DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Permit AQ1227MSS04 **Final – June 10, 2014**

The Alaska Department of Environmental Conservation (Department), under the authority of AS 46.14 and 18 AAC 50, issues Air Quality Control Minor Permit AQ1227MSS04 to the Permittee listed below.

Permittee:	**Usibelli Coal Mine, Inc.** 634 South Bailey Street, Suite 204 Palmer, AK 99645
Owner and Operator:	Same as Permittee
Stationary Source:	**Wishbone Hill Coal Mining and Processing Operation**
Project:	Development of Coal Mining Operations
Location:	Latitude: 61° 44' 12.12" N; Longitude: 148° 57' 5.04" W
Physical Address:	8 Miles North of Palmer, AK Section 27, T19N, Range 2E; Seward Meridian
Permit Contact:	Robert Brown, (907) 745-6028, rob@usibelli.com

This permit is issued under 18 AAC 50.502(b)(5) for a coal preparation plant, 18 AAC 50.502(b)(3) for a rock crusher with a rated capacity of at least five tons per hour, and 18 AAC 50.502(c)(1) for establishing a new stationary source. This permit satisfies the obligation of the Permittee to obtain a minor permit under these provisions. As required by AS 46.14.120 (c), the Permittee shall comply with the terms and conditions of this minor permit.

This permit authorizes the Permittee to operate under the terms and conditions of this permit, and as described in the original permit application and subsequent application supplements listed in Section 9 except as specified in this permit.

F. 2. Sidlek

for John F. Kuterbach
Manager, Air Permits Program

Table of Contents

Section 1 Emission Unit Inventory

1. Authorization. The Permittee is authorized to install and operate the emission units (EUs) listed in Table 1 in accordance with the terms and conditions of this permit.

Except as noted elsewhere in this permit, the information in Table 1 is for informational purposes only. The specific unit descriptions do not restrict the Permittee from replacing an emission unit identified in Table 1. The Permittee shall comply with all applicable provisions of AS 46.14 and 18 AAC 50 when installing a replacement emission unit, including any applicable minor or construction permit requirements.

1.1 The Permittee shall maintain EU IDs 1 and 2 listed in Table 1 according to manufacturer's or operator's maintenance procedures and shall keep copies of the maintenance procedures.

1.2 The Permittee shall notify the Department of any changes made to EU ID 1, within 30 days of the change. Include with the notification the type of unit and manufacturer's specification sheet. Certify all notifications according to the requirements listed in Condition 21.

Table 1 – Emission Unit Inventory

EU ID	Classification	Description[1]	Capacity	Install Date[3]
1	Power Generation	Diesel-Fired Engine	900 hp	TBD
2	Heaters	Diesel-Fired Heaters	10.0 MMBtu/hr	TBD
3	Topsoil Operations	Topsoil Removal and Storage	2,660 hours/year[2]	TBD
4	Blasting Operations	Overburden Blasting	13,423 ft sq/blast	TBD
5	Blasting Operations	Coal Blasting	13,423 ft sq/blast	TBD
6	Overburden	Overburden Truck Loading	6,351,000 bank cubic yd/yr (4,234,000 tpy)	TBD
7	Overburden	Overburden Dumping	6,351,000 bank cubic yd/yr (4,234,000 tpy)	TBD
8	Coal Mining	Coal Removal	1,815,000 tpy	TBD
9	Coal Mining	Coal Dumping – Crusher Feeder	1,815,000 tpy	TBD
10	Coal Mining	Coal Dumping from Run of Mine Pile	605,000 tpy	TBD
11	Coal Mining	Coal Reclaim From Run of Mine Pile	605,000 tpy	TBD
12	Coal Processing	Crusher	350 tph	TBD
13	Coal Processing	Transfer – Crusher to Conveyor 1	350 tph	TBD
14	Coal Processing	Transfer - Conveyor 1 to Raw Stockpile	350 tph	TBD
15	Coal Processing	Transfer - Raw Stockpile to Conveyor 2	350 tph	TBD
16	Coal Processing	Transfer - Conveyor 2 to Jig Plant	350 tph	TBD
17	Coal Processing	Transfer - Jig Plant to Conveyor 3	350 tph	TBD
18	Coal Processing	Transfer - Conveyor 3 to Reject Stockpile	350 tph	TBD
19	Coal Processing	Transfer - Jig Plant to Conveyor 4	350 tph	TBD
20	Coal Processing	Transfer - Conveyor 4 to Clean Stockpile	350 tph	TBD
21	Coal Processing	Transfer - Clean Stockpile to Conveyor 5	350 tph	TBD
22	Coal Processing	Transfer - Conveyor 5 to Loadout Bin	350 tph	TBD
23	Coal Processing	Transfer - Loadout Bin to Truck	350 tph	TBD
24	Wind Erosion	Mine Area	168 acres	TBD
25	Wind Erosion	Run-of-Mine Coal Stockpile	4 acres	TBD
26	Wind Erosion	Raw Coal Stockpile	1.5 acres	TBD
27	Wind Erosion	Clean Coal Stockpile	1.5 acres	TBD

EU ID	Classification	Description[1]	Capacity	Install Date[3]
28	Wind Erosion	Reject Stockpile	0.1 acres	TBD
29	Mobile Equipment	Grader Operations	13,122 VMT/yr	TBD
30	Mobile Equipment	Overburden Hauling – Backfill	19,340 VMT/yr	TBD
31	Mobile Equipment	Overburden Hauling – Stockpile	137,413 VMT/yr	TBD
32	Mobile Equipment	Coal Hauling within Mine	14,103 VMT/yr	TBD
33	Mobile Equipment	Miscellaneous Mine Traffic	50,000 VMT/yr	TBD
34	Mobile Equipment	Other Vehicle Traffic	236,520 VMT/yr	TBD
35	Mobile Equipment	Coal Truck Haul – Loop Road	4,140 VMT/Yr	TBD
36	Off Source	Coal Truck Haul - Access Road	101,430 VMT/yr	TBD

Notes:
1. Except for EU ID 1 and 2 which are point type emission units, all remaining emission units are non-point (fugitive dust) sources.
2. The Permittee expressed the capacity of EU ID 3 as an annual operating rate since the U.S. Environmental Protection Agency (EPA) uses this metric as a basis for estimating the related fugitive dust emission rate in their *Compilation of Air Pollutant Emission Factors* (AP-42).
3. TBD means To Be Determined. The emission units are not yet installed.

Section 2 Emission Fees

2. **Assessable Emissions**. The Permittee shall pay to the Department annual emission fees based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater 10 tons per year. The quantity for which fees will be assessed is the lesser of:

2.1 the stationary source's assessable potential to emit of 361 tpy; or

2.2 the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by:

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

d. other methods and calculations approved by the Department.

3. **Assessable Emission Estimates**. Emission fees will be assessed as follows:

3.1 no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Suite 303, PO Box 111800, Juneau, AK 99811-1800; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

3.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in Condition 2.1.

Section 3 State Emission Standards (18 AAC 50.055)

Fuel-Burning Equipment, EU IDs 1 and 2, and the Coal Preparation Plant, EU IDs 9 through 23.[1]

Visible Emissions

4. **Visible Emissions.** The Permittee shall not cause or allow visible emissions (VE), excluding condensed water vapor, emitted from EU IDs 1, 2, and 9 through 23, to reduce visibility through the exhaust effluent by more than 20 percent averaged over any six consecutive minutes.

4.1 For EU IDs 1 and 2, monitor, record, and report in accordance with Conditions 5, 7, and 8.

4.2 For EU IDs 9 through 23, monitor, record, and report in accordance with Conditions 6, 7, and 8.

5. **Visible Emissions Monitoring for Fuel-Burning Equipment.** The Permittee shall observe the exhaust of EU IDs 1 and 2 for visible emissions using either the Method 9 Plan under Condition 5.1 or the Smoke/No-Smoke Plan under Condition 5.2. The Permittee may change visible-emissions plans for an emission unit at any time unless prohibited from doing so by Condition 5.3.

5.1 **Method 9 Plan.** For all 18-minute observations in this plan, observe exhaust, following 40 C.F.R. 60, Appendix A-4, Method 9, adopted by reference in 18 AAC 50.040(a), for 18 minutes to obtain 72 consecutive 15-second opacity observations.

a. First Method 9 Observation. For EU IDs 1 and 2, observe exhaust for 18 minutes within 30 days of initial startup. For any unit, observe exhaust for 18 minutes within 14 calendar days after changing from the Smoke/No-Smoke Plan of Condition 5.2. For any unit replaced during the term of this permit, observe exhaust for 18 minutes within 30 days of startup.

b. Monthly Method 9 Observations. After the first Method 9 observation, perform 18-minute observations at least once in each calendar month that an emission unit operates.

c. Semiannual Method 9 Observations. After observing emissions for three consecutive operating months under Condition 5.1b, unless a six-minute average is greater than 15 percent and one or more observations are greater than 20 percent, perform 18-minute observations at least semiannually.

Semiannual observations must be taken between four and seven months after the previous set of observations.

[1] The Department has used the definition of a coal preparation plant at 18 AAC 50.990(22), and NSPS 40 C.F.R. 60.254 (Subpart Y), as a basis for determining applicable emission units. The open storage piles, EU IDs 25 through 28, are not considered as regulated emission units for purposes of Section 4.

d. Annual Method 9 Observations. After at least two semiannual 18-minute observations, unless a six-minute average is greater than 15 percent and one or more individual observations are greater than 20 percent, perform 18-minute observations at least annually.

Annual observations must be taken between 10 and 13 months after the preceding observation.

e. Increased Method 9 Frequency. If a six-minute average opacity is observed during the most recent set of observations to be greater than 15 percent and one or more observations are greater than 20 percent, then increase or maintain the 18-minute observation frequency for that emission unit to at least monthly intervals, until the criteria in Condition 5.1c for semiannual monitoring are met.

5.2 **Smoke/No Smoke Plan.** Observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor.

a. Initial Monitoring Frequency. Observe the exhaust during each calendar day that an emission unit operates.

b. Reduced Monitoring Frequency. After the emission unit has been observed on 30 consecutive operating days, if the emission unit operated without visible smoke in the exhaust for those 30 days, then observe emissions at least once in every calendar month that an emission unit operates.

c. Smoke Observed. If smoke is observed, either begin the Method 9 Plan of Condition 5.1 or perform the corrective action required under Condition 5.3.

5.3 **Corrective Actions Based on Smoke/No Smoke Observations**. If visible emissions are present in the exhaust during an observation performed under the Smoke/No Smoke Plan of Condition 5.2, then the Permittee shall either follow the Method 9 plan of Condition 5.1 or

a. initiate actions to eliminate smoke from the emission unit within 24 hours of the observation;

b. keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke; and

c. after completing the actions required under Condition 5.3a,

(i) take Smoke/No Smoke observations in accordance with Condition 5.2.

(A) at least once per day for the next seven operating days and until the initial 30 day observation period is completed; and

(B) continue as described in Condition 5.2b; or

(ii) if the actions taken under Condition 5.3a do not eliminate the smoke, or if subsequent smoke is observed under the schedule of Condition 5.3c(i)(A), then observe the exhaust using the Method 9 Plan unless the Department gives written approval to resume observations under the Smoke/No Smoke Plan; after observing smoke and making observations under the Method 9 Plan, the Permittee may at any time take corrective action that eliminates smoke and restart the Smoke/No Smoke Plan under Condition 5.2a.

6. Visible Emissions Monitoring for Coal Preparation Plant. For EU IDs 9 through 11, and 13 through 23, the Permittee shall observe each emission point for visible emissions in accordance with 40 C.F.R. 60, Appendix A, Method 22 for a minimum of 6 consecutive minutes. For EU ID 12, the Permittee shall observe each emission point for visible emissions in accordance with 40 C.F.R. 60, Appendix A, Method 9 for a minimum of 18 consecutive minutes.

6.1 The Permittee shall perform visible emissions observations when EU IDs 9 through 23 are operating at loads typical of normal operations according to the following schedule:

a. within 30 days of initial startup;

b. at least once per calendar quarter[2] that an emission unit operates, for EU IDs 9 through 11, and 13 through 23, observe the drop and loading points for the presence of visible emissions in accordance with Method 22. If the duration of the particulate matter emissions is greater than two minutes apply additional water and/or dust palliative as soon as practicable to mitigate the source of fugitive emissions, or conduct a Method 9 observation using the form in Section 10. Conduct Method 9 observations for a minimum of 6 minute durations;

c. at least once per calendar quarter that EU ID 12 operates, observe each emission point for visible emissions in accordance with Method 9 for 18 minutes to obtain 72 consecutive 15 second opacity observations, and as follows:

(i) select an observer position that is a minimum of 15 feet from the emission unit;

(ii) when possible, select an observer position that minimizes interference from other fugitive emission sources, while maintaining the observer position relative to the sun required by Method 9;

(iii) if water mist is present, make the observation at a point in the plume where the mist is no longer visible.

[2] Calendar Quarter is defined as follows; 1st Calendar Quarter is January 1 through March 31; 2nd Calendar Quarter is April 1 through June 30; 3rd Calendar Quarter is July 1 through September 30; 4th Calendar Quarter is October 1 through December 31.

d. within 24 hours following the startup of EU ID 12 after a shutdown period of more than 30 days.

6.2 Record and report as described in Conditions 7 and 8.

7. Visible Emissions Recordkeeping. The Permittee shall keep records as follows:

7.1 When using the Method 9 Plan of Condition 5.1 or 6,

a. the observer shall record

(i) the name of the stationary source, emission unit and location, emission unit type, observer's name and affiliation, and the date on the Visible Emissions Observation Form in Section 10;

(ii) the time, estimated distance to the emissions location, sun location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background, and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed;

(iii) the presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made;

(iv) opacity observations to the nearest five percent at 15-second intervals on the Visible Emissions Observation Form in Section 10; and

(v) the minimum number of observations required by the permit; each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

b. To determine the six-minute average opacity, divide the observations recorded on the record sheet into sets of 24 consecutive observations; sets need not be consecutive in time and in no case shall two sets overlap; for each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24; record the average opacity on the sheet.

c. Calculate and record the highest 6-minute and 18-consecutive-minute averages observed.

7.2 If using the Smoke/No Smoke Plan of Condition 5.2, record the following information in a written log for each observation and submit copies of the recorded information upon request to the Department:

a. the date and time of the observation;

b. from Table 1, the ID of the emission unit observed;

c. whether visible emissions are present or absent in the exhaust;

d. a description of the background to the exhaust during the observation;

e. if the emission unit starts operation on the day of the observation, the startup time of the emission unit;

f. name and title of the person making the observation; and

g. operating rate (load or fuel consumption rate).

8. Visible Emissions Reporting. The Permittee shall report visible emissions as follows:

8.1 Include in each stationary source operating report under Condition 25 for the period covered by the report:

a. which visible-emissions plan of Condition 5 was used for each emission unit; if more than one plan was used, give the time periods covered by each plan;

b. for each emission unit under the Method 9 Plan,

(i) copies of the observation results (i.e. opacity observations) for each emission unit that used the Method 9 Plan, except for the observations the Permittee has already supplied to the Department; and

(ii) a summary to include:

(A) number of days observations were made;

(B) highest six-minute average observed; and

(C) dates when one or more observed six-minute averages were greater than 20 percent;

c. for each emission unit under the Smoke/No Smoke Plan, the number of days that Smoke/No Smoke observations were made and which days, if any, that smoke was observed; and

d. a summary of any monitoring or recordkeeping required under Conditions 5 and 6 that was not done;

8.2 Report under excess emissions and permit deviations as described in Condition 24:

a. the results of Method 9 observations that exceed an average of 20 percent opacity for any six-minute period; and

b. if any monitoring under Condition 5 or 6 was not performed when required, report within three days of the date the monitoring was required.

Particulate Matter Emissions

9. Particulate Matter (PM). The Permittee shall not cause or allow PM emitted from EU IDs 1, 2, and 12 to exceed 0.05 grains per dry standard cubic foot (gr./dscf) of exhaust gas corrected to standard conditions and averaged over three hours.

9.1 For EU ID 1 monitor, record, and report in accordance with Conditions 10 through 12.

9.2 For EU ID 2 monitor, record, and report in accordance with Conditions 13 through 15.

9.3 For EU ID 12, monitor, record, and report in accordance with Conditions 6 through 8 and 16.

10. Particulate Matter Monitoring for Diesel Engines. The Permittee shall conduct source test on the diesel engine, EU ID 1 listed in Table 1, to determine the concentration of particulate matter (PM) in the exhaust of EU ID 1, as follows:

10.1 Within six months of exceeding the criteria of Condition 10.2a or 10.2b, either

a. conduct a PM source test according to requirements set out in Section 6; or

b. make repairs so that emissions no longer exceed the criteria of Condition 10.2; to show that emissions are below those criteria, observe emissions as described in Condition 5.1 under load conditions comparable to those when the criteria were exceeded.

10.2 Conduct the PM source test or make repairs according to Condition 10.1 if

a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

b. for an emission unit with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.

10.3 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the highest average 6-minute opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

10.4 The PM source test requirement in Conditions 10.1 and 10.2 is waived for an emissions unit if:

a. a PM source test has shown, during the most recent semiannual reporting period on that unit, compliance with the PM standard since permit issuance, or

b. a follow-up visible emissions observation, conducted within 90 days using Method 9, shows that the excess visible emissions described in Condition 10.2 no longer occur.

11. Particulate Matter Record Keeping for Diesel Engines. Within 180 calendar days after initial startup of EU ID 1, the Permittee shall record the exhaust stack diameter of EU ID 1 listed in Table 1. Report the stack diameter in the next operating report required under Condition 25.

12. Particulate Matter Reporting for Diesel Engines. The Permittee shall report as follows:

12.1 report in the operating report required under Condition 25:

a. the results of any PM source test that exceed the PM emissions limit; or

b. if one of the criteria of Condition 10.2 was exceeded and the Permittee did not comply with either Condition 10.1a or 10.1b, this must be reported by the day following the day compliance with Condition 10.1 was required;

12.2 report observations in excess of the threshold of Condition 10.2b within 30 days of the end of the month in which the observations occur;

12.3 in each stationary source operating report required under Condition 25, include for the period covered by the report:

a. the dates, EU ID(s), and results when an observed 18-minute average was greater than an applicable threshold in Condition 10.2;

b. a summary of the results of any PM testing under Condition 10; and

c. copies of any visible emissions observation results (opacity observations) greater than the thresholds of Condition 10.2, if they were not already submitted.

13. Particulate Matter Monitoring for Liquid Fuel-Fired Heaters. The Permittee shall conduct source tests on the liquid fuel-fired heater, EU ID 2 listed in Table 1, to determine the concentration of PM in the exhaust of EU ID 2 as follows:

13.1 Conduct a PM source test according to the requirements set out in Section 6 no later than 90 calendar days after any time corrective maintenance fails to eliminate visible emissions greater than the 20 percent opacity threshold for two or more 18-minute observations in a consecutive six-month period.

13.2 During each one-hour PM source test run, observe the exhaust for 60 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

13.3 The PM source test requirement in Condition 13 is waived for an emission unit if:

a. a PM source test has shown, during the most recent semiannual reporting period on that unit, compliance with the PM standard since permit issuance, or

b. a follow-up visible emission observation, conducted within 90 days using Method 9, shows that the excess visible emissions described in Condition 5.1e no longer occur.

14. Particulate Matter Recordkeeping for Liquid Fuel-Fired Heaters. The Permittee shall keep records of the results of any PM testing and visible emissions observations conducted under Condition 13.

15. Particulate Matter Reporting for Liquid Fuel-Fired Heaters. The Permittee shall report as follows:

15.1 In each operating report required by Condition 25, include:

a. the dates, EU ID(s), and results when an 18-minute opacity observation was greater than the applicable threshold criterion in Condition 5.1e.

b. a summary of the results of any PM testing and visible emissions observations conducted under Condition 13.

15.2 Report as excess emissions, in accordance with Condition 24, any time the results of a source test for PM exceeds the PM emission limit stated in Condition 9.

16. Particulate Matter Monitoring for Rock Crusher. The Permittee shall take reasonable precautions to prevent the release of airborne PM and fugitive dust from the rock crusher operations as follows:

16.1 Reasonable precautions for rock crushers to prevent PM from becoming airborne include, but are not limited to:

a. clean-up of loose material on work surfaces; and

b. minimizing drop distances on conveyor systems and lowering loader buckets to be in contact with the surface of the soil, ground, or crusher feeder before dumping.

16.2 During material transfer to storage piles, when visible observations indicate the presence of fugitive dust, the Permittee shall use watering and/or chemical wetting agents to control fugitive dust. These activities include:

a. loading of aggregate onto storage piles (batch or continuous drop operation);

b. equipment traffic in storage area;

c. wind erosion of pile surfaces and ground areas around piles; and

d. load out of aggregate for shipment or for return to the process stream (batch or continuous drop operation).

16.3 Monitor using visual observations to ensure that dust is continuously controlled (i.e. apply more water and/or chemical wetting agent, if rock crusher operations are generating dust at any time).

16.4 Certify in each operating report described in Condition 25, that reasonable precautions and mitigative actions were implemented for the rock crusher to prevent the release of airborne PM and fugitive dust. Submit the certification to the Department in the operating report as described in Condition 25.

Sulfur Dioxide Emissions

17. Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from EU IDs 1 and 2 to exceed 500 ppm averaged over three hours.

17.1 For Fuel Oil[3] fired units (EU IDs 1 and 2), the Permittee shall do one of the following for each shipment of fuel:

a. If the fuel grade requires a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount; or

b. If the fuel grade does not require a sulfur content less than 0.5 percent by weight, keep receipts that specify fuel grade and amount and

(i) test the fuel for sulfur content; or

(ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.

17.2 Fuel testing under Condition 17.1 must follow an appropriate method listed in 18 AAC 50.035(b)-(c) and 40 C.F.R. 60.17 incorporated by reference in 18 AAC 50.040(a)(1).

17.3 If a load of fuel contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO_2 emissions in ppm using either Section 11 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).

17.4 The Permittee shall report as follows:

a. If SO_2 emissions calculated under Condition 17.3 exceed 500 ppm, the Permittee shall report under Condition 24. When reporting under this condition, include the calculation under Section 11.

b. The Permittee shall include in the report required by Condition 25

(i) a list of the fuel grades received at the stationary source during the reporting period;

(ii) for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and

(iii) for fuel with a sulfur content greater than 0.75 percent, the calculated SO_2 emissions in ppm.

[3] *Oil* means crude oil or petroleum or a liquid fuel derived from crude oil or petroleum, including distillate and residual oil, as defined in 40 C.F.R. 60.41b, effective 7/1/07.

Section 4 Ambient Air Quality Protection Requirements

18. To protect the annual average and 1-hour nitrogen dioxide (NO_2) and the 24-hour particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns (PM-10) ambient air quality standards the Permittee shall:

Public Access Control Plan

18.1 Upon beginning onsite construction or mining activity[4], maintain a physical ambient air boundary between the public and the industrial site as described in the February 14, 2014 Public Access Control Plan (as provided in Section 13), except the Permittee is not required to preclude public access along the access road except for the portion north of the Right of Way (ROW) 52715 crossing.

18.2 In addition to the fencing required under Condition 18.1, install and maintain a fence or equivalent (sufficient to preclude access), prior to beginning onsite construction or mining activity as follows:

a. At the gate just north of where ROW 52715 crosses the access road:

(i) from the east side of the gate to at least 100-feet beyond the point where the previous ROW 52715 crosses the ambient boundary (as shown in Plate 1 of the February 14, 2014 Public Access Control Plan); and

(ii) from the west side of the gate along the entire southern portion of the ambient boundary to where ROW 52715 crosses Moose Creek; and

b. At all other locations where Plate 1 of the February 14, 2014 Public Access Control Plan shows an existing trail crossing the Phase I ambient boundary, for at least 100-feet in both directions along the ambient boundary.

18.3 Report the date that actual onsite construction or mining activity began in the stationary source operating report under Condition 25 for the period in which the activity began.

18.4 Prior to beginning operation in the Phase 2 area, as illustrated in Plate 1 of the February 14, 2014 Public Access Control Plan, install and maintain a fence or equivalent (sufficient to preclude access), at all locations where Plate 1 shows an existing trail crossing the Phase 2 ambient boundary – the fence shall run for at least 100-feet in both directions along the ambient boundary.

18.5 Report the date that operations began in the Phase 2 area under Condition 25 for the period in which the operation began.

Blasting Requirements

18.6 Limit the operations of EU IDs 4 and 5 (overburden and coal blasting) as follows:

a. No more than one blast per calendar day;

[4] "Onsite construction or mining activity" is defined as any activity that supports the development of the stationary source and has the potential to emit one or more pollutant(s) under its physical and operational design.

b. Blasting shall only occur between 7 a.m. to 7 p.m. local time; and

c. No more than 17,400 pounds of the blasting agent, ammonium nitrate and fuel oil (ANFO), shall be used per blast.

18.7 Maintain monthly records of the date, whether a blast occurred that day, the time of each blast, and the amount of ANFO used for each blast event.

18.8 Report for each month covered by the operating report: the number of blasts each month, the time of the earliest and latest blast, and the highest amount of ANFO used for a blast in the Operating Report in Condition 25.

18.9 Report per Condition 24 whenever the limits in Condition 18.6 are exceeded.

19. Fugitive Particulate Matter Control Requirements. The Permittee shall protect the 24-hour PM-10 ambient air quality standard by complying with Conditions 19.1 through 19.4 below.

19.1 Comply with the best management practices for mine development specified in the fugitive dust control plan contained in Section 14.

19.2 Control fugitive particulate matter emissions from the mine access roads and all permanent mine roads, as follows:

a. At least once each calendar year, as soon as road and weather conditions allow, but in no case later than June 15, apply calcium chloride, or similar dust control agents in sufficient quantities to control fugitive dust. Measure the effectiveness of dust control application as outlined in Condition 19.2b.

b. At least once per active 8-hour shift, when the road surface does not exhibit visible surface moisture, determine and record the duration of particulate matter emissions resulting from road traffic, as follows:

(i) In accordance with the procedures specified in 40 C.F.R. 60, Appendix A, Reference Method 22;

(A) record the vehicle type for each reading (haul truck or not);

(B) initiate observations at the time when the observed vehicle passes the observer; and

(C) continue observations for a minimum of six minutes.

(ii) Maintain records in accordance with Condition 19.4.

(iii) If the duration of particulate matter emissions is greater than two minutes, then apply additional calcium chloride (or equivalent dust surfactant) or water to the road surface to reduce particulate matter emissions as soon as practicable. After the application of additional calcium chloride or water, determine and record the duration of vehicle particulate matter emissions, as described in Condition 19.2b.

19.3 Perform an inspection at least once per active 8-hour shift of the mine area, topsoil/overburden stockpile area, coal stockpile area, coal preparation plant,

conveyor system, jig plant, and truck and support vehicle traffic (EU IDs 3 through 32). If dust is present, apply water or suitable dust suppression chemicals on the affected area; or otherwise take mitigative action to reduce fugitive dust.

a. Maintain records in accordance with Condition 19.4.

19.4 **Record keeping**. The Permittee shall comply as follows:

a. Keep records describing all daily inspections and precautions taken to prevent particulate matter from becoming airborne in accordance with Conditions 19.2 and 19.3 using the **Daily Fugitive Dust Inspection Log** in Section 15. Keep records at the mine site for five years.

b. Report per Condition 24 whenever a visual survey performed in accordance with Conditions 19.2 and 19.3 reveals that particulate matter emissions are leaving the property.

c. The Permittee shall keep records of any complaints received and any additional precautions that are taken to address the results of Department inspections that found potential dust problems.

d. Maintain records of complaints by utilizing the complaint form in Section 16.

e. For any dust complaints received relating to fugitive emissions that transcend the ambient air quality boundary and that are directly attributable to their operations or activities, the Permittee shall review its fugitive dust plan, and make revisions as necessary to mitigate future events by addressing the source of the dust.

19.5 **Reporting.** Submit any completed Section 16 complaint form to the Department per Condition 22 within 30 days after receiving the complaint.

Section 5 Recordkeeping and Reporting Requirements

20. **Recordkeeping Requirements**. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

20.1 Copies of all reports and certifications submitted pursuant to this section of the permit; and

20.2 Records of all monitoring required by this permit and information about the monitoring, including:

a. The date, place, and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of such analyses; and,

f. The operating conditions at the time of sampling or measurement.

21. **Certification**. The Permittee shall certify any permit application, report, affirmation, or compliance certification submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

21.1 The Department may accept an electronic signature on an electronic application or other electronic record required by the Department if:

a. A certifying authority registered under AS 09.25.510 verifies that the electronic signature is authentic; and

b. The person providing the electronic signature has made an agreement, with the certifying authority described in Condition 21.1a, that the person accepts or agrees to be bound by an electronic record executed or adopted with that signature.

22. **Submittals**. Unless otherwise directed by the Department or this permit, the Permittee shall send an original and one copy of reports, compliance certifications, and other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, source test reports, or other records under a cover letter certified in accordance with Condition 21.

23. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the Federal Administrator.

24. Excess Emissions and Permit Deviation Reports

24.1 The Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. In accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report

(i) Emissions that present a potential threat to human health or safety; and

(ii) Excess emissions that the Permittee believes to be unavoidable;

b. In accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or non-routine repair that causes emissions in excess of a technology based emission standard;

c. Report all other excess emissions and permit deviations:

(i) Within 30 days of the end of the month in which the emissions or deviation occurs, except as provided in Condition 24.1c(ii);

(ii) If a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under Condition 24.1c(i), or

(iii) For failure to monitor, as required in other applicable conditions of this permit.

24.2 When reporting excess emissions or a permit deviation, the Permittee must report using either the Department's on-line form, which can be found at http://www.dec.state.ak.us/air/ap/site.htm or http://dec.alaska.gov/Applications/Air/airtoolsweb/, or if the Permittee prefers, the form contained in Section 12 of this permit. The Permittee must provide all information called for by the form that is used.

24.3 If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

25. Operating Reports. The Permittee shall submit to the Department an original and one copy of an operating report by August 1 for the period January 1 to June 30 of the current year, and by February 1 for the period July 1 to December 31 of the previous year.

25.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

25.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under Condition 25.1, either

a. The Permittee shall identify

(i) The date of the deviation;

(ii) The equipment involved;

(iii) The permit condition affected;

(iv) A description of the excess emissions or permit deviation; and

(v) Any corrective action or preventive measures taken and the date of such actions; or

b. When excess emissions or permit deviations have already been reported under Condition 24 the Permittee shall cite the date or dates of those reports.

25.3 Include in the report any NSPS reports submitted to the EPA for the current operating period.

26. Air Pollution Prohibited. No person may permit any emissions which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

26.1 If emissions present a potential threat to health or safety, the Permittee shall report any such emissions according to Condition 24.

26.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of Condition 26.

26.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after investigation because of complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of Condition 26; or

b. the Department notifies the Permittee that it has found a violation of Condition 26.

26.4 The Permittee shall keep records of

a. the date and time, and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of Condition 26; and

d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.

26.5 With each operating report under Condition 25, the Permittee shall include a brief summary report which must include

a. the number of complaints received;

b. the number of times the Permittee or the Department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.

26.6 The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

27. Periodic Affirmation: Each year by March 31, the Permittee shall submit to the Department an original and one copy of a written affirmation stating:

27.1 Whether the stationary source is still accurately described by the application and minor permit, and

27.2 Whether the owner or operator has made changes that would trigger the requirement for a new permit under 18 AAC 50.

27.3 The Permittee, at their discretion, may submit one copy in electronic format (portable document format (PDF) or other Department compatible image format).

Section 6 Source Testing and Monitoring Requirements

28. **Requested Source Tests.** In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

29. **Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing as follows:

29.1 at a point or points that characterize the actual discharge into the ambient air; and

29.2 at the maximum rated burning or operating capacity of the source or another rate determined by the Department to characterize the actual discharge into the ambient air.

30. **Reference Test Methods.** The Permittee shall use the following references for test methods when conducting source testing for compliance with this permit:

30.1 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in 40 C.F.R. 60, Appendix A, Reference Method 9. The Permittee may use the form in Section 10 of this permit to record data.

30.2 Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

30.3 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201A and 202.

30.4 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

31. **Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of the fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

32. **Test Exemption.** The Permittee is not required to comply with Conditions 34, 35, and 36 (Test Plans, Test Notification and Test Reports) when exhaust is observed for visible emissions using Method 9 or Smoke/No Smoke Plan.

33. **Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.

34. **Test Plans.** Except as provided in Condition 32, before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the emission unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under Condition 28 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

35. **Test Notification.** Except as provided in Condition 32, at least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and the time the source test will begin.

36. **Test Reports.** Except as provided in Condition 32, within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the Source Test Report Outline, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in Condition 21. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period than specified by the Department.

37. **Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in Condition 9, the three-hour average is determined using the average of three one-hour test runs.

Section 7 General Permit Conditions

38. The Permittee shall allow the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to

38.1 enter upon the premises where a source subject to the permit is located or where records required by the permit are kept;

38.2 have access to and copy any records required by the permit;

38.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and

38.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

39. Good Air Pollution Control Practice. The Permittee shall do the following for all fuel burning equipment contained in Table 1:

39.1 perform regular maintenance as require by either the manufacturer's or the Permittee's established written maintenance procedures.

39.2 maintain a copy of the maintenance procedures for each piece of equipment listed in Table 1, in an easily accessible place for use during maintenance as well as it should be readily available for inspection by the Department.

39.3 maintain copies of all maintenance records, where the maintenance may have an effect on the emissions of a given emission unit, per the requirements of Condition 20; the records may be kept in electronic format.

40. Reasonable Precautions to Prevent Fugitive Dust. A person who causes or permits bulk materials to be handled, transported, or stored, or who engages in an industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air as required under 18 AAC 50.045(d).

40.1 The Permittee shall keep records of:

a. complaints received by the Permittee; and

b. any additional precautions that are taken

(i) to address complaints described in Condition 40.1a or to address the results of Department inspections that found potential problems; and

(ii) to prevent future dust problems

40.2 The Permittee shall report according to Condition 26.

Section 8 Standard Conditions

41. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for

41.1 an enforcement action; or

41.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280.

42. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

43. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

44. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

45. The permit does not convey any property rights of any sort, nor any exclusive privilege.

Section 9 Permit Documentation

June 28, 2013	Minor permit application submitted by Usibelli Coal Mine, Inc. for the Wishbone Hill Coal Mining and Processing Operation.
October 2, 2013	Department request to UCM to assess their fugitive emissions for the purposes of clarifying permit classification in accordance with the federal rules adopted under 18 AAC 50.502(i). The adopted federal rules are detailed in 40 CFR 51.165, and include a list of stationary source categories for which fugitive emissions must be assessed, i.e., a list of major stationary sources. The last stationary source category fugitive emissions associated with this stationary source's coal preparation and processing plant.
October 16, 2013	Response to October 2, 2013 request for additional information was received from Usibelli. Minor permit classification revised to include 18 AAC 50.502(c)(1) for a potential to emit (PTE) of PM-10 above 15 TPY.
October 28, 2013	Response received from Usibelli clarifying aspects of their October 16, 2013 response relating to PM-10 emission calculations and the associated permit applicability analysis.
January 6, 2014	Response received from Usibelli confirming the capacities of EU IDs 6 and 7, as listed Table 1.
January 17, 2014	Response received from Usibelli clarifying aspects of their October 16, 2013 response relating to prediction grid input to the ambient air compliance analysis.
February 11, 2014	*Wishbone Hill – Cloud Cover Sensitivity Analysis and Procedure to Fill Missing Cloud Cover Data – 1990 Year of Meteorological Data,* submitted by Usibelli in response to Department request for this analysis.
February 14, 2014	Revised *Public Access Control Plan* submittal by Usibelli in response to Department request for clarification and revision of natural and physical mine property ambient air boundaries.

Section 10 Visible Emission Observation Form

VISIBLE EMISSION OBSERVATION FORM

This form is designed to be used in conjunction with EPA Method 9, "Visual Determination of the Opacity of Emissions form Stationary Sources." Temporal changes in emission color, plume water droplet content, background color, sky conditions, observer position, etc. should be noted in the comments section adjacent to each minute of readings. Any information not dealt with elsewhere on the form should be noted under additional information. Following are brief descriptions of the type of information that needs to be entered on the form: for a more detailed discussion of each part of the form, refer to "Instructions for Use of Visible Emission Observation Form."

- Source Name: full company name, parent company or division or subsidiary information, if necessary.
- Address: street (not mailing or home office) address of facility where VE observation is being made.
- Phone (Key Contact): number for appropriate contact.
- Stationary Source ID Number: number from NEDS, agency file, etc.
- Process Equipment, Operating Mode: brief description of process equipment (include type of facility) and operating rate, % capacity, and/or mode (e.g. charging, tapping, shutdown).
- Control Equipment, Operating Mode: specify type of control device(s) and % utilization, control efficiency.
- Describe Emission Point: for identification purposes, stack or emission point appearance, location, and geometry; and whether emissions are confined (have a specifically designed outlet) or unconfined (fugitive).
- Height Above Ground Level: stack or emission point height relative to ground level; can use engineering drawings, Abney level, or clinometer.
- Height Relative to Observer: indicate height of emission point relative to the observation point.
- Distance from Observer: distance to emission point; can use rangefinder or map.
- Direction from Observer: direction plume is traveling from observer.
- Describe Emissions and Color: include physical characteristics, plume behavior (e.g., looping, lacy, condensing, fumigating, secondary particle formation, distance plume visible, etc.), and color of emissions (gray, brown, white, red, black, etc.). Note color changes in comments section.
- Visible Water Vapor Present?: check "yes" if visible water vapor is present.
- If Present, is Plume…: check "attached" if water droplet plume forms prior to exiting stack, and "detached" if water droplet plume forms after exiting stack.
- Point in Plume at Which Opacity was Determined: describe physical location in plume where readings were made (e.g., 1 ft above stack exit or 10 ft. after dissipation of water plume).
- Describe Plume Background: object plume is read against, include texture and atmospheric conditions (e.g., hazy).
- Background Color: sky blue, gray-white, new leaf green, etc.
- Sky Conditions: indicate cloud cover by percentage or by description (clear, scattered, broken, overcast).
- Wind Speed: record wind speed; can use Beaufort wind scale or hand-held anemometer to estimate.
- Wind Direction From: direction from which wind is blowing; can use compass to estimate to eight points.
- Ambient Temperature: in degrees Fahrenheit or Celsius.

  Wet Bulb Temperature: can be measured using a sling psychrometer

  RH Percent: relative humidity measured using a sling psychrometer; use local US Weather Bureau measurements only if nearby.
- Source Layout Sketch: include wind direction, sun position, associated stacks, roads, and other landmarks to fully identify location of emission point and observer position.

  Draw North Arrow: to determine, point line of sight in direction of emission point, place compass beside circle, and draw in arrow parallel to compass needle.

  Sun's Location: point line of sight in direction of emission point, move pen upright along sun location line, mark location of sun when pen's shadow crosses the observer's position.
- Observation Date: date observations conducted.
- Start Time, End Time: beginning and end times of observation period (e.g., 1635 or 4:35 p.m.).
- Data Set: percent opacity to nearest 5%; enter from left to right starting in left column. Use a second (third, etc.) form, if readings continue beyond 30 minutes. Use dash (-) for readings not made; explain in adjacent comments section.

  Comments: note changing observation conditions, plume characteristics, and/or reasons for missed readings.

  Range of Opacity: note highest and lowest opacity number.
- Observer's Name: print in full.

  Observer's Signature, Date: sign and date after performing VE observation.
- Organization: observer's employer.

Certified By, Date: name of "smoke school" certifying observer and date of most recent certification.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR PERMITS PROGRAM - VISIBLE EMISSIONS OBSERVATION FORM

Page No._____

Stationary Source Name		Type of Emission Unit			Observation Date		Start Time			End Time
					Sec / Min	0	15	30	45	Comments
Emission Unit Location					1					
City	State	Zip			2					
Phone # (Key Contact)		Stationary Source ID Number			3					
Process Equipment		Operating Mode			4					
Control Equipment		Operating Mode			5					
Describe Emission Point/Location					6					
Height above ground level	Height relative to observer	Clinometer Reading			7					
Distance From Observer		Direction From Observer			8					
Start	End	Start	End							
Describe Emissions & Color					9					
Start		End								
Visible Water Vapor Present? If yes, determine approximate distance from the					10					
No Yes	stack exit to where the plume was read									
Point in Plume at Which Opacity Was Determined					11					
Describe Plume Background		Background Color			12					
Start		Start								
End		End			13					
Sky Conditions:					14					
Start		End								
Wind Speed		Wind Direction From			15					
Start	End	Start	End							
Ambient Temperature		Wet Bulb Temp		RH percent	16					
SOURCE LAYOUT SKETCH:	1 Stack or Point Being Read	2 Wind Direction From			17					
3 Observer Location	4 Sun Location	5 North Arrow	6 Other Stacks		18					
					19					
					20					
					21					
					22					
					23					
					24					
					25					
					26					
					27					
					28					
					29					
					30					
					Range of Opacity					
					Minimum			Maximum		
I have received a copy of these opacity observations					Print Observer's Name					
Print Name:					Observer's Signature					Date
Signature:										Observer's Affiliation:
Title		Date			Certifying Organization					
					Certified By:				Date	

Data Reduction:

Duration of Observation Period (minutes):	Duration Required by Permit (minutes):
Number of Observations:	Highest Six–Minute Average Opacity (%):
Number of Observations exceeding 20%:	
In compliance with six-minute opacity limit? (Yes or No)	Highest 18-Consecutive –Minute Average Opacity (%)(engines and turbines only)

Average Opacity Summary:

Set Number	Time			Opacity		
	Start	End		Sum	Average	Comments

Section 11 Material Balance Calculation

If the sulfur content of a fuel shipment is greater than 0.75 percent by weight, calculate the three-hour exhaust concentration of SO_2 using the following equations:

A. = 31,200 x [**wt%S_{fuel}**] = 31,200 x _____ = _____

B. = 0.148 x [**wt%S_{fuel}**] = 0.148 x _____ = _____

C. = 0.396 x [**wt%C_{fuel}**] = 0.396 x _____ = _____

D. = 0.933 x [**wt%H_{fuel}**] = 0.933 x _____ = _____

E. = B + C + D = _____ + _____ + _____ = _____

F. = 21 – [**vol%$_{dry}$O2, $_{exhaust}$**] = 21 - _____ = _____

G. = [**vol%$_{dry}$O2, $_{exhaust}$**] ÷ F = _____ ÷ _____ = _____

H. = 1 + G = 1 + _____ = _____

I. = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ ppm

The wt%S_{fuel}, wt%C_{fuel}, and wt%H_{fuel} are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to Condition 17.1. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (vol%$_{dry}O_2$, exhaust) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if wt%S_{fuel}l = 1.0%, then enter 1.0 into the equations not 0.01 and if vol%$_{dry}O_2$, exhaust = 3.00%, then enter 3.00, not 0.03.

Section 12 ADEC Notification Form

Stationary Source Name	**Air Quality Permit No.**
Company Name	**Date**

When did you discover the Excess Emissions/Permit Deviation?
Date: _____ / _____ / _____ Time: _____ :/ _____

When did the event/deviation occur?
Begin Date: _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)
End Date _____ / _____ / _____ Time: _____ : _____ (Use 24-hr clock.)

What was the duration of the event/deviation? ____ : ____ (hrs:min) or _____ days
(total # of hrs, min, or days, if intermittent then include only the duration of the actual emissions/deviation)

Reason for Notification: (please check only 1 box and go to the corresponding section)

☐ Excess Emissions – Complete Section 1 and Certify

☐ Deviation from Permit Condition – Complete Section 2 and Certify

☐ Deviations from COBC, CO, or Settlement Agreement – Complete Section 2 and Certify

Section 1. Excess Emissions

(a) Was the exceedance: ☐ Intermittent or ☐ Continuous

(b) Cause of Event (Check one that applies):

☐ Start Up/Shut Down ☐ Natural Cause (weather/earthquake/flood)

☐ Control Equipment Failure ☐ Schedule Maintenance/Equipment Adjustment

☐ Bad Fuel/Coal/Gas ☐ Upset Condition ☐ Other _____

(c) Description
Describe briefly, what happened and the cause. Include the parameters/operating conditions exceeded, limits, monitoring data and exceedance.

(d) Emissions Units Involved:
Identify the emission unit involved in the event, using the same identification number and name as in the permit. Identify each emission standard potentially exceeded during the event and the exceedance.

EU ID	EU Name	Permit Condition Exceeded/Limit/Potential Exceedance

(e) Type of Incident (please check only one):

☐ Opacity _____ % ☐ Venting _____ gas/scf ☐ Control Equipment Down
☐ Fugitive Emissions ☐ Emission Limit Exceeded ☐ Other _____
☐ Marine Vessel Opacity ☐ Flaring _____

(f) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable? ☐ Yes ☐ No

Do you intend to assert the affirmative defense of 18 AAC 50.235? ☐ Yes ☐ No

Certify Report (Go to end of form.)

Section 2. Permit Deviations

(a) Permit Deviation Type (check only one box, corresponding with the section in the permit):

☐ Emission Unit-Specific
☐ Failure to Monitor/Report
☐ General Source Test/Monitoring Requirements
☐ Recording/Reporting/Compliance Certification
☐ Standard Conditions Not Included in the Permit
☐ Generally Applicable Requirements
☐ Reporting/Monitoring for Diesel Engines
☐ Recordkeeping Failure
☐ Insignificant Emission Unit
☐ Stationary Source Wide
☐ Other Section: _____ (Title of section and section number of your permit).

(b) Emission Unit Involved:

Identify the emission unit involved in the event, using the same identification number and name as in the permit. List the corresponding permit conditions and the deviation.

EU ID	EU Name	Permit Condition/ Potential Deviation

(c) Description of Potential Deviation:
Describe briefly what happened and the cause. Include the parameters/operating conditions and the potential deviation.

(d) Corrective Actions:

Describe actions taken to correct the deviation or potential deviation and to prevent future recurrence.

Certification:
Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: _____ Title: _____ Date: _____
Signature: _____ Phone Number: _____

NOTE: *This document must be certified in accordance with 18 AAC 50.345(j)*

To Submit this Report:

Fax to: 907-451-2187

Or
Email to: DEC.AQ.Airreports@alaska.gov
If faxed or emailed, the report must be certified within the Operating Report required for the same reporting period per Condition 25.

Or
Mail to: ADEC
Air Permits Program
610 University Avenue
Fairbanks, AK 99709-3643

Or
Phone Notification: 907-451-5173
Phone notifications require a written follow-up report.

Section 13 Public Access Control Plan

Usibelli Coal Mine
Wishbone Hill Coal Mining and Processing Operation
Public Access Control Plan

Purpose

The purpose of this document is to describe the Public Access Control Plan that will be used to protect the general public from health and safety hazards incident to the industrial activities planned at the Wishbone Hill Coal Mining and Processing Operation (Wishbone Hill). Usibelli Coal Mine Inc. (Usibelli) proposes to mine the western end of the Wishbone Hill coal district on the southwestern extent of Wishbone Hill. The permitted area for the project is located on lands leased from the State of Alaska and the Matanuska Susitna Borough and also on land owned by Usibelli. This plan describes the access control plan that will be used to implement the access restrictions.

Usibelli is fully committed to meeting the applicable Alaska Ambient Air Quality Standards (AAAQS) at the ambient air quality boundary of the project. A primary purpose of this plan is to delineate the area to be protected and controlled for occupational health and safety (within the ambient air quality boundary) from the area that is subject to unrestricted, general public access where the AAAQS are applicable (outside the ambient air quality boundary). A secondary purpose is to ensure that measures are in place to restrict public access within the ambient air quality boundary.

General Information

Usibelli coal mining operations will be conducted on the western end of the Wishbone Hill coal district on the southwestern extent of Wishbone Hill. Currently, access to the property is by a gravel road from the Glenn Highway. The gravel road will later be upgraded in conjunction with the construction of the mine facilities as shown on Plate 1. The nearest community to the site is Palmer, which is located approximately eight miles to the southwest.

Usibelli is allowed to mine in the areas within its boundary as shown on Plate 1. As mining activity is not planned to occur everywhere within the boundary at once, access to non-active areas of the mine can be granted as long as public safety and compliance with air quality regulations is maintained. Active mine areas are initially planned to occur in the southern and western portions of the Usibelli Wishbone Hill boundary and after a number of years the activity will move to the northern portion of the Wishbone Hill mine area.

Because of the sequencing of mining operations Usibelli has established a phased-in ambient air quality boundary (AAQB) commensurate with the mining plan. The first phase will be during

construction and operations of the facilities area and Mine Area 1. The AAQB is shown on Plate 1. The second phase will encompass the larger area and will extend to mine permit boundary as shown on Plate 1. Dispersion modeling has been conducted and demonstrates modeled compliance with all applicable AAAQS at all points on and outside of the ambient air quality boundary for both phases 1 and phase 2.

Public Access Control Measures

Physical and Natural Barriers

The AAQB will change over the course of the life of the mine as mining activities transition from Mine Area 1 to Mine Area 2. The two phases of the AAQB corresponding with these two mining phases are shown on Plate 1. The Phase 1 AAQB corresponds with the ambient air receptor placement boundary as modeled in support of the air quality permit application. The land within the Phase 1 AAQB encompasses approximately 900 acres of the total 1,285 acres within the Wishbone Hill Mine Boundary which includes the Phase 2 AAQB.

Part of the AAQB includes the mine access road. At the Glenn Highway intersection, public access on this road will be controlled by a gate that will be locked when the road is not in use.

At other parts of the Wishbone Hill area, significant terrain and topographic relief changes in the Wishbone Hill mining area as well as different vegetative species will act as physical barriers to access of the active mine sites for both phases of the planned mining operations. The combination of terrain and vegetation preclude access to most of the mine area. Fencing will be placed at locations at which terrain and vegetation is not sufficiently restrictive to prevent public access.

The terrain and topographic relief features include significant bluffs extending from the Moose Creek bed eastward to the AAQB which is a sufficient barrier to access. Along the southern and eastern boundaries are series of ridge lines which act as barriers to access.

Vegetative barriers in the form of dense treed areas as well as dense lower shrubbery growths of spiny Devils Club (*Oplopana horridus*) occur in many parts of the Wishbone Hill area. This spiny vegetation is sufficiently dense to act as a natural barrier in the same manner as terrain.

A few trails exist that have recorded public easements which transect the Usibelli Wishbone Hill area. The public rights-of-way (easements) will be relocated outside of the AAQB when needed to restrict public access within the AAQB. The Public Right-of-Way 52715 will be relocated off the active Wishbone Hill area for much of its length. South of the AAQB, this relocated segment of Public Right-of-Way 52715 is shown in Plate 1.

Where Public Right-of-Way 52715 crosses the mine access road south of the facilities area (Figure 1), a set of gates will be placed on each side of the crossing prohibiting the public to the mine access road. Controlled access at the crossing will be maintained with either 4-way stop signs or a large diameter culvert under the access road.

West of the mine road crossing, the right-of-way will pass south of the AAQB through vegetation and along a ridge line which is a sufficient physical barrier to deter the public from leaving the right-of-way trail and to hinder access to the AAQB, maintaining the integrity of the AAQB.

At the point Right-of-Way 52715 crosses the property boundary adjacent to the southwestern portion of the mine area, fencing will be placed at locations at which terrain and vegetation is not sufficiently restrictive to prevent public access(e.g., as the right of way approaches the active Mine Area 1 and at the point the AAQB crosses Moose Creek. See Figure 2)

The terrain is more gently sloping in the area of the Moose Creek crossing of Public Right-of-Way 52715. Once the right-of-way crosses Moose Creek at the Moose Creek crossing, the terrain upstream and north of the crossing steepens significantly from the Moose Creek bed, along the Wishbone Hill boundary. As a result, access to the active mine area through the Phase 1 AAQB will be prevented by that restrictive terrain.

Any existing trails within the Phase 1 AAQB will be blocked. There will be no relocation of any existing trails with recorded rights-of-way other than Right-of-Way 52715. Along the northern boundary of the Phase 1 AAQB, vegetation and terrain features will prevent public access. No recorded easements exist in this area such that passage through this area will be prevented by vegetation and terrain.

Along the eastern boundary, vegetation and terrain will form natural barriers. The lack of designated rights-of-way other than Right-of-Way 52715 will hinder access to the AAQB.

Security fencing will also be constructed around the facilities area and as noted above at the southwest end of Mine Area 1 if terrain and vegetative barriers are not adequate to deter access. The fencing in the southwest mine area will generally conform to the Phase 1 AAQB. The fencing will be periodically marked with signage as described below.

The AAQB will be posted with signs at regular intervals along the entire boundary to ensure public awareness of the limits to access.

Posting

Usibelli will post signs at strategic locations to further deter public access. The signs will be posted at the intersection of the Glenn Highway and the mine access road, the intersection of

public right-of-way ADL 52715 and the mine access road, at all trails showing active use along the ambient air quality boundary, and in strategic locations along the natural barrier portion of the ambient air quality boundary. The sign specifications will be as follows:

- Each sign will be 2 feet by 4 feet and will be mounted on posts.
- Each sign will be inspected semi-annually and will be repaired or replaced, as necessary.
- Each sign will be free of visible obstructions.
- Each sign will read:

DANGER

RESTRICTED ACCESS
AMBIENT AIR QUALITY BOUNDARY
AUTHORIZED PERSONNEL ONLY
PLEASE CHECK IN WITH SECURITY

Proposed Surveillance

For all operations, all on-site personnel will be informed of the public safety reasons and air permitting requirements to restrict public access at the AAQB. All personnel will be asked to observe the location perimeter as they conduct their regular duties. Any suspected violation of the AAQB by unauthorized individual(s) will be immediately reported to mine management.

Mine personnel will periodically observe the perimeter of the facilities area. If unauthorized individual(s) are observed, a log of the time and date of the observation will be recorded on the attached form. A record of the completed logs will be maintained on location in the Wishbone Hill Mine office.

Trespass Individuals

If a mine employee observes an unauthorized individual(s) within the AAQB, appropriate measures will be taken by the employee to address potential health and safety concerns. If safety is not of immediate concern, mine employees will be instructed to use the following protocol when dealing with unauthorized entry. A log of the incident will be recorded on the attached form and filed at the mine office for future reference.

- Approach the unauthorized person (or persons) and request that they leave the area immediately.

- If the unauthorized individual(s) refuse to leave the area after the above request, the individuals(s) will be informed that they are in an area in which the AAAQS may not be met and that State regulations require Usibelli to restrict entry to the posted area to authorized personnel only. The unauthorized person or persons will again be asked to leave the AAQB area.

- If the unauthorized individual(s) still refuse to leave, the individual(s) will be informed that Usibelli will not be liable or responsible for any harm they may encounter by being in a restricted entry area.

    - In the event the Usibelli employee believes the individual(s) health and safety may be at risk by being within the AAQB, the employee may elect to call local authorities to have the individual(s) removed from the area.

    The mine personnel will also request the name or names of the unauthorized individual(s) at that time. The mine employee will then log the encounter with the unauthorized individual(s) on the surveillance monitoring form. The data to be logged in such a situation will include:

    1. Day and time;
    2. The name of the individual(s) (if known or otherwise provided);
    3. The method of entry into the property (e.g. by foot, snow machine, etc.);
    4. Duration of unauthorized presence within the AAQB; and
    5. Other pertinent information as appropriate.

Ambient Air Quality Boundary
Surveillance Monitoring Form

Date and Time	Surveillance Conducted by	Surveillance Comments

Figure 1 – Access Road Crossing

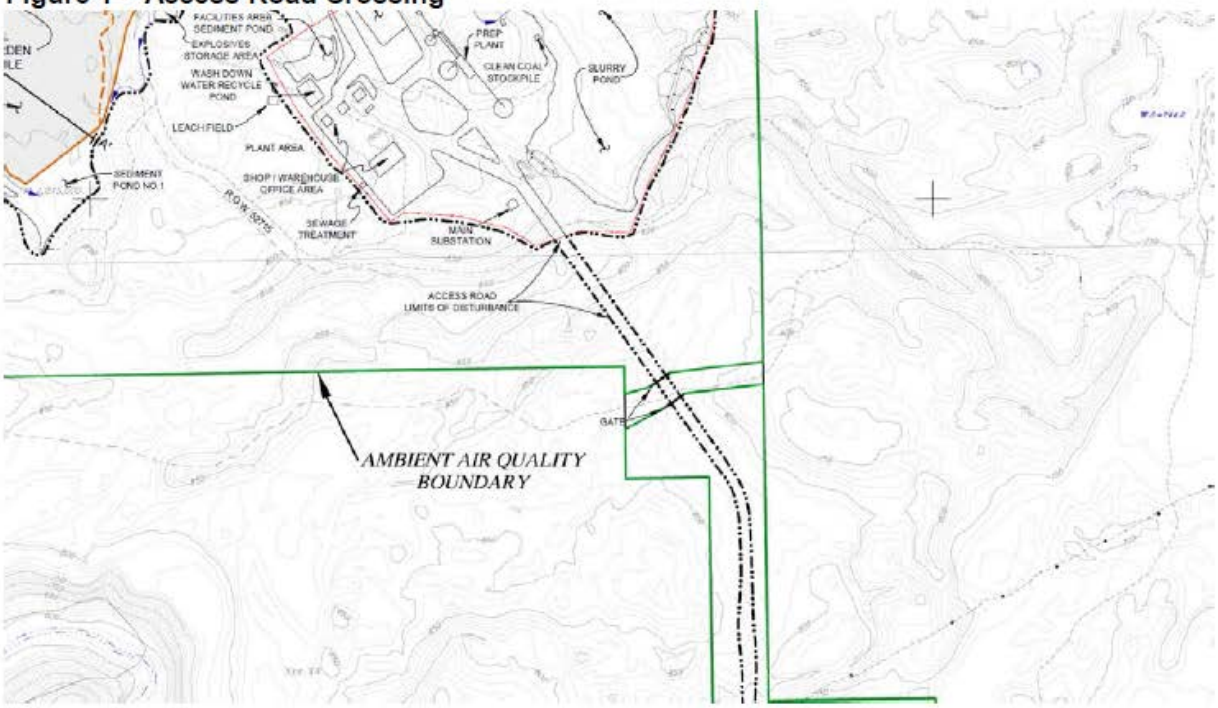
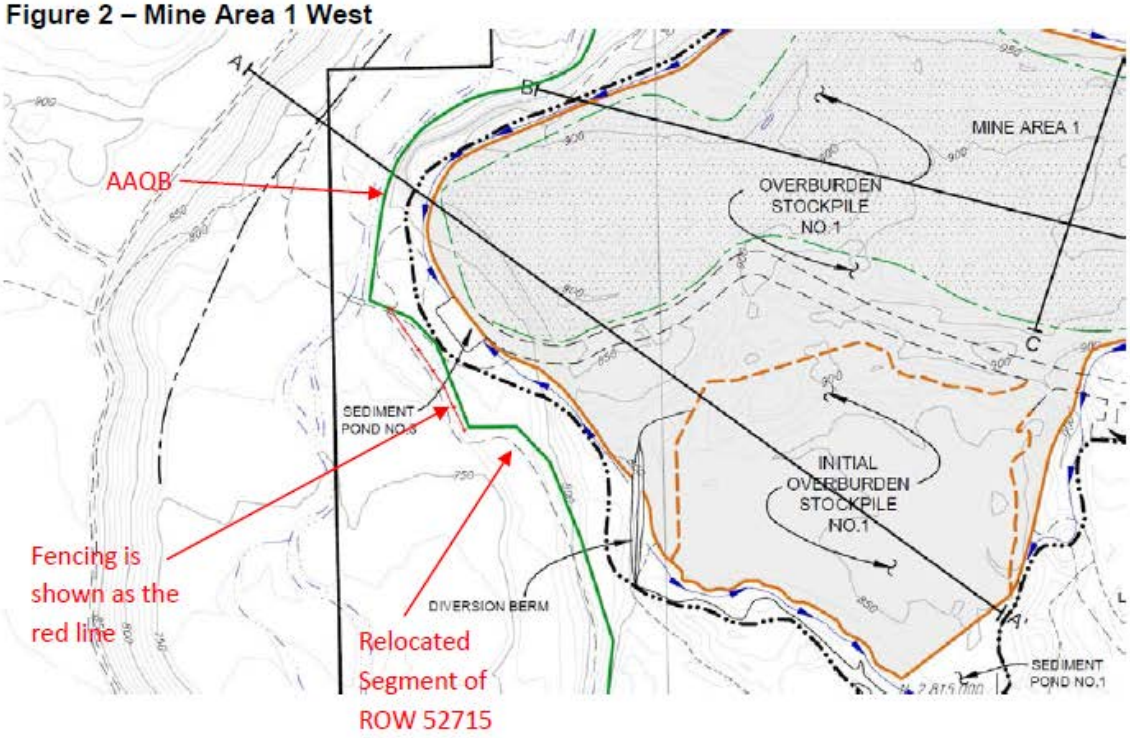
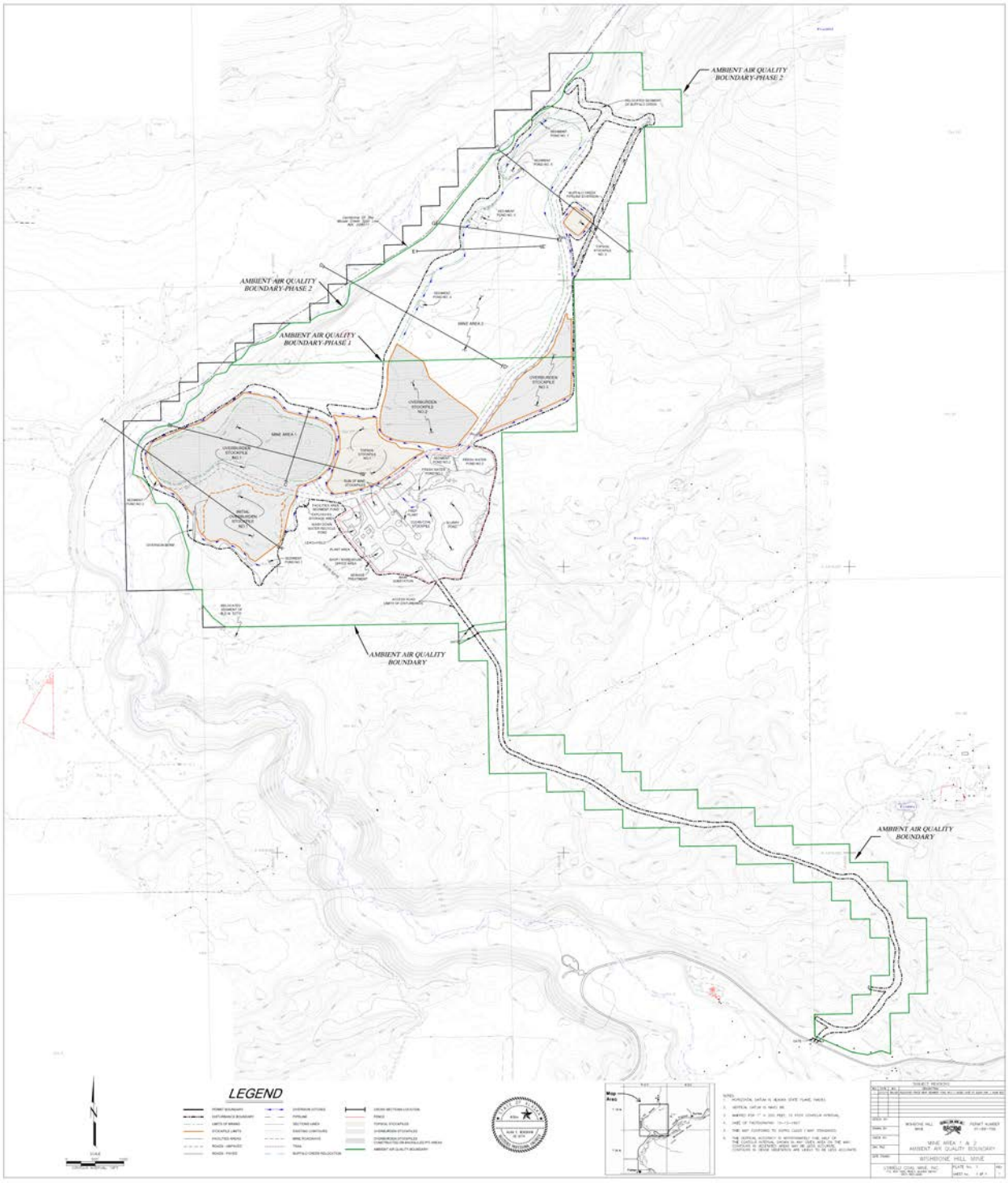


Figure 2 – Mine Area 1 West




AMBIENT AIR QUALITY BOUNDARY-PHASE 2
AMBIENT AIR QUALITY BOUNDARY-PHASE 2
AMBIENT AIR QUALITY BOUNDARY-PHASE 1
AMBIENT AIR QUALITY BOUNDARY
AMBIENT AIR QUALITY BOUNDARY
LEGEND
N
WISHBONE HILL MINE
MINE AREA 1 & 2
AMBIENT AIR QUALITY BOUNDARY

Section 14 Fugitive Dust Control Plan

Wishbone Hill Coal Mining and Processing Operation
Fugitive Dust Control Plan

Wishbone Hill Fugitive Emission Sources

Total emission rates associated with the mining operations are predominantly fugitive derived particulate matter (PM-10) emissions. The bulk of these emissions are associated with:

1) Wind erosion from the exposed mine area,
2) Topsoil and overburden removal operations, and
3) Vehicle travel within the mine, on mine haul roads, and on the mine access road.

Best Management Practices Relating to Surface Mine Development and Operations

To minimize the production of fugitive particulate emissions from the exposed mine area, the Permittee shall comply during the life of mine development with the following mining and reclamation plan designed to limit the amount of topsoil and overburden pre-stripping done in advance of the active mining operations:

- Only the minimum amount of area required to maintain the active pit shall be exposed at any given time.
- The truck/shovel mining method shall utilize an immediate haul back system that will promote contemporaneous reclamation and minimize the size of the active disturbance area.
- Perform progressive backfilling, grading, topsoiling and prompt re-vegetation shall be performed to minimize the amount of disturbed area potentially subject to wind erosion.
- Place active overburden material on previously mined-out areas to minimize stockpiling of the overburden material on adjacent undisturbed areas.
- Perform advanced mine planning to schedule, to the extent practicable, topsoil stripping operations as early as possible in the local growing season to coincide with generally higher soil moisture content.
- Employ various planting methods on topsoil areas as soon as practicable to encourage the rapid establishment of vegetative cover on exposed areas. These methods shall include, but not necessarily be limited to, hydroseeding select areas, applying fertilizer to stimulate growth, establishing temporary vegetative cover on stockpiles, transplanting mats of native vegetation, hand planting cuttings and seedlings and utilizing special designed mixes of grass species to achieve the optimal growth patterns. Seeding and planting of disturbed areas shall be conducted during the first normal period for favorable planting conditions after replacement of the topsoil material.

Active Fugitive Dust Controls for Mine Access Road and all Permanent Mine Roads

For this operational dust control plan, enhanced techniques will be used for the control of particulate matter emissions from the mine access road and all permanent mine roads. These techniques will include the use of Alaska Department of Environmental Conservation (ADEC) approved dust palliatives such as calcium chloride, or a similar dust control agent (e.g.,

magnesium chloride), along with water. Each calendar year, as soon as road and weather conditions allow, but in no case later than June 15, the dust palliative will be applied in accordance with the manufacturer's specifications. The ongoing maintenance work required to maintain the effectiveness of the product will also follow the manufacturer's recommendations. In addition to above procedures, the roads will be reassessed before freeze-up each year and any required maintenance needed to maintain the roads through the winter months will be performed.

Vehicle Speed

Fugitive dust emissions from haul roads will be controlled by imposing vehicle speed limits on the mine haul roads. Vehicle speed limits will be 25 miles per hour.

Covered Trucks

Fugitive dust emissions from trucks delivering coal offsite will be controlled by ensuring that trucks are covered after leaving the loadout facility.

Monitoring

To evaluate the effectiveness of the road dust control plan discussed above, the following monitoring procedures will be implemented. Each day on which mining occurs and the road surface does not exhibit visible surface moisture, the duration of particulate matter emissions resulting from road traffic will be determined as follows:

- Reference Method 22, specified in 40 Code of Federal Regulations (CFR) 60, Appendix A-7, will be used to monitor fugitive emissions from the roads;
- The vehicle type will be recorded for each reading;
- Observations will be initiated at the time the observed vehicle passes the observer; and
- Observations will continue for a minimum of six minutes.

If the duration of the particulate matter emission is greater than two minutes, additional water and/or a dust palliative will be applied to the road surface to reduce the particulate matter emissions as soon as practicable. After the application of additional water and/or a dust palliative, the road emissions will be reassessed using the procedures outline above.

Active Fugitive Dust Controls for Coal Preparation Plant

Reasonable precautions shall be taken to prevent the release of airborne PM and fugitive dust from aggregate piles, conveyors and elevators, loading locations, crushers, screens, and other sources of fugitive dust.

Section 15 Daily Fugitive Dust Inspection Log

Usibelli Coal Mine, Inc. (UCM) Wishbone Hill - Daily Fugitive Dust Inspection Log									
Inspection		Inspector Name	Comments	Inspection Criteria	Okay	Not Okay	Findings	Actions	Completion Date
Date	Hour								
				Mine Area					
				Topsoil/Overburden Stockpile Area					
				Coal Stockpile Area					
				Coal Preparation Plant					
				Conveyor System					
				Jig Plant					
				Truck and Support Vehicle Traffic					
				Mine Area					
				Topsoil/Overburden Stockpile Area					
				Coal Stockpile Area					
				Coal Preparation Plant					
				Conveyor System					
				Jig Plant					
				Truck and Support Vehicle Traffic					
				Mine Area					
				Topsoil/Overburden Stockpile Area					
				Coal Stockpile Area					
				Coal Preparation Plant					
				Conveyor System					
				Jig Plant					
				Truck and Support Vehicle Traffic					
				Mine Area					
				Topsoil/Overburden Stockpile Area					
				Coal Stockpile Area					
				Coal Preparation Plant					
				Conveyor System					
				Jig Plant					
				Truck and Support Vehicle Traffic					

How to fill out this Daily Fugitive Dust Inspection Log:

Steps:

1 Fill out the inspection “date”, “hour”, and “inspector name” columns

2 Inspect each location listed under the “inspection criteria” column

3 If dust is not present, check “okay” column and fill out completion date

4 If dust is present, check “not okay” column and write dust present in “findings” column then list mitigative action taken under “actions” column

After mitigative action is taken, repeat Steps 1 through 4 and fill out “completion date” column (list additional comments as necessary)

Section 16 Complaint Form

Complaint Form

Date Time:

Activities Involved:

Provide a description of reported complaint. Attach sheets as necessary.

If applicable, operational conditions which contributed to the complaint:

If applicable, ambient conditions which contributed to the complaint:

If applicable, describe measures taken to immediately address the complaint.

If applicable, describe measures taken to address preventing the condition which generated the complaint.

If applicable, describe any reason that you feel the complaint may not be a violation:

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate and complete.

Printed Name Signature Date