

Steve Gili

From: Steve Gili
Sent: Monday, March 18, 2013 6:46 AM
To: Kirk Billings; 'tony.hoyt@wyo.gov'; 'Cara Keslar'
Cc: Andy Thomson
Subject: Air Quality Exceedance - Black Butte Mine

All,

On Sunday March 17, 2013 Black Butte Mine recorded an exceedance of the ambient air standard for particulate matter of 150 micrograms per cubic meter for a 24 hr average concentration at the I-80 TEOM and the Pit 10 TEOM. Un-validated data shows a preliminary average concentration of 432.1 and 261.2 micrograms per cubic meter on March 17, 2013 for the I-80 and Pit 10 TEOMs, respectively. IML is in the process of validating the data for that day. This email will constitute the required notification from Black Butte to the WYDEQ of an exceedance.

We are still gathering data at this point but early indications are that we will be submitting an exceptional events package for this event. The mine recorded the highest 1 hour wind speed in the mines history on the 17th. Three of the 1 hour readings for wind speed were in the top 6 ever recorded at the mine. Recorded data goes back to 1999.

Please let me know if you have any questions or need additional information.

Regards,
Steve Gili

General Manager Black Butte Mine



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Black Butte Coal Company

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June 26, 2013

Cara Keslar, Monitoring Section Supervisor
Air Quality Division, Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

RE: March 17th, 2013 PM10 Exceedance Exceptional Event Submittal

Cara,

On March 17, 2013 the I-80 TEOM at Black Butte Mine had a 24-hour PM10 concentration of 431.8 $\mu\text{g}/\text{m}^3$. Additionally, the Pit 10 TEOM had a 24-hour PM10 concentration of 260.3 $\mu\text{g}/\text{m}^3$. These are in exceedance of the federal 24-hour standard of 150 $\mu\text{g}/\text{m}^3$. Black Butte contends that these reading's are the result of an Exceptional Event and that the event on March 17th meets all requirements of the Exceptional Event Rule set forth in 40 CFR part 50.14(c)(3)(iii). Please find the enclosed report that provides the documentation and justification for this conclusion.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Gili', written over a horizontal line.

Steve Gili
General Manager, Black Butte Coal Company

Enclosure:

Black Butte Coal Mine Exceptional Events Documentation for the Event on March 17, 2013, I-80 and Pit 10 TEOM Locations

Produced by:

Black Butte Coal Company

June 26, 2013



EXECUTIVE SUMMARY

On March 17, 2013 the I-80 and Pit 10 TEOM's located at Black Butte mine in Sweetwater County, Wyoming recorded 24-hour average concentrations of $431.8 \mu\text{g}/\text{m}^3$ and $260.3 \mu\text{g}/\text{m}^3$, respectively. These readings are in exceedance of the federal 24-hour PM10 standard. Black Butte believes that this exceedance is the result of an Exceptional Event as determined by the Environmental Protection Agency.

On March 22, 2007 the EPA promulgated the Exceptional Events Rule (EER) to address exceptional events in 40 CFR Parts 50 and 51. The EER allows for states and tribes to "flag" air quality monitoring data as an exceptional event and exclude that data from use in the determination of exceedances or violations of the National Ambient Air Quality Standards (NAAQS), provided the EPA concurs with the demonstration submitted.

This report is intended to provide documentation and support that the exceedance of the $150 \mu\text{g}/\text{m}^3$ 24 hr PM10 standard that occurred at the Black Butte Mine on March 17, 2013 qualifies as an exceptional event under the EER by meeting all requirements set forth in 40 CFR Part 50.14(c)(3)(iii). Black Butte Coal Company contends that the exceedance that was measured on March 17, 2013 was a result of natural events that were not reasonably controllable or preventable.

Section I of this report provides a history and basic information of the Black Butte mine. As well as providing some background as to why and when operations were taking place in Pit 10 and Pit 11.

Section II of this report is a narrative of events that lead up to and during the event in question. It includes information from notes, reports and eye-witness accounts taken before and during the event.

Section III of this report details the model of the high wind event that occurred on March 17, 2013 and provides the explanation that "the event affected air quality". This section provides evidence that it was a "natural event". It also clearly demonstrates the clear causal relationship to high wind event and the measurements taken on the 17th that resulted in the exceedance of the 24-hour PM10 standard.

Section IV of this report provides the factual evidence that despite taking all possible and required actions to prevent and control the event, the event on March 17, 2013 was not reasonably controllable or preventable.

Section V of this report provides the graphical data evidence that the event on March 17, 2013 caused measurement concentrations beyond normal historical fluctuations.

Section VI of this report builds upon the data provided in Sections II through V to provide clear evidence that no exceedance on March 17, 2013 would have occurred "but for" the presence of the natural event.

Section VII of this report provides conclusions and summarizes the exceptional event and how they relate to the rules and requirements in the EER.

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Appendix A – Wind and PM10 data compiled by Intermountain Labs for the I-80 and Pit 10 TEOM location's on March 17, 2013

Appendix B – Action Plan Event Log Action Reports for March 17, 2013

Appendix C – Black Butte Coal Equipment Timecards for March 17, 2013

DOCUMENTATION REQUIREMENTS OF THE EXCEPTIONAL EVENTS RULE (EER)

Section 50.14(c)(3)(iii) of the EER states that in order to justify excluding air quality monitoring data, evidence must be provided to satisfy the following elements:

1. The event satisfies the criteria set forth in 40 CFR 501(j) that:
 - a. The event affected air quality,
 - b. The event was not reasonably controllable or preventable, and
 - c. The event was caused by human activity unlikely to recur in a particular location or was a natural event;
2. There is a clear causal relationship between the measurement under consideration and the event;
3. The event is associated with a measurement concentration in excess of normal historical fluctuations;
4. There would have been no exceedance or violation but for the event.

Section I of this report provides a history and basic information of the Black Butte mine. As well as providing a background as to what, why and when operations were taking place in Pit 10 and Pit 11.

Section II of this report is a narrative of events that lead up to and during the event in question. It includes information from notes, reports and eye-witness accounts taken before and during the event.

Section III of this report details the model of the high wind event that occurred on March 17, 2013 and provides the explanation that “the event affected air quality”. This section provides evidence that it was a “natural event”. It also clearly demonstrates the clear causal relationship to high wind event and the measurements taken on the 17th that resulted in the exceedance of the 24-hour PM10 standard.

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Section V of this report provides the graphical data evidence that the event on March 17, 2013 caused measurement concentrations beyond normal historical fluctuations.

Section VI of this report builds upon the data provided in Sections II through V to provide clear evidence that no exceedance on March 17, 2013 would have occurred but for the presence of the natural event.

Section VII of this report provides conclusions and summarizes the exceptional event and how they relate to the rules and requirements in the EER.

I. BACKGROUND INFORMATION FOR THE EVENT

Black Butte Coal mine, located in Sweetwater County, Wyoming is a surface coal mining operation with annual production between 2 and 6 million tons per year. Mining operations consist of multiple open cut pits of varying depth, seam quality and thickness. Overburden removal is primarily done by two BE 1570 draglines, one 17 yard Komatsu PC2000 Hydraulic excavator, two Cat 992 Front-end loaders and a fleet of Cat 777 haul trucks. Production and maintenance operations run 24 hours a day, 7 days and week on 12 hour shifts. Shift start and stop times are from 6 to 6. Due to multiple pits and the large permit area of Black Butte the mines air quality is monitored by 4 TEOM's at various locations of the mine's boundary. Active mining operations are being done in Pit's 10, 11 and 14. Reclamation activities are taking place in Pit's 3, 5, 8 and 9. No production operations are currently taking place in those pits. The mine is bisected by the Union Pacific (UP) main line. Dragline #1 operates on the Northeast side of the UP line in Pits 10 and 11, and Dragline #2 operates on the southwest side of the UP line in Pit 14. Figure I.1 shows the current pit boundaries and TEOM locations.

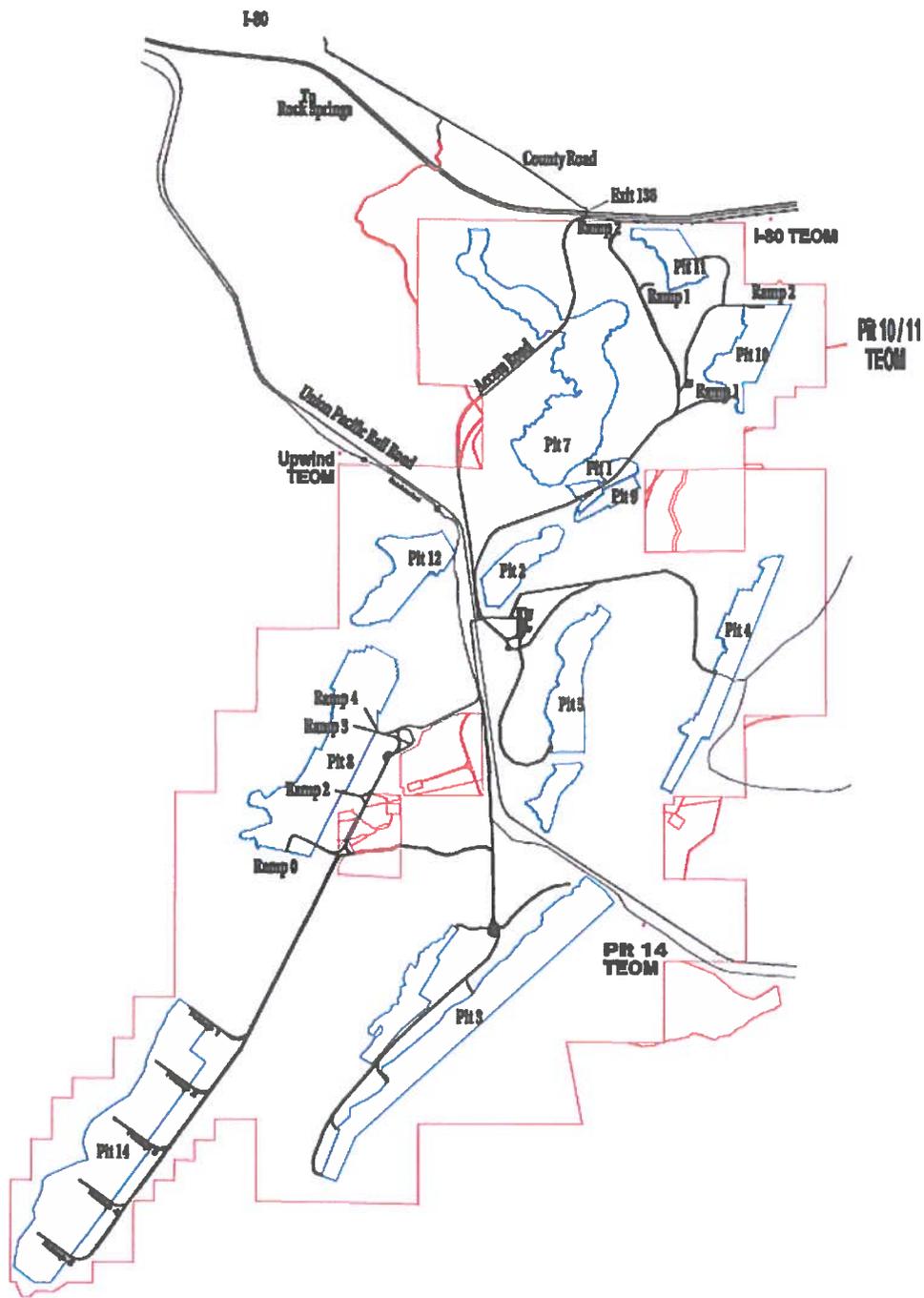


Figure I.1

On the day of the event, March 17, 2013, Dragline #1 was located in the north end of Pit 11 in a production capacity uncovering coal. A D11 dozer, 5-2661 had been working in Pit 11 Ramp 2 to re-establish the coal access ramp that had been regraded by Dragline #1 in the prior months. Figure I.2 shows the location of operations prior to and during the date of March 17, 2013.



Figure 1.2

No operations were taking place in Pit 10 other than water trucks working to control the dust. The mine had been experiencing relatively high winds and resultant high PM10 concentrations for several days prior and had idled or moved operations to other areas that were less affected by the high winds. On March 15th truck operations were in Pit 10 removing topsoil in advance of the cut until 6:00 pm. At this point work in Pit 10 was halted until more favorable wind conditions existed. Water trucks followed the suspension of topsoil stripping in Pit 10 by applying 119,000 gallons of water in the Pit 10 topsoil stripped areas to control dust, in compliance with Condition 15 of the Black Butte Coal Air Quality permit MD-7424.

Dragline #2 was working in Pit 14 and all truck operations had been moved to Pit 14 on the south end of the mine.

II. NARRATIVE OF ACTIONS LEADING UP TO AND DURING THE EVENT

Starting on March 15, 2013 southwest Wyoming started experiencing relatively high wind speeds throughout the day. At times the resultant PM10 concentrations at the Pit 10 and I80 TEOM locations were high enough to instigate shutdowns of operations in both Pit 10 and Pit 11. At 12:30 pm on the 15th all pit operations in Pit 10 and Pit 11 were shutdown due to high hourly PM10 concentrations at I 80 TEOM. Hourly wind speeds were in the high teens to low twenties with max gusts of up to thirty miles per hour. At 2:30 pm truck operations in Pit 10 topsoil stripping resumed. All other operations on the north end of the mine remained idled. By 4:00 pm hourly PM10 concentrations at the Pit 10 TEOM were again starting to climb so the decision was made to again idle truck operations in Pit 10. Due to the projections for high winds over the next couple of days the decision was made at 6:00 pm on the 15th to move truck operations from Pit 10 to Pit 14. For all of nightshift on the 15th no operations other than water trucks were conducted in Pit 10. Dragline and Dozer operations in Pit 11 remained idled until 1:00 am. The wind speed at this time was 1 mile an hour. Both mine water trucks were operated continuously on the 15th. They were assigned to apply water as needed in the Pit 10 and 11 roads, prestrip, spoils and highwall areas. A total of 544,000 gallons of water was applied to these areas on the 15th.

Day shift of the 16th started at 6:00 am. Dragline #1 and dozer 61 continued to work in Pit 11. No work other than water trucks were conducted in Pit 10. At 1:00 pm on the 16th wind speeds had again climbed into the low twenties with gusts into the low forties. At 1:30 pm on the 16th dragline #1 and dozer 61 in Pit 11 were again idled and only water trucks continued to operate in Pit 11. By 8:00 pm on the 16th wind speeds had died down the low teens and the decision was made to return Dragline #1 and dozer 61 to operation in Pit 11. Both machines continued to work in Pit 11 until 5:00 am on the 17th when they were both again idled. The decision to idle the machines was not due to high PM10 concentrations at the time but rather due to the expectation of extreme winds later in the day on the 17th. At 5:00 am the 24-hour PM 10 concentrations at the I-80 TEOM was 50.4 $\mu\text{g}/\text{m}^3$. Both mine water trucks were in operation on the 16th. They applied 663,000 gallons of water to the Pit 10 and 11 roads, spoils, prestrip and highwall areas.

Significant snowfall occurred at the start of dayshift on the 17th. The decision was made to run Dragline #1 since the snowfall was working well to control dust emissions. Hourly PM10 concentrations between the hours of 6:00 am and 11:00 am on the 17th ranged from 6.5 to 57.5 $\mu\text{g}/\text{m}^3$. Wind speeds were in the low twenty mile per hour range. The snowfall that morning had made road conditions unsafe so water trucks were not being run, but also were not needed.



Figure II.1 Snow conditions on the morning of March 17th.

At 12:00 pm hourly PM10 readings at the I-80 and Pit 10 TEOM's began to rise. At 1:00 pm the I-80 TEOM registered a 1 hour reading of 1,871.1 $\mu\text{g}/\text{m}^3$. Sustained wind speed of 31.1 miles per hour was recorded at 1:00 pm with gusts up to 52.4 miles per hour. At approximately 1:30 pm on the 17th Field Superintendent Mr. Karl Weiby, made the decision to shut down Pit 11 operations. There is roughly a 22 minute delay from when the TEOM readings are taken to when they are posted on the IML website. At 2:00 pm field personnel felt it was safe to put water trucks to work in Pit 11 and Pit 10.



Figure II.2 Road conditions late morning of March 17th.

At this point Mr. Weiby assigned both water trucks to treat the Pit 10 and Pit 11 highwalls, Out-of-Pit stockpiles, Inactive spoils, topsoil stripped areas and haulroads with additional water. At 2:00 pm the hourly PM10 concentrations at the I-80 and Pit 10 TEOMS had dropped but still read high at 1,375.5 and 316.2 $\mu\text{g}/\text{m}^3$, respectively. Mr. Weiby made the decision at 2:00 pm to shut down Pit 14 operations as well. These were the only remaining pit operations taking place at the mine. Water trucks continued to run in Pit 10 and Pit 11 working the areas they were previously assigned to. In total on the 17th the mine water trucks applied 357,000 gallons of water to areas of the mine including the Pit 10 and 11 spoils, prestrip areas and out-of-pit stockpiles.



Figure II.3 Watering activities on the afternoon of March 17th.

By 3:00 pm sustained wind speeds at the mine had reached 38.1 miles per hour with gusts up to 66 miles per hour. The 3:00 pm hourly PM10 concentrations were 3,904.8 $\mu\text{g}/\text{m}^3$ at the I-80 TEOM and 1,725.3 $\mu\text{g}/\text{m}^3$ at the Pit 10 TEOM. It was clear that water trucks were not much if any effect on the air borne dust due to the extreme wind speeds seen. By 4:00 pm the sustained wind speed had increased to 40.9 miles per hour with gusts as high as 63.7 miles per hour. The hourly PM10 concentrations remained exceptionally high as well.



Figure II.4 Conditions at Dragline #1 on the afternoon of March 17th.



Figure II.5 Dust coming from regrade areas at Pit 8 on March 17th.



Figure II.6 Dust coming from topsoiled reclaim area in Pit 9 on March 17th.

By 5:00 pm the wind speeds still remained exceptionally high but PM10 concentrations began to fall. This we believe is due to a slight change in wind direction. During the hours of the extreme PM10 concentrations, 1:00 pm to 4:00 pm the wind direction was between 262 and 266 degrees. By 5:00 pm the direction had moved slightly to 272 degrees. The change is not dramatic but given how close the I-80 and Pit 10 TEOM's are to active pit operations even a small change in wind direction can have a noticeable effect. By 6:00 pm wind speeds had dropped to the low thirties and had moved to a more southeastern direction of 280 degrees. Hourly PM 10 concentrations dropped as well. The night shift Field Superintendent, Mr. Bill Haeck, kept all Pit 10 and Pit 11 operations idled for the entire shift, except for water trucks that continued to work in Pit 10 and Pit 11. Pit 14 operations were resumed at 12:00 am on the 18th. Table II.1 and Table II.2 list the significant wind speed, wind direction and hourly and 24-hour PM10 readings recorded between March 15 -17, 2013 for the I-80 TEOM and Pit 10 TEOM and the actions the mine took in response to those readings.

Date/Time	Wind Speed / Direction	Hourly PM10 I-80/Pit 10	24-Hour PM10 I-80/Pit 10	Actions
3/15/13 06:00 am	3.6/12	17.1 / 11.7	33.2 / 17.8	Drag #1 operating in Pit 11. Truck fleet stripping topsoil in Pit 10. Water trucks operated and assigned to cover Pit 10 and 11 prestrip, spoils and highwall areas.
3/15/13 12:30 pm	19.5/268	401.8 / 116.2	53.6 / 28.6	All Pit 10 and Pit 11 operations were idled due to high winds and resulting high PM10 readings.
3/15/13 02:30 pm	20.6/271	106.9 / 56.7	67.8 / 37.4	Pit 10 truck operations returned to work.
3/15/13 06:00 pm	18.8/270	93.7 / 30	68.9 / 44.3	All Pit 10 and 11 operations idled. Water trucks were assigned to cover Pit 10 and 11 spoils, prestrip and highwall areas.
3/16/13 01:00 am	2.3/44	12 / 10.2	64.1 / 42.4	Drag #1 returned to operation in Pit 11. Idled 81 water truck for rest of shift.
3/16/13 06:00 am	1.3/69	13.3 / 12.3	63.3 / 42.3	Pit 11 operations in operation at start of shift. Both water trucks put into service to address Pit 10 and 11 prestrip, spoils and highwall areas.
3/16/13 01:30 pm	24/265	351.3 / 69.8	48.6 / 29.8	Pit 11 operations idled due to high PM10 readings. Water trucks continued to operate in Pit 10 and 11.
3/16/13 06:00 pm	20/280	9.8 / 28.7	44.9 / 28.9	Pit 11 operations idled due to high PM10 readings. Water trucks continued to operate in Pit 10 and 11.
3/16/13 08:00 pm	12.5/255	11.1 / 17.5	44 / 28.5	Drag #1 returned to operation in Pit 11.
3/17/13 05:00 am	19.8/245	164.4 / 168.9	50.4 / 33.6	Drag #1 was idled due to high winds.
3/17/13 06:00 am	15.4/228	9.6 / 10.7	50.4 / 33.8	Drag #1 returned to service in Pit 11. Water trucks did not operate due to snow and poor road conditions.
3/17/13 01:30 pm	31.1/266	1871 / 447.2	127.9 / 54.8	Drag #1 was idled due to high PM10 readings.
3/17/13 02:00 pm	35.2/262	1375 / 316.2	176.3 / 63.2	Water trucks were put into service after evaluation of road conditions determined they were safe for truck traffic. Assigned to cover Pit 10 and 11 prestrip, spoils, out-of-pit stockpiles and highwall areas. Drag #2 was idled due to high winds.
3/17/13 06:00 pm	33.1/281	66.7 / 328.8	438 / 255.9	All operations remained idled. Water trucks continued to work in Pit 10 and 11 prestrip, spoils, out-of-pit spoils and highwall areas.
3/18/13 12:00 am	7.9/259	35 / 40.4	431.8 / 260.3	Put Drag #2 back in operation.
3/18/13 06:00 am				Pit 10 and 11 operations remained idled. Notifications made to WYDEQ-AQD. Continued to operate water trucks throughout mine.

Table II.1

Operations in Pit 10 and Pit11 remained idled on dayshift of the 18th due to projected high winds. At 6:46 am Black Butte General Manager, Mr. Steve Gili, notified Mr. Kirk Billings, Mr. Tony Hoyt and Ms. Cara Keslar all with the Wyoming Department of Environmental Quality -Air Quality Division, that the

un-validated March 17, 2013 readings from the I-80 and Pit 10 TEOM's indicated an exceedance of the 24 Hr PM10 standard.

III. METEOROLOGICAL CONDITIONS ON MARCH 17, 2013 AND ITS EFFECT ON AIR QUALITY

As collected average hourly data on March 17, 2013 resulted in an average wind speed of 20.8 mph, maximum wind speed of 40.9 mph and minimum wind speed of 4.5 mph. The predominant wind direction was from the West sector with 58.3% of the possible winds coming from the West. Maximum recorded wind speed on this day was 66 mph, recorded at 3:00 pm. Appendix A includes charts and graphs of wind speed and direction for March 17, 2013. The mine started seeing sustained 1-hour wind speeds in excess of 30 mph at 1:00 pm. Hourly wind speed readings remained above the 30 mph mark until 7:00 pm. The maximum 1-hour wind speed recorded on March 17 was 40.9 mph. This is the highest 1-hour reading in the history of Black Butte mine. Records go back to 1999. During this exact same time period the mine recorded wind gusts in excess of 50 mph with the maximum wind speed of 66 mph. 66 mph is highest recorded wind speed in the history of Black Butte mine. The two highest hourly PM10 recordings on March 17, 2013 for both the I-80 TEOM and Pit 10 TEOM correspond exactly with the hour timing of the highest ever recorded 1-hour wind speed and the highest ever recorded wind speed at Black Butte.

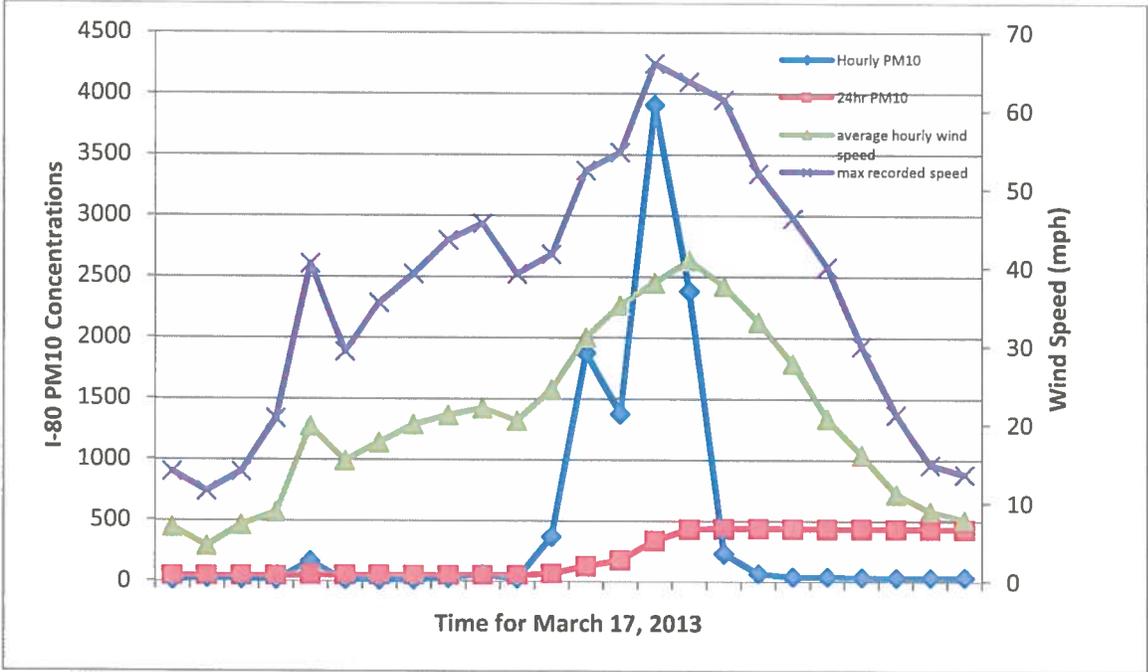


Figure III.1

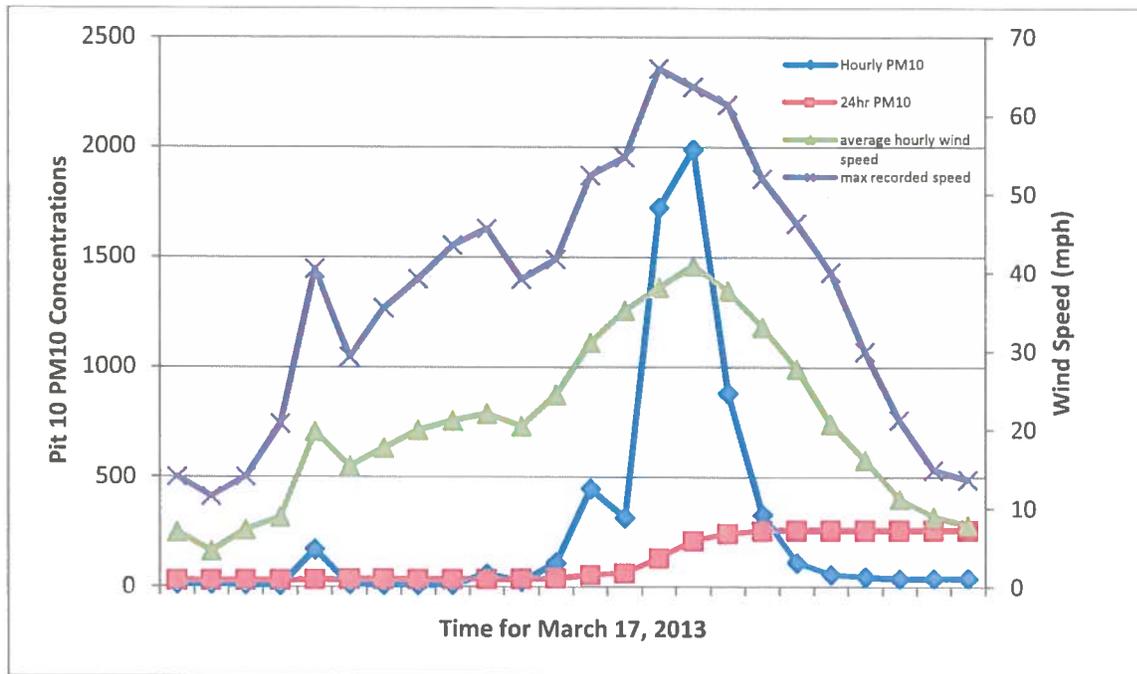


Figure III.2

Figure III.1 and Figure III.2 show the correlation of wind speed and PM10 concentrations recorded on March 17, 2013 for the I-80 TEOM and the Pit 10 TEOM. As has been seen in the past once sustained wind speeds go above the 30 mph mark the approved controls utilized by Black Butte Coal begin to have diminished effectiveness.

Table III.1 and Table III.2 provide the maximum wind speed recorded during each hour and the corresponding Hourly PM10 concentration recorded at the I-80 TEOM and the Pit 10 TEOM, respectively. Highlighted cells in the hourly wind speed column represent values greater than 30 mph. Highlighted cells in the hourly PM10 concentration column represent values greater than $150 \mu\text{g}/\text{m}^3$. Note the correlation.

Time	Hourly Wind Speed (mph)	Max Wind Speed (mph)	I-80 Hourly PM10 Conc.
03/17/2013 01:00 AM	6.9	14	8.9
03/17/2013 02:00 AM	4.5	11.5	21.3
03/17/2013 03:00 AM	7.2	14	12.4
03/17/2013 04:00 AM	8.8	20.8	11.4
03/17/2013 05:00 AM	19.8	40.5	164.4
03/17/2013 06:00 AM	15.4	29.3	9.6
03/17/2013 07:00 AM	17.7	35.5	6.5
03/17/2013 08:00 AM	20	39.2	8.2
03/17/2013 09:00 AM	21.2	43.5	23.2
03/17/2013 10:00 AM	22.1	45.6	57.5
03/17/2013 11:00 AM	20.5	39.2	20.9
03/17/2013 12:00 PM	24.5	41.7	368.2
03/17/2013 01:00 PM	31.1	52.4	1871.1
03/17/2013 02:00 PM	35.2	54.7	1375.5
03/17/2013 03:00 PM	38.1	66	3904.8
03/17/2013 04:00 PM	40.9	63.7	2380.9
03/17/2013 05:00 PM	37.7	61.4	232.6
03/17/2013 06:00 PM	33.1	52	66.7
03/17/2013 07:00 PM	27.8	46.3	38.8
03/17/2013 08:00 PM	20.8	40.1	40
03/17/2013 09:00 PM	16.2	30	35.4
03/17/2013 10:00 PM	11.2	21.3	31.5
03/17/2013 11:00 PM	9	14.9	33.2
03/17/2013 12:00 AM	7.9	13.7	35

Table III.1

83.3% of hourly PM10 readings at the I-80 TEOM that were above 150 $\mu\text{g}/\text{m}^3$ occurred when hourly wind speeds were above 30 mph, only one reading higher than 150 $\mu\text{g}/\text{m}^3$ did not. Average PM10 concentrations during the period when hourly wind speeds were greater than 30 mph was 1,639 $\mu\text{g}/\text{m}^3$. The average PM10 concentration for the rest of the day was 51.4 $\mu\text{g}/\text{m}^3$.

Time	Hourly Wind Speed (mph)	Max Wind Speed (mph)	Pit 10 Hourly PM10 Conc.
03/17/2013 01:00 AM	6.9	14	10.9
03/17/2013 02:00 AM	4.5	11.5	10.5
03/17/2013 03:00 AM	7.2	14	7
03/17/2013 04:00 AM	8.8	20.8	4.8
03/17/2013 05:00 AM	19.8	40.5	168.9
03/17/2013 06:00 AM	15.4	29.3	10.7
03/17/2013 07:00 AM	17.7	35.5	7.7
03/17/2013 08:00 AM	20	39.2	6.4
03/17/2013 09:00 AM	21.2	43.5	8.7
03/17/2013 10:00 AM	22.1	45.6	56.9
03/17/2013 11:00 AM	20.5	39.2	23.9
03/17/2013 12:00 PM	24.5	41.7	108.9
03/17/2013 01:00 PM	31.1	52.4	447.2
03/17/2013 02:00 PM	35.2	54.7	316.2
03/17/2013 03:00 PM	38.1	66	1725.3
03/17/2013 04:00 PM	40.9	63.7	1989.7
03/17/2013 05:00 PM	37.7	61.4	882.3
03/17/2013 06:00 PM	33.1	52	328.8
03/17/2013 07:00 PM	27.8	46.3	110.8
03/17/2013 08:00 PM	20.8	40.1	56.7
03/17/2013 09:00 PM	16.2	30	47.2
03/17/2013 10:00 PM	11.2	21.3	38.9
03/17/2013 11:00 PM	9	14.9	39.5
03/17/2013 12:00 AM	7.9	13.7	40.4

Table III.2

71.4% of hourly PM10 readings at the Pit 10 TEOM that were above $150 \mu\text{g}/\text{m}^3$ occurred when hourly wind speeds were above 30 mph, only two reading higher than $150 \mu\text{g}/\text{m}^3$ did not. Average PM10 concentrations during the period when hourly wind speeds greater than 30 mph was $948 \mu\text{g}/\text{m}^3$. The average PM10 concentration for the rest of the day was $42.1 \mu\text{g}/\text{m}^3$.

The National Weather Service (NWS) report for March 17 indicated identical weather and severity conditions as what Black Butte saw. The following is an excerpt from the NWS report summary for March 17, 2013.

“A quick moving system brought through a sharp cold front with some snow, and a lot of wind. There were reports of trees down in Fremont and Sweetwater Counties, one of which fell on a police cruiser; there were also reports of three business signs around Rock Springs being blown down, among other damage.”

The NWS’s monitoring station as Bitter Creek, 5 miles from the Black Butte mine recorded a maximum wind gust of 71 mph.

The meteorological conditions recorded at the Black Butte mine as well as the National Weather Service’s own monitoring data clearly indicate that a strong storm with extreme wind speeds moved through the area on March 17, 2013. Furthermore, when this data is cross-referenced with the PM10 data recorded at both the I-80 TEOM and the Pit 10 TEOM it becomes clear that the abnormally high PM10 concentrations recorded on March 17th were a direct result of the exceptionally strong winds.

IV. EVENT WAS NOT REASONABLY CONTROLLABLE OR PREVENTABLE

Mining operations had not taken place in Pit 10 since 4:00 pm on March 15, 2013. At that time the mine was stripping topsoil in advance of the pit and due to high winds, truck operations were moved to Pit 14. Following the removal of the truck fleet from Pit 10 on the 15th of March the only activity that had taken place in Pit 10 was water truck work to treat the prestripped area and control dust in the area.

Dragline #1 was working in Pit 11 on March 17th. For the prior two days it had been idled at various times due to high winds and the possibility of high dust emissions. During the morning of March 17th truck operations were taking place in Pit 14. Due to snowfall experienced in the morning of the 17th and consequently muddy road conditions. No water trucks were running due to safety reasons and the lack of need. By noon winds were starting to increase on the mine, but still remained in the low 20 mph range. This is not uncommon for the mine. It was not until 1:00 pm that winds increased to the 30 mph range and corresponding high dust emissions. The 1:00 pm hourly PM10 reading at the I80 TEOM reached 1,871 $\mu\text{g}/\text{m}^3$. This reading would have been posted to the IML monitoring site at approximately 1:25 pm. By 1:30 pm the call was made to shut down Dragline #1. At 2:00 pm the call was made that the road conditions on the North end of the mine had improved enough to safely dispatch water trucks to treat potential areas. Additionally, mine operations in Pit 14 were idled at 2:00 pm as well even though we were not experiencing high PM10 readings on the Pit 14 TEOM at the time. This was done so that all water trucks could be used to combat potential problems on the North end of the mine. Winds increased between 1:00 pm and 2:00 pm reaching sustained speeds of 35 mph and maximum speeds of 54 mph. In spite of this we did see a decrease in the 1 hour PM10 reading at the I80 TEOM and the Pit 10 TEOM. The 2:00 pm reading at the I80 TEOM was 1,375 $\mu\text{g}/\text{m}^3$, a drop of almost 500 points. The Pit 10 TEOM recorded a 1-hour reading of 316 $\mu\text{g}/\text{m}^3$ at 2:00 pm. This was a drop of 131 points from the 1:00 pm reading.

By 3:00 pm winds speeds continued to increase reaching a level of 38 mph with maximum speeds of 66 mph. The reading of 66 mph is the highest recorded wind speed ever at Black Butte. Water trucks continued to work on all accessible areas of Pit 10 and Pit 11 during this timeframe. Ultimately, they were having limited effect due to the extreme wind speeds experienced. The 3:00 pm 10hour PM readings at the I80 TEOM and Pit 10 TEOM were 3,904 $\mu\text{g}/\text{m}^3$ and 1,725 $\mu\text{g}/\text{m}^3$, respectively. At 4:00 pm sustained wind speeds reached their maximum value of 40.9 mph. This reading is the highest sustained wind speed ever recorded at Black Butte. By the 5 o'clock hour wind speeds began to decrease to the high 30's and PM10 readings began to decrease correspondingly. All mining activities remained idled for the rest of the day except for water trucks which continued to treat accessible areas of Pit 10 and Pit 11.

All controls required by the mine's Action Plan were in effect on the 17th. In addition to the controls of the action plan the mine had treated prestrip areas in Pit's 10 and 11 with water to control dust. Inactive spoil piles that were accessible to a water truck had been treated as well. These areas of the mine had been treated at various times, as needed throughout the winter and spring. Beginning on the 15th of March and going through the 17th of March the Pit 10 and 11 roads, prestrip areas, spoil areas, out-of-pit spoil areas and highwall areas had been treated with a total of 1,564,000 gallons of water. These actions more than satisfied the requirements of Condition 14 and 15 of Permit MD7424.

It is a fact that on the 17th the mine experienced the highest maximum wind speed ever recorded at Black Butte as well as the highest 1-hour sustained wind speed ever recorded at Black Butte and that the extreme spike in PM10 readings at the I80 and Pit 10 TEOM's directly corresponds to these times of record wind speeds. The mine utilized all required controls according to our Wyoming Department of Environmental Quality – Air Quality Division approved action plan. The required control methods under the action plan are reasonable and have proven effective in the past. However, as with any control method, there exists a limit to the effectiveness. Given that the day of the exceedances and the time of the extreme PM10 readings directly corresponds to the highest ever recorded wind speed at the mine it is completely rational to determine that the winds speeds experienced on the 17th overwhelmed the controls in place. It is also rational to determine that no reasonable controls would have been available to overcome the extremes seen on the 17th of March, 2013.

V. NORMAL HISTORICAL FLUCTUATIONS

I-80 TEOM Location

The Environmental Protection Agency, EPA, generally considers a 3-5 year time period when looking at Normal Historical Fluctuations. Data for this document looked at a five year time period from January 1, 2008 through June 21, 2013. The 3:00 pm PM10 concentration measured on March 17, 2013 at the I-80 TEOM was the highest validated hourly reading ever recorded at this location. In fact this reading was so high it made all actions taken before, during and after this reading worthless. Had every other hourly PM10 reading on the 17th been 0 except for the 3:00 pm reading of 3,904 $\mu\text{g}/\text{m}^3$ the mine would have still measured an exceedance of the 150 $\mu\text{g}/\text{m}^3$ PM10 standard on the I-80 TEOM. Time series plots of the hourly readings from January 1, 2010 through June 21, 2013 were created for the I-80 monitor.

Additionally data was compiled for the time period of January 1, 2008 through February 25, 2013. A three year time period was used in this graph to make the graphical depiction clearer.

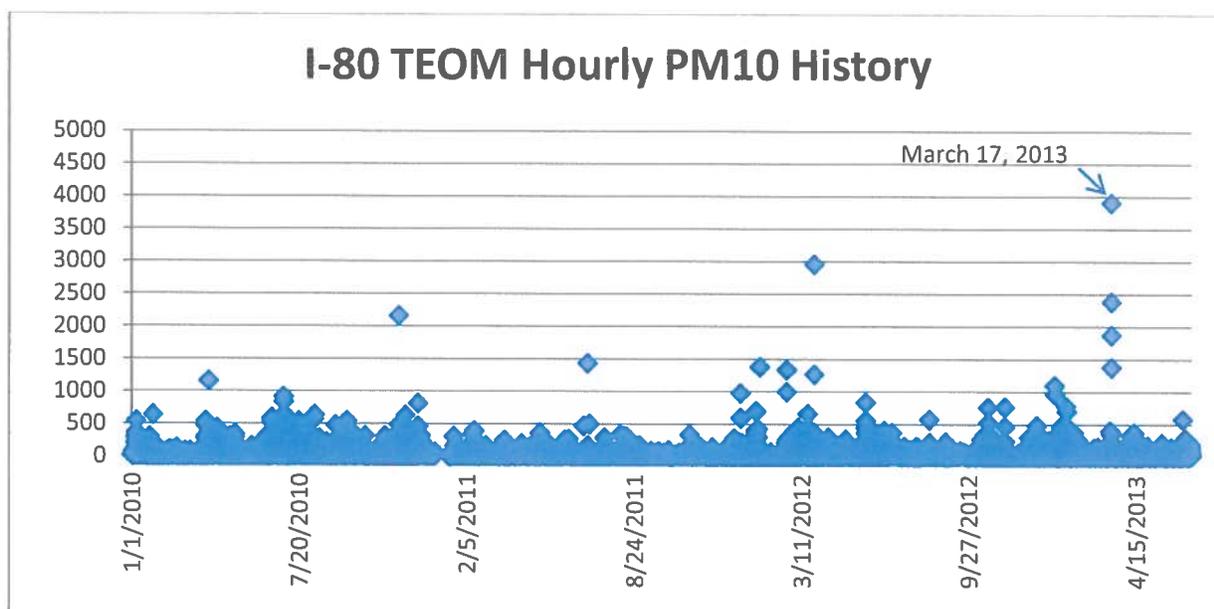


Figure V.1

Time series graphs were also produced for the PM10 daily averages over a five year span from January 1, 2008 through June 21, 2013. Out of a total of 1,944 valid data points, the March 17th reading was the highest recorded. This places the March 17, 2013 24-Hour reading of 431.8 $\mu\text{g}/\text{m}^3$ in the 100th percentile of all daily readings in the last 5 years.

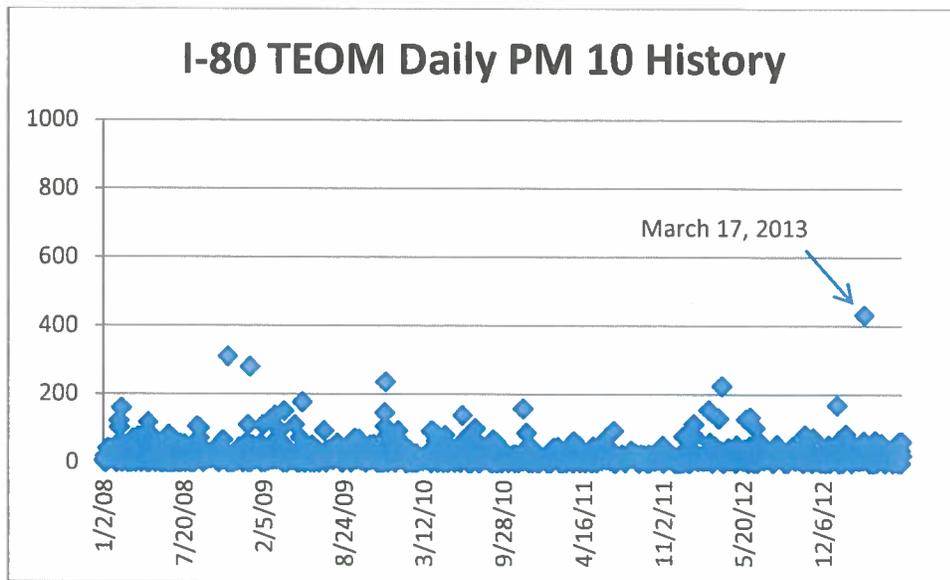


Figure V.2

This same methodology and data interpretation was used by the Arizona Department of Environmental Quality (ADEQ) to support their conclusion that PM10 data recorded in the Phoenix area on July 2-8, 2011 should be excluded. The historical fluctuations shown by the ADEQ showed that daily maximum hourly average and 24-hour averages of PM10 concentrations seen during the time period of July 2-8 were some of the highest readings seen in the last 5 years, but not necessarily the highest seen. The ADEQ also showed that the PM10 readings during the July 2-8 period were amongst the top ten events in the last 5 years and these same readings were in the 99.5th percentile when compared to 5 year historical data. This conclusion was supported and documented by the EPA as meeting the criteria set by 40 CFR Section 50.14(c)(3)(iii) for historical fluctuations.

In the case of the event on March 17, 2013 at the I-80 TEOM, the 3:00 pm hourly PM10 reading, which created the inevitable exceedance situation was in the 100th percentile for the past 5 year period. The 24-hour reading was in the 100th percentile.

Pit 10 TEOM Location

The Environmental Protection Agency, EPA, generally considers a 3-5 year time period when looking at Normal Historical Fluctuations. Data for this document looked at a five year time period from May 5, 2009 through June 21, 2013. Time series plots of the hourly readings from January 1, 2010 through June 21, 2013 were created for the Pit 10 monitor. Additionally data was compiled for the time period of May 5, 2009 through June 21, 2013. A shorter time period was used in this graph to make the graphical depiction clearer.

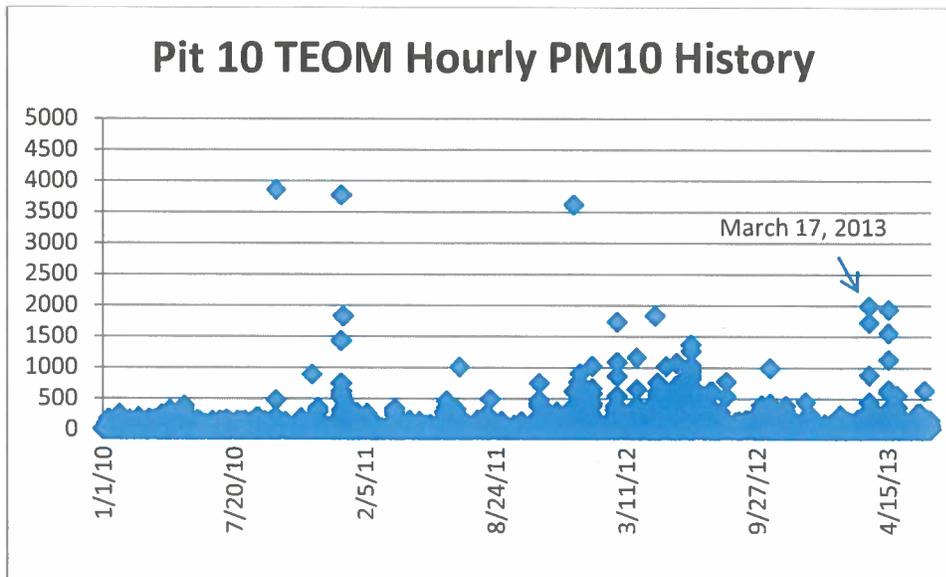


Figure V.3

Time series graphs were also produced for the PM10 daily averages over a five year span from May 5, 2009 through June 21, 2013. Out of a total of 1,468 valid data points only 2 readings were above the 261 $\mu\text{g}/\text{m}^3$ mark. This places the March 17, 2013 daily reading of 260.3 $\mu\text{g}/\text{m}^3$ in the 99.9 percentile of all daily readings in the last 5 years.

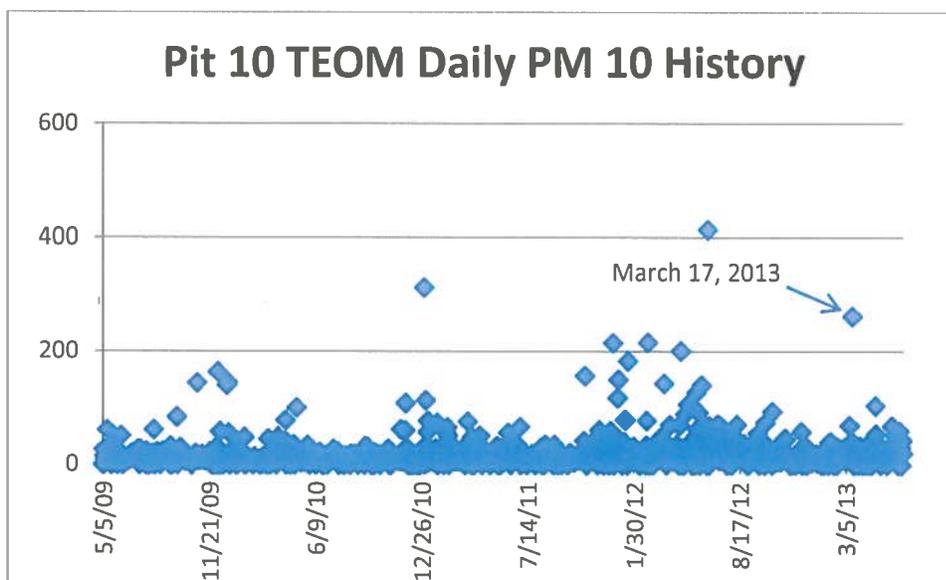


Figure V.4

This same methodology and data interpretation was used by the Arizona Department of Environmental Quality (ADEQ) to support their conclusion that PM10 data recorded in the Phoenix area on July 2-8, 2011 should be excluded. The historical fluctuations shown by the ADEQ showed that daily maximum hourly average and 24-hour averages of PM10 concentrations seen during the time period of July 2-8 were some of the highest readings seen in the last 5 years, but not necessarily the highest seen. The

ADEQ also showed that the PM10 readings during the July 2-8 period were amongst the top ten events in the last 5 years and these same readings were in the 99.5th percentile when compared to 5 year historical data. This conclusion was supported and documented by the EPA as meeting the criteria set by 40 CFR Section 50.14(c)(3)(iii) for historical fluctuations.

In the case of the event on March 17, 2013 at the Pit 10 TEOM, the hourly PM10 readings were in the 99.5th percentile for the past 5 year period. The 24-hour reading was in the 99.9th percentile.

Section V clearly demonstrates that the event that occurred on March 17, 2013 as a result of the high winds experienced that day was far outside of normal historical fluctuations. Historical data was determined going back to January 1, 2008 for the I-80 TEOM and May 5, 2009 for the Pit 10 TEOM.

VI. NO EXCEEDANCE OR VIOLATION BUT FOR THE EVENT

Section IV of this report details the compelling evidence that the exceedance's which occurred on March 17, 2013 were not reasonably controllable or preventable. Section III of this report provided the detail to determine that there exists a clear causal relationship between the high wind events that carried PM10 particulates and the exceedance as measured by the I-80 TEOM and the Pit 10 TEOM. Section V of this report provides overwhelming evidence that the event was far outside normal historical fluctuations seen at the I-80 TEOM location and Pit 10 TEOM location for Black Butte mine. The overwhelming weight of the evidence provided in these sections clearly illustrates that but for the uncontrollable PM10 particulate matter carried by the high winds there would have been no exceedance of the 24-hour PM10 standard.

All reasonable controls were in place and followed before and during the event in question.

The time relationship to weather events, wind speed and direction, and the elevated PM10 data is shown in detail in Section III. Graphical evidence shown in Section III illustrates that when maximum wind speeds reached the 30 mph mark, hourly PM10 readings reached levels outside of historical fluctuations despite reasonable controls being in place at the mine. Average PM10 concentrations at the I-80 TEOM during the hours when wind speeds were at levels more normally seen were $51.4 \mu\text{g}/\text{m}^3$. Well below the exceedance threshold of $150 \mu\text{g}/\text{m}^3$. The same is true for the Pit 10 TEOM. The average PM10 concentration at the Pit 10 TEOM during the hours when wind speeds were at levels normally seen was $42.1 \mu\text{g}/\text{m}^3$. There is only 1 hourly PM10 reading at each TEOM location on March 17th that exceeds the $150 \mu\text{g}/\text{m}^3$ number when sustained wind speeds were not in excess of 30 mph. Clearly demonstrating that had the abnormally high wind event not occurred the actions taken by Black Butte Coal leading up to and during the March 17th event would have easily prevented the exceedances from occurring.

VII. CONCLUSIONS

The exceedance's that occurred on March 17, 2013 satisfies the criteria of 40 CFR 50.1(j) and meet the definition of an exceptional event.

- The event affects air quality- the information in Sections II and III provide the conclusion that the event affected air quality.
- The event is not reasonably controllable or preventable – Section IV provides the documentation that all reasonable controls and prevention measures were in place and utilized during the event.
- The event is unlikely to reoccur at a particular location or is a natural event - as shown in Section II the cause of the exceedance was high PM10 particulate matter driven by high winds during the period of March 17, 2013.

The exceedance's on March 17, 2013 of the federal 24-hour PM10 standard would not have occurred but for the high western winds driving windblown dust, based on the following evidence:

- Graphs showing the relationship of high winds, in excess of 30 mph, and the associated elevated PM10 readings at the I-80 TEOM and Pit 10 TEOM.
- Photographic evidence and written notes detailing the actions taken before and during the event.
- Historical fluctuation analysis and graphs showing the atypically high PM10 concentrations associated with the high wind events.
- Wind direction and speed monitoring data from the onsite weather station.

APPENDIX A

March 17, 2013 Wind Speed and Direction

**National Weather Service Forecast Office Summary of
March 17, 2013 Wind Event in Southwest Wyoming**

Wind Rose -- March 17, 2013

Black Butte Mine

Point of Rocks, WY

3/17/2013 Hr. 1 to 3/17/2013 Hr. 24

RELATIVE FREQUENCY (% of Recorded Winds) TABLE

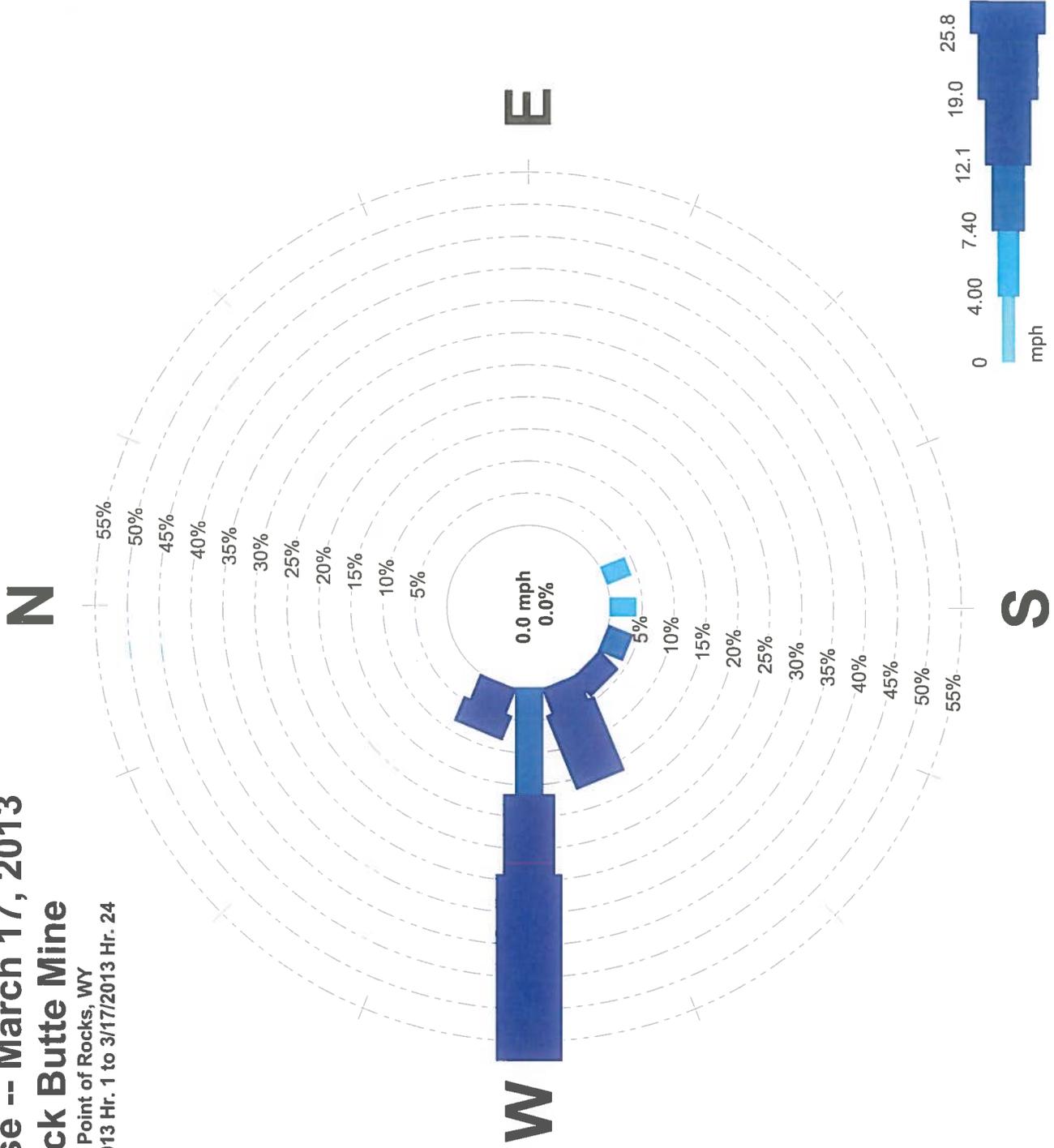
Wind Direction	0.0- 4.0	4.0- 7.4	7.4-12.1	12.1-19.0	19.0-25.8	25.8-100.0	Row Total
0.0 deg.(North)							0.0
22.5 deg.							0.0
45.0 deg.							0.0
67.5 deg.							0.0
90.0 deg.							0.0
112.5 deg.							0.0
135.0 deg.							0.0
157.5 deg.		4.2					4.2
180.0 deg.		4.2					4.2
202.5 deg.			4.2				4.2
225.0 deg.				4.2			4.2
247.5 deg.				4.2	12.5		16.7
270.0 deg.			16.7		12.5	29.2	58.3
292.5 deg.				4.2	4.2		8.3
315.0 deg.							0.0
337.5 deg.							0.0
0 mph (0.0%)	0.0	8.3	20.8	12.5	29.2	29.2	100.0

INVALID READINGS 0

NUMBER OF POSSIBLE READINGS 24 VALID READINGS 24 DATA CAPTURE 100.00%

Wind Rose -- March 17, 2013 Black Butte Mine

Point of Rocks, WY
3/17/2013 Hr. 1 to 3/17/2013 Hr. 24



Black Butte Mine

Meteorological Data Summary

3/17/2013 - 3/17/2013

Hourly Data

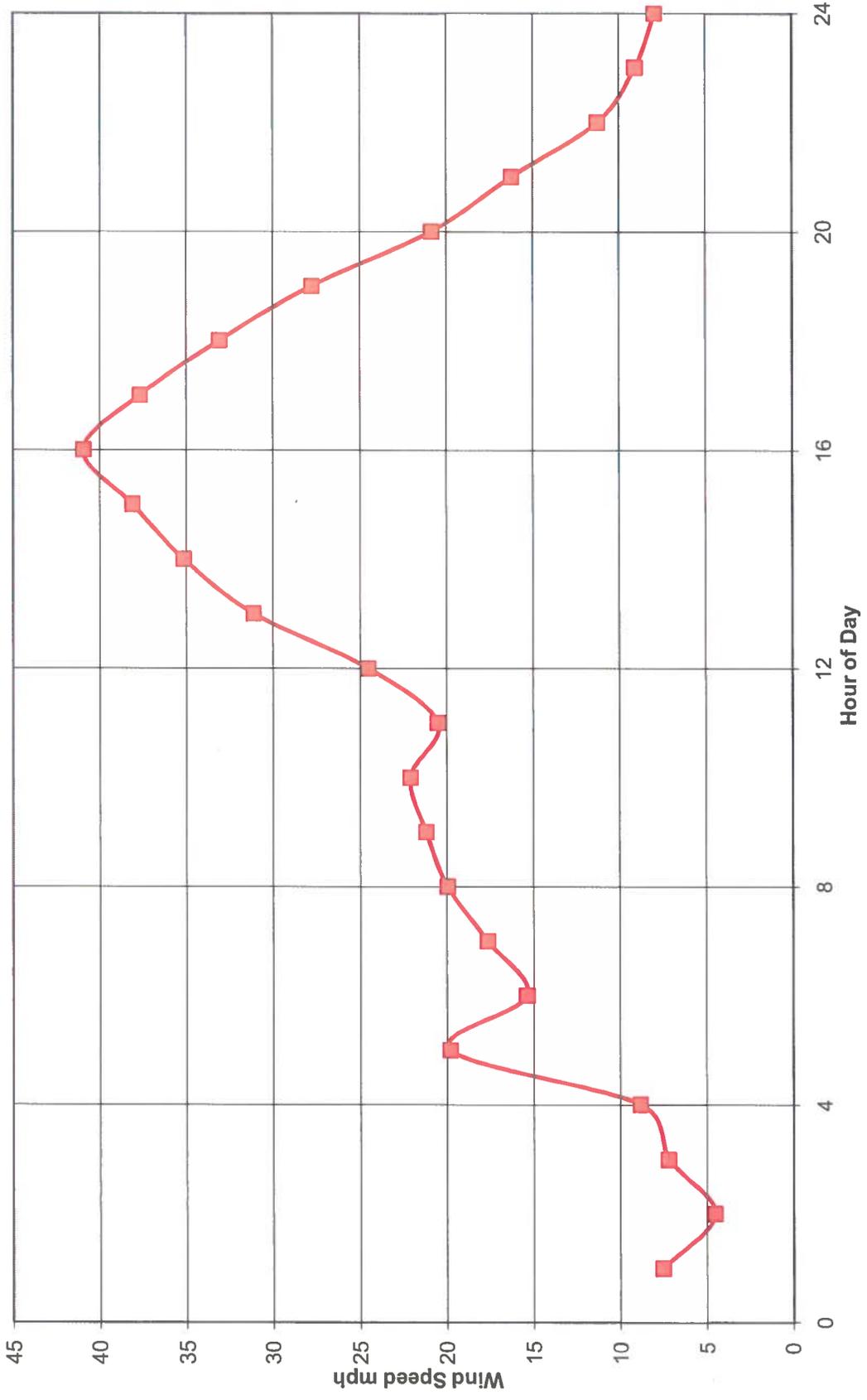
	Average/Total	Max	Min
Wind Speed (mph)	20.8	40.9	4.5
Sigma-Theta (°)	9.7	21.9	7.6
Temperature (C)	-0.6	2.0	-6.6
Precipitation (in)	0.03	0.03	

Predominant wind direction was from the W sector,
accounting for 58.3% of the possible winds

Data Recovery

Parameter	Possible (hours)	Reported (hours)	Recovery
Wind Speed	24	24	100.00%
Wind Direction	24	24	100.00%
Sigma-Theta	24	24	100.00%
Temperature	24	24	100.00%
Precipitation	24	24	100.00%

Diurnal Average Wind Speed



National Weather Service Weather Forecast Office
Western and Central Wyoming

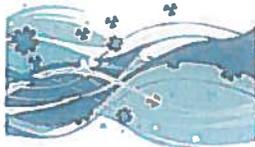
A Windy St. Patty's Day



The National Weather Service
 Building a [Weather-Ready Nation](#)

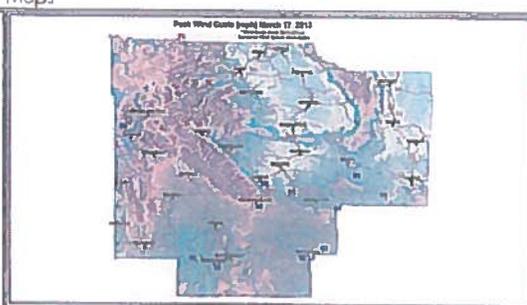
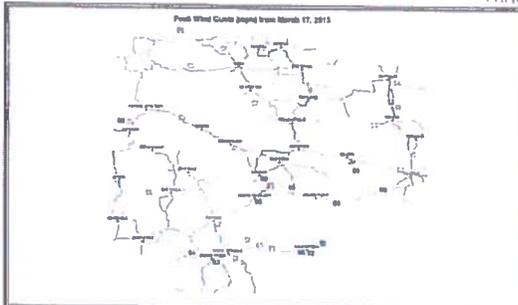
[Summary](#) | [Forecast](#) | [Monitoring & Reporting](#)

 **Summary**



St. Patrick promised a windy St. Patty's Day, and he delivered! A quick moving system brought through a sharp cold front with some snow, and a lot of wind. There were reports of trees down in Fremont and Sweetwater Counties, one of which fell on a police cruiser; there were also reports of three business signs around Rock Springs being blown down, among other damage. [Click here to see the latest Public Information Statement](#) containing the full list of wind reports greater than or equal to 50 mph.

Wind Maps



[Click Image To Enlarge Low-Resolution Map](#)

[Click Image To Enlarge Hi-Resolution Map](#)

The above map does not show every report, please see the latest public information statement or the table below for a more complete list

The above map does not show every report, please see the latest public information statement or the table below for a more complete list

A Sample of Peak Wind Gusts Around Central and Western Wyoming

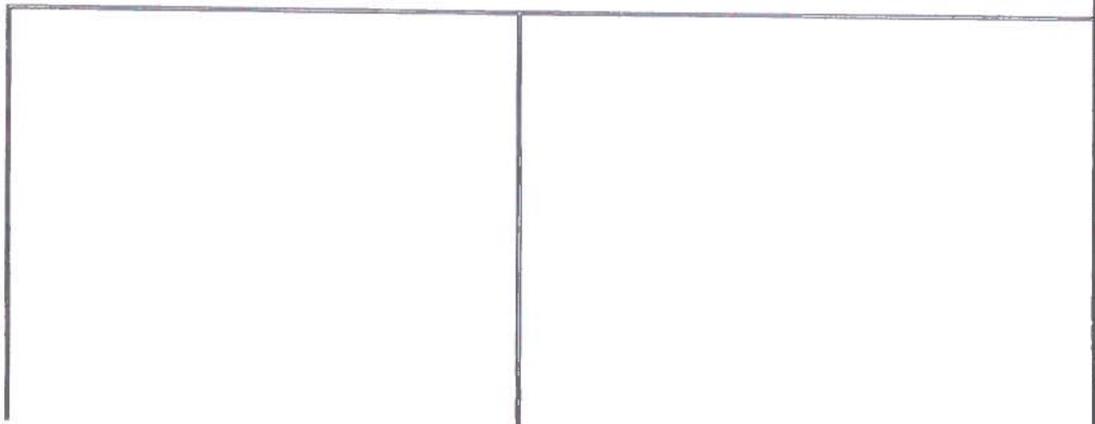
County	Station Name	Wind Gust (mph)
Teton	Jackson Hole-Summit	77
MONTANA	Soda Butte	75
Fremont	7 NW Lander	73
Fremont	Red Canyon	73
Sweetwater	Bitter Creek	71
Sweetwater	Rock Springs ASOS	69
Natrona	Fales Rock	69
Fremont	Lander ASOS	68
Sweetwater	Reliance	66
Sweetwater	Baxter	66
Fremont	South Pass City	66

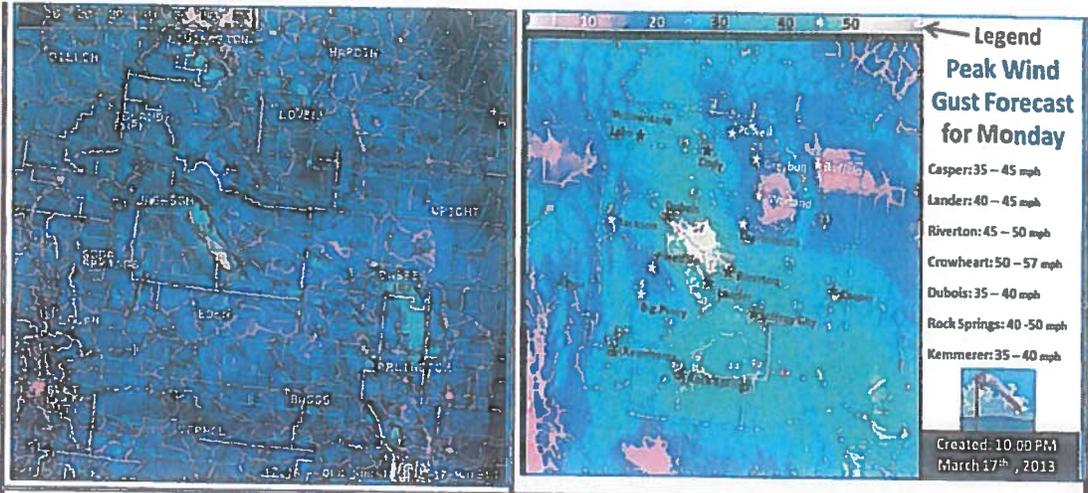
County	Station Name	Wind Gust (mph)
Fremont	Camp Creek	66
Teton	Jackson Hole-Raymer	66
Sweetwater	Red Desert	65
Sweetwater	Little America	64
Fremont	Beaver Rim	63
Sweetwater	Peru Hill	63
Sweetwater	Green River	63
Sweetwater	Wamsutter	62
Sweetwater	Continental Divide	62
Natrona	Pathfinder Hill	60
Sublette	Snider Basin	59
Natrona	Hiland	59
Natrona	Casper ASOS	58
Sweetwater	4 WSW Rock Springs	57
Sweetwater	Farson	57
Hot Springs	Grass Creek Divide	57
Fremont	Crowheart	57
Sweetwater	7 E Rock Springs	57
Sweetwater	Superior	57
Park	Chief Joseph	57
Fremont	Jeffrey City	56
Johnson	I-25 Divide	56
Johnson	10 N Kaycee	56
Sweetwater	Point of Rocks	55
Big Horn	Greybull ASOS	55
Johnson	Poker Creek	55
Fremont	Riverton ASOS	54
Johnson	5 E Buffalo	54
Johnson	Buffalo ASOS	54
Sweetwater	Snow Springs Creek	54
Park	Eagle	53
Fremont	Lava Mountain	52
Natrona	Twenty Mile Hill	51
Teton	Jackson Hole-Mid	50
Sublette	Big Piney ASOS	50



Forecast

There will be a brief respite overnight with strong and gusty winds returning on Monday across many of the same areas that received the strong winds on Sunday (see bottom left loop). However, the winds on Monday are expected to be more isolated and less impactful.





CLICK LOOP TO ENLARGE

The above animation shows the 3 hourly wind speeds (image) and direction (arrows) from our local WRF model. The loop begins at 18Z Saturday (or noon on Sunday) and ends at 12Z Tuesday (or 5am Tuesday)

Image Key:

- Black to Navy Blue = Less than 30 mph
- Blue = 30 - 35 mph
- Purple = 35 - 40 mph
- Green = 40 - 50 mph
- Orange - 50 - 60 mph

CLICK IMAGE TO ENLARGE

The above image shows the wind gust forecast for Monday, March 18th

NATIONAL WEATHER SERVICE Monitoring & Reporting



Monitor our [Severe Weather Summary Page](#) for current Warnings, Watches, and Advisories. [What's the difference?](#)



Check the latest [Weather Story](#) graphic for an overview of the area forecast.



Check out what's on the radar. [Riverton](#) | [Pocatello](#) | [Cheyenne](#) | [Billings](#) | [Salt Lake City](#) | [Rapid City](#) | [Mosaic](#)



Submit storm reports/images and keep up to date with us on [Facebook!](#)



Other reporting methods include [eSpotter](#), email (cr.wxriw@noaa.gov), or by phone at 1-800-211-1448.

Check the latest [Public Information Statement](#) for the latest storm reports.



Monitor current road conditions by visiting the [Wyoming Dept. of Transportation \(WYDOT\)](#) or by calling 5-1-1.



Safety Reminders

- Stay indoors if possible
- If you must go outside, dress appropriately:
 - Multiple layers of loose fitting clothing to promote insulation
 - Ready to vent if areas are cold
 - Wear a hat - 50% of your body heat escapes through your head
 - Wear a scarf or something to cover your mouth and nose
 - Cover as much of your skin as possible
 - Mittens are better than gloves
- Remember, rarely is a trip a "MUST" trip. Plan accordingly to avoid hazardous winter travel.
- If travelling is unavoidable, please prepare a winter safety kit for your car. Details regarding what should be included in this kit can be found in the link below. Never leave your vehicle when stranded. It is your only sure source of protection from the elements.
- Additional information about travelling in the winter across Wyoming can be found on our Winter Weather Safety page linked below.

[Winter Safety Kit](#) | [Winter Weather Safety](#)



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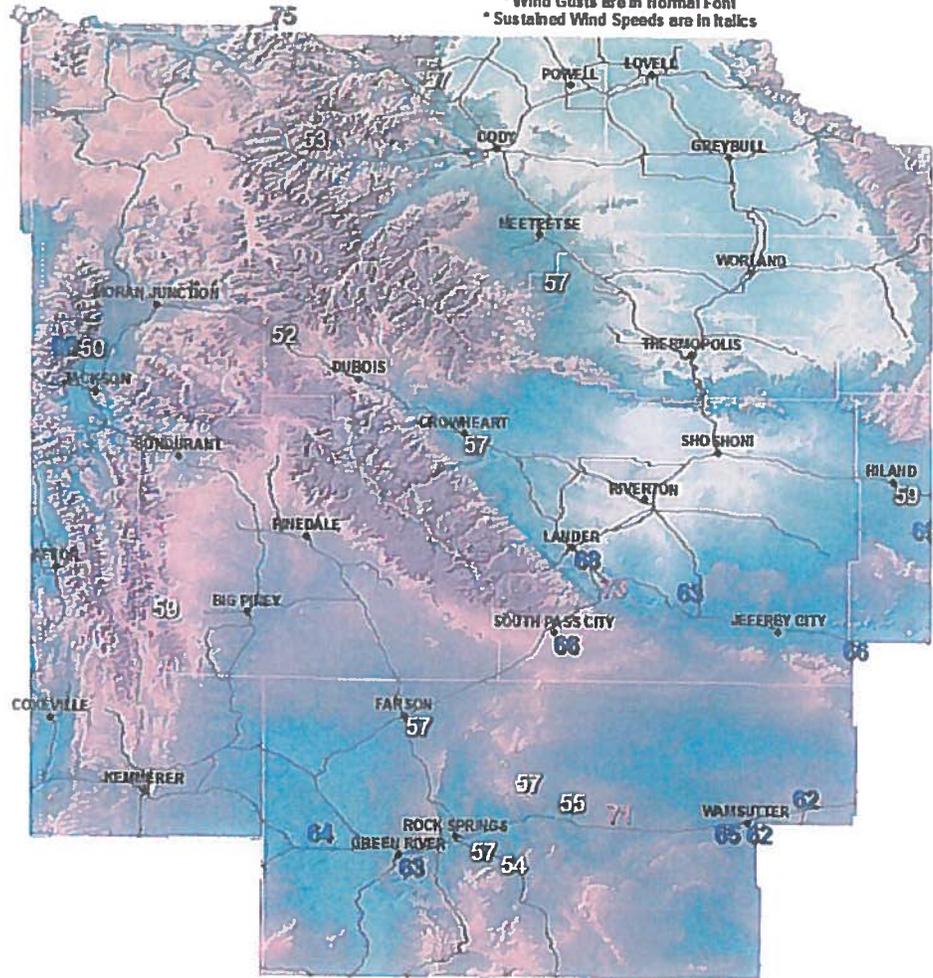
Web Site Owner:
 National Weather Service
 Western and Central Wyoming Weather Forecast Office
 12744 West U.S. Hwy 26
 Riverton, WY 82501
 307-857-3898
 Page Author: RIW Webmaster
 Web Master's E-mail: w-riw.webmaster@noaa.gov
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Peak Wind Gusts (mph) March 17, 2013

* Wind Gusts are in Normal Font
* Sustained Wind Speeds are in Italics



National Weather Service Weather Forecast Office Western and Central Wyoming

Public Information Statement

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 NWS45 KRIW 180242
 PHSRIW
 WYZ001>020-022>030-190242-

PUBLIC INFORMATION STATEMENT
 NATIONAL WEATHER SERVICE RIVERTON WY
 831 PM MDT SUN MAR 17 2013

A POTENT STORM SYSTEM AND A SHARP COLD FRONT RAKED THROUGH THE AREA TODAY WITH STRONG TO DAMAGING WIND REPORTED ACROSS MUCH OF CENTRAL AND SOUTHERN WYOMING. HERE IS A SAMPLING OF THE STRONGEST WIND GUSTS SINCE 6 AM SUNDAY MORNING.

LOCATION	WIND
BIG HORN COUNTY...	
GREYBULL AIRPORT...	55 MPH.
FREMONT COUNTY...	
7 NW LANDER...	73 MPH.
RED CANYON...	73 MPH.
LANDER AIRPORT...	68 MPH.
SOUTH PASS CITY...	66 MPH.
CAMP CREEK...	66 MPH.
BEAVER RIM...	63 MPH.
CROWHEART...	57 MPH.
JEFFREY CITY...	56 MPH.
RIVERTON AIRPORT...	54 MPH.
LAVA MOUNTAIN...	52 MPH.
HOT SPRINGS COUNTY...	
GRASS CREEK DIVIDE...	57 MPH.
JOHNSON COUNTY...	
8 ENE MAYWORTH...	56 MPH.
I-25 DIVIDE...	56 MPH.
POKER CREEK...	55 MPH.
BUFFALO AIRPORT...	54 MPH.
5 E BUFFALO...	54 MPH.
NATRONA COUNTY...	
FALES ROCK...	69 MPH.
PATHFINDER HILL...	60 MPH.
HILAND...	59 MPH.
CASPER AIRPORT...	58 MPH.
TWENTY MILE HILL...	51 MPH.
PARK COUNTY...	
CHIEF JOSEPH...	57 MPH.
EAGLE...	53 MPH.
SUBLETTE COUNTY...	
SNIDER BASIN...	59 MPH.
BIG PINEY AIRPORT...	50 MPH.
SWEETWATER COUNTY...	
BITTER CREEK...	71 MPH.
ROCK SPRINGS AIRPORT...	59 MPH.
BAXTER...	66 MPH.
5 SE RELIANCE...	56 MPH.
RED DESERT...	65 MPH.
LITTLE AMERICA...	64 MPH.
PERU HILL...	63 MPH.
GREEN RIVER...	63 MPH.
WAMSUTTER...	62 MPH.
CONTINENTAL DIVIDE...	62 MPH.
23 W WAMSUTTER...	59 MPH.
SUPERIOR...	57 MPH.
7 WSW ROCK SPRINGS...	57 MPH.
6 SE SUPERIOR...	57 MPH.
FARSON...	57 MPH.
POINT OF ROCKS...	55 MPH.
SNOW SPRINGS CREEK...	54 MPH.
TETON COUNTY...	
JACKSON HOLE-SUMMIT...	77 MPH.
JACKSON HOLE-RAYMER...	66 MPH.
JACKSON HOLE-BUFFALO...	50 MPH.

SS

National Weather Service
Western and Central Wyoming Weather Forecast Office
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Riverton, WY 82501
307-857-3898

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APPENDIX B

Action Plan Event Log Action Report for March 17, 2013

Action Plan Event Log Action Report

3/17 Day

THIS REPORT WILL BE COMPLETED IN IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

In the table below record the date, time, and concentration at which action plan levels were reached

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24-hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10	3/17/13	3 PM	1989										3/17/13	3 PM	210
I-80	3/17/13	2 PM	3904										3/17/13	3 PM	430
Pit 14	3/17/13	PM	570	3/17/13	4 PM	74.9									
Leucite															
UPWIND	3/17/13	3 PM	321												

II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report. Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible.	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area.	At what times was the water truck in this area.
<input checked="" type="checkbox"/> South half of Pit 10 highwall	<input checked="" type="checkbox"/> Yes / No	2 am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 10 assist bench	<input checked="" type="checkbox"/> Yes / No	2 am/pm	___ loads	
<input type="checkbox"/> Road in spoils on North side of Pit 10	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 11 highwall	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Pit 11 spoils	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Dragline #1's pad and access road	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/> Pit 10 inactive spoils	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 10 pre-strip	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Pit 10 topsoil stockpiles	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/> Pit 10 out of pit stockpiles (OOPS)	Yes / No	___ am/pm	___ loads	
<input type="checkbox"/> Pit 11 OOPS	Yes / No	___ am/pm	___ loads	
<input type="checkbox"/> Pit 11 topsoil pile	Yes / No	___ am/pm	___ loads	
<input type="checkbox"/> Pit 10 hopper/stockpile	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 8 stilling shed/ stockpile	<input checked="" type="checkbox"/> Yes / No	2 am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 14 haul roads	<input checked="" type="checkbox"/> Yes / No	2 am/pm	___ loads	
<input type="checkbox"/> Pit 14 OOPS or topsoil stockpiles	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Drag #2's pad and access road	<input checked="" type="checkbox"/> Yes / No	2 am/pm	___ loads	
<input checked="" type="checkbox"/> P8 Ramp	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Pit 10 Assist	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/>	Yes / No	___ am/pm	___ loads	
<input type="checkbox"/>	Yes / No	___ am/pm	___ loads	
<input type="checkbox"/>	Yes / No	___ am/pm	___ loads	

Were the water trucks below available on the day of the event?		If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981	<input checked="" type="checkbox"/> Yes / No	Both trucks put into service at 2pm	
19-1007	<input checked="" type="checkbox"/> Yes / No		
	Yes / No		
	Yes / No		

Action Plan Event Log
Action Report

III. Record weather conditions and possible external influences.

In the space below, describe wind, precipitation, and other weather events as they occur throughout the day. Take photographic evidence if possible.

Shift started with substantial snowfall mine wide. Snow fell on and off throughout the morning. Wind was consistently over 20 mph until 2pm when it began to increase to 41 mph at 3 PM with a high wind of 64 mph at 3 PM. Wind was out of the west

In the space below, describe any possible external influences. Take photographic evidence if possible. (ex. Oil equipment traffic, livestock in the area, etc.)

IV. Consider modifying operations contributing to dust.

In the space below, describe any modifications to operations which occurred as part of the Action Plan. Include any changes put into place in advance of events which contributed to PM10 concentrations reaching action plan levels

Operations were shutdown for the entire Black butte side of the mine at 130 except for P14 which was down at 2 PM

V. Notify the Production Superintendent.

Please record when and how the Production Superintendent was notified

Check of TEOM at 130

Action Plan Event Log
Action Report

VI. Record actions taken.

*In the space below, summarize all actions performed in response to the Action Plan.
In addition, include descriptions of the sources of dust listed in section II of this report*

Shift started with strong winds and snowfall through the morning. Snow storms tapered off around 12PM and wind continued to be strong. TEOMs maintained allowable levels until the afternoon. Wind started to increase up over 40 mph causing all TEOMs to rise. Water trucks were not put into operation until 2PM due to snowfall and muddy conditions. P10 and P11 operations were shut down at 130 PM followed by P14 at 2 PM. Powder crew shot P14R4 OB at 1230 causing dust. Wind continued to increase all afternoon through the end of shift.

Action Plan Event Log
Action Report

VI. Photographic documentation.

Please attached any photographs taken during the event to this section. Otherwise, submit photographs and videos of the event to the Production Super Intendant or the Engineering Department.

Action Plan Event Log
Action Report

VII. Supporting documentation

Please list any supporting documentation attached to this report. Examples include written field notes, witness accounts, and operational logs

Visible dust in afternoon all over mine

VII. Shut Down documentation

Please attach a completed copy of a Shut Down Report to this Action Report in order to complete the Action Plan Event Log

Karl Jewebay
Print Name

[Signature]
Signature

3/17/13
Date

Please return completed copy to the Black Butte Coal Company Air Permit Coordinator (Eli Robinson)

If you have any questions on completing this form, do not hesitate to contact Eli Robinson day or night

Office: 307-352-6212
Work Cell: 307-3350-5214
Personal Cell: 307-922-3118
E-mail: e.robinson@aecoal.com

Action Plan Event Log Shut Down Report

What operations were occurring at the time PM10 concentrations reached action plan levels during the shift of the event. Please include any contractor operations.	When were operations modified or shut down?
Dreg	1:30 PM
GIDZR at PLOT 15	1:30 PM
Dreg 2	2:00 PM
R2 Regroble truck run	2:00 PM
M50	2:00 PM
M 3	2:00 PM
71 DZR	2:00 PM

Action Plan Event Log Action Report

3-17-13
night

THIS REPORT WILL BE COMPLETED IN IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

In the table below record the date, time, and concentration at which action plan levels were reached

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24-hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10															
t-80															
Pit 14															
Leucite															
UPWIND															

II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report. Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible.	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area.	At what times was the water truck in this area.
<input checked="" type="checkbox"/> South half of Pit 10 highwall	Yes / No	6 am/pm	12 loads	Various
<input checked="" type="checkbox"/> Pit 10 assist bench	Yes / No	6 am/pm	loads	Times
___ Road in spoils on North side of Pit 10	Yes / No	___ am/pm	loads	Throughout
<input checked="" type="checkbox"/> Pit 11 highwall	Yes / No	6 am/pm	loads	sh.ft
<input checked="" type="checkbox"/> Pit 11 spoils	Yes / No	6 am/pm	loads	
<input checked="" type="checkbox"/> Dragline #1's pad and access road	Yes / No	6 am/pm	loads	
___ Pit 10 inactive spoils	Yes / No	___ am/pm	loads	
<input checked="" type="checkbox"/> Pit 10 pre-strip	Yes / No	6 am/pm	loads	
___ Pit 10 topsoil stockpiles	Yes / No	___ am/pm	loads	
<input checked="" type="checkbox"/> Pit 10 out of pit stockpiles (OOPS)	Yes / No	6 am/pm	loads	
___ Pit 11 OOPS	Yes / No	___ am/pm	loads	
___ Pit 11 topsoil pile	Yes / No	___ am/pm	loads	
___ Pit 10 hopper/stockpile	Yes / No	___ am/pm	loads	
<input checked="" type="checkbox"/> Pit 8 stilling shed/ stockpile	Yes / No	6 am/pm	loads	
___ Pit 14 haul roads	Yes / No	___ am/pm	loads	
___ Pit 14 OOPS or topsoil stockpiles	Yes / No	___ am/pm	loads	
<input checked="" type="checkbox"/> Drag #2's pad and access road	Yes / No	6 am/pm	loads	
___	Yes / No	___ am/pm	loads	
___	Yes / No	___ am/pm	loads	
___	Yes / No	___ am/pm	loads	
___	Yes / No	___ am/pm	loads	

Were the water trucks below available on the day of the event?	If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981	<input checked="" type="radio"/> Yes / <input type="radio"/> No	
19-1007	<input checked="" type="radio"/> Yes / <input type="radio"/> No	
	Yes / No	
	Yes / No	

Action Plan Event Log
Action Report

III. Record weather conditions and possible external influences.

In the space below, describe wind, precipitation, and other weather events as they occur throughout the day. Take photographic evidence if possible.

Wind was at 27.8 mph @ 6:00pm beginning of Night shift.
Winds gradually slowed down through out shift ranging from 12.6 mph to
7 mph @ 6:00am end of shift.

In the space below, describe any possible external influences. Take photographic evidence if possible. (ex. Oil equipment traffic, livestock in the area, etc.)

IV. Consider modifying operations contributing to dust.

*In the space below, describe any modifications to operations which occurred as part of the Action Plan.
Include any changes put into place in advance of events which contributed to PM10 concentrations reaching action plan levels*

P-10 and P-11 stayed idle all shift due to P-10 24hr staying consistent at
C or around 257 ug/m³ and the I-80 staying around
430 ug/m³ all shift

P-14 operations stayed idle till midnight.

All operations were idle from previous shift

V. Notify the Production Superintendent.

Please record when and how the Production Superintendent was notified.

Start of shift 6:00pm from prior
superintendent

Action Plan Event Log
Action Report

VI. Record actions taken.

*In the space below, summarize all actions performed in response to the Action Plan.
In addition, include descriptions of the sources of dust listed in section II of this report*

19-1007 and 19-0981 water trucks were dispatched to problem areas in pits 10, 11 and 14 @ 6:00pm. Ran both until 12:30 am. After P-14 concentrations settled Ran 1 rest of shift hitting problem areas throughout shift

All P-10 and P-11 operations stayed idle for all shift to prevent concentrations getting any higher.

Action Plan Event Log
Action Report

VI. Photographic documentation.

Please attached any photographs taken during the event to this section. Otherwise, submit photographs and videos of the event to the Production Super Intendant or the Engineering Department.

Action Plan Event Log
Action Report

VII. Supporting documentation

Please list any supporting documentation attached to this report. Examples include written field notes, witness accounts, and operational logs

VII. Shut Down documentation

Please attach a completed copy of a Shut Down Report to this Action Report in order to complete the Action Plan Event Log

Bill Haack

Print Name



Signature

3-17-13

Date

Please return completed copy to the Black Butte Coal Company Air Permit Coordinator (Eli Robinson)

If you have any questions on completing this form, do not hesitate to contact Eli Robinson day or night

Office: 307-352-6212
Work Cell: 307-3350-5214
Personal Cell: 307-922-3118
E-mail: e.robinson@aecoal.com

Action Plan Event Log Shut Down Report

What operations were occurring at the time PM10 concentrations reached action plan levels during the shift of the event. Please include any contractor operations.	When were operations modified or shut down?
None - All operations were Idle from previous shift	Previous Shift

APPENDIX C

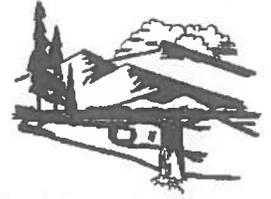
**Equipment Timecards for Night shift and Day shift on
March 17, 2013**

DAILY CREW TIME CARD				CHART CODES:										CREW 4																						
Date	Foreman	SHIFT	902 OPERATOR	63 PROO / REC. DOZER	17 LOWBOY OPER.											D																				
3-15-13	Luke Haworth 162011	(DAY)	26 T.HOE OPERATOR	65 BLADE OPERATOR																																
Approved By:	Superintendent	COAL DOZER	68 HOE BURDEN /	64 RUBBER TIRE DOZER																																
	Karl Welby 170308	DRAGLINE DOZER	67																																	
ID #	Employee Name	Cert Code	Total Hours	PIT 8	PIT 10	PIT 11	PIT 14	PIT 21	SEAM	LC	COST CODE					PAID TIME OFF			OPERATIONAL DELAYS			DOWN TIME			EMPLOYEE SIGNATURE		INJURY TODAY									
											112.01	1043.01	1030.07	3010.01	V	H	S	O	J	I	C	K	164	02	161	07	MECH REPAIR	NON SCHEDULED	SCHEDULED	Y	N					
3976	Kevin Eccles																																			
3615	John Gadroz	63	11.5																																	
	52671		11.5																																	
463330	Kurt Jordan	63	11.5																																	
	05-2884		11.5																																	
203	Justin Bowles	69	11.5																																	
773	19-1007		11.5																																	
338	122		11.5																																	
335	10-2000		11.5																																	
235	Chris Cooper	60	11.5																																	
501																																				

H-600
 H-85
 H-24
 H-24
 H-38
 H-38



Department of Environmental Quality



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

Matt Mead, Governor

Todd Parfitt, Director

July 17, 2013

Steve Gili, Mine Manager
Black Butte Coal Company
PO Box 98
Point Of Rocks, WY 82942

**RE: Black Butte Coal Company Black Butte Mine
Request to flag data as due to Exceptional Event under CFR 50.14**

Mr. Gili:

This letter confirms the receipt of your Exceptional Event Flag Request for the March 17, 2013 PM10 monitored exceedances at the Black Butte Mine located in Sweetwater County, Wyoming. The request to flag data collected at the I-80 and Pit 10 sites was received on June 26, 2013.

The request will be reviewed by an Air Quality Division (AQD) team, and you will be notified as to whether or not the request fulfills all necessary requirements in accordance with 40 CFR Part 50.14.

The AQD offers a maximum of two (2) opportunities for additional information submittal by the company and AQD team review, at the discretion of the team. After a final submittal, a team decision will be made to either approve or disapprove your request to flag data. After the review process, if the decision to approve your request is made, a thirty (30) day public comment period is required. The Exceptional Event Flag Request will be submitted, by the AQD, to EPA Region 8 for concurrence.

If the decision is made to disapprove your requests, you will be so notified and provided with the reason(s) for denial.

Please contact me at kirk.billings@wyo.gov or 307-335-6963 if you have questions concerning this matter.

Sincerely,

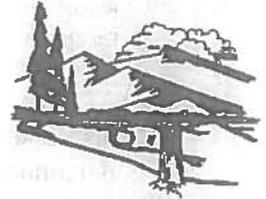
Kirk Billings
Air Quality Analyst
Air Quality Division

cc: Cara Keslar, Monitoring Section Supervisor,
Tony Hoyt, District Engineer





Department of Environmental Quality



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

Matt Mead, Governor

Todd Parfitt, Director

August 13, 2013

Certified Mail Receipt Number: 7007 1490 0002 1542 0479

Mr. Steve Gili
General Manager
Black Butte Coal Company
P.O. Box 98
Point of Rocks, WY 82942

3/10 11:00 Am
3/18 1:00 pm

Re: Request for Flag under the Exceptional Event Rule for PM₁₀ March 17, 2013 Exceedances

Dear Mr. Gili,

The Air Quality Division (AQD) has reviewed the request to flag the March 17, 2013 PM₁₀ ambient monitored data as an Exceptional Event in accordance with the 40 CFR Part 50.14 at the Black Butte Coal Mine (Black Butte). Although the AQD has placed a temporary "High Wind" flag in AQS on the March 17, 2013 PM₁₀ data, with the description "Possible Exceptional Event – under evaluation by AQD", the team of AQD staff found deficiencies in the "weight of evidence" approach presented in the June 26, 2013 submittal. Supplemental information is needed before AQD can determine if all elements were addressed to exclude event-related concentrations from regulatory determinations.

The review team requests the following information to clarify the packet:

✓
Table III.1
Include
every
hour

- Please include a table of hourly upwind data from the facility's monitoring network similar to Table III.1 in the facility's June 26, 2013 Exceptional Event packet.
- Please provide more detail regarding Black Butte's responses to the dust action plan in place at the time of the exceedance. Specifically, what actions were taken by the facility at each hour as each benchmark in the dust action plan was reached. A table listing each hour of the day with hourly PM₁₀ concentrations, 24 hour PM₁₀ concentrations, wind speeds (hourly and gusts), wind direction and Black Butte's response(s) to the readings is likely the best way to illustrate this.
- Please include a section addressing Best Available Control Measures (BACM) and Best Available Control Technology (BACT) in place prior to and on the day of the exceedance for the Pit 11 area at the facility. Specifically, please address the control measures for any possible sources of fugitive emissions on March 17, 2013. This should include documentation of the actions taken in the application of BACM and BACT, as well as address the state of compliance with conditions 14 and 15 on the day of the exceedance.

The AQD level of review for Exceptional Event packages is greatly dependent on the level of detail and information provided by the facility in the request to flag exceedances. EPA has also provided examples of exceptional events demonstrations that meet the requirements of the draft high wind guidance. The following link <http://www.epa.gov/ttn/analysis/exevents.htm> is the best place to find examples of information that are needed to have EPA concur with an exceptional event demonstration.

Lander Field Office • 510 Meadowview Drive • Lander, WY 82520 • <http://deq.state.wy.us>

ABANDONED MINES
(307) 332-5085
FAX 332-7726

AIR QUALITY
(307) 332-6755
FAX 332-7726

LAND QUALITY
(307) 332-3047
FAX 332-7726

SOLID & HAZARDOUS WASTE
(307) 332-6924
FAX 332-7726

WATER QUALITY
(307) 332-3144
FAX 332-7726





Please keep in mind that while AQD had an extensive staff of monitoring, compliance and permitting personnel available to evaluate the documentation packet, this packet will also be reviewed by the public and EPA.

Please submit the requested supplemental information to Cara Keslar, Monitoring Section Supervisor no later than two (2) weeks from receipt of this letter. The AQD evaluation team will reconvene to determine if all requirements were met under the Exceptional Event Rule. If all requirements of the rule were met, AQD will keep the flags in the AQS database and the documentation package will be made available for public review and submitted to EPA Region 8 for concurrence. If you have questions please contact me at (307) 335-6963 or kirk.billings@wyo.gov.

Sincerely,

A handwritten signature in black ink, appearing to read "Kirk Billings", is written over the word "Sincerely,".

Kirk Billings
Monitoring Project Advisor

Cc: Black Butte Monitoring File

Black Butte Coal Company

P.O. Box 98
Point Of Rocks, Wyoming 82942
(307)382-6200
Fax: (307)352-6234



August 23, 2013

Cara Keslar, Monitoring Section Supervisor
Air Quality Division, Wyoming Department of Environmental Quality
Herschler Building
122 West 25th Street
Cheyenne, WY 82002

RE: March 17th, 2013 PM10 Exceedance Exceptional Event - Additional Information Submittal

Cara,

Enclosed is Black Buttes response to the request by the Air Quality Division for additional information regarding the March 17, 2013 Exceptional Event Submittal. The information is formatted to be included in the original packet that was submitted on June 26, 2013. If a final complete packet is required please let me know and I will prepare copies for you.

Sincerely,

A handwritten signature in black ink, appearing to read 'Steve Gili'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Steve Gili
General Manager, Black Butte Coal Company

Enclosure:

VIII. UPWIND AND PIT 14 TEOM DATA

Data from the Upwind TEOM for March 17, 2013 has been determined to be invalid due to a failed TEOM verification in April 2013. On February 13, 2013 a verification test was performed on the Upwind TEOM. The test passed and the TEOM was verified. The following test performed in April 2013 did not pass. All data between the two dates is therefore deemed to be invalid. The readings for both hourly and 24 hour concentrations have been included in Table VIII.1. It should be noted that the hourly readings show the exact same pattern as what was seen at the I-80 and Pit 10 TEOMS on March 17, 2013. When sustained wind speeds reached the 30 mph mark and maximum wind speeds reached the 50 – 66 mph mark the Upwind TEOM that monitors undisturbed native ground showed identical spikes in PM10 concentrations.

Time	Hourly Wind Speed (mph)	Max Wind Speed (mph)	Hourly PM10 Concentrations	24 Hour PM10 Concentrations
03/17/2013 01:00 AM	6.9	14	8.6	11.7
03/17/2013 02:00 AM	4.5	11.5	9.6	11.6
03/17/2013 03:00 AM	7.2	14	13	11.5
03/17/2013 04:00 AM	8.8	20.8	8.3	11.3
03/17/2013 05:00 AM	19.8	40.5	30.4	11.6
03/17/2013 06:00 AM	15.4	29.3	7.3	11.2
03/17/2013 07:00 AM	17.7	35.5	7	10.7
03/17/2013 08:00 AM	20	39.2	8.3	10.3
03/17/2013 09:00 AM	21.2	43.5	9	10
03/17/2013 10:00 AM	22.1	45.6	17.2	10.2
03/17/2013 11:00 AM	20.5	39.2	8.1	10
03/17/2013 12:00 PM	24.5	41.7	19.3	10.4
03/17/2013 01:00 PM	31.1	52.4	82.7	13.5
03/17/2013 02:00 PM	35.2	54.7	54.1	15.6
03/17/2013 03:00 PM	38.1	66	142	21.3
03/17/2013 04:00 PM	40.9	63.7	312.1	33.7
03/17/2013 05:00 PM	37.7	61.4	182.1	40.8
03/17/2013 06:00 PM	33.1	52	64.3	43.2
03/17/2013 07:00 PM	27.8	46.3	44.3	44.5
03/17/2013 08:00 PM	20.8	40.1	48.1	45.8
03/17/2013 09:00 PM	16.2	30	48.2	47.3
03/17/2013 10:00 PM	11.2	21.3	47.4	48.7
03/17/2013 11:00 PM	9	14.9	48.6	49.8
03/18/2013 12:00 AM	7.9	13.7	51.1	51.4

Table VIII.1 Upwind TEOM PM10 data

Data collected on March 17, 2013 from the Pit 14 TEOM showed the same pattern of readings as the other TEOM's. Interestingly enough the exact same operations occur in Pit 14 that occur in Pit's 10 and 11. Both pits are dragline operations with Truck and Loader mining coal. However, when the extreme wind event happened nowhere near the same extremely high PM10 concentrations were seen at the Pit 14 monitor. This is typically the case. Incidentally, operations in Pit 14 continued to run on March 17, 2013 until 2:00 pm.

Time	Hourly Wind Speed (mph)	Max Wind Speed (mph)	Hourly PM10 Concentrations	24 Hour PM10 Concentrations
03/17/2013 01:00 AM	6.9	14	9.2	17
03/17/2013 02:00 AM	4.5	11.5	5	16.8
03/17/2013 03:00 AM	7.2	14	3.8	16.4
03/17/2013 04:00 AM	8.8	20.8	2.5	16
03/17/2013 05:00 AM	19.8	40.5	99.9	19.3
03/17/2013 06:00 AM	15.4	29.3	-7.3	18.5
03/17/2013 07:00 AM	17.7	35.5	1.3	18.1
03/17/2013 08:00 AM	20	39.2	6	17.8
03/17/2013 09:00 AM	21.2	43.5	9.1	17.5
03/17/2013 10:00 AM	22.1	45.6	25.2	16.8
03/17/2013 11:00 AM	20.5	39.2	5.4	16.7
03/17/2013 12:00 PM	24.5	41.7	17.4	16
03/17/2013 01:00 PM	31.1	52.4	127.9	19.4
03/17/2013 02:00 PM	35.2	54.7	71.9	21.9
03/17/2013 03:00 PM	38.1	66	164.3	27.6
03/17/2013 04:00 PM	40.9	63.7	590.9	50.8
03/17/2013 05:00 PM	37.7	61.4	443.2	67.9
03/17/2013 06:00 PM	33.1	52	107	71.5
03/17/2013 07:00 PM	27.8	46.3	34.2	72
03/17/2013 08:00 PM	20.8	40.1	32.2	72.8
03/17/2013 09:00 PM	16.2	30	31.2	73.7
03/17/2013 10:00 PM	11.2	21.3	33.4	74.6
03/17/2013 11:00 PM	9	14.9	38.2	75.6
03/18/2013 12:00 AM	7.9	13.7	56.1	77

Table VIII.2 Pit 14 TEOM PM10 data

IX. ACTION PLAN RESPONSE

Black Buttes approved Air Monitoring Action Plan uses a combination of 1 hour and 24 hour readings to determine recommended and required actions at the mine in response to elevated readings. Compliance to the 24 hour levels is determined by the rolling 24 hour readings recorded each hour. However, mine personnel are instructed and trained to also utilize the calculated 24 hour readings as a guideline to determine recommended and required responses. If either of these numbers reaches an action level then a response to the Action Plan is required. This is done out of an abundance of caution as the calculated 24 hour readings will in most cases result in a higher 24 hour reading than the rolling 24 hour readings. This is particularly true for a sudden and extreme wind event that is preceded by a relatively mild wind event. Compliance to the Air Monitoring Action Plan is determined by responses in comparison to the rolling 24 hour readings. This methodology is listed in the approved Action Plan.

All actions taken by Black Butte were in exact accordance with the mines approved Air Monitoring Action Plan. Pit 11 operations were actually idled earlier than required due to the expectation of high winds. Water trucks were dispatched as soon as the Supervisor on shift felt that it was safe. Unsafe road conditions were present at the start of day shift due to the snow storm that morning. However, the inability to apply water with trucks was not a determining factor since the areas they could cover were the same areas that were determined to be too muddy to operate in. Due to the muddy conditions those areas were not contributing to the fugitive dust seen at wither TEOM location. As the mine dried out, some of the roadways began to contribute dust but by that time those areas had already been deemed safe for the operation of water trucks and where being treated. Table IX.1 lists the hourly wind speed, hourly and 24 hour PM10 concentrations, operations in place and actions taken by the mine in accordance to the Action Plan for each hour of the day for the Pit 11 area. Table IX.2 includes this information for the Pit 10 area.

Action requirements of the 24 hour greater than $130 \mu\text{g}/\text{m}^3$ action level are that complete records are taken, mine manager is notified and photographs will be taken if possible. Shutdown requirements are that all operations be shutdown in the affected areas. In Pit 10 there were no operations taking place that day. In Pit 11, all operations were shutdown in accordance with the Action Plan. Appendix C includes the Action Plan Event Logs for the shifts that covered the 17th. The Action Plan Event Log (Appendix C) and the TEOM Concentration Logsheet (Appendix G included in this supplemental submission), shows that records were taken.

Date/Time	Wind Speed	Hourly PM10	24-Hour PM10	Actions	Action Plan Response
03/17/2013 01:00 AM	6.9	8.9	43.6	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 02:00 AM	4.5	21.3	44	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 03:00 AM	7.2	12.4	44.2	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 04:00 AM	8.8	11.4	44.3	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 05:00 AM	19.8	164.4	50.4	Dragline and dozer idled in Pit 11.	No Action levels had been reached. Shutdown done due to expectation of high winds.
03/17/2013 06:00 AM	15.4	9.6	50.4	Dragline and dozer returned to	No Action levels had been

				work in Pit 11. No truck operations due to snow and road conditions.	reached. Return to operations due to lack of expected high winds.
03/17/2013 07:00 AM	17.7	6.5	50.1	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 08:00 AM	20	8.2	49.5	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 09:00 AM	21.2	23.2	49.9	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 10:00 AM	22.1	57.5	51.6	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 11:00 AM	20.5	20.9	51.7	Dragline #1 and dozer operating in Pit 11.	No Action levels had been reached.
03/17/2013 12:00 PM	24.5	368.2	64.7	Dragline #1 and dozer operating in Pit 11.	1 hour > 300 action level reached. Photos taken and record of activities began. No water trucks were dispatched as road conditions were determined to be unsafe. Notifications made.
03/17/2013 01:00 PM	31.1	1871.1	127.9	Dragline #1 and dozer shutdown at 1:30.	24 hour >130 action level reached. Dragline and dozer shutdown at 1:30. The hourly readings reach the website 25 minutes after the hour. Roads still unsafe for water truck activities. Notifications made.
03/17/2013 02:00 PM	35.2	1375.5	176.3	Operations continued to be idled. Water trucks dispatched to Pit 10 and Pit 11 prestrip, spoils, out-of-pit spoils and highwall areas.	24 hour > 130 action level in place. Roads determined safe for water truck operations.
03/17/2013 03:00 PM	38.1	3904.8	336.9	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 04:00 PM	40.9	2380.9	430.8	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 05:00 PM	37.7	232.6	437.2	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 06:00 PM	33.1	66.7	438	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 07:00 PM	27.8	38.8	435.4	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 08:00 PM	20.8	40	434.3	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 09:00 PM	16.2	35.4	433.8	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 10:00 PM	11.2	31.5	432.8	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 11:00 PM	9	33.2	432.1	All operations other than water trucks idled.	24 hour > 130 action level in place.
03/17/2013 12:00 AM	7.9	35	431.8	All operations other than water trucks idled.	24 hour > 130 action level in place.

Table IX.1 Hourly weather, I-80 PM10 concentrations, mine actions taken.

Date/Time	Wind Speed	Hourly PM10	24-Hour PM10	Actions	Action Plan Response
03/17/2013 01:00 AM	6.9	10.9	27.7	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 02:00 AM	4.5	10.5	27.8	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 03:00 AM	7.2	7	27.7	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 04:00 AM	8.8	4.8	27.5	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 05:00 AM	19.8	168.9	33.6	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 06:00 AM	15.4	10.7	33.8	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 07:00 AM	17.7	7.7	33.4	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 08:00 AM	20	6.4	32.9	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 09:00 AM	21.2	8.7	32.8	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 10:00 AM	22.1	56.9	34.5	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 11:00 AM	20.5	23.9	35.1	No operations taking place in Pit 10.	No Action levels had been reached.
03/17/2013 12:00 PM	24.5	108.9	39.3	No operations taking place in Pit 10.	No Action levels had been reached. Photos taken and recording of activities began.
03/17/2013 01:00 PM	31.1	447.2	54.8	No operations taking place in Pit 10.	1 hour > 300 action level reached. Notifications made.
03/17/2013 02:00 PM	35.2	316.2	63.2	No operations taking place in Pit 10. Water trucks dispatched to Pit 10 and Pit 11 prestrip, spoils, out-of-pit spoils and highwall areas.	1 hour > 300 action level in place. Roads determined to be safe for water trucks.
03/17/2013 03:00 PM	38.1	1725.3	132.1	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level reached.
03/17/2013 04:00 PM	40.9	1989.7	210.9	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 05:00 PM	37.7	882.3	244.2	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 06:00 PM	33.1	328.8	255.9	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 07:00 PM	27.8	110.8	257.9	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 08:00 PM	20.8	56.7	258	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 09:00 PM	16.2	47.2	258.5	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 10:00 PM	11.2	38.9	258.9	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 11:00 PM	9	39.5	259.1	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.
03/17/2013 12:00 AM	7.9	40.4	260.3	No operations taking place in Pit 10 other than water trucks.	24 hour > 130 action level in place.

Table IX.2 Hourly weather, Pit 10 PM10 concentrations, mine actions taken.

The information presented in this Section clearly demonstrates that all actions taken on the 17th were in accordance with the mine's Air Monitoring Action Plan and that despite these efforts the strength and speed of the storm created conditions that those efforts could not overcome.

X. BEST AVAILABLE CONTROL MEASURES

Best Available Control Measures (BACM) in place and in use at the Pit 10 and Pit 11 area of Black Butte on the 17th of March and prior to this day include the following measures; treatment of inactive spoil piles in Pit 10 and 11 with water or chemicals to control fugitive dust, treatment of disturbed pre-strip areas in Pit 10 and 11 with water or chemicals to control fugitive dust, chemical treatments at least twice a year and water treatments as needed throughout the year on permanent haul roads, treatment of temporary haul roads with water or chemicals, temporary vegetative cover applied to topsoiled areas that will not receive permanent seeding within 60 days of topsoil laydown and mitigation of coal fires from spontaneous combustion.

Inactive spoil piles in the Pit 10 and 11 areas' are located within the dragline pit. These areas had received treatments of water at various times throughout the year. The spoils that are contained within the dragline pit received water treatments in the form of rain and snow. This has proven to be a viable and effective control measure for Black Butte in the past. It snowed earlier that morning in both of these areas. Given the high clay content of the overburden material found at Black Butte once the area has received moisture in the form of rain or snow it develops a crust that effectively prevents the majority of fugitive dust emissions. As long as the area is not disturbed and this crust broken this control measure will remain a viable measure. However, there is a limit to what any amount of water or chemical can control. As evidenced through other Sections of this report the severity of the wind event overcame those control measures.

Condition 14 of Black Buttes air quality permit states that we must treat inactive spoils in Pit 10 and 11 with water or chemical dust suppression on a schedule such that treatments remains a viable control measure. The mine had utilized water as the treatment method rather than chemicals as this had worked for many years. In December 2012 during a meeting with WYDEQ-AQD regarding fugitive dust emissions in 2011 and 2012 the mine recommended switching to a chemical treatment of the inactive spoils in Pit 10 and Pit 11 rather than continuing to rely on water. The treatments were recommended to start the following spring or sooner if permanent snow cover melted sooner. WYDEQ-AQD accepted this recommendation and the chemical treatment plan was implemented. By March 17, 2013 the mine was still experiencing winter conditions. It had snowed on the 17th. Disturbing this snow cover to apply a chemical at that time was determined to be a waste of time and effort. On March 17, 2013 the mine was in compliance with Condition 14. Water in the form of snow had been applied that morning to the inactive spoils. The inactive spoils on the north endwall of Pit 11 and the north endwall of Pit 10 had received additional treatments from water trucks between the months of January and March of 2013.

Condition 15 of Black Buttes air quality permit states that the mine shall treat disturbed prestrip areas in Pit 10 and 11 with water or chemical suppressants to control fugitive dust. Newly stripped areas in Pit 10 and Pit 11 shall be treated within 7 days of completion of stripping. The prestrip area on the highwall in Pit 10 and Pit 11 had been treated with water prior to and during the event on March 17, 2013. Beginning on the 15th of March and going through the 17th of March the Pit 10 and 11 roads, prestrip areas, spoil areas, out-of-pit spoil areas and highwall areas had been treated with a total of 1,564,000 gallons of water. These actions more than satisfied the requirements of Condition 14 and 15 of Permit MD7424 as well as the rest of the BACM utilized by the mine.

Chemical treatments of the permanent haulroads in Pit 10 and Pit 11 occurred in summer 2012. Water treatments of these areas occurred as needed prior to and during the event of March 17, 2013.

No topsoil laydown occurred in Pit 10 or Pit 11 in 2012 or in 2013 prior to the day of the event.

Action Plan Event Logs which list the number of water truck loads and the areas it is applied are included in Appendix H.

The final BACM in place at Black Butte is the approved Air Monitoring Action Plan for Black Butte mine. As demonstrated in Section IX of this report the Air Monitoring Action Plan was followed exactly as required on the day in question.

Section X indicates the required BACM to be used by Black Butte to control fugitive dust. Furthermore, it demonstrates that those control measures were in place and being utilized prior to and during the March 17, 2013 event.

XI. BEST AVAILABLE CONTROL TECHNOLOGY

Best Available Control Technology required at Black Butte consists of the TEOM network in place at the mine and Meteorological station. The TEOM network consists of 5 TEOM's located throughout the mine. The TEOM network sends wireless information on an hourly basis to a central database located in the mine office area. Automatic notification are sent via email to Managers, engineers, supervisors and leadmen at the mine when action levels are reached. The met station is located at the office area and transmits data over a radio network to the mines central database. Data for both the TEOM's and Met station is managed and compiled by IML and downloaded to a website managed by them.

The TEOM's are calibrated on no more than a monthly basis and a quarterly report of the data quality and recordings is prepared and distributed to the WYDEQ-AQD. Calibrations of the TEOM's are primarily done by mine personnel but occasions do arise where the mine contracts that work out if needed.

Distribution, construction and maintenance of the TEOM's and Met Station are all in accordance with Black Buttes Air Quality permit MD-7424

APPENDIX G

TEOM Concentration Logsheet for March 17, 2013

Date	Shift	Team	Time	1 HR	24 HR	H2O Location	Team	Time	1 HR	24 HR	H2O Location
4 3-9-13	N	P-10	8 pm	8.3	14.2	N/A Weather	P-10	5 pm	13.1	31.7	N/A Weather
2 3-10	D	P-10	12 pm	18.2	15.7	P-10					
4 3-16-13	N	P-10	9 pm	17.2	24.3	P-10	P-10	5 am	8.5	34.7	P-10/P-11/P-10
3 3-11-13	D	P-10	12 pm	130	32.8	P-10	P-10	4 pm	93.3	52.5	P-10/P-11
2 3-11	N	P-10	9 pm	7.4	81.4	N/A Snow	I-90	4 AM	4.4	6.8	Snow
3 3-12-13	D	P-10	8 pm	13.6	6.1	P-10	P-10	5 pm	12.2	11.6	P-10/P-11
2 3-12	N	P-10	9 pm	6.0	10.2	P-10	P-10	4 AM	1	9.6	N/A
3 3-12-13	D	P-10	8 am	7.5	7.3	P-10	P-10	4 pm	100.5	38.7	P-10 P-11
2 3-12	N	P-10	9 pm	10.0	42.1	P-10	P-10				
3 3-14	D	I-80	10 am	12.1	12.1	P-10	P-10				
1 3-14	N	I-80	11 pm	11.6	35.1	P-10, P-11, P-14	I-80	4 am	15.9	14.5	P-10 P-11 P-14
4 3-15-13	D	I-80	7 am	1.2	5.7	P-8, P-10, P-11	I-80	5 pm	3.3	53.3	P-10/P-11/P-14
1 3-15-13	N	I-80	10 pm	11.3	74.7	P-10 P-11, P-14	I-80	3 am	10.9	12.2	P-10 P-11, P-14
4 3-15-13	D	I-80	7 am	17.2	3.3	P-10 P-11, P-14	I-80	5 pm	13.4	19.7	P-10 P-11, P-14
1 3-16-13	N	I-80	8 pm	11.1	53.3	P-10, P-11, P-14	I-80	3 am	12.4	16.8	P-10 P-11, P-14
4 3-17-13	D	I-80	9 am	51.7	30.9	N/A Snow	I-80	4 pm	238.9	57.4	P-8/P-10/P-14
1 3-17-13	N	I-80	12 pm	30.5	509.6	P-9, P-14, P-11, P-12	I-80	4 am	13.4	19.7	P-10 P-11, P-14
2 3-18	D	P-10	8 am	17.8	16.6	P-10/P-11/P-14	I-80	5 pm	13.4	44.5	
4 3-18-13	N	P-10	6 pm	69.8	44.1	P-14, P-11, P-10, P-12	I-80	3 am	12.4	17.9	P-14/P-11/P-10
2 3-19	D	I-80	9 am	4.8	36.5	P-14/P-11/P-10	P-10	5 pm	11.4	14	P-14/P-11/P-10
4 3-19-13	N	P-10	7 am	7.8	10.7	P-14, P-11, P-10	Lewis	3 am	30.6	26.0	P-14/P-11/P-10
2 3-20	D	I-80	9 am	45.0	29.7	P-10/P-11/P-14	Lewis	4 pm	12.4	26.0	P-14/P-11/P-10
4 3-20-13	N	I-80	11 pm	7.9	14.2	P-14/P-11/P-10	Lewis	3 am	72.6	27	P-14
3 3-21-13	D	I-80	7 pm	6.8	12.6	P-14	Lewis	3 am	12.1	12.1	N/A
1 3-22-13	D	I-80	2 pm	9.9	12.5	N/A	I-80	4 am	24.9	4.5	Snow
3 3-22-13	N	P-14	8 am	3.4	10.9	Snow	P-10	3 am	10.9	26.9	N/A Mud
1 3-23-13	D	P-10	7 am	44.4	44.8	N/A Snow	P-10	4 pm	9.7	8.6	N/A
3 3-23-13	N	P-10	8 pm	5.4	24.9	N/A mud	P-10	3 am	10.1	12.8	N/A
1 3-24-13	D	P-10	9 am	12.9	12.0	N/A	P-10	3 pm	10.1	12.8	N/A
3 3-24-13	N	P-10	8 pm	7.1	11.7	N/A	P-10	3 pm	7.1	6.5	P-11/P-10
4 3-25-13	D	I-80	8 am	12.7	13.8	P-14/P-10/P-11	P-10	3 pm	7.1	6.5	P-11/P-10
1 3-25-13	N	I-80	8 pm	10.9	10.3	P-10, P-11	I-80	3 am	13.6	12.0	P-10 as needed

APPENDIX H

**Action Plan Event Logs for March 15, 2013 through March
17, 2013**

Action Plan Event Log
Action Report

3/15
Day

THIS REPORT WILL BE COMPLETED IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

In the table below record the date, time, and concentration at which action plan levels were reached

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24-hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10															
1-80	3/15/13	11 AM	401.8				3/15/13	4 PM	90.4						
Pit 14															
Leucite															
UPWIND															

II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report. Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible.	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area.	At what times was the water truck in this area.
_____ South half of Pit 10 highwall	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 assist bench	Yes / No	_____ am/pm	_____ loads	
_____ Road in spoils on North side of Pit 10	Yes / No	_____ am/pm	_____ loads	
<input checked="" type="checkbox"/> Pit 11 highwall	<input checked="" type="checkbox"/> Yes / No	10 am/pm	_____ loads	
<input checked="" type="checkbox"/> Pit 11 spoils	<input checked="" type="checkbox"/> Yes / No	1230 am/pm	_____ loads	
_____ Dragline #1's pad and access road	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 inactive spoils	Yes / No	_____ am/pm	_____ loads	
<input checked="" type="checkbox"/> Pit 10 pre-strip	<input checked="" type="checkbox"/> Yes / No	6 am/pm	_____ loads	All shift
_____ Pit 10 topsoil stockpiles	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 out of pit stockpiles (OOPS)	Yes / No	_____ am/pm	_____ loads	
_____ Pit 11 OOPS	Yes / No	_____ am/pm	_____ loads	
_____ Pit 11 topsoil pile	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 hopper/stockpile	Yes / No	_____ am/pm	_____ loads	
_____ Pit 8 stilling shed/ stockpile	Yes / No	_____ am/pm	_____ loads	
_____ Pit 14 haul roads	Yes / No	_____ am/pm	_____ loads	
_____ Pit 14 OOPS or topsoil stockpiles	Yes / No	_____ am/pm	_____ loads	
_____ Drag #2's pad and access road	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	

Were the water trucks below available on the day of the event?	If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981	<input checked="" type="checkbox"/> Yes / No All shift	
19-1007	<input checked="" type="checkbox"/> Yes / No All shift	
	Yes / No	
	Yes / No	

Action Plan Event Log
Action Report

3/15
Night

THIS REPORT WILL BE COMPLETED IN IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

In the table below record the date, time, and concentration at which action plan levels were reached

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24-hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10															
I-80				3-15											
Pit 14															
Leucite															
UPWIND															

II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible.	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area	At what times was the water truck in this area
___ South half of Pit 10 highwall	Yes / No	___ am/pm	___ loads	
___ Pit 10 assist bench	Yes / No	___ am/pm	___ loads	
___ Road in spoils on North side of Pit 10	Yes / No	___ am/pm	___ loads	
___ Pit 11 highwall	Yes / No	___ am/pm	___ loads	
___ Pit 11 spoils	Yes / No	___ am/pm	___ loads	
___ Dragline #1's pad and access road	Yes / No	___ am/pm	___ loads	
___ Pit 10 inactive spoils	Yes / No	___ am/pm	___ loads	
___ Pit 10 pre-strip	Yes / No	___ am/pm	___ loads	
___ Pit 10 topsoil stockpiles	Yes / No	___ am/pm	___ loads	
___ Pit 10 out of pit stockpiles (OOPS)	Yes / No	___ am/pm	___ loads	
___ Pit 11 OOPS	Yes / No	___ am/pm	___ loads	
___ Pit 11 topsoil pile	Yes / No	___ am/pm	___ loads	
___ Pit 10 hopper/stockpile	Yes / No	___ am/pm	___ loads	
___ Pit 8 stilling shed/ stockpile	Yes / No	___ am/pm	___ loads	
___ Pit 14 haul roads	Yes / No	___ am/pm	___ loads	
___ Pit 14 OOPS or topsoil stockpiles	Yes / No	___ am/pm	___ loads	
___ Drag #2's pad and access road	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	

Were the water trucks below available on the day of the event?	If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981 <input checked="" type="radio"/> Yes <input type="radio"/> No	6 PM - 1230 AM	
19-1007 <input checked="" type="radio"/> Yes <input type="radio"/> No	6 PM - 6 AM	
<input type="radio"/> Yes <input type="radio"/> No		
<input type="radio"/> Yes <input type="radio"/> No		

Action Plan Event Log Action Report

THIS REPORT WILL BE COMPLETED IN IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

In the table below record the date, time, and concentration at which action plan levels were reached.

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24-hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10															
I-80	3/1/13	PM	351.3												
Pit 14															
Leucite															
UPWIND															

II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report. Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible.	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area	At what times was the water truck in this area.
<input type="checkbox"/> South half of Pit 10 highwall	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 10 assist bench	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Road in spoils on North side of Pit 10	Yes / No	_____ am/pm	_____ loads	
<input checked="" type="checkbox"/> Pit 11 highwall	<input checked="" type="checkbox"/> Yes / No	6 am/pm	4 loads	
<input checked="" type="checkbox"/> Pit 11 spoils	<input checked="" type="checkbox"/> Yes / No	6 am/pm	3 loads	
<input checked="" type="checkbox"/> Dragline #1's pad and access road	<input checked="" type="checkbox"/> Yes / No	6 am/pm	2 loads	
<input type="checkbox"/> Pit 10 inactive spoils	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 10 pre-strip	<input checked="" type="checkbox"/> Yes / No	6 am/pm	4 loads	
<input type="checkbox"/> Pit 10 topsoil stockpiles	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 10 out of pit stockpiles (OOPS)	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 11 OOPS	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 11 topsoil pile	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 10 hopper/stockpile	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 8 stilling shed/ stockpile	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 14 haul roads	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Pit 14 OOPS or topsoil stockpiles	Yes / No	_____ am/pm	_____ loads	
<input type="checkbox"/> Drag #2's pad and access road	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	

Were the water trucks below available on the day of the event?		If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981	<input checked="" type="checkbox"/> Yes / No	6AM	
19-1007	<input checked="" type="checkbox"/> Yes / No	6AM	
	Yes / No		
	Yes / No		

Action Plan Event Log Action Report

THIS REPORT WILL BE COMPLETED IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

No action level was reached this shift but shut down early due to projected n-gth winds

In the table below record the date, time, and concentration at which action plan levels were reached.

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24-hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10															
I-80															
Pit 14															
Leucite															
UPWIND															

II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report. Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible.	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area.	At what times was the water truck in the area
_____ South half of Pit 10 highwall	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 assist bench	Yes / No	_____ am/pm	_____ loads	
_____ Road in spoils on North side of Pit 10	Yes / No	_____ am/pm	_____ loads	
_____ Pit 11 highwall	Yes / No	_____ am/pm	_____ loads	
_____ Pit 11 spoils	Yes / No	_____ am/pm	_____ loads	
_____ Dragline #1's pad and access road	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 inactive spoils	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 pre-strip	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 topsoil stockpiles	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 out of pit stockpiles (OOPS)	Yes / No	_____ am/pm	_____ loads	
_____ Pit 11 OOPS	Yes / No	_____ am/pm	_____ loads	
_____ Pit 11 topsoil pile	Yes / No	_____ am/pm	_____ loads	
_____ Pit 10 hopper/stockpile	Yes / No	_____ am/pm	_____ loads	
_____ Pit 8 stilling shed/ stockpile	Yes / No	_____ am/pm	_____ loads	
_____ Pit 14 haul roads	Yes / No	_____ am/pm	_____ loads	
_____ Pit 14 OOPS or topsoil stockpiles	Yes / No	_____ am/pm	_____ loads	
_____ Drag #2's pad and access road	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	
_____	Yes / No	_____ am/pm	_____ loads	

*3/12
Night Shift*

Were the water trucks below available on the day of the event?	If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981	<input checked="" type="radio"/> Yes <input type="radio"/> No	
19-1007	<input checked="" type="radio"/> Yes <input type="radio"/> No	
	Yes / No	
	Yes / No	

Action Plan Event Log

Action Report

THIS REPORT WILL BE COMPLETED IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

In the table below record the date, time, and concentration at which action plan levels were reached

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24 hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10	3/17/13	3 PM	1989												
I-80	3/17/13	2 PM	3904										3/17/13	3 PM	210
Pit 14	3/17/13	PM	590	3/17/13	4 PM	74.9							3/17/13	3 AM	430
Leucite															
UPWIND	3/17/13	3 PM	321												

II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report. Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area.	At what times was the water truck in the area.
<input checked="" type="checkbox"/> South half of Pit 10 highwall	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Pit 10 assist bench	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/> Road in spoils on North side of Pit 10	Yes / No	am/pm	loads	
<input checked="" type="checkbox"/> Pit 11 highwall	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Pit 11 spoils	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Dragline #1's pad and access road	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/> Pit 10 inactive spoils	Yes / No	am/pm	loads	
<input checked="" type="checkbox"/> Pit 10 pre-strip	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Pit 10 topsoil stockpiles	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/> Pit 10 out of pit stockpiles (OOPS)	Yes / No	am/pm	loads	
<input type="checkbox"/> Pit 11 OOPS	Yes / No	am/pm	loads	
<input type="checkbox"/> Pit 11 topsoil pile	Yes / No	am/pm	loads	
<input type="checkbox"/> Pit 10 hopper/stockpile	Yes / No	am/pm	loads	
<input checked="" type="checkbox"/> Pit 8 stilling shed/ stockpile	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> Pit 14 haul roads	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/> Pit 14 OOPS or topsoil stockpiles	Yes / No	am/pm	loads	
<input checked="" type="checkbox"/> Drag #2's pad and access road	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> P8 Ramp	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input checked="" type="checkbox"/> P10 Assist	<input checked="" type="checkbox"/> Yes / No	2 am/pm	1 loads	
<input type="checkbox"/>	Yes / No	am/pm	loads	
<input type="checkbox"/>	Yes / No	am/pm	loads	
<input type="checkbox"/>	Yes / No	am/pm	loads	

Were the water trucks below available on the day of the event?	If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981	<input checked="" type="checkbox"/> Yes / No	Both trucks put into service at 2pm
19-1007	<input checked="" type="checkbox"/> Yes / No	
	Yes / No	
	Yes / No	

Action Plan Event Log
Action Report

3-17-13

THIS REPORT WILL BE COMPLETED IN ITS ENTIRETY BY THE ON SHIFT SUPERINTENDENT PRIOR TO LEAVING AT THE END OF THE SHIFT.

I. Concentrations which trigger the action plan.

In the table below record the date, time, and concentration at which action plan levels were reached

	300 ug/m ³ (1-hour)			70 ug/m ³ (24-hour)			90 ug/m ³ (24-hour)			110 ug/m ³ (24-hour)			130 ug/m ³ (24-hour)		
	Date	Time	1-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading	Date	Time	24-hour reading
Pit 10															
I-80															
Pit 14															
Leucite															
UPWIND															

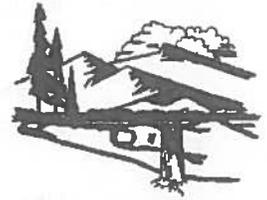
II. Identify problem areas, ensure problem areas are addressed, ensure adequate water trucks are operating in the areas, and record when and where watering activities were being done. Please give priority to the areas listed in the table below.

Place an X by each area that is visibly contributing to airborne dust, and describe the severity of dust emission in Section VI of this report. Also, fill out the supplemental information for each applicable area. Take photographic evidence if possible	Was the water truck requested to address this specific area?	At what time was the initial request made?	How many loads of water were applied in this area	At what times was the water truck in this area
<input checked="" type="checkbox"/> South half of Pit 10 highwall	Yes / No	6 am/pm	12 loads	Various
<input checked="" type="checkbox"/> Pit 10 assist bench	Yes / No	6 am/pm	loads	Times
___ Road in spoils on North side of Pit 10	Yes / No	___ am/pm	___ loads	Throughout
<input checked="" type="checkbox"/> Pit 11 highwall	Yes / No	6 am/pm	___ loads	Shift
<input checked="" type="checkbox"/> Pit 11 spoils	Yes / No	6 am/pm	___ loads	
<input checked="" type="checkbox"/> Dragline #1's pad and access road	Yes / No	6 am/pm	___ loads	
___ Pit 10 inactive spoils	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 10 pre-strip	Yes / No	6 am/pm	___ loads	
___ Pit 10 topsoil stockpiles	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 10 out of pit stockpiles (OOPS)	Yes / No	6 am/pm	___ loads	
___ Pit 11 OOPS	Yes / No	___ am/pm	___ loads	
___ Pit 11 topsoil pile	Yes / No	___ am/pm	___ loads	
___ Pit 10 hopper/stockpile	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Pit 8 stilling shed/ stockpile	Yes / No	6 am/pm	___ loads	
___ Pit 14 haul roads	Yes / No	___ am/pm	___ loads	
___ Pit 14 OOPS or topsoil stockpiles	Yes / No	___ am/pm	___ loads	
<input checked="" type="checkbox"/> Drag #2's pad and access road	Yes / No	6 am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	
___	Yes / No	___ am/pm	___ loads	

Were the water trucks below available on the day of the event?	If the truck was available, please specify the time during the shift that the water truck was put into service.	If unavailable, please specify the reason. Include any WO's associated with maintenance and repairs.
19-0981	<input checked="" type="radio"/> Yes / <input type="radio"/> No	
19-1007	<input checked="" type="radio"/> Yes / <input type="radio"/> No	
	Yes / No	
	Yes / No	



Department of Environmental Quality



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

Matt Mead, Governor

Todd Parfitt, Director

November 21, 2013

Mr. Steve Gili
Black Butte Coal Company
PO Box 98
Point of Rocks, WY 82942

Re: June 26, 2013 Request for Flags under the Exceptional Event Rule for PM₁₀, March 17, 2013 Exceedances

Dear Mr. Gili,

On March 17, 2013, the Black Butte Coal Company's (BBCC) I-80 and Pit 10 samplers recorded exceedances of the 24-hour PM₁₀ standard, with final concentrations of 431.8 µg/m³ and 260.3 µg/m³, respectively.

On June 26, 2013 the Air Quality Division (AQD) received a request that data for the I-80 and Pit 10 monitors on this day be flagged under 40 CFR Part 50.14 "Treatment of Data Influenced by Exceptional Events" due to high winds.

After review of the submitted materials, the AQD has decided to pursue BBCC's request to flag the PM₁₀ data collected at the I-80 and Pit 10 monitors on March 17, 2013 under 40 CFR 50.14.

The next step in the process is a 30 day public comment period. In order to move forward, the AQD needs an electronic copy of all the documentation and correspondence submitted during the review process. All correspondence, starting with the original notification to the AQD, the original Exceptional Event packet, any requests for additional information, responses to those requests and other information submitted to the AQD during the review process should be combined into a single, chronologically ordered .pdf document and submitted to the AQD.

Once received, the chronological packet will be posted to the AQD's website and the public comment period will be advertised.

BBCC's final packet is requested on or before December 23, 2013. Please email it to kirk.billings@wyo.gov

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ABANDONED MINES
(307) 332-5085
FAX 332-7726

AIR QUALITY
(307) 332-6755
FAX 332-7726

LAND QUALITY
(307) 332-3047
FAX 332-7726

SOLID & HAZARDOUS WASTE
(307) 332-6924
FAX 332-7726

WATER QUALITY
(307) 332-3144
FAX 332-7726

