

P & A Engineers & Consultants, Inc.

312 Justice Avenue
Logan, WV 25601

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

August 19, 2016

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



RE: Purdy Run Aggregates, LLC
Rock Quarry System G40-C
Facility ID: Pending

Dear Mr. Durham:

On behalf of Purdy Run Aggregates, LLC, we submit the enclosed General Permit Construction Registration for the above-referenced facility. Included is a check in the amount of \$1,500.00, which represents the submittal fee, and two additional permit copies for your review and approval.

The application addresses the construction and operation of a 400TPH rock crushing and screening system to be located near Shinnston, Harrison County, WV.

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

Sincerely,

A handwritten signature in black ink that reads "Donna J. Toler".

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
 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):

PURDY RUN AGGREGATES, LLC

2. FEDERAL EMPLOYER ID NO. (FEIN):

47-5086770

3. APPLICANT'S MAILING ADDRESS:

**2881 JEFFERSON STREET
 MARIANNA, FL 32466**

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

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.):

Construction of crushing and screening system

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

1422



<p>9A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY):</p> <p>Pending</p>	<p>10A. LIST ALL CURRENT 45CSR13 AND 45CSR30 (TITLE V) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR EXISTING FACILITY ONLY):</p> <p>None</p>
---	---

PRIMARY OPERATING SITE INFORMATION

<p>11A. NAME OF PRIMARY OPERATING SITE:</p> <p>SHINNSTON ROCK QUARRY</p>	<p>12A. MAILING ADDRESS OF PRIMARY OPERATING SITE:</p> <p>SAME AS ABOVE</p>
---	--

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

YES NO

⇒ IF YES, PLEASE EXPLAIN: **Owner - Operator**

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

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

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

From Charleston, follow I-79 North toward Clarksburg, take exit 125 for WV131 toward Saltwell Road – Shinnston, left onto WV131 Benedum Drive, continue straight, continue onto Middletown Road, turn left onto Horners Run Road, turn right onto Saltwell Road to Adamsville, continue onto Jarius Run – facility located at 986 Jarius Run Road.

INCLUDE A MAP AS ATTACHMENT F.

<p>15A. NEAREST CITY OR TOWN:</p> <p>SHINNSTON</p>	<p>16A. COUNTY:</p> <p>HARRISON</p>	
<p>17A. UTM NORTHING (KM):</p> <p>4361.40249</p>	<p>18A. UTM EASTING (KM):</p> <p>566.91413</p>	<p>19A. UTM ZONE:</p> <p>17</p>

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: _____	
<p>13C. DOES THE APPLICANT OWN, LEASE, HAVE AN OPTION TO BUY, OR OTHERWISE HAVE CONTROL OF THE <i>PROPOSED SITE</i>?</p> <p><input type="checkbox"/> YES <input type="checkbox"/> NO</p> <p>⇒ IF YES, PLEASE EXPLAIN: _____</p> <p>_____</p> <p>⇒ IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.</p>		
<p>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;</p> <p>⇒ FOR CONSTRUCTION OR RELOCATION PERMITS, PLEASE PROVIDE DIRECTIONS TO <i>THE PROPOSED NEW SITE LOCATION</i> FROM THE NEAREST STATE ROAD.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>INCLUDE A MAP AS ATTACHMENT F.</p>		
15C. NEAREST CITY OR TOWN:	16C. COUNTY:	
17C. UTM NORTHING (KM):	18C. UTM EASTING (KM):	19C. UTM ZONE:
<p>20. PROVIDE THE DATE OF ANTICIPATED INSTALLATION OR CHANGE: October 1, 2016</p> <p>⇒ IF THIS IS AN AFTER-THE-FACT PERMIT APPLICATION, PROVIDE THE DATE UPON WHICH THE PROPOSED CHANGE DID HAPPEN: ____/____/____</p>		<p>21. DATE OF ANTICIPATED START-UP IF REGISTRATION IS GRANTED:</p> <p align="center">October 1, 2016</p>
<p>22. PROVIDE MAXIMUM PROJECTED OPERATING SCHEDULE OF ACTIVITY/ ACTIVITIES OUTLINED IN THIS APPLICATION:</p> <p>HOURS PER DAY 8 DAYS PER WEEK 5 WEEKS PER YEAR 26 PERCENTAGE OF OPERATION 100%</p>		

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

ISSUED TO:
**PURDY RUN AGGREGATES, LLC
2881 JEFFERSON ST
MARIANNA, FL 32446-3465**

BUSINESS REGISTRATION ACCOUNT NUMBER: 2320-8468

This certificate is issued on: **10/23/2015**

*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

Detailed Process Description

The facility is to be located in a remote area of Clay District of Harrison County, WV.

This is a three stage crushing and screening system set up as one process for maximum efficiency. Material will be fed by front-end loader to bin BS-01(PW) @ TP-01(UD-PW); to jaw crusher CR-01(FW) @ TP-02(TC-FE); to belt BC-01(NC) @ TP-03(TC-PW). Belt BC-01 will feed the secondary cone crusher CR-02(FW) @ TP-04(TC-PW); to belt BC-02(NC) @ TP-05(TC-PW). Belt BC-02 will begin the third stage and will feed bin BS-02(PW) @ TP-06(TC-PW) which will discharge to a fully-enclosed screen SS-01(FE) @ TP-07(TC-FE). Material from Screen SS-01 will be processed and sent to stockpiles OS-01(SW-WS), OS-02(SW-WS), or OS-03(SW-WS) via a series of uncovered belt conveyors BC-03(NC), BC-04(NC) and BC-05(NC) @ TP-08(TC-FE) thru TP-16(LO-MDH).

Individual diesel combustion engines power the jaw crusher, cone crusher and screen. Engine data and calculations are included in the application, as well as brochures that describe the equipment specifications. We have not been successful in obtaining the Certificates of Conformity from either manufacturer and request that our calculations be accepted by OAQ.

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.

A portable water tank will be on site to provide water sprays for bins and crushers for fugitive emissions.

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

West Virginia Department of Environmental Protection Public Information Office

FOIA Request

601 57th St. S.E.

Charleston, WV 25304.

The fax number is 304-926-0447.

Thank you.



west virginia department of environmental protection

Prepared by:



ENGINEERS & CONSULTANTS
PO Box 470 Alum Creek, WV 25003 (304) 758-4066

No.	Date	Revision	By
1			
2			
3			
4			
5			

Issuing Date:

06/20/16

Drawn By:

G. Caudill

Computer No.:

16069

Topo Contour Interval:

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File:

na

Sheet No.:

1 of 1

Submittal Date:
June 2016

Purdy Run Aggregate, LLC

2881 Jefferson Street

Marianna, FL 32466

Purdy Run Quarry

Division of Air Quality

Material Flow Diagram

Facility ID Number : Pending

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

West Virginia Department of Environmental Protection Public Information Office

FOIA Request

601 57th St. S.E.

Charleston, WV 25304.

The fax number is 304-926-0447.

Thank you.



west virginia department of environmental protection

Prepared by:



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

No.	Date	Revision	By
1			
2			
3			
4			
5			

Drawing Date:

06/20/16

Drawn By:

G. Caudill

Computer No.:

16070

Topo Contour Interval:

na

Scale:

na

Sheet No.:

1 of 1

Submittal Date:
June 2016

Purdy Run Aggregate, LLC

2881 Jefferson Street

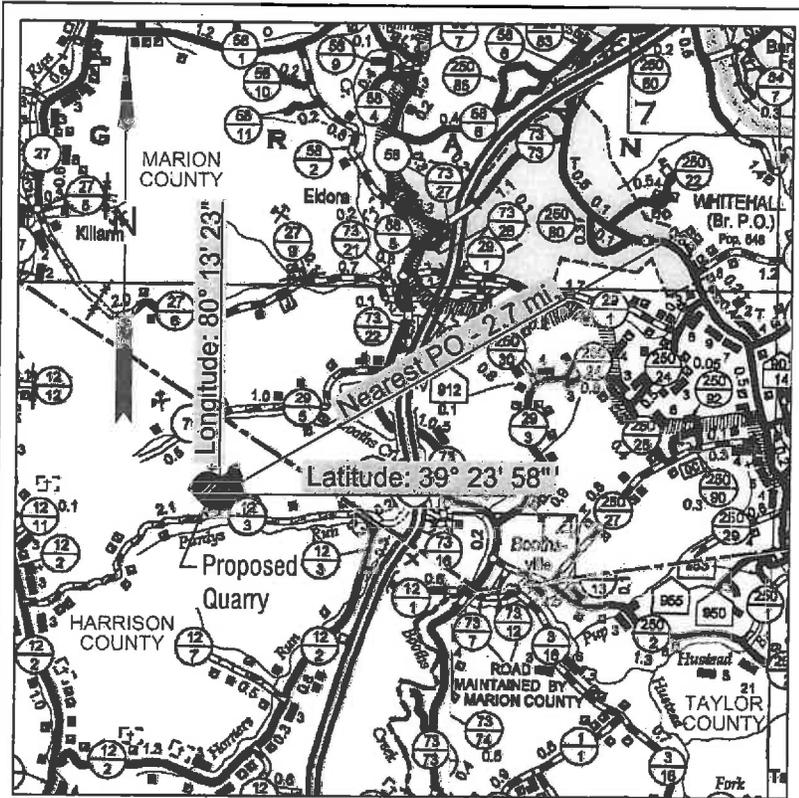
Marianna, FL 32466

Purdy Run Quarry

Division of Air Quality

Site Map

Facility ID Number : Pending



LOCATION MAP - Harrison, Marion, and Taylor Counties, WV
 Project Located in Clay District of Harrison County

Scale: 1" = 1 Mile

Receiving Streams: Unnamed Tributaries of Purdys Run of
 Horners Run of Boonville Creek of West Fork River of
 Monongahela River

Major Sub-Basin: Monongahela River

Nearest Post Office: Whitehall Branch, WV

Direction to Operation from Nearest Post Office:

2.7 Miles Southwest of Whitehall Branch, WV

Quadrangle: Fairmont East

Permit: Q-2003-15

NPDES: WV1029363

Lon/Lat

Longitude: - 80 d 13 m 22.30 s

Latitude: + 39 d 23 m 58.31 s

DD: -80.222861 39.399531

Datum: NAD27 NAD83

UTM

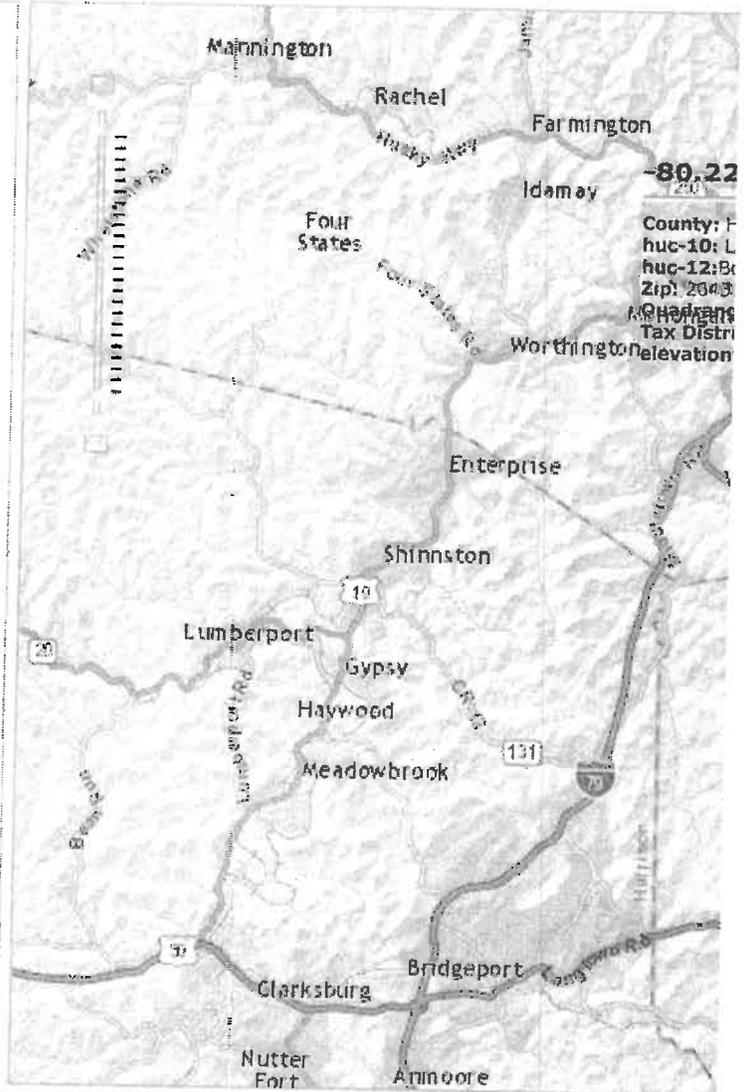
Coordinates: 566914.13 E 4361402.49 N

Datum: NAD27 NAD83 Zone: 17

WV State Plane (feet)

Coordinates: 1764231.05 E 328455.54 N

Datum: NAD27 NAD83 Zone: North



-80.22
 County: F
 huc-10: L
 huc-12: B
 Zip: 26003
 Census
 Tax Distri
 Elevation

street map image topo

CRUSHING AND SCREENING AFFECTED SOURCE SHEET

Source Identification Number ¹		CR-01 UJ440i	CR-02 QS331			
Type of Crusher or Screen ²		Jaw	Cone			
Date of Manufacture ³		2014	2014			
Maximum Throughput ⁴	tons/hour	400	400			
	tons/year	3,504,000	3,504,000			
Material sized from/to: ⁵		6 x 0	4x0			
Average Moisture Content (%) ⁶		3	3			
Control Device ID Number ⁷		FW	FW			
Baghouse Stack Parameters ⁸	height (ft)	N/A				
	diameter (ft)					
	volume (ACFM)					
	exit temp (°F)					
	UTM Coordinates					
Maximum Operating Schedule ⁹	hours/day	24	24			
	days/year	365	365			
	hours/year	8760	8760			
Percentage of Operation ¹⁰	January-March	25	25			
	April-June	25	25			
	July-September	25	25			
	Oct-December	25	25			

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

HM	Hammermill	SS	Stationary Screen
DR	Double Roll Crusher	SD	Single Deck Screen
BM	Ball Mill	DD	Double-Deck Screen
RB	Rotary Breaker	TD	Triple Deck Screen
JC	Jaw Crusher	OT	Other
GC	Gyratory Crusher		
OT	Other - 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 QA451				
Type of Crusher or Screen ²		DD				
Date of Manufacture ³		2014				
Maximum Throughput ⁴	tons/hour	400				
	tons/year	3,504,000				
Material sized from/to: ⁵		4 x 0				
Average Moisture Content (%) ⁶		3				
Control Device ID Number ⁷		FE				
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.

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	SS			
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)	E3 Enclosure (three sided enclosure)
OS Open Stockpile	SB Storage Building (full enclosure)
SF Stockpiles with wind fences	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	SS Stationary Conveyor/Stacker
FC Fixed Height Chute from Bins	ST Stacking Tube
FE Front Endloader	TC Telescoping Chute from Bins
MC Mobile Conveyor/Stacker	TD Truck Dump
UC Under-pile or Under-Bin Reclaim Conveyor	PC Pneumatic Conveyor/Stacker
RC Rake or Bucket Reclaim Conveyor	OT Other

STORAGE ACTIVITY AFFECTED SOURCE SHEET

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

ENGINE DATA SHEET

Source Identification Number ¹		UJ440i		QS331		QA451	
Engine Manufacturer and Model		Volvo D13		CAT C9.3 ACERT		CAT C4.4	
Manufacturer's Rated bhp/rpm		2200		2200		2200	
Source Status ²		NS		NS		NS	
Date Installed/Modified/Removed (Month/Year) ³		2014		2014		2014	
Engine Manufactured/Reconstruction Date ⁴		2014		2014		2014	
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart III? (Yes or No) ⁵		Yes		Yes		Yes	
Is this a Certified Stationary Spark Ignition Engine according to 40CFR60 Subpart JJJ? (Yes or No) ⁶		No		No		No	
Engine, Fuel and Combustion Data	Engine Type	4 Stroke		4 Stroke		4 Stroke	
	APCD Type ⁸	Direct Injection		Direct Injection		Direct Injection	
	Fuel Type ⁹	Diesel		Diesel		Diesel	
	H ₂ S (gr/100 scf)	N/A		N/A		N/A	
	Operating bhp/rpm	2200		2200		2200	
	BSFC (Btu/bhp-hr)	N/A		N/A		N/A	
	Fuel throughput (ft ³ /hr)	13.9 GPH		13.9 GPH		13.9 GPH	
	Fuel throughput (MMft ³ /yr)	14,456 GPY		14,456 GPY		14,456 GPY	
	Operation (hrs/yr)	1040		1040		1040	
Reference ¹⁰	Potential Emissions ¹¹	lbs/hr	tons/yr				
	NO _x	13.082	6.803	10.8500	5.642	3.10	1.612
	CO	2.8190	1.466	2.3380	1216	0.6680	0.347
	VOC	1.0423	0.542	0.8645	0.450	0.2470	0.128
	SO ₂	0.8651	0.450	0.7175	0.373	0.2050	0.107
	PM ₁₀	0.9284	0.483	0.7700	0.400	0.2200	0.114
	Formaldehyde	0.00221	0.001151	0.00221	0.001151	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

EMISSION SUMMARY SHEET FOR CRITERIA POLLUTANTS

Source ID No.	Potential Emissions (lbs/hr)										Registration Number (Agency Use)					Pending
	Potential Emissions (tons/yr)															
	NO _x	CO	VOC	SO ₂	PM ₁₀	NO _x	CO	VOC	SO ₂	PM ₁₀	NO _x	CO	VOC	SO ₂	PM ₁₀	
UJ440i	13.0820	2.8190	1.0423	0.8651	0.9284	6.803	1.466	0.542	0.450	0.483						
QS331	10.850	2.3380	0.8645	0.7175	0.7700	5.642	1.216	0.450	0.373	0.400						
QA451	3.100	0.6680	0.2470	0.2050	0.2200	1.612	0.347	0.128	0.107	0.114						
Total Uncontrolled	24.232	5.825	2.1538	1.7876	1.9184	14.057	3.029	1.12	0.94	0.997						

EMISSION SUMMARY SHEET FOR HAZARDOUS POLLUTANTS

											Registration Number (Agency Use)	
											Pending	
Source ID No.	Benzene	Acetaldehyde	Toluene	Xylenes	Formaldehyde	Benzene	Acetaldehyde	Toluene	Xylenes	Formaldehyde		
UJ440i	0.00175	0.00144	0.00077	0.00053	0.00221	0.00091	0.000748	0.000399	0.000278	0.001151		
QS331	0.00175	0.00144	0.00077	0.00053	0.00221	0.00091	0.000748	0.000399	0.000278	0.001151		
QA451	0.00175	0.00144	0.00077	0.00053	0.00221	0.00091	0.000748	0.000399	0.000278	0.001151		
Total	0.00525	0.00432	0.00231	0.00159	0.00663	0.00273	0.002244	0.001197	0.000834	0.003453		

HAPS UNCONTROLLED TOTALS: 0.0201 lbs/hour 0.010458 TPY

PURDY RUN AGGREGATE, LLC

Rock Crusher - UJ440i

ID: Pending

TERIA POLLUTANTS

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

	315	kW
	422	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	13.0820	6.803
CO	AP42	0.00668	0.95	D	2.8190	1.466
SOx	AP42	0.00205	0.29	D	0.8651	0.450
PM/PM10	AP42	0.00220	0.31	D	0.9284	0.483
TOC	AP42	0.00247	0.35	D	1.0423	0.542

HAZARDOUS AIR POLLUTANTS

12 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	315	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

TERIA POLLUTANTS

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

	261	kW
	350	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	10.8500	5.642
CO	AP42	0.00668	0.95	D	2.3380	1.216
SOx	AP42	0.00205	0.29	D	0.7175	0.373
PM/PM10	AP42	0.00220	0.31	D	0.7700	0.400
TOC	AP42	0.00247	0.35	D	0.8645	0.450

HAZARDOUS AIR POLLUTANTS

12 5th Edition Section 3.3 Gasoline and Diesel Industrial Engines (10/96) - Table 3.3-2
 45 CSR30 Table 45-30A Hazardous Air Pollutants

Diesel Fuel Engine	350	hp		
Maximum Hours of Operation (8 hrs/day, 5 days/week, 26 weeks/year)			1040	hours/year
Maximum diesel usage at 1800 rpm			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

TERIA POLLUTANTS

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

		75	kW
	Diesel Fuel Engine	100	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	3.1000	1.612
CO	AP42	0.00668	0.95	D	0.6680	0.347
SOx	AP42	0.00205	0.29	D	0.2050	0.107
PM/PM10	AP42	0.00220	0.31	D	0.2200	0.114
TOC	AP42	0.00247	0.35	D	0.2470	0.128

HAZARDOUS AIR POLLUTANTS

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

Diesel Fuel Engine	100	hp		
Maximum Hours of Operation (8 hrs/day, 5 days/week, 26 weeks/year)			1040	hours/year
Maximum fuel consumption, 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

EMISSIONS SUMMARY

Name of applicant: Purdy Run Aggregate
 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>	0.17	0.75	0.04	0.19
<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	230.20	1,008.27	57.55	252.07

POINT SOURCE EMISSIONS				
<i>Equipment Emissions</i>	14.90	65.24	2.75	12.04
<i>Transfer Point Emissions</i>	0.05	0.23	0.03	0.12
Point Source Emissions Total*	14.95	65.47	2.78	12.16

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

Facility Emissions Total	245.15	1,073.75	60.33	264.23
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***Facility Potential to Emit (PTE) (Baseline Emissions) = 12.16**
 (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>	0.08	0.35	0.02	0.09
<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	48.47	212.31	12.12	53.08

POINT SOURCE EMISSIONS				
<i>Equipment Emissions</i>	7.09	31.07	1.31	5.73
<i>Transfer Point Emissions</i>	0.03	0.11	0.01	0.06
Point Source Emissions Total*	7.12	31.18	1.32	5.79

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

Facility Emissions Total	55.59	243.49	13.44	58.87
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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	0.28	1.23	0.03	0.12	0.13	0.58	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
TOTAL	0.28	1.23	0.03	0.12	0.13	0.58	0.01	0.06

1b. Secondary and Tertiary Crushing

Secondary & Tertiary Crusher ID	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
CR-02	2.02	8.83	0.20	0.88	0.96	4.20	0.10	0.42
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	2.02	8.83	0.20	0.88	0.96	4.20	0.10	0.42

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	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
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	14.90	65.24	2.75	12.04	7.09	31.07	1.31	5.73

1. Emissions From CRUSHING AND SCREENING (Continued)

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 (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	0.05	0.23	0.03	0.12	0.03	0.11	0.01	0.06

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	0.06	0.25	0.01	0.06	0.03	0.12	0.01	0.03
OS-02	0.06	0.25	0.01	0.06	0.03	0.12	0.01	0.03
OS-03	0.06	0.25	0.01	0.06	0.03	0.12	0.01	0.03
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
TOTALS	0.17	0.75	0.04	0.19	0.08	0.35	0.02	0.09

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

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

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)

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

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)		

Legal Advertisement

**AIR QUALITY PERMIT NOTICE
Notice of Application**

Notice is given that Purdy Run Aggregates, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a General Permit Registration for an Crushing/Screening Plant System to be located 2.7 miles southwest of Whitehall, near Shinnston in Harrison County, West Virginia. The facility coordinates are as follows: latitude 39.399531 and longitude -80.222861

The applicant estimates the potential to discharge the following Regulated Air Pollutants from the diesel engine will be: criteria pollutants for the combustion engines are estimated to be: NOx 14.057 tons per year, CO 3.029 tons per year, VOC 1.12 tons per year, SOx 0.94 tons per year and PM10 0.997 tons per year. The potential to emit hazardous pollutants from the combustion engines are estimated to be: Benzene 0.00273 tons per year, Toluene 0.001197 tons per year, Xylene 0.000834 tons per year, Acetaldehyde 0.002244tons per year, and Formaldehyde 0.003453 tons per year.

The applicant estimates the potential to discharge the following Regulated Air Pollutants associated with the operation of the screening plant will be: facility particulate matter potential to emit baseline emissions of 12 tons per year, particulate matter less than 10 microns emissions total of 59 tons per year and particulate matter facility emissions total of 264 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 1227, during normal business hours.

Dated this the 19th day of August 2016

By: Purdy Run Aggregates, LLC
J. H. W. Gefaell
Manager
2881 Jefferson Street
Mariana, FL 32446

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)

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

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

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

FOR A JOINT VENTURE

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

FOR A SOLE PROPRIETORSHIP

I certify that I am the Owner and Proprietor

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

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

Signature

(please use blue ink)

Responsible Official

8/4/16

Date

Name & Title

(please print or type)

J.H.W. Gefaell, Manager

Signature

(please use blue ink)

Authorized Representative (if applicable)

8/4/16

Date

Applicant's Name: PURDY RUN AGGREGATES, LLC

Phone: (772) 492-0098

Email: jay@tallgrasspartners.net



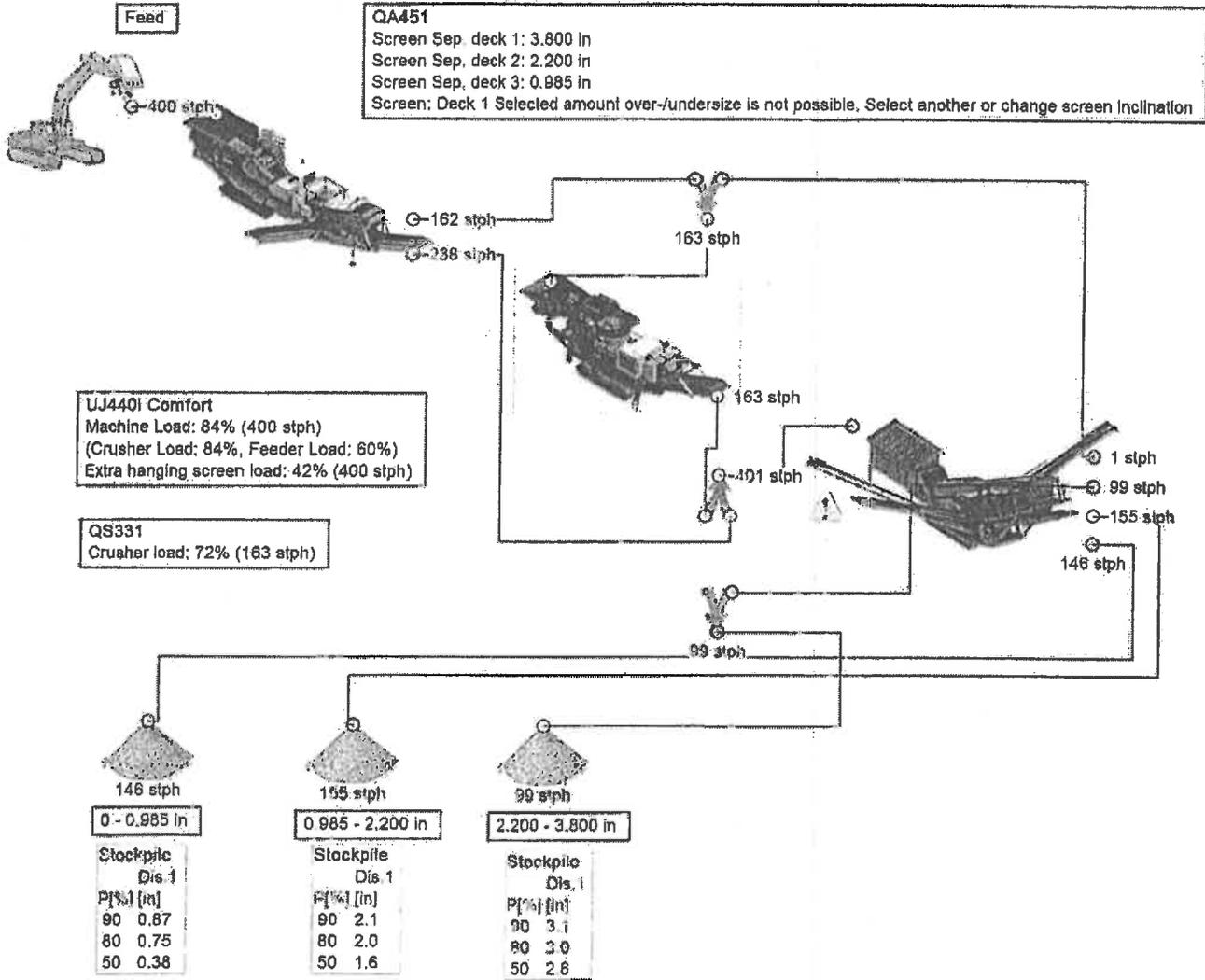
SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

PLEASE CHECK ALL ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

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

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

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



QA451
 Screen Sep. deck 1: 3.800 in
 Screen Sep. deck 2: 2.200 in
 Screen Sep. deck 3: 0.985 in
 Screen: Deck 1 Selected amount over-/undersize is not possible. Select another or change screen inclination

UJ440i Comfort
 Machine Load: 84% (400 stph)
 (Crusher Load: 84%, Feeder Load: 60%)
 Extra hanging screen load: 42% (400 stph)

QS331
 Crusher load: 72% (163 stph)

146 stph

0 - 0.985 in

Stockpile	
Dis. 1	
P[%] [in]	
90	0.87
80	0.75
50	0.38

155 stph

0.985 - 2.200 in

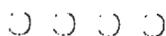
Stockpile	
Dis. 1	
P[%] [in]	
90	2.1
80	2.0
50	1.6

99 stph

2.200 - 3.800 in

Stockpile	
Dis. 1	
P[%] [in]	
90	3.1
80	3.0
50	2.6

SANDVIK		PlantDesigner Preliminary	
Flow Sheet Calculations			
Date:	2016-01-06	Customer:	Bud Kirk
Drawn by:	C. Hillmann	Project:	Two Stage Plant
Revised by:		Project no.:	16-1
Approved by:		Flowsheet no.:	1601001
Remarks:		Lio. No 79AF-43GC-3504-4-EC-9F8BF-xxxx Last Calc. 2016-01-08 14:42	
FlowSheet simulation calculated with: - Imperial units, Square Laboratory sieves - Normal Screen Calculation Method		Please note that PlantDesigner(R) gives indicative values, based on typical operating conditions. Since operating conditions can vary very widely, no warranty of these recommendations either expressed or implied is given by PlantDesigner(R), its owners or supplier	



UJ440i Mobile jaw crusher

Former Model: CM1208i Mobile jaw crusher

Our UJ440i Mobile jaw crusher is your ideal solution for operating in the toughest climatic conditions.

[Enlarge image](#)



Heavy Duty Mobile Jaw Crusher

We have designed the UJ440i to suit a wide range of different applications. The jaw settings can be adjusted hydraulically and there is a choice of jaw plates to suit the particular needs of your operation.

Available in 3 variants, all are versatile, highly mobile and offer superior rates of production.

- **Comfort** - For crushing clean rock
- **Classic** - For crushing rock and gravel
- **Trend** - For crushing unclean rock and gravel with a lot of fines

Features and Benefits:

- Rubber lined impact zones that reduce wear and your maintenance downtime
- Radio remote control as standard to ensure easy and safe operation
- Automatic feeder control for uninterrupted production
- High reduction and productivity through massive depth of crushing chamber - almost 2m / 78"
- Optional hanging screen available for the production of two product fractions, allowing even greater return of investment

Available with Cat or Volvo engine to ensure we offer you the best local support

Key Specifications

Equipment	Sandvik <u>CJ412</u> Jaw
Feed Opening	1200 x 830 mm / 48" x 32"
Maximum Feed Size	760mm / 30"
Engine	D13 315 kW / 422 hp
Transport Length	16.58 m / 54' 5" (Comfort & Classic) 17.92m / 58' 10" (Trend)
Transport Width	3.00 m / 9' 10"
Transport Height	3.92 m / 12' 10"
Weight	62,500 kg / 137,790 lbs

Please note all weights and dimensions are for standard units only.



QS331 Mobile secondary cone crusher

Our QS331 is a compact, high quality, secondary cone crusher. Fitted with the CS430 "S" Type gyratory cone crusher, it is capable of accepting large feed sizes and achieving high production capacities.

[Enlarge image](#)



The CS430 cone comes equipped with a hydroset CSS regulation system that will allow you to optimise production and keep track of liner wear. We have also fitted the unit with an automatic level sensor above the crushing chamber to help you control the feed rate. This will minimise operator intervention and ensure you maximise production and reduction.

Also within this cone crusher range is the [QS441](#).

Features and Benefits:

- Pressurised cone to prevent dust ingress into the bushes and bearings
- Metal detector providing you with maximum stability and protection from tramp material
- Unique Constant Liner Performance for extended life of chamber liners, minimising your downtime
- Remote camera so the crushing chamber is visible to you from ground level
- User friendly PLC control system and colour screen for ease of operation

Key Specifications

5/13/2016

QS331 Mobile secondary cone crusher

Equipment

Sandvik CS430 Hydrocone

Maximum Feed Size

360mm / 14 1/8"

Engine

C9 / C9.3 Acert 261 kW / 350 hp

Transport Length

14.56m / 47' 9 1/4"

Transport Width

2.80m / 9' 2 1/4"

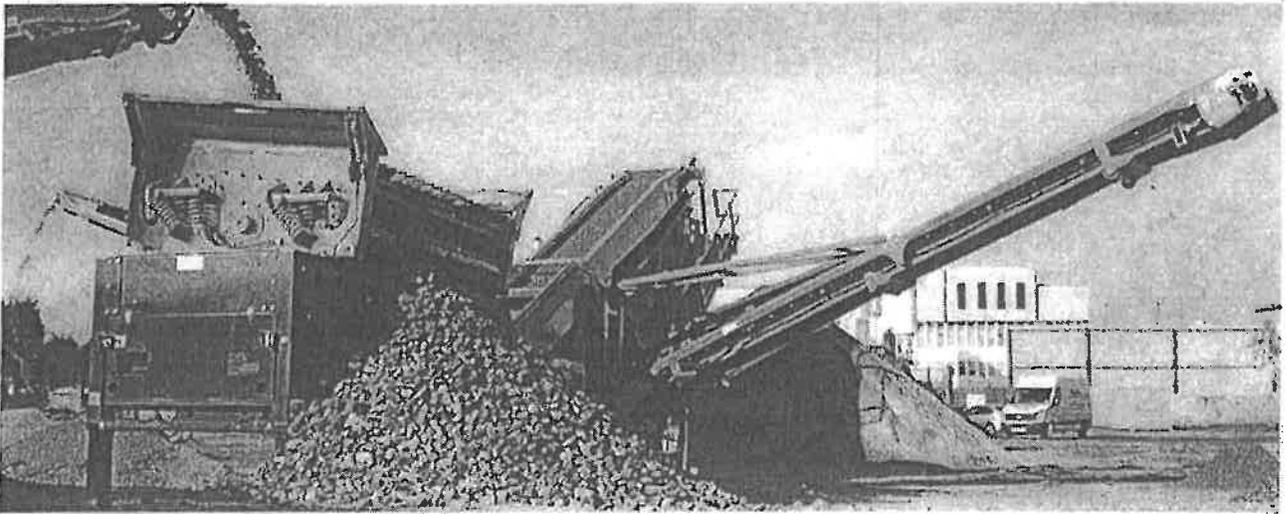
Transport Height

3.80m / 12' 5 1/2"

Weight

36,000 kg / 76,366 lbs

Please note all weights and dimensions are for standard units only.



QA451 Mobile doublescreen

Former Models: Extec S-7, QA450

[Enlarge image](#)

Our QA451 is the world's only triple deck Doublescreen and offers you unrivalled throughput and control. We developed this machine to provide you with massive stockpiling capabilities.

The QA451 is a formidable solution with two inline 10' x 5' / 3 x 1.5m screenboxes, a large feed hopper and extended conveyors. We have designed the QA451 to work in closed circuit with our tracked crushers. You can optimise the feeding position to upstream units as the fourth product conveyor slews and raises / lowers hydraulically. To provide ultimate flexibility the QA451 can also work as a stand-alone screening and stockpiling system. In this mode the unit can produce four sized products with fifth oversize material scalped off at the grid.



Other models within this range of screens include the [QA331](#) and [QA441](#).

Features and Benefits:

- High production capabilities due to its large screening area
- Oversize conveyor which features both hydraulic raise / lower and hydraulic slew functions
- User friendly control panel with sequential start-up for ease of operation.
- Hydraulically folding walkways for ease of maintenance and set up
- Full radio remote control as standard for safe and easy set up
- Designed for optimum fuel economy to lower your operating costs

Key Specifications

Screen Box	20' x 5' / 6 x 1.5 m
Engine	C4.4 74.5 kW / 100 hp
Transport Length	18.37 m / 60' 3"
Transport Width	3.20 m / 10' 6"
Transport Height	3.55 m / 11' 8"
Weight	34,000 kg / 74,957 lbs

Please note all weights and dimensions are for standard units only.

NEW INDUSTRIAL
C9.3 ACERT™

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REQUEST A QUOTE

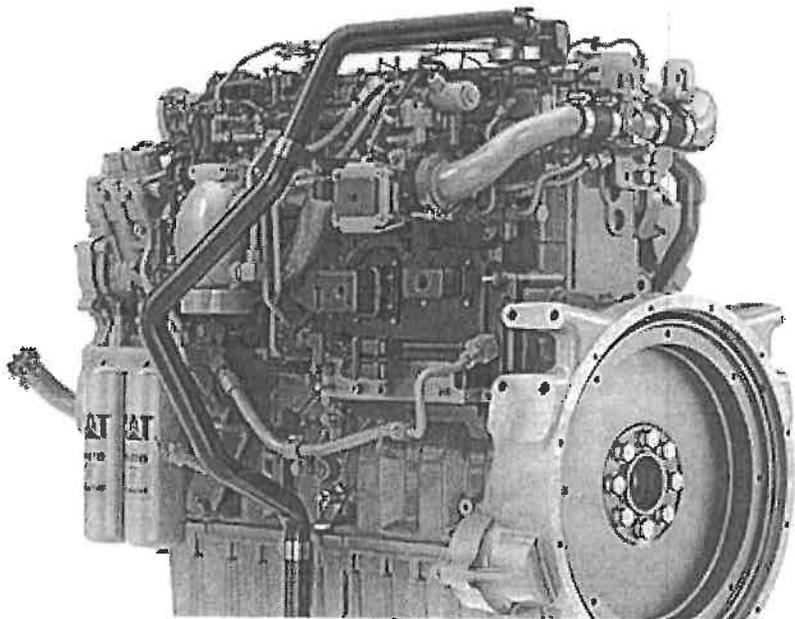
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COMPARE MODELS

304-
759-
6400





C9.3 ACERT Tier 4 Diesel Engines - Highly Regulated

PHOTO **VIDEOS** **360 VIEW**



SPECIFICATIONS

BENEFITS & FEATURES

EQUIPMENT

OVERVIEW

The Cat® C9.3 ACERT™ Industrial Diesel Engine is offered in ratings ranging from 224-298 kW (300-400 hp) @ 1800-2200 rpm. These ratings meet U.S. EPA Tier 4 Final, EU Stage IV emission standards. Industries and applications powered by C9.3 ACERT engines include: Agriculture, Aircraft Ground Support, Bore/Drill Rigs, Chippers/Grinders, Combines/Harvesters, Compactors/Rollers, Compressors, Construction, Cranes, Crushers, Dredgers, Forestry, Forklifts, General Industrial, Hydraulic Power Units, Irrigation Equipment, Loaders/Forwarders, Material Handling, Mining, Mobile Earthmoving Equipment, Mobile Sweepers, Paving Equipment, Pumps, Shovels/Draglines, Specialty Ag Equipment, Sprayers, Surface Hauling Equipment, Trenchers and Underground Mining Equipment.

POWER RATING

UNITS: **US** **METRIC**

Minimum Power	300.0 bhp
Maximum Power	400.0 bhp
Rated Speed	1800-2200 rpm

EMISSION STANDARDS

Emissions

U.S. EPA Tier 4 Final Nonroad, EU Stage IV Nonroad, U.S. EPA Tier 4 Interim Nonroad Equivalent (Not Currently EPA Certified) and EU

GENERAL

Engine Configuration	In-Line 6, 4-Stroke-Cycle Diesel
Bore	115 mm (4.53 in)
Stroke	149 mm (5.87 in)
Displacement	9.3 L (567.5 in ³)
Aspiration	Turbocharged-Aftercooled (TA)
Compression Ratio	17.0:1
Combustion System	Direct Injection
Rotation (from flywheel end)	Counterclockwise
Cooling System Capacity	22 L (23.6 qts)
Lube System (refill)	30 L (31.7 qts)

ENGINE DIMENSIONS (APPROXIMATE. FINAL DIMENSIONS DEPENDENT ON SELECTED OPTIONS)

Length	1119-1150 mm (44.0-45.3 in)
Width	827-1025 mm (32.6-40.4 in)
Height	1066-1123 mm (41.9-44.2 in)
Weight - Net Dry (Basic Operating Engine Without Optional Attachments)	885 kg (1950 lb)

AFTERTREATMENT DIMENSIONS (APPROXIMATE. FINAL DIMENSIONS DEPENDENT ON SELECTED OPTIONS)

Length 885-925.89 mm (34.8-36.45 in)

Width 714.4-870 mm (28.12-34.4 in)

Height 392.21-570 mm (15.44-22.4 in)

Weight 210-213 kg (463-470 lb)

PETU DIMENSIONS (TIER 4 FINAL, STAGE IV ONLY)

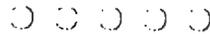
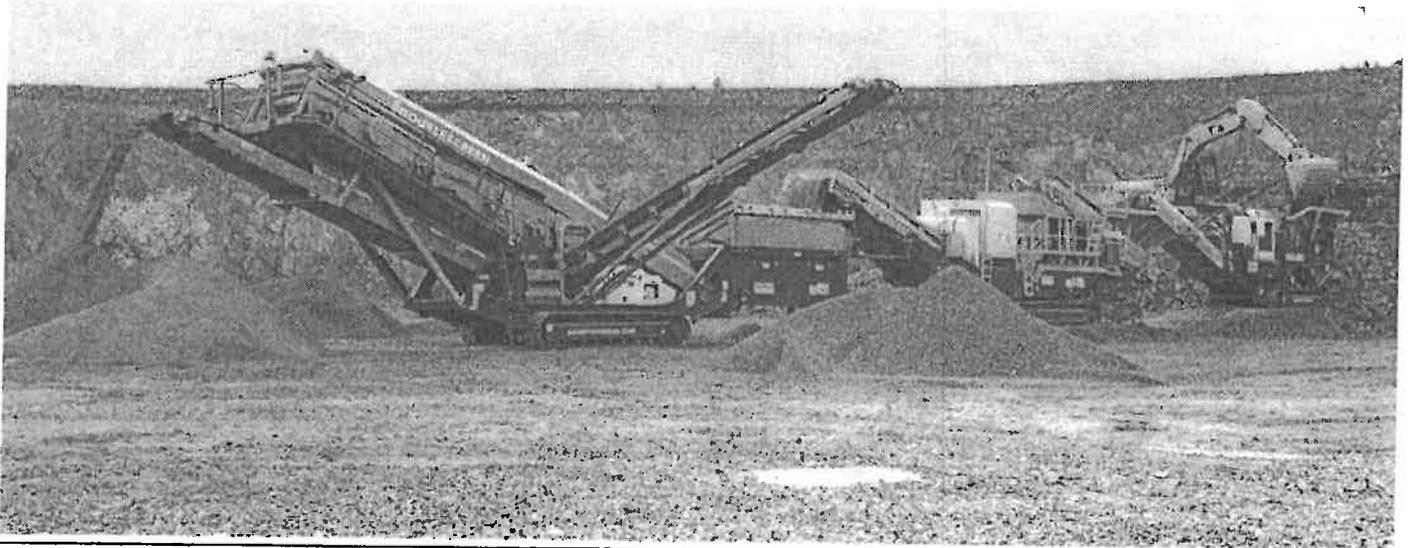
Length 854 mm (33.6 in)

Width 287 mm (11.3 in)

Volume Capacity 48.4 L (51.1 qt)

Weight 19.42 kg (42.8 lb)

Height 551 mm (21.7 in)



QA451 Mobile doublescreen

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[Enlarge image](#)



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- User friendly control panel with sequential start-up for ease of operation.
- Hydraulically folding walkways for ease of maintenance and set up
- Full radio remote control as standard for safe and easy set up
- Designed for optimum fuel economy to lower your operating costs

Key Specifications

5/13/2016

QA451 Mobile doublescreen

Screen Box

20' x 5' / 6 x 1.5 m

Engine

C4.4 74.5 kW / 100 hp

Transport Length

18.37 m / 60' 3"

Transport Width

3.20 m / 10' 6"

Transport Height

3.55 m / 11' 8"

Weight

34,000 kg / 74,957 lbs

Please note all weights and dimensions are for standard units only.

NEW INDUSTRIAL

C4.4 ACERT™

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[REQUEST A QUOTE](#)

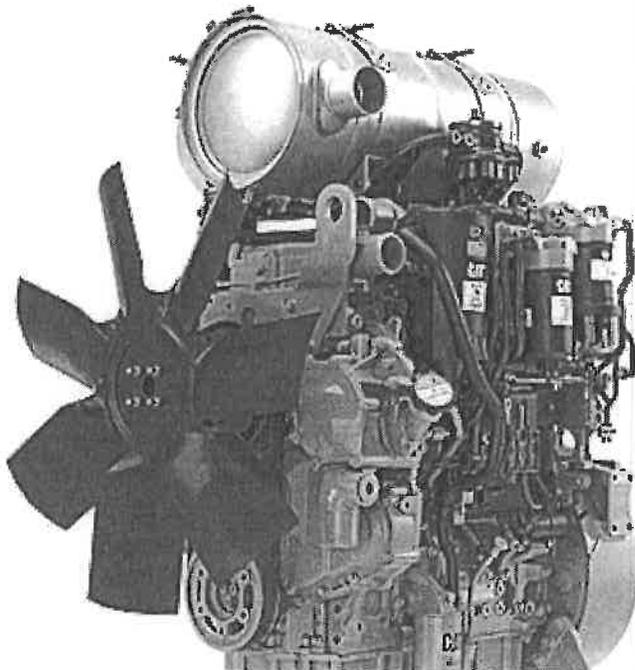
[FINANCING & INSURANCE](#)

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GENERAL

Engine Configuration	Inline 4, 4-Stroke-Cycle Diesel
Bore	105 mm (4.13 in)
Stroke	127 mm (5.00 in)
Displacement	4.4 L (268.5 in ³)
Aspiration	Turbocharged Aftercooled (TA) or Series Turbocharged Aftercooled (TTA)
Compression Ratio	16.5:1
Combustion System	Direct Injection
Rotation (from flywheel end)	Counterclockwise
Cooling System Capacity	10.8 L (11.4 qt)
Lube System (refill)	5.2-13.5 L (5.5-14.27 qt)

ENGINE DIMENSIONS (APPROXIMATE. FINAL DIMENSIONS DEPENDENT ON SELECTED OPTIONS)

Length	845.1 mm (33.3 in)
Width	741.6-772.4 mm (29.1-30.4 in)
Height	848.2-867.6 mm (33.4-34.1 in)
Weight - Net Dry (Basic Operating Engine Without Optional Attachments)	400-420 kg (881.8-926 lb)

AFTERTREATMENT DIMENSIONS (APPROXIMATE. FINAL DIMENSIONS DEPENDENT ON SELECTED OPTIONS)

Length 647-828 mm (25.5-32.6 in)

Width 365-695 mm (14.3-27.4 in)

Height 279-430 mm (11-16.9 in)

Weight 34-80 kg (75-17;6.4 lb)

Diameter 224.9-270.3 mm (9.6-10.6 in)
