P & A Engineers and Consultants, Inc.

312 Justice Avenue
Logan, WV 25601

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

December 5, 2016

RECEIVED
DEC 09 2016
WV DEP / DIV OF AIR QUALITY

Mr. William Durham
Division of Air Quality
601 57th Street
Charleston, WV 25304-2345

Re: Kanawha River Terminals, LLC
Quincy Dock Facility
Facility ID No. 039-00063

Dear Mr. Durham:

On behalf of our client, Kanawha River Terminals, P & A Engineers and Consultants, Inc. submits the attached Class II Administrative Update Application for the above-mentioned facility. A submittal fee check in the amount of $1,000 is enclosed, along with additional permit copies.

The purpose of this application is to address an increase in the rail loadout rate to the maximum rate of 6000TPH. No other changes are recommended.

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

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WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.wvdep.org/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☐ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
■ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☐ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office)*:
KANAWHA RIVER TERMINALS, LLC

2. Federal Employer ID No. *(FEIN)*:
592709682

3. Name of facility *(if different from above)*:
QUINCY DOCK FACILITY

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ■ **BOTH**

5A. Applicant's mailing address:
PO BOX 308
CEREDO, WV 25507

5B. Facility's present physical address:
ROUTE 60 EAST AT QUINCY, WV

6. **West Virginia 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 Registration 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.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation:

8. 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/OPERATOR**

➪ If **NO**, you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be **constructed, modified, relocated, administratively updated** or **temporarily permitted** (e.g., coal preparation plant, primary crusher, etc.): **Increase rate for rail load out facility to 6000 TPH**

10. Standard Industrial Classification **(SIC)** code for the facility:
1221

11A. DAQ Plant ID No. (for existing facilities only):
039-00063

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R13-1654F

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

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12A.

- For **Modifications, Administrative Updates** or **Temporary permits** 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 B.**

Route 60 East to Quincy – at light, turn right into plaza and take an immediate left under overpass – proceed straight 0.1 mile to security station on left

12.B. New site address (if applicable):	12C. Nearest city or town: **Belle**	12D. County: **Kanawha**
12.E. UTM Northing (KM): **4227.9**	12F. UTM Easting (KM): **456.1**	12G. UTM Zone: **17**

13. Briefly describe the proposed change(s) at the facility:
Increase operating rate for rail load out to 6000TPH

14A. Provide the date of anticipated installation or change: ➪ If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen: 01/01/17	14B. Date of anticipated Start-Up if a permit is granted: **01/01/17**

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day **24** Days Per Week **7** Weeks Per Year **52**

16. Is demolition or physical renovation at an existing facility involved? ☐ **YES** ■ **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known)*. A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known)*. Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13). **ATTACHED**

20. Include a **Table of Contents** as the first page of your application package. **ATTACHED**

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) . **ATTACHED**

➪ Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.** **ATTACHED**

23. Provide a **Process Description** as **Attachment G.** **ATTACHED**

➪ Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

➪ For chemical processes, provide a MSDS for each compound emitted to the air. **ATTACHED**

25. Fill out the **Emission Units Table** and provide it as **Attachment I.** **ATTACHED**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.** **ATTACHED**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.** **ATTACHED**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

- ☐ Bulk Liquid Transfer Operations
- ☐ Chemical Processes
- ☐ Concrete Batch Plant
- ☐ Grey Iron and Steel Foundry
- ☐ General Emission Unit, specify
- ■ Haul Road Emissions
- ☐ Hot Mix Asphalt Plant
- ☐ Incinerator
- ☐ Indirect Heat Exchanger
- ☐ Quarry
- ☐ Solid Materials Sizing, Handling and Storage Facilities
- ☐ Storage Tanks

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

- ☐ Absorption Systems
- ☐ Adsorption Systems
- ☐ Afterburner
- ☐ Baghouse
- ☐ Condenser
- ☐ Electrostatic Precipitator
- ☐ Flare
- ☐ Mechanical Collector
- ☐ Wet Collecting System
- ☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31. **ATTACHED**

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.** **ATTACHED**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ■ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity ☐ Authority of Partnership

☐ Authority of Governmental Agency ☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ■ **Responsible Official** / ☐ **Authorized Representative**, hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ DATE: 11/21/16 via phone

(Please use blue ink) *(Please use blue ink)*

35B. Printed name of signee: **ROBERT L. SMITH**		35C. Title: **PRESIDENT**
35D. E-mail:	36E. Phone: **304-526-0700**	36F. FAX:
36A. Printed name of contact person (if different from above): **Brad Tiller**		36B. Title: **EHS Coordinator**
36C. E-mail: **btiller@suncoke.com**	36D. Phone: **304-526-0700**	36E. FAX: **304-453-5695**

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ *Forward 1 copy of the application to the Title V Permitting Group and:*
- ☐ *For Title V Administrative Amendments:*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit,*
- ☐ *For Title V Minor Modifications:*
  - ☐ *Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit.*
- ☐ *For Title V Significant Modifications processed in parallel with NSR Permit revision:*
  - ☐ *NSR permit writer should notify a Title V permit writer of draft permit,*
  - ☐ *Public notice should reference both 45CSR13 and Title V permits,*
  - ☐ *EPA has 45 day review period of a draft permit.*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
KANAWHA RIVER TERMINALS LLC
DBA QUINCY DOCK
96 QUINCY DOCK RD
BELLE, WV 25015-1863

BUSINESS REGISTRATION ACCOUNT NUMBER: **2212-4970**

This certificate is issued on: 06/27/2011

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.

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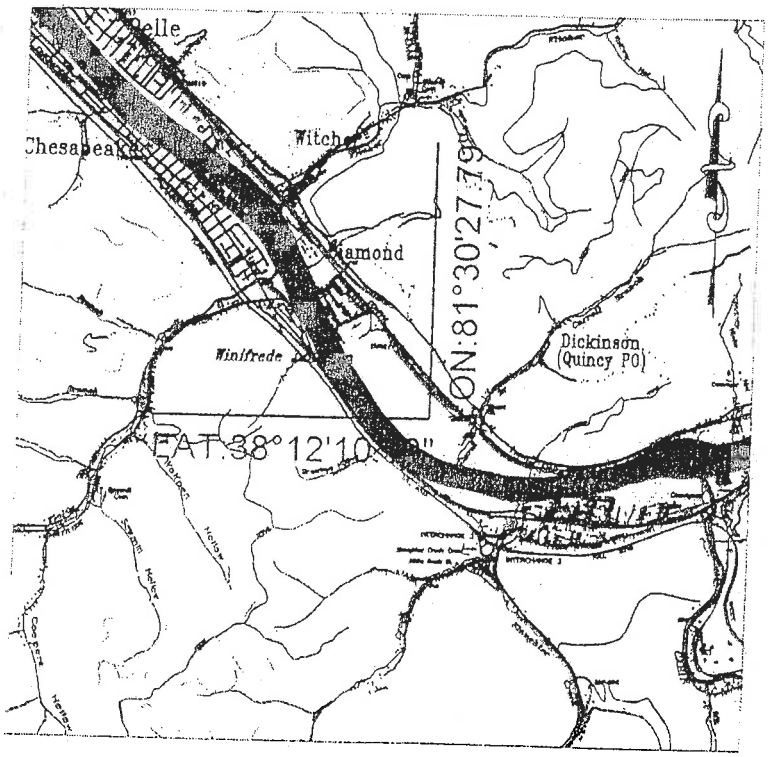


Location Map

0 1 Mile 2 MILES

Attachment C

Installation and Start-Up Schedule

Would increase upon permit approval.

Attachment D

Regulatory Discussion

There are no VOC's or hazardous air pollutants associated with the coal, limestone or magnetite processes, therefore, concern is for the emission of particulate matter and particulate matter less than 10 microns.

The permitted facility should comply with pertinent sections of the following rules and regulations:

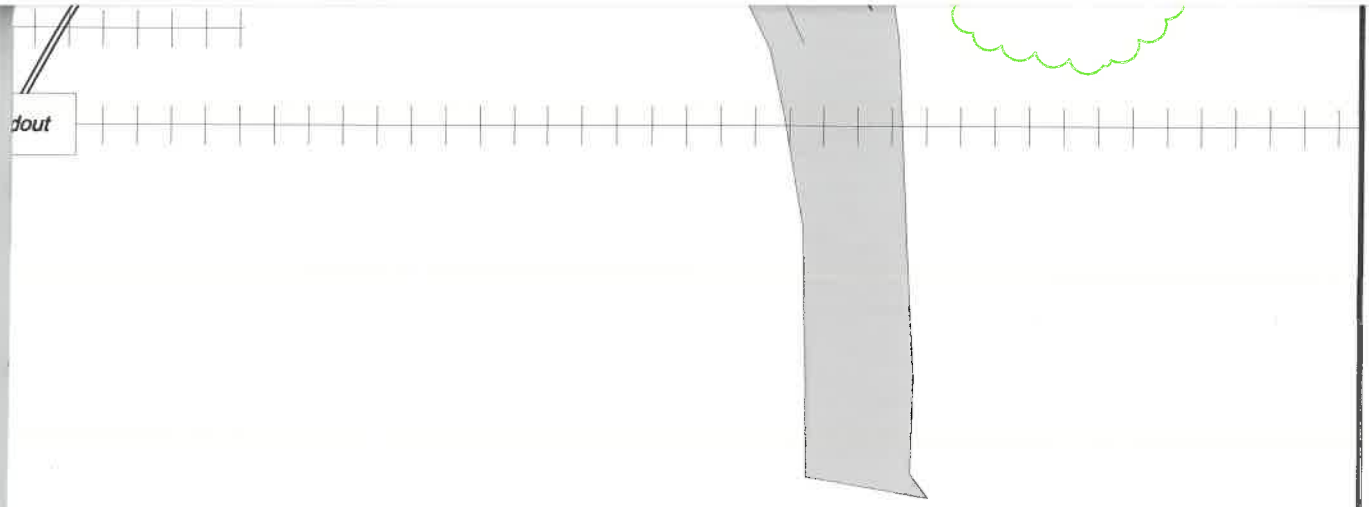
45CSR5 – Prevent and Control Air Pollution from the Operation of Coal Preparation Plants and Coal Handling Operations

40CFR60, Subpart Y – Standards of Performance for Coal Preparation Plants

45CRS13 – Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Temporary Permits, General Permits, and Procedures for Evaluation

45CSR30 – Operating Permit Program

Kanawha River Terminals requested relief from Section A.20 Specific Requirements in 2013 for a full-time sweeper truck to be used on paved sections of the access and haul roads. Kanawha River Terminals maintains an effective truck wheel wash and fixed water sprays systems on the paved haul road that is *more effective at dust suppression than the sweeper truck. With the use of the water sprays and truck wheel wash, the 80' long access road is damp when used by vehicles entering or leaving the property.*



Drawn By:	G. Caudill
Job No. :	KRT-019-16
Sheet No.:	1 of 1

No.	Date	Revision	By
1			
2			
3			
4			

e / Cedar Grove

bin Creek

nawha

NGINEERS &
ONSULTANTS

ox: 470 Alum Ck, WV 25003
(304) 756-4066

Box 279 Louisa, KY 41230
(606) 673-4413

Kanawha River Terminals, LLC.

PO Box 308 Ceredo, WV 25507

Quincy Dock Facility
Air Quality
Permit# R13-1654F

Site Plan

ID 039-00063

Submittal Date: November, 2016

		No.	Date	Revision	By
		1			
		2			
		3			
	1 of 1	4			

Belle / Cedar Grove

Cabin Creek

Kanawha

P&A ENGINEERS & CONSULTANTS

P.O. Box: 470 Alum Ck. WV 25003
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P.O. Box 279 Louisa, KY 41230
(606) 673-4413

Kanawha River Terminals, LLC.

PO Box 308 Ceredo, WV 25507

Quincy Dock Facility
Air Quality

Permit# R13-1654F

Material Flow

ID 039-00063

Submittal Date: November 2016

ATTACHMENT G

PROCESS DESCRIPTION

Coal can be received by the Kanawha River Terminals, Quincy Dock Facility, via rail, barge, and truck delivery.

Raw or clean coal can be dumped at the proposed rail dump BS-01(FW) @ TP-01(UD-FW) and transferred to stockpile via belt conveyors BC-01(FE) and BC-02(FE) @ TP-02(TC-FE) thru TP-04(TC-MDH). Coal received by barge is transferred to a partially-enclosed top-fed bin BS-02(PW) @ TP-05(UD-MDH) and transferred to open stockpile OS-02(SW-WS) via belt conveyor BC-03(PE) and BC-04(PE) @ TP-06(TC-FE) thru TP-08(TC-MDH).

Coal from various stockpiles can be processed by the 250TPH stoker (small) crushing/screening plant located west of the barge loadout facility. Material is fed by front-end loader @ TP-09(UD-MDH) to top-fed bin BS-03(PW); transferred to a fully-enclosed with water primary Hammermill crusher CR-01(FW) via belt conveyor BC-05(PE) @ TP-10(TC-FE) and TP-11(TC-FE); and the crushed coal can be transferred to stockpile OS-03(SW-WS) via a series of partially-enclosed belt conveyors BC-06(PE) thru BC-08(PE) @ TP-12(TC-FW) thru TP-15(TC-MDH); or to a partially-enclosed with water 250TPH double deck screen SS-01(PW) @ TP-16(TC-PW). The screened material can then be transferred to stockpile OS-04(SW-WS) via two partially-enclosed belt conveyors BC-09(PE) and BC-10(PE) @ TP-17(TC-FW) thru TP-19(TC-MDH).

Coal to be screened (large stoker plant) from open stockpile OS-01(SW-WS) can be transferred by end loader to a top-fed partially enclosed bin BS-04(PW) @ TP-20(UD-MDH); to partially-enclosed belt BC-11(PE) @ TP-21(TC-FE); to an 800TPH primary crusher(FW) @ TP-22(TC-FE); to partially

enclosed belt BC-12(PE) @ TP-23(TC-FW); to a partially enclosed w/water 800TPH double deck screen SS-02(PW) @ TP-24(TC-PW); to belt BC-13(PE) @ TP-25(TC-FE); and back to open stockpile OS-01 @ TP-26(TC-MDH).

Coal can also be transferred from OS-01 to a partially enclosed top-fed bin BS-05(PW) @ TP-29(UD-MDH); to belt BC-15(PE) @ TP-30(TC-FE); to a fully enclosed w/water 500TPH crusher CR-03(FW) @ TP-31(TC-FE); to belt BC-16(PE) @ TP-32(TC-FW); to belt BC-17(PE) @ TP-33(TC-FE); and to open stockpile OS-01 @ TP-34(TC-MDH).

Coal can be sent to barge thru the river belt via top-fed bin BS-07(PW) @ TP-39(UD-MDH); to river belt BC-19(PE) @ TP-40(TC-FE) and to the crusher/screening building @ TP-41(TC-FE). Or, coal can be transferred from OS-01 to to-fed bin BS-06(PW) @ TP-36(UD-MDH); to belt BC-18(PE) @ TP-37(TC-FE); to the crusher and screening building @ TP-38(TC-FE). The river fed or direct loadout coal transfers to a fully-enclosed w/water screen SS-03(FW) @ TP-42(TC-FW); to crusher CR-04 or bypass @ TP-43(TC-FW); to loadout transfer belt BC-20(PE) @ TP-44(TC-FE); to loadout belt BC-21(PE) @ TP-45(TC-FE); to barge via hydraulic chute @ TP-46(LO-TC).

At the rail loadout system, stockpiled materials will be fed by front-end loader to two partially-enclosed w/water bins BS-10(PW) and BS-11(PW) @ TP-47(UD-PW) and TP-57(UD-PW); then to belt conveyor BC-22(PE) @ TP-56(LO-UC) and TP-58(LO-UC); to a 2000TPH double roll crusher CR-05(FW) @ TP-48(TC-FE); to stockpile feed belt BC-23(PE) @ TP-49(TC-FW); to stockpile OS-05(SW-WS) via stacking tube @ TP-50(TC-PE); to loadout belt BC-24(PE) via underpile feeders @ TP-50(LO-UC); to rail surge bin BS-08(FE) @ TP-52(TC-FE); to loadout bin BS-09(FE) @ TP-53(TC-FE); to railcar @ TP-54(LR-TC).

Material trucked to facility is unloaded to stockpile area OS-01(SW-WS) @ TP-35(UL-MDH). Material to be trucked from the facility is loaded by front-end loader @ TP-55(LO-MDH).

ADMINISTRATIVE UPDATE 2013:

Kanawha River Terminals requested relief from Section A.20 Specific Requirements for a full-time sweeper truck to be used on paved sections of the access and haul roads. Kanawha River Terminals maintains an effective truck wheel wash and fixed water sprays systems on the paved haul road that is more effective at dust suppression than the sweeper truck. With the use of the existing rainbirds, water sprays and truck wheel wash, the 80' long access road is damp when used by vehicles entering or leaving the property.

ADMINISTRATIVE UPDATE DECEMBER 2016:

Kanawha River Terminals proposes to increase the rail loadout facility from 3500 TPH to 6000 TPH.

There are no VOCs or HAPs associated with the Quincy Facility.

Attachment H

MSDS SHEETS

MSDS sheets for coal or miscellaneous materials are not required for this section.

Attachment I – Screens

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
SS-01	**TP17**	**DD 8x16**	**1999**	**250**	**No Change**	**PW**
SS-02	**TP25**	**DD 8x20**	**2010**	**800**	**Proposed – not constructed**	**FW**
SS-03	**TP42**	**DD 8x20**	**1999**	**1800**	**No Change**	**FW**

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment I – Crushers

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
CR-01	TP12	HM Primary	1999	250	No Change	FW
CR-02	TP23	HM Primary	1999	800	No Change	FW
CR-03	TP32	HM Primary	1999	500	No Change	FW
CR-04	TP44	HM Primary	1999	1800	No Change	FW
CR-05	TP49	HM Primary	Installed 2012	2000	No Change	FW

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment I – BELT CONVEYORS

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
BC-01	TP03	Belt Conveyor	2010	2000	Proposed – not constructed	FE
BC-02	TP04	Belt Conveyor	2010	2000	Proposed – not constructed	PE
BC-03	TP07	Belt Conveyor	1999	500	No Change	PE
BC-04	TP08	Belt Conveyor	1999	500	No Change	PE
BC-05	TP11	Belt Conveyor	1999	250	No Change	PE
BC-06	TP13	Belt Conveyor	1999	250	No Change	PE
BC-07	TP14	Belt Conveyor	1999	250	No Change	PE
BC-08	TP15	Belt Conveyor	1999	250	No Change	PE
BC-09	TP18	Belt Conveyor	1999	250	No Change	PE
BC-10	TP19	Belt Conveyor	1999	250	No Change	PE
BC-11	TP22	Belt Conveyor	1999	800	No Change	PE
BC-12	TP24	Belt Conveyor	2010	800	Proposed – not constructed	PE
BC-13	TP26	Belt Conveyor	2010	800	Proposed – not constructed	PE
BC-14	TP28	Belt Conveyor	2010	800	Proposed – not constructed	PE
BC-15	TP31	Belt Conveyor	1999	500	No Change	PE
BC-16	TP33	Belt Conveyor	2010	500	Proposed – not constructed	PE
BC-17	TP34	Belt Conveyor	2010	500	Proposed – not constructed	PE
BC-18	TP38	Belt Conveyor	1999	1800	No Change	PE
BC-19	TP41	Belt Conveyor	1999	1800	No Change	PE
BC-20	TP45	Belt Conveyor	1999	2500	No Change	PE

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment I – BELT CONVEYORS

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
BC-21	TP46	Belt Conveyor	1999	2500	No Change	PE
BC-22	TP48	Belt Conveyor	2010	2000	No Change	PE
BC-23	TP50	Belt Conveyor	2010	2000	No Change	PE
BC-24	TP52	Belt Conveyor	2012/2016	6000	Modify	FE

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment I – Bins

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
BS-01	TP02	Proposed Railcar Dump Bin	2010	400	No Change	FW
BS-02	TP06	Barge Off-Load	1997	50	No Change	PW
BS-03	TP10	Stoker	1999	100	No Change	PW
BS-04	TP21	Stoker	1999	100	No Change	PW
BS-05	TP30	Existing Crushing System Bin	1999	100	No Change	PW
BS-06	TP37	Barge Loadout	1999	200	No Change	PW
BS-07	TP40	River Bin	1999	100	No Change	PW
BS-08	TP53	RR Surge Bin	2010	420	No Change	FE
BS-09	TP54	RR Loadout Bin	2010	220	No Change	FE
BS-10	TP56	Stockpile Loadout Bin	2012	100	No Change	PW
BS-11	TP58	Stockpile Loadout Bin	2012	100	No Change	PW

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data																
Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions[4]		Maximum Potential Controlled Emissions[5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used[6]	Emission Concentration[7] (ppmv or mg/m[4])
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
	PLEASE SEE THE ATTACHED CALCULATIONS SPREADSHEETS IN SECTION N FOR PM AND PM10 POLLUTANTS – THERE ARE NO VOC'S OR HAP'S ASSOCIATED WITH THIS FACILITY														

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

1 Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

2 Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

3 List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, etc. **DO NOT LIST** CO_2, H_2, H_2O, N_2, O_2, and Noble Gases.

4 Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

5 Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

6 Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

7 Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? ■ Yes ☐ No ☐ If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? ■ Yes ☐ No ☐ If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? ☐ Yes ■ No ☐ If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? ☐ Yes ■ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? ☐ Yes ■ No ☐ If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? ☐ Yes ■ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? ☐ Yes ■ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	**Particulate Matter**	**686.87**	**3012.57**	**206.06**	**903.77**	**MB**
Unpaved Haul Roads	**Particulate Matter**	**7.75**	**34.59**	**2.32**	**10.38**	**MB**
Storage Pile Emissions	**Particulate Matter**	**4.41**	**19.34**	**1.1**	**4.83**	**MB**
Loading/Unloading Operations						
Wastewater Treatment Evaporation & Operations						
Equipment Leaks		Does not apply		Does not apply		
General Clean-up VOC Emissions						
Other						

[1] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, etc. DO NOT LIST CO_2, H_2, H_2O, N_2, O_2, and Noble Gases.
[2] Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
[3] Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).
[4] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

Attachment L
FUGITIVE EMISSIONS FROM UNPAVED HAULROADS

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

		PM	PM-10
k =	Particle size multiplier	**0.80**	**0.36**
s =	Silt content of road surface material (%)	**10**	**10**
p =	Number of days per year with precipitation >0.01 in.	**157**	**157**

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	**Endloaders moving 10,000,000**	**4**	**40**	**5**	**0.01**	**28**	**250,000**	**HR-WS**	**70**
2	**Dozers pushing 10,000,000**	**2**	**40**	**5**	**0.01**	**28**	**250,000**	**HR-WS**	**70**
3									
4									
5									
6									

Source: *AP-42 Fifth Edition – 13.2.2 Unpaved Roads*

$E = k \times 5.9 \times (s \div 12) \times (S \div 30) \times (W \div 3)^{0.7} \times (w \div 4)^{0.5} \times ((365 - p) \div 365) =$ lb/Vehicle Mile Traveled (VMT)

Where:

		PM	PM-10
k =	Particle size multiplier	**0.80**	**0.36**
s =	Silt content of road surface material (%)	**10**	**10**
S =	Mean vehicle speed (mph)	**5**	**5**
W =	Mean vehicle weight (tons)	**40**	**40**
w =	Mean number of wheels per vehicle	**4/2**	**4/2**
p =	Number of days per year with precipitation >0.01 in.	**157**	**157**

For lb/hr: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] = lb/hr

For TPY: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] × [Ton ÷ 2000 lb] = Tons/year

SUMMARY OF UNPAVED HAULROAD EMISSIONS

Item No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
1	**3.87**	**17.29**	**1.16**	**5.19**	**1.14**	**5.10**	**0.34**	**1.53**
2	**3.87**	**17.29**	**1.16**	**5.19**	**1.14**	**5.10**	**0.34**	**1.53**
3								
4								
5								
6								
TOTALS	**7.75**	**34.59**	**2.32**	**10.38**	**2.29**	**10.21**	**0.69**	**3.06**

FUGITIVE EMISSIONS FROM PAVED HAULROADS

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

I =	Industrial augmentation factor (dimensionless)	**1**
n =	Number of traffic lanes	**2**
s =	Surface material silt content (%)	**9**
L =	Surface dust loading (lb/mile)	**13300**

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	Clean Coal In 10,000,000	50	0.5	22.8	200,000	**HR-WS**	**70**
2	Clean Coal Out 2,000,000	50	0.5	4.56	40,000	**HR-WS**	**70**
3							
4							
5							
6							
7							
8							

Source: *AP-42 Fifth Edition – 11.2.6 Industrial Paved Roads*

$E = 0.077 \times I \times (4 \div n) \times (s \div 10) \times (L \div 1000) \times (W \div 3)^{0.7} =$ lb/Vehicle Mile Traveled (VMT)

Where:

I =	Industrial augmentation factor (dimensionless)	**1**
n =	Number of traffic lanes	**2**
s =	Surface meterial silt content (%)	**3**
L =	Surface dust loading (lb/mile)	**5**
W =	Average vehicle weight (tons)	**50**

For lb/hr: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] = lb/hr

For TPY: [lb ÷ VMT] × [VMT ÷ trip] × [Trips ÷ Hour] × [Ton ÷ 2000 lb] = Tons/year

SUMMARY OF PAVED HAULROAD EMISSIONS

Item No.	Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY
1	**572.39**	**2510.48**	**171.72**	**753.14**
2	**114.48**	**502.10**	**34.34**	**150.63**
3				
4				
5				
6				
7				
8				
TOTALS	**686.87**	**3012.57**	**206.06**	**903.77**

ATTACHMENT M

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 unpaved work areas. The haulroads will be controlled by a series of mounted water sprays and on-site water truck. The water truck is sufficiently equipped with pumps and sprays to control the haulroad emissions and will be operated three times a day, more as needed during dry periods. Stockpile and work area emissions are controlled by rainbirds located around the perimeter of the facility and are operated on a time delay. A wheel truck wash is located near the exit of the facility.

The crushers and screens are fully enclosed or partially enclosed with water, belt conveyors are at least partially enclosed and, with the exception of the belt conveyor transfers to stockpile, all transfer points are fully enclosed.

A PM-10 monitor is in place with reporting to the Division of Air Quality, as specified in the existing permit.

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

Kanawha River Terminals requests relief from Section A.20 Specific Requirements for a full-time sweeper truck to be used on paved sections of the access and haul roads. Kanawha River Terminals maintains an effective truck wheel wash and fixed water sprays systems on the paved haul road that is more effective at dust suppression than the sweeper truck. With the use of the existing rainbirds, water sprays and truck wheel wash, the 80' long access road is damp when used by vehicles entering or leaving the property.

INPUTS

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

Name of applicant: Kanawha River Terminals
Name of plant: Quincy Facility
Mod November 2016

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	250	2,190,000	FW	90
CR-02	DR	800	7,008,000	FW	90
CR-03	DR	500	4,380,000	FW	90
CR-04	DR	1,800	10,000,000	FW	90
CR-05	DR	2,000	10,000,000	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	8X16 DD	250	2,190,000	PW	85
SS-02	8X20 DD	800	7,008,000	PW	85
SS-03	DD	1,800	10,000,000	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	Railcar to BS-01	6	2,000	8,760,000	TC-FW	90	
TP02	BS-01 to BC-01	6	2,000	8,760,000	TC-FE	80	
TP03	BC-01 to BC-02	6	2,000	8,760,000	TC-FE	80	
TP04	BC-02 to OS-01	6	2,000	8,760,000	TC-MDH	0	
TP05	Barge to BS-02	6	500	4,380,000	UD-MDH	0	
TP06	BS-02 to BC-03	6	500	4,380,000	TC-FE	80	
TP07	BC-03 to BC-04	6	500	4,380,000	TC-FE	80	
TP08	BC-04 to OS-02	6	500	4,380,000	TC-MDH	0	
TP09	OS-01 to BS-03	6	250	2,190,000	UD-MDH	0	
TP10	BS-03 to BC-05	6	250	2,190,000	TC-FE	80	
TP11	BC-05 to CR-01	6	250	2,190,000	TC-FE	80	
TP12	CR-01 to BC-06	6	250	2,190,000	TC-FW	90	
TP13	BC-06 to BC-07	6	250	2,190,000	TC-FE	80	
TP14	BC-07 to BC-08	6	250	2,190,000	TC-FE	80	
TP15	BC-08 to OS-03	6	250	2,190,000	TC-MDH	0	
TP16	BC-06 to SS-01	6	250	2,190,000	TC-PW	85	
TP17	SS-01 to BC-09	6	250	2,190,000	TC-FW	90	
TP18	BC-09 to BC-10	6	250	2,190,000	TC-FE	80	
TP19	BC-10 to OS-04	6	250	2,190,000	TC-MDH	0	
TP20	OS-01 to BS-04	6	800	7,008,000	UD-MDH	0	
TP21	BS-04 to BC-11	6	800	7,008,000	TC-FE	80	
TP22	BC-11 to CR-02	6	800	7,008,000	TC-FE	80	
TP23	CR-02 to BC-12	6	800	7,008,000	TC-FW	90	
TP24	BC-12 to SS-02	6	800	7,008,000	TC-PW	85	
TP25	SS-02 to BC-13	6	800	7,008,000	TC-FE	80	
TP26	BC-13 to OS-01	6	800	7,008,000	TC-MDH	0	
TP27	SS-02 to BC-14	6	800	7,008,000	TC-FE	80	
TP28	BC-14 to OS-01	6	800	7,008,000	TC-MDH	0	
TP29	OS-01 to BS-05	6	500	4,380,000	UD-MDH	0	
TP30	BS-05 to BC-15	6	500	4,380,000	TC-FE	80	
TP31	BC-15 to CR-03	6	500	4,380,000	TC-FE	80	
TP32	CR-03 to BC-16	6	500	4,380,000	TC-FW	90	
TP33	BC-16 to BC-17	6	500	4,380,000	TC-FE	80	
TP34	BC-17 to OS-01	6	500	4,380,000	TC-MDH	0	
TP35	Truck to OS-01	6	1,800	10,000,000	UL-MDH	0	
TP36	OS-01/03/04 to BS-06	6	1,800	10,000,000	UD-MDH	0	
TP37	BS-06 to BC-18	6	1,800	10,000,000	TC-FE	80	
TP38	BC-18 to SS-03	6	1,800	10,000,000	TC-FW	90	
TP39	OS-01/OS-02 to BS-07	6	1,800	10,000,000	UD-MDH	0	
TP40	BS-07 to BC-19	6	1,800	10,000,000	TC-FE	80	
TP41	BC-19 to SS-03	6	1,800	10,000,000	TC-FW	90	
TP42	SS-03 to CR-04	6	1,800	10,000,000	TC-FW	90	
TP43	SS-03 to BC-20	6	1,800	10,000,000	TC-FW	90	
TP44	CR-04 to BC-20	6	1,800	10,000,000	TC-FW	90	
TP45	BC-20 to BC-21	6	2,500	10,000,000	TC-FE	80	
TP46	BC-21 to Barge	6	2,500	10,000,000	LO-TC	80	
TP47	OS-01 to BS-10	6	2,000	5,000,000	UD-PW	80	
TP48	BC-22 to CR-05	6	2,000	10,000,000	TC-FE	80	
TP49	CR-05 to BC-23	6	2,000	10,000,000	TC-FW	90	
TP50	BC-23 to OS-05	6	2,000	10,000,000	TC-PE	50	Stacking Tube
TP51	OS-05 to BC-24	6	6,000	10,000,000	LO-UC	80	Underpile
TP52	BC-24 to BS-08	6	6,000	10,000,000	TC-FE	80	
TP53	BS-08 to BS-09	6	6,000	10,000,000	TC-FE	80	
TP54	BS-09 to Railcar	6	6,000	10,000,000	LR-TC	75	
TP55	OS-01 to Truck	6	228	2,000,000	LO-MDH	0	
TP56	BS-10 to BC-22	6	2,000	5,000,000	LO-UC	80	
TP57	OS-01 to BS-11	6	2,000	5,000,000	UD-PW	80	
TP58	BS-11 to BC-22	6	2,000	5,000,000	LO-UC	80	

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	Clean Coal	3.5	880,869	SW-WS	75
OS-02	Clean Coal	3.5	8,869	SW-WS	75
OS-03	Clean Coal	3.5	28,869	SW-WS	75
OS-04	Clean Coal	3.5	28,869	SW-WS	75
OS-05	Clean Coal	3.5	38,869	SW-WS	75

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

s =	silt content of road surface material (%)	10
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	Endloaders moving 10,000,000	4	40	5	0.01	28	250,000	HR-WS	70
2	Dozers pushing 10,000,000	2	40	5	0.01	28	250,000	HR-WS	70
3									
4									
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)	70
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	Clean Coal In 10,000,000	50	0.5	22.8	200,000	HR-WS	70
2	Clean Coal Out 2,000,000	50	0.5	4.56	40,000	HR-WS	70
3							
4							
5							
6							
7							
8							

EMISSIONS SUMMARY

Name of applicant: Kanawha River Terminals
Name of plant: Quincy Facility

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

	Uncontrolled PM		Controlled PM	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	4.42	19.34	1.10	4.84
Unpaved Haulroad Emissions	7.75	34.59	2.32	10.38
Paved Haulroad Emissions	686.87	3,012.57	206.06	903.77
Fugitive Emissions Total	**699.03**	**3,066.51**	**209.49**	**918.98**
POINT SOURCE EMISSIONS				
Equipment Emissions	316.00	1,095.68	36.85	132.56
Transfer Point Emissions	66.31	148.88	20.82	54.70
Point Source Emissions Total*	**382.31**	**1,244.56**	**57.67**	**187.27**
*Note: Point Source Total Controlled PM TPY emissions is used for 45CSR14 Major Source determination (see below)				
Facility Emissions Total	**1,081.34**	**4,311.07**	**267.15**	**1,106.25**

***Facility Potential to Emit (PTE) (Baseline Emissions) = 187.27**

(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	2.08	9.09	0.52	2.27
Unpaved Haulroad Emissions	2.29	10.21	0.69	3.06
Paved Haulroad Emissions	133.98	587.62	40.19	176.29
Fugitive Emissions Total	**138.34**	**606.92**	**41.40**	**181.62**
POINT SOURCE EMISSIONS				
Equipment Emissions	148.52	514.97	17.32	62.30
Transfer Point Emissions	31.36	70.42	9.85	25.87
Point Source Emissions Total*	**179.88**	**585.39**	**27.17**	**88.18**
*Note: Point Source Total Controlled PM-10 TPY emissions is used for 45CSR30 Major Source determination				
Facility Emissions Total	**318.22**	**1,192.30**	**68.56**	**269.80**

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	5.000	21.900	0.500	2.190	2.350	10.293	0.235	1.029
CR-02	16.000	70.080	1.600	7.008	7.520	32.938	0.752	3.294
CR-03	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
TOTAL	31.000	135.780	3.100	13.578	14.570	63.817	1.457	6.382

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	25.000	109.500	3.750	16.425	11.750	51.465	1.763	7.720
SS-02	80.000	350.400	12.000	52.560	37.600	164.688	5.640	24.703
SS-03	180.000	500.000	18.000	50.000	84.600	235.000	8.460	23.500
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	285.000	959.900	33.750	118.985	133.950	451.153	15.863	55.923

Crushing and Screening	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TOTAL	316.000	1095.680	36.850	132.563	148.520	514.970	17.320	62.305

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	1.575	3.450	0.158	0.345	0.745	1.632	0.075	0.163
TP02	1.575	3.450	0.315	0.690	0.745	1.632	0.149	0.326
TP03	1.575	3.450	0.315	0.690	0.745	1.632	0.149	0.326
TP04	1.575	3.450	1.575	3.450	0.745	1.632	0.745	1.632
TP05	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP06	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP07	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP08	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP09	0.197	0.863	0.197	0.863	0.093	0.408	0.093	0.408
TP10	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP11	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP12	0.197	0.863	0.020	0.086	0.093	0.408	0.009	0.041
TP13	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP14	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP15	0.197	0.863	0.197	0.863	0.093	0.408	0.093	0.408
TP16	0.197	0.863	0.030	0.129	0.093	0.408	0.014	0.061
TP17	0.197	0.863	0.020	0.086	0.093	0.408	0.009	0.041
TP18	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP19	0.197	0.863	0.197	0.863	0.093	0.408	0.093	0.408
TP20	0.630	2.760	0.630	2.760	0.298	1.306	0.298	1.306
TP21	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP22	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP23	0.630	2.760	0.063	0.276	0.298	1.306	0.030	0.131
TP24	0.630	2.760	0.095	0.414	0.298	1.306	0.045	0.196
TP25	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP26	0.630	2.760	0.630	2.760	0.298	1.306	0.298	1.306
TP27	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP28	0.630	2.760	0.630	2.760	0.298	1.306	0.298	1.306
TP29	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP30	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP31	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP32	0.394	1.725	0.039	0.173	0.186	0.816	0.019	0.082
TP33	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP34	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP35	1.418	3.939	1.418	3.939	0.671	1.863	0.671	1.863
TP36	1.418	3.939	1.418	3.939	0.671	1.863	0.671	1.863
TP37	1.418	3.939	0.284	0.788	0.671	1.863	0.134	0.373
TP38	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP39	1.418	3.939	1.418	3.939	0.671	1.863	0.671	1.863
TP40	1.418	3.939	0.284	0.788	0.671	1.863	0.134	0.373
TP41	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP42	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP43	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP44	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP45	1.969	3.939	0.394	0.788	0.931	1.863	0.186	0.373
TP46	1.969	3.939	0.394	0.788	0.931	1.863	0.186	0.373
TP47	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
TP48	1.575	3.939	0.315	0.788	0.745	1.863	0.149	0.373
TP49	1.575	3.939	0.158	0.394	0.745	1.863	0.075	0.186
TP50	1.575	3.939	0.788	1.969	0.745	1.863	0.373	0.931
TP51	4.726	3.939	0.945	0.788	2.235	1.863	0.447	0.373
TP52	4.726	3.939	0.945	0.788	2.235	1.863	0.447	0.373

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	4.726	3.939	0.945	0.788	2.235	1.863	0.447	0.373
TP54	4.726	3.939	1.182	0.985	2.235	1.863	0.559	0.466
TP55	0.180	0.788	0.180	0.788	0.085	0.373	0.085	0.373
TP56	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
TP57	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
TP58	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	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
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	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	66.310	148.882	20.816	54.703	31.363	70.417	9.846	25.873

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	3.944	17.276	0.986	4.319	1.854	8.120	0.463	2.030
OS-02	0.040	0.174	0.010	0.043	0.019	0.082	0.005	0.020
OS-03	0.129	0.566	0.032	0.142	0.061	0.266	0.015	0.067
OS-04	0.129	0.566	0.032	0.142	0.061	0.266	0.015	0.067
OS-05	0.174	0.762	0.044	0.191	0.082	0.358	0.020	0.090
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	4.417	19.345	1.104	4.836	2.076	9.092	0.519	2.273

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	3.87	17.29	1.16	5.19	1.14	5.10	0.34	1.53
2	3.87	17.29	1.16	5.19	1.14	5.10	0.34	1.53
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	7.75	34.59	2.32	10.38	2.29	10.21	0.69	3.06

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	572.39	2510.48	171.72	753.14	111.65	489.68	33.49	146.90
2	114.48	502.10	34.34	150.63	22.33	97.94	6.70	29.38
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	686.87	3012.57	206.06	903.77	133.98	587.62	40.19	176.29

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)	70	
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)

Attachment O

Monitoring, Recordkeeping, Reporting, and Testing

Pursuant to 40CFR60 Subpart Y, the owner or operator of a coal preparation and processing plant that commenced construction, reconstruction, or modification after April 28, 2008, shall maintain in a logbook (written or electronic) on-site and make it available upon request. The logbook shall record the following:

1. The manufacturer's recommended maintenance procedures and the date and time of any maintenance and inspection activities and the results of those activities. Any variance from manufacturer recommendation, if any, shall be noted. All air pollution control equipment will be maintained regularly in accordance with recommendation of the manufacturer. If no such recommendations are available, such equipment will be properly maintained to ensure effective and proper operation of the equipment and/or systems.

2. The date and time of periodic coal preparation and processing plant visual observations, noting those sources with visible emissions along with corrective actions taken to reduce visible emissions. Results from the actions shall be noted.

3. The amount and type of coal processed each calendar month.

4. The amount of chemical stabilizer or water purchased for use in the coal preparation and processing plant.

5. Monthly certification that the dust suppressant systems were operational when any coal was processed and that manufacturer's recommendations were followed for all control systems. Any variance from the manufacturer's recommendations, if any, shall be noted.

6. Monthly certification that the fugitive coal dust emissions control plan was implemented as described. Any variance from the plan, if any, shall be noted. A copy of the applicable fugitive coal dust emissions control plan and any letters from the Administrator providing approval of any alternative control measures shall be maintained with the logbook. Any actions, *e.g.* objections, to the plan and any actions relative to the alternative control measures, *e.g.* approvals, shall be noted in the logbook as well.

In accordance with 45CRS30, a Certified Emissions Statement will be filed annually and the appropriate fee paid.

MONITORING REQUIREMENTS

For the purpose of determining compliance with the opacity limits of 45CSR5 and 40CFR60 Subpart Y, Mike Woods, EHS Supervisor, shall conduct visible emission checks and/or opacity monitoring and recordkeeping for all emission sources subject to an opacity limit.

a. The visible emission check shall determine the presence or absence of visible emissions.

b. Visible emission checks or Method 22 observations shall be conducted at least once per calendar month with a maximum of forty-five(45) days between consecutive readings. These checks shall be performed at each source (stack, transfer point, fugitive emission source, etc.) for a sufficient time interval, but no less than one (1) minute, to determine if any visible

emissions are present. Visible emission checks shall be performed during periods of normal facility operation and appropriate weather conditions.

c. If visible emissions are present at a source(s) for three (3) consecutive monthly checks, the permittee shall conduct an opacity reading at that source(s) using the procedures and requirements of Method 9 as soon as practicable, but within seventy-two (72) hours of the final visual emission check. A Method 9 observation at a source(s) restarts the count of the number of consecutive readings with the presence of visible emissions.

Legal Advertisement

AIR QUALITY PERMIT NOTICE
Notice of Application

Notice is given that Kanawha River Terminals, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Reg. 13 Permit Update to increase the rail load out rate at Quincy Dock, near Quincy in Kanawha County, West Virginia. The facility coordinates are as follows: latitude 38.202778 and longitude – 81.507719.

The applicant estimates the increase in the potential to discharge the following Regulated Air Pollutants associated with the operation will be: facility particulate matter potential to emit baseline emissions of 1.67 lbs per hour, particulate matter less than 10 microns emissions total of 0.79 lbs per hour and particulate matter facility emissions will have no increase in the tons 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 1250, during normal business hours.

Dated this the 9th day December 2016

By: Kanawha River Terminals, LLC
Robert L. Smith, President
100 River and Main Streets
Ceredo, WV 25507

INPUTS

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

Name of applicant: Kanawha River Terminals
Name of plant: Quincy Facility
Class I - May 2013

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	250	2,190,000	FW	90
CR-02	DR	800	7,008,000	FW	90
CR-03	DR	500	4,380,000	FW	90
CR-04	DR	1,800	10,000,000	FW	90
CR-05	DR	2,000	10,000,000	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	8X16 DD	250	2,190,000	PW	85
SS-02	8X20 DD	800	7,008,000	PW	85
SS-03	DD	1,800	10,000,000	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	Railcar to BS-01	6	2,000	8,760,000	TC-FW	90	
TP02	BS-01 to BC-01	6	2,000	8,760,000	TC-FE	80	
TP03	BC-01 to BC-02	6	2,000	8,760,000	TC-FE	80	
TP04	BC-02 to OS-01	6	2,000	8,760,000	TC-MDH	0	
TP05	Barge to BS-02	6	500	4,380,000	UD-MDH	0	
TP06	BS-02 to BC-03	6	500	4,380,000	TC-FE	80	
TP07	BC-03 to BC-04	6	500	4,380,000	TC-FE	80	
TP08	BC-04 to OS-02	6	500	4,380,000	TC-MDH	0	
TP09	OS-01 to BS-03	6	250	2,190,000	UD-MDH	0	
TP10	BS-03 to BC-05	6	250	2,190,000	TC-FE	80	
TP11	BC-05 to CR-01	6	250	2,190,000	TC-FE	80	
TP12	CR-01 to BC-06	6	250	2,190,000	TC-FW	90	
TP13	BC-06 to BC-07	6	250	2,190,000	TC-FE	80	
TP14	BC-07 to BC-08	6	250	2,190,000	TC-FE	80	
TP15	BC-08 to OS-03	6	250	2,190,000	TC-MDH	0	
TP16	BC-06 to SS-01	6	250	2,190,000	TC-PW	85	
TP17	SS-01 to BC-09	6	250	2,190,000	TC-FW	90	
TP18	BC-09 to BC-10	6	250	2,190,000	TC-FE	80	
TP19	BC-10 to OS-04	6	250	2,190,000	TC-MDH	0	
TP20	OS-01 to BS-04	6	800	7,008,000	UD-MDH	0	
TP21	BS-04 to BC-11	6	800	7,008,000	TC-FE	80	
TP22	BC-11 to CR-02	6	800	7,008,000	TC-FE	80	
TP23	CR-02 to BC-12	6	800	7,008,000	TC-FW	90	
TP24	BC-12 to SS-02	6	800	7,008,000	TC-PW	85	
TP25	SS-02 to BC-13	6	800	7,008,000	TC-FE	80	
TP26	BC-13 to OS-01	6	800	7,008,000	TC-MDH	0	
TP27	SS-02 to BC-14	6	800	7,008,000	TC-FE	80	
TP28	BC-14 to OS-01	6	800	7,008,000	TC-MDH	0	
TP29	OS-01 to BS-05	6	500	4,380,000	UD-MDH	0	
TP30	BS-05 to BC-15	6	500	4,380,000	TC-FE	80	
TP31	BC-15 to CR-03	6	500	4,380,000	TC-FE	80	
TP32	CR-03 to BC-16	6	500	4,380,000	TC-FW	90	
TP33	BC-16 to BC-17	6	500	4,380,000	TC-FE	80	
TP34	BC-17 to OS-01	6	500	4,380,000	TC-MDH	0	
TP35	Truck to OS-01	6	1,800	10,000,000	UL-MDH	0	
TP36	OS-01/03/04 to BS-06	6	1,800	10,000,000	UD-MDH	0	
TP37	BS-06 to BC-18	6	1,800	10,000,000	TC-FE	80	
TP38	BC-18 to SS-03	6	1,800	10,000,000	TC-FW	90	
TP39	OS-01/OS-02 to BS-07	6	1,800	10,000,000	UD-MDH	0	
TP40	BS-07 to BC-19	6	1,800	10,000,000	TC-FE	80	
TP41	BC-19 to SS-03	6	1,800	10,000,000	TC-FW	90	
TP42	SS-03 to CR-04	6	1,800	10,000,000	TC-FW	90	
TP43	SS-03 to BC-20	6	1,800	10,000,000	TC-FW	90	
TP44	CR-04 to BC-20	6	1,800	10,000,000	TC-FW	90	
TP45	BC-20 to BC-21	6	2,500	10,000,000	TC-FE	80	
TP46	BC-21 to Barge	6	2,500	10,000,000	LO-TC	80	
TP47	**OS-01 to BS-10**	6	2,000	5,000,000	UD-PW	80	Change
TP48	BC-22 to CR-05	6	2,000	10,000,000	TC-FE	80	
TP49	CR-05 to BC-23	6	2,000	10,000,000	TC-FW	90	
TP50	BC-23 to OS-05	6	2,000	10,000,000	TC-PE	50	Stacking Tube
TP51	OS-05 to BC-24	6	3,500	10,000,000	LO-UC	80	Underpile
TP52	BC-24 to BS-08	6	3,500	10,000,000	TC-FE	80	
TP53	BS-08 to BS-09	6	3,500	10,000,000	TC-FE	80	
TP54	BS-09 to Railcar	6	3,500	10,000,000	LR-TC	75	
TP55	OS-01 to Truck	6	228	2,000,000	LO-MDH	0	
TP56	BS-10 to BC-22	6	2,000	5,000,000	LO-UC	80	New
TP57	OS-01 to BS-11	6	2,000	5,000,000	UD-PW	80	New
TP58	BS-11 to BC-22	6	2,000	5,000,000	LO-UC	80	New

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	Clean Coal	3.5	880,869	SW-WS	75
OS-02	Clean Coal	3.5	8,869	SW-WS	75
OS-03	Clean Coal	3.5	28,869	SW-WS	75
OS-04	Clean Coal	3.5	28,869	SW-WS	75
OS-05	Clean Coal	3.5	38,869	SW-WS	75

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

s =	silt content of road surface material (%)	10
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	Endloaders moving 10,000,000	4	40	5	0.01	28	250,000	HR-WS	70
2	Dozers pushing 10,000,000	2	40	5	0.01	28	250,000	HR-WS	70
3									
4									
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)	70
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	Clean Coal In 10,000,000	50	0.5	22.8	200,000	HR-WS	70
2	Clean Coal Out 2,000,000	50	0.5	4.56	40,000	HR-WS	70
3							
4							
5							
6							
7							
8							

EMISSIONS SUMMARY

Name of applicant: Kanawha River Terminals
Name of plant: Quincy Facility

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

	Uncontrolled PM		Controlled PM	
	lb/hr	TPY	lb/hr	TPY
FUGITIVE EMISSIONS				
Stockpile Emissions	4.42	19.34	1.10	4.84
Unpaved Haulroad Emissions	7.75	34.59	2.32	10.38
Paved Haulroad Emissions	686.87	3,012.57	206.06	903.77
Fugitive Emissions Total	**699.03**	**3,066.51**	**209.49**	**918.98**
POINT SOURCE EMISSIONS				
Equipment Emissions	316.00	1,095.68	36.85	132.56
Transfer Point Emissions	58.43	148.88	19.14	54.70
Point Source Emissions Total*	**374.43**	**1,244.56**	**55.99**	**187.27**
*Note: Point Source Total Controlled PM TPY emissions is used for 45CSR14 Major Source determination (see below)				
Facility Emissions Total	**1,073.46**	**4,311.07**	**265.48**	**1,106.25**

***Facility Potential to Emit (PTE) (Baseline Emissions) = 187.27**

(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	2.08	9.09	0.52	2.27
Unpaved Haulroad Emissions	2.29	10.21	0.69	3.06
Paved Haulroad Emissions	133.98	587.62	40.19	176.29
Fugitive Emissions Total	**138.34**	**606.92**	**41.40**	**181.62**
POINT SOURCE EMISSIONS				
Equipment Emissions	148.52	514.97	17.32	62.30
Transfer Point Emissions	27.64	70.42	9.05	25.87
Point Source Emissions Total*	**176.16**	**585.39**	**26.37**	**88.18**
*Note: Point Source Total Controlled PM-10 TPY emissions is used for 45CSR30 Major Source determination				
Facility Emissions Total	**314.50**	**1,192.30**	**67.77**	**269.80**

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	5.000	21.900	0.500	2.190	2.350	10.293	0.235	1.029
CR-02	16.000	70.080	1.600	7.008	7.520	32.938	0.752	3.294
CR-03	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
TOTAL	31.000	135.780	3.100	13.578	14.570	63.817	1.457	6.382

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	25.000	109.500	3.750	16.425	11.750	51.465	1.763	7.720
SS-02	80.000	350.400	12.000	52.560	37.600	164.688	5.640	24.703
SS-03	180.000	500.000	18.000	50.000	84.600	235.000	8.460	23.500
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTAL	285.000	959.900	33.750	118.985	133.950	451.153	15.863	55.923

Crushing and Screening	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TOTAL	316.000	1095.680	36.850	132.563	148.520	514.970	17.320	62.305

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	1.575	3.450	0.158	0.345	0.745	1.632	0.075	0.163
TP02	1.575	3.450	0.315	0.690	0.745	1.632	0.149	0.326
TP03	1.575	3.450	0.315	0.690	0.745	1.632	0.149	0.326
TP04	1.575	3.450	1.575	3.450	0.745	1.632	0.745	1.632
TP05	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP06	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP07	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP08	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP09	0.197	0.863	0.197	0.863	0.093	0.408	0.093	0.408
TP10	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP11	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP12	0.197	0.863	0.020	0.086	0.093	0.408	0.009	0.041
TP13	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP14	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP15	0.197	0.863	0.197	0.863	0.093	0.408	0.093	0.408
TP16	0.197	0.863	0.030	0.129	0.093	0.408	0.014	0.061
TP17	0.197	0.863	0.020	0.086	0.093	0.408	0.009	0.041
TP18	0.197	0.863	0.039	0.173	0.093	0.408	0.019	0.082
TP19	0.197	0.863	0.197	0.863	0.093	0.408	0.093	0.408
TP20	0.630	2.760	0.630	2.760	0.298	1.306	0.298	1.306
TP21	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP22	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP23	0.630	2.760	0.063	0.276	0.298	1.306	0.030	0.131
TP24	0.630	2.760	0.095	0.414	0.298	1.306	0.045	0.196
TP25	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP26	0.630	2.760	0.630	2.760	0.298	1.306	0.298	1.306
TP27	0.630	2.760	0.126	0.552	0.298	1.306	0.060	0.261
TP28	0.630	2.760	0.630	2.760	0.298	1.306	0.298	1.306
TP29	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP30	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP31	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP32	0.394	1.725	0.039	0.173	0.186	0.816	0.019	0.082
TP33	0.394	1.725	0.079	0.345	0.186	0.816	0.037	0.163
TP34	0.394	1.725	0.394	1.725	0.186	0.816	0.186	0.816
TP35	1.418	3.939	1.418	3.939	0.671	1.863	0.671	1.863
TP36	1.418	3.939	1.418	3.939	0.671	1.863	0.671	1.863
TP37	1.418	3.939	0.284	0.788	0.671	1.863	0.134	0.373
TP38	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP39	1.418	3.939	1.418	3.939	0.671	1.863	0.671	1.863
TP40	1.418	3.939	0.284	0.788	0.671	1.863	0.134	0.373
TP41	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP42	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP43	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP44	1.418	3.939	0.142	0.394	0.671	1.863	0.067	0.186
TP45	1.969	3.939	0.394	0.788	0.931	1.863	0.186	0.373
TP46	1.969	3.939	0.394	0.788	0.931	1.863	0.186	0.373
TP47	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
TP48	1.575	3.939	0.315	0.788	0.745	1.863	0.149	0.373
TP49	1.575	3.939	0.158	0.394	0.745	1.863	0.075	0.186
TP50	1.575	3.939	0.788	1.969	0.745	1.863	0.373	0.931
TP51	2.757	3.939	0.551	0.788	1.304	1.863	0.261	0.373
TP52	2.757	3.939	0.551	0.788	1.304	1.863	0.261	0.373

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	2.757	3.939	0.551	0.788	1.304	1.863	0.261	0.373
TP54	2.757	3.939	0.689	0.985	1.304	1.863	0.326	0.466
TP55	0.180	0.788	0.180	0.788	0.085	0.373	0.085	0.373
TP56	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
TP57	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
TP58	1.575	1.969	0.315	0.394	0.745	0.931	0.149	0.186
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	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
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	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	58.432	148.882	19.142	54.703	27.637	70.417	9.054	25.873

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	3.944	17.276	0.986	4.319	1.854	8.120	0.463	2.030
OS-02	0.040	0.174	0.010	0.043	0.019	0.082	0.005	0.020
OS-03	0.129	0.566	0.032	0.142	0.061	0.266	0.015	0.067
OS-04	0.129	0.566	0.032	0.142	0.061	0.266	0.015	0.067
OS-05	0.174	0.762	0.044	0.191	0.082	0.358	0.020	0.090
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	4.417	19.345	1.104	4.836	2.076	9.092	0.519	2.273

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	3.87	17.29	1.16	5.19	1.14	5.10	0.34	1.53
2	3.87	17.29	1.16	5.19	1.14	5.10	0.34	1.53
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	7.75	34.59	2.32	10.38	2.29	10.21	0.69	3.06

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	572.39	2510.48	171.72	753.14	111.65	489.68	33.49	146.90
2	114.48	502.10	34.34	150.63	22.33	97.94	6.70	29.38
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	686.87	3012.57	206.06	903.77	133.98	587.62	40.19	176.29

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)	70	
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)