312 Justice Avenue
Logan, WV 25601

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

October 4, 2016

RECEIVED
OCT 11 2016
WV DEP / DIV OF AIR QUALITY

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

RE: Raven Crest Contracting LLC
General Permit Modification
ID#005-00075

Dear Mr. Durham:

On behalf of Raven Crest Contracting LLC, I am submitting the enclosed General Permit Modification Application for the Bull Creek Preparation Plant Facility for your review and approval. Additional application copies and the submittal fee of $1500 are also being submitted.

The application addresses addition of one refuse filter press belt conveyor and a change in the control for the raw coal screen from fully enclosed with water to partially enclosed with water.

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

donnatoler@suddenlink.net

TABLE OF CONTENTS

	General Permit Application
Section A	Current Business Certificate
Section B	Process Description
Section C	Description of Fugitive Emissions
Section D	Process Flow Diagram
Section E	Plot or Site Plan
Section F	Area Map
Section G	Affected Source Sheets
Section H	Baghouse Information
Section I	Emission Calculations
Section J	Class I Legal Advertisement
Section K	Electronic Submittal Diskette
Section L	Certification
Section M	Check List
Section N	2013 Calculations

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th St East
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. #* _____
PERMIT # _____ *PERMIT WRITER:* _____

CHECK WHICH TYPE OF GENERAL PERMIT REGISTRATION YOU ARE APPLYING FOR:

■ **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**

RECEIVED
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SECTION I. GENERAL INFORMATION

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):
RAVEN CREST CONTRACTING LLC

2. FEDERAL EMPLOYER ID NO. **(FEIN):**
26-1153865

3. APPLICANT'S MAILING ADDRESS:
1295 ASHFORD HILL ROAD
ASHFORD, WV 25009

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

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** .

SEE 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:
Change control on raw coal screen SS-01 from FW to PW and add one filter press belt conveyor to discharge onto existing belt conveyor BC-09.	**1221/1222**

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):
005-00075	**G10-C047E**

PRIMARY OPERATING SITE INFORMATION

11A. NAME OF PRIMARY OPERATING SITE:	12A. MAILING ADDRESS OF PRIMARY OPERATING SITE:
Bull Creek Preparation Plant Facility	**SAME AS PERMITTEE**

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: **Lease on file with Penn Virginia**

➪ 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.***

➪

US Route 119 South, turn onto State Route 3 and proceed toward Foster; about 2 miles east of Foster turn onto County Route 1 and travel approximately 7 miles toward Ashford; cross Big Coal River, turn left onto County Route 1/1 and travel approximately 2 miles, turn right onto Bull Creek Road and travel approximately 1.5 miles and the facility will be on the right.

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

15A. NEAREST CITY OR TOWN:	16A. COUNTY:
Ashford	**Boone**

17A. UTM NORTHING (KM):	18A. UTM EASTING (KM):	19A. UTM ZONE:
4228.36	**438.83**	**17**

1ST *ALTERNATE OPERATING SITE INFORMATION*

11B. NAME OF PRIMARY OPERATING SITE:	12B. MAILING ADDRESS OF PRIMARY OPERATING SITE:
_____	_____
_____	_____

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:
_____	_____
_____	_____

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: **Upon Permit Approval** ➪ 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: **Upon permit approval**

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**

State of West Virginia

Certificate

I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

RAVEN CREST CONTRACTING, LLC

has met the requirements for reinstatement of their organization as required by the West Virginia Code.

Therefore, I hereby issue this

CERTIFICATE OF REINSTATEMENT

Given under my hand and the Great Seal of the State of West Virginia on this day of August 17, 2016

Natalie E Tennant

Secretary of State

Natalie E. Tennant
West Virginia Secretary of State
1900 Kanawha Blvd. East
Bldg. 1, Suite 157-K
Charleston, WV 25305

FILED
AUG 17 2016
IN THE OFFICE OF
WV SECRETARY OF STATE

Penney Barker, Manager
Business & Licensing Division
Tel: (304)558-8000
Fax: (304)558-8381
Website: www.wvsos.com
E-mail: business@wvsos.com

Office Hours: Monday - Friday
8:30 a.m. - 5:00 p.m. EST

FILE ONE ORIGINAL
(Two if you want a filed stamped copy returned to you.)

FILING FEE: See fees below.

WEST VIRGINIA APPLICATION FOR REINSTATEMENT OF REVOKED OR ADMINISTRATIVELY DISSOLVED LIMITED LIABILITY COMPANY

****** In accordance with West Virginia Code, the undersigned organization adopts the following ******
Articles of Reinstatement of its Limited Liability Company.

1. The name of the organization is: Raven Crest Contracting, LLC

2. Date of revocation or administrative dissolution by the WV Office of Secretary of State: Nov 1, 2015

3. **Read the following statements and check the boxes accordingly** (Be sure you have **met ALL the requirements below** to reinstate **before** submitting your application to avoid it being rejected and returned to you as incomplete.):

☒ The organization states that the reason for revocation or dissolution has been eliminated and that the name satisfies the name requirements as required in the West Virginia Code (*this box must be checked*).

☒ **REQUIRED** - The organization has obtained a **Statement of Good Standing** from the **West Virginia Tax Department**, which recites that all taxes owed by the company have been paid, **AND** the **Statement, or a copy of the Statement, is hereby attached to this application for reinstatement.** Your application will be REJECTED and RETURNED to you as incomplete if the statement is not included with this application. You may obtain the letter of good standing by contacting:

Company name beginning with letters:	Contact Name	Contact Number
A through **I**	Billie Kozak	(304) 558-0678
J through **Q**	Anita Leaptrot	(304) 558-8695
R through **Z**	Nadine Walker	(304) 558-0659

☒ **REQUIRED** - Attached is the **annual report** required to be filed by the company. **The report MUST BE SIGNED.**

☒ All organizations, except *Limited Liability Partnerships*: Must include with the reinstatement documents a payment of $25 for the reinstatement application fee, a late fee of $50 (for a profit organization) or $25 (for a non-profit organization), plus $25 for the delinquent annual report fee that is being submitted. *Each year an annual report is due by* ***June 30th***.

- **For profit** total amount = **$100**
- **Non-profit** total amount = **$75**

Total Amount Enclosed: $ 100

Contact name and number of person to reach in case of problem with filing (*optional, however, listing one may help to avoid a rejection of filing if there appears to be a problem with the document*):

Name: E. Forrest Jones, Jr. Phone: +1 (304) 343-9466

Signature of person executing document (see below **Important Legal Notice Regarding Signature*):

Signature: **Title:** Attorney **Date:** Aug 17, 2016

Important Legal Notice Regarding Signature: Per **West Virginia Code §31B-2-209. Liability for false statement in filed record.** If a record authorized or required to be filed under this chapter contains a false statement, one who suffers loss by reliance on the statement may recover damages for the loss from a person who signed the record or caused another to sign it on the person's behalf and knew the statement to be false at the time the record was signed.

Important Note: This form is a public document. Please **DO NOT provide any personal identifiable information on this form** such as social security numbers, bank account numbers, credit card numbers, tax identification or driver's license numbers.

Annual Report for filing year 2016 **(enter the CURRENT calendar year) for Limited Liability Companies**
(per WV Code **59-1-2a**)

Important Note: This form is a public document. Please **DO NOT provide any personal identifiable information on this form** such as social security numbers, bank account numbers, credit card numbers, tax identification or driver's license numbers.

1. **Name of the Organization:** Raven Crest Contracting, LLC
2. **Incorporation or Qualification Date:** Mar 6, 2006 **In which state:** West Virginia
3. **County:** Boone **County Code:** ____ **Business Class Code:** ____ (If you do not know the codes, you may leave this section blank.)
4. **Principal Office Address:**
   Address 1: 1295 Ashford Hill Road
   Address 2:
   City: Ashford State: WV Zip Code: 25009
5. **Principal Mailing Address:**
   Address 1: P.O. Box 255
   Address 2:
   City: Foster State: WV Zip Code: 25081
6. **Name and Mailing Address of person (agent) to whom notice of legal process may be sent, if any:**
   Name: E. Forrest Jones, Jr.
   Address 1: P.O. Box 1989
   Address 2:
   City: Charleston State: WV Zip Code: 25327

   *If new agent, furnish **new agent's signature:**
7. **Business E-mail Address** where business correspondence may be sent: MCastle@xinergycorp.com
8. **Website address** of the business, if any (*ex: yourdomainname.com*): www.xinergycorp.com
9. **Total number of employees:** 76
10. **Total number of West Virginia residents:** 72
11. Is this a **minority owned business?** ☐ Yes ☐ No ☒ **Decline to answer**
12. Is this a **woman owned business?** ☐ Yes ☐ No ☒ **Decline to answer**
13. Do you **own or operate more than one business in West Virginia?** ☐ Yes * *Answer a. and b. below.* ☐ No ☒ **Decline to answer**
    If "**Yes**"... a. How many businesses? ____ b. Located in how many West Virginia counties? ____
14. **Veteran Employees and Veteran Owner Information:**
    a. Does your organization **employ individuals who are United States Armed Forces veterans?** ☐ Yes* ☐ No ☒ **Decline to answer**
    * If "**Yes**," enter the total number of veterans it employs. ____
    b. Is(Are) the **owner(s) of the organization a United States Armed Forces veteran(s)?** ☐ Yes ☐ No ☒ **Decline to answer**

****** IMPORTANT ****** In the following sections (items #15 OR #16), answer ONLY the item which applies to your ..tity type, either **MEMBER-MANAGED OR MANAGER-MANAGED**, NOT BOTH. If you are unsure which type ..e LLC is registered as, please contact the West Virginia Secretary of State's Office Business and Licensing Division for further assistance at 1-877-826-2954 or 304-558-8000 to determine its management structure.

15. **MEMBER Information:** Complete this section **ONLY** if you were set up as a **MEMBER-managed company**. List the name and address of each member having signature authority to sign filings (attach additional page if necessary):

Member Name	No. & Street Address	City	State	Zip Code

... OR ...

16. **MANAGER Information:** Complete this section **ONLY** if you were set up as a **MANAGER-managed company**. List the name and address of each manager having signature authority to sign filings (attach additional page if necessary):

Manager Name	No. & Street Address	City	State	Zip Code
Michael R. Castle	1295 Ashford Hill Road	Ashford	WV	25009

17. **REPORT MUST BE SIGNED for the organization by a: (1) MEMBER of a member-managed company OR (2) a MANAGER of a manager-managed company.**

Signature: Michael R. Castle **Date:** Aug 17, 2016

Title/Capacity of signer: Manager **Phone:** +1 (865) 474-7000

STATE OF WEST VIRGINIA
State Tax Department, Taxpayer Services Division
P. O. Box 885
Charleston, WV 25323-0885

Earl Ray Tomblin, Governor
Mark W. Matkovich, Tax Commissioner

SARAH SHARP
RAVEN CREST CONTRACTING LLC
8351 E WALKER SPRINGS LN STE 400
KNOXVILLE TN 37923-3151

Letter Id: L0323059520
Issued: 08/16/2016

West Virginia State Tax Department

Statement of Good Standing

EFFECTIVE DATE: August 16, 2016

A review of tax accounts indicates that the above named taxpayer is in good standing as of the effective date of this document.

The issuance of this Statement of Good Standing shall not bar any audits, investigations, assessments, refund or credits with respect to the taxpayer named above and is based only on a review of the tax returns and not on a physical audit of records.

Sincerely,

Nicole Grant

Nicole Grant, Tax Unit Supervisor
Taxpayer Services Division

atL103 v.20

ATTACHMENT B

DETAILED PROCESS DESCRIPTION

The Bull Creek Preparation Plant Facility is located in a remote area of Ashford, Boone County.

Raw coal will be delivered by truck to open stockpile OS-01(SW-WS) @ TP-01(UL-MDH); transfer by front-end loader to bin BS-01(PW) @ TP-02(UD-PW); to belt BC-01(PE) @ TP-03(TC-FE); and to screen SS-01(PW) @ TP-04(TC-PW). Coal from screen SS-01 can discharge directly to belt BC-02(PE) @ TP-05(TC-PW) or transfer to crusher CR-01(FW) @ TP-06(TC-FW). Belt BC-02 @ TP-07(TC-FW) transfers material to the plant and thru raw coal screen SS-02(FW) @ TP-08(TC-FW) for the wet wash @ TP-09(TC-FW).

Bin BS-01 had not been constructed at this time – the front-end loader is transferring to a feeder with water which transfers to belt BC-01.

Plant clean coal will transfer from the plant @ TP-10(TC-FW) onto belt BC-03(PE) and to stockpile OS-02(SW-WS) @ TP-11(TC-MDH).

Direct ship clean coal will be delivered to a three-sided truck dump bin BS-02(PW) @ TP-12(UD-PW); go to belt BC-04(PE) @ TP-13(TC-FE); and to screen SS-03(FW) @ TP-14(TC-FW). Screened coal can either go directly to belt BC-05(PE) @ TP-15(TC-FW) or transfer to crusher CR-02(FW) @ TP-16(TC-FW); and then to belt BC-05 @ TP-

17(TC-FW). Belt conveyors BC-05 and BC-06(PE) will transfer the material to open stockpile OS-02(SW-WS) @ TP-18(TC-FE) and TP-19(TC-MDH). Belt conveyor BC-07(PE) will reclaim clean coal from stockpile OS-02 @ TP-20(LO-UC); transfer to belt conveyor BC-08(PE) @ TP-21(TC-FE); go thru the rail surge bin BS-03(FE) and the loadout weigh bin BS-04(FE) to railcar @ TP-22(TC-FE), TP-23(TC-FE) and TP-24(LR-TC).

Plant refuse will exit the plant on belt conveyor BC-09(PE) @ TP-25(TC-FW); to refuse bin BS-05(FE) @ TP-26(TC-FE); to truck @ TP-27(LO-MDH); and to the disposal area @ TP-28(UL-MDH).

Raven Crest proposes to install a refuse filter press belt identified as BC-10 (NC) that will exit the plant at TP-29(TC-FW) and transfer to the existing refuse belt BC-09 @ TP-30(TC-PE).

ATTACHMENT C

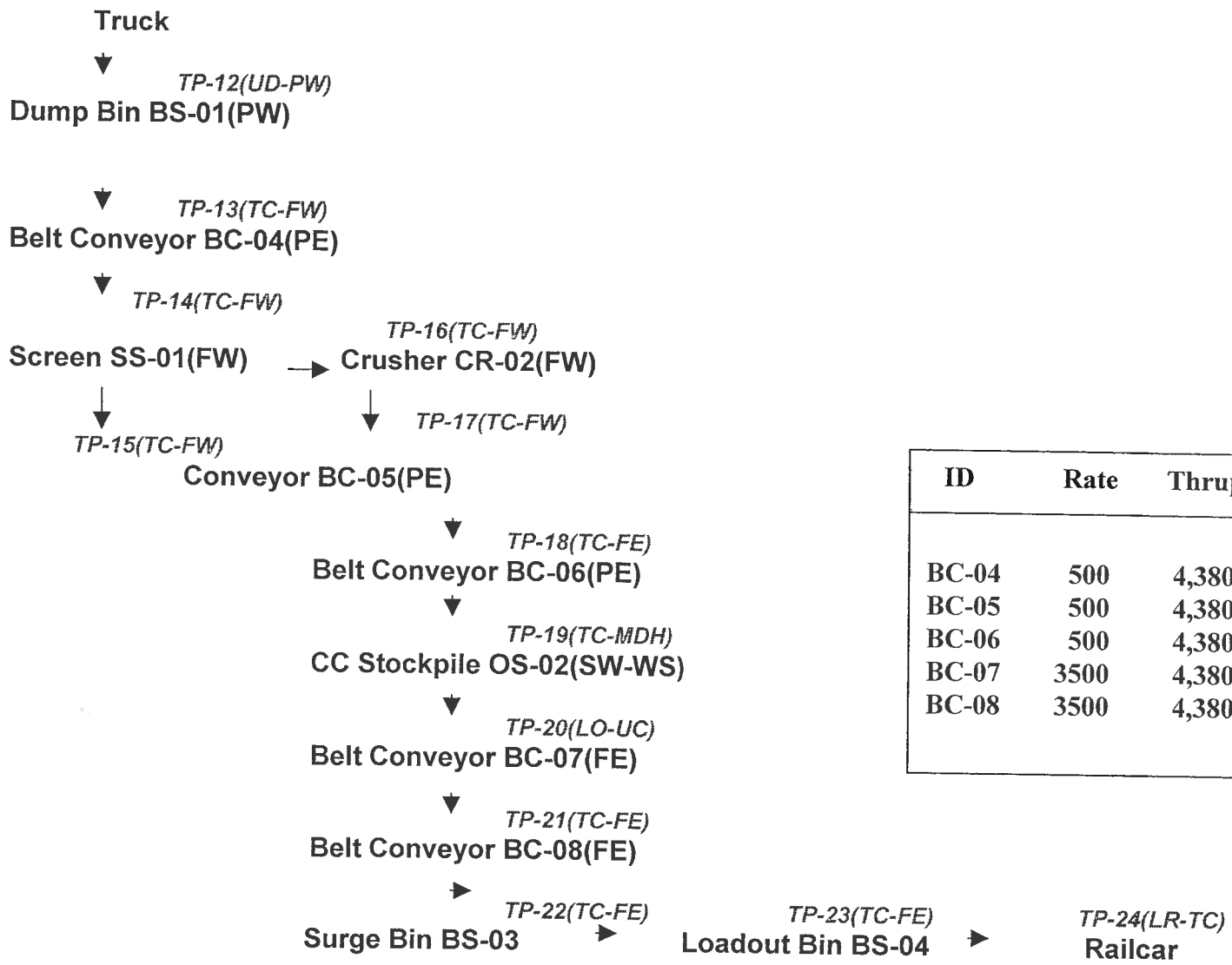
DESCRIPTION OF FUGITIVE EMISSIONS

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 unpaved 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.

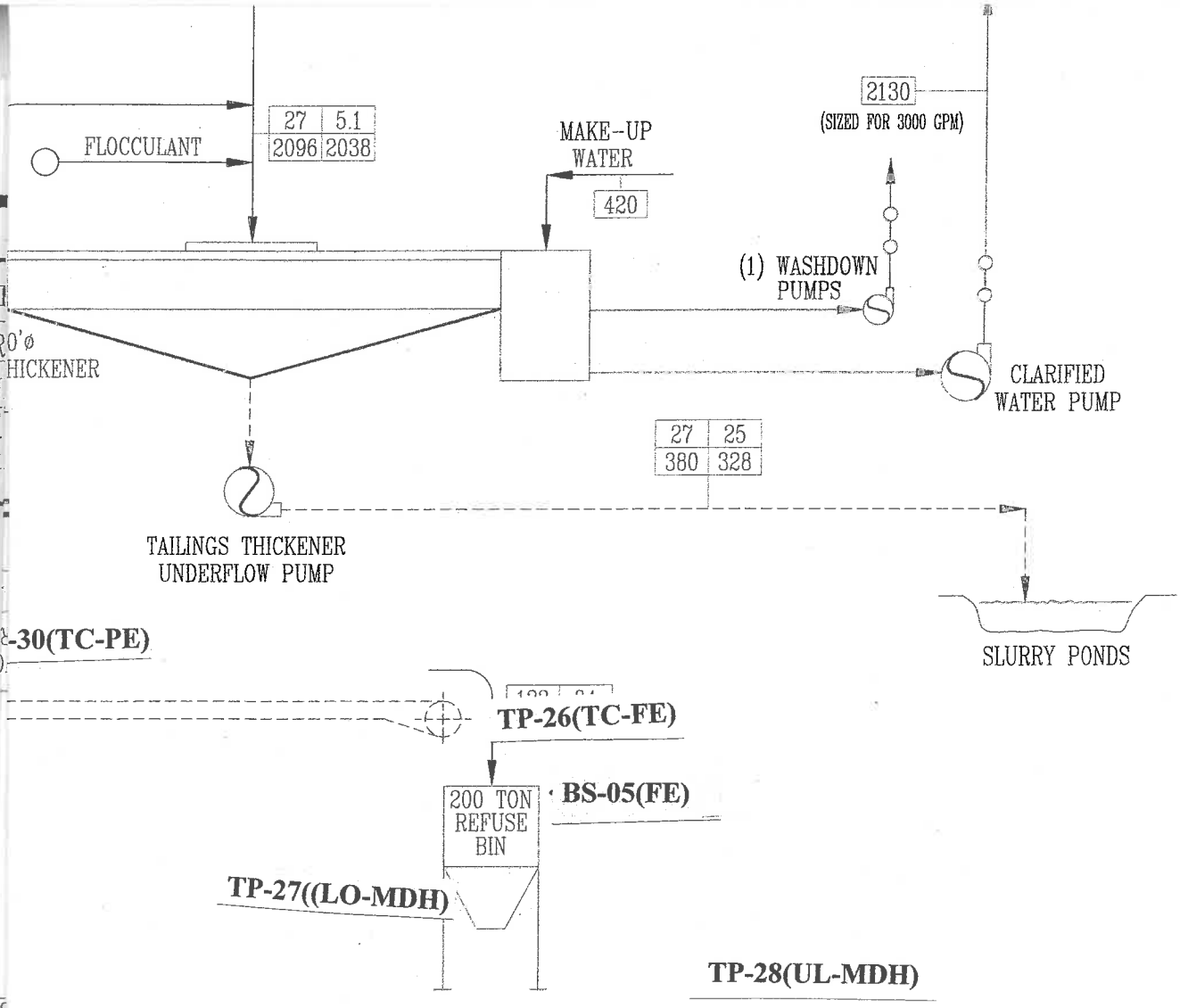
An additive to prevent freezing will be utilized in the winter months when freezing conditions are present.

RAVEN CREST CONTRACTING, LLC
MATERIAL FLOW DIAGRAM
DIRECT SHIP AND LOADOUT SYSTEM



ID	Rate	Thruput
BC-04	500	4,380,000
BC-05	500	4,380,000
BC-06	500	4,380,000
BC-07	3500	4,380,000
BC-08	3500	4,380,000

Facility ID 005-00075
Submittal October 2016



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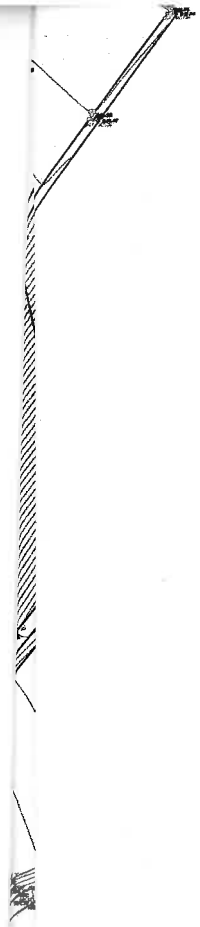
ATION IS CONFIDENTIAL AND MUST NOT BE MADE PUBLIC OR COPIED UNLESS AUTHORIZED
HIAN COAL SERVICES, LLC AND IS SUBJECT TO RETURN UPON DEMAND. ACCEPTANCE OR
N OF THIS DRAWING CONSTITUTES FULL AGREEMENT WITH THE ABOVE CONDITIONS.

BY: .PHILLIPS	DRAWN BY: JPM	JOB NO.	CODE NO.	DWG. NO.	REV.
	DATE: 3-9-2013	J121101	PW1	001	2
:	SCALE: NO SCALE				



PRELIMINARY

ES, LLC

30

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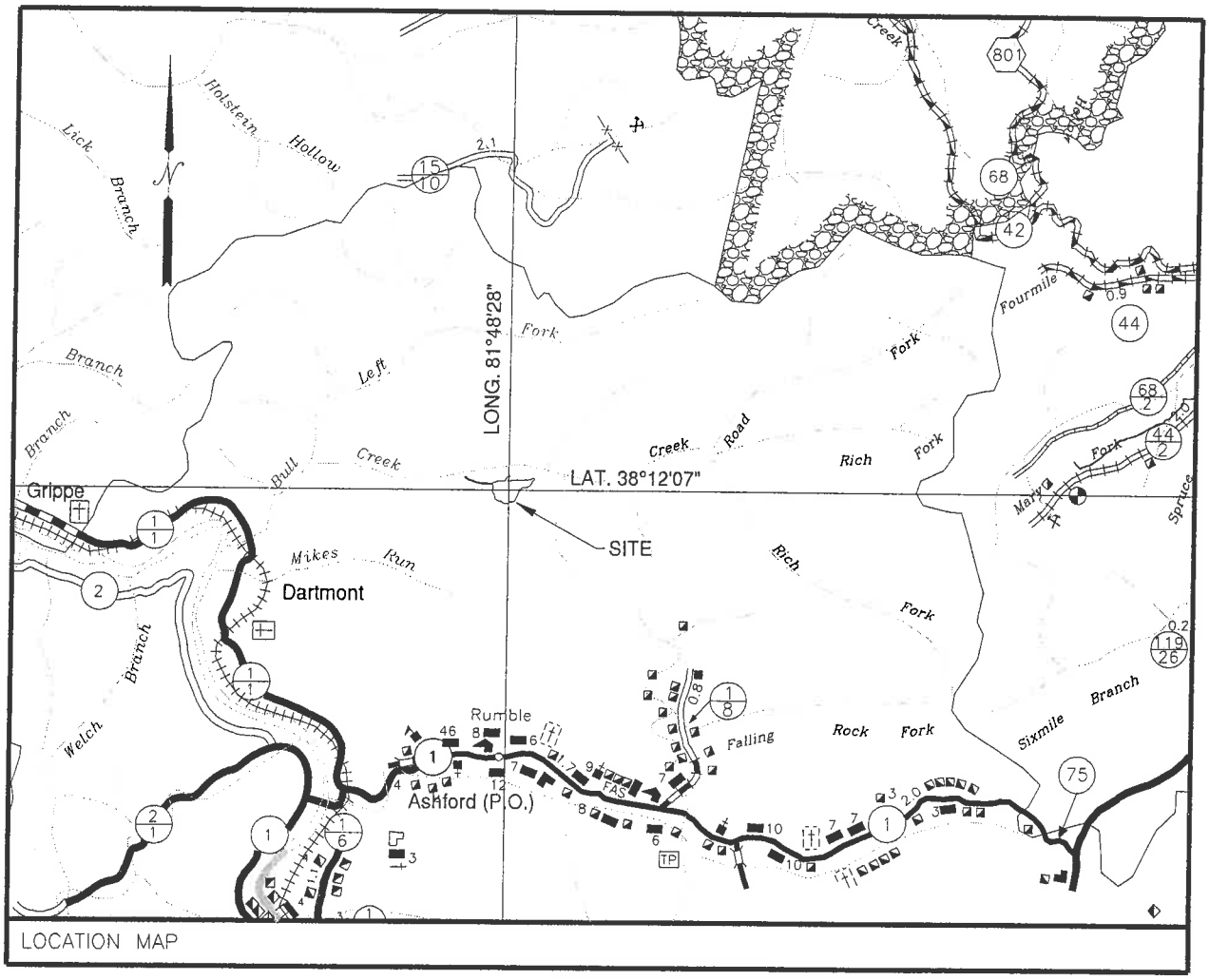
Appalachian Coal Services, LLC

CHECKED BY:	DRAWN BY: A.C.S.	JOB NO.	CODE NO.	DWG. NO.	REV.
DATE:	DATE: MARCH 2013	J121101	GA1	001	D
APPROVED:	SCALE: N.T.S.				



AREA MAP
Bull Creek Processing Facility
Raven Crest Contracting LLC
Near Ashford WV

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number[1]		CR-01	CR-02			
Type of Crusher or Screen[2]		DR	DR			
Date of Manufacture[3]		2013	2005			
Maximum Throughput[4]	tons/hour	300	500			
	tons/year	2,628,000	4,380,000			
Material sized from/to:[5]		4x0x2	4x0x2			
Average Moisture Content (%)[6]		5	5			
Control Device ID Number[7]		FW	FW			
Baghouse Stack Parameters[8]	height (ft)	N/A	N/A			
	diameter (ft)					
	volume (ACFM)					
	exit temp (°F)					
	UTM Coordinate					
Maximum Operating Schedule[9]	hours/day	24	24			
	days/year	365	365			
	hours/year	8760	8760			
Percentage of Operation[10]	January-March	25	25			
	April-June	25	25			
	July-September	25	25			
	Oct-December	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			

3. Enter the date that each crusher and screen was manufactured.
. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
. Describe the nominal material size reduction (e.g. +2"/ -_").
6. Enter the average percent moisture content of the material processed.
. 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

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number[1]		SS-01	In plant SS-02	SS-03		
Type of Crusher or Screen[2]		DR	DD	DD		
Date of Manufacture[3]		2013	2013	M2013		
Maximum Throughput[4]	tons/hour	300	300	500		
	tons/year	2,628,000	2,628,000	4,760,000		
Material sized from/to:[5]		4x0	2x0	4x0		
Average Moisture Content (%)[6]		5	7	5		
Control Device ID Number[7]		PW	FW	FW		
Baghouse Stack Parameters[8]	height (ft)	N/A	N/A	N/A		
	diameter (ft)					
	volume (ACFM)					
	exit temp (°F)					
	UTM Coordinate					
Maximum Operating Schedule[9]	hours/day	24	24	24		
	days/year	365	365	365		
	hours/year	8760	8760	8760		
Percentage of Operation[10]	January-March	25	25	25		
	April-June	25	25	25		
	July-September	25	25	25		
	Oct-December	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			

3. Enter the date that each crusher and screen was manufactured.
. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
. Describe the nominal material size reduction (e.g. +2"/ -_").
6. Enter the average percent moisture content of the material processed.
. 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

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	2013	RC	4x0	300	2,628,000	5	PE
BC-02	2013	RC	2x0	300	2,628,000	5	PE
BC-03	2013	RC	2x0	200	1,752,000	7	PE
BC-04	A2003 M2013	CC	4x0	500	4,380,000	5	PE
BC-05	A2003 M2013	CC	2x0	500	4,380,000	5	PE
BC-06	A2003 M2013	CC	2x0	500	4,380,000	5	PE
BC-07	A2007 M2013	CC	2x0	3500	6,132,000	6	PE
BC-08	A2007 M2013	CC	2x0	3500	6,132,000	6	PE
BC-09	2013	CC	-1 3/8	200	1,752,000	10	PE
Proposed BC-10	2016	Filter Press Refuse	-1 3/8	100	876,000	15	NC

STORAGE ACTIVITY AFFECTED SOURCE SHEET

Source Identification Number[1]	BS-01	BS-02	Surge BS-03	Loadout BC-04	BS-05	
Type of Material Stored[2]	RC	CC	CC	CC	Refuse	
Average Moisture Content (%)[3]	5	5	6	6	10	
Maximum Yearly Storage Throughput (tons)[4]	2,628,000	4,380,000	6,132,000	6,132,000	2,628,000	
Maximum Storage Capacity (tons)[5]	80	150	240	120	200	
Maximum Base Area (ft^2)[6]	N/A					
Maximum Pile Height (ft)[7]						
Method of Material Load-in[8]	TD	TD	SS	Chute	SS	
Load-in Control Device Identification Number[9]	UD-PW	UD-PW	TC-FE	TC-FE	TC-FE	
Storage Control Device Identification Number[9]	PW	PW	FE	FE	FE	
Method of Material Load-out[8]	SS	SS	Chute	TC	FC	
Load-out Control Device Identification Number[9]	TC-FE	TC-FE	TC-FE	LR-TC	LO-MDH	

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 To/From Crusher/Screen

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**			
Type of Material Stored[2]	**RC**	**CC**			
Average Moisture Content (%)[3]	**5**	**6**			
Maximum Yearly Storage Throughput (tons)[4]	**2,628,000**	**6,132,000**			
Maximum Storage Capacity (tons)[5]	**100,000**	**100,000**			
Maximum Base Area (ft^2)[6]	**188,869**	**188,869**			
Maximum Pile Height (ft)[7]	**75'**	**75'**			
Method of Material Load-in[8]	**TD**	**SS**			
Load-in Control Device Identification Number[9]	**UL-MDH**	**TC-MDH**			
Storage Control Device Identification Number[9]	**SW-WS**	**SW-WS**			
Method of Material Load-out[8]	**FE**	**UC**			
Load-out Control Device Identification Number[9]	**UD-PW**	**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: Raven Crest Contracting
Name of plant: Bull Creek Prep Plant
Oct-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	DR	300	2,628,000	FW	90
CR-02	DR	500	4,380,000	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 %

1c. SCREENING

Secondary & Tertiary Crusher ID	Description	Maximum Material Processing Capacity TPH	Maximum Material Processing Capacity TPY	Control Device ID Number	Control Efficiency %
SS-01	DD Screen	300	2,628,000	PW	80
SS-02	DD Screen	300	2,628,000	FW	90
SS-03	DD Screen	500	4,380,000	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 %	
TP-01	Truck to OS-01	5	300	2,628,000	UL-MDH	0	
TP-02	OS-01 to BS-01	5	300	2,628,000	UD-PW	80	
TP-03	BS-01 to BC-01	5	300	2,628,000	TC-FE	80	
TP-04	BC-01 to SS-01	5	300	2,628,000	TC-PW	80	Change
TP-05	SS-01 to BC-02	5	300	2,628,000	TC-PW	80	Change
TP-06	SS-01 to CR-01	5	300	2,628,000	TC-FW	90	
TP-07	CR-01 to BC-02	5	300	2,628,000	TC-FW	90	
TP-08	BC-02 to SS-02	5	300	2,628,000	TC-FW	90	
TP-09	SS-02 to wet wash	5	300	2,628,000	TC-FW	90	
TP-10	Plant to BC-03	5	200	1,752,000	TC-FW	90	
TP-11	BC-03 to OS-02	5	200	1,752,000	TC-MDH	0	
TP-12	Truck to BS-02	5	500	4,380,000	UD-PW	80	
TP-13	BS-02 to BC-04	5	500	4,380,000	TC-FW	90	
TP-14	BC-04 to SS-03	5	500	4,380,000	TC-FW	90	
TP-15	SS-03 to BC-05	5	500	4,380,000	TC-FW	90	
TP-16	SS-03 to CR-02	5	500	4,380,000	TC-FW	90	
TP-17	CR-02 to BC-05	5	500	4,380,000	TC-FW	90	
TP-18	BC-05 to BC-06	5	500	4,380,000	TC-FE	80	
TP19	BC-06 to OS-02	5	500	4,380,000	TC-MDH	0	
TP20	OS-02 to BC-07	6	3,500	6,132,000	LO-UC	80	
TP21	BC-07 to BC-08	6	3,500	6,132,000	TC-FE	80	
TP22	BC-08 to BS-03	6	3,500	6,132,000	TC-FE	80	
TP23	BS-03 to BS-04	6	3,500	6,132,000	TC-FE	80	
TP24	BS-04 to Railcar	6	3,500	6,132,000	LR-TC	75	
TP25	Plant to BC-09	10	200	1,752,000	TC-FW	90	
TP26	BC-09 to BS-05	10	200	1,752,000	TC-FE	80	
TP27	BS-05 to Truck	10	200	1,752,000	LO-MDH	0	
TP28	Truck to Disposal Area	10	200	1,752,000	UL-MDH	0	
TP29	Plant to BC-10 Filter Press	15	100	876,000	TC-FW	90	
TP30	BC-10 to BC-09 Filter Press	15	100	876,000	TC-PE	50	

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	5	188,869	SW-WS	75
OS-02	Clean Coal	3	188,869	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	Trucks to OS-01	2,628,000	18	50	15	1	6	52,560	HR-WS	70
2	Trucks to BS-02	4,380,000	18	50	15	1	10	87,600	HR-WS	70
3	Refuse Trucks	1,752,000	14	40	15	1	5	43,800	HR-WS	70
4	Loaders/dozers	6,132,000	4	30	5	0.01	23	204,400	HR-WS	70

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: Raven Crest Contracting
Name of plant: Bull Creek Prep Plant

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

	Uncontrolled PM		Controlled PM	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	1.93	8.47	0.48	2.12
Unpaved Haulroad Emissions	294.20	1,288.78	88.26	386.63
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	**296.14**	**1,297.24**	**88.74**	**388.75**
POINT SOURCE EMISSIONS				
Equipment Emissions	126.00	551.88	15.60	68.33
Transfer Point Emissions	21.36	45.24	4.95	11.52
Point Source Emissions Total*	**147.36**	**597.12**	**20.55**	**79.85**
*Note: Point Source Total Controlled PM TPY emissions is used for 45CSR14 Major Source determination (see below)				
Facility Emissions Total	**443.49**	**1,894.36**	**109.29**	**468.60**

***Facility Potential to Emit (PTE) (Baseline Emissions) = 79.85**

(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	0.91	3.98	0.23	0.99
Unpaved Haulroad Emissions	85.03	372.46	25.51	111.74
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	**85.94**	**376.44**	**25.74**	**112.73**
POINT SOURCE EMISSIONS				
Equipment Emissions	59.22	259.38	7.33	32.11
Transfer Point Emissions	10.10	21.40	2.34	5.45
Point Source Emissions Total*	**69.32**	**280.78**	**9.67**	**37.56**
*Note: Point Source Total Controlled PM-10 TPY emissions is used for 45CSR30 Major Source determination				
Facility Emissions Total	**155.26**	**657.22**	**35.41**	**150.30**

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	6.000	26.280	0.600	2.628	2.820	12.352	0.282	1.235
CR-02	10.000	43.800	1.000	4.380	4.700	20.586	0.470	2.059
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	16.000	70.080	1.600	7.008	7.520	32.938	0.752	3.294

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	30.000	131.400	6.000	26.280	14.100	61.758	2.820	12.352
SS-02	30.000	131.400	3.000	13.140	14.100	61.758	1.410	6.176
SS-03	50.000	219.000	5.000	21.900	23.500	102.930	2.350	10.293
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	110.000	481.800	14.000	61.320	51.700	226.446	6.580	28.820

Crushing	PM	PM-10

and Screening	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TOTAL	126.000	551.880	15.600	68.328	59.220	259.384	7.332	32.114

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
TP-01	0.305	1.336	0.305	1.336	0.144	0.632	0.144	0.632
TP-02	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-03	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-04	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-05	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-06	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-07	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-08	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-09	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-10	0.203	0.891	0.020	0.089	0.096	0.421	0.010	0.042
TP-11	0.203	0.891	0.203	0.891	0.096	0.421	0.096	0.421
TP-12	0.508	2.227	0.102	0.445	0.240	1.053	0.048	0.211
TP-13	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-14	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-15	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-16	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-17	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-18	0.508	2.227	0.102	0.445	0.240	1.053	0.048	0.211
TP19	0.508	2.227	0.508	2.227	0.240	1.053	0.240	1.053
TP20	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP21	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP22	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP23	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP24	2.757	2.415	0.689	0.604	1.304	1.142	0.326	0.286
TP25	0.077	0.338	0.008	0.034	0.036	0.160	0.004	0.016
TP26	0.077	0.338	0.015	0.068	0.036	0.160	0.007	0.032
TP27	0.077	0.338	0.077	0.338	0.036	0.160	0.036	0.160
TP28	0.077	0.338	0.077	0.338	0.036	0.160	0.036	0.160
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TP29	0.022	0.096	0.002	0.010	0.010	0.045	0.001	0.005
TP30	0.022	0.096	0.011	0.048	0.010	0.045	0.005	0.023
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

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
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	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

TOTALS	21.356	45.238	4.946	11.520	10.101	21.396	2.339	5.448

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	1.208	5.292	0.302	1.323	0.568	2.487	0.142	0.622
OS-02	0.725	3.175	0.181	0.794	0.341	1.492	0.085	0.373
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
TOTALS	1.933	8.467	0.483	2.117	0.909	3.979	0.227	0.995

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	85.26	373.42	25.58	112.03	24.64	107.92	7.39	32.38
2	142.09	622.36	42.63	186.71	41.07	179.87	12.32	53.96
3	64.26	281.45	19.28	84.44	18.57	81.34	5.57	24.40
4	2.60	11.54	0.78	3.46	0.75	3.34	0.23	1.00
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	294.20	1288.78	88.26	386.63	85.03	372.46	25.51	111.74

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)

Legal Advertisement

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Raven Crest Contracting LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a General Permit Registration Modification for a coal preparation plant facility located on Bull Creek at Ashford in Boone County, West Virginia. Coordinates for the facility are as follows: latitude 38.2019444 longitude –81.807778.

The applicant estimates the increase in the potential to discharge the following Regulated Air Pollutants will be 13 tons of particulate matter baseline emissions per year, 6 tons of point source emissions particulate matter less than 10 microns total per year, and 13 tons of the controlled facility emission total per year.

Startup of operation is planned to begin upon permit approval. 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 12th day of October 2016

By: Raven Crest Contracting LLC
Bobby E. Hypes, Jr.
Authorized Agent
1295 Ashford Hill Road
Ashford, WV 25009

ATTACHMENT K

ELECTRONIC SUBMITTAL DISK
LOCATED IN ORIGINAL COPY ONLY

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

[redacted] 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 **BOB HYPES, JR., AUTHORIZED REPRESENTATIVE**
(please print or type)

Signature Bobby E. Hypes Jr.
(please use blue ink) Authorized Representative (if applicable) Date

Applicant's Name: RAVEN CREST CONTRACTING, LLC

Phone: 304-836-5860 Ext. 14 **Fax: 304-836-5096**

Email: bhypes@xinergycorp.com

RAVEN CREST CONTRACTING, LLC
1295 ASHFORD HILL RD.
ASHFORD, WV 25009

Written Action by Managing Member

I Jeffrey A Wilson, Manager / CEO
(Name and Title- Please type or print)

of Raven Crest Contracting, LLC,

located at 1295 Ashford Hill Rd. Ashford, West Virginia 25009
(Facility Address), State and Zip)

do hereby authorize Bobby E. Hypes Jr., 304 S. Heber St. Beckley, WV 25801
(Name of Authorized Agent) (Address of Authorized Agent)

to sign, on my behalf, all applications, documents, and papers as may be necessary for the company to acquire permits of, execute agreements with, or to comply with the requirements of any state or federal mining or transportation related regulatory agency or the regulations promulgated by these state or federal regulatory agencies.

Sign JAW Date 5/3/16
(Executive Officer)

Sign Bobby E. Hypes Date 5/3/16
(Authorized Agent)

State West Virginia
County Kanawha
Sworn and Subscribed to Before Me This 3rd
Day of May 2016

Notary Public Leslie A Sigler
My Commission Expires: 01-08-17

OFFICIAL SEAL
Notary Public, State Of West Virginia
LESLIE A. SIGLER
Mountain State Company
P.O. Box 0, Cedar Grove, WV 25039
My Commission Expires January 8, 2017

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: Raven Crest Contracting
Name of plant: Bull Creek Prep Plant
Nov-13

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

1a. PRIMARY CRUSHING

Primary Crusher ID Number	Description	Maximum Material Processing Capacity		Control Device ID Number	Control Efficiency %
		TPH	TPY		
CR-01	DR	300	2,628,000	FW	90
CR-02	DR	500	4,380,000	FW	90

1b. SECONDARY AND TERTIARY CRUSHING

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

1c. SCREENING

Secondary & Tertiary Crusher ID	Description	Maximum Material Processing Capacity		Control Device ID Number	Control Efficiency %
		TPH	TPY		
SS-01	DD Screen	300	2,628,000	FW	90
SS-02	DD Screen	300	2,628,000	FW	90
SS-03	DD Screen	500	4,380,000	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 %
TP-01	Truck to OS-01	5	300	2,628,000	UL-MDH	0
TP-02	OS-01 to BS-01	5	300	2,628,000	UD-PW	80
TP-03	BS-01 to BC-01	5	300	2,628,000	TC-FE	80
TP-04	BC-01 to SS-01	5	300	2,628,000	TC-FW	90
TP-05	SS-01 to BC-02	5	300	2,628,000	TC-FW	90
TP-06	SS-01 to CR-01	5	300	2,628,000	TC-FW	90
TP-07	CR-01 to BC-02	5	300	2,628,000	TC-FW	90
TP-08	BC-02 to SS-02	5	300	2,628,000	TC-FW	90
TP-09	SS-02 to wet wash	5	300	2,628,000	TC-FW	90
TP-10	Plant to BC-03	5	200	1,752,000	TC-FW	90
TP-11	BC-03 to OS-02	5	200	1,752,000	TC-MDH	0
TP-12	Truck to BS-02	5	500	4,380,000	UD-PW	80
TP-13	BS-02 to BC-04	5	500	4,380,000	TC-FW	90
TP-14	BC-04 to SS-03	5	500	4,380,000	TC-FW	90
TP-15	SS-03 to BC-05	5	500	4,380,000	TC-FW	90
TP-16	SS-03 to CR-02	5	500	4,380,000	TC-FW	90
TP-17	CR-02 to BC-05	5	500	4,380,000	TC-FW	90
TP-18	BC-05 to BC-06	5	500	4,380,000	TC-FE	80
TP19	BC-06 to OS-02	5	500	4,380,000	TC-MDH	0
TP20	OS-02 to BC-07	6	3,500	6,132,000	LO-UC	80
TP21	BC-07 to BC-08	6	3,500	6,132,000	TC-FE	80
TP22	BC-08 to BS-03	6	3,500	6,132,000	TC-FE	80
TP23	BS-03 to BS-04	6	3,500	6,132,000	TC-FE	80
TP24	BS-04 to Railcar	6	3,500	6,132,000	LR-TC	75
TP25	Plant to BC-09	10	200	1,752,000	TC-FW	90
TP26	BC-09 to BS-05	10	200	1,752,000	TC-FE	80
TP27	BS-05 to Truck	10	200	1,752,000	LO-MDH	0
TP28	Truck to Disposal Area	10	200	1,752,000	UL-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	Raw Coal	5	188,869	SW-WS	75
OS-02	Clean Coal	3	188,869	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	Trucks to OS-01	2,628,000	18	50	15	1	6	52,560	HR-WS	70
2	Trucks to BS-02	4,380,000	18	50	15	1	10	87,600	HR-WS	70
3	Refuse Trucks	1,752,000	14	40	15	1	5	43,800	HR-WS	70
4	Loaders/dozers	6,132,000	4	30	5	0.01	23	204,400	HR-WS	70

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: Raven Crest Contracting
Name of plant: Bull Creek Prep Plant

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

	Uncontrolled PM		Controlled PM	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	1.93	8.47	0.48	2.12
Unpaved Haulroad Emissions	294.20	1,288.78	88.26	386.63
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	**296.14**	**1,297.24**	**88.74**	**388.75**
POINT SOURCE EMISSIONS				
Equipment Emissions	126.00	551.88	12.60	55.19
Transfer Point Emissions	21.31	45.05	4.87	11.20
Point Source Emissions Total*	**147.31**	**596.93**	**17.47**	**66.38**
*Note: Point Source Total Controlled PM TPY emissions is used for 45CSR14 Major Source determination (see below)				
Facility Emissions Total	**443.45**	**1,894.17**	**106.22**	**455.13**

***Facility Potential to Emit (PTE) (Baseline Emissions) = 66.38**

(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	0.91	3.98	0.23	0.99
Unpaved Haulroad Emissions	85.03	372.46	25.51	111.74
Paved Haulroad Emissions	0.00	0.00	0.00	0.00
Fugitive Emissions Total	**85.94**	**376.44**	**25.74**	**112.73**
POINT SOURCE EMISSIONS				
Equipment Emissions	59.22	259.38	5.92	25.94
Transfer Point Emissions	10.08	21.31	2.30	5.29
Point Source Emissions Total*	**69.30**	**280.69**	**8.23**	**31.23**
*Note: Point Source Total Controlled PM-10 TPY emissions is used for 45CSR30 Major Source determination				
Facility Emissions Total	**155.24**	**657.13**	**33.96**	**143.97**

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	6.000	26.280	0.600	2.628	2.820	12.352	0.282	1.235
CR-02	10.000	43.800	1.000	4.380	4.700	20.586	0.470	2.059
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	16.000	70.080	1.600	7.008	7.520	32.938	0.752	3.294

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	30.000	131.400	3.000	13.140	14.100	61.758	1.410	6.176
SS-02	30.000	131.400	3.000	13.140	14.100	61.758	1.410	6.176
SS-03	50.000	219.000	5.000	21.900	23.500	102.930	2.350	10.293
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	110.000	481.800	11.000	48.180	51.700	226.446	5.170	22.645

Crushing	PM	PM-10

and Screening	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TOTAL	126.000	551.880	12.600	55.188	59.220	259.384	5.922	25.938

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
TP-01	0.305	1.336	0.305	1.336	0.144	0.632	0.144	0.632
TP-02	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-03	0.305	1.336	0.061	0.267	0.144	0.632	0.029	0.126
TP-04	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-05	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-06	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-07	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-08	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-09	0.305	1.336	0.031	0.134	0.144	0.632	0.014	0.063
TP-10	0.203	0.891	0.020	0.089	0.096	0.421	0.010	0.042
TP-11	0.203	0.891	0.203	0.891	0.096	0.421	0.096	0.421
TP-12	0.508	2.227	0.102	0.445	0.240	1.053	0.048	0.211
TP-13	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-14	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-15	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-16	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-17	0.508	2.227	0.051	0.223	0.240	1.053	0.024	0.105
TP-18	0.508	2.227	0.102	0.445	0.240	1.053	0.048	0.211
TP19	0.508	2.227	0.508	2.227	0.240	1.053	0.240	1.053
TP20	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP21	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP22	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP23	2.757	2.415	0.551	0.483	1.304	1.142	0.261	0.228
TP24	2.757	2.415	0.689	0.604	1.304	1.142	0.326	0.286
TP25	0.077	0.338	0.008	0.034	0.036	0.160	0.004	0.016
TP26	0.077	0.338	0.015	0.068	0.036	0.160	0.007	0.032
TP27	0.077	0.338	0.077	0.338	0.036	0.160	0.036	0.160
TP28	0.077	0.338	0.077	0.338	0.036	0.160	0.036	0.160
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

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
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	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	21.313	45.046	4.872	11.195	10.080	21.306	2.304	5.295

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	1.208	5.292	0.302	1.323	0.568	2.487	0.142	0.622
OS-02	0.725	3.175	0.181	0.794	0.341	1.492	0.085	0.373
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
TOTALS	1.933	8.467	0.483	2.117	0.909	3.979	0.227	0.995

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	85.26	373.42	25.58	112.03	24.64	107.92	7.39	32.38
2	142.09	622.36	42.63	186.71	41.07	179.87	12.32	53.96
3	64.26	281.45	19.28	84.44	18.57	81.34	5.57	24.40
4	2.60	11.54	0.78	3.46	0.75	3.34	0.23	1.00
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	294.20	1288.78	88.26	386.63	85.03	372.46	25.51	111.74

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)