to EPA's Region 8 along with the plan and will be retained on file in the Cheyenne office.

Notice is hereby given the State of Wyoming, Department of Environmental Quality, Air Quality Division, proposes to submit the Mitigation Plan for High Wind Exceptional Events to the EPA.

Comments can be submitted to the AQD's Air Pollution Monitoring Program Manager, Mr. Mark R. Gagen, Air Pollution Monitoring Program Manager, Air Quality Division, Department of Environmental Quality, 200 West 17<sup>th</sup> Street, 3<sup>rd</sup> Floor, Cheyenne, Wyoming 82002. Comments may also be submitted electronically through the following website: (<https://aq.wyomingdeq.commentinput.com/comment/search>). Comments submitted by email will not be accepted. Interested parties may examine the documentation packet and relevant supporting materials on AQD's website <https://deq.wyoming.gov/aqd/monitoring/>. To view the document from the AQD's website (<https://deq.wyoming.gov/aqd/monitoring/>), click the Exceptional Events button and search for the document titled "PM10\_High\_Wind\_Mitigation\_Plan". In accordance with the Americans with Disabilities Act, special assistance or alternate formats will be made available upon request for individuals with disabilities. Para espanol visite [deq.wyoming.gov](https://deq.wyoming.gov).



April 9, 2024

Mr. Mark Gagen  
Air Pollution Monitoring Program Manager  
Wyoming Department of Environmental Quality  
Division of Air Quality  
200 West 17<sup>th</sup> Street  
Cheyenne, WY 82002

RE: Public Comment Period for PM<sub>10</sub> High Wind Mitigation Plan

Dear Mr. Gagen:

The Big Island Mine and Refinery (Sisecam Wyoming LLC) appreciates this first opportunity to provide feedback on the State of Wyoming Department of Environmental Quality Air Quality Division's (the Division) Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events (the Plan). As an industrial facility in Sweetwater County, we recognize that this plan directly impacts our operations. We anticipate working closely with the Division to address PM<sub>10</sub> mitigation in the future.

1. The Division's reliance on near real-time data from WyVisNet, Wyoming's industrial ambient monitoring networks, and forecasts from the Division is crucial for monitoring air quality. However, the absence of real-time viewing capabilities for the industrial monitoring networks poses challenges (Section 2.1 of the Plan). According to Figure 4, Sweetwater County only has two PM<sub>10</sub> monitors operated by the Division that can be viewed in near real-time. The data from the industrial monitoring networks are viewed through quarterly reporting efforts that are due to the Division 60 days after the report period ends. Our concern is how the Division intends to rapidly identify potential and actual exceedances without access to real-time data from the majority of the monitors in Sweetwater County. How are the two state-owned monitors sufficient to predict potential exceedances and issue timely alerts? We ask that you analyze and disclose how the monitors in the area are sufficient to provide the real-time data necessary to support a predictive warning system.
2. Section 2.1 of the Plan indicates that notifications will be sent to local representatives on the "Industrial" list and interested stakeholders. Could you clarify where this list will be generated from? Additionally, how often will it be reviewed and updated, especially considering personnel changes?
3. Section 2.2.1 of the Plan discusses Reasonably Available Control Technology (RACT) and Best Available Control Measures (BACM). Does the Division anticipate generating and implementing specific RACT and BACM requirements for individual industrial facilities? We seek clarity on the Division's approach in this regard.
4. We recommend that the Division reconsiders their notification schedule stated in Section 2.4. Expanding the forecast to include weekends and holidays would enhance public safety and awareness. By providing alerts during these crucial periods, individuals can make informed

ŞİŞECAM WYOMING LLC

254 County Road 4-6

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Green River, WY 82935 USA



decisions and take necessary precautions. We encourage the Division to evaluate the feasibility of extending the forecasting to cover weekends and holidays, ensuring that the public receives timely notifications regardless of the day of the week.

5. Section 2.5 refers to public education. We ask that the Division hold regionally specific trainings on BACMs and RACTs, as this would be very beneficial to stakeholders in Campbell and Sweetwater counties. Holding regionally specific trainings on BACMs and RACTs in collaboration with local experts, industry representatives, and community leaders would be valuable in designing and conducting these trainings. Stakeholders in Campbell and Sweetwater counties would benefit from targeted educational sessions. By tailoring the content to our region's unique needs, we can enhance understanding and implementation of effective air quality control measures.
6. Section 2.5 mentions that the Division will review the Plan every five years. However, it does not explicitly state that the public will have an opportunity to review and comment on any changes during those reviews. We recommend that the Division actively involve stakeholders, including the public, in the review process. Transparency and engagement are essential for effective environmental management. Providing a mechanism for public input ensures that diverse perspectives contribute to the Plan's evolution.
7. In Section 3.1 of Appendix A, the EPA suggests involving appropriate health department personnel in potential health advisories and recommended actions to reduce exposure. While the Plan does not currently mention local health departments' involvement, we encourage the Division to consider collaborating with them. Health departments play a critical role in safeguarding public health, and their expertise would enhance the effectiveness of advisories and mitigation efforts.

Thank you for considering our input. The Big Island Mine and Refinery looks forward to continued collaboration with the Division to ensure effective PM<sub>10</sub> mitigation measures.

Sincerely,

A handwritten signature in black ink that reads "Michael J. McGrady".

Michael McGrady  
VP of Human Resources and EHS  
Sisecam Wyoming LLC



**Department of Environmental Quality**  
*To protect, conserve and enhance the quality of Wyoming's  
environment for the benefit of current and future generations.*



Mark Gordon, Governor

Todd Parfitt, Director

April 23, 2024

Mr. Michael McGrady  
254 County Road 4-6  
Green River, WY 82935

RE: Air Quality Division's PM<sub>10</sub> Mitigation Plan

Dear Mr. McGrady,

The Wyoming Department of Environmental Quality – Air Quality Division (Division) acknowledges receipt of an April 9, 2024 comment regarding the Division's Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events (Mitigation Plan). The Division thanks you for taking the time to review and comment on the Mitigation Plan.

#### Question 1

As mentioned, the Division currently has two (2) continuous PM<sub>10</sub> monitors in Sweetwater County (Moxa Arch and Wamsutter). These PM<sub>10</sub> monitors are designated as urban scale meaning the monitors represent an area of up to 50 kilometers (31.0686 miles) in all directions from the station. The Division's ambient air monitoring networks meet the needs for monitoring, planning, and public notification outlined in the Mitigation Plan. For additional analysis and area of coverage (area served) for the Division's ambient air monitoring network please reference the Division's 2020 Network Assessment, a document that analyzes the Division's existing ambient air monitoring for potential new monitoring or where redundancies exist. Industrial facilities with ambient air monitoring have been asked to alert the Division when an exceedance of a National Ambient Air Quality Standard (NAAQS) occurs within seven (7) days if the PM<sub>10</sub> monitor is continuous or within seven (7) days of laboratory results if the PM<sub>10</sub> monitor is filter-based as requested by the Division in a letter submitted to industrial facilities in August 2017.

In addition to the Division's near real-time reading from the Wamsutter and Moxa Arch ambient air monitoring stations in Sweetwater County, the Mitigation Plan includes references to EPA's AirNow website, forecast discussions, and air quality alerts when applicable to notify interested stakeholders of forecasted events that may affect air quality and public health. The components of the Mitigation are not being implemented to "Rapidly identify potential and actual exceedances.." The Division's forecasting of High Winds and Blowing Dust Health Notification forecasts for 24 hours beginning at midnight of the current day. For example, a forecast completed on a Monday will be valid from midnight Tuesday to midnight Wednesday. An extension for an additional 24-hour period may be included if conditions warrant. If a forecast has been issued, stakeholders will receive an email to be notified of High Winds and Blowing

Dust Health Notification forecasts. The Division will also put an announcement on the Division's WyVisNet website for monitoring stations in the county(ies) affected by the forecast.

#### Question 2

The Division's list of interested stakeholders is generated from a combination of regulated facilities with contacts in the Division's Inventory, Monitoring, Permitting, and Compliance Tracking (IMPACT) system, a list from interested stakeholder organizations (e.g., Wyoming Mining Association, Wyoming Contractors Association, and the Wyoming Department of Health), and interested parties whom can sign up to be on an email list for High Winds and Blowing Dust Health Notifications. Interested stakeholders will be responsible for keeping contact information up to date. The Division will review and request contact information from interested stakeholders if determined to be outdated. Once the Mitigation Plan is uploaded to the Division's website, it will include an email notification sign-up for additional stakeholders.

#### Question 3

The Division would like to clarify that Sisecam's comment used Reasonable Available Control Technology (RACT). The Mitigation Plan defines RACT as "Reactionary Control Measures". The Mitigation Plan is not generating and implementing specific RACT and BACM requirements for individual industrial facilities. The Mitigation Plan references that the BACM for PM<sub>10</sub> is defined in the Federal Register (59 Federal Register 42010, August 16, 1994) as techniques that achieve the maximum degree of emissions reductions from a source as determined on a case-by-case basis considering technological and economic feasibility. The Mitigation Plan also references that RACT is not currently required by individual air quality permits but are actions that can be taken during a high wind event, depending on site-specific conditions. The Mitigation Plan recognizes that not all RACT can be conducted by all operations. When facilities in Campbell and Sweetwater Counties are experiencing a high wind event, the operators should implement the RACT as practical for their operation.

#### Question 4

The Division has limited resources and will only forecast for High Winds and Blowing Dust Health Notifications on the schedule provided in Section 2.4 of the Mitigation Plan. An extension for an additional 24-hour period may be included if conditions warrant. The feasibility of forecasting on the weekends and holidays may be reviewed if resources become available.

#### Question 5

Thank you for the comment on specific training on BACM and RACT. The Division will look into the feasibility of training or research other options. EPA's AirKnowledge website (<https://www.airknowledge.gov>) may provide some BACM and RACT training courses for stakeholders.

#### Question 6



Per 40 Code of Federal Regulations (CFR) Part 51.930(b)(2)(iii)(B) and as recommended in the Revised Exceptional Event Rule, the Division will conduct a review and revision, if appropriate, and recertification of this mitigation plan five (5) years after this mitigation plan is finalized. The review process will consider the adequacy and status of the main elements of the mitigation plan. If any substantive changes related to major elements of this plan occur, such as a related rulemaking that impacts this plan, the Division will evaluate and update the mitigation plan at an earlier time. A decision regarding revision and possible subsequent public comment periods will be made after each review and evaluation.

Question 7

The Mitigation Plan outlines the process the Division will follow for the forecasting and notifications for High Winds and Blowing Dust notifications. A brochure in Appendix C of the Mitigation Plan requests the public contact their health provider for further information or individual-specific health concerns. The Division has primacy for monitoring ambient air and is strictly an air regulatory agency. The Wyoming Department of Health is included on the stakeholder email list and receives notifications if High Winds and Blowing Dust Health Notification forecasts are issued. The Mitigations Plan implements and meets all the components addressed under 40 CFR part 51.930.

Thank you again for reviewing and submitting a comment on the Mitigation Plan. Your comment, this response letter, and the Mitigation Plan will be sent to EPA Region 8.

Sincerely,



Mark R. Gagen,  
Air Pollution Monitoring Program Manager

Cc: Todd Parfitt, DEQ Director  
Alan Edwards, DEQ Deputy Director  
Nancy Vehr, AQD Administrator  
Lars Lone, AQD Compliance Program Manager  
Jamie O'Dell, AQD District 3 Engineer  
Jeff Wendt, AQD District 5 Engineer  
Leif O. Paulson, Ph.D., AQD APMP Supervisor



# WYOMING MINING ASSOCIATION

1401 Airport Parkway, Ste. 230 - Cheyenne, WY 82001 - (307)-635-0331

April 19, 2024

Ms. Nancy Vehr  
Administrator, Air Quality Division  
Wyoming Department of Environmental Quality  
200 West. 17th St., 3rd Floor  
Cheyenne, WY 82002

*Submitted electronically to: [PM10 High Wind Mitigation Plan \(commentinput.com\)](https://commentinput.com)*

## **Re: Wyoming Mining Association (WMA) Comments on the Mitigation Plan for High Wind PM10 Exceptional Events Put Out for Public Comment**

Dear Administrator Vehr:

The Wyoming Mining Association (WMA) is a statewide trade organization that represents and advocates for 33 mining company members producing bentonite, coal, trona (natural soda ash), uranium, and lignite, as well as companies developing gold, lithium and rare earth element deposits. WMA also represents over 100 associate member (service and supply) companies, one electricity co-op, and one advanced nuclear power company.

WMA welcomes the opportunity to provide comments on the Wyoming DEQ - Air Quality Division (AQD) proposed Mitigation Plan for High Wind PM10 Exceptional Events. Several of our members operate mines and conduct mineral development activities in Campbell and Sweetwater counties where this Mitigation Plan applies. WMA members are particularly committed to protecting air quality and expend significant resources on best management practices to comply with the Clean Air Act statutes that govern their operations. We look forward to continuing to work with the agency on the proposed PM10 High Wind Mitigation Plan and appreciate your consideration of our comments and recommendations as you finalize this plan.

The mining industry and AQD have a long-standing working relationship to control PM10. As detailed in Section 2.2 of the Mitigation Plan, large mine operators located in Campbell County employ significant PM10 control measures including paving access roads, treatment of major and temporary haul roads with dust suppressants, enclosing active stockpiles with silos, trough barns, or similar structures, and treatment of active work areas. Furthermore, fugitive dust control measures including enclosing active stockpiles or installing dust suppression systems, minimizing equipment movement, and proper product handling and storage are implemented. The AQD and the coal mine operators in Campbell County also previously developed the Natural Events Action Plan for the Coal Mines of the Powder River Basin of Campbell and Converse Counties to address measures to be taken to respond to high wind events.

While WMA appreciates AQD's acknowledgment of the many best management control practices in place at the mine operations, little discussion is provided for other generating sources. The proposed plan should include more discussion related to other particulate matter sources and their controls. At a minimum, WMA recommends inclusion of construction and demolition activities, material storage, handling and transportation operations, and agriculture as described in Chapter 3, Section 2 of the Wyoming Air Quality Standards and Regulations.

AQD's High Wind and Blowing Dust Health Notification and Fugitive Dust educational brochure, High Winds and Blowing Dust Notification plan, and near real time PM10 data on WyVisNet are all exemplary resources to protect human health and the environment as it pertains to PM10 in Wyoming. However, WMA requests AQD remove the word industry from the first sentence of the sixth paragraph of Section 2.1 describing the public notification process. Industry is an interested stakeholder and this revision will avoid any misinterpretation that industry is the primary reason for elevated levels of PM10, which conflicts with the definition of an exceptional event.

The Mitigation Plan identifies mining as a key industrial partner as it is the primary industry conducting ambient air monitoring in these two counties. It is recommended that the plan reference the notification process and demonstration of an exceptional event can be varied depending on permit conditions, quality assurance project plans, and type of exceptional event. Additionally, the requirements for requested information depend on the exceptional event response as well as the information outlined in an AQD memo from August 25, 2017. While requirements may call for a case-by-case review for necessary supporting documentation, an update to the 2017 memo and general steps to be taken would be useful additions to the Mitigation Plan.

The WMA requests the AQD be mindful of the language used in the Mitigation Plan when referring to the storage of material by large mines, which is only applicable in Campbell County. Also, the statement from WAQSR Chapter 3, Section 2(e), found on page 13 of the plan should include the end of that statement "having an equivalent opacity of not more than 40 percent as determined by a qualified observer."

In addition to the items above WMA would like AQD to consider the following additions to strengthen the Mitigation Plan:

- A discussion of Wyoming's weather conditions, winds, and ground cover as they pertain to measurements of PM10. A better overview of the counties wind statistics in this version would also be appreciated, as reporting only the annual average is insufficient;
- An explanation of how upwind monitors and regional background levels are considered during high concentration events;
- Considerations for statistical confidence in comparisons to maximum reported values, i.e. 98th percentile included in the 3-year average;
- A comparison of requirements based on county and industry type to account for overlap of measures;

- And discussion of county population density and distance of mines from population centers.

The WMA would like to thank the AQD for leading the development of this living document. It serves, in part, to allow progress on demonstrations of exceptional events, which is a crucial win for the State and industry. It is apparent that the current administration has and continues to work closely with stakeholders in order to stand together as a State and not individual components. We believe the hard work and efforts of everyone involved will continue to keep Wyoming's air safe.

Thank you for your kind consideration. The Wyoming Mining Association appreciates the opportunity to comment, and please don't hesitate to contact me with questions or concerns.

Best regards,

A handwritten signature in black ink, appearing to read "Travis Deti".

Travis Deti  
Executive Director



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environment for the benefit of current and future generations.*



Mark Gordon, Governor

Todd Parfitt, Director

April 23, 2024

Mr. Travis Deti  
Wyoming Mining Association  
1401 Airport Parkway, Ste. 230  
Cheyenne, WY 82002

RE: Wyoming Mining Association's Comment on the Division's PM<sub>10</sub> Mitigation Plan

Dear Mr. Deti,

The Wyoming Department of Environmental Quality (DEQ) – Air Quality Division (Division) acknowledges receipt of an April 19, 2024 comment regarding the Division's Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events (Mitigation Plan). The Division thanks you and the Wyoming Mining Association (WMA) for taking the time to review and comment on the Mitigation Plan.

The WMA recommended inclusion of other sources of PM<sub>10</sub> including, at a minimum, construction and demolition activities, material storage, handling and transportation operations, and agriculture. The Division acknowledges that there are other sources of PM<sub>10</sub> emission than mining operations. These activities are now included in Table 2 of the Mitigation Plan.

The WMA requested the Division remove the word "industry" from the sixth paragraph of Section 2.1 describing the public notification process ("The Division will work with industry and interested stakeholders"...). The Division agrees that industry is a stakeholder and will remove the word industry to avoid redundancy.

The WMA requested the Mitigation Plan be updated to reference the processes for initial notification of industrial ambient air monitoring exceedances and exceptional events. Further, there is a recommendation to update the Division's memo from August 25, 2017 regarding the exceptional events process for industrial entities conducting ambient air monitoring. The Code of Federal Regulations (CFR, 40 CFR Part 51.930) defines Mitigation of Exceptional Events. The purpose of the Mitigation Plan (40 CFR Part 51.930(a)) is for a state air regulatory agency, at a minimum, to:

1. Provide for prompt public notification whenever air quality concentrations exceed or are expected to exceed an applicable ambient air quality standard.
2. Provide for public education concerning actions that individuals may take to reduce exposures to unhealthy levels of air quality during and following an exceptional event.
3. Provide for the implementation of appropriate measures to protect public health from exceedances or violations of ambient air quality standards caused by exceptional events.

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While the submission of at least three (3) exceptional event demonstrations in Campbell County and Sweetwater County has led to the development of a Mitigation Plan (40 CFR Part 51.930(b)(1)(i)(A)), the Division believes it is outside the scope of the Mitigation Plan to reference the current initial notification and exceptional events processes, but the Division is committed to review its memo from August 25, 2017 and, if warranted, update and communicate the information with stakeholders, including industry and the WMA.

The WMA requested the Division edit Table 2 on page 13 of the Mitigation Plan by adding language found in the Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 3, Section 2(e)(i). For the Mitigation Plan, it would be an additional burden to add, verbatim, each reference of the WAQSR. The Division reminds the WMA that the WAQSR may be accessed online (<https://rules.wyo.gov>).

The WMA requested the Division consider other additions to the Mitigation Plan. Below are bullet points of the Division's responses on these additions:

- Due to limited resources, the Division's in-house forecasting for High Winds and Blowing Dust Health Notifications will have to suffice for meteorological discussion.
- Every five (5) years as required by the CFR (40 CFR Part 58.10(d)), the Division conducts a network assessment of its ambient air and meteorological monitoring network. The Division recommends the WMA visit the Division's monitoring website (<https://deq.wyoming.gov/aqd/monitoring/>) to view the 2020 Network Assessment which includes a thorough discussion of existing PM<sub>10</sub> monitors.
- The three-year PM<sub>10</sub> design value calculation does not use 98<sup>th</sup> percentile concentrations. Instead, each exceedance of the existing 24-hour PM<sub>10</sub> National Ambient Air Quality Standard (NAAQS) is counted for a one (1) year period and then averaged over a three (3) year period. Compliance with the 24-hour PM<sub>10</sub> NAAQS limits a monitor to no more than one (1) exceedance of the standard per calendar year.
- Campbell County and Sweetwater County are the areas subject to the Mitigation Plan. While these counties have unique industrial activities and processes, it is beyond the scope of the Mitigation Plan to discuss specific requirements based on county and industry type. Regulations from the WAQSR presented in Table 2 of the Mitigation Plan will have to suffice.
- Regarding population density and mine distances from population centers, the Division has produced a figure from its 2020 Network Assessment that has population density from the 2010 U.S. Census and PM<sub>10</sub> monitors from the Division and industry during the period of 2014-2018. The map image is available below.

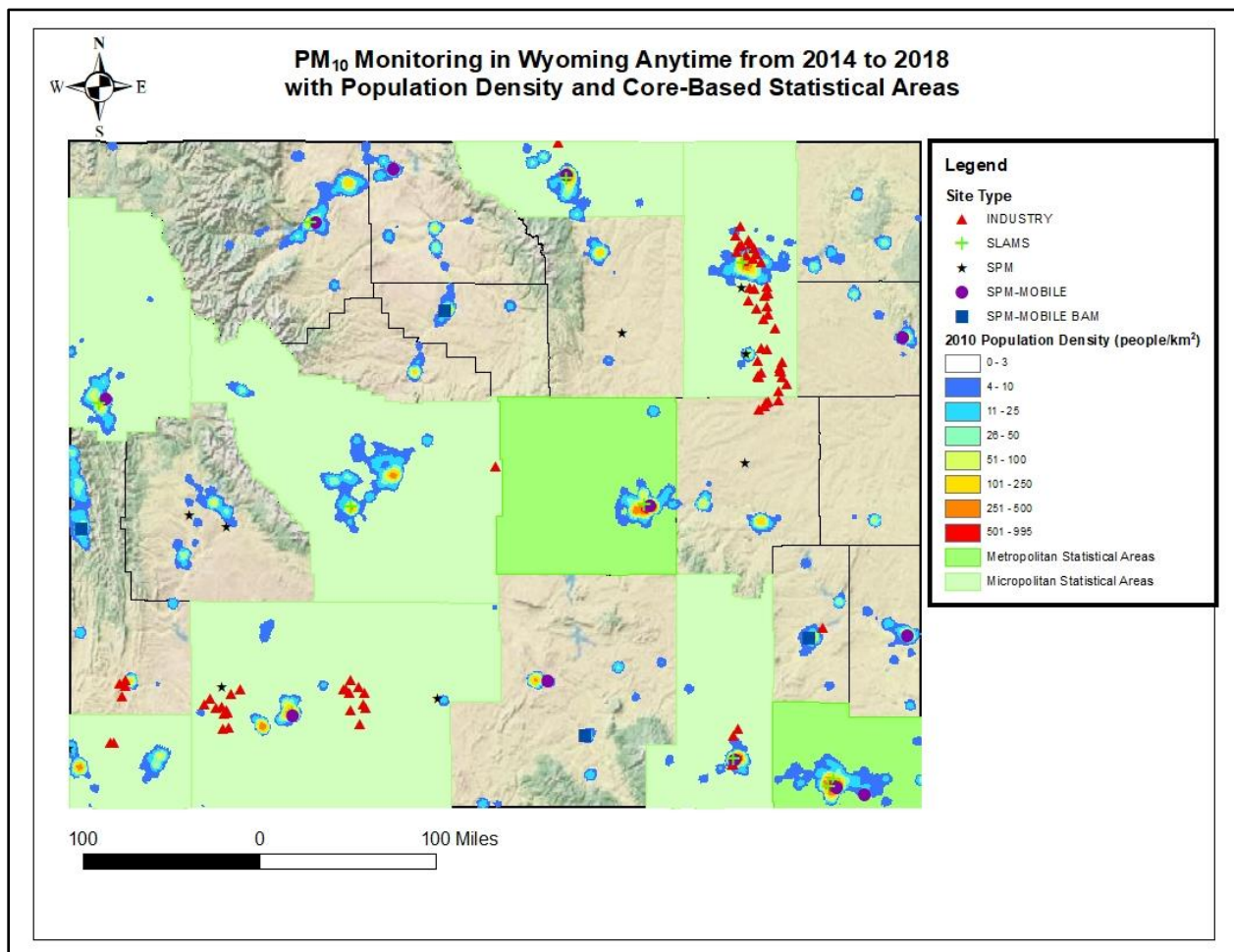
The Division again thanks the WMA for reviewing and commenting on the Mitigation Plan. The Division appreciates the thoughtful comments and looks forward to continuing collaborative efforts that benefit the State of Wyoming and its citizens. Your comment, this response letter, and the Mitigation Plan will be sent to EPA Region 8.

Sincerely,

*Mark R. Gagen*

Mark R. Gagen,  
Air Pollution Monitoring Program Manager

Cc: Todd Parfitt, DEQ Director  
Alan Edwards, DEQ Deputy Director  
Nancy Vehr, AQD Administrator  
Lars Lone, AQD Compliance Program Manager  
Jamie O'Dell, AQD District 3 Engineer  
Jeff Wendt, AQD District 5 Engineer  
Leif O. Paulson, Ph.D., AQD APMP Supervisor



**Figure 1.** PM<sub>10</sub> Monitors Active from 2014-2018 and Population Density from the 2010 U.S. Census





**Jamie Torske Olson**  
Manager Environmental Affairs  
307-464-2228  
jtorske@archrsc.com

April 19, 2024

WY Department of Environmental Quality  
Air Quality Division  
200 West. 17th St., 3rd Floor  
Cheyenne, WY 82002

**RE: Comments on Mitigation Plan for High Wind PM10 Exceptional Events, March 2024; Public Notice provided March 18, 2024**

Dear Mr. Gagen:

Thunder Basin Coal Company, LLC (TBCC) operates two surface coal mines in Campbell County, WY; these mines are described in the Mitigation Plan for High Wind PM10 Exceptional Events, currently under public comment. TBCC welcomes the opportunity to provide comment on this document and would like to emphasize the following points provided through the Wyoming Mining Association regarding this Mitigation Plan.

TBCC agrees that a great deal of care, work, and effort is managed by our operation not only comply with existing permit conditions, but to also address air quality concerns especially during times of exceptional events. It is important to maintain a state plan which maximizes flexibility for voluntary control measures as described in Section 2.2.1 such that operators can utilize the plan as a tool should exceptional events occur. Not every event will occur in the same manner nor will response be the same in each situation. This flexibility is specifically applicable to the Reactionary Control Measure (RACT) discussion. TBCC would like to see the word "will" changed to "should" in the sentence three so the plan reads as follows: *"When facilities in Campbell and Sweetwater Counties are experiencing a high wind event, the operators ~~will~~ **should** implement the RACT as practical for their operation."*

TBCC concurs with WMA that the plan should include and discuss other sources of particulate matter generated from a variety of sources and not limited specifically to coal and trona operations.

As described in the WMA comments, TBCC would also note that they too believe regular review of the Mitigation Plan will be crucial to serving its purpose; and that more robust inclusions of weather conditions, wind, ground cover, wildfire impacts, background air quality levels, statistical confidence, discussions of population density, and location of population could be included in the plan.

Finally, TBCC looks forward to working with the WY Air Quality Division on future modifications and revisions of this plan. Please let me know if you have any further questions or concerns.

Sincerely,

Jamie KT Olson  
Manager Environmental Affairs

Thunder Basin Coal Company, L.L.C.  
Black Thunder Mine  
5669 Highway 450  
PO Box 406  
Wright, WY 82732  
archrsc.com





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Mark Gordon, Governor

Todd Parfitt, Director

April 23, 2024

Mrs. Jamie Torske Olson  
Thunder Basin Coal Company, L.L.C.  
Black Thunder Mine  
5669 Highway 450  
PO Box 406  
Wright, WY 82732

RE: Thunder Basin Coal Company's Comment on the Division's PM<sub>10</sub> Mitigation Plan

Dear Mrs. Olson,

The Wyoming Department of Environmental Quality (DEQ) – Air Quality Division (Division) acknowledges receipt of an April 19, 2024 comment regarding the Division's Mitigation Plan for High Wind PM<sub>10</sub> Exceptional Events (Mitigation Plan). The Division thanks you and the Thunder Basin Coal Company (Thunder Basin) for taking the time to review and comment on the Mitigation Plan.

Thunder Basin expressed concern with flexibility over voluntary control measures that are referenced in Section 2.2.1 of the Mitigation Plan. Specifically, there is a request to edit the Mitigation Plan by removing the word "will" and replacing with the word "should" for the following sentence in Section 2.2.1: "When facilities in Campbell and Sweetwater Counties are experiencing a high wind event, the operators will implement the RACT as practical for their operation." The Division agrees that this request more closely reflects the intent and will edit the Mitigation Plan.

Thunder Basin recommended inclusion of other sources of PM<sub>10</sub> including, at a minimum, construction and demolition activities, material storage, handling and transportation operations, and agriculture. The Division acknowledges that there are other sources of PM<sub>10</sub> emission than mining operations. These activities are now included in Table 2 of the Mitigation Plan.

Thunder Basin and the Wyoming Mining Association (WMA) requested the Division consider other additions to the Mitigation Plan. Below are bullet points of the Division's responses on these additions:

- Due to limited resources, the Division's in-house forecasting for High Winds and Blowing Dust Health Notifications will have to suffice for meteorological discussion.
- Every five (5) years as required by the CFR (40 CFR Part 58.10(d)), the Division conducts a network assessment of its ambient air and meteorological monitoring network. The Division recommends the WMA visit the Division's monitoring website (<https://deq.wyoming.gov/aqd/monitoring/>) to view the 2020 Network Assessment which includes a thorough discussion of existing PM<sub>10</sub> monitors.

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- The three-year PM<sub>10</sub> design value calculation does not use 98<sup>th</sup> percentile concentrations. Instead, each exceedance of the existing 24-hour PM<sub>10</sub> National Ambient Air Quality Standard (NAAQS) is counted for a one (1) year period and then averaged over a three (3) year period. Compliance with the 24-hour PM<sub>10</sub> NAAQS limits a monitor to no more than one (1) exceedance of the standard per calendar year.
- Campbell County and Sweetwater County are the areas subject to the Mitigation Plan. While these counties have unique industrial activities and processes, it is beyond the scope of the Mitigation Plan to discuss specific requirements based on county and industry type. Regulations from the WAQSR presented in Table 2 of the Mitigation Plan will have to suffice.
- Regarding population density and mine distances from population centers, the Division has produced a figure from its 2020 Network Assessment that has population density from the 2010 U.S. Census and PM<sub>10</sub> monitors from the Division and industry during the period of 2014-2018. The map image is available below.

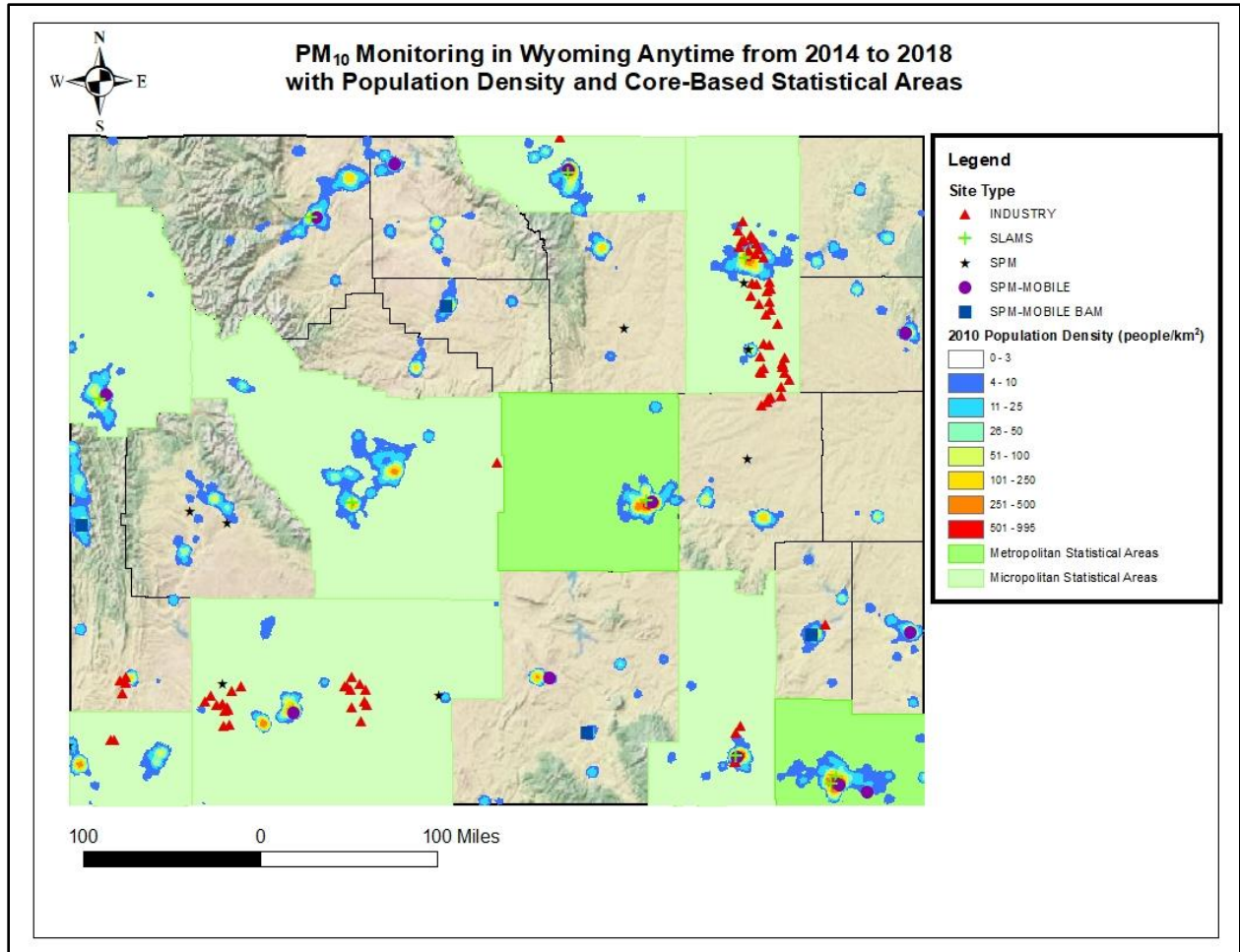
The Division again thanks Thunder Basin for reviewing and commenting on the Mitigation Plan. Your comment, this response letter, and the Mitigation Plan will be sent to EPA Region 8.

Sincerely,



Mark R. Gagen,  
Air Pollution Monitoring Program Manager

Cc: Todd Parfitt, DEQ Director  
Alan Edwards, DEQ Deputy Director  
Nancy Vehr, AQD Administrator  
Lars Lone, AQD Compliance Program Manager  
Jamie O'Dell, AQD District 3 Engineer  
Jeff Wendt, AQD District 5 Engineer  
Leif O. Paulson, Ph.D., AQD APMP Supervisor



**Figure 1.** PM<sub>10</sub> Monitors Active from 2014-2018 and Population Density from the 2010 U.S. Census

## **Appendix C: High Winds and Blowing Dust Health Notification Brochure**

## Mitigation Efforts

### What is being done to reduce PM<sub>10</sub> Pollution?

Campbell and Sweetwater County facilities subject to 40 CFR 60 Subpart Y are required to develop site-specific Fugitive Dust Control Plans.

Per Wyoming permit conditions, facilities must utilize Best Available Control Technologies to reduce or eliminate emissions. For large operations, this may include:

- The paving of access roads;
- The treating of major haul roads with a suitable dust suppressant;
- The treatment of temporary haul roads;
- The use of silos, trough barns, or similar enclosed containers for the storage of large volumes of material awaiting load out and shipment;
- The treatment of active work areas;
- The treatment of temporary ore stockpiles.

Additionally, facilities may implement Reactionary Control Measures (RACT) during high wind events. These actions may include shutting down extraneous equipment and creating wind entrapments.

## Additional Resources

Wyoming DEQ Website – Information about air quality:

<https://deq.wyoming.gov>

WyVisNet – Wyoming DEQ’s current ambient air monitoring data:

<https://www.wyvisnet.com>

Open Air – View Wyoming air permits and ambient air monitoring reports:

<https://openair.wyo.gov>

AirNow – Air quality data administered by the EPA: <https://www.airnow.gov>

Ideal conditions



Dusty conditions



## HIGH WINDS AND BLOWING DUST HEALTH NOTIFICATION BROCHURE

*Campbell and Sweetwater Counties in Wyoming*



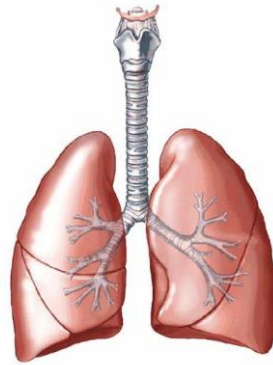
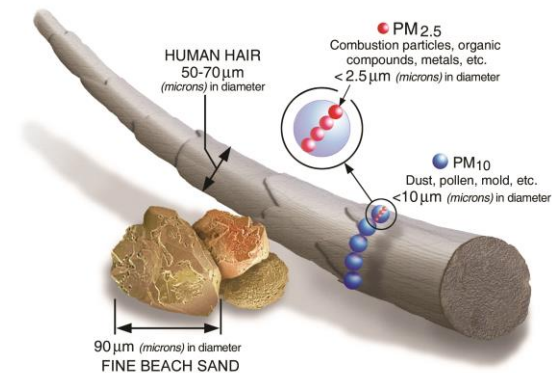
**WYOMING  
DEPARTMENT OF  
ENVIRONMENTAL  
QUALITY**

200 West 17<sup>th</sup> Street  
Cheyenne, WY 82002  
(307)777-7393

## Background

### Why are there high winds and blowing dust health notifications for Campbell and Sweetwater Counties?

High winds are not uncommon in Campbell and Sweetwater Counties in Wyoming. In low soil moisture conditions, these winds entrain particulate matter into the air and cause elevated levels of particulate matter. Occasionally, during these events, the amount of dust in the air may exceed the national and state air quality standards for particulate matter, subjecting County residents and visitors to unhealthy levels of air pollution.



### How does Particulate Matter affect human health?

Particulate matter pollution consists of liquid and solid particles floating in the air. Particulate matter having a diameter equal to or less than 10 microns are commonly referred to as PM<sub>10</sub>. PM<sub>10</sub> can be made of a mixture of particles including dust, soot, smoke, salts, and metals.

Because PM<sub>10</sub> is so small and is capable of being inhaled deep into the lungs, it is an important public health and environmental concern- especially in areas susceptible to frequent high winds that lift dust and soils into the air and transport it. Certain sensitive populations, including children, the elderly, and those suffering from pre-existing conditions including asthma, and chronic obstructive pulmonary disease are especially vulnerable to PM<sub>10</sub>'s health effects.

## Public Notification

### What is the high winds and blowing dust health notification program?

A public warning will be issued on days when wind speeds and other conditions are currently or forecasted to be conducive for blowing dust episodes. The Wyoming DEQ will forecast for high winds and blowing dust for Campbell Co and Sweetwater Co, respectively.

### What actions should be taken during a high winds and blowing dust health notification?

People with respiratory problems, the elderly, or children should limit outdoor activity in areas covered by the forecast.

Please contact your healthcare provider for further information or individual-specific health concerns.

## **Appendix D: Example Language of a High Winds and Blowing Dust Health Notification**

### **Campbell County**

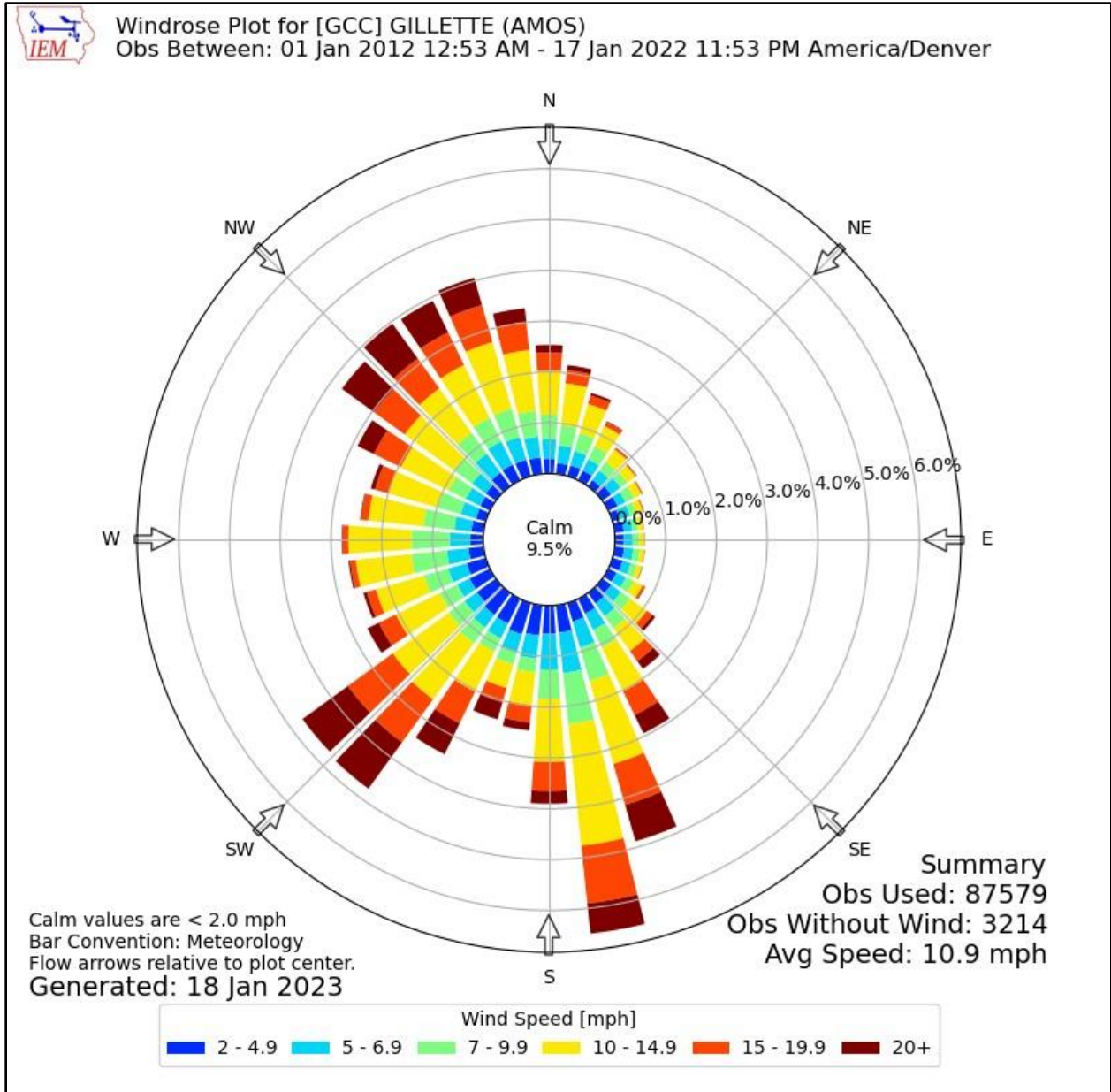
Southwest winds of 30 mph, with gusts of 45 to 55 mph possible during the period from midnight Thursday, January 18, 2024 to midnight Friday, January 19, 2024. The peak period for the high winds will be 6:00 a.m. to 9:00 p.m. The primary focus area is along and south of I-90.

### **Sweetwater County**

Southwest winds of 35 mph, with gusts of 50 to 60 mph are possible during the period from midnight Thursday, January 18, 2024 to midnight Friday, January 19, 2024. The peak period will be through 9:00 p.m. The entire county will be prone to these winds.

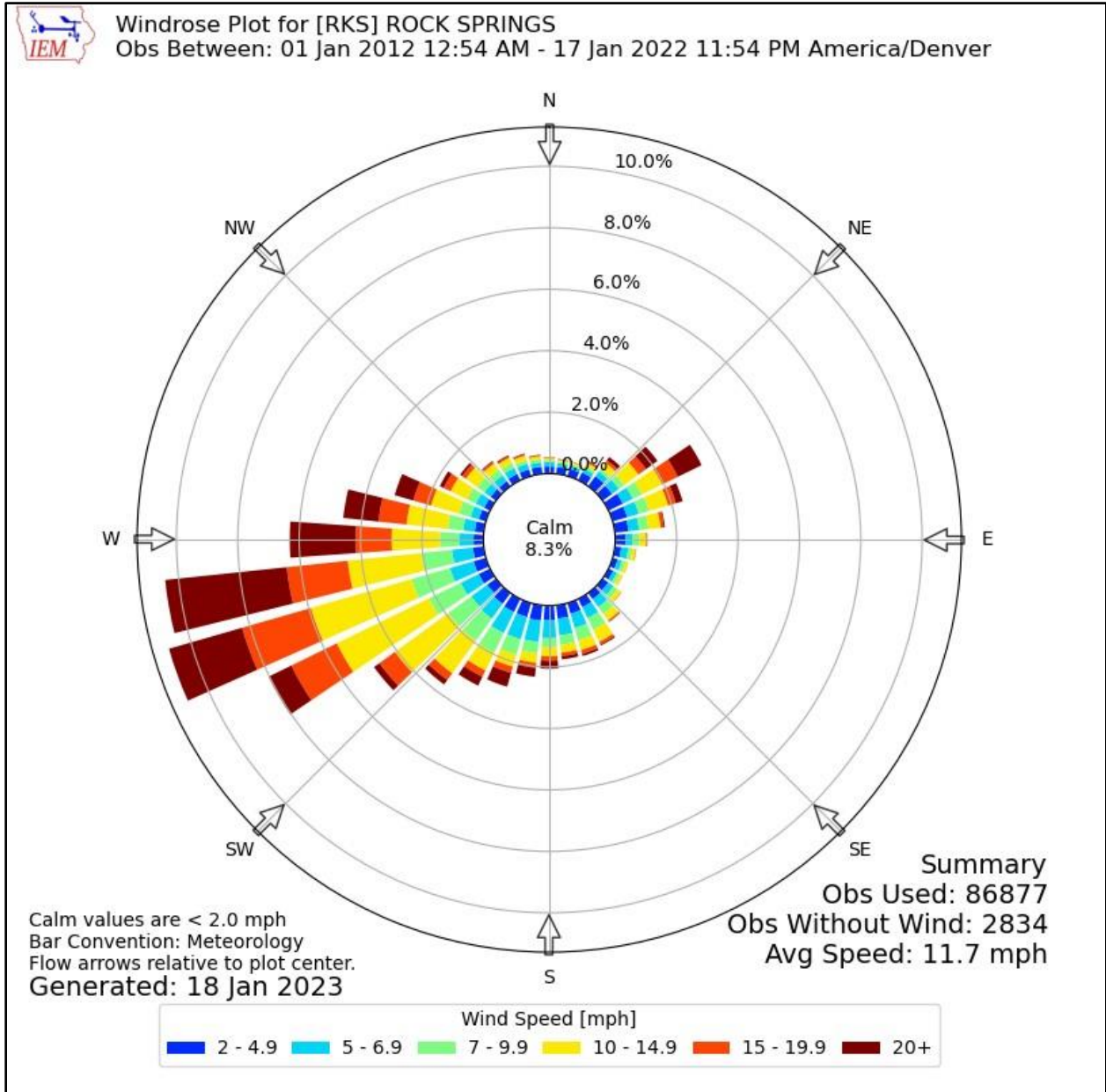


## Appendix E: Campbell County Windrose





# Appendix F: Sweetwater County Windrose



## **Appendix G: Wyoming DEQ Fugitive Dust Brochure**

## Some Suggestions

- **ASK YOURSELF**
- Is the dust affecting my breathing?
- If I know an individual (young or elderly) who suffers from breathing difficulties, would the dust affect their breathing?
- Do I have dust in my eyes or nose?
- **MAINTAIN**
- Active water logs of ALL applications; examples of effective logs are available.
- Communication with the DEQ.
- Communication with the public during various phases of the projects.

## COMMUNICATION IS KEY

Where are the

## State Regulations?

The Wyoming Air Quality Standards and Regulations (WAQSR) Chapter 3, Section 2(f) contains the regulatory requirements for emission standards for particulate matter.



**State of Wyoming**  
**Department of Environmental Quality**  
200 W. 17th St., Ste. 300  
Cheyenne, WY 82002

# Fugitive Dust

A Guide for Contractors,  
Developers and Other Entities

Communication is the key!

What is Fugitive Dust?

Contact Us

What is Required?

Suggestions

Where are the State Regulations?



# What is Fugitive Dust?

## FACTS

- It is an airborne particulate matter (PM).
- It is generated by any of the following operations:
  - » Handling and transporting of material.
  - » Construction/demolition/excavation or leveling of land.
  - » Windblown dust generated from exposed, large areas of removed land.

## COMMON ERRORS

- Dirt happens – visible emissions of any contaminant discharged in the atmosphere from any single source of emissions are a violation of the regulation.
- It rained/snowed last night – despite the extra moisture, all entities involved in construction, demolition, excavation or leveling of land must minimize fugitive dust.

## COMMUNICATION IS KEY



## Regulatory Expectations

### Contractors, Developers & Other Entities

Water and/or chemical stabilization applications shall be performed on a schedule sufficient to minimize fugitive dust.

### DEQ Air Quality Division

For more information:

#### Stationary Compliance Manager Phone

307-777-3774

#### Air Quality Division Phone

307-777-7393

#### Address

Air Quality  
200 W. 17th St., Ste. 300  
Cheyenne, WY 82002

# What is Required?

## **In accordance with Chapter 3, Section 2**

Visible emissions shall be limited to 20% opacity as determined by a qualified observer.

See regulation for what is considered a qualified observer.

## **Expectations in accordance with Chapter 3,**

### **Section 2(f)**

(i) Any person engaged in clearing or leveling of land, earthmoving, excavation, or movement of trucks or construction equipment over access haul roads or cleared land shall take steps to minimize fugitive dust from such activities. Control measures may include frequent watering and/or chemical stabilization.

(ii) Any person engaged in demolition activities including razing of homes, buildings, or other structures; or removing paving material from roads and/or parking areas shall take steps to minimize fugitive dust from such activities. Control measures may include installation and use of hoods, tarps, fans and fabric filters to enclose and vent dusty material.

### **Anticipate**


WIND – at various speeds



# Appendix H: WyVisNet Live Site Webpage Announcement Example

Back


Announcements

 WYZ055-071200- Southern Campbell including the city of Wright 302 AM MST Wed Dec 6 2023 ...BLowing DUST HEALTH ALERT IN EFFECT FOR THE SOUTHERN POWDER RIVER BASIN OF NORTHEASTERN WYOMING FROM MIDDNIGHT TONIGHT TO 5 PM MST THURSDAY... The following message is transmitted in collaboration with the Wyoming Department of Environmental Quality, Air Quality Division. \* WHAT...West to southwest winds of 25 to 35 mph with gusts to around 50 mph. \* WHERE...Southern Powder River Basin of northeastern Wyoming. \* WHEN...Midnight tonight to 5 PM on Thursday. \* IMPACTS...The strong winds will create blowing dust. PRECAUTIONARY/PREPAREDNESS ACTIONS...  
The Wyoming Air Quality Division recommends the elderly, young children, and individuals with respiratory problems avoid excessive physical exertion and minimize outdoor activities during this time. Although these people are most susceptible to health impacts, the air quality division also advises that everyone should avoid prolonged exposure to the poor air quality conditions.  
<https://www.weather.gov/cys/>

## Warbonnet

Data and images are reported in Mountain Standard Time.

**12/12/2023 12:00**



[Site Images](#)

**Location**  
Latitude: 42.719  
Longitude: -109.753  
Region: Southwest

**Quick Facts**

- The Warbonnet camera was installed in February 2008.
- The Warbonnet camera looks southwest into the Riverside and Warbonnet areas of the Pinedale Anticline gas field.