P & A Engineers and Consultants, Inc.

312 Justice Avenue
Logan, WV 25601

Phone (304) 752-8320
Fax (304) 752-7488

February 15, 2018

Mr. William F. Durham, Director
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

RE: Black Castle Mining
General Permit Modification
Facility ID: 005-00010

Dear Mr. Durham:

On behalf of Black Castle Mining, P & A Engineers and Consultants, Inc. submits the enclosed General Permit Modification Application for the above-referenced facility. Included is a check in the amount of $1,500.00, which represents the submittal fee, and two additional permit copies for your review and approval.

The application addresses the deletion of two belts, adds three refuse belts, changes capacity of two stockpiles, increases rate of belt conveyor BC-21, adds chute to clean coal loadout and changes crusher CR-02 to secondary.

If additional information or clarification is needed, please contact me at the Logan address listed above or call 304-752-8320.

Sincerely,

Donna J. Toler
Air Quality Project Manager

TABLE OF CONTENTS

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57TH Street SE
Charleston, WV 25304
Phone: (304) 926-0475 • www.wvdep.org

APPLICATION FOR GENERAL PERMIT REGISTRATION

CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE A STATIONARY SOURCE OF AIR POLLUTANTS

PLEASE CHECK ALL THAT APPLY (IF KNOWN):
□ **CONSTRUCTION** ■ **MODIFICATION** □ **RELOCATION**
□ **ADMINISTRATIVE UPDATE** □ **AFTER-THE-FACT**

FOR AGENCY USE ONLY: *PLANT I.D. #* **005-00010**

PERMIT # _____ *PERMIT WRITER:* _____

■ **G10-C** – Coal Preparation and Handling
□ **G20-B** – Hot Mix Asphalt
□ **G30-B** – Natural Gas Compressor Stations
□ **G40-B** – Nonmetallic Minerals Processing
□ **G50-B** – Concrete Batch

9. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):
005-00010

SECTION I. GENERAL INFORMATION

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):
BLACK CASTLE MINING COMPANY, INC.

2. FEDERAL EMPLOYER ID NO. **(FEIN):**
55-0734230

3. APPLICANT'S MAILING ADDRESS:
696 ROBINSON CREEK ROAD, MADISON, WV 25130 (MAIN OFFICE ADDRESS)

5. IF APPLICANT IS A SUBSIDIARY CORPORATION, PLEASE PROVIDE THE NAME OF PARENT CORPORATION:
ALPHA NATURAL RESOURCES

6. **WV BUSINESS REGISTRATION.** IS THE APPLICANT A RESIDENT OF THE STATE OF WEST VIRGINIA? ■ **YES** □ **NO**

➪ IF **YES,** PROVIDE A COPY OF THE **CERTIFICATE OF INCORPORATION / ORGANIZATION / LIMITED PARTNERSHIP** (ONE PAGE) INCLUDING ANY NAME CHANGE AMENDMENTS **OR** OTHER ***BUSINESS CERTIFICATE*** AS ATTACHMENT **A.**

➪ IF **NO,** PROVIDE A COPY OF THE **CERTIFICATE OF AUTHORITY / AUTHORITY OF L.L.C. / REGISTRATION** (ONE PAGE) INCLUDING ANY NAME CHANGE AMENDMENTS **OR** OTHER ***BUSINESS CERTIFICATE*** AS **ATTACHMENT A** .

SECTION II. FACILITY INFORMATION

7. TYPE OF PLANT OR FACILITY (STATIONARY SOURCE) TO BE CONSTRUCTED, MODIFIED, RELOCATED OR ADMINISTRATIVELY UPDATED (E.G., COAL PREPARATION PLANT, PRIMARY CRUSHER, ETC.) :	8. STANDARD INDUSTRIAL CLASSIFICATION (**SIC**) CODE FOR THE FACILITY:
Delete two belts, add three refuse belts, change capacity of two stockpiles, increase rate of belt BC-21, add chute to clean coal loadout. Change crusher CR-02 to secondary.	**1221**

9A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY:	10A. LIST ALL CURRENT 45CSR13 AND 45CSR30 (TITLE V) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR EXISTING FACILITY ONLY):
0 0 5 - 0 0 0 10	**G10-C078**

PRIMARY OPERATING SITE INFORMATION

11A. NAME OF PRIMARY OPERATING SITE:	12A. MAILING ADDRESS OF PRIMARY OPERATING SITE:
Admiral Processing Plant	**PO Box 261, Julian, WV 25529**

13A. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE *PROPOSED SITE*?

☒ **YES** ☐ **NO**

➪ IF YES, PLEASE EXPLAIN: **OWNER AND OPERATOR**

➪ IF **NO**, YOU ARE **NOT** ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14A. ➪ FOR **MODIFICATIONS or ADMINISTRATIVE UPDATES,** AT AN EXISTING FACILITY, PLEASE PROVIDE DIRECTIONS TO THE *PRESENT LOCATION* OF THE FACILITY FROM THE NEAREST STATE ROAD;

➪ FOR **CONSTRUCTION OR RELOCATION PERMITS**, PLEASE PROVIDE DIRECTIONS TO *THE PROPOSED NEW SITE LOCATION* FROM THE NEAREST STATE ROAD.

From Charleston, proceed to Marmet, take Route 3 toward Madison, facility located on main road outside Peytona on left

INCLUDE A **MAP** AS **ATTACHMENT** F.

15A. NEAREST CITY OR TOWN:	16A. COUNTY:	
Peytona	**Boone**	
17A. UTM NORTHING (KM):	18A. UTM EASTING (KM):	19A. UTM ZONE:
4219047.8(81-41-30.93)	**439347.3 (38-07-08.7)**	**17**

1ST *ALTERNATE OPERATING SITE INFORMATION*

11B. NAME OF PRIMARY OPERATING SITE:	12B. MAILING ADDRESS OF PRIMARY OPERATING SITE:
N/A	

13B. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE *PROPOSED SITE*?

☐ **YES** ☐ **NO**

➪ IF **YES**, PLEASE EXPLAIN: _____

_____

➪ IF **NO**, **YOU** ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14B. ➪ FOR **MODIFICATIONS or ADMINISTRATIVE UPDATES,** AT AN EXISTING FACILITY, PLEASE PROVIDE DIRECTIONS TO THE *PRESENT LOCATION* OF THE FACILITY FROM THE NEAREST STATE ROAD;

➪ FOR **CONSTRUCTION OR RELOCATION PERMITS**, PLEASE PROVIDE DIRECTIONS TO *THE PROPOSED NEW SITE LOCATION* FROM THE NEAREST STATE ROAD.

INCLUDE A **MAP** AS **ATTACHMENT F.**

15B. NEAREST CITY OR TOWN:	16B. COUNTY:	
17B. UTM NORTHING (KM):	18B. UTM EASTING (KM):	19B. UTM ZONE:

2ND ALTERNATE OPERATING SITE INFORMATION

11C. NAME OF PRIMARY OPERATING SITE:	12C. MAILING ADDRESS OF PRIMARY OPERATING SITE:
N/A	

13C. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE *PROPOSED SITE*?

☐ **YES** ☐ **NO**

➪ IF **YES**, PLEASE EXPLAIN: _____

➪ IF **NO**, YOU ARE **NOT** ELIGIBLE FOR A PERMIT FOR THIS SOURCE.

14C. ➪ FOR **MODIFICATIONS** or **ADMINISTRATIVE UPDATES,** AT AN EXISTING FACILITY, PLEASE PROVIDE DIRECTIONS TO THE *PRESENT LOCATION* OF THE FACILITY FROM THE NEAREST STATE ROAD;

➪ FOR **CONSTRUCTION OR RELOCATION PERMITS**, PLEASE PROVIDE DIRECTIONS TO *THE PROPOSED NEW SITE LOCATION* FROM THE NEAREST STATE ROAD.

INCLUDE A **MAP** AS **ATTACHMENT F**.

15C. NEAREST CITY OR TOWN:	16C. COUNTY:	
17C. UTM NORTHING (KM):	18C. UTM EASTING (KM):	19C. UTM ZONE:

20. PROVIDE THE DATE OF ANTICIPATED INSTALLATION OR CHANGE: **April 15, 2018** ➪ IF THIS IS AN **AFTER-THE-FACT** PERMIT APPLICATION, PROVIDE THE DATE UPON WHICH THE PROPOSED CHANGE DID HAPPEN: ____/____/____	21. DATE OF ANTICIPATED START- UP IF REGISTRATION IS GRANTED: **April 15, 2018**

22. PROVIDE MAXIMUM PROJECTED **OPERATING SCHEDULE** OF ACTIVITY/ ACTIVITIES OUTLINED IN THIS APPLICATION:

HOURS PER DAY **24** DAYS PER WEEK **7** WEEKS PER YEAR **52** PERCENTAGE OF OPERATION **100%**

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
BLACK CASTLE MINING COMPANY LLC
ROUTE 3, PRENTER ROAD
SETH, WV 25181-0000

BUSINESS REGISTRATION ACCOUNT NUMBER: **1031-6384**

This certificate is issued on: 08/19/2016

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

atL006 v.4
L2045787968

DETAILED PROCESS DESCRIPTION

The Admiral Processing Facility is located on Route 3 near Peytona in Boone County, WV.

This modification addresses the deletion of raw coal belts BC-03 and BC-20, the addition of three refuse belt conveyors BC-23, BC-24, BC-25, changes in the stockpile capacity of stockpiles OS-02 and OS-03, and addition of a chute to the clean coal loadout for truck loading. Transfer points have been changed since the last modification in 2016 to reflect current material flow. Since crushers CR-01 and CR-04 are primary, crusher CR-02 would become secondary if material is re-crushed prior to plant processing.

Direct Ship or Raw Clean Coal is delivered to truck dump bins BS-01(PW), BS-02(PW) and BS-03(PW) @ TP-01(UD-PW), TP-03(UD-PW), and TP-05(UD-PW); transferred to belt conveyor BC-01(FE) @ TP02(TC-FE), TP-04(TC-FE) and TP-06(TC-FE); for delivery to the scalping screen SS-01(FW) @ TP-07(TC-FE) and crusher CR-01(FW) @ TP-08(TC-FW). The crusher will transfer material to overland belt conveyor BC-02(PE) @ TP-09(TC-FW) which by-passes the prep plant and discharges to stockpile OS-01(SW-WS) @ TP-10(TC-PE). Stacking tube controls load-in to the stockpile. Direct ship or raw coal can also be diverted via flop gate to belt conveyor BC-21(PE) @ TP-11(TC-FE); onto belt conveyor BC-22(PE) @ TP-12(TC-FE); to raw coal belt conveyor BC-04(PE) @ TP-13(TC-FE).

Trucks will deliver raw coal to a three sided roofed truck dump bin BS-06(PW) @ TP-14(UD-PW). This material will reclaim underbin to

breaker CR-04 @ TP-15(TC-FW) and onto belt conveyor BC-04(PE) @ TP-16(TC-FW); to stockpile OS-02(SW-WS) @ TP-17(TC-PE). Belt BC-04 will also transfer to belt conveyor BC-05(PE) @ TP-18(TC-FE) for delivery to stockpile OS-03(SW-WS) @ TP-19(TC-PE). Stacking tubes control load-in to the stockpiles. Coal will reclaim under-pile to belt conveyer BC-06(PE) @ TP-20(LO-UC) and TP-21(LO-UC); transfer to belt conveyor BC-07(PE) @ TP-22(TC-FE); to crusher CR-02(FW) @ TP-23(TC-FE); to plant feed belt BC-08(PE) @ TP-24(TC-FW); and into the plant at TP-25(TC-FW).

Clean coal is transferred inside the plant by crusher CR-03(FW) @ TP-26(TC-FW) leave the plant on belt conveyor BC-09(PE) @ TP-27(TC-FW). Belt conveyor BC-09 transfers clean met coal to belt conveyor BC-10(PE) @ TP-28(TC-FE) for delivery to stockpile OS-04(SW-WS) @ TP-29(TC-PE). Stacking tube controls load-in to the stockpile. Belt conveyor BC-09 also transfers plant clean coal to belt conveyor BC-11(PE) @ TP-30(TC-FE) for delivery via stacking tube to stockpile OS-06(SW-WS) @ TP-31(TC-PE). Belt conveyor BC-11 also transfers coal to reversing belt BC-12(PE) @ TP-32(TC-FE) for delivery to open stockpile OS-05(SW-WS) @ TP-33(TC-MDH) and to open stockpile OS-07(SW-WS) @ TP-34(TC-MDH).

Clean coal stockpiles OS-01, OS-04, OS-05, OS-06 and OS-07 will reclaim to loadout belt conveyor BC-13(PE) @ TP-35(LO-UC) TP-36(LO-UC), TP-37(LO-UC), TP-38(LO-UC), and TP-39(LO-UC) for delivery to the loadout surge bin BS-04(FE) @ TP-40(TC-FE); to loadout weigh bin BS-05(FE) @ TP-41(TC-FE); and to railcar via telescopic chute @ TP-42(LR-TC). Trucks would loadout via fixed chute @ TP-43(LO-MDH).

ATTACHMENT B

Refuse is transferred to the disposal area by a series of belt conveyors designated BC-14(PE) thru BC-25(NC) @ TP-44(TC-FE) thru TP-53(TC-MDH). Refuse belts BC-23, BC-24, and BC-25 are proposed.

ATTACHMENT C

DESCRIPTION OF FUGITIVE EMISSIONS

Potential sources of fugitive particulate emissions for this facility include emissions, which are not captured by pollution control equipment and emissions from open stockpiles and vehicular traffic on paved haulroads and work areas. The haulroads and work areas will be controlled by water truck in accordance with section E.6.c.i. of the General Permit.

The water truck is equipped with pumps sufficient to maintain haulroads and work areas. The water truck will be operated three times daily, and more as needed in dry periods.

An additive to prevent freezing will be utilized in the winter months when freezing conditions are present.

This document was too large to scan. If interested in viewing please contact: depfoia@wv.gov or

West Virginia Department of Environmental Protection Public Information Office

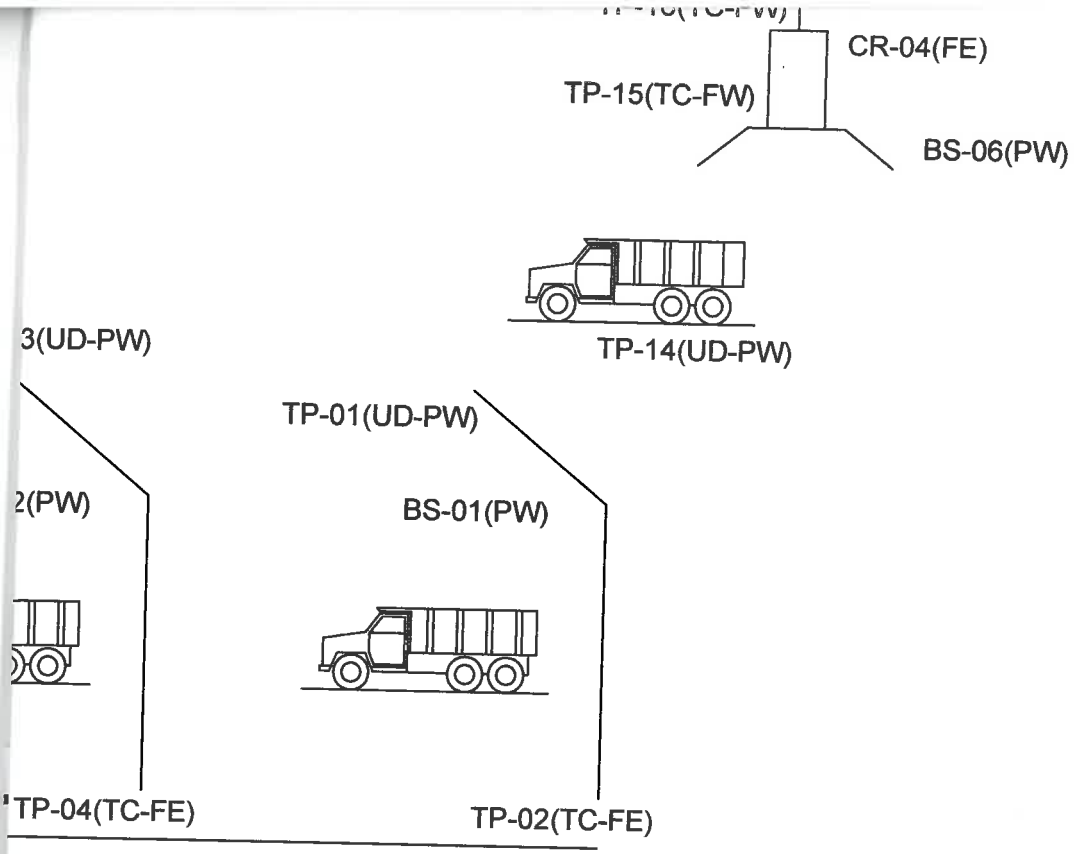
FOIA Request

601 57th St. S.E.

Charleston, WV 25304.

The fax number is 304-926-0447.

Thank you.



YSTEM

No.	Date	Revision	By
1			
2			
3			
4			
5			

NEERS & CONSULTANTS
70 Alum Creek, WV 25003 (304) 756-4066

e: 09/18	Drawn By: G. Caudill
: 021	Topo Contour Interval: na
na	Sheet No.: 1 of 1

Submittal Date:
February 2018

Black Castle Mining Company, LLC.

696 Robinson Creek Road

Madison, WV 25130

Admiral Processing Plant

Facility ID Number 005-00010

Air Quality Material Flow Diagram

This document was too large to scan. If interested in viewing please contact: depfoia@wv.gov or

West Virginia Department of Environmental Protection Public Information Office

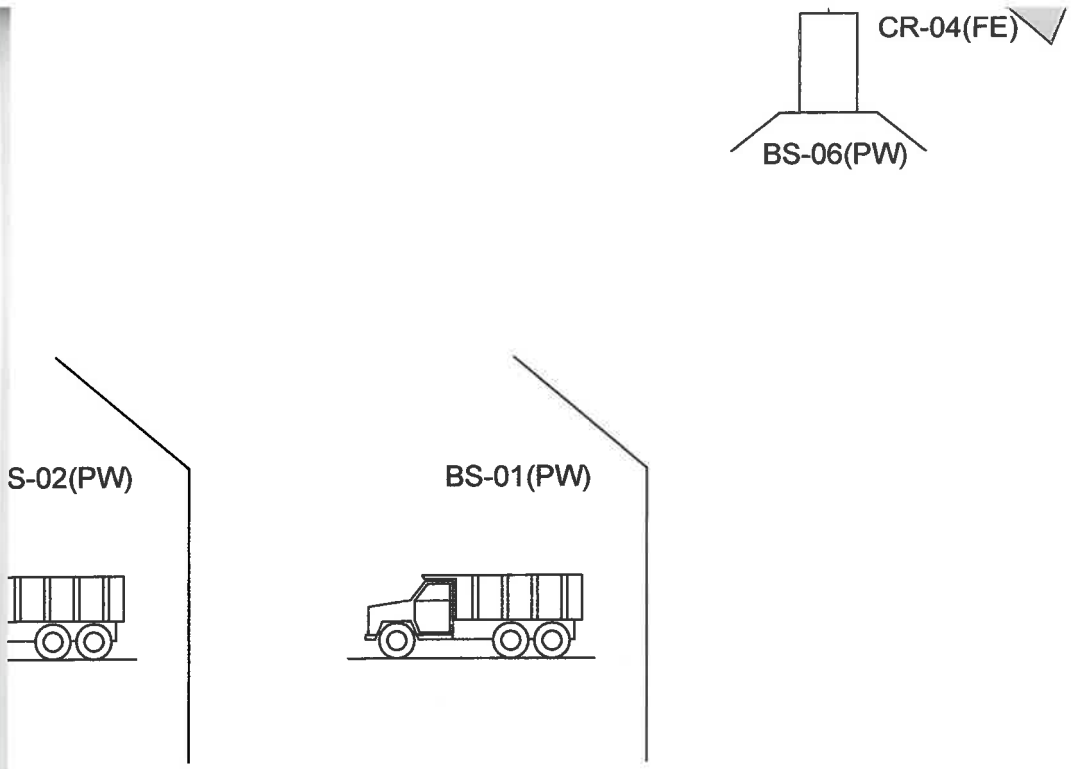
FOIA Request

601 57th St. S.E.

Charleston, WV 25304.

The fax number is 304-926-0447.

Thank you.



Prepared by:

P&A ENGINEERS & CONSULTANTS
PO Box 470 Alum Creek, WV 25003 (304) 756-4066

No.	Date	Revision	By
1			
2			
3			
4			
5			

Drawing Date: 02/09/18	Drawn By: G. Caudill
Computer No.: 18022	Topo Contour Interval: na
Scale: na	Sheet No.: 1 of 1

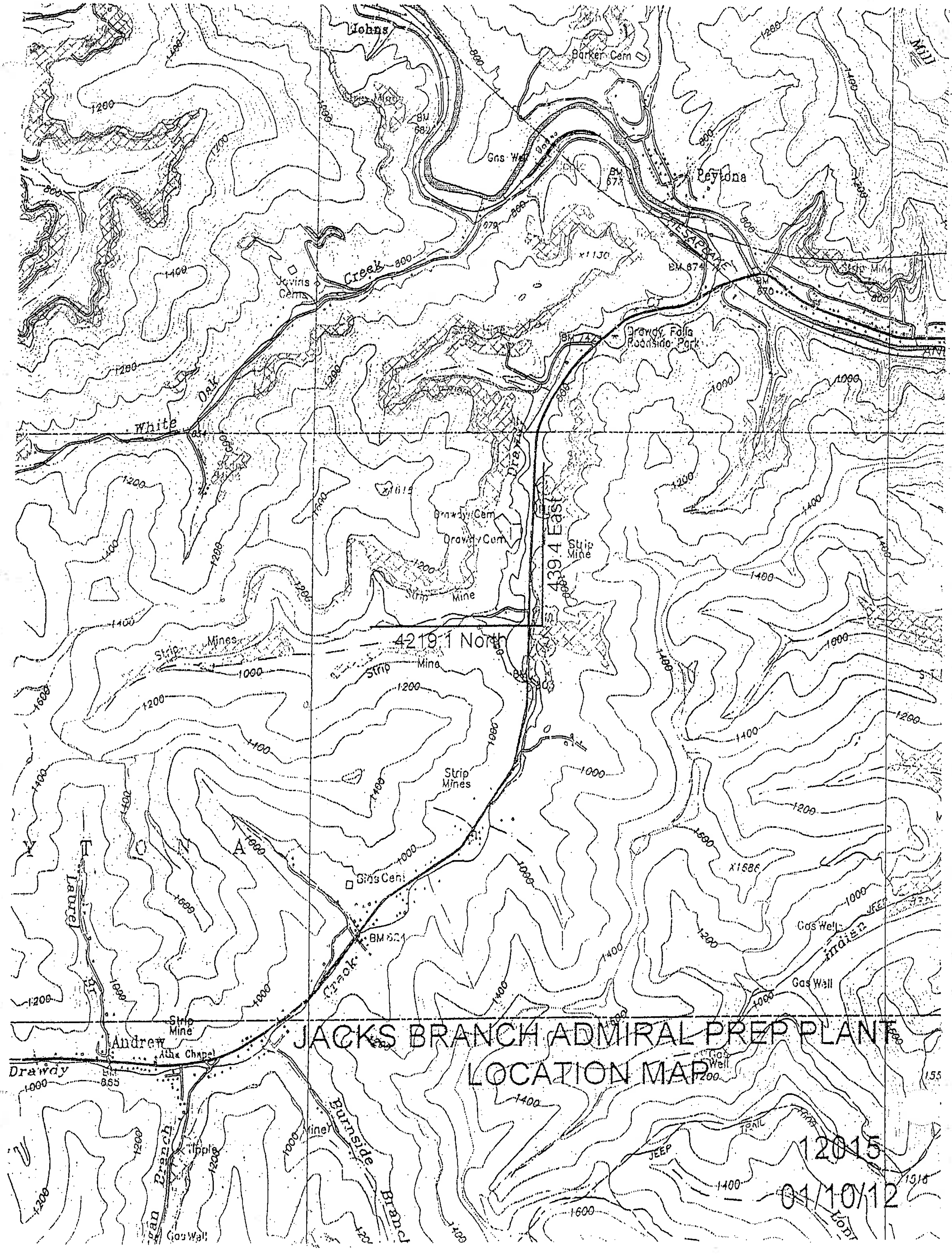
Submittal Date:
February 2018

Black Castle Mining Company, LLC.

696 Robinson Creek Road
Madison, WV 25130

Admiral Processing Plant

Facility ID Number 005-00010
Air Quality Site Map


JACKS BRANCH ADMIRAL PREP PLANT
LOCATION MAP
12015
01/10/12
4219.1 North
439.4 East
Johns
Barker Cem
Peytona
Gas Well
White
Oak
Creek
Jovins Cem
Drawdy Falls Roadside Park
Drawdy Cem
Strip Mine
Strip Mines
Gas Cem
Andrew
Drawdy
Laurel Br
Burnside Branch
Tipple
Gas Well
Indian
JEEP
Mill

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number[1]		Direct Ship CR-01	Raw Coal CR-02	Plant CR-03	CR-04
Type of Crusher or Screen[2]		DR	DR	DR	Breaker
Date of Manufacture[3]		2008	2008	2008	2014
Maximum Throughput[4]	tons/hour	1000	1000	750	500
	tons/year	8,760,000	8,760,000	6,570,000	4,380,000
Material sized from/to:[5]		6x2	4x0	2x0	4x0
Average Moisture Content (%)[6]		5	5.5	7	6
Control Device ID Number[7]		FW	FW	FW	FW
Baghouse Stack Parameters[8]	height (ft)	N/A			
	diameter (ft)				
	volume (ACFM)				
	exit temp (°F)				
	UTM Coordinates				
Maximum Operating Schedule[9]	hours/day	24	24	24	24
	days/year	365	365	365	365
	hours/year	8760	8760	8760	8760
Percentage of Operation[10]	January-March	25	25	25	25
	April-June	25	25	25	25
	July-September	25	25	25	25
	Oct-December	25	25	25	25

1. Enter the appropriate Source Identification Number for each crusher and screen. For example, in the case of an operation which incorporates multiple crushers, the crushers should be designated CR-1, CR-2, CR-3 etc. beginning with the breaker or primary crusher. Multiple screens should be designated S-1, S-2, S-3 etc.
2. Describe types of crushers and screens using the following codes:

HM	Hammermill	SS	Stationary Screen
DR	Double Roll Crusher	SD	Single Deck Screen
BM	Ball Mill	DD	Double-Deck Screen
RB	Rotary Breaker	TD	Triple Deck Screen
JC	Jaw Crusher	OT	Other
GC	Gyratory Crusher		
OT	Other - Quadroll		

3. Enter the date that each crusher and screen was manufactured.
4. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
5. Describe the nominal material size reduction (e.g. +2"/ -_").
6. Enter the average percent moisture content of the material processed.
7. Enter the appropriate Control Device Identification Number for each crusher and screen. Refer to Table A - *Control Device Listing* and *Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.
8. Enter the appropriate stack parameters if a baghouse control device is used.
9. Enter the maximum operating schedule for each crusher and screen in hours per day, days per year and hours per year.
10. Enter the estimated percentage of operation throughout the year for each crusher and screen.

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number[1]		SS-01					
Type of Crusher or Screen[2]		Scalping					
Date of Manufacture[3]		2008					
Maximum Throughput[4]	tons/hour	1000					
	tons/year	8,760,000					
Material sized from/to:[5]		6x4					
Average Moisture Content (%)[6]		5					
Control Device ID Number[7]		FW					
Baghouse Stack Parameters[8]	height (ft)	N/A					
	diameter (ft)						
	volume (ACFM)						
	exit temp (°F)						
	UTM Coordinates						
Maximum Operating Schedule[9]	hours/day	24					
	days/year	365					
	hours/year	8760					
Percentage of Operation[10]	January-March	25					
	April-June	25					
	July-September	25					
	Oct-December	25					

1. Enter the appropriate Source Identification Number for each crusher and screen. For example, in the case of an operation which incorporates multiple crushers, the crushers should be designated CR-1, CR-2, CR-3 etc. beginning with the breaker or primary crusher. Multiple screens should be designated S-1, S-2, S-3 etc.

2. Describe types of crushers and screens using the following codes:

HM Hammermill
DR Double Roll Crusher
BM Ball Mill
RB Rotary Breaker
JC Jaw Crusher
GC Gyratory Crusher
OT Other

SS Stationary Screen
SD Single Deck Screen
DD Double-Deck Screen
TD Triple Deck Screen
OT Other

3. Enter the date that each crusher and screen was manufactured.

4. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.

5. Describe the nominal material size reduction (e.g. +2"/ -_").

6. Enter the average percent moisture content of the material processed.

7. *Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.Enter the appropriate Control Device Identification Number for each crusher and screen. Refer to Table A - *Control Device Listing* and *Control*

8. Enter the appropriate stack parameters if a baghouse control device is used.

9. Enter the maximum operating schedule for each crusher and screen in hours per day, days per year and hours per year.

10. Enter the estimated percentage of operation throughout the year for each crusher and screen.

CONVEYING AFFECTED SOURCE SHEET

Source Identification Number[1]	Date of Manufacture[2]	Type of Material Handled[3]	Size of Material Handled[4]	Maximum Material Transfer Rate[5]		Average Moisture Content (%)[6]	Control Device[7]
				tons/hour	tons/year		
BC-01	2008	RC	6x4	1000	8,760,000	5	PE
BC-02	2008	RC	2x0	1000	8,760,000	5	PE
BC-03	Delete						
BC-04	2008	RC	4x0	1000	8,760,000	6	PE
BC-05	2008	RC	4x0	1000	4,380,000	6	PE
BC-06	2008	RC	4x0	1000	8,760,000	6	PE
BC-07	2008	RC	4x0	1000	8,760,000	6	PE
BC-08	2008	RC	2x0	1000	8,760,000	6	PE
BC-09	2008	CC	2x0	750	6,570,000	7	PE
BC-10	2008	CC	2x0	750	1,642,500	7	PE
BC-11	2008	CC	2x0	750	4,927500	7	PE
BC-12	2008	CC	2x0	750	3,285,000	7	PE
BC-13	2008	CC	2x0	4500	15,330,000	7	PE
BC-14	2008	Refuse	-1 3/8	500	4,380,000	10	PE
BC-15	2008	Refuse	-1 3/8	500	4,380,000	10	PE
BC-16	2008	Refuse	-1 3/8	500	4,380,000	10	PE
BC-17	2008	Refuse	-1 3/8	500	4,380,000	10	PE
BC-18	2011	Refuse	-1 3/8	500	4,380,000	10	NC
BC-19	2011	Refuse	-1 3/8	500	4,380,000	10	NC
BC-20	Delete						
BC-21	2013	RC	2x0	1000	8,760,000	5	PE

**BC-22	2016	RC	2x0	1000	8,760,000	5	PE
Proposed BC-23	2018	Refuse	-1 3/8	500	2,628,000	5	NC
Proposed BC-24	2018	Refuse	-1 3/8	500	2,628,000	5	NC
Proposed BC-25	2018	Refuse	-1 3/8	500	2,628,000	5	NC

**Belt BC-22 under construction February 2018

STORAGE ACTIVITY AFFECTED SOURCE SHEET

Source Identification Number[1]	BS-01	Direct Ship BS-02	Direct Ship BS-03	Surge BS-04	Weigh BS-05
Type of Material Stored[2]	RC/CC	CC	CC	CC	CC
Average Moisture Content (%)[3]	5	5	5	7	7
Maximum Yearly Storage Throughput (tons)[4]	8,760,000	2,920,000	2,920,000	15,330,000	15,330,000
Maximum Storage Capacity (tons)[5]	150	150	150	400	240
Maximum Base Area (ft^2)[6]					
Maximum Pile Height (ft)[7]					
Method of Material Load-in[8]	TD	TD	TD	SS	SS
Load-in Control Device Identification Number[9]	UD-PW	UD-PW	UD-PW	TC-FE	TC-FE
Storage Control Device Identification Number[9]	PW	PW	PW	FE	FE
Method of Material Load-out[8]	SS	SS	SS	Chute	TC
Load-out Control Device Identification Number[9]	TC-FE	TC-FE	TC-FE	TC-FE	LR-TC

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.
   - BS Bin or Storage Silo (full enclosure)
   - OS Open Stockpile
   - SF Stockpiles with wind fences
   - E3 Enclosure (three sided enclosure)
   - SB Storage Building (full enclosure)
   - OT Other
2. Describe the type of material stored or stockpiled (e.g. clean coal, raw coal, refuse, etc).
3. Enter the average percent moisture content of the stored material.
4. Enter the maximum yearly storage throughput for each storage activity.
5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
6. For stockpiles, enter the maximum stockpile base area.
7. For stockpiles, enter the maximum stockpile height.
8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - CS Clamshell
   - FC Fixed Height Chute from Bins
   - FE Front Endloader
   - MC Mobile Conveyor/Stacker
   - UC Under-pile or Under-Bin Reclaim Conveyor
   - RC Rake or Bucket Reclaim Conveyor
   - SS Stationary Conveyor/Stacker
   - ST Stacking Tube
   - TC Telescoping Chute from Bins
   - TD Truck Dump
   - PC Pneumatic Conveyor/Stacker
   - OT Other

STORAGE ACTIVITY AFFECTED SOURCE SHEET

Source Identification Number[1]	OS-01	OS-02	OS-03	OS-04	OS-05
Type of Material Stored[2]	CC	RC	RC	CC	CC
Average Moisture Content (%)[3]	5	6	6	7	7
Maximum Yearly Storage Throughput (tons)[4]	8,760,000	4,380,000	4,380,000	1,642,500	1,642,500
Maximum Storage Capacity (tons)[5]	75,000	80,000	30,000	50,000	50,000
Maximum Base Area (ft^2)[6]	108,869	108,869	88,869	88,869	88,869
Maximum Pile Height (ft)[7]	75'	75'	75'	75'	75'
Method of Material Load-in[8]	SS	SS	SS	SS	SS
Load-in Control Device Identification Number[9]	TC-PE/ST	TC-PE/ST	TC-PE/ST	TC-PE/ST	TC-MDH
Storage Control Device Identification Number[9]	SW-WS	SW-WS	SW-WS	SW-WS	SW-WS
Method of Material Load-out[8]	UC	UC	UC	UC	UC
Load-out Control Device Identification Number[9]	LO-UC	LO-UC	LO-UC	LO-UC	LO-UC

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.
   - BS Bin or Storage Silo (full enclosure)
   - OS Open Stockpile
   - SF Stockpiles with wind fences
   - E3 Enclosure (three sided enclosure)
   - SB Storage Building (full enclosure)
   - OT Other
2. Describe the type of material stored or stockpiled (e.g. clean coal, raw coal, refuse, etc).
3. Enter the average percent moisture content of the stored material.
4. Enter the maximum yearly storage throughput for each storage activity.
5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
6. For stockpiles, enter the maximum stockpile base area.
7. For stockpiles, enter the maximum stockpile height.
8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - CS Clamshell
   - FC Fixed Height Chute from Bins
   - FE Front Endloader
   - MC Mobile Conveyor/Stacker
   - UC Under-pile or Under-Bin Reclaim Conveyor
   - RC Rake or Bucket Reclaim Conveyor
   - SS Stationary Conveyor/Stacker
   - ST Stacking Tube
   - TC Telescoping Chute from Bins
   - TD Truck Dump
   - PC Pneumatic Conveyor/Stacker
   - OT Other

STORAGE ACTIVITY AFFECTED SOURCE SHEET

Source Identification Number[1]	OS-06	OS-07			
Type of Material Stored[2]	CC	CC			
Average Moisture Content (%)[3]	7	7			
Maximum Yearly Storage Throughput (tons)[4]	1,642,500	1,642,500			
Maximum Storage Capacity (tons)[5]	50,000	50,000			
Maximum Base Area (ft^2)[6]	88,869	88,869			
Maximum Pile Height (ft)[7]	75'	75'			
Method of Material Load-in[8]	SS/ST	SS			
Load-in Control Device Identification Number[9]	TC-PE	TC-MDH			
Storage Control Device Identification Number[9]	SW-WS	SW-WS			
Method of Material Load-out[8]	UC	UC			
Load-out Control Device Identification Number[9]	LO-UC	LO-UC			

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.
   - BS Bin or Storage Silo (full enclosure)
   - OS Open Stockpile
   - SF Stockpiles with wind fences
   - E3 Enclosure (three sided enclosure)
   - SB Storage Building (full enclosure)
   - OT Other

2. Describe the type of material stored or stockpiled (e.g. clean coal, raw coal, refuse, etc).

3. Enter the average percent moisture content of the stored material.

4. Enter the maximum yearly storage throughput for each storage activity.

5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)

6. For stockpiles, enter the maximum stockpile base area.

7. For stockpiles, enter the maximum stockpile height.

8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:
   - CS Clamshell
   - FC Fixed Height Chute from Bins
   - FE Front Endloader
   - MC Mobile Conveyor/Stacker
   - UC Under-pile or Under-Bin Reclaim Conveyor
   - RC Rake or Bucket Reclaim Conveyor
   - SS Stationary Conveyor/Stacker
   - ST Stacking Tube
   - TC Telescoping Chute from Bins
   - TD Truck Dump
   - PC Pneumatic Conveyor/Stacker
   - OT Other

ATTACHMENT H

BAGHOUSE AIR POLLUTION CONTROL DEVICE SHEET
Not applicable for this facility

Complete a Baghouse Air Pollution Control Device Sheet for each baghouse control device.

1. Baghouse Control Device Identification Number:
2. Manufacturer's name and model identification:
3. Number of compartments in baghouse:
4. Number of compartments online during normal operation and conditions:
5. Gas flow rate into baghouse: _____ ACFM @ _____ °F and _____ PSIA
6. Total cloth area: _____ ft^2
7. Operating air to cloth ratio: _____ ft/min
8. Filter media type: _____
9. Stabilized static pressure drop across baghouse: _____ inches H_2O
10. Baghouse operation is:

    ☐ Continuous ☐ Automatic ☐ Intermittent
11. Method used to clean bags:

    ☐ Shaker ☐ Pulse jet ☐ Reverse jet ☐ Other
12. Emission rate of particulate matter entering and exiting baghouse at maximum design operating conditions:

    Entering baghouse:_____ lb/hr and _____ grains/ACF

    Exiting baghouse: _____ lb/hr and _____ grains/ACF
13. Guaranteed minimum baghouse collection efficiency: _____ %
14. Provide a written description of the capture system (e.g. hooding and ductwork arrangement), size of ductwork and hoods and air volume, capacity and operating horsepower of fan:
15. Describe the method of disposal for the collected material:

INPUTS

Include all information for each emission source and transfer point as listed in the permit application.

Name of applicant: **Black Castle**
Name of plant: **Admiral Processing**
Feb-18

1. CRUSHING AND SCREENING (including all primary and secondary crushers and screens)

1a. PRIMARY CRUSHING

Primary Crusher ID Number	Description	Maximum Material Processing Capacity TPH	Maximum Material Processing Capacity TPY	Control Device ID Number	Control Efficiency %
CR-01	Direct ship Crusher	1,000	8,760,000	FW	90
CR-03	In Plant Clean Coal Crusher	750	6,570,000	FW	90
CR-04	Pick Breaker	1,000	8,760,000	FW	90

1b. SECONDARY AND TERTIARY CRUSHING

Secondary & Tertiary Crusher ID	Description	Maximum Material Processing Capacity TPH	Maximum Material Processing Capacity TPY	Control Device ID Number	Control Efficiency %
CR-02	Raw Coal Crusher	1,000	8,760,000	FW	90

1c. SCREENING

Screen ID	Description	Maximum Material Processing Capacity TPH	Maximum Material Processing Capacity TPY	Control Device ID Number	Control Efficiency %
SS-01	Scalping Screen	1,000	8,760,000	FW	90

2. *TRANSFER POINTS (including all conveyor transfer points, equipment transfer points etc.)*

		PM	PM-10
k =	Particle Size Multiplier (dimensionless)	0.74	0.35
U =	Mean Wind Speed (mph)	7	

Transfer Point ID No.	Transfer Point Description Include ID Numbers of all conveyors, crushers, screens, stockpiles, etc. involved	Material Moisture Content %	Maximum Transfer Rate TPH	Maximum Transfer Rate TPY	Control Device ID Number	Control Efficiency %
TP01	Truck to BS-01	5	333	2,920,000	UD-PW	80
TP02	BS-01 to BC-01	5	333	2,920,000	TC-FE	80
TP03	Truck to BS-02	5	333	2,920,000	UD-PW	80
TP04	BS-02 to BC-01	5	333	2,920,000	TC-FE	80
TP05	Truck to BS-03	5	333	2,920,000	UD-PW	80
TP06	BS-03 to BC-01	5	333	2,920,000	TC-FE	80
TP07	BC-01 to SS-01	5	1,000	8,760,000	TC-FE	80
TP08	SS-01 to CR-01	5	1,000	8,760,000	TC-FW	90
TP09	CR-01 to BC-02	5	1,000	8,760,000	TC-FW	90
TP10	BC-02 to OS-01	5	1,000	8,760,000	TC-PE	50
TP11	BC-02 to BC-21	5	1,000	8,760,000	TC-FE	80
TP12	BC-21 to BC-22	5	1,000	8,760,000	TC-FE	80
TP13	BC-22 to BC-04	5	1,000	8,760,000	TC-FE	80
TP14	Truck to BS-06	6	500	4,380,000	TC-PW	80
TP15	BS-06 to CR-04	6	500	4,380,000	TC-FW	90
TP16	CR-04 to BC-04	6	500	4,380,000	TC-FW	90
TP17	BC-04 to OS-02	5.5	1,000	8,760,000	TC-PE	50
TP18	BC-04 to BC-05	5.5	1,000	8,760,000	TC-FE	80
TP19	BC-05 to OS-03	5.5	1,000	8,760,000	TC-PE	50
TP20	OS-02 to BC-06	5.5	1,000	4,380,000	LO-UC	80
TP21	OS-03 to BC-06	5.5	1,000	4,380,000	LO-UC	80
TP22	BC-06 to BC-07	5.5	1,000	8,760,000	TC-FE	80
TP23	BC-07 to CR-02	5.5	1,000	8,760,000	TC-FE	80
TP24	CR-02 to BC-08	5.5	1,000	8,760,000	TC-FW	90
TP25	BC-08 to Plant	5.5	1,000	8,760,000	TC-FW	90
TP26	Plant to CR-03	7	750	6,570,000	TC-FW	90
TP27	CR-03 to BC-09	7	750	6,570,000	TC-FW	90
TP28	BC-09 to BC-10	7	750	1,642,500	TC-FE	80
TP29	BC-10 to OS-04	7	750	1,642,500	TC-PE	50
TP30	BC-09 to BC-11	7	750	4,927,500	TC-FE	80
TP31	BC-11 to OS-06	7	750	1,642,500	TC-PE	50
TP32	BC-11 to BC-12	7	750	3,285,000	TC-FE	80
TP33	BC-12 to OS-05	7	750	1,642,500	TC-MDH	0
TP34	BC-12 to OS-07	7	750	1,642,500	TC-MDH	0
TP35	OS-01 to BC-13	7	4,500	8,760,000	LO-UC	80
TP36	OS-04 to BC-13	7	4,500	1,642,500	LO-UC	80
TP37	OS-05 to BC-13	7	4,500	1,642,500	LO-UC	80
TP38	OS-06 to BC-13	7	4,500	1,642,500	LO-UC	80
TP39	OS-07 to BC-13	7	4,500	1,642,500	LO-UC	80
TP40	BC-13 to BS-04	7	4,500	15,330,000	TC-FE	80
TP41	BS-04 to BS-05	7	4,500	15,330,000	TC-FE	80
TP42	BS-05 to Railcar	7	4,500	15,330,000	LR-TC	75
TP43	BS-04 to Truck	7	500	4,380,000	TC-MDH	0
TP44	Plant to BC-14	10	500	4,380,000	TC-FE	80
TP45	BC-14 to BC-15	10	500	4,380,000	TC-PE	50
TP46	BC-15 to BC-16	10	500	4,380,000	TC-PE	50
TP47	BC-16 to BC-17	10	500	4,380,000	TC-PE	50
TP48	BC-17 to BC-18	10	500	4,380,000	TC-PE	50
TP49	BC-18 to BC-19	10	500	4,380,000	TC-PE	50
TP50	BC-19 to BC-23	10	500	4,380,000	TC-PE	50
TP51	BC-23 to BC-24	10	500	4,380,000	TC-PE	50
TP52	BC-24 to BC-25	10	500	4,380,000	TC-PE	50
TP53	BC-25 to Disposal Area	10	500	4,380,000	TC-MDH	0

3. WIND EROSION OF STOCKPILES *(including all stockpiles of raw coal, clean coal, coal refuse, etc.)*

p =	number of days per year with precipitation >0.01 inch	157
f =	percentage of time that the unobstructed wind speed exceeds 12 mph at the mean pile height	20

Source ID No.	Stockpile Description	Silt Content of Material %	Stockpile base area Max. sqft	Control Device ID Number	Control Efficiency %
OS-01	Direct Ship Stockpile	5	108,869	SW-WS	75
OS-02	Raw Coal Stockpile	5	108,869	SW-WS	75
OS-03	Raw Coal Stockpile	5	88,869	SW-WS	75
OS-04	Met Clean Coal	3	88,869	SW-WS	75
OS-05	Clean Coal Stockpile	3	88,869	SW-WS	75
OS-06	Clean Coal Stockpile	3	88,869	SW-WS	75
OS-07	Clean Coal Stockpile	3	88,869	SW-WS	75

4. UNPAVED HAULROADS *(including all equipment traffic involved in process, haul trucks, endloaders, etc.)*

s =	silt content of road surface material (%)	9
p =	number of days per year with precipitation >0.01 inch	157
M_{dry} =	surface material moisture content (%) - dry conditions	0.2

Item Number	Description		Number of wheels	Mean Vehicle Weight(tons)	Mean Vehicle Speed (mph)	Miles per Trip	Maximum Trips Per Hour	Maximum Trips Per Year	Control Device ID Number	Control Efficiency %
1	CC out	4,380,000	18	45	15	0.5	11	97,333	HR-WS	70
2										
3										
4	Dozers	8,760,000	4	20	5	0.01	50	438,000	HR-WS	70
5										
6										
7										
8										

5. INDUSTRIAL PAVED HAULROADS *(including all equipment traffic involved in process, haul trucks, endloaders, etc.)*

sL =	road surface silt loading, (g/ft^2)	1
P =	number of days per year with precipitation >0.01 inch	157

Item Number	Description		Mean Vehicle Weight (tons)	Miles per Trip	Maximum Trips Per Hour	Maximum Trips Per Year	Control Device ID Number	Control Efficiency %
1	Raw coal in to DS	8,760,000	45	1.2	22	194,666	HR-WS	70
2	Raw coal in BS-06	4,380,000	45	1.2	11	97,333	HR-WS	70
3	CC out	4,380,000	45	0.5	11	97,333	HR-WS	70
4								
5								
6								
7								
8								

EMISSIONS SUMMARY

Name of applicant: Black Castle
Name of plant: Admiral Processing

Particulate Matter or PM (for 45CSR14 Major Source Determination)

	Uncontrolled PM		Controlled PM	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	3.33	14.57	0.83	3.64
Unpaved Haulroad Emissions	79.24	350.35	23.77	105.11
Paved Haulroad Emissions	122.00	539.78	36.60	161.93
Fugitive Emissions Total	**204.57**	**904.69**	**61.20**	**270.68**
POINT SOURCE EMISSIONS				
Equipment Emissions	215.00	941.70	21.50	94.17
Transfer Point Emissions	47.72	115.11	11.89	29.47
Point Source Emissions Total*	**262.72**	**1,056.81**	**33.39**	**123.64**
Facility Emissions Total	**467.29**	**1,961.50**	**94.59**	**394.32**

*Note: Point Source Total Controlled PM TPY emissions is used for 45CSR14 Major Source determination (see below)

***Facility Potential to Emit (PTE) (Baseline Emissions) = 123.64**

(Based on Point Source Total controlled PM TPY emissions from above) **ENTER ON LINE 26 OF APPLICATION**

Particulate Matter under 10 microns, or PM-10 (for 45CSR30 Major Source Determination)

	Uncontrolled PM-10		Controlled PM-10	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	1.56	6.85	0.39	1.71
Unpaved Haulroad Emissions	22.90	101.25	6.87	30.38
Paved Haulroad Emissions	23.65	104.65	7.10	31.39
Fugitive Emissions Total	**48.12**	**212.75**	**14.36**	**63.48**
POINT SOURCE EMISSIONS				
Equipment Emissions	101.05	442.60	10.11	44.26
Transfer Point Emissions	22.57	54.44	5.62	13.94
Point Source Emissions Total*	**123.62**	**497.04**	**15.73**	**58.20**
Facility Emissions Total	**171.74**	**709.79**	**30.08**	**121.68**

*Note: Point Source Total Controlled PM-10 TPY emissions is used for 45CSR30 Major Source determination

1. Emissions From CRUSHING AND SCREENING

1a. Primary Crushing

Primary Crusher ID Number	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
CR-01	20.000	87.600	2.000	8.760	9.400	41.172	0.940	4.117
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
CR-03	15.000	65.700	1.500	6.570	7.050	30.879	0.705	3.088
CR-04	20.000	87.600	2.000	8.760	9.400	41.172	0.940	4.117
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	55.000	240.900	5.500	24.090	25.850	113.223	2.585	11.322

1b. Secondary and Tertiary Crushing

Secondary & Tertiary Crusher ID	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
CR-02	60.000	262.800	6.000	26.280	28.200	123.516	2.820	12.352
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	60.000	262.800	6.000	26.280	28.200	123.516	2.820	12.352

1c. Screening

Screen ID Number	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
SS-01	100.000	438.000	10.000	43.800	47.000	205.860	4.700	20.586
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	100.000	438.000	10.000	43.800	47.000	205.860	4.700	20.586

Crushing and Screening	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TOTAL	215.000	941.700	21.500	94.170	101.050	442.599	10.105	44.260

1. Emissions From CRUSHING AND SCREENING (Continued)

EMISSION FACTORS

source: Air Pollution Engineering Manual and References

(lb/ton of material throughput)

PM	
Primary Crushing	0.02
Tertiary Crushing	0.06
Screening	0.1

PM-10	
Primary Crushing	0.0094
Tertiary Crushing	0.0282
Screening	0.047

2. Emissions From TRANSFER POINTS

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP01	0.339	1.485	0.068	0.297	0.160	0.702	0.032	0.140
TP02	0.339	1.485	0.068	0.297	0.160	0.702	0.032	0.140
TP03	0.339	1.485	0.068	0.297	0.160	0.702	0.032	0.140
TP04	0.339	1.485	0.068	0.297	0.160	0.702	0.032	0.140
TP05	0.339	1.485	0.068	0.297	0.160	0.702	0.032	0.140
TP06	0.339	1.485	0.068	0.297	0.160	0.702	0.032	0.140
TP07	1.017	4.454	0.203	0.891	0.481	2.106	0.096	0.421
TP08	1.017	4.454	0.102	0.445	0.481	2.106	0.048	0.211
TP09	1.017	4.454	0.102	0.445	0.481	2.106	0.048	0.211
TP10	1.017	4.454	0.508	2.227	0.481	2.106	0.240	1.053
TP11	1.017	4.454	0.203	0.891	0.481	2.106	0.096	0.421
TP12	1.017	4.454	0.203	0.891	0.481	2.106	0.096	0.421
TP13	1.017	4.454	0.203	0.891	0.481	2.106	0.096	0.421
TP14	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP15	0.394	1.725	0.039	0.173	0.186	0.816	0.019	0.082
TP16	0.394	1.725	0.039	0.173	0.186	0.816	0.019	0.082
TP17	0.890	3.897	0.445	1.949	0.421	1.843	0.210	0.922
TP18	0.890	3.897	0.178	0.779	0.421	1.843	0.084	0.369
TP19	0.890	3.897	0.445	1.949	0.421	1.843	0.210	0.922
TP20	0.890	1.949	0.178	0.390	0.421	0.922	0.084	0.184
TP21	0.890	1.949	0.178	0.390	0.421	0.922	0.084	0.184
TP22	0.890	3.897	0.178	0.779	0.421	1.843	0.084	0.369
TP23	0.890	3.897	0.178	0.779	0.421	1.843	0.084	0.369
TP24	0.890	3.897	0.089	0.390	0.421	1.843	0.042	0.184
TP25	0.890	3.897	0.089	0.390	0.421	1.843	0.042	0.184
TP26	0.476	2.085	0.048	0.209	0.225	0.986	0.023	0.099
TP27	0.476	2.085	0.048	0.209	0.225	0.986	0.023	0.099
TP28	0.476	0.521	0.095	0.104	0.225	0.247	0.045	0.049
TP29	0.476	0.521	0.238	0.261	0.225	0.247	0.113	0.123
TP30	0.476	1.564	0.095	0.313	0.225	0.740	0.045	0.148
TP31	0.476	0.521	0.238	0.261	0.225	0.247	0.113	0.123
TP32	0.476	1.043	0.095	0.209	0.225	0.493	0.045	0.099
TP33	0.476	0.521	0.476	0.521	0.225	0.247	0.225	0.247
TP34	0.476	0.521	0.476	0.521	0.225	0.247	0.225	0.247
TP35	2.857	2.781	0.571	0.556	1.351	1.315	0.270	0.263
TP36	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP37	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP38	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP39	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP40	2.857	4.866	0.571	0.973	1.351	2.301	0.270	0.460
TP41	2.857	4.866	0.571	0.973	1.351	2.301	0.270	0.460
TP42	2.857	4.866	0.714	1.216	1.351	2.301	0.338	0.575
TP43	0.317	1.390	0.317	1.390	0.150	0.658	0.150	0.658
TP44	0.193	0.844	0.039	0.169	0.091	0.399	0.018	0.080
TP45	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP46	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP47	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP48	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP49	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP50	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP51	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP52	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200

2. *Emissions From TRANSFER POINTS (continued)*

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP53	0.193	0.844	0.193	0.844	0.091	0.399	0.091	0.399
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	47.721	115.111	11.889	29.467	22.571	54.445	5.623	13.937

Source:
AP42, Fifth Edition, Revised 11/2006
13.2.4 Aggregate Handling and Storage Piles

Emissions From Batch Drop

E = k*(0.0032) * [(U/5)^1.3]/[(M/2)^1.4] = pounds/ton

Where:

		PM	PM-10
k =	Particle Size Multiplier (dimensionless)	0.74	0.35
U =	Mean Wind Speed (mph)		
M =	Material Moisture Content (%)		

Assumptions:

k - Particle size multiplier
For PM (< or equal to 30um) k = 0.74
For PM-10 (< or equal to 10um) k = 0.35

Emission Factor
For PM E= $I$88*(0.0032)*((((Inputs!$I$72)/5)^1.3)/(((Inputs!G78+0.000000001)/2)^1.4)
=lb/ton

For PM-10 E= $J$88*(0.0032)*((((Inputs!$I$72)/5)^1.3)/(((Inputs!G78+0.000000001)/2)^1.4
=lb/ton

For lb/hr [lb/ton]*[ton/hr] = [lb/hr]

For Tons/year [lb/ton]*[ton/yr]*[ton/2000lb] = [ton/yr]

3. *Emissions From WIND EROSION OF STOCKPILES*

Stockpile ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
OS-01	0.696	3.050	0.174	0.763	0.327	1.434	0.082	0.358
OS-02	0.696	3.050	0.174	0.763	0.327	1.434	0.082	0.358
OS-03	0.568	2.490	0.142	0.622	0.267	1.170	0.067	0.293
OS-04	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
OS-05	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
OS-06	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
OS-07	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	3.326	14.566	0.831	3.642	1.563	6.846	0.391	1.712

Source:
Air Pollution Engineering Manual

Storage Pile Wind Erosion (Active Storage)

E = 1.7*[s/1.5]*[(365-p)/235]*[f/15] = (lb/day/acre)

Where:

s =	silt content of material
p =	number of days with >0.01 inch of precipitation per year
f =	percentage of time that the unobstructed wind speed
	exceeds 12 mph at the mean pile height

Emission Factors

For PM E=(1.7)*((Inputs!F147)/1.5)*((365-Inputs!I139)/235)*((Inputs!I140)/15)

For PM-10 E=0.47*(1.7)*((Inputs!F147)/1.5)*((365-Inputs!I139)/235)*((Inputs!I140)/15)

For lb/hr [lb/day/acre]*[day/24hr]*[base area of pile (acres)] = lb/hr

For Ton/yr [lb/day/acre]*[365day/yr]*[Ton/2000lb]*[base area of pile (acres)] = Ton/yr

4. Emissions From UNPAVED HAULROADS

Item No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	74.53	329.75	22.36	98.92	21.54	95.30	6.46	28.59
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	4.70	20.60	1.41	6.18	1.36	5.95	0.41	1.79
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	79.24	350.35	23.77	105.11	22.90	101.25	6.87	30.38

Source:
AP42, Fifth Edition, Revised 11/2006
13.2.2 Unpaved Roads

Emission Estimate For Unpaved Haulroads at Industrial Sites (equation 1)

E= k*((s/12)^a)*((W/3)^b) =lb/vmt

Where:

		PM	PM-10
k =	particle size multiplier	4.90	1.50
a =	empirical constant	0.7	0.9
b =	empirical constant	0.45	0.45

Emission Factors

For PM E= (($I$35)*(((Inputs!$I$163)/12)^($I$36))*(((Inputs!H171)/3)^$I$37))

For PM-10 E= (($J$35)*(((Inputs!$I$163)/12)^($J$36))*(((Inputs!H171)/3)^$J$37))

For lb/hr (lb/vmt)*(miles per trip)*(Max trips per hour)

For Ton/yr (lb/vmt)*(miles per trip)*(Max trips per year)*(1/2000)

5. Emissions From INDUSTRIAL PAVED HAULROADS

Item No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	71.42	315.97	21.43	94.79	13.85	61.26	4.15	18.38
2	35.71	157.98	10.71	47.40	6.92	30.63	2.08	9.19
3	14.88	65.83	4.46	19.75	2.88	12.76	0.87	3.83
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	122.00	539.78	36.60	161.93	23.65	104.65	7.10	31.39

Source:
AP42, Fifth Edition, Revised 11/2006
13.2.1 PAVED ROADS

Emission Estimate For Paved Haulroads

E = [k * (sL/2)^0.65 * (W/3)^1.5 - C] * (1 - (P/4*N) = lb / Vehicle Mile Traveled (VMT)

Where:

		PM	PM-10
k =	particle size multiplier	0.082	0.016
sL =	road surface silt loading, (g/ft^2)	1	
P =	number of days per year with precipitation >0.01 inch	157	
N =	number of days in averaging period	365	
C=	factor for exhaust, brake wear and tire wear	0.0047	0.0047

Emission Factors

For PM E= ($I$34*((($I$35)/2)^0.65)*((((Inputs!G190)/3)^1.5)-($I$38))*(1-((Inputs!I

For PM-10 E= ($J$34)*((($I$35)/2)^0.65)*((((Inputs!G190)/3)^1.5))-($I$38))*(1-((Inputs!$

For lb/hr (lb/vmt)*(miles per trip)*(Max trips per hour)

For Ton/yr (lb/vmt)*(miles per trip)*(Max trips per year)*(1/2000)

Legal Advertisement

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Black Castle Mining Company has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a General Permit Modification for a preparation plant and railcar loadout facility located on Route 3 near Peytona in Boone County, West Virginia. The location coordinates for the facility are: latitude 38.1190833 and longitude –81.691925.

The applicant estimates the increase in the potential to discharge the following Regulated Air Pollutants will be: particulate matter baseline emissions of 23 ton per year, point source emissions particulate matter less than 10 microns total of 11 ton per year, and a decrease in the controlled facility emission total of 614 ton per year. The applicant estimates the potential to discharge the following pollutants of particulate matter less than 10 microns will be: point source emissions particulate matter less than 10 microns total of 11 ton per year, and a controlled facility PM10 emission total of 311 ton per year.

Startup of operation is planned to begin April 15, 2018. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, WV 25304, for at least 30 calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.

Dated this the 21th day of February 2018

By: Black Castle Mining Company
Kenneth R. Marcum
Authorized Representative
696 Robinson Creek Road
Madison, WV 25130

ATTACHMENT K

ELECTRONIC SUBMITTAL DISK

SECTION IV. CERTIFICATION OF INFORMATION

This General Permit Registration Application shall be signed below by a Responsible Official. A Responsible Official is a President, Vice President, Secretary, Treasurer, General Partner, General Manager, a member of a Board of Directors, or Owner, depending on business structure. A business may certify an Authorized Representative who shall have authority to bind the Corporation, Partnership, Limited Liability Company, Association, Joint Venture or Sole Proprietorship. Required records of daily throughput, hours of operation and maintenance, general correspondence, Emission Inventory, Certified Emission Statement, compliance certifications and all required notifications must be signed by a Responsible Official or an Authorized Representative. If a business wishes to certify an Authorized Representative, the official agreement below shall be checked off and the appropriate names and signatures entered. Any administratively incomplete or improperly signed or unsigned Registration Application will be returned to the applicant.

FOR A CORPORATION (domestic or foreign)

G I certify that I am a President, Vice President, Secretary, Treasurer or in charge of a principal business function of the corporation

FOR A PARTNERSHIP

G I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

■ I certify that I am a General Partner or General Manager

FOR AN ASSOCIATION

G I certify that I am the President or a member of the Board of Directors

FOR A JOINT VENTURE

G I certify that I am the President, General Partner or General Manager

FOR A SOLE PROPRIETORSHIP

G I certify that I am the Owner and Proprietor

G

is an Authorized Representative and in that capacity shall represent the interest of the business (e.g., Corporation, Partnership, Limited Liability Company, Association Joint Venture or Sole Proprietorship) and may obligate and legally bind the business. If the business changes its Authorized Representative, a Responsible Official shall notify the Chief of the Office of Air Quality immediately, and/or,

I hereby certify that all information contained in this General Permit Registration Application and any supporting documents appended hereto is, to the best of my knowledge, true, accurate and complete, and that all reasonable efforts have been made to provide the most comprehensive information possible

Signature _____

(please use blue ink) Responsible Official Date

Name & Title: KENNETH R. MARCUM, AUTHORIZED AGENT

(please print or type)

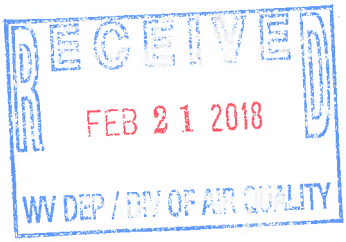
Signature Kenneth R. Marcum 2-8-18

(please use blue ink) Authorized Representative (if applicable) Date

Applicant's Name: BLACK CASTLE MINING COMPANY, LLC

Phone: 304-836-8180

Email: kmarcum@alphanr.com



BLACK CASTLE MINING COMPANY, LLC

TO

KENNETH R. MARCUM, II

APPOINTMENT OF AUTHORIZED AGENT

KNOW ALL MEN BY THESE PRESENTS, that Black Castle Mining Company, LLC, a limited liability company duly organized and existing under the laws of the State of West Virginia ("Company"), has made, constituted and appointed, and by these presents hereby makes, constitutes and appoints **Kenneth R. Marcum, II** ("Appointee") of the Town of Alum Creek, Kanawha County, in the State of West Virginia, to be its true and lawful Authorized Agent, who may act for it and in its name, and as and for its act and deed, (i) to sign, acknowledge for record, execute and deliver, in the ordinary and regular course of the Company's business, applications, revisions, amendments, reports, information and data certifications, performance bonds (including, but not limited to, reclamation bonds), notices, stipulations and other documents and instruments with respect to the acquisition, maintenance and administration of coal mining permits, licenses, authorizations and certifications, environmental permits, licenses, authorizations and certifications, and other permits, licenses, authorizations and certifications, issued or to be issued by state and federal regulatory agencies, including, but not limited to, the United States Army Corps of Engineers, the United States Environmental Protection Agency, the Mine Safety and Health Administration of the United States Department of Labor, the Office of Surface Mining Reclamation and Enforcement of the United States Department of the Interior, the West Virginia Department of Environmental Protection, and the West Virginia Office of Miners' Health, Safety & Training; and (ii) to do and perform any and all other proper acts and

things necessary to carry out the purposes relative thereto, including to sign, execute and deliver other similar instruments relating to or required in connection with the Company's lands, operations and permits, including reporting requirements regarding greenhouse gas (GHG) emissions associated with facilities and mines. This authority shall become effective on the 11th day of October, 2016, and shall expire on the 30th day of September, 2019, unless sooner revoked and shall automatically terminate if Appointee at any time during the term hereof becomes no longer employed by the Company or one of its affiliates. As of the Effective Date, any prior authorized agent or power of attorney appointment by Company to Appointee hereupon shall be null, void and of no further force and effect with respect to actions taken on or after the Effective Date, but authorized actions taken by Appointee before the Effective Date pursuant to any such prior authorized agent or power of attorney appointment shall not be affected.

IN TESTIMONY WHEREOF, Black Castle Mining Company, LLC, has caused these presents to be signed and acknowledged by its respective officer thereunto duly authorized, all as of the 11th day of October, 2016.

BLACK CASTLE MINING COMPANY, LLC

By _____
Andrew B. McCallister, Vice President and Secretary

STATE OF WEST VIRGINIA

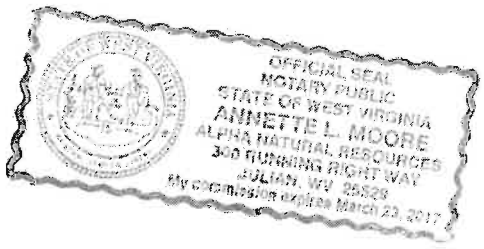
COUNTY OF BOONE, to-wit:

I, Annette L. Moore, a Notary Public in and for the State and County aforesaid, do hereby certify that Andrew B. McCallister, Vice President and Secretary of **BLACK CASTLE MINING COMPANY, LLC**, whose name as such is signed to the foregoing writing bearing date the 11th day of October, 2016, has this day, before me, in my said County, acknowledged the said writing.

Given under my hand and notarial seal this the 11th day of October, 2016.

My commission expires March 23, 2017.

Annette L. Moore
NOTARY PUBLIC



SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

PLEASE CHECK ALL ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

Please See the appropriate reference document for an explanation of the attachments listed below.

- ■ **ATTACHMENT A : CURRENT BUSINESS CERTIFICATE**
- ■ **ATTACHMENT B: PROCESS DESCRIPTION**
- ■ **ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS**
- ■ **ATTACHMENT D: PROCESS FLOW DIAGRAM**
- ■ **ATTACHMENT E: PLOT PLAN**
- ■ **ATTACHMENT F: AREA MAP**
- ■ **ATTACHMENT G: AFFECTED SOURCE SHEETS**
- ■ **ATTACHMENT H: BAGHOUSE AIR POLLUTION CONTROL DEVICE SHEET**
- ■ **ATTACHMENT I: EMISSIONS CALCULATIONS**
- ■ **ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT**
- ■ **ATTACHMENT K: ELECTRONIC SUBMITTAL DISKETTE**
- ■ **CERTIFICATION OF INFORMATION**
- ■ **APPLICATION FEE**

PLEASE MAIL AN ORIGINAL AND TWO COPIES OF THE COMPLETE GENERAL PERMIT REGISTRATION APPLICATION WITH THE SIGNATURE(S) TO THE DAQ PERMITTING SECTION AT THE ADDRESS SHOWN ON THE FRONT PAGE. PLEASE DO NOT FAX PERMIT APPLICATIONS. FOR QUESTIONS REGARDING APPLICATIONS OR WEST VIRGINIA AIR POLLUTION RULES AND REGULATIONS PLEASE CALL (304) 926-3727.

INPUTS

Include all information for each emission source and transfer point as listed in the permit application.

Name of applicant: Black Castle
Name of plant: Admiral Processing
Apr-16

1. CRUSHING AND SCREENING (including all primary and secondary crushers and screens)

1a. PRIMARY CRUSHING

Primary Crusher ID Number	Description	Maximum Material Processing Capacity TPH	Maximum Material Processing Capacity TPY	Control Device ID Number	Control Efficiency %
CR-01	Direct ship Crusher	1,000	8,760,000	FW	90
CR-02	Raw Coal Crusher	1,000	8,760,000	FW	90
CR-03	In Plant Clean Coal Crusher	750	6,570,000	FW	90
CR-04	Pick Breaker	300	2,628,000	FE	80

1b. SECONDARY AND TERTIARY CRUSHING

Secondary & Tertiary Crusher ID	Description	Maximum Material Processing Capacity TPH	Maximum Material Processing Capacity TPY	Control Device ID Number	Control Efficiency %

1c. SCREENING

Screen ID	Description	Maximum Material Processing Capacity TPH	Maximum Material Processing Capacity TPY	Control Device ID Number	Control Efficiency %
SS-01	Scalping Screen	1,000	8,760,000	FW	90

2. TRANSFER POINTS (including all conveyor transfer points, equipment transfer points etc.)

		PM	PM-10
k =	Particle Size Multiplier (dimensionless)	0.74	0.35
U =	Mean Wind Speed (mph)	7	

Transfer Point ID No.	Transfer Point Description Include ID Numbers of all conveyors, crushers, screens, stockpiles, etc. involved	Material Moisture Content %	Maximum Transfer Rate TPH	Maximum Transfer Rate TPY	Control Device ID Number	Control Efficiency %	
TP01	Truck to BS-01	5	1,000	8,760,000	UD-PW	85	
TP02	BS-01 to BC-01	5	500	2,920,000	TC-FE	80	
TP03	Truck to BS-02	5	500	2,920,000	UD-PW	85	
TP04	BS-02 to BC-01	5	500	2,920,000	TC-FE	80	
TP05	Truck to BS-03	5	500	2,920,000	UD-PW	85	
TP06	BS-03 to BC-01	5	500	2,920,000	TC-FE	80	
TP07	BC-01 to SS-01	5	1,000	8,760,000	TC-FE	80	
TP08	SS-01 to CR-01	5	1,000	8,760,000	TC-FW	90	
TP09	CR-01 to BC-02	5	1,000	8,760,000	TC-FW	90	
TP10	BC-02 to OS-01	5	1,000	8,760,000	TC-PE	50	
TP11	ROM to BC-03 Raw Deep Mine	6	1,000	8,760,000	TC-FE	80	
TP12	BC-03 to BC-04	6	1,000	8,760,000	TC-PE	50	
TP13	BC-04 to OS-02	6	1,000	4,380,000	TC-PE	50	
TP14	BC-04 to BC-05	6	1,000	4,380,000	TC-FE	80	
TP15	BC-05 to OS-03	6	1,000	4,380,000	TC-PE	50	
TP16	OS-02 to BC-06	6	1,000	4,380,000	LO-UC	80	
TP17	OS-03 to BC-06	6	1,000	4,380,000	LO-UC	80	
TP18	BC-06 to BC-07	6	1,000	8,760,000	TC-FE	80	
TP19	BC-07 to CR-02	6	1,000	8,760,000	TC-FE	80	
TP20	CR-02 to BC-08	6	1,000	8,760,000	TC-FW	90	
TP21	BC-08 to Plant	6	1,000	8,760,000	TC-FW	90	
TP22	Plant to CR-03 Clean Coal	7	750	6,570,000	TC-FW	90	
TP23	CR-03 to BC-09	7	750	6,570,000	TC-FW	90	
TP24	BC-09 to BC-10	7	750	1,642,500	TC-FE	80	
TP25	BC-10 to OS-04	7	750	1,642,500	TC-PE	50	
TP26	BC-09 to BC-11	7	750	4,927,500	TC-FE	80	
TP27	BC-11 to OS-06	7	750	1,642,500	TC-PE	50	
TP28	BC-11 to BC-12	7	750	3,285,000	TC-FE	80	
TP29	BC-12 to OS-05	7	750	1,642,500	TC-MDH	0	
TP30	BC-12 to OS-07	7	750	1,642,500	TC-MDH	0	
TP31	OS-01 to BC-13	7	4,500	8,760,000	LO-UC	80	
TP32	OS-04 to BC-13	7	4,500	1,642,500	LO-UC	80	
TP33	OS-05 to BC-13	7	4,500	1,642,500	LO-UC	80	
TP34	OS-06 to BC-13	7	4,500	1,642,500	LO-UC	80	
TP35	OS-07 to BC-13	7	4,500	1,642,500	LO-UC	80	
TP36	BC-13 to BS-04	7	4,500	15,330,000	TC-FE	80	
TP37	BS-04 to BS-05	7	4,500	15,330,000	TC-FE	80	
TP38	BS-05 to Railcar	7	4,500	15,330,000	LR-TC	75	
TP39	Plant to BC-14 Refuse	10	500	4,380,000	TC-FE	80	
TP40	BC-14 to BC-15	10	500	4,380,000	TC-PE	50	
TP41	BC-15 to BC-16	10	500	4,380,000	TC-PE	50	
TP42	BC-16 to BC-17	10	500	4,380,000	TC-PE	50	
TP43	BC-17 to BC-18	10	500	4,380,000	TC-PE	50	
TP44	BC-18 to BC-19	10	500	4,380,000	TC-MDH	0	
TP45	BC-19 to Disposal Area	10	500	4,380,000	TC-MDH	0	
TP46	Truck to RC Area	5	57	500,000	UL-MDH	0	
TP47	BS-05 to Truck	7	228	2,000,000	LO-FC	0	**Change 2-15**
	Modification May 2013						
TP-48	Truck to BS-06	5	300	2,628,000	TC-PW	80	
TP-49	BS-06 to CR-04	5	300	2,628,000	TC-FE	80	**Change 2-15**
TP-50	CR-04 to BC-20	5	300	2,628,000	TC-FE	80	**Change 2-15**
	Modification October 2013						
TP-51	BS-01 to BC-21	5	1,000	8,760,000	TC-FE	80	
TP-52	BC-21 to BC-07	5	1,000	8,760,000	TC-FE	80	

TP-53	BC-20 to BC-03	5	300	2,628,000	TC-FE	80	
TP-54	CR-04 to BC-22	5	300	2,628,000	TC-FE	80	proposed
TP-55	BC-22 to BC-07	5	300	2,628,000	TC-FE	80	proposed

3. WIND EROSION OF STOCKPILES *(including all stockpiles of raw coal, clean coal, coal refuse, etc.)*

p =	number of days per year with precipitation >0.01 inch	157
f =	percentage of time that the unobstructed wind speed exceeds 12 mph at the mean pile height	20

Source ID No.	Stockpile Description	Silt Content of Material %	Stockpile base area Max. sqft	Control Device ID Number	Control Efficiency %
OS-01	Raw Coal Stockpile	5	108,869	SW-WS	75
OS-02	Raw Coal Stockpile	5	108,869	SW-WS	75
OS-03	Direct Ship Stockpile	5	88,869	SW-WS	75
OS-04	Met Clean Coal	3	88,869	SW-WS	75
OS-05	Clean Coal Stockpile	3	88,869	SW-WS	75
OS-06	Clean Coal Stockpile	3	88,869	SW-WS	75
OS-07	Clean Coal Stockpile	3	88,869	SW-WS	75

4. UNPAVED HAULROADS *(including all equipment traffic involved in process, haul trucks, endloaders, etc.)*

s =	silt content of road surface material (%)	9
p =	number of days per year with precipitation >0.01 inch	157
M_{dry} =	surface material moisture content (%) - dry conditions	0.2

Item Number	Description		Number of wheels	Mean Vehicle Weight(tons)	Mean Vehicle Speed (mph)	Miles per Trip	Maximum Trips Per Hour	Maximum Trips Per Year	Control Device ID Number	Control Efficiency %
1	Raw Trucks In - change	8,760,000	18	50	15	1	20	175,200	HR-WS	70
2	Dship In	8,760,000	18	50	15	1	20	175,200	HR-WS	70
3										
4	Dozers	4,380,000	4	30	5	0.01	16.66	146,000	HR-WS	70
5	RC In proposed	2,628,000	18	50	15	1	6	52,560	HR-WS	70
6										
7	CC Out from rail	2,000,000	18	50	15	0.5	4.56	40,000	HR-WS	70
8										

5. INDUSTRIAL PAVED HAULROADS *(including all equipment traffic involved in process, haul trucks, endloaders, etc.)*

sL =	road surface silt loading, (g/ft^2)	1
P =	number of days per year with precipitation >0.01 inch	157

Item Number	Description	Mean Vehicle Weight (tons)	Miles per Trip	Maximum Trips Per Hour	Maximum Trips Per Year	Control Device ID Number	Control Efficiency %
1							
2							
3							
4							
5							
6							
7							
8							

EMISSIONS SUMMARY

Name of applicant: Black Castle
Name of plant: Admiral Processing

Particulate Matter or PM (for 45CSR14 Major Source Determination)

	Uncontrolled PM		Controlled PM	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	3.33	14.57	0.83	3.64
Unpaved Haulroad Emissions	687.90	3,013.21	206.37	903.96
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	**691.23**	**3,027.78**	**207.20**	**907.61**
POINT SOURCE EMISSIONS				
Equipment Emissions	161.00	705.18	16.70	73.15
Transfer Point Emissions	48.84	111.58	12.12	27.82
Point Source Emissions Total*	**209.84**	**816.76**	**28.82**	**100.96**
Facility Emissions Total	**901.07**	**3,844.54**	**236.02**	**1,008.57**

*Note: Point Source Total Controlled PM TPY emissions is used for 45CSR14 Major Source determination (see below)

***Facility Potential to Emit (PTE) (Baseline Emissions) = 100.96**

(Based on Point Source Total controlled PM TPY emissions from above) ENTER ON LINE 26 OF APPLICATION

Particulate Matter under 10 microns, or PM-10 (for 45CSR30 Major Source Determination)

	Uncontrolled PM-10		Controlled PM-10	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	1.56	6.85	0.39	1.71
Unpaved Haulroad Emissions	198.81	870.84	59.64	261.25
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	**200.37**	**877.68**	**60.03**	**262.96**
POINT SOURCE EMISSIONS				
Equipment Emissions	75.67	331.43	7.85	34.38
Transfer Point Emissions	23.10	52.78	5.73	13.16
Point Source Emissions Total*	**98.77**	**384.21**	**13.58**	**47.54**
Facility Emissions Total	**299.14**	**1,261.90**	**73.61**	**310.50**

*Note: Point Source Total Controlled PM-10 TPY emissions is used for 45CSR30 Major Source determination

1. Emissions From CRUSHING AND SCREENING

1a. Primary Crushing

Primary Crusher ID Number	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
CR-01	20.000	87.600	2.000	8.760	9.400	41.172	0.940	4.117
CR-02	20.000	87.600	2.000	8.760	9.400	41.172	0.940	4.117
CR-03	15.000	65.700	1.500	6.570	7.050	30.879	0.705	3.088
CR-04	6.000	26.280	1.200	5.256	2.820	12.352	0.564	2.470
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	61.000	267.180	6.700	29.346	28.670	125.575	3.149	13.793

1b. Secondary and Tertiary Crushing

Secondary & Tertiary Crusher ID	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

1c. Screening

Screen ID Number	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
SS-01	100.000	438.000	10.000	43.800	47.000	205.860	4.700	20.586
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	100.000	438.000	10.000	43.800	47.000	205.860	4.700	20.586

Crushing and Screening	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TOTAL	161.000	705.180	16.700	73.146	75.670	331.435	7.849	34.379

1. Emissions From CRUSHING AND SCREENING (Continued)

EMISSION FACTORS

source: Air Pollution Engineering Manual and References

(lb/ton of material throughput)

PM	
Primary Crushing	0.02
Tertiary Crushing	0.06
Screening	0.1

PM-10	
Primary Crushing	0.0094
Tertiary Crushing	0.0282
Screening	0.047

4. Emissions From UNPAVED HAULROADS

Item No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	284.18	1244.73	85.26	373.42	82.13	359.73	24.64	107.92
2	284.18	1244.73	85.26	373.42	82.13	359.73	24.64	107.92
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	1.88	8.24	0.56	2.47	0.54	2.38	0.16	0.71
5	85.26	373.42	25.58	112.03	24.64	107.92	7.39	32.38
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	32.40	142.09	9.72	42.63	9.36	41.07	2.81	12.32
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	687.90	3013.21	206.37	903.96	198.81	870.84	59.64	261.25

Source:
AP42, Fifth Edition, Revised 11/2006
13.2.2 Unpaved Roads

Emission Estimate For Unpaved Haulroads at Industrial Sites (equation 1)

E= k*((s/12)^a)*((W/3)^b) =lb/vmt

Where:

		PM	PM-10
k =	particle size multiplier	4.90	1.50
a =	empirical constant	0.7	0.9
b =	empirical constant	0.45	0.45

Emission Factors

For PM E= (($I$35)*(((Inputs!$I$163)/12)^($I$36))*(((Inputs!H171)/3)^$I$37))

For PM-10 E= (($J$35)*(((Inputs!$I$163)/12)^($J$36))*(((Inputs!H171)/3)^$J$37))

For lb/hr (lb/vmt)*(miles per trip)*(Max trips per hour)

For Ton/yr (lb/vmt)*(miles per trip)*(Max trips per year)*(1/2000)

5. Emissions From INDUSTRIAL PAVED HAULROADS

Item No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Source:
AP42, Fifth Edition, Revised 11/2006
13.2.1 PAVED ROADS

Emission Estimate For Paved Haulroads

E = [k * (sL/2)^0.65 * (W/3)^1.5 - C] * (1 - (P/4*N) = lb / Vehicle Mile Traveled (VMT)

Where:

		PM	PM-10
k =	particle size multiplier	0.082	0.016
sL =	road surface silt loading, (g/ft^2)	1	
P =	number of days per year with precipitation >0.01 inch	157	
N =	number of days in averaging period	365	
C=	factor for exhaust, brake wear and tire wear	0.0047	0.0047

Emission Factors

For PM E= ($I$34*((($I$35)/2)^0.65)*(((Inputs!G190)/3)^1.5)-($I$38))*(1-((Inputs!I

For PM-10 E= ($J$34)*((($I$35)/2)^0.65)*(((Inputs!G190)/3)^1.5))-($I$38))*(1-((Inputs!$

For lb/hr (lb/vmt)*(miles per trip)*(Max trips per hour)

For Ton/yr (lb/vmt)*(miles per trip)*(Max trips per year)*(1/2000)

2. Emissions From TRANSFER POINTS

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP01	1.017	4.454	0.153	0.668	0.481	2.106	0.072	0.316
TP02	0.508	1.485	0.102	0.297	0.240	0.702	0.048	0.140
TP03	0.508	1.485	0.076	0.223	0.240	0.702	0.036	0.105
TP04	0.508	1.485	0.102	0.297	0.240	0.702	0.048	0.140
TP05	0.508	1.485	0.076	0.223	0.240	0.702	0.036	0.105
TP06	0.508	1.485	0.102	0.297	0.240	0.702	0.048	0.140
TP07	1.017	4.454	0.203	0.891	0.481	2.106	0.096	0.421
TP08	1.017	4.454	0.102	0.445	0.481	2.106	0.048	0.211
TP09	1.017	4.454	0.102	0.445	0.481	2.106	0.048	0.211
TP10	1.017	4.454	0.508	2.227	0.481	2.106	0.240	1.053
TP11	0.788	3.450	0.158	0.690	0.373	1.632	0.075	0.326
TP12	0.788	3.450	0.394	1.725	0.373	1.632	0.186	0.816
TP13	0.788	1.725	0.394	0.863	0.373	0.816	0.186	0.408
TP14	0.788	1.725	0.158	0.345	0.373	0.816	0.075	0.163
TP15	0.788	1.725	0.394	0.863	0.373	0.816	0.186	0.408
TP16	0.788	1.725	0.158	0.345	0.373	0.816	0.075	0.163
TP17	0.788	1.725	0.158	0.345	0.373	0.816	0.075	0.163
TP18	0.788	3.450	0.158	0.690	0.373	1.632	0.075	0.326
TP19	0.788	3.450	0.158	0.690	0.373	1.632	0.075	0.326
TP20	0.788	3.450	0.079	0.345	0.373	1.632	0.037	0.163
TP21	0.788	3.450	0.079	0.345	0.373	1.632	0.037	0.163
TP22	0.476	2.085	0.048	0.209	0.225	0.986	0.023	0.099
TP23	0.476	2.085	0.048	0.209	0.225	0.986	0.023	0.099
TP24	0.476	0.521	0.095	0.104	0.225	0.247	0.045	0.049
TP25	0.476	0.521	0.238	0.261	0.225	0.247	0.113	0.123
TP26	0.476	1.564	0.095	0.313	0.225	0.740	0.045	0.148
TP27	0.476	0.521	0.238	0.261	0.225	0.247	0.113	0.123
TP28	0.476	1.043	0.095	0.209	0.225	0.493	0.045	0.099
TP29	0.476	0.521	0.476	0.521	0.225	0.247	0.225	0.247
TP30	0.476	0.521	0.476	0.521	0.225	0.247	0.225	0.247
TP31	2.857	2.781	0.571	0.556	1.351	1.315	0.270	0.263
TP32	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP33	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP34	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP35	2.857	0.521	0.571	0.104	1.351	0.247	0.270	0.049
TP36	2.857	4.866	0.571	0.973	1.351	2.301	0.270	0.460
TP37	2.857	4.866	0.571	0.973	1.351	2.301	0.270	0.460
TP38	2.857	4.866	0.714	1.216	1.351	2.301	0.338	0.575
TP39	0.193	0.844	0.039	0.169	0.091	0.399	0.018	0.080
TP40	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP41	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP42	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP43	0.193	0.844	0.096	0.422	0.091	0.399	0.046	0.200
TP44	0.193	0.844	0.193	0.844	0.091	0.399	0.091	0.399
TP45	0.193	0.844	0.193	0.844	0.091	0.399	0.091	0.399
TP46	0.058	0.254	0.058	0.254	0.027	0.120	0.027	0.120
TP47	0.145	0.635	0.145	0.635	0.068	0.300	0.068	0.300
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TP-48	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-49	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126

2. *Emissions From TRANSFER POINTS (continued)*

Transfer Point ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TP-50	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TP-51	1.017	4.454	0.203	0.891	0.481	2.106	0.096	0.421
TP-52	1.017	4.454	0.203	0.891	0.481	2.106	0.096	0.421
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TP-53	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TP-54	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-55	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	48.845	111.585	12.117	27.818	23.102	52.776	5.731	13.157

Source:
AP42, Fifth Edition, Revised 11/2006
13.2.4 Aggregate Handling and Storage Piles

Emissions From Batch Drop

E = k*(0.0032) * [(U/5)^1.3]/[(M/2)^1.4] = pounds/ton

Where:

		PM	PM-10
k =	Particle Size Multiplier (dimensionless)	0.74	0.35
U =	Mean Wind Speed (mph)		
M =	Material Moisture Content (%)		

Assumptions:

k - Particle size multiplier
For PM (< or equal to 30um) k = 0.74
For PM-10 (< or equal to 10um) k = 0.35

Emission Factor
For PM E= $I$88*(0.0032)*((((Inputs!$I$72)/5)^1.3)/(((Inputs!G78+0.000000001)/2)^1.4)
=lb/ton

For PM-10 E= $J$88*(0.0032)*((((Inputs!$I$72)/5)^1.3)/(((Inputs!G78+0.000000001)/2)^1.4
=lb/ton

For lb/hr [lb/ton]*[ton/hr] = [lb/hr]

For Tons/year [lb/ton]*[ton/yr]*[ton/2000lb] = [ton/yr]

3. *Emissions From WIND EROSION OF STOCKPILES*

Stockpile ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
OS-01	0.696	3.050	0.174	0.763	0.327	1.434	0.082	0.358
OS-02	0.696	3.050	0.174	0.763	0.327	1.434	0.082	0.358
OS-03	0.568	2.490	0.142	0.622	0.267	1.170	0.067	0.293
OS-04	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
OS-05	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
OS-06	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
OS-07	0.341	1.494	0.085	0.373	0.160	0.702	0.040	0.176
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	3.326	14.566	0.831	3.642	1.563	6.846	0.391	1.712

Source:
Air Pollution Engineering Manual

Storage Pile Wind Erosion (Active Storage)

E = 1.7*[s/1.5]*[(365-p)/235]*[f/15] = (lb/day/acre)

Where:

s =	silt content of material
p =	number of days with >0.01 inch of precipitation per year
f =	percentage of time that the unobstructed wind speed
	exceeds 12 mph at the mean pile height

Emission Factors

For PM E=(1.7)*((Inputs!F147)/1.5)*((365-Inputs!I139)/235)*((Inputs!I140)/15)

For PM-10 E=0.47*(1.7)*((Inputs!F147)/1.5)*((365-Inputs!I139)/235)*((Inputs!I140)/15)

For lb/hr [lb/day/acre]*[day/24hr]*[base area of pile (acres)] = lb/hr

For Ton/yr [lb/day/acre]*[365day/yr]*[Ton/2000lb]*[base area of pile (acres)] = Ton/yr