

P & A Engineers and Consultants, Inc.

312 Justice Avenue
Logan, WV 25601

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

March 25, 2016

Id. No. 777-00138 Reg. G40-C075-P1

Company Premium Energy, LLC

Facility Pax Region 4

Initials PEM

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



RE: Premium Energy, LLC
G40C Relocation Application
Facility ID: 777-00138

Dear Mr. Durham:

On behalf of Premium Energy, P & A Engineers and Consultants, Inc. submits the enclosed G40C Relocation/Construction Application for the above-referenced facility. The submittal fee of \$1500 and additional permit copies are enclosed.

The application addresses the construction and operation of a rock crusher/screening system that is being transferred from the Camp Branch Surface Mine to the Pax Surface Mine. In addition to the relocation, Premium Energy proposes to add a power screen system – the system is also addressed in this application.

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

Entire Document
NON-CONFIDENTIAL

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WVDAQ Registration Application

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

APPLICATION FOR GENERAL PERMIT REGISTRATION

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

PLEASE CHECK ALL THAT APPLY (IF KNOWN):

☒ CONSTRUCTION ☐ MODIFICATION ☒ RELOCATION
☐ ADMINISTRATIVE UPDATE ☐ AFTER-THE-FACT

FOR AGENCY USE ONLY: PLANT I.D. # _____

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-D – Natural Gas Compressor Stations
- ☐ G33-A – Class I Spark Ignition Internal Combustion Engine
- ☐ G35-A – Natural Gas Compressor Stations (Flare/Glycol Dehydration Unit)

- ☒ G40-C – Nonmetallic Minerals Processing
- ☐ G50-B – Concrete Batch
- ☐ G60-C – Class II Emergency Generator
- ☐ G65-C – Class I Emergency Generator

SECTION I. GENERAL INFORMATION

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

PREMIUM ENERGY, LLC

2. FEDERAL EMPLOYER ID NO. (FEIN):

20-3562770

3. APPLICANT'S MAILING ADDRESS:

PO BOX 1098, HOLDEN, WV 25625

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

ALPHA NATURAL RESOURCES

5. WV BUSINESS REGISTRATION. IS THE APPLICANT A RESIDENT OF THE STATE OF WEST VIRGINIA? ☒ YES ☐ NO

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

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

SECTION II. FACILITY INFORMATION

7. TYPE OF PLANT OR FACILITY (STATIONARY SOURCE) TO BE CONSTRUCTED, MODIFIED, RELOCATED OR ADMINISTRATIVELY UPDATED (E.G., COAL PREPARATION PLANT, PRIMARY CRUSHER, ETC.):

Relocating to Pax Surface Mine – changing material flow and adding several belt conveyors and stockpiles

8. STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE FOR THE FACILITY:

1422

9A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY): 777-00138	10A. LIST ALL CURRENT 45CSR13 AND 45CSR30 (TITLE V) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR EXISTING FACILITY ONLY): G40-C075
--	--

PRIMARY OPERATING SITE INFORMATION

11A. NAME OF PRIMARY OPERATING SITE: PAX SURFACE MINE	12A. MAILING ADDRESS OF PRIMARY OPERATING SITE: SAME AS ABOVE	
13A. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE <i>PROPOSED SITE</i> ? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO ⇨ IF YES, PLEASE EXPLAIN: OWNED AND OPERATED BY ALPHA NATURAL RESOURCES ⇨ 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 <i>PRESENT LOCATION</i> OF THE FACILITY FROM THE NEAREST STATE ROAD; ⇨ FOR CONSTRUCTION OR RELOCATION PERMITS, PLEASE PROVIDE DIRECTIONS TO <i>THE PROPOSED NEW SITE LOCATION</i> FROM THE NEAREST STATE ROAD. Route 119 South toward Logan, take Route 10 toward Man, follow about 5 miles, take left onto Rum Creek or Dehue Road, follow to foot of Blair Mountain at guard shack and ask for directions to site. <hr/> INCLUDE A MAP AS ATTACHMENT F.		
15A. NEAREST CITY OR TOWN: Pax	16A. COUNTY: Raleigh	
17A. UTM NORTHING (KM): 81-17-44 4193.55911	18A. UTM EASTING (KM): 37-53-21 474.01198	19A. UTM ZONE: 17

1ST ALTERNATE OPERATING SITE INFORMATION (G20-B, G40-C, G50-C only)

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 <i>PROPOSED SITE</i> ? <input type="checkbox"/> YES <input type="checkbox"/> 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 <i>PRESENT LOCATION</i> OF THE FACILITY FROM THE NEAREST STATE ROAD; ⇒ FOR CONSTRUCTION OR RELOCATION PERMITS , PLEASE PROVIDE DIRECTIONS TO <i>THE PROPOSED NEW SITE LOCATION</i> 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 (G20-B, G40-C, G50-C only)

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 <i>PROPOSED SITE</i> ? <input type="checkbox"/> YES <input type="checkbox"/> 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 <i>PRESENT LOCATION</i> OF THE FACILITY FROM THE NEAREST STATE ROAD; ⇒ FOR CONSTRUCTION OR RELOCATION PERMITS , PLEASE PROVIDE DIRECTIONS TO <i>THE PROPOSED NEW SITE LOCATION</i> 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: May 30, 2016 ⇒ 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: May 30, 2016	
22. PROVIDE MAXIMUM PROJECTED OPERATING SCHEDULE OF ACTIVITY/ ACTIVITIES OUTLINED IN THIS APPLICATION: HOURS PER DAY 24 DAYS PER WEEK 7 WEEKS PER YEAR 52 PERCENTAGE OF OPERATION 100%			

**WEST VIRGINIA
STATE TAX DEPARTMENT
BUSINESS REGISTRATION
CERTIFICATE**

ISSUED TO:
**PREMIUM ENERGY LLC
COUNTY RD 10-2
WHARNCLIFFE, WV 25651-0000**

BUSINESS REGISTRATION ACCOUNT NUMBER: 1010-7200

This certificate is issued on: 06/24/2011

*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.

ATTACHMENT B

PROCESS DESCRIPTION

Rock from adjacent overburden areas will be transferred to BS-01(PW) by front end loader @ TP-01(UD-PW); go to belt conveyor BC-01(NC) @ TP-02(TC-PE); and transfer to screen SS-01(PW) @ TP-03(TC-PW). The screen will discharge material by size to two separate stockpiles OS-01(SW-WS) and OS-02(SW-WS) via belt conveyors BC-02(NC) and BC-03(NC) @ TP-04(TC-FE) thru TP-08(TC-MDH). The screen will transfer to belt conveyor BC-04(NC) @ TP-10(TC-FE) and feed bin BS-02(PW) @ TP-11(TC-PW). From BS-02, material will transfer to BC-05(NC) @ TP-12(TC-PE) to the crusher CR-01(FE) @ TP-13(TC-FE). The material will be crushed and discharged to stockpiles OS-03(SW-WS), OS-04(SW-WS), OS-05(SW-WS) according to size via belt conveyors BC-06(NC), BC-07(NC), and BC-08(NC) @ TP-14(TC-FE) thru TP-21(LO-MDH). Material will be loaded to truck for distribution on mine site at TP-06(LO-MDH), TP-09(LO-MDH), TP-16(LO-MDH), TP-18(LO-MDH), and TP-22(LO-MDH).

Company officials have agreed to install a portable water spray system to control fugitive emissions as required by the General Permit Program.

Although the application contains a Certificate of Conformity, no emission calculations are available on which to base the conformity. Therefore, AP-42 emission calculations are to be used for the basis of permit requirements.

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. 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. New course gravel base material will be added to unpaved haulroads as needed.

This document was too large to scan. If interested in viewing please contact: dep[foia@wv.gov](mailto:depfoia@wv.gov) or

West Virginia Department of Environmental Protection Public Information Office

FOIA Request

601 57th St. S.E.

Charleston, WV 25304.

The fax number is 304-926-0447.

Thank you.



west virginia department of environmental protection

Prepared by:



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

Drawing Date:

03/24/16

Drawn By:

G. Caudill

Computer No.:

16035

Topo Contour Interval:

na

Scale:

na

Sheet No.:

1 of 1

Submittal Date:
April 2016

No.	Date	Revision	By
1			
2			
3			
4			
5			

Premium Energy, LLC

P.O. Box 1080
Holden, WV 25625

Pax Crusher / Screen System

Facility ID Number 777-00138
Division of Air Quality
Material Flow Diagram

This document was too large to scan. If interested in viewing please contact: dep[foia@wv.gov](mailto:depfoia@wv.gov) or

West Virginia Department of Environmental Protection Public Information Office

FOIA Request

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The fax number is 304-926-0447.

Thank you.



west virginia department of environmental protection

Prepared by:



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No.	Date	Revision	By
1			
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3			
4			
5			

Drawing Date:

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G. Caudill

Computer No.:

16036

Topo Contour Interval:

na

Scale:

na

Sheet No.:

1 of 1

Submittal Date:
April 2016

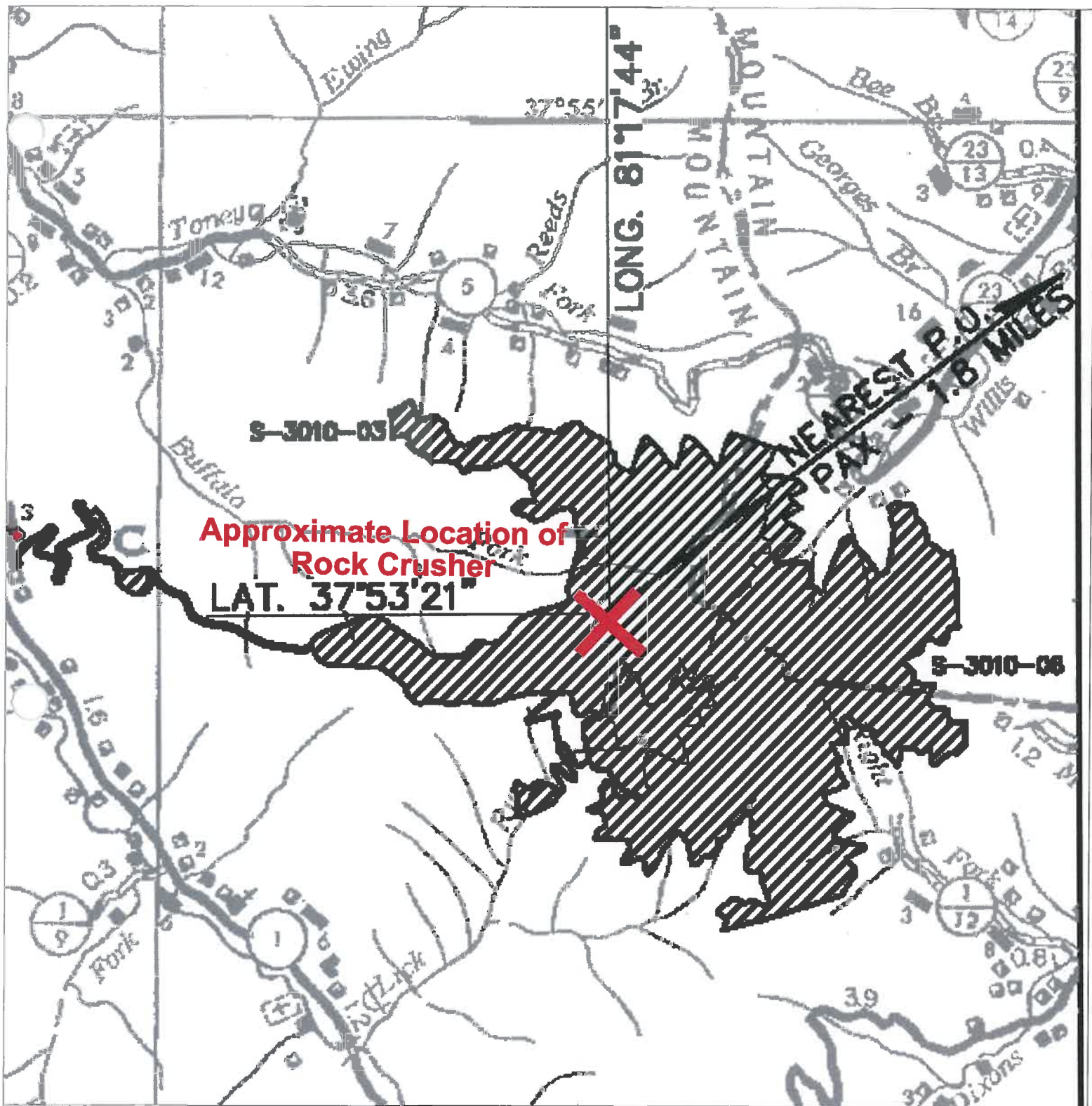
Premium Energy, LLC

P.O. Box 1080

Holden, WV 25625

Pax Crusher / Screen System

Facility ID Number 777-00138
Division of Air Quality
Site Plan



Premium Energy, LLC

P.O. Box 1098

Holden, WV 25625

Pax Surface Mine
Division of Air Quality

SITE MAP

Prepared by:
PA
ENGINEERS &
CONSULTANTS
PO Box 470 Alamogordo, WV 25225
(304) 755-4000

16028.dwg

Lon/Lat

Longitude: - 81 d 17 m 44
SLatitude: + 37 d 53 m 21
S

DD: -81.295556 37.889167

Datum: ☐ NAD27 ☒ NAD83

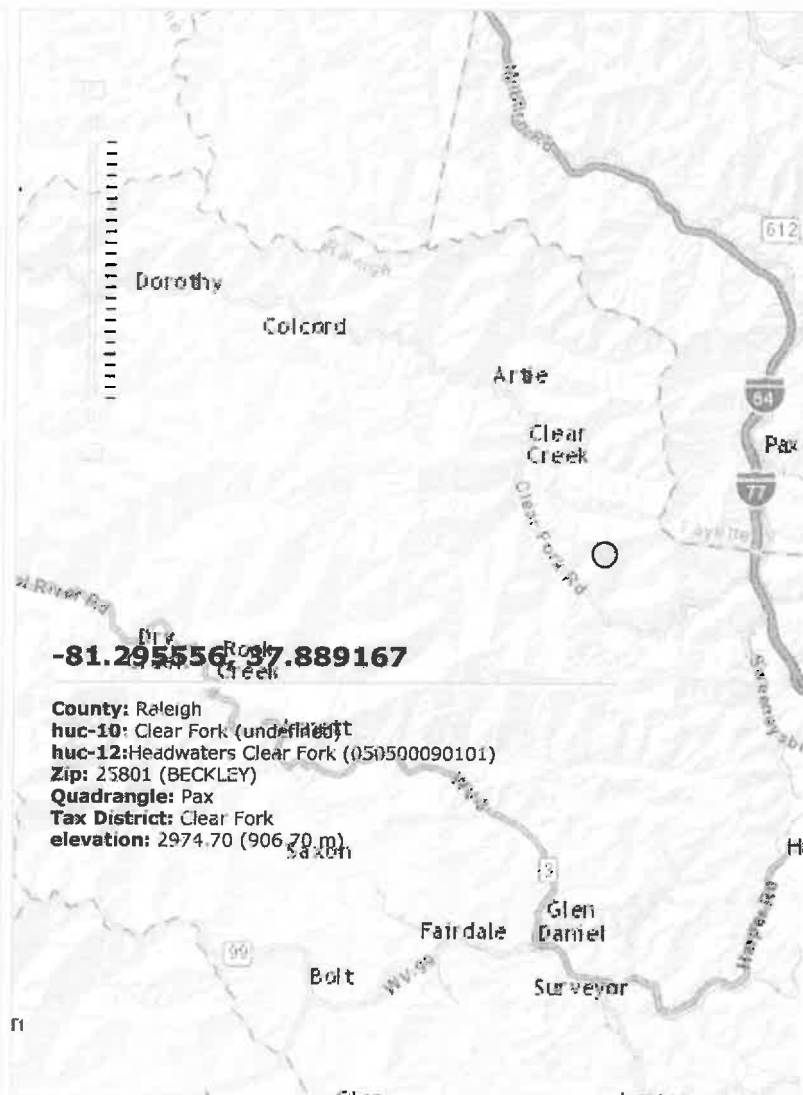
UTM

Coordinates: 474011.98 E 4193559.11 N

Datum: ☐ NAD27 ☒ NAD83 Zone: 17

WV State Plane (feet)

Coordinates: 1450138.38 E -217325.20 N

Datum: ☐ NAD27 ☒ NAD83 Zone: North☒ street map ☐ image ☐ topo

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number ¹		CR-01					
Type of Crusher or Screen ²		DR					
Date of Manufacture ³		2011					
Maximum Throughput ⁴	tons/hour	400					
	tons/year	3,504,000					
Material sized from/to ⁵		6 x 0					
Average Moisture Content (%) ⁶		3					
Control Device ID Number ⁷		PW					
Baghouse Stack Parameters ⁸	height (ft)	N/A					
	diameter (ft)						
	volume (ACFM)						
	exit temp (°F)						
	UTM Coordinates						
Maximum Operating Schedule ⁹	hours/day	24					
	days/year	365					
	hours/year	8760					
Percentage of Operation ¹⁰	January-March	25					
	April-June	25					
	July-September	25					
	Oct-December	25					

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

HM	Hammermill	SS	Stationary Screen
DR	Double Roll Crusher	SD	Single Deck Screen
BM	Ball Mill	DD	Double-Deck Screen
RB	Rotary Breaker	TD	Triple Deck Screen
JC	Jaw Crusher	OT	Other
GC	Gyratory Crusher		
OT	Other - Quadroll		
3. Enter the date that each crusher and screen was manufactured.
4. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
5. Describe the nominal material size reduction (e.g. +2" / -").
6. Enter the average percent moisture content of the material processed.
7. Enter the appropriate Control Device Identification Number for each crusher and screen. Refer to Table A - *Control Device Listing and Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.
8. Enter the appropriate stack parameters if a baghouse control device is used.
9. Enter the maximum operating schedule for each crusher and screen in hours per day, days per year and hours per year.
10. Enter the estimated percentage of operation throughout the year for each crusher and screen.

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number ¹		SS-01					
Type of Crusher or Screen ²		DD					
Date of Manufacture ³		2011					
Maximum Throughput ⁴	tons/hour	400					
	tons/year	3,504,000					
Material sized from/to: ⁵		6 x 0					
Average Moisture Content (%) ⁶		3					
Control Device ID Number ⁷		PW					
Baghouse Stack Parameters ⁸	height (ft)	N/A					
	diameter (ft)						
	volume (ACFM)						
	exit temp (°F)						
	UTM Coordinates						
Maximum Operating Schedule ⁹	hours/day	24					
	days/year	365					
	hours/year	8760					
Percentage of Operation ¹⁰	January-March	25					
	April-June	25					
	July-September	25					
	Oct-December	25					

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

HM Hammermill DR Double Roll Crusher BM Ball Mill RB Rotary Breaker JC Jaw Crusher GC Gyratory Crusher OT Other - Quadroll	SS Stationary Screen SD Single Deck Screen DD Double-Deck Screen TD Triple Deck Screen OT Other
---	--
3. Enter the date that each crusher and screen was manufactured.
4. Enter the maximum throughput for each crusher and screen in tons per hour and tons per year.
5. Describe the nominal material size reduction (e.g. +2" / -").
6. Enter the average percent moisture content of the material processed.
7. Enter the appropriate Control Device Identification Number for each crusher and screen. Refer to Table A - *Control Device Listing and Control Device Identification Number Instructions* in the *Reference Document* for Control Device ID prefixes and numbering.
8. Enter the appropriate stack parameters if a baghouse control device is used.
9. Enter the maximum operating schedule for each crusher and screen in hours per day, days per year and hours per year.
10. Enter the estimated percentage of operation throughout the year for each crusher and screen.

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	2011	Rock	6x0	400	3,504,000	3	None
BC-02	2011	Rock	-2x0	400	3,504,000	3	None
BC-03	2011	Rock	2x0	400	3,504,000	3	None
BC-04	2011	Rock	+3	400	3,504,000	3	None
BC05	2011	Rock	+3	400	3,504,000	3	None
BC-06	2011	Rock	-2x0	400	3,504,000	3	None
BC-07	2011	Rock	2x0	400	3,504,000	3	None
BC-08	2011	Rock	3x0	400	3,504,000	3	None

STORAGE ACTIVITY AFFECTED SOURCE SHEET

Source Identification Number ¹	BS-01	BS-02			
Type of Material Stored ²	Rock	Rock			
Average Moisture Content (%) ³	3	3			
Maximum Yearly Storage Throughput (tons) ⁴	3,504,000	3,504,000			
Maximum Storage Capacity (tons) ⁵	10	10			
Maximum Base Area (ft ²) ⁶					
Maximum Pile Height (ft) ⁷					
Method of Material Load-in ⁸	Endloader	Endloader			
Load-in Control Device Identification Number ⁹	UD-PW	UD-PW			
Storage Control Device Identification Number ⁹	PW	PW			
Method of Material Load-out ⁸	SS	SS			
Load-out Control Device Identification Number ⁹	TC-PE	TC-PE			

1. Enter the appropriate Source Identification Number for each storage activity using the following codes. For example, if the facility utilizes three storage bins, four open stockpiles and one storage building (full enclosure), the Source Identification Numbers should be BS-1, BS-2, and BS-3; OS-1, OS-2, OS-3, and OS-4; and SB-1, respectively.

BS Bin or Storage Silo (full enclosure)
 OS Open Stockpile
 SF Stockpiles with wind fences

E3 Enclosure (three sided enclosure)
 SB Storage Building (full enclosure)
 OT Other

2. Describe the type of material stored or stockpiled (e.g. clean coal, raw coal, refuse, etc).
 3. Enter the average percent moisture content of the stored material.
 4. Enter the maximum yearly storage throughput for each storage activity.
 5. Enter the maximum storage capacity for each storage activity in tons (e.g. silo capacity, maximum stockpile size, etc.)
 6. For stockpiles, enter the maximum stockpile base area.
 7. For stockpiles, enter the maximum stockpile height.
 8. Enter the method of load-in or load-out to/from stockpiles or bins using the following codes:

CS Clamshell
 FC Fixed Height Chute from Bins
 FE Front Endloader
 MC Mobile Conveyor/Stacker
 UC Under-pile or Under-Bin Reclaim Conveyor
 RC Rake or Bucket Reclaim Conveyor

SS Stationary Conveyor/Stacker
 ST Stacking Tube
 TC Telescoping Chute from Bins
 TD Truck Dump
 PC Pneumatic Conveyor/Stacker
 OT Other

STORAGE ACTIVITY AFFECTED SOURCE SHEET

Source Identification Number ¹	OS-1	OS-2	OS-3	OS-4	OS-5
Type of Material Stored ²	Rock	Rock	Rock	Rock	Rock
Average Moisture Content (%) ³	3	3	3	3	3
Maximum Yearly Storage Throughput (tons) ⁴	3,504,000	3,504,000	3,504,000	3,504,000	3,504,000
Maximum Storage Capacity (tons) ⁵	5,000	5,000	5,000	5,000	5,000
Maximum Base Area (ft ²) ⁶	8,869	8,869	8,869	8,869	8,869
Maximum Pile Height (ft) ⁷	25'	25'	25'	25'	25'
Method of Material Load-in ⁸	SS	SS	SS	SS	SS
Load-in Control Device Identification Number ⁹	TC-MDH	TC-MDH	TC-MDH	TC-MDH	TC-MDH
Storage Control Device Identification Number ⁹	SW-WS	SW-WS	SW-WS	SW-WS	SW-WS
Method of Material Load-out ⁸	FE	FE	FE	FE	FE
Load-out Control Device Identification Number ⁹	LO-MDH	LO-MDH	LO-MDH	LO-MDH	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

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: _____ ft²
7. Operating air to cloth ratio: _____ ft/min
8. Filter media type: _____
9. Stabilized static pressure drop across baghouse: _____ inches H₂O
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:

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

Name of applicant: Premium Energy
Name of plant: Rock Crusher
Apr-16

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

Primary Crusher ID Number	Description	Maximum Material Processing Capacity		Control Device	Control Efficiency
		TPH	TPY	ID Number	%
CR-01	CRUSHER	400	3,504,000	FE	80

[illegible][illegible]

Page 2

		PM	PM-10
k =	Particle Size Multiplier (dimensionless)	0.0029	0.0014
U =	Mean Wind Speed (mph)	7	

[illegible]

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

Page 3

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	1" stone	10	8,869	SW-WS	75
OS-02	2" Stone	10	8,869	SW-WS	75
OS-03	1" stone	10	8,869	SW-WS	75
OS-04	2" Stone	10	8,869	SW-WS	75
OS-05	3" stone	10	8,869	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									
2	Rock Out 3,504,000	10	25	15	1	16	140,160	HR-WS	75
3	Endloader 3,504,000	4	20	5	0.01	20	175,200	HR-WS	75
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/m 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							
2							
3							
4							
5							
6							
7							
8							

EMISSIONS SUMMARY

Name of applicant: Premium Energy

Name of plant: Rock Crusher

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

Uncontrolled PM		Controlled PM	
lb/hr	TPY	lb/hr	TPY

FUGITIVE EMISSIONS				
<i>Stockpile Emissions</i>	0.57	2.48	0.14	0.62
<i>Unpaved Haulroad Emissions</i>	230.03	1,007.53	57.51	251.88
<i>Paved Haulroad Emissions</i>	0.00	0.00	0.00	0.00
Fugitive Emissions Total	230.60	1,010.01	57.65	252.50

POINT SOURCE EMISSIONS				
<i>Equipment Emissions</i>	12.88	56.41	2.58	11.28
<i>Transfer Point Emissions</i>	0.07	0.31	0.04	0.20
Point Source Emissions Total*	12.95	56.73	2.62	11.48
*Note: Point Source Total Controlled PM TPY emissions is used for 45CSR14 Major Source determination (see below)				

Facility Emissions Total	243.55	1,066.74	60.27	263.98
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***Facility Potential to Emit (PTE) (Baseline Emissions) = 11.48**

(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				
<i>Stockpile Emissions</i>	0.27	1.17	0.07	0.29
<i>Unpaved Haulroad Emissions</i>	48.39	211.96	12.10	52.99
<i>Paved Haulroad Emissions</i>	0.00	0.00	0.00	0.00
Fugitive Emissions Total	48.66	213.13	12.16	53.28

POINT SOURCE EMISSIONS				
<i>Equipment Emissions</i>	6.13	26.86	1.23	5.37
<i>Transfer Point Emissions</i>	0.03	0.15	0.02	0.10
Point Source Emissions Total*	6.17	27.02	1.25	5.47
*Note: Point Source Total Controlled PM-10 TPY emissions is used for 45CSR30 Major Source determination				

Facility Emissions Total	54.83	240.14	13.41	58.75
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Page 1

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	0.28	1.23	0.06	0.25	0.13	0.58	0.03	0.12
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	0.28	1.23	0.06	0.25	0.13	0.58	0.03	0.12

[illegible]

Screen ID Number	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
SS-01	12.60	55.19	2.52	11.04	6.00	26.28	1.20	5.26
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL	12.60	55.19	2.52	11.04	6.00	26.28	1.20	5.26

Crushing and Screening	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
TOTAL	12.88	56.41	2.58	11.28	6.13	26.86	1.23	5.37

1. Emissions From CRUSHING AND SCREENING (Continued)

Page 2

EMISSION FACTORS

source: AP42, Fifth Edition, Revised 01/95

(lb/ton of material throughput)

PM	
Primary Crushing	0.0007
Tertiary Crushing	0.00504
Screening	0.0315

PM-10	
Primary Crushing	0.000333
Tertiary Crushing	0.0024
Screening	0.015

2. Emissions From TRANSFER POINTS

[illegible]

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.07	0.31	0.04	0.20	0.03	0.15	0.02	0.10

Source:

AP-42 Fifth Edition

13.2.4 Aggregate Handling and Storage Piles

Emissions From Batch Drop

$$E = k(0.0032) * [(U/5)^{1.3}/((M/2)^{1.4})] = \text{pounds/ton}$$

Where:

		PM	PM-10
k =	Particle Size Multiplier (dimensionless)	0.0029	0.0014
U =	Mean Wind Speed (mph)		
M =	Material Moisture Content (%)		

Assumptions:

k - Particle size multiplier

For PM (< or equal to 30um) k = 0.0029

For PM-10 (< or equal to 10um) k = 0.0014

For PM $E(M) = 1.437E-05 * [1/((M/2)^{1.4})] = \text{pounds/ton}$

For PM-10 $E(M) = 6.938E-06 * [1/((M/2)^{1.4})] = \text{pounds/ton}$

For lb/hr $[\text{lb/ton}] * [\text{ton/hr}] = [\text{lb/hr}]$

For Tons/year $[\text{lb/ton}] * [\text{ton/yr}] * [\text{ton}/2000\text{lb}] = [\text{ton/yr}]$

3. Emissions From WIND EROSION OF STOCKPILES

Stockpile ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
OS-01	0.11	0.50	0.03	0.12	0.05	0.23	0.01	0.06
OS-02	0.11	0.50	0.03	0.12	0.05	0.23	0.01	0.06
OS-03	0.11	0.50	0.03	0.12	0.05	0.23	0.01	0.06
OS-04	0.11	0.50	0.03	0.12	0.05	0.23	0.01	0.06
OS-05	0.11	0.50	0.03	0.12	0.05	0.23	0.01	0.06
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTALS	0.57	2.48	0.14	0.62	0.27	1.17	0.07	0.29

Source:

Air Pollution Engineering Manual

Storage Pile Wind Erosion (Active Storage)

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

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

For PM $E(s) = 1.3374941 * s = \text{lb/day/acre}$

For PM-10 $E(s) = 0.6286222 * s = \text{lb/day/acre}$

For lb/hr $[\text{lb/day/acre}] * [\text{day/24hr}] * [\text{base area of pile (acres)}] = \text{lb/hr}$

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

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	227.49	996.39	56.87	249.10	47.85	209.57	11.96	52.39
3	2.54	11.14	0.64	2.78	0.55	2.40	0.14	0.60
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	230.03	1007.53	57.51	251.88	48.39	211.96	12.10	52.99

Source:

AP-42 9/98 Edition

13.2.2 Unpaved Roads

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

$$E = [(k \cdot (s/12)^a \cdot (W/3)^b) / ((M_{dry}/0.2)^c)] \cdot [(365-p)/365] = \text{lb / Vehicle Mile Traveled (VMT)}$$

Where:

		PM	PM-10
k =	particle size multiplier	10.00	2.60
a =	empirical constant	0.8	0.8
b =	empirical constant	0.5	0.4
c =	empirical constant	0.4	0.3
M _{dry} =	surface material moisture content (%) - dry conditions	0.2	
p =	number of days with at least 0.01 inches of precipitation	157	
s =	silt content of road surface material (%)	10	
W =	Mean vehicle weight (tons)		

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:

AP-42 10/01 Edition

13.2.1 PAVED ROADS

Emission Estimate For Paved Haulroads

$$E = k * [sL/2]^{0.65} * [W/3]^{1.5} * [1 - (P / (2*N))] = \text{lb / Vehicle Mile Traveled (VMT)}$$

Where:

		PM	PM-10
k =	particle size multiplier	0.082	0.016
sL =	road surface silt loading, (g/m ²)	70	
P =	number of days per year with precipitation >0.01 inch	157	
N =	number of days in averaging period	365	
W =	average vehicle weight, (ton)		

TERIA POLLUTANTS

AP-42 5th Edition Section 3.3 Gasoline and Diesel Industrial Engines (10/96) - Table 3.3-1 for Diesel Fuel

	202	kW
Diesel Fuel Engine	275	hp
Max. Hours of Operation (8 hrs/day, 5 days/week, 26 weeks/year)	1040	hrs/year
Heating Value for diesel	128700	Btu/gal

E (hourly) = Emission Factor (lb/hp-hr) * Horse Power (hp)

E (annual) = Emission Factor (lb/hp-hr) * Horse Power (hp) * Maximum Hours of Operation * 1 ton
per 2000 lb

Pollutant		Emission Factor (lb/hp-hr)	Emission Factor (lb/MMBtu)	Rating	lb/hour	TPY
NOx	AP42	0.03100	4.41	D	8.5250	4.433
CO	AP42	0.00668	0.95	D	1.8370	0.955
SOx	AP42	0.00205	0.29	D	0.5638	0.293
PM/PM10	AP42	0.00220	0.31	D	0.6050	0.315
TOC	AP42	0.00247	0.35	D	0.6793	0.353

HAZARDOUS AIR POLLUTANTS

42 5th Edition Section 3.3 Gasoline and Diesel Industrial Engines (10/96) - Table 3.3-2
45CSR30 Table 45-30A Hazardous Air Pollutants

Diesel Fuel Engine	275	hp		
Maximum Hours of Operation (8 hrs/day, 5 days/week, 26 weeks/year)	1040	hours/year		
Maximum diesel usage, based on EPA WebFIRE/AP-42 3.4-1 assumptions on diesel	19000	Btu/lb		
	7.1	lb/gal		
Heating Value for diesel	134900	BTU/US gal		
Maximum diesel usage at 1800 rpm	13.9	gal/hour		

E (hourly) = Emission Factor (lb/hp-hr) * Horse Power (hp)

E (annual) = Emission Factor (lb/hp-hr) * Horse Power (hp) * Maximum Hours of Operation * 1 ton
per 2000 lb

CAS NO.		Emission Factor (lb/MMBtu)	Rating	lb/hour	TPY
71-43-2	Benzene	0.000933	E	0.00175	0.00091
108-88-3	Toluene	0.000409	E	0.00077	0.000399
	Xylenes	0.000285	E	0.00053	0.000278
	1,3-Butadiene	0.0000391	E	7.3E-05	3.81E-05
50-00-0	Formaldehyde	0.00118	E	0.00221	0.001151
	Acetaldehyde	0.000767	E	0.00144	0.000748
	Acrolein	0.0000925	E	0.00017	9.02E-05
91-20-3	Naphthalene	0.0000848	E	0.00016	8.27E-05

Burning diesel fuel:

Total HAPs 0.00711 0.003696
lb/hour TPY

ENGINE DATA SHEET

Source Identification Number ¹		E-1					
Engine Manufacturer and Model		Scania					
Manufacturer's Rated bhp/rpm		1800					
Source Status ²		NS					
Date Installed/Modified/Removed (Month/Year) ³		April 2011					
Engine Manufactured/Reconstruction Date ⁴		April 2011					
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart IIII? (Yes or No) ⁵		Yes					
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart JJJJ? (Yes or No) ⁶		No					
Engine, Fuel and Combustion Data	Engine Type	4 Stroke					
	APCD Type ⁸	SCR					
	Fuel Type ⁹	Diesel					
	H ₂ S (gr/100 scf)	N/A					
	Operating bhp/rpm	N/A					
	BSFC (Btu/bhp-hr)	N/A					
	Fuel throughput (ft ³ /hr)	13.9 GPH					
	Fuel throughput (MMft ³ /yr)	14,456 GPY					
	Operation (hrs/yr)	1040					
Reference ¹⁰	Potential Emissions ¹¹	lbs/hr	tons/yr				
	NO _x	8.5250	4.433				
	CO	1.8370	0.955				
	VOC	0.6793	0.353				
	SO ₂	0.5638	0.293				
	PM ₁₀	0.6050	0.315				
	Formaldehyde	0.00221	0.001151				

1. Enter the appropriate Source Identification Number for each reciprocating internal combustion compressor/generator engine located at the facility. Multiple compressor engines should be designated CE-1, CE-2, CE-3 etc. Emergency Generator engines should be designated EG-1, EG-2, EG-3 etc. If more than three (3) engines exist, please use additional sheets.

2. Enter the Source Status using the following codes:

NS Construction of New Source (installation)

ES Existing Source

MS Modification of Existing Source

RS Removal of Source

3. Enter the date (or anticipated date) of the engine's installation (construction of source), modification or removal.
4. Enter the date that the engine was manufactured, modified or reconstructed.
5. Is the engine a certified stationary compression ignition internal combustion engine according to 40CFR60 Subpart IIII. If so, the engine and control device must be operated and maintained in accordance with the manufacturer's emission-related written instructions. You must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If the certified engine is not operated and maintained in accordance with the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and you must demonstrate compliance according to 40CFR§60.4210 as appropriate.

Provide a manufacturer's data sheet for all engines being registered.

6. Is the engine a certified stationary spark ignition internal combustion engine according to 40CFR60 Subpart JJJJ. If so, the engine and control device must be operated and maintained in accordance with the manufacturer's emission-related written instructions. You must keep records of conducted maintenance to demonstrate compliance, but no performance testing is required. If the certified engine is not operated and maintained in accordance with the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine and you must demonstrate compliance according to 40CFR§60.4243a(2)(i) through (iii), as appropriate.

Provide a manufacturer's data sheet for all engines being registered.

7. Enter the Engine Type designation(s) using the following codes:

LB2S Lean Burn Two Stroke

RB4S Rich Burn Four Stroke

LB4S Lean Burn Four Stroke

8. Enter the Air Pollution Control Device (APCD) type designation(s) using the following codes:

A/F Air/Fuel Ratio

IR Ignition Retard

HEIS High Energy Ignition System

SIPC Screw-in Precombustion Chambers

PSC Prestratified Charge

LEC Low Emission Combustion

NSCR Rich Burn & Non-Selective Catalytic Reduction

SCR Lean Burn & Selective Catalytic Reduction

9. Enter the Fuel Type using the following codes:

PQ Pipeline Quality Natural Gas

RG Raw Natural Gas

2FO #2 Fuel Oil

LPG Liquid Propane Gas

10. Enter the Potential Emissions Data Reference designation using the following codes. Attach all referenced data to this *Compressor/Generator Data Sheet(s)*.

MD Manufacturer's Data

AP AP-42

GR GRI-HAPCalc™

OT Other _____ (please list)

11. Enter each engine's Potential to Emit (PTE) for the listed regulated pollutants in pounds per hour and tons per year. PTE shall be calculated at manufacturer's rated brake horsepower and may reflect reduction efficiencies of listed Air Pollution Control Devices. Emergency generator engines may use 500 hours of operation when calculating PTE. PTE data from this data sheet shall be incorporated in the *Emissions Summary Sheet*.

STORAGE TANK DATA SHEET

Source ID # ¹	Status ²	Content ³	Volume ⁴	Dia ⁵	Throughput ⁶	Orientation ⁷	Liquid Height ⁸
T1	Exist	Diesel	1,000	4	8,000	HORZ	

- Enter the appropriate Source Identification Numbers (Source ID #) for each storage tank located at the facility. Tanks should be designated T01, T02, T03, etc.
- Enter storage tank Status using the following:

EXIST Existing Equipment

REM Equipment Removed

NEW Installation of New Equipment
- Enter storage tank content such as condensate, pipeline liquids, glycol (DEG or TEG), lube oil, etc.
- Enter storage tank volume in gallons.
- Enter storage tank diameter in feet.
- Enter storage tank throughput in gallons per year.
- Enter storage tank orientation using the following:

VERT Vertical Tank

HORZ Horizontal Tank
- Enter storage tank average liquid height in feet.

EMISSION SUMMARY SHEET FOR CRITERIA POLLUTANTS

Registration Number (Agency Use) Pending										
		Potential Emissions (lbs/hr)					Potential Emissions (tons/yr)			
Source ID No.	NO _x	CO	VOC	SO ₂	PM ₁₀	NO _x	CO	VOC	SO ₂	PM ₁₀
Scania DC09	8.5250	1.8370	0.6793	0.5638	0.6050	4.433	0.955	0.353	0.293	0.315

Source ID No.	Benzene	Acetaldeh yde	Toluene	Xylenes	Formalde- hyde	Benzene	Acetaldehyd e	Toluene	Xylenes	Formalde- hyde
Scania DC09	0.00175	0.00144	0.00077	0.00053	0.00221	0.00091	0.000748	0.000399	0.000278	0.001151
Total	0.00175	0.00144	0.00077	0.00053	0.00221	0.00091	0.000748	0.000399	0.000278	0.001151

HAP TOTALS: 0.00711 lb/hour 0.003696 TPY

Legal Advertisement

**AIR QUALITY PERMIT NOTICE
Notice of Application**

Notice is given that Premium Energy, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a General Permit Relocation for a rock crushing/screening facility to be located on the Pax Branch Surface Mine, located near Pax, Raleigh County, WV. The facility coordinates are as follows: latitude 37.889167 and longitude -81.295556.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be 11 tons of particulate matter baseline emissions per year, 5 tons of point source emissions particulate matter less than 10 microns total per year, and 264 tons of the controlled facility emission total per year. The potential to emit criteria pollutants for the engine is estimated to be: NOx 4.433 tons per year, CO 0.955 ton per year, VOC 0.353 tons per year, SOx 0.293 tons per year and PM10 0.315 tons per year. The potential to emit hazardous pollutants from the engine is estimated to be: Benzene 0.00091 tons per year, Toluene 0.000399 tons per year, Xylene 0.000278 tons per year, Acetaldehyde 0.000748 tons per year, and Formaldehyde 0.001151 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 29th day of March 2016

By: Premium Energy, LLC
Michael G. Smith
Authorized Agent
PO Box 1098
Holden, WV 25625

ATTACHMENT K

**ELECTRONIC SUBMITTAL
LOCATED IN ORIGINAL COPY OF REGISTRATION
APPLICATION**

SECTION IV. CERTIFICATION OF INFORMATION

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

FOR A CORPORATION (domestic or foreign)

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

FOR A PARTNERSHIP

G I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

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

FOR AN ASSOCIATION

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

FOR A JOINT VENTURE

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

FOR A SOLE PROPRIETORSHIP

G I certify that I am the Owner and Proprietor

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 MICHAEL G. SMITH, AUTHORIZED REPRESENTATIVE

(please print or type)

Signature

(please use blue ink)

Authorized Representative (if applicable)

Date

Applicant's Name: PREMIUM ENERGY, LLC

Phone 304-239-2300

Email: msmith@alphar.com

PREMIUM ENERGY, LLC

TO

MICHAEL G. SMITH

APPOINTMENT OF AUTHORIZED AGENT

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

things necessary to carry out the purposes relative thereto, including to sign, execute and deliver other similar instruments relating to or required in connection with the Company's lands, operations and permits, including reporting requirements regarding greenhouse gas (GHG) emissions associated with facilities and mines. This authority shall become effective on the 1st day of October, 2013 (the "Effective Date"), and shall expire on the 30th day of September, 2016, unless sooner revoked and shall automatically terminate if Appointee at any time during the term hereof becomes no longer employed by the Company or one of its affiliates. As of the Effective Date, any prior authorized agent or power of attorney appointment by Company to Appointee hereupon shall be null, void and of no further force and effect with respect to actions taken on or after the Effective Date, but authorized actions taken by Appointee before the Effective Date pursuant to any such prior authorized agent or power of attorney appointment shall not be affected.

IN TESTIMONY WHEREOF, Premium Energy, LLC, has caused these presents to be signed and acknowledged by its respective officer thereunto duly authorized, all as of the 1st day of October, 2013.

PREMIUM ENERGY, LLC

By


Vaughn R. Groves, Vice President & Secretary

STATE OF VIRGINIA

CITY OF BRISTOL, to-wit:

I, Lisa D. Cook, a Notary Public in and for the State and City aforesaid, do hereby certify that Vaughn R. Groves, Vice President and Secretary of **PREMIUM ENERGY, LLC**, whose name as such is signed to the foregoing writing bearing date the 1st day of October, 2013, has this day, before me, in my said City, acknowledged the said writing.

Given under my hand and notarial seal this the 31st day of October, 2013.

My commission expires May 31, 2016.



Lisa Cook
NOTARY PUBLIC

SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

PLEASE CHECK ALL ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

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

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

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) 926-0475.



Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2012	CY9XL12.7CAA	12.7, 9.3	Diesel	8000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Smoke Puff Limiter, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst			Crane, Loader, Tractor, Dozer, Pump	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NO_x), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NO_x), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):


RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NO _x	NMHC+NO _x	CO	PM	ACCEL	LUG	PEAK
130 ≤ KW ≤ 560	Interim Tier 4/ ALT NO _x	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		CERT	0.02	1.9	—	0.7	0.02	—	—	—

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 13 day of February 2012.


Annette Hebert, Chief
Mobile Source Operations Division

1/10/2012

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930	
CY9XL12.7CAA	DC13 070A	1920593	394	162	135	1591	240	114.3	SCR	DOJ, TC, u, sfi, Amox, CO, and ECM
CY9XL12.7CAA	DC13 070A	1920594	444	181	150.8	1663	246	126.9	SCR	
CY9XL12.7CAA	DC13 070A	1920595	493	204	170	1750	259	133.6	SCR	
CY9XL12.7CAA	DC13 070A	1941160	543	224	185.8	1887	284	157.8	SCR	
CY9XL12.7CAA	DC09 070A	1948968	311	165.2	114.5	1235	232	147	SCR	
CY9XL12.7CAA	DC09 070A	1948969	326	171.6	118.9	1291	237.35	94.35	SCR	
CY9XL12.7CAA	DC09 070A	1920590	345	179.7	124.54	1328	247.28	98.3	SCR	
CY9XL12.7CAA	DC09 070A	1948970	370	191.2	132.25	1381	257.92	102.53	SCR	
CY9XL12.7CAA	DC09 070A	1920591	394	201.9	140	1451	261.6	104	SCR	
CY9XL12.7CAA	DC09 080A	2096408	271	146.2	101.3	1145	217.3	86.1	SCR	
CY9XL12.7CAA	DC09 080A	2096411	271	151.7	101.3	1145	217.3	86.1	SCR	
CY9XL12.7CAA	DC09 080A	2096412	271	151.7	101.3	1145	217.30	86.1	SCR	
CY9XL12.7CAA	DC13 080A	2096417	354	161.2	115.7	1122	164.4	72.4	SCR	
CY9XL12.7CAA	DC13 080A	2096418	354	161.2	115.7	1122	164.4	72.4	SCR	
CY9XL12.7CAA	DC13 082A	2096419	345	138.0	115.0	1438	203.7	96.9	SCR	
CY9XL12.7CAA	DC13 082A	2096420	380	166.5	118.9	1288	182.2	101.2	SCR	
CY9XL12.7CAA	DC13 083A	2112298	394	162	135	1591	240	114.3	SCR	
CY9XL12.7CAA	DC13 083A	2112299	444	181	150.8	1663	246	126.9	SCR	
CY9XL12.7CAA	DC13 083A	2112300	493	204	170	1750	259	133.6	SCR	
CY9XL12.7CAA	DC13 083A	2112301	543	224	185.8	1887	284	157.8	SCR	
CY9XL12.7CAA	DC09 083A	2112293	311	165.2	114.5	1235	232	147	SCR	
CY9XL12.7CAA	DC09 083A	2112294	326	171.6	118.9	1291	237.35	94.35	SCR	
CY9XL12.7CAA	DC09 083A	2112295	345	179.7	124.54	1328	247.28	98.3	SCR	
CY9XL12.7CAA	DC09 083A	2112296	370	191.2	132.25	1381	257.92	102.53	SCR	
CY9XL12.7CAA	DC09 083A	2112297	394	201.9	140	1451	261.6	104	SCR	

Joe R. Dotson

From: Samuel Daniels
Sent: Friday, September 11, 2015 7:45 AM
To: Joe R. Dotson
Cc: Ray Daugherty
Subject: info for crusher

MAKE-POWERSCREEN
MODEL XR400S
YEAR 2011
MASS 44,700kg
PIDXR40SJ0MB42649

ENGINE
SCANIA ENGINE
CV AB
ENGINE FAMILY-BY9XL127CAA
9.3L DISPLACEMENT
YEAR 04/2011
EMISSION CONTROL-SCR

Sam Daniels
Purchasing Clerk
Superior Surface
Fax: 276-739-8442
Phone: 304-946-2334

Specification and Plant Information

Crusher Capacity

1. In order to obtain the optimum output from the crusher, it's feed should be continuous and regulated. Additionally, all feed should be of a size that will readily enter the crusher chamber and, in order to avoid packing of the discharge opening and excessive wear of the plant jaws, under size material should be removed from the feed prior to entry to the crusher.

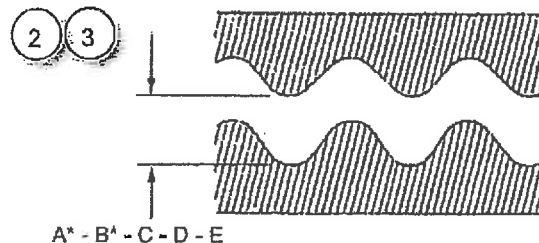
Setting Range + Typical Output

A* : (2in*)	160 US tons/hour)
B* : (2.5in*)	180 US tons/hour)
C : (3in)	210 US tons/hour)
D : (4in)	245 US tons/hour)
E : (5in)	280 US tons/hour)

Setting Range + Typical Output

A* : 50mm*	140 tonnes/hour
B* : 63mm*	160 tonnes/hour
C : 75mm	185 tonnes/hour
D : 100mm	220 tonnes/hour
E : 125mm	250 tonnes/hour

2. The discharge rates given are based on crushing clean, dry limestone weighing approximately 1600kg/m³ (100lbs/ft³) loose and having a specific gravity of 2.6. Wet feed material reduces the crusher discharge rate.
3. Closed jaw settings A* and B* are for re-cycling operations only. The crusher must not be operated at a discharge opening less than 75mm (3 inches) for quarry applications without prior consultation with Powerscreen®.
4. The only exception to this being for crushing bricks and demolition materials. Operating the crusher below this setting may result in extensive damage.



NOTICES

On the XR model, DO NOT feed non crushable material larger than 200mm (8 inches) into the Hydraulic Release Jaw Crusher as serious damage may result.

Specification and Plant Information

Dimensions

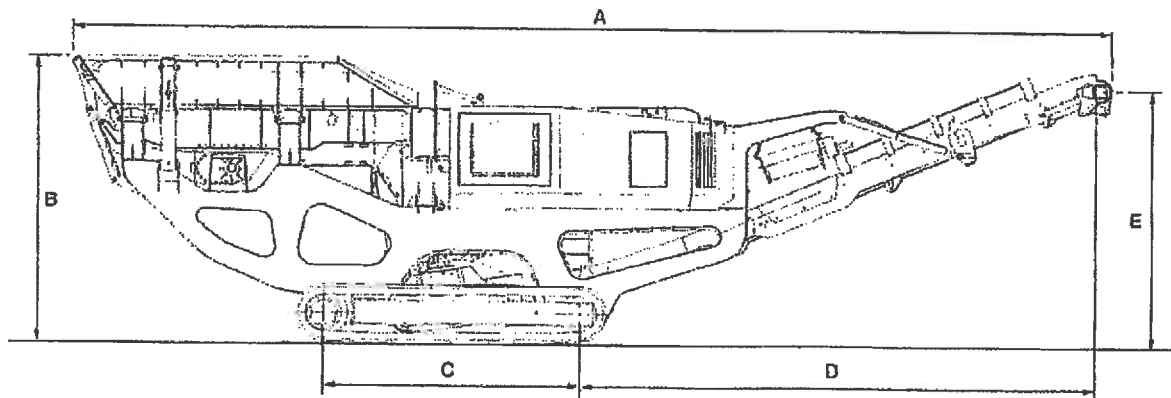
Working Dimensions

All dimensions are in millimetres.

(Approximate dimensions in Feet - Inches)

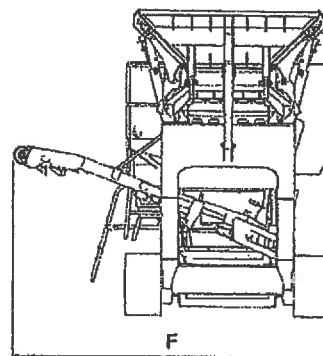
Feed Hopper Raised

Product Conveyor Fully Raised



A 14935mm
B 4133mm
C 3715mm
D 7430mm
E 3725mm
F 4420mm

A (49ft)
B (13ft-7in)
C (12ft-2in)
D (24ft-5in)
E (12ft-3in)
F (14ft-6in)



Transport Dimensions

Overall Length - 15000mm with product conveyor lowered

Overall Width - 2800mm with dirt conveyor folded

Overall Height [Excluding Transport Trailer]
3440mm with feed hopper, feed chute grid and product conveyor all lowered.

Transport Dimensions

Overall Length - (49ft-2in) with product conveyor lowered

Overall Width - (9ft-2in) with dirt conveyor folded

Overall Height [Excluding Transport Trailer] (11ft-4in) with feed hopper, feed chute grid and product conveyor all lowered.

Select Language ▼

11901 Westport Road | Louisville, KY 40245 | Phone 1-800-227-0534

Search Powerscreen Crushing & Screening

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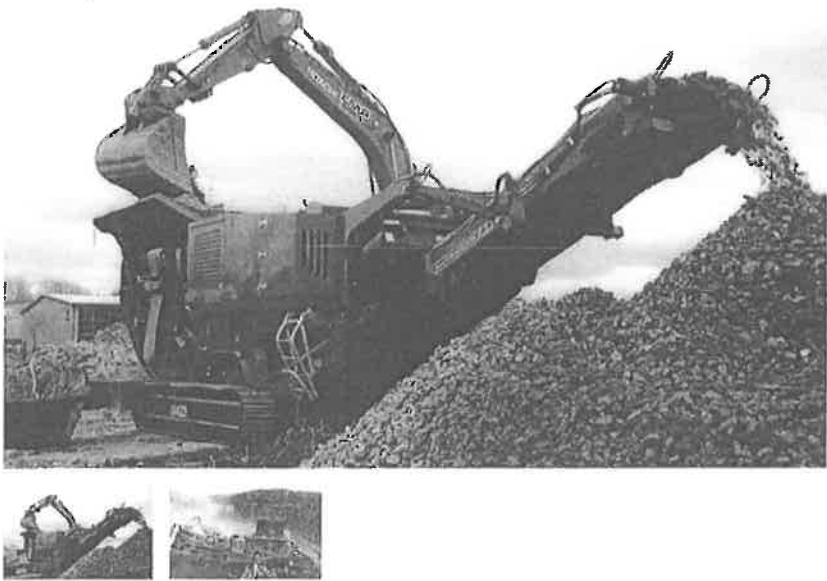
JAW CRUSHERS

POWERSCREEN XA400S XR400S

[INQUIRE ABOUT THIS MACHINE](#)

[\(CONTACT-US\)](#)
[REQUEST A MANUAL \(/CUSTOMER-SUPPORT\)](#)

SPECIFICATIONS



	Powerscreen XA400S	Powr
Weight (Est)	44,750kgs (98,656lbs)	44 (98)
Transport Width	2.8m (9'2")	2.8
Transport Length	15.2m (49'10")	15.2m
Transport Height	3.4m (11'2")	3.4
Working Width	4.3m (14'1")	4.3
Working Length	15m (49'3")	15m
Working Height	4.1m (13'5")	4.1

INTRODUCTION

The Powerscreen® X400S range of high performance primary jaw crushing plants are designed for medium scale operators in quarrying, demolition, recycling and mining applications.

The range includes the XA400S with hydraulic adjust and the XR400S with hydraulic release. User benefits include mobility for a quick set-up time (typically under 30 minutes), hydraulic crusher setting adjustment for total control of product size and crusher overload protection to prevent damage by uncrushable objects.

FEATURES & BENEFITS

- Output Potential: up to 400tph (441 US tph)
- Excellent reduction capability
- Hydraulic folding feed hopper with boltless fixing system
- Excellent under crusher access with a hydraulic tilting conveyor system
- Economical to operate with a highly efficient direct drive system
- Forceful crushing action with high swing jaw
- Height adjustable product conveyor
- Extended hopper – hydraulically folding

OPTIONS

- Deflector plate under crusher
- Dirt conveyor
- Single pole/ twin pole magnet
- Radio remote control
- Belt weigher
- Engine fire extinguisher system
- Electric refuelling pump
- Hydraulic water pump
- Underscreen wire mesh: 10, 20, 30, 40 or 50mm

Click here (<http://www.youtube.com/user/Powerscreens/videos>) to watch our machines action.

Crushers (/crushers/)

[Jaw Crushers \(/crushers/jaw-crushers/\)](#)

[Impact Crushers](#)

[\(/crushers/impact-crushers/\)](#)

[Cone Crushers](#)

[\(/crushers/cone-crushers/\)](#)

[Screeners \(/mobile-screening/\)](#)

[Parts \(/parts/\)](#)

[Used Equipment \(/used-equipment/\)](#)

[Customer Support \(/customer-support/\)](#)



INTRODUCING OUR NEWEST MEMBER

CHIEFTAIN 2100S

[Rent This Machine](#)

[\(HTTP://GTRANSLATE.NET/?XYZ=1108\)](http://GTRANSLATE.NET/?XYZ=1108)

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Site by



[\(http://www.scaniausa.com/\)](http://www.scaniausa.com/)



[\(http://mglengineering.com/\)](http://mglengineering.com/)



[\(http://www.matecamerica.com/en/index.php\)](http://www.matecamerica.com/en/index.php)

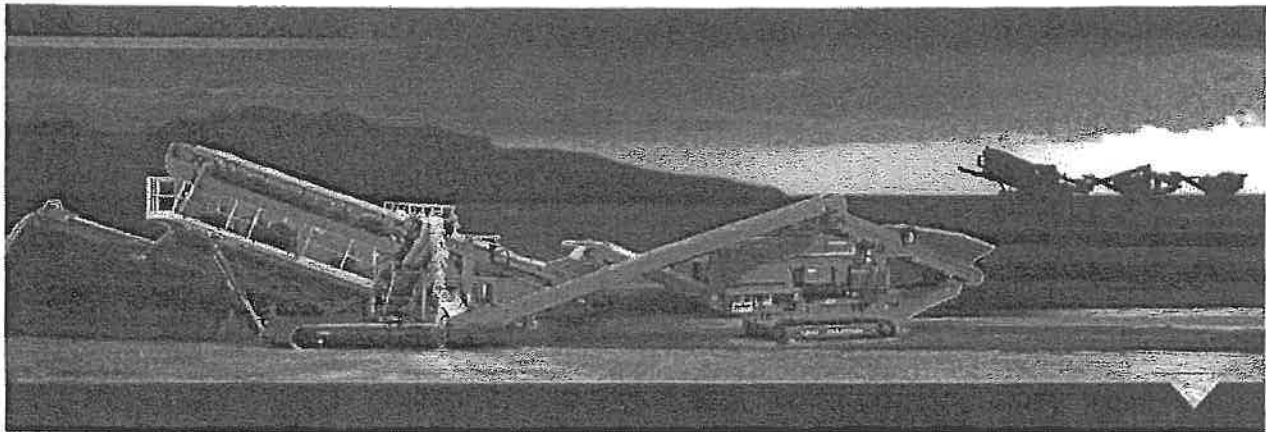


TEREX®



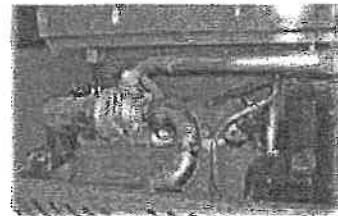
WASHING SYSTEMS

[\(http://www.terex.com/washing-systems/en/index.htm\)](http://www.terex.com/washing-systems/en/index.htm)



Tier 4i Scania DC9 & DC13

Powerscreen Jaw & Impact Crusher Average Fuel Consumption Comparisons



1.5 inches
gallons

3.5"

24"

5"

4.4gph

0.4 gph

XA400S - Scania DC9 Tier 4i 202kW

Medium Hard Limestone Site, Gloucester, UK

Serial # PIDXA40SCOMA40017

CSS: 90mm

Feed Material: -600mm Conglomerate (See page 4 for details)

End Product: -120mm

Production: 180 TPH (Average)

Engine Load: 64% (Average)

Diesel consumption: 16.65 Litres Per Hour Average (LPH Av.)

Urea consumption; 1.6 LPH Av.

XA400S - Tier 3 CAT powered in a similar application

CSS: 90mm

Feed Material: -600mm Conglomerate (See page 4 for details)

End Product: -120mm

Production: 180 TPH (Average)

Engine Load: 64% (Average)

Diesel consumption: 22 LPH Av.

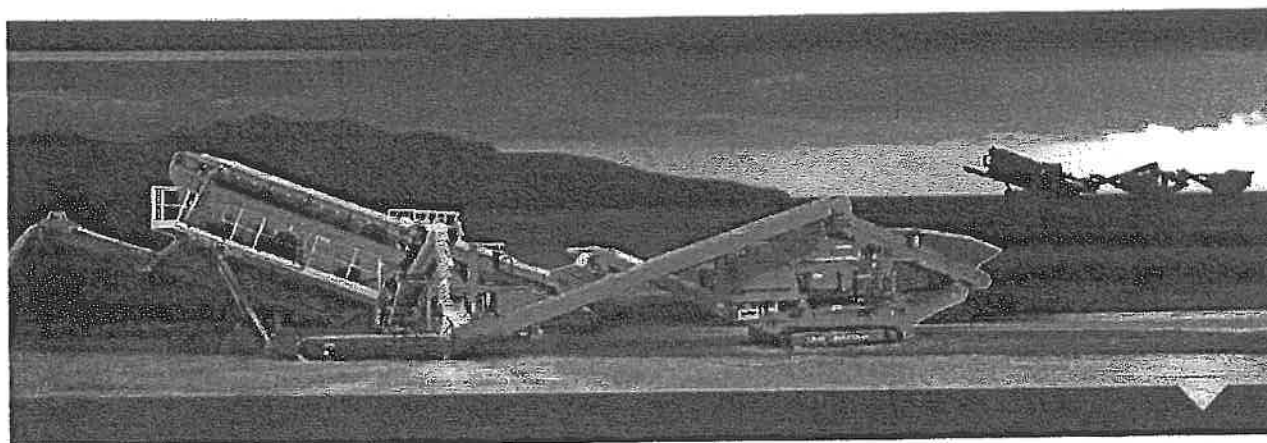
5.8gph



Conclusion:

Average Fuel Savings = 25%



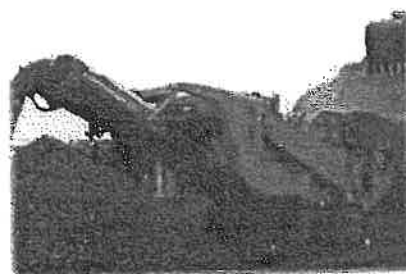


XH320 - Scania DC9 Tier 41 202kW
 Hard Limestone Site, Enniskillen, Northern Ireland
 Serial # AX899-P2U

6" — Top Apron: 150mm
 3" — Bottom Apron: 75mm
 20" — Feed Material: -500mm Medium Limestone
 5" — End Product: -120mm

Production: 300 – 350 TPH Average
 Engine Load: 75% Approx.

9.4 gph — Diesel Consumption: 35.5 LPH
 0.5 gph — Urea Consumption: 1.76 LPH



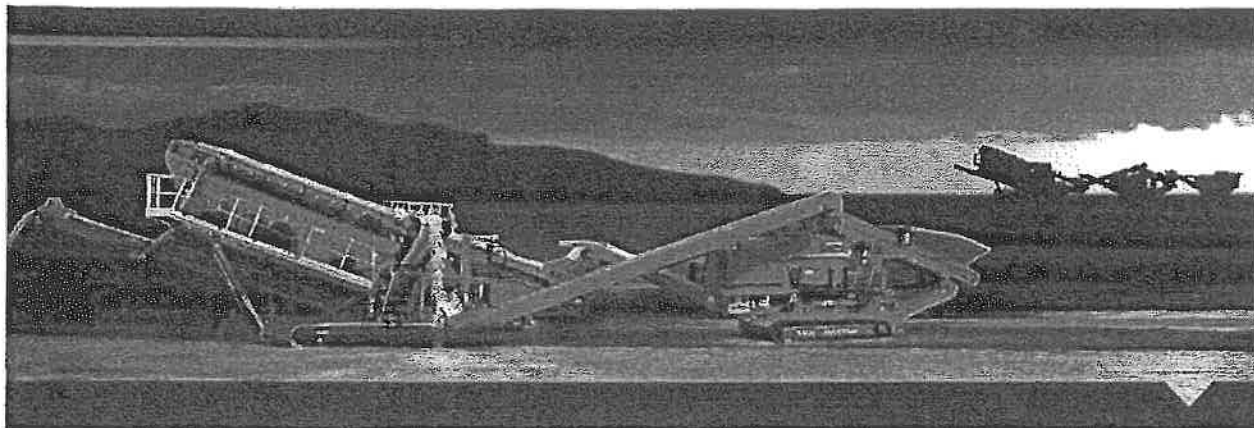
XH320 - Tier 3 CAT powered in a similar application

Top Apron: 150mm
 Bottom Apron: 75mm
 Feed Material: -500mm Medium Limestone
 End Product: -120mm
 Production: 300 – 350 TPH Average
 Engine Load: 75% Approx.

11 gph — Diesel Consumption: 42 LPH Av.

Conclusion:
Average Fuel Saving = 15%





XH500SR - Scania DC13 Tier 4i 331kw

Medium Hard Limestone, Scotland

Serial # 2200002 (P2)

Top Apron: 250mm

Bottom Apron: 100mm

Feed Material: -500mm Limestone

End Product: -120mm

Production: 180 TPH Approx

Engine Load: 50% Approx

Diesel Consumption: 33.05 LPH Av.

Urea Consumption: 1.5 LPH Av.

10"

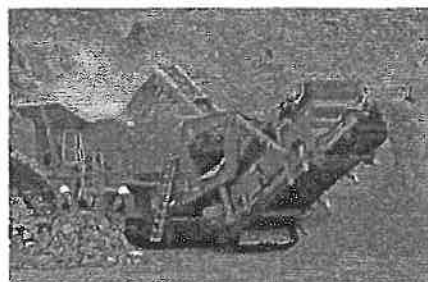
4"

20"

5"

8.75gph —

0.4gph —



XH500 - Tier 3 CAT powered in a similar application

Top Apron: 250mm

Bottom Apron: 100mm

Feed Material: -500mm Limestone

End Product: -120mm

Production: 180 TPH Approx

Engine Load: 50% Approx

Diesel Consumption: 39.2 LPH Av.

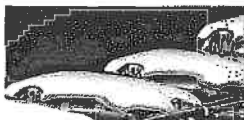
10"

10.4gph —

Conclusion:

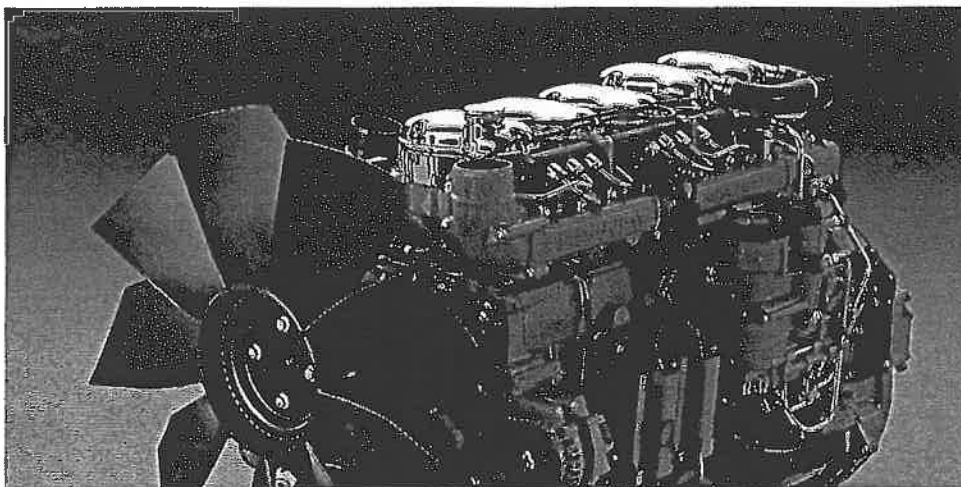
Average Fuel Saving = 18%





DC09 070A. 202 kW (275 hp)

US Tier 4i, EU Stage IIIB



The industrial engines from Scania are based on a robust design with a strength optimised cylinder block containing wet cylinder liners that can easily be exchanged. Individual cylinder heads with 4 valves per cylinder promotes repairability and fuel economy.

The engine is equipped with a Scania developed Engine Management System, EMS, in order to ensure the control of all aspects related to engine performance. The injection system is Scania's XPI (Extra High Pressure Injection), a common rail system that in combination with SCR (Selective Catalytic Reduction) gives low exhaust emissions with good fuel economy and a high torque. The engine can be fitted with many accessories such as air cleaners, silencers, PTO:s and flywheels in order to suit a variety of installations.

	Rating	Engine speed (rpm)			
		1200	1500	1800	2100
Gross power (kW)	ICFN	195	202	202	202
Gross power (hp)	ICFN	265	275	275	275
Gross torque (Nm)	ICFN	1552	1286	1072	919
Spec fuel consumption, Full load (g/kWh)		193	194	204	223
Spec fuel consumption, 3/4 load (g/kWh)		193	197	209	234
Spec fuel consumption, 1/2 load (g/kWh)		198	206	223	257
Reductant consumption, Full load (g/kWh)		31	25	21	12
Heat rejection to cooling water (kW)		85	81	87	98

ICFN – Continuous service: Rated output available 1/1 h.
Unlimited h/year service time at a load factor of 100%

Standard equipment

- Scania Engine Management System, EMS
- Extra high pressure fuel injection system, XPI
- Turbo charger
- Fuel filter and extra pre-filter with water separator
- Fuel heater
- Oil filter, full flow
- Centrifugal oil cleaner
- Oil cooler, integrated in block
- Oil filler, in valve cover
- Deep front oil sump
- Oil dipstick, in block
- Magnetic drain plug for oil draining
- Starter, 1-pole 5.5 kW
- Alternator, 1-pole 100A
- Flywheel, for use with friction clutch
- Silumin flywheel housing, SAE 1 flange
- Front mounted engine brackets
- SCR system
- Open crankcase ventilation
- Operator's manual

Optional equipment

- Cooling package
- Puller and pusher fans
- Fan ring with sealing
- Hydraulic pump
- Air compressor
- AC compressor
- Side mounted PTO
- Front mounted PTO
- Exhaust connections
- Electrical base system
- Control and instrument panels
- Accelerator position sensor
- Engine heater
- Flywheels: SAE11.5", SAE14", DANA15/16", DANA17", flexplate, ZF-WG260
- Stiff rubber engine suspension
- Air cleaner
- Closed crankcase ventilation
- Studs in flywheel housing
- External thermostat for extra oil cooler
- Low coolant level reaction
- Variable idle speed setting
- Low oil sump
- Oil level sensor

This specification may be revised without notice.

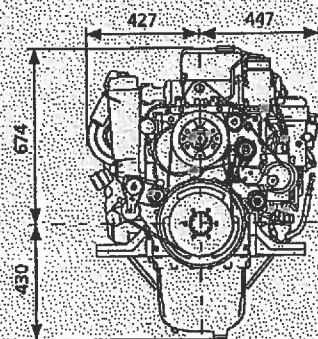
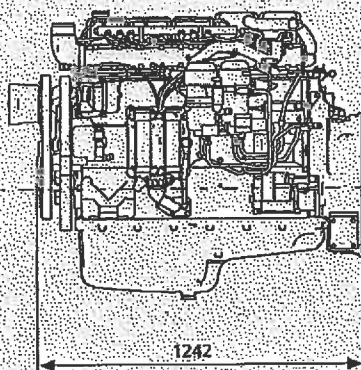


DC09 070A. 202 kW (275 hp)

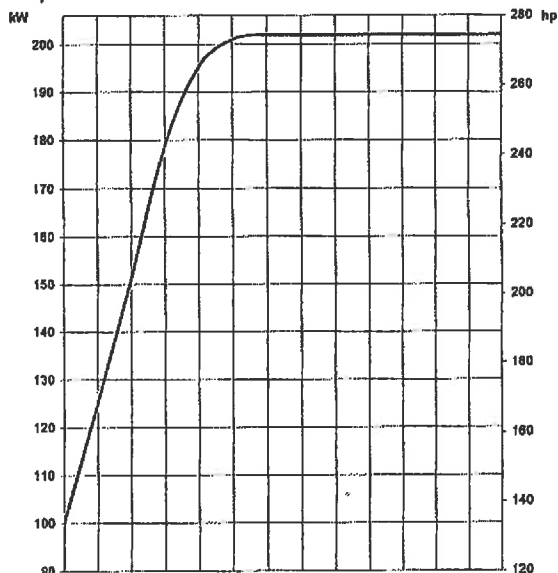
US Tier 4i, EU Stage IIIB

Engine description

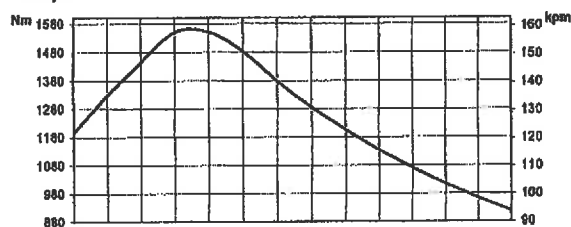
No. of cylinders	5 In-line
Working principle	4-stroke
Firing order	1-2-4-5-3
Displacement	9.3 litres
Bore x stroke	130 x 140 mm
Compression ratio	16:1
Weight	950 kg (excl. oil and coolant)
Piston speed at 1500 rpm	7.0 m/s
Piston speed at 1800 rpm	8.4 m/s
Camshaft	High position alloy steel
Pistons	Aluminium pistons
Connection rods	I-section press forgings of alloy steel
Crankshaft	Alloy steel with hardened and polished bearing surfaces
Oil capacity	32-38 dm ³
Electrical system	1-pole 24V



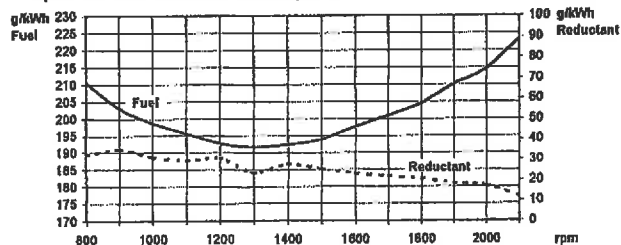
Output



Torque



Spec fuel and reductant consumption



Test conditions: Air temperature +25°C, Barometric pressure 100 kPa (750 mmHg), Humidity 30%, Diesel fuel acc. to ECE R 24 Annex 6, Density of fuel 0.840 kg/dm³, Viscosity of fuel 3.0 cSt at 40°C, Energy value 42700 kJ/kg. Power test code ISO 3046. Power and fuel values +/3%.



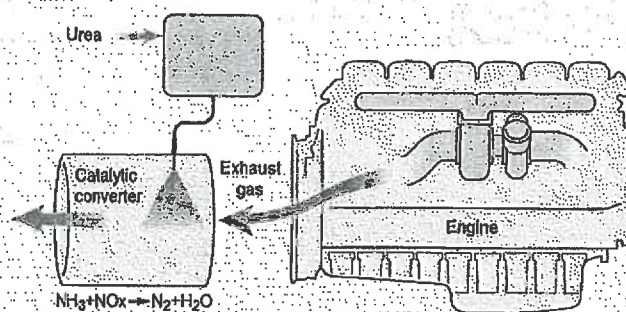
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SCR system

US Tier 4i, EU Stage IIIB

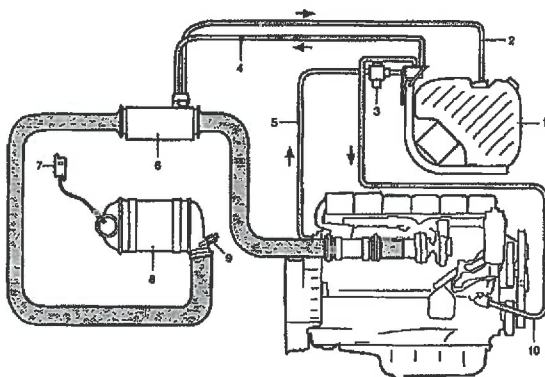


The principle for Scania SCR system

SCR (Selective Catalytic Reduction) technology is used on Scania's engines for Stage IIIB and Tier 4i to reduce the NO_x content in the exhaust gases. A chemical process is started by injecting reductant, a urea and water mixture, into the exhaust gas stream. During injection the water evaporates and the urea breaks down to form ammonia. The ammonia then reacts with the nitrogen gases in the catalytic converter and forms harmless products such as nitrogen gas and water. Through the use of SCR the exhaust gases are purged of poisonous levels of NO_x in the best possible way. Scania is making use of a system that is carefully developed and tested in our own laboratory.

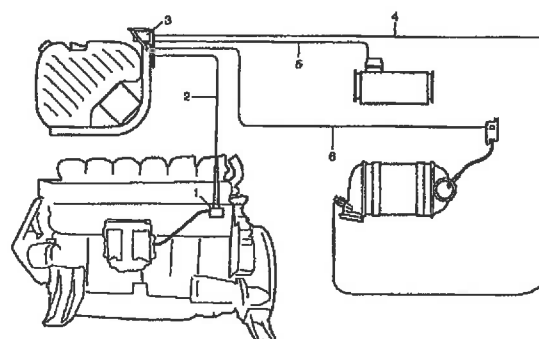
The reductant tank holds 38 or 60 litres and is heated by the engine's cooling system in order to avoid freezing of the urea solution, urea freezes at -11°C . The reductant tank and a pump module are delivered as a unit which is fitted to brackets for an easy installation. The Scania system contains all mechanical and electrical parts needed except from the exhaust piping which is to be adapted according to the customers installation.

Mechanical system



	Mechanical system	Standard	Optional
1	Reductant tank and pump module	38 l	60 l
2	Reductant fluid return line	2 m	3.5 m
3	Coolant valve	✓	—
4	Reductant pressure line	2 m	3.5 m
5	Coolant hose for tank and pump heating	—	—
6	Hydrolysis catalyst with reductant doser	✓	—
7	NO_x sensor with control unit	✓	—
8	SCR catalyst	✓	—
9	Temperature sensor	✓	—
10	Coolant hose, return from tank and pump heating	—	—

Electric system

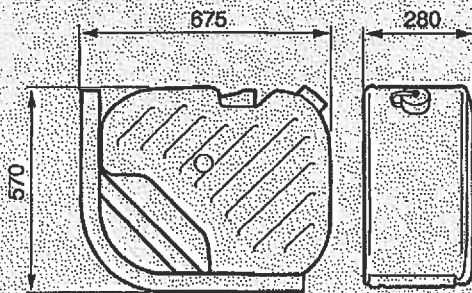


	Electric system	Standard	Optional
1	Customer interface, SCR system	✓	—
2	Pipe network between engine and SCR control unit	3 m	6 m
3	Electrical interface, SCR system	✓	—
4	Temperature sensor electrical cable	3 m	6 m
5	Reductant doser electrical cable	3 m	6 m
6	NO_x sensor electrical cable	3 m	6 m

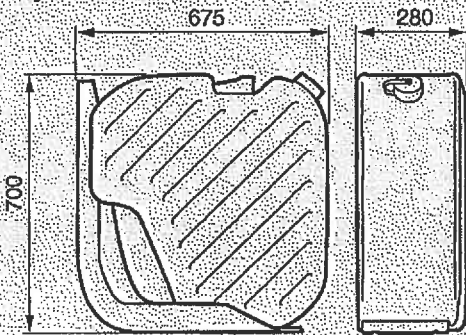
SCR system

US Tier 4i, EU Stage IIIB

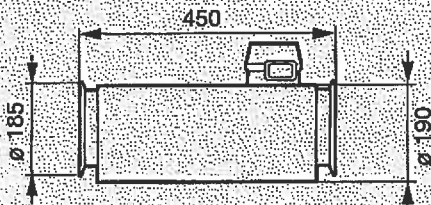
Reductant tank - 38 litres
Total volume: 50 litres
Filling volume: 38 litres



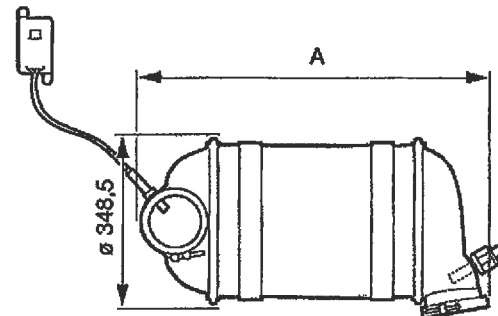
Reductant tank - 60 litres
Total volume: 70 litres
Filling volume: 60 litres



Hydrolysis catalyst
with reductant doser

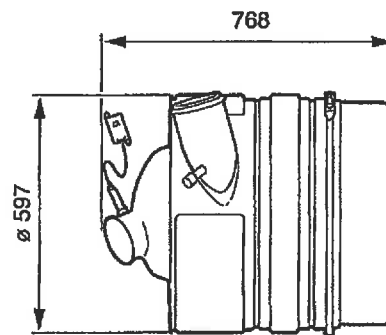


SCR catalyst



Engine	Power (kw)	Volume (litres)	Measure A (mm)
DC09	202-294	24	765
DC13	257-405	33	857
DC16	405-515	48	1060

SCR catalyst with silencer



Engine	Power (kw)	Volume (litres)
DC09	202-294	33
DC13	257-405	33
DC16	Not available	



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