

Buckskin Mining Company

04/12/2012

Ambient Air Exceedance

Documentation

04/12/2012

Landon.Smith

From: Laura.Ackermann
Sent: Thursday, April 12, 2012 10:30 AM
To: KMGBKM.EmailUsers@kiewit.com
Subject: FW: Blowing Dust Health Alert

From: Tanner Shatto [<mailto:tanner.shatto@wyo.gov>]
Sent: Thursday, April 12, 2012 10:29 AM
To: <cut>
Subject: Fwd: Blowing Dust Health Alert

----- Forwarded message -----

From: **Scott Rudge** <scott.rudge@noaa.gov>
Date: Thu, Apr 12, 2012 at 9:41 AM
Subject: Blowing Dust Health Alert
To: tanner.shatto@wyo.gov

AIR QUALITY ALERT MESSAGE
NATIONAL WEATHER SERVICE RAPID CITY SD
937 AM MDT THU APR 12 2012

...**BLOWING** DUST HEALTH ALERT IN EFFECT FOR THE ENTIRE POWDER RIVER
BASIN OF NORTHEASTERN WYOMING THROUGH 300 PM MDT THIS AFTERNOON...

SOUTH TO SOUTHWEST WINDS OF 30 TO 45 MPH WITH GUSTS UP TO 60 MPH
WILL CONTINUE THROUGH THIS AFTERNOON. THE WINDS WILL BEGIN TO
DIMINISH BY LATE THIS AFTERNOON AND THIS EVENING.

THE WYOMING AIR QUALITY DIVISION RECOMMENDS THE ELDERLY...YOUNG
CHILDREN...AND INDIVIDUALS WITH RESPIRATORY PROBLEMS AVOID EXCESSIVE
PHYSICAL EXERTION AND MINIMIZE OUTDOOR ACTIVITIES DURING THIS TIME.
ALTHOUGH THESE PEOPLE ARE MOST SUSCEPTIBLE TO HEALTH IMPACTS...THE
AIR QUALITY DIVISION ALSO ADVISES THAT EVERYONE SHOULD AVOID
PROLONGED EXPOSURE TO THE POOR AIR QUALITY CONDITIONS.

--

Tanner B. Shatto
District 3 Engineer
Wyoming Department of Environmental Quality
Air Quality Division
Direct: (307)675-5626
Office: (307)673-9337

04/20/2012

Landon.Smith

From: Kirk Billings <kirk.billings@wyo.gov>
Sent: Friday, April 20, 2012 1:36 PM
To: Cody.Weatherly
Cc: Darla Potter; Tanner Shatto; Laura.Ackermann
Subject: Re: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012
Attachments: Exceptional Event or NEAP Informal Guidance 20120123.docx

Follow Up Flag: Follow up
Flag Status: Completed

Cody,

Thanks for taking the time to talk to me on the phone today about your 4/12/12 exceedance.

I have attached an information sheet I put together for facilities writing packets for Exceptional Events. It is meant to get you started, but is not exhaustive.

As I mentioned on the phone, feel free to contact me if I can be of assistance.

Finally, in the future would you please cc me on all correspondence regarding monitoring at your facility? Thanks.

--

Kirk Billings
Wyoming Department of Environmental Quality
Air Quality Division, Monitoring Group
(307) 335-6963 (desk)
(307) 438-2470 (cell)
kirk.billings@wyo.gov

On Fri, Apr 20, 2012 at 12:53 PM, Tanner Shatto <tanner.shatto@wyo.gov> wrote:
FYI

----- Forwarded message -----

From: <Cody.Weatherly@kiewit.com>
Date: Fri, Apr 20, 2012 at 11:24 AM
Subject: RE: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012
To: Tanner.Shatto@wyo.gov
Cc: Laura.Ackermann@kiewit.com

Mr. Shatto,

On April 12, 2012 Buckskin exceeded the 24 hour particulate matter (PM) concentration on the North TEOM. We are currently collecting data to create a report to send.

If there are any questions or concerns please refer all correspondences to Laura Ackermann.

Thank you,

Cody Weatherly

Environmental Coordinator

BUCKSKIN MINING COMPANY

PO Box 3027, Gillette, WY 82716

Office: [\(307\) 686-5476](tel:(307)686-5476)

Fax: [\(307\)-686-5445](tel:(307)686-5445)

Cc: Laura Ackermann

--

Tanner B. Shatto
District 3 Engineer
Wyoming Department of Environmental Quality
Air Quality Division
Direct: [\(307\)675-5626](tel:(307)675-5626)
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tanner.shatto@wyo.gov



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Landon.Smith

From: Cody.Weatherly
Sent: Friday, April 20, 2012 1:57 PM
To: 'Tanner Shatto'
Cc: Laura.Ackermann; 'kirk.billings@wyo.gov'; Ronn Smith (rsmith@imlinc.com)
Subject: RE: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012

Tanner,

Yes this will be under the NEAP. We had gusts up to 60 MPH that day, and it increased our 24 hour concentration substantially. Laura will be guiding me through this because I have never done this before and I am currently working with IML to get data from the TEOM on that day to include in the report. And I will make sure to put the blowing dust alert in the packet. Thank you for informing me.

Cody

From: Tanner Shatto [<mailto:tanner.shatto@wyo.gov>]
Sent: Friday, April 20, 2012 1:13 PM
To: Cody.Weatherly
Cc: Laura.Ackermann; Kirk Billings
Subject: Re: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012

Will this be an exceptional event request? I see that we had a blowing dust health alert that day. As I am sure you know, be sure to include that with the request.

On Fri, Apr 20, 2012 at 11:24 AM, <Cody.Weatherly@kiewit.com> wrote:

Mr. Shatto,

On April 12, 2012 Buckskin exceeded the 24 hour particulate matter (PM) concentration on the North TEOM. We are currently collecting data to create a report to send.

If there are any questions or concerns please refer all correspondences to Laura Ackermann.

Thank you,

Cody Weatherly

Environmental Coordinator

BUCKSKIN MINING COMPANY

PO Box 3027, Gillette, WY 82716

Office: [\(307\) 686-5476](tel:3076865476)

Fax: [\(307\)-686-5445](tel:3076865445)

Cc: Laura Ackermann

--

Tanner B. Shatto
District 3 Engineer
Wyoming Department of Environmental Quality
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04/24/2012

Landon.Smith

From: Kirk Billings <kirk.billings@wyo.gov>
Sent: Tuesday, April 24, 2012 12:42 PM
To: Cody.Weatherly
Cc: Laura.Ackermann
Subject: Re: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012

Shovel and truck areas are important, as well as any other equipment that would have the capacity to create significant fugitive dust. Dozers, scrapers and blades would fall into that category, but passenger vehicles (such as work trucks and passenger vans would not).

--

Kirk Billings
Wyoming Department of Environmental Quality
Air Quality Division, Monitoring Group
(307) 335-6963 (desk)
(307) 438-2470 (cell)
kirk.billings@wyo.gov

On Tue, Apr 24, 2012 at 12:06 PM, <Cody.Weatherly@kiewit.com> wrote:

Mr. Billings,

On this report, would you prefer to just have details of shovel and haul truck locations with travel areas? Or include support equipment such as: Dozers, Scrapers, and Blades and where they were located and what they were doing?

Thank you,

Cody Weatherly

Environmental Coordinator

BUCKSKIN MINING COMPANY

PO Box 3027, Gillette, WY 82716

05/02/2012

Landon.Smith

From: Cody.Weatherly
Sent: Wednesday, May 02, 2012 9:20 AM
To: 'Kirk Billings'
Cc: Laura.Ackermann
Subject: RE: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012

Kirk,

I believe these are the numbers you are looking for..

April 12th 2012 at 11:00 PM= 185.9 µg/m³ 24-avg. Concentration (STP)

April 13th 2012 at 12:00 AM= 180.8 µg/m³ 24-avg. Concentration (STP)

Cody Weatherly

Environmental Coordinator

BUCKSKIN MINING COMPANY

PO Box 3027, Gillette, WY 82716

Office: (307) 686-5476

Fax: (307)-686-5445

From: Kirk Billings [<mailto:kirk.billings@wyo.gov>]
Sent: Wednesday, May 02, 2012 8:28 AM
To: Cody.Weatherly
Cc: Laura.Ackermann
Subject: Re: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012

The 24 hour concentration at the end of the day.

--

Kirk Billings
Wyoming Department of Environmental Quality
Air Quality Division, Monitoring Group
(307) 335-6963 (desk)
(307) 438-2470 (cell)
kirk.billings@wyo.gov

On Wed, May 2, 2012 at 8:25 AM, <Cody.Weatherly@kiewit.com> wrote:

Kirk,

Did you mean the 24 hour PM₁₀ concentration at the end of the day, or the highest 24 hour PM₁₀ concentration we had on that day?

Cody Weatherly

Environmental Coordinator

BUCKSKIN MINING COMPANY

PO Box 3027, Gillette, WY 82716

Office: [\(307\) 686-5476](tel:3076865476)

Fax: [\(307\)-686-5445](tel:3076865445)

From: Kirk Billings [mailto:kirk.billings@wyo.gov]

Sent: Tuesday, May 01, 2012 11:02 AM

To: Cody.Weatherly

Subject: Re: 24 Hour Particulate Matter Concentration Exceedance on April 12, 2012

Hi Cody,

Can you tell me what the final 24 hour concentration was on the day of your exceedance?

--

Kirk Billings

Wyoming Department of Environmental Quality

Air Quality Division, Monitoring Group

[\(307\) 335-6963](tel:3073356963) (desk)

[\(307\) 438-2470](tel:3074382470) (cell)

kirk.billings@wyo.gov

On Tue, Apr 24, 2012 at 12:06 PM, <Cody.Weatherly@kiewit.com> wrote:

Mr. Billings,

On this report, would you prefer to just have details of shovel and haul truck locations with travel areas? Or include support equipment such as: Dozers, Scrapers, and Blades and where they were located and what they were doing?

Thank you,

Cody Weatherly

Environmental Coordinator

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Landon.Smith

From: Kirk Billings <kirk.billings@wyo.gov>
Sent: Wednesday, May 02, 2012 10:26 AM
To: Darla Potter
Cc: Laura.Ackermann; Cody.Weatherly
Subject: Buckskin mine exceedance

Darla,

The preliminary concentration for Buckskin Mine's April 12, 2012 exceedance of the PM-10 NAAQS is 180.8 $\mu\text{g}/\text{m}^3$.

They have indicated they will be submitting a NEAP packet requesting that the data be flagged as due to exceptional events.

--

Kirk Billings
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05/04/2012



BUCKSKIN MINING COMPANY

BUCKSKIN MINE, PO BOX 3027 ~ GILLETTE, WY 82717

May 4, 2012

Mr. Kirk Billings
Coal Mine Industrial Monitoring
510 Meadowview Drive
Lander, WY. 82520

RE: Buckskin Mining Co., April 12, 2012 High Wind Event Report

Mr. Billings,

Buckskin Mining Company experienced a high wind event on April 12, 2012. The average winds for the day at the North TEOM ranged from 20 Miles/Hour to 45 Miles/Hour most of the morning. Gusts ranged in the early morning from 30 Miles/Hour to 62 Miles/Hour mid-morning. A blowing dust health alert was sent to the pit at the time of the high wind event. The largest gust occurred at 9:00 AM which was measured at 62 Miles/ Hour. When the large gusts occurred, pit operations were curtailed to reduce dust.

PM₁₀ data was monitored by the North TEOM all day; however the high 1-hour concentration warnings were not received until April 13th, 2012. Intermountain Labs (IML) Air Science began an investigation to determine the cause of the late received alarms. The cause was identified on May 2nd and has been corrected. A description of this problem is attached as part of the NEAP report.

Attached is the report for the April 12, 2012 high wind event.

Buckskin is hereby requesting this exceedance be flagged as an exceptional event.

In order to maintain one point of contact please address all correspondences to Laura Ackermann at the same address or at laura.ackermann@kiewit.com

Thank you,

Cody Weatherly

Environmental Coordinator

Buckskin Mine

Cc: Cara Keslar (Cheyenne)

Tanner Shatto (District 3)

Summary

On April 12, a high wind incident occurred that caused an exceedance of the 24 hour air particulate concentration of the North TEOM. The high concentration was due to regional high winds. Wind speeds were constantly in the 30 miles/hour range for the day or greater with gusts up to 62 miles/hour. These sustained high winds caused Buckskin to exceed the 150 $\mu\text{g}/\text{m}^3$ 24 hour PM_{10} concentration limit set forth by the conditions of Permit # MD-11186.

Buckskin received a blowing dust health alert from Tanner Shatto in District 3 of the WDEQ- AQD. Additionally, a high wind alert was received from the TEOM. These two alerts were forwarded to pit superintendents in order to allow the Buckskin's TEOM Action Plan to be implemented.

Operations

Water Trucks

Water trucks operated all day. The table below provides information on water applied during the high wind event.

Water Trucks Operating on 4/12/2012					
Equipment #	Equipment Name	Hours Operated	Capacity	Loads/day	Total Water Applied (gallons)
19-1063	2002 Cat 776D Water Truck	9.5	20000	19.00	380,000
19-1192	2008 Cat 785C Water Truck	4	30000	8.00	240,000
19-1230	2010 Cat 785D Water Truck	11.2	30000	22.40	672,000
Topsoil Contractor	Cat 773B with 13000 gallon tank	12	13000	24.00	312,000
Total Water Applied					1,604,000

Table 1: April 12, 2012 Water usage. The Loads/Day was calculated by using 30 Min/Cycle travel time.

Topsoil Stripping

With the topsoil stripping operations in full swing before the high wind event, Buckskin could not initiate any dust control measures on the 2012 stripping area. The topsoil was being hauled to Topsoil-9 (TS-9) Stockpile.

Two Hitachi EX 1200 Excavators were removing topsoil and loading the material in Cat 773 belly dump haul trucks. The topsoil stripping contractors operated a water truck leading up to the high wind event

in an effort to minimize the dusty conditions. The water trucks were spraying the topsoil stripping haul roads as well as the topsoil stripped area in rows to keep the dust down.

All topsoil stripping operations were temporarily suspended during the high wind events to reduce dust emissions.

New Box Cut

Overburden (OB) removal was in process during the high wind events. The P&H 2800 Electric Shovel (10-2766) located on the OB 6 bench was building a new coal haul road across the 2011 topsoil stripping area. Eight haul trucks were transporting OB from the OB 6 bench to the Backfill (BF) 8 dump. The haul trucks were a mixture of 190 ton trucks and 240 ton trucks. One blade and a water truck maintained the haul road and a dozer was maintaining the BF 8 dump. A rubber tire dozer was utilized to push the material down for the shovel.

The P&H 4100 XPC Electric Shovel (10-3038) was loading seven haul trucks on OB 1 and taking the material to the BF 3 Dump area. A blade and a water truck were maintaining the haul road with a dozer maintaining the BF 3 dump. A rubber tire dozer was pushing down the material for the shovel.

Windrows were established in the 2011 topsoil stripping area in accordance with Condition 25a of Permit MD#-11186. Mining operations remove the windrows with pit progression.

Main Pit

In the main pit the 2008 Komatsu PC4000-6 Hydraulic Backhoe (10-2936) was removing interburden and three 190 ton haul trucks were moving it to the BF 2 Dump. Dozers were on BF 6 and 7 cleaning up the benches. A blade and water trucks were maintaining the haul road.

Water trucks applied water to the haul roads continuously in order to reduce dust. When the gusts arrived, pit operations were halted in an effort to reduce the dust.

Coal was mined during the night shift, after the high wind event.

East Pit

The 2007 P&H 4100 XPC Electric Shovel (10-2927) was operating on East Pit OB 1. Four 400 ton haul trucks were moving the overburden to the East Pit BF 2 dump. A blade and a water truck managed the haul road, with a dozer managing the East Pit BF 2 Dump. A rubber tire dozer was pushing material down for the shovel.

No topsoil stripping activities occurred in the East Pit during the high wind event.

MapsMap 1

Map 1 illustrates the general locations of the pits, 2011 topsoil stripping activities, 2012 topsoil stripping activities, active overburden removal, and active backfill areas.

Map 2

Map 2 illustrates the locations of the shovels and the haul routes of the trucks that were being loaded by the shovels.

TEOM Action Plan

In Buckskin's TEOM action plan, notification by alarm from the TEOM system lets the warehouse, Environmental Department, and the supervisors know when there is a high wind warning, 1-hour PM₁₀, and a 24-hour PM₁₀ concentration exceedance. If the 1 hour PM₁₀ concentration alarm of 300 µg/m³ is received for three hours or longer, action must be taken to reduce dust emissions.

Within Buckskins TEOM action plan it says:

1. The warehouse will notify the Environmental Department or the shift superintendent of the high winds.
2. The Environmental Department or shift superintendent will document the exceedance while the conditions causing the exceedance are present.
3. If it is determined that the cause for the elevated dust is originating from any activity associated with the mine, the shift superintendent should take immediate steps to reduce the dust.
4. Environmental Department contact or shift superintendent keeps an eye on the monitor to check if the dust levels are dropping, or if the elevations are continuing to increase.
5. If an exceedance occurs two or more times in a single day, then the above stated procedure starts again.
6. The Environmental Department will prepare a written report which summarizes the high reading, photographs taken, and corrective actions taken.

Reactionary Measures

1. Sent blowing dust health alert to supervisors upon receipt. (10:30 AM)
2. Water trucks were running all day applying water on the haul roads and backfill areas. (6:30 AM-5:30 PM)
 - a. With the reception of the high wind warning from the TEOM and the blowing dust health alert from the WDEQ-AQD in the morning, supervisors increased the number of water trucks. The chart in the data section shows what time the supervisors increased the number of water trucks. (6:30 AM-5:30 PM).

- b. Topsoil stripping contractors used their water truck and watered the topsoil stripped area. (6:30 AM- 5:30 PM)
- 3. When the strongest gusts occurred, all operations were halted to decrease dust, and for safety reasons.
 - a. All overburden hauling and topsoil stripping operations halted per gust event.
- ❖ Due to the high 1-hour PM₁₀ concentration alarms not being received, concentrations were not known until after the event. Upon supervisors receiving the high wind alert from the North TEOM and the blowing dust health alert from the AQD, the TEOM Action plan was implemented. Due to the problem encountered with the alarms not being received, Buckskin will update the TEOM action plan and the alarms sent by the TEOM to improve procedures of response to high wind events.

PM₁₀ Monitoring Equipment

At Buckskin, there are two PM₁₀ quality monitors. They are called the North TEOM and West TEOM.

A database setting was incorrect on the North TEOM. The 24 hour concentration alarm setting was overriding the 1 hour PM₁₀ concentration alarm setting. This caused the 1 hour PM₁₀ files to be locked in the TEOM. After the 24 hour concentration alarm was released in the TEOM, Buckskin received the 1-hour concentration alarms.

North TEOM

Information about the equipment can be found in the TEOM Equipment Details section of this document.

A weather station is located near the North TEOM. This is a Campbell Scientific UT 30 Weather station. Wind speed and direction, temperature, relative humidity, solar radiation and soil temperature are measured with this equipment.

West TEOM

The specifications of the West TEOM are the identical to the North TEOM, but it does not have a weather station.

The West TEOM 1-hour PM₁₀ and 24-hour PM₁₀ concentrations were significantly lower than the North TEOM. Due to the location of the West TEOM, relative to the wind, the 1-hour PM₁₀ concentration values were lightly affected by some of the largest gusts. On Map #1, the locations of the North and West TEOM are shown. By looking at the wind rose in the data section, the strongest gusts arrived from the South/Southwest and directly affected the North TEOM.

TEOM Equipment Details

Equipment data was provided by Intermountain Laboratories (IML) Air Science.

The ambient concentration of particulate matter as PM_{10} is measured by two Rupprecht & Patashnick Company model 1400a TEOM instruments. This instrument has US EPA equivalency designation for PM_{10} (EQPM-1090-079).

The TEOM Series 1400a PM_{10} Monitor draws ambient air through a filter at a constant flow rate, continuously weighing the filter and calculating the near real-time mass concentration. The instrument computes the total mass accumulation on the collection filter and the 30-minute, 1-hour, 8-hour, and 24-hour averages of the mass concentration.

Inside the mass transducer the sample air stream passes through a filter made of Teflon-coated borosilicate glass. This filter is weighed every two seconds. The difference between the filter's current mass and the initial mass is calculated and results in the total mass of the collected particulate. These instantaneous readings of total mass are then smoothed exponentially to reduce noise.

Next, the mass rate is calculated by taking the increase in the smoothed total mass between the current reading and the immediately preceding one, and expressing this as a mass rate in g/sec. This mass rate is also smoothed exponentially to reduce noise. Finally, the mass concentration in $\mu\text{g}/\text{m}^3$ is computed by dividing the mass rate by the flow rate. The instrument can correct the flow rate to standard temperature and pressure to produce concentrations corrected to standard conditions.

Internal temperatures in the instrument are controlled in order to minimize the effects of changing ambient conditions. The sample stream is preheated to 50°C before entering the mass transducer so that the sample filter always collects under conditions of very low humidity.

The weighing principle of the TEOM mass transducer is based on a hollow tapered element clamped on one end and free to vibrate at the other. An exchangeable filter cartridge is placed over the tip of the free end. The sample stream is drawn through this filter, and then down the tapered element. This flow is maintained at a constant volume by a mass flow controller that is corrected for local temperature and barometric pressure.

The tapered element vibrates precisely at its natural frequency. An electronic control circuit senses this vibration and, through positive feedback, adds sufficient energy to the system to overcome losses. An automatic gain control circuit maintains the vibration at constant amplitude. A precision electronic counter measures the frequency with a two-second sampling period.

The tapered element is in essence a hollow cantilever beam with an associated spring rate and mass. As in any spring-mass system, if additional mass is added the frequency of the vibration decreases.

Sampling Methods

For PM₁₀ measurement, ambient air is brought into the instrument through the PM₁₀ size selective inlet. At its design flow rate of 16.7 l/min, this inlet passes through particles smaller than 10 µm aerodynamic diameter. At the exit of the inlet, the 16.7 l/min flow is isokinetically split into a 3 l/min sample stream that is sent to the instrument's mass transducer and a 13.7 l/min exhaust stream.

Table 1 – Measurement Quality Objectives

Parameter	Criteria	Frequency
Particulate Matter (PM₁₀)		
Completeness	75% per instrument, per quarter	Quarterly
Bias, total flow	95% confidence for absolute bias of 15%	Monthly
Precision	Upper 90% confidence limit for the CV of 15%	Bi-weekly
Accuracy, main flow	±0.20 l/min	Monthly
Accuracy, total flow	±1.00 l/min	Monthly
Accuracy, ambient pressure	±0.020 atm	Monthly
Accuracy, ambient temperature	±2.0°C	Monthly

Table 2 – Measurement site description

Site	UTM (m)		WGS 84 Datum		Elev. (ft)	Parameters
	North	East	Lat	Long		
West	4,921,851	454,419	44.45101	-105.57279	4343	PM ₁₀
North	4,923,777	456,112	44.46754	-105.55175	4315	PM ₁₀ & meteorology

Table 3 – Quality Control Matrix

Activity	Frequency	Control Limits	Corrective Action
PM₁₀ Measurement Systems			
Operational (total) flow rate verification	Monthly	N/A	Results used to assess bias
Total flow rate check	Monthly	±1.0 L/min	Re-calibrate instrument
Main flow rate check	Monthly	±7% (±0.2 L/min)	Re-calibrate instrument
Ambient temperature check	Monthly	±2°C	Re-calibrate instrument
Ambient (barometric) pressure check	Monthly	±0.020 atmospheres	Re-calibrate instrument
Total flow rate audit	Semi-Annually	±1.0 L/min	Re-calibrate instrument
Main flow rate audit	Semi-Annually	±7% (±0.2 L/min)	Re-calibrate instrument
Ambient temperature audit	Semi-Annually	±2°C	Re-calibrate instrument
Ambient (barometric) pressure audit	Semi-Annually	±0.020 atmospheres	Re-calibrate instrument
Calibration: ambient temperature & pressure, flow rate	Initially, as needed	N/A	N/A
Mass transducer calibration verification	Annually	2.5%	Initiate repairs or return unit to manufacturer
Transfer standard certification: Flow rate Temperature Δpressure Ambient pressure	Annually	±2%	Service, replace, or re-certify transfer standard
		±0.1°C	
		±0.2" H ₂ O	
		±5mmHg	

Table 4 – Calibration frequencies

Instrument/Equipment	Calibration/Certification Frequency
PM ₁₀ instrument, flow rate, ambient temperature, barometric pressure	When quarterly audits indicate measurements out of specification
Flow rate transfer standard	Following maintenance, annually

Table 5 – Data transfer operations

Description of Data Transfer	Originator	Recipient	QA Measures Applied
PM₁₀ Data			
Electronic data transfer via radio modem	Data acquisition system	Computer at Buckskin Mine office	Transmission protocols
Electronic data transfer, via email	Computer at Buckskin Mine office	Contract organization computer network	Transmission protocols
Calibration & audit data	AQ Technician	Air Monitoring Supervisor	Entries spot checked by reviewer
24-hour data records	Contract organization	WYDEQ AQD (through Buckskin Mine)	Results checked by Air Monitoring Supervisor or QA Officer

Data

Intermountain Labs (IML) Air Science have provided a wind rose, a meteorological data summary, as well as a graph that shows the correlations between wind speed, hourly PM10 concentration, and the 24 hour time period of April 12, 2012.

The wind rose and the meteorological data are in meters/sec. It is also labeled on the sheets.

Buckskin Mine

Meteorological Data Summary

4/12/2012 - 4/12/2012

In m/sec

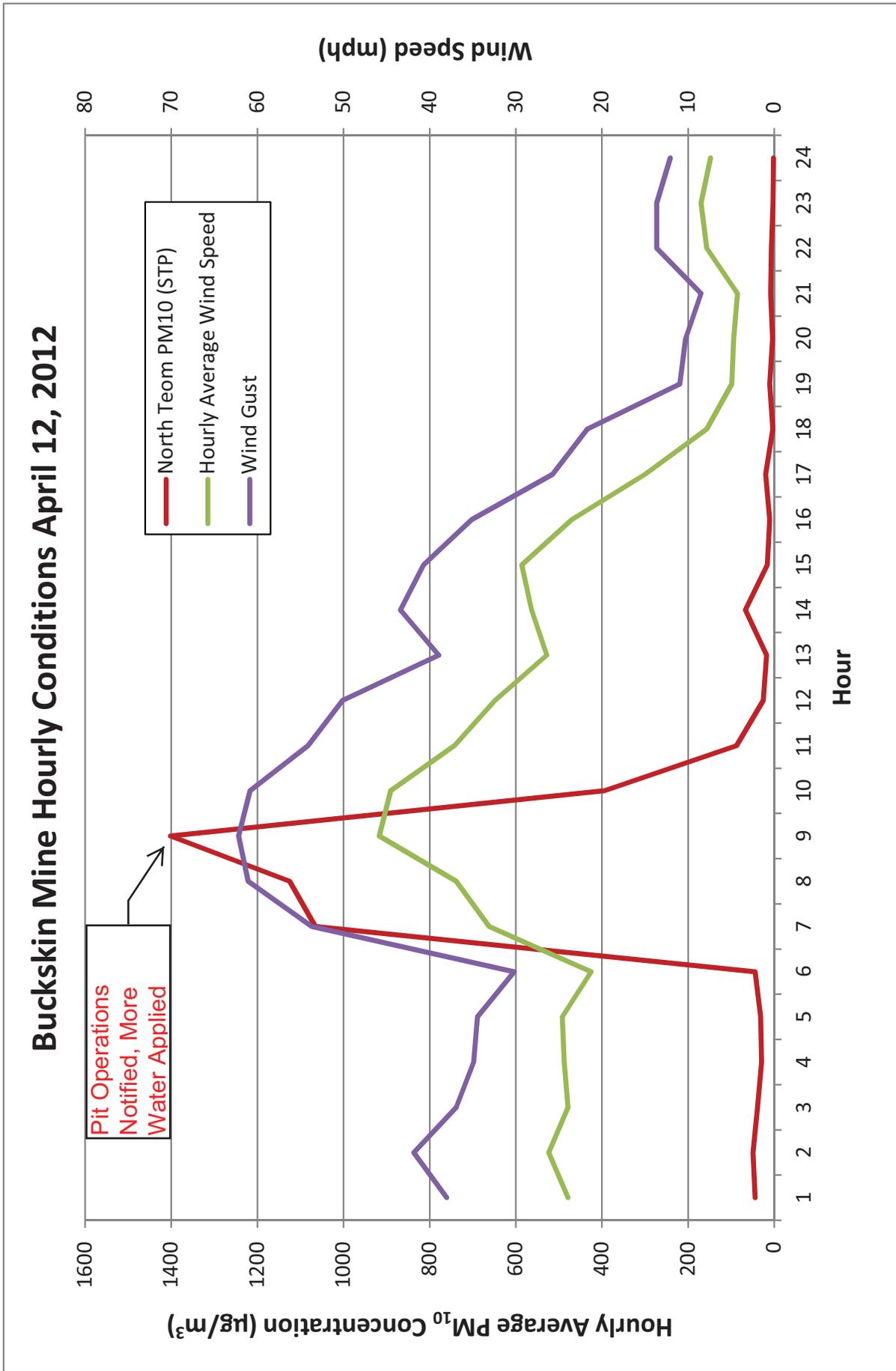
Hourly Data

	Average/Total	Max	Min
Wind Speed (m/sec)	10.1	20.5	1.9
Sigma-Theta (°)	11.3	30.5	6.1
Temperature (C)	11.2	19.0	5.2
10m Temperature (C)	11.0	17.6	5.5
Precipitation (in)	0.02	0.01	
Solar Radiation (w/m ²)	219.1	835.0	

Predominant wind direction was from the SSE sector,
accounting for 20.8% 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%
10m Temperature	24	24	100.00%
Precipitation	24	24	100.00%
Solar Radiation	24	24	100.00%



Correspondence

Cody.Weatherly

From: alert@imlinc.com
Sent: Thursday, April 12, 2012 8:15 AM
To: KMGBKM.AirAlert; tmendenhall@imlinc.com; mbutler@imlinc.com;
shansen@imlinc.com
Subject: High Wind Event

The wind speed on 4/12/2012 7:00:00 AM was 33.107 mph.

This is a friendly reminder about high wind conditions at the Buckskin Mine.

Cody.Weatherly

From: alert@imlinc.com
Sent: Friday, April 13, 2012 1:15 AM
To: KMGBKM.AirAlert; tmendenhall@imlinc.com; mbutler@imlinc.com; shansen@imlinc.com
Subject: High 1-Hour Concentration at North TEOM

The 1-Hour Concentration on the North TEOM on 4/12/2012 9:00:05 AM was 1402.0000. Which is over the 300 $\mu\text{g}/\text{m}^3$ limit.

This is an automated email. Please direct questions to Environmental Department.

Cody.Weatherly

From: alert@imlinc.com
Sent: Friday, April 13, 2012 1:15 AM
To: KMGBKM.AirAlert; tmendenhall@imlinc.com; mbutler@imlinc.com;
shansen@imlinc.com
Subject: High 1-Hour Concentration at North TEOM

The 1-Hour Concentration on the North TEOM on 4/12/2012 7:00:05 AM was 1065.3000. Which is over the 300 $\mu\text{g}/\text{m}^3$ limit.

This is an automated email. Please direct questions to Environmental Department.

Cody.Weatherly

From: alert@imlinc.com
Sent: Friday, April 13, 2012 1:15 AM
To: KMGBKM.AirAlert; tmendenhall@imlinc.com; mbutler@imlinc.com;
shansen@imlinc.com
Subject: High 1-Hour Concentration at North TEOM

The 1-Hour Concentration on the North TEOM on 4/12/2012 8:00:05 AM was 1125.4000. Which is over the 300 $\mu\text{g}/\text{m}^3$ limit.

This is an automated email. Please direct questions to Environmental Department.

Cody.Weatherly

From: alert@imlinc.com
Sent: Friday, April 13, 2012 1:15 AM
To: KMGBKM.AirAlert; tmendenhall@imlinc.com; mbutler@imlinc.com;
shansen@imlinc.com
Subject: High 1-Hour Concentration at North TEOM

The 1-Hour Concentration on the North TEOM on 4/12/2012 10:00:05 AM was 393.9000. Which is over the 300 $\mu\text{g}/\text{m}^3$ limit.

This is an automated email. Please direct questions to Environmental Department.

Cody.Weatherly

From: Laura.Ackermann
Sent: Thursday, April 12, 2012 10:30 AM
To: KMGBKM.EmailUsers@kiewit.com
Subject: FW: Blowing Dust Health Alert

From: Tanner Shatto [<mailto:tanner.shatto@wyo.gov>]
Sent: Thursday, April 12, 2012 10:29 AM
To: <cut>
Subject: Fwd: Blowing Dust Health Alert

----- Forwarded message -----
From: **Scott Rudge** <scott.rudge@noaa.gov>
Date: Thu, Apr 12, 2012 at 9:41 AM
Subject: Blowing Dust Health Alert
To: tanner.shatto@wyo.gov

AIR QUALITY ALERT MESSAGE
NATIONAL WEATHER SERVICE RAPID CITY SD
937 AM MDT THU APR 12 2012

...**BLOWING** DUST HEALTH ALERT IN EFFECT FOR THE ENTIRE POWDER RIVER
BASIN OF NORTHEASTERN WYOMING THROUGH 300 PM MDT THIS AFTERNOON...

SOUTH TO SOUTHWEST WINDS OF 30 TO 45 MPH WITH GUSTS UP TO 60 MPH
WILL CONTINUE THROUGH THIS AFTERNOON. THE WINDS WILL BEGIN TO
DIMINISH BY LATE THIS AFTERNOON AND THIS EVENING.

THE WYOMING AIR QUALITY DIVISION RECOMMENDS THE ELDERLY...YOUNG
CHILDREN...AND INDIVIDUALS WITH RESPIRATORY PROBLEMS AVOID EXCESSIVE
PHYSICAL EXERTION AND MINIMIZE OUTDOOR ACTIVITIES DURING THIS TIME.
ALTHOUGH THESE PEOPLE ARE MOST SUSCEPTIBLE TO HEALTH IMPACTS...THE
AIR QUALITY DIVISION ALSO ADVISES THAT EVERYONE SHOULD AVOID
PROLONGED EXPOSURE TO THE POOR AIR QUALITY CONDITIONS.

--
Tanner B. Shatto
District 3 Engineer
Wyoming Department of Environmental Quality
Air Quality Division
Direct: (307)675-5626
Office: (307)673-9337

Cody.Weatherly

From: Kirk Billings <kirk.billings@wyo.gov>
Sent: Wednesday, May 02, 2012 10:26 AM
To: Darla Potter
Cc: Laura.Ackermann; Cody.Weatherly
Subject: Buckskin mine exceedance

Darla,

The preliminary concentration for Buckskin Mine's April 12, 2012 exceedance of the PM-10 NAAQS is 180.8 $\mu\text{g}/\text{m}^3$.

They have indicated they will be submitting a NEAP packet requesting that the data be flagged as due to exceptional events.

--

Kirk Billings
Wyoming Department of Environmental Quality
Air Quality Division, Monitoring Group
[\(307\) 335-6963](tel:3073356963) (desk)
[\(307\) 438-2470](tel:3074382470) (cell)
kirk.billings@wyo.gov

E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.

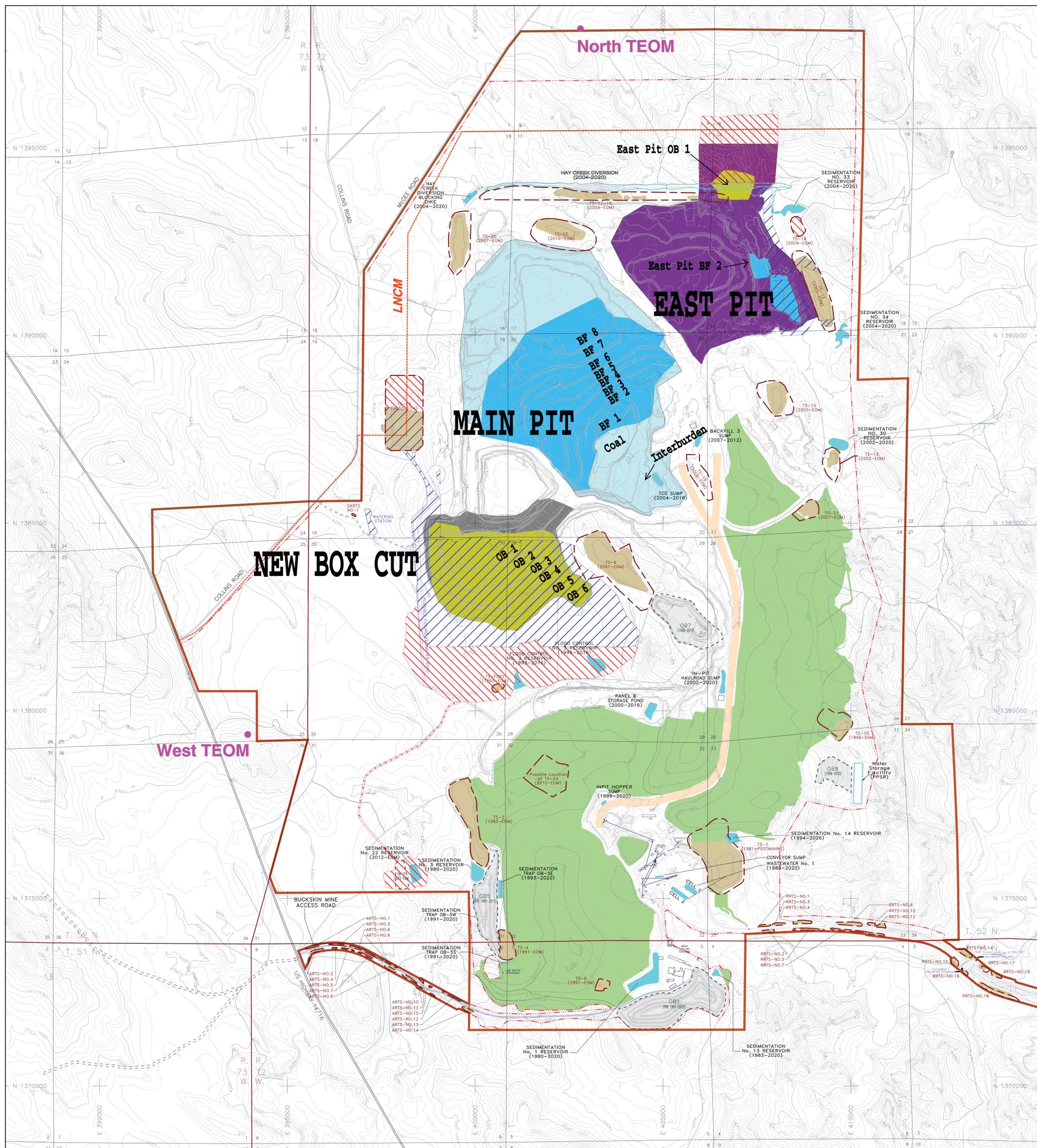
Cody.Weatherly

From: Tim Mendenhall <tmendenhall@imlinc.com>
Sent: Thursday, May 03, 2012 8:36 AM
To: Cody.Weatherly
Subject: FW: Alarm failure

Cody,

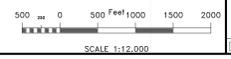
I've looked into the failure of the alarms for the event on 4/12, and the problem was twofold. There was a setting that was wrong in the database, and a suspected timing issue. The files were locked for a few hours that day, which could be due to conflict between the FTPing and the loading of the data. The setting in the database that was a problem was an alarm based on the calculated average from midnight, which has priority over the hourly average alarm. The station id was not set properly, so the calculated average alarm wasn't occurring, and since it has priority over the hourly average alarm, the hourly alarm was not occurring. After midnight, the calculated alarm was no longer in effect, thus the hourly alarms went off. The station id setting has been corrected, and I have adjusted the timing of the loading of the data to eliminate the locked file problem. I apologize for this unfortunate set of events.

Regards,
Tim Mendenhall
IML Air Science
555 Absaraka
Sheridan WY 82801
Phone: (307) 674-7506



- Buckskin Permit Boundary
- Affected Area Boundary
- LNCM Boundary
- Overburden Stockpile
Line Represents Permitted Area
Color Represents Actual Pile
- Topsoil Stockpile
Blue Line Represents Ditched Area
Color Represents Actual Pile
- Existing Mine Pond with Structure Number
Use, and Years Operated
- Other Water Features
- Reclamation
- 2012 Topsoil Stripping
- 2011 Topsoil Stripping
- New Box Cut
- Main Pit
- East Pit
- Active Backfill Areas
- Overburden Removal Areas
- ROADS**
- Paved Access Road
- Coal Haul Road
- Ancillary Access Roads

T. 51 & 52 N., R. 73 & 72 W.
Campbell County, WY
Contour Interval 10
PI Topo Date: March 2012



**Buckskin Mining Company
Permit 500-T8**

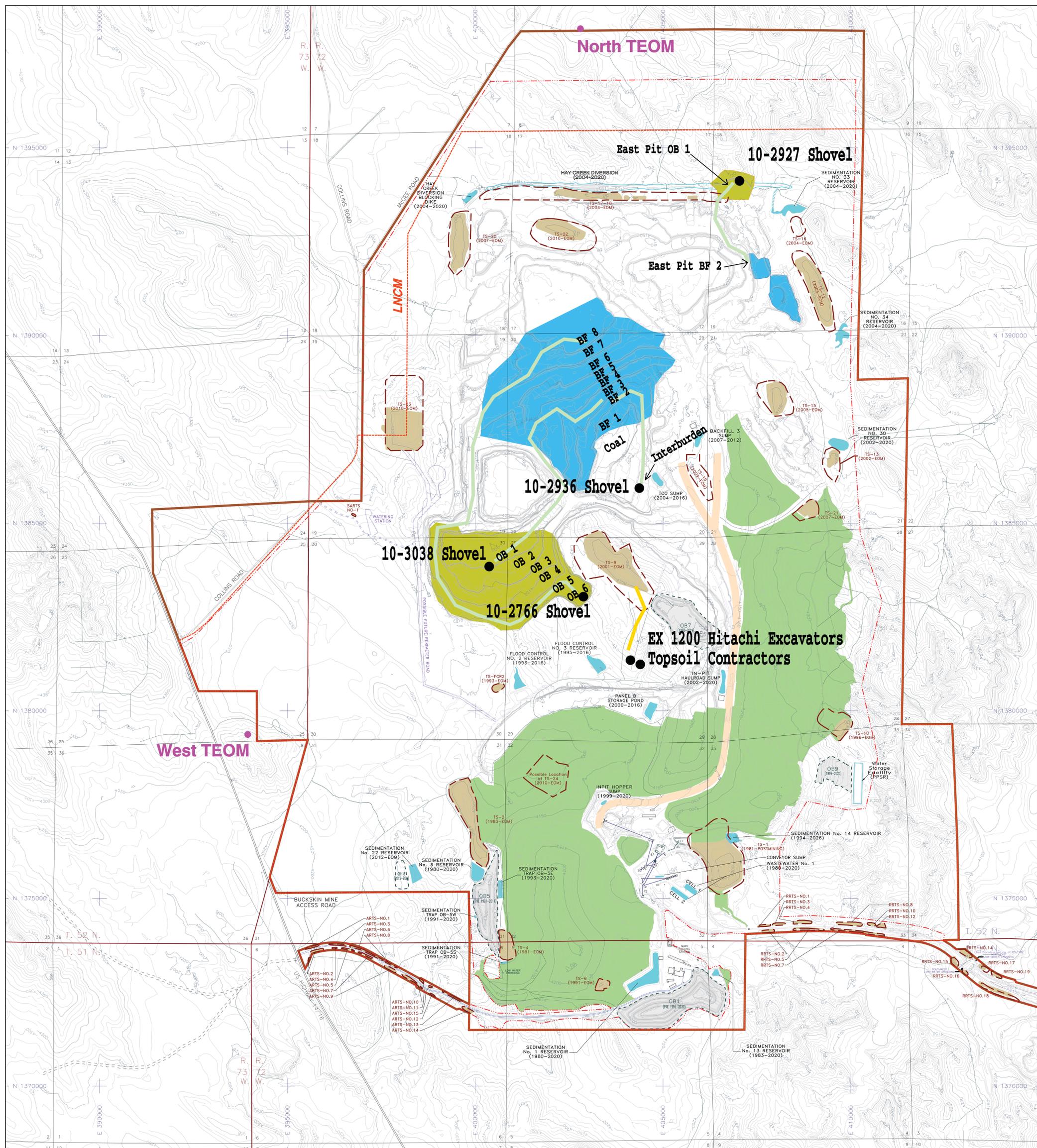
Pit Locations



Buckskin Mining Company
PO Box 3027
Campbell County
Gillette, WY 82717
307-686-5439

MAP #1	
Design:	highwind_041212
Spec:	high_wind_041212msp1
Plot:	high_wind_041212msp1
Date:	03-May-2012 12:20:43

Drawn By: C.Weatherly Checked By: L.Ackermann



- Buckskin Permit Boundary
- - - Affected Area Boundary
- - - LNCM Boundary
- Overburden Stockpile
Line Represents Permitted Area
Color Represents Actual File
- Topsoil Stockpile
Blue Line Represents Ditched Area
Color Represents Actual File
- Existing Mine Pond with Structure Number
Use, and Years Operational
- Other Water Features
- Reclamation
- Active Backfill Areas
- Overburden Removal Areas
- Shovel Locations

- ROADS**
- Haul Truck Travel Routes
 - Coal Haul Road
 - Topsoil Haul Road
 - Paved Access Road
 - Ancillary Access Roads
 - 2-Track

T. 51 & 52 N., R. 73 & 72 W.
Campbell County, WY
Contour Interval 10
PII Topo Date: March 2012

N

0 500 Feet 1000 1500 2000

SCALE 1:12,000

Buckskin Mining Company
Permit 500-T8

April 12, 2012 High Wind Event

**Shovel and Haul
Road Locations**

Buckskin Mining Company
PO Box 3027
Campbell County
Gillette, WY 82717
307-686-5439

MAP #2

Design: highwind_041212
Spec: high_wind_041212msp2
Plot: high_wind_041212msp2
Date: 03-May-2012 12:20:38

Drawn By: C.Weatherly Checked By: L.Ackermann

11/15/2012



Department of Environmental Quality

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



Matthew H. Mead, Governor

Todd Parfitt, Director

November 15, 2012

Certified Mail Receipt Number: 7011 1570 0003 4871 7161

Mr. Greg Passini
Environmental Analyst
Buckskin Coal Mine
P.O. Box 3027
Gillette, WY 82717

Re: Request for Flag under the Exceptional Event Rule for PM₁₀ April 12, 2012 Exceedance

Dear Mr. Passini,

The Air Quality Division (AQD) has reviewed the request to flag the April 12, 2012 PM₁₀ ambient monitored data as an Exceptional Event in accordance with the 40 CFR Part 50.14 at the Buckskin Coal Mine (Buckskin). Although the AQD has placed a temporary "High Wind" flag in AQS on the April 12, 2012 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 May 8, 2012 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/ answers to the following questions to clarify the packet:

- A timeline for the day noting air quality action plan benchmarks and the facility's response to those benchmarks with a list of equipment operating and idled.
- Additional detail on the water trucks operating the day of the exceedance, including information on where, what time, which haul roads and which backfill areas the water trucks visited. A map showing where the water trucks were operating would also be appreciated.
- The time that the topsoil stripping operation halted and the time that the boxcut operation was shut down.
- An hourly table of windspeed (average), wind gusts, wind direction and pm concentrations (hourly and 24 hour average).
- Any photos taken during the event.
- A tally of the number of acres that were exposed due to pre-strip operations at the time of the exceedance.
- What date and time did Buckskin notice that the warning system was not functioning?
- Did anyone visit the TEOM to check concentrations during the exceedance?

Topsoil stripping

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

Herschler Building · 122 West 25th Street · Cheyenne, WY 82002 · <http://deq.state.wy.us>

ADMIN/OUTREACH (307) 777-7758 FAX 777-7682	ABANDONED MINES (307) 777-6145 FAX 777-6462	AIR QUALITY (307) 777-7391 FAX 777-5616	INDUSTRIAL SITING (307) 777-7369 FAX 777-5973	LAND QUALITY (307) 777-7756 FAX 777-5864	SOLID & HAZ. WASTE (307) 777-7752 FAX 777-5973	WATER QUALITY (307) 777-7781 FAX 777-5973
--	---	---	---	--	--	---



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.

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,



Kirk Billings
Air Quality Analyst, Monitoring Section

Cc: Buckskin Monitoring File

11/30/2012

Landon.Smith

From: Kirk Billings <kirk.billings@wyo.gov>
Sent: Friday, November 30, 2012 2:08 PM
To: Greg.Passini; Cara Keslar
Cc: Landon.Smith
Subject: Re: Certified Letter 7011 1570 0003 4871 7161

Greg,

In speaking with Management, we have decided to grant your request for additional time until close of business on Friday, December 7 to submit the requested information. This decision is based on facility and staff time off for the Thanksgiving holiday. Please understand that in the future a two week turnaround time is expected when you receive an additional information request; this time period starts with the day the AQD's request is signed for by your facility.

--

Kirk Billings
Wyoming Department of Environmental Quality
Air Quality Division, Monitoring Group
[\(307\) 335-6963](tel:3073356963) (desk)
[\(307\) 438-2470](tel:3074382470) (cell)
kirk.billings@wyo.gov

On Fri, Nov 30, 2012 at 10:04 AM, <Greg.Passini@kiewit.com> wrote:

Kirk,

The Air Quality Division (AQD) has reviewed the Buckskin Coal Mine request to flag the April 12, 2012 PM10 ambient monitoring data as an Exceptional Event.

Your November 15, 2012 letter outlines supplemental information to be submitted no later than (2) weeks from the receipt of this letter.

The abovementioned (2) week period occurred during the Thanksgiving Week and I happened to be on vacation for the entire week. I didn't receive your Certified Letter until November 26th.

Therefore, I would like to request that the AQD allow Buckskin to submit its response by December 8th, 2012.

Sincerely,

Greg Passini

E-Mail to and from me, in connection with the transaction of public business, is subject to the Wyoming Public Records Act and may be disclosed to third parties.

12/03/2012



BUCKSKIN MINING COMPANY

BUCKSKIN MINE, PO BOX 3027 ~ GILLETTE, WY 82717

December 03, 2012

Cara Keslar
Wyoming Department of Environmental Quality
Air Quality Division
112 West 25th Street
Cheyenne, WY 82002

RE: Request for Flag under the Exceptional Event Rule for PM₁₀ April 12, 2012 Exceedance

Dear Cara,

On November 15, 2012 Buckskin received a certified letter from Wyoming DEQ Air Quality Division outlining certain deficiencies in Buckskin's original submittal. Included are Buckskin Mining Company's responses to Air Quality Division's questions concerning the April 12, 2012 PM₁₀ exceedance.

Buckskin would like to point out that during the day in question personnel at the mine were unaware that the air quality threshold was surpassed at the monitor until April 13th. As mentioned in the original submittal, a setting in the TEOM database delayed any alerts from being sent out. With sustained winds ranging from 20mph to 45mph and gusts as high as 62mph for most of the morning, BMC personnel acted according to our TEOM Action Plan even though no alerts were sent out, in order to prevent high dust levels.

Sincerely,

Landon Smith
Environmental Coordinator
Email: Landon.Smith@Kiewit.com
Phone: (307) 686-5404

cc: Greg Passini



BUCKSKIN MINING COMPANY

BUCKSKIN MINE, PO BOX 3027 ~ GILLETTE, WY 82717

Comment: A timeline for the day noting air quality action plan benchmarks and the facilities response to those benchmarks with a list of equipment operating and idled.

Response: Below is a time line for April 12, 2012. Keep in mind that during the high wind event, BucksSkin was only aware of the high wind alert, and was NOT aware that any thresholds were being exceeded.

06:30- Day shift begins. 10-2764 and 10-2765 shovels were not run, even though they were mechanically able to.

07:00- High Wind alert from the North TEOM. At the same time, according to data reviewed at a later date, BMC had its first hourly exceedance of 1065.3. Acting on our TEOM action plan item # 1, the mine superintendent was notified of the high wind via email on his work phone.

07:36- 10-3038 shovel was shut down (See equipment description at end)

09:00- According to TEOM Action Plan item #3, supervisors were asked to suspend all operations and run all available water trucks. This was also the time of the highest wind gust (62.2mph)

The hourly concentration at this time was 1402.

10-2936, 10-2766, and 10-2927 shovels were shut down.

As well as all trucks running under those shovels.

Topsoil salvage operations were stopped at this time.

Our action plan states that constant monitoring shall be performed if an alert is sent out. High concentration alerts were not sent out, and as a result monitoring of the TEOM was not performed, however monitoring of dust in and around the pit was performed as well as operational continuous monitoring with BucksSkin's Minestar Controlling and database system.

09:30- 10-2766 resumed mining but switched its haulage from BF 8 elev. 4280 to BF 4 elev. 4070 as depicted on map 2 (redline) and as outlined in reactionary measures of the National Events Action Plan for the PRB

10:15- 10-2927, and 10-2936 resumed mining after lunch.

Hourly Concentration: 393

10:29- Air Quality Alert Email received from Tanner Shatto

10:30- Air Quality Alert was emailed to all email users at BucksSkin Mining Company

11:30- Topsoil Salvage resumes, as monitoring of dust levels suggests that there is a decreasing trend.

Hourly Concentration: 25.6

12:00-End of shift- Operations continued mining with all water trucks until the end of shift.

Please note water truck operation on page 1 table 1 of the original packet.

Equipment Idled During the high wind event:

10-2764 Shovel- Shutdown at the beginning of shift

10-2765 Shovel- Shutdown at the beginning of shift

10-2766 Shovel- Shutdown at 09:00 along with assigned haul trucks and support equipment.
Resumed mining at 09:30

10-2927 Shovel- Shutdown at 09:00 along with assigned haul trucks and support equipment.
Resumed mining at 10:15

10-2936 Shovel- Shutdown at 09:00 along with assigned haul trucks and support equipment.
Resumed mining at 10:15

10-3038 Shovel- Shutdown at 07:36 along with assigned haul trucks and support equipment.
Remained idle for the remainder of the day.



BUCKSKIN MINING COMPANY

BUCKSKIN MINE, PO BOX 3027 ~ GILLETTE, WY 82717

Comment: Additional detail on the water trucks operating the day of the exceedance, including information on where, what time, which haul roads and which backfill areas the water trucks visited. A map showing where the water trucks were operating would also be appreciated.

Response: At Buckskin, water trucks are not assigned to particular haul roads. They provide dust suppression over general high traffic areas throughout the mine. Referring to the provided Map #2, water trucks would water any active area of the: Backfill (shaded blue), Overburden benches (shaded green/brown), and haul roads (shaded tan and light green). During the high wind event, 2 BMC water trucks were already running and at 09:00 a third was utilized. In addition to Buckskin's resources, the topsoil contractor was also running a water truck. When topsoil operations were idled at 09:00, their truck watered all newly stripped land (red hatch) in front of the box cut, including area that was stripped in 2011 (dark blue hatch)-See map #1

Comment: The time that topsoil stripping operation halted and the time that the boxcut operation was shut down.

Response: Topsoil operations halted at 09:00 and resumed completely at 11:30. Overburden operations in the Boxcut (10-3038 shovel) and (10-2766 shovel) halted at 07:36 and 09:00 respectively. 10-3038 shovel remained idle for the rest of the shift and 10-2766 remained idle until 09:30. 10-2766 shovel run was changed from backfill 8 at this point, as depicted in map 2 to backfill 4 (redline in map 2). 10-2765 and 10-2764 coal shovels were shut down at the beginning of shift and were idle for the rest of the day. Overburden operations in the East Pit (10-2927) halted at 09:00 and resumed after its lunch at 10:15.

Comment: An hourly table of wind speed (Average), wind gusts, wind direction and pm concentrations (hourly and 24 hour average).

Response: See included tables for both the North and West TEOM's.

Table 1. attached to this submittal shows wind speeds, gust speeds, hourly PM10 concentrations, and 24 hour PM10 concentrations of the North TEOM on April 11, 2012. The data indicates an average wind speed and average gust speed of 23.4 mph and 34.4 mph, respectively. The 24-hour average concentration on April 11th was 93.1 $\mu\text{g}/\text{m}^3$.

Table 2. attached to this submittal indicates a strong contributing relationship between the high wind event and monitoring concentrations at the North TEOM. A South/Southwesterly wind blowing at an average hourly wind speed of 38.3 mph lasted for 6hrs, (7am -12pm) on April 12, 2002. During the abovementioned high wind event the hourly concentration peaked at 1,402 $\mu\text{g}/\text{m}^3$ at 9am. At the same time (i.e., 9am) the hourly wind speed and wind gust also reached a peak of 45.9 mph and 62.2 mph, respectively. **Table 2.** also depicts hourly PM concentrations outside the high wind event, (i.e., 12am -6am and 1pm – 11pm) were well below 150 $\mu\text{g}/\text{m}^3$.



BUCKSKIN MINING COMPANY

BUCKSKIN MINE, PO BOX 3027 ~ GILLETTE, WY 82717

Table 4. and **Table 5.** depict wind speed, wind gust speed and PM concentrations for the West TEOM on April 11th and 12th.

Historical data from the Bucks Skin Mine meteorological monitoring station from 1/1/12 to 3/31/12 show the following average values:

Daily Average TEOM Concentrations ($\mu\text{g}/\text{m}^3$): (See attached Table 6. for the North TEOM)

Mean: 21.9 STP

High: 66.0 STP

Average hourly wind speed : 11.9 mph

Average max wind speed: 40.7 mph

The abovementioned averages clearly indicate that the high wind event that occurred on April 12, 2012 is associated with measured concentrations in excess of historical averages.

Comment: Any photos taken during the event.

Response: [The employee that submitted the report no longer works at Bucks Skin. As a result, no pictures of the event are available.](#)

Comment: A tally of the number of acres that were exposed due to pre-strip operations at the time of the exceedance.

Response: [At the time of the high wind event, approximately 120 acres of soil were exposed due to pre-strip operations. As mentioned above, the contractor water truck applied water in strips across this entire area.](#)

Comment: What date and time did Bucks Skin notice that the warning system was not functioning?

Response: [The 1 hour and 24 hour concentration alerts were not received at Bucks Skin until April 13, 2012 starting at 1:15am. Prior to that, it was assumed that the system was functioning based on the fact that Bucks Skin received the high wind alert from the TEOM that morning.](#)



BUCKSKIN MINING COMPANY

BUCKSKIN MINE, PO BOX 3027 ~ GILLETTE, WY 82717

Comment: Did anyone visit the TEOM to check concentrations during the exceedance?

Response: As mentioned above, the past employee that submitted this document no longer works at Bucks Skin. However, with Bucks Skin assuming that the TEOM's were working correctly, a site reading at the TEOM would not have been performed based on the fact that our site was unaware of any exceedances.

EQUIPMENT DESCRIPTION

10-2936-Komatsu PC4000 Backhoe
10-2764-P&H 2300 Coal Shovel
10-2765-P&H 2300 Coal Shovel
10-2766-P&H 2800 Shovel
10-2927-P&H 4100XPC (Key Loading Piece)
10-3038-P&H 4100XPC (Key Loading Piece)

Table 1.				North TEOM		
Date/Time	Wind Speed (mi/hr)	Wind Direction (°)	Gust (mi/Hr)	Time of Gust	Hourly PM Conc (STP) (µg/m ³)	24-hour Avg Conc (STP) (µg/m ³)
April 11th						
1:00:00 AM	11.86	141	21.5	0:52	45.2	24.1
2:00:00 AM	13.42	144	23.3	1:59	84.4	27.3
3:00:00 AM	15.88	146	25.7	2:53	57.8	29.3
4:00:00 AM	20.36	141	29.8	3:06	27.5	30.0
5:00:00 AM	19.91	139	26.8	4:27	29.9	31.0
6:00:00 AM	16.33	138	23.7	5:10	52.7	32.8
7:00:00 AM	13.65	145	20.4	6:58	53.4	34.7
8:00:00 AM	16.33	142	25.9	7:27	58.9	36.4
9:00:00 AM	19.24	143	31.8	8:06	52.6	37.7
10:00:00 AM	24.83	163	35.8	9:38	182.8	45.0
11:00:00 AM	27.29	166	38.0	10:24	118.7	49.5
12:00:00 PM	27.07	160	36.7	11:52	65.5	51.9
1:00:00 PM	24.83	150	33.3	12:35	68.4	54.4
2:00:00 PM	26.62	148	37.8	13:43	90.2	57.5
3:00:00 PM	27.51	146	38.5	14:31	116.2	61.8
4:00:00 PM	29.75	148	41.2	15:54	130.8	66.1
5:00:00 PM	29.53	144	39.6	16:05	170.1	72.0
6:00:00 PM	27.96	140	41.2	17:21	160.4	77.0
7:00:00 PM	29.30	138	43.2	18:13	220.0	84.5
8:00:00 PM	30.20	143	45.6	19:50	134.6	89.0
9:00:00 PM	33.33	141	45.2	20:07	132.8	92.8
10:00:00 PM	29.53	141	44.7	21:07	69.4	92.9
11:00:00 PM	22.59	159	41.8	22:13	83.9	93.1
Daily Avg:	23.36		34.41			

Table 1: Wind speed, Wind gust speeds, hourly PM₁₀ concentrations, and 24-hour PM₁₀ concentrations on the North TEOM on April 11, 2012.

Table 2.				North TEOM		
Date/Time	Wind Speed (mi/hr)	Wind Direction (°)	(Gust) mi/Hr	Time of Gust	Hourly PM Conc (STP) (µg/m ³)	24-hour Avg Conc (STP) (µg/m ³)
April 12th						
12:00:00 AM	27.51	154	46.8	23:47	115.7	95.9
1:00:00 AM	23.94	149	38.0	0:06	44.2	95.6
2:00:00 AM	26.17	150	41.8	1:58	49.3	94.2
3:00:00 AM	23.94	155	36.9	2:12	38.7	93.3
4:00:00 AM	24.38	155	35.1	3:58	29.1	93.3
5:00:00 AM	24.61	159	34.4	4:00	31.4	93.6
6:00:00 AM	21.25	171	30.2	5:00	44.4	93.9
7:00:00 AM	33.11	190	53.7	6:35	1065.3	135.6
8:00:00 AM	36.91	193	61.1	7:55	1125.4	181.2
9:00:00 AM	45.86	200	62.2	8:31	1402.0	238.5
10:00:00 AM	44.52	213	60.8	9:14	393.9	248.5
11:00:00 AM	37.13	213	54.1	10:01	87.6	248.2
12:00:00 PM	32.44	218	50.1	11:02	25.6	246.4
1:00:00 PM	26.40	237	38.9	12:02	17.5	245.7
2:00:00 PM	28.19	290	43.4	13:48	67.1	239.8
3:00:00 PM	29.30	321	40.7	14:05	16.1	234.8
4:00:00 PM	23.49	317	35.1	15:10	10.6	228.6
5:00:00 PM	14.99	301	25.7	16:01	19.8	218.8
6:00:00 PM	7.83	345	21.7	17:12	3.6	213.4
7:00:00 PM	4.92	51	11.0	18:39	10.4	204.1
8:00:00 PM	4.70	68	10.3	19:21	4.1	198.3
9:00:00 PM	4.25	281	8.5	20:56	8.3	192.6
10:00:00 PM	7.83	237	13.6	21:33	6.6	189.6
11:00:00 PM	8.50	230	13.6	22:10	3.0	185.9
Avg: 7am-12pm	38.33		57.00		683.30	
Avg: 12am-6am	24.54		37.61		50.40	
Avg: 1pm-11pm	14.58		23.87		15.19	

Table 2: Wind Speeds, Gust speeds, Hourly PM₁₀ concentrations, and 24 hour PM₁₀ concentrations of the North TEOM on April 12, 2012. The **red** represents the time period the hourly and 24hr concentrations were exceeded. The **orange** represents the 6hr period (7am-12pm) when average hourly wind speed was 38.3 mph and peak wind gusts averaged 57mph.

Table 5.				West TEOM		
Date Time	Wind Speed (mi/hr)	Wind Direction (°)	(Gust) mi/Hr	Time of Gust	Hourly PM Conc (STP) (µg/m ³)	24-hour Avg Conc (STP) (µg/m ³)
April 11th						
1:00:00 AM	11.86	141	21.5	0:52	37.7	42.9
2:00:00 AM	13.42	144	23.3	1:59	34.1	41.2
3:00:00 AM	15.88	146	25.7	2:53	27.1	39.6
4:00:00 AM	20.36	141	29.8	3:06	22.5	38.3
5:00:00 AM	19.91	139	26.8	4:27	39.1	37.4
6:00:00 AM	16.33	138	23.7	5:10	26.8	36.4
7:00:00 AM	13.65	145	20.4	6:58	25.2	36.1
8:00:00 AM	16.33	142	25.9	7:27	42.3	35.6
9:00:00 AM	19.24	143	31.8	8:06	42.0	35.7
10:00:00 AM	24.83	163	35.8	9:38	90.2	38.3
11:00:00 AM	27.29	166	38.0	10:24	47.2	38.7
12:00:00 PM	27.07	160	36.7	11:52	87.9	41.2
1:00:00 PM	24.83	150	33.3	12:35	93.1	44.2
2:00:00 PM	26.62	148	37.8	13:43	56.6	45.9
3:00:00 PM	27.51	146	38.5	14:31	76.3	48.3
4:00:00 PM	29.75	148	41.2	15:54	78.4	50.2
5:00:00 PM	29.53	144	39.6	16:05	114.8	53.7
6:00:00 PM	27.96	140	41.2	17:21	115.9	56.6
7:00:00 PM	29.30	138	43.2	18:13	97.8	58.2
8:00:00 PM	30.20	143	45.6	19:50	91.6	60.6
9:00:00 PM	33.33	141	45.2	20:07	67.2	60.7
10:00:00 PM	29.53	141	44.7	21:07	52.9	61.1
11:00:00 PM	22.59	159	41.8	22:13	51.9	61.5

Table 5: Wind speed, Wind gust speeds, PM₁₀ concentrations on the West TEOM on April 11, 2012.

Table 4.				West TEOM		
Date Time	Wind Speed (mi/hr)	Wind Direction (°)	(Gust) mi/Hr	Time of Gust	Hourly PM Conc (STP) (µg/m ³)	24-hour Avg Conc (STP) (µg/m ³)
April 12th						
12:00:00 AM	27.51		46.8	23:47	53.7	60.7
1:00:00 AM	23.94		38.0	0:06	33.2	60.4
2:00:00 AM	26.17		41.8	1:58	24.7	60.0
3:00:00 AM	23.94		36.9	2:12	29.7	60.1
4:00:00 AM	24.38		35.1	3:58	27.4	60.1
5:00:00 AM	24.61		34.4	4:00	23.0	59.6
6:00:00 AM	21.25		30.2	5:00	23.9	60.0
7:00:00 AM	33.11		53.7	6:35	67.6	61.4
8:00:00 AM	36.91		61.1	7:55	89.9	64.0
9:00:00 AM	45.86		62.2	8:31	150.2	68.9
10:00:00 AM	44.52		60.8	9:14	148.3	71.6
11:00:00 AM	37.13		54.1	10:01	51.1	72.1
12:00:00 PM	32.44		50.1	11:02	30.9	69.7
1:00:00 PM	26.40		38.9	12:02	13.9	66.7
2:00:00 PM	28.19		43.4	13:48	87.1	66.2
3:00:00 PM	29.30		40.7	14:05	25.8	64.2
4:00:00 PM	23.49		35.1	15:10	10.2	61.0
5:00:00 PM	14.99		25.7	16:01	15.0	56.5
6:00:00 PM	7.83		21.7	17:12	6.4	52.2
7:00:00 PM	4.92		11.0	18:39	14.8	48.7
8:00:00 PM	4.70		10.3	19:21	10.2	45.2
9:00:00 PM	4.25		8.5	20:56	6.7	42.6
10:00:00 PM	7.83		13.6	21:33	7.7	40.5
11:00:00 PM	8.50		13.6	22:10	4.1	38.5

Table 4: Wind speed, Wind gust speeds, Hourly PM₁₀ concentrations, and 24-hour PM₁₀ concentrations on the West TEOM on April 12, 2012. The red represents the high wind event as shown on Table 2. for the North TEOM. The 24 hour PM₁₀ concentration at the West TEOM, in comparison with the North TEOM, was far from the exceedance parameter.

Table 6.

Buckskin Mine - North TEOM

1st Quarter 2012

Daily Average TEOM Concentrations (microgram/cubic meter)

January			February			March		
	STP	LTP		STP	LTP		STP	LTP
1/1/2012	16.9	16.8	2/1/2012	19.9	18.6	3/1/2012	5.2	5.0
1/2/2012	16.8	15.3	2/2/2012	17.2	16.3	3/2/2012	9.0	8.5
1/3/2012	13.5	12.7	2/3/2012	9.1	8.8	3/3/2012	5.5	5.0
1/4/2012	19.4	17.7	2/4/2012	54.4	52.6	3/4/2012	12.6	11.6
1/5/2012	18.7	17.4	2/5/2012	34.9	33.4	3/5/2012	23.5	21.2
1/6/2012	17.4	16.5	2/6/2012	20.6	20.1	3/6/2012	12.1	11.5
1/7/2012	23.6	22.7	2/7/2012	11.2	10.8	3/7/2012	6.6	6.3
1/8/2012	40.0	37.6	2/8/2012	23.1	22.2	3/8/2012	18.6	17.6
1/9/2012	7.8	7.3	2/9/2012	12.6	12.2	3/9/2012	33.4	30.9
1/10/2012	18.3	16.9	2/10/2012	11.4	11.6	3/10/2012	40.0	36.6
1/11/2012	14.5	14.4	2/11/2012	30.4	29.7	3/11/2012	31.2	28.2
1/12/2012	20.5	19.6	2/12/2012	21.3	20.0	3/12/2012	31.4	28.1
1/13/2012	32.3	30.8	2/13/2012	8.9	8.3	3/13/2012	41.1	36.6
1/14/2012	31.8	29.1	2/14/2012	8.1	7.7	3/14/2012	28.2	25.5
1/15/2012	13.2	12.6	2/15/2012	21.6	20.7	3/15/2012	28.6	25.9
1/16/2012	23.3	23.5	2/16/2012	22.2	21.0	3/16/2012	17.6	16.0
1/17/2012	22.0	20.9	2/17/2012	9.6	9.2	3/17/2012	65.6	58.6
1/18/2012	15.5	15.6	2/18/2012	18.8	17.7	3/18/2012	48.5	43.1
1/19/2012	21.7	21.0	2/19/2012	8.8	8.3	3/19/2012	41.6	38.8
1/20/2012	29.3	27.6	2/20/2012	4.3	4.1	3/20/2012	41.0	38.0
1/21/2012	26.4	23.9	2/21/2012	7.3	6.8	3/21/2012	47.0	42.8
1/22/2012	4.2	4.0	2/22/2012	5.3	4.9	3/22/2012	42.0	38.1
1/23/2012	37.5	35.2	2/23/2012	10.1	9.5	3/23/2012	32.4	29.8
1/24/2012	9.7	9.2	2/24/2012	8.8	8.4	3/24/2012	19.1	17.4
1/25/2012	14.8	14.0	2/25/2012	26.4	24.5	3/25/2012	40.2	35.9
1/26/2012	12.3	11.4	2/26/2012	15.1	15.0	3/26/2012	66.0	59.7
1/27/2012	14.0	13.4	2/27/2012	19.7	18.8	3/27/2012	12.6	11.6
1/28/2012	20.8	19.9	2/28/2012	29.8	28.2	3/28/2012	26.5	23.6
1/29/2012	20.5	18.8	2/29/2012	9.0	8.3	3/29/2012	16.6	14.9
1/30/2012	9.2	8.5				3/30/2012	17.1	15.2
1/31/2012	16.7	15.6				3/31/2012	30.0	25.9

TEOM Summary Statistics

January		
	STP	LTP
Mean	19.4	18.4
High	40.0	37.6
2nd High	37.5	35.2

February		
	STP	LTP
Mean	17.2	16.5
High	54.4	52.6
2nd High	34.9	33.4

March		
	STP	LTP
Mean	28.7	26.1
High	66.0	59.7
2nd High	65.6	58.6

Recovery 100.0%

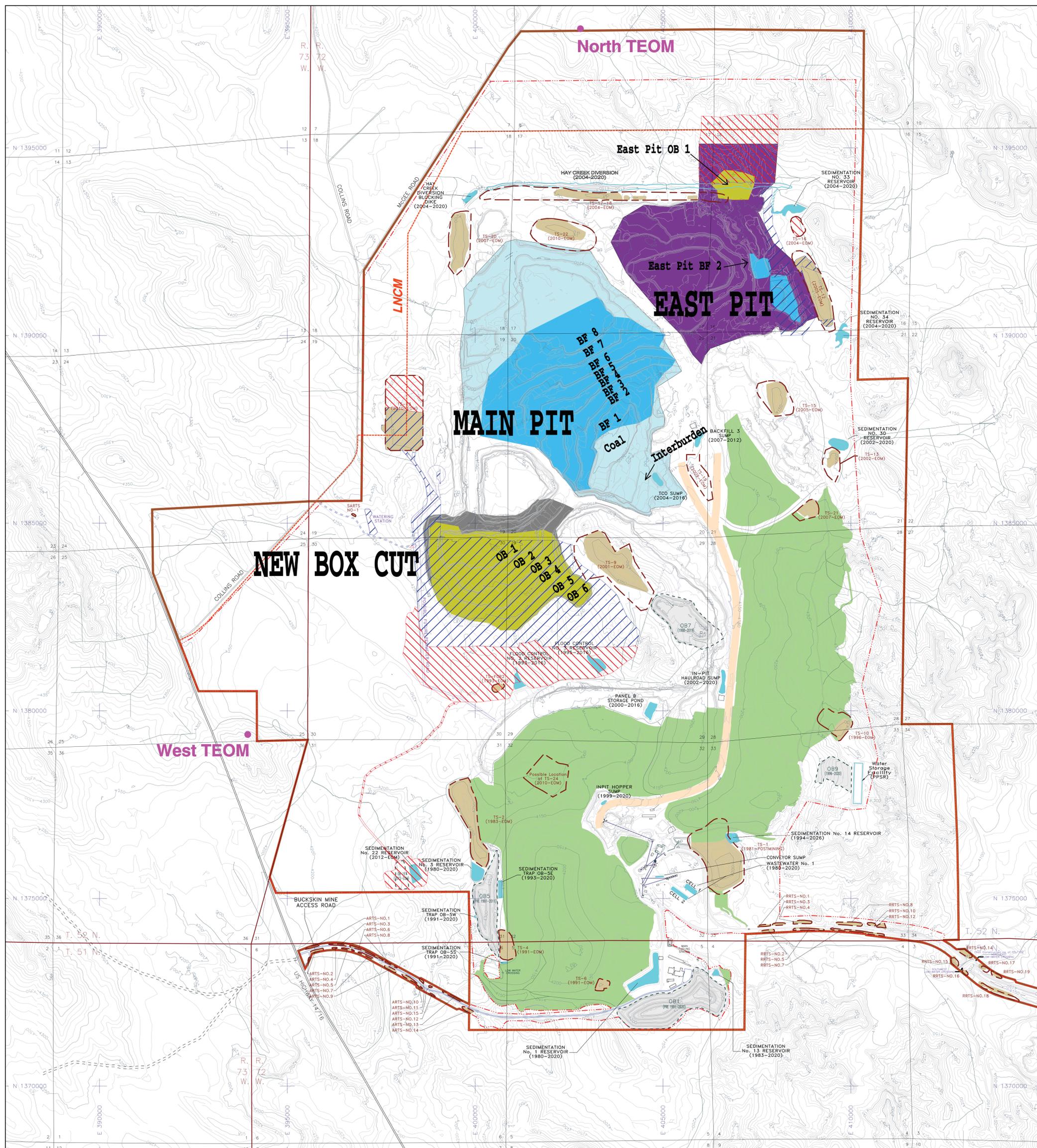
Recovery 100.0%

Recovery 100.0%

1st Quarter 2012

	STP	LTP
Mean	21.9	20.4
High	66.0	59.7
2nd High	65.6	58.6

Recovery 100.0%



- Buckskin Permit Boundary
- - - Affected Area Boundary
- - - LNCM Boundary
- Overburden Stockpile
Line Represents Permitted Area
Color Represents Actual Pile
- Topsoil Stockpile
Blue Line Represents Ditched Area
Color Represents Actual Pile
- Existing Mine Pond with Structure Number
Use, and Years Operated
- Other Water Features
- Reclamation
- 2012 Topsoil Stripping
- 2011 Topsoil Stripping
- New Box Cut
- Main Pit
- East Pit
- Active Backfill Areas
- Overburden Removal Areas
- ROADS**
- Paved Access Road
- Coal Haul Road
- Ancillary Access Roads

T. 51 & 52 N., R. 73 & 72 W.
Campbell County, WY
Contour Interval 10
PI Topo Date: March 2012



SCALE 1:12,000

**Buckskin Mining Company
Permit 500-T8**

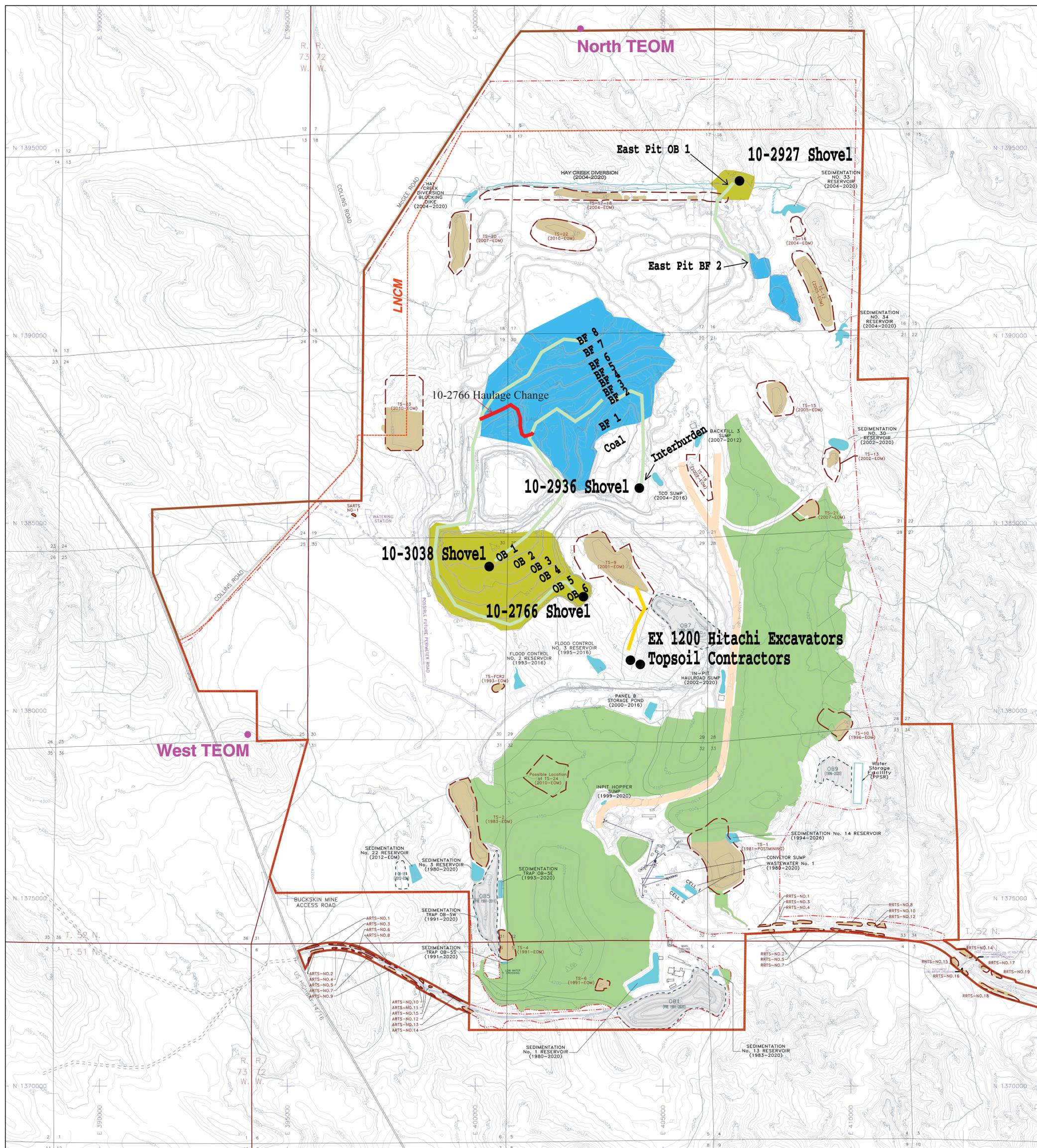
Pit Locations



Buckskin Mining Company
PO Box 3027
Campbell County
Gillette, WY 82717
307-686-5439

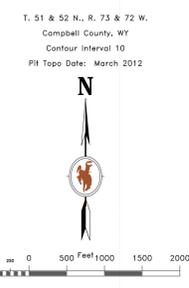
MAP #1	
Design:	highwind_041212
Spec:	high_wind_041212msp1
Plot:	high_wind_041212msp1
Date:	03-May-2012 12:20:43

Drawn By: C.Weatherly Checked By: L.Ackermann



- Buckskin Permit Boundary
- - - Affected Area Boundary
- - - LNCM Boundary
- Overburden Stockpile
Line Represents Permitted Area
Color Represents Actual File
- Topsoil Stockpile
Blue Line Represents Ditched Area
Color Represents Actual File
- Existing Mine Pond with Structure Number
Use, and Years Operational
- Other Water Features
- Reclamation
- Active Backfill Areas
- Overburden Removal Areas
- Shovel Locations

- ROADS**
- Haul Truck Travel Routes
 - Coal Haul Road
 - Topsoil Haul Road
 - Paved Access Road
 - Ancillary Access Roads
 - 2-Track



Buckskin Mining Company
Permit 500-T8

April 12, 2012 High Wind Event

Shovel and Haul Road Locations

Buckskin Mining Company
PO Box 3027
Campbell County
Gillette, WY 82717
307-686-5439

MAP #2

Design: highwind_041212
Spec: high_wind_041212msp2
Plot: high_wind_041212msp2
Date: 03-May-2012 12:20:38

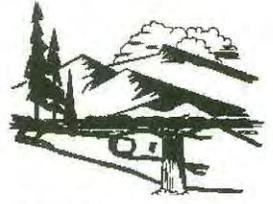
Drawn By: C.Weatherly Checked By: L.Ackermann

04/04/2013



Department of Environmental Quality

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



Matthew H. Mead, Governor

Todd Parfitt, Director

April 4, 2013

Mr. Rick T. Comer
Environmental Coordinator
Buckskin Coal Mine
P.O. Box 3027
Gillette, WY 82716

Re: Request for Flag under the Exceptional Event Rule for PM₁₀ April 12, 2012 Exceedance

Dear Mr. Comer,

On April 12, 2012, the Buckskin Mine's North sampler recorded an exceedance of the 24-hour PM₁₀ standard, with a final concentration of 180.8 µg/m³.

On May 8, 2012 the Air Quality Division (AQD) received a request that data for the North monitor on this day be flagged under 40 CFR Part 50.14 "Treatment of Data Influenced by Exceptional Events" due to high winds.

On December 3, 2012, at the request of the AQD, Buckskin submitted additional information to clarify the request to flag the data under 40 CFR Part 50.14.

After review of the submitted materials, the AQD has decided to pursue Buckskin's request to flag the PM₁₀ data collected at the North monitor on April 12, 2012 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.

Buckskin's final packet is requested on or before April 18, 2013. Please email it to kirk.billings@wyo.gov



Please contact Kirk Billings at (307) 335-6963 or kirk.billings@wyo.gov if you have any questions regarding this matter.

Sincerely,



Cara Keslar
Monitoring Section Supervisor

Cc: Kirk Billings, Air Quality Analyst
Tanner Shatto, District 3 District Engineer