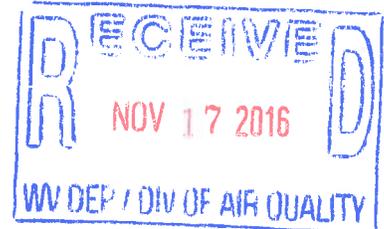

312 Justice Avenue
Logan, WV 25601

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

November 15, 2016

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



RE: Greenbrier Smokeless Coal Mining
Kuhn Ridge Coal Screening Plant
Facility ID: Pending

Dear Mr. Durham:

On behalf of Greenbrier Smokeless Coal Mining, 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 600TPH coal screening plant to be located on the Kuhn Ridge Surface Mine, Greenbrier County, WV. The surface mine has not begun operation at this time.

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

Sincerely,

Donna J. Toler
Air Quality Project Manager

donnatoler@suddenlink.net

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Section M	Check List
Section N	Equipment Specs



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: _____

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

9. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):
PENDING

SECTION I. GENERAL INFORMATION

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

GREENBRIER SMOKELESS COAL MINING, LLC

2. FEDERAL EMPLOYER ID NO. (FEIN):

42-1640597

3. APPLICANT'S MAILING ADDRESS:

PO BOX Q, 4425 ANJEAN ROAD, RUPERT, WV 25984

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

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

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

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



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 and operation of coal screening plant		8. STANDARD INDUSTRIAL CLASSIFICATION (SIC) CODE FOR THE FACILITY: <p align="center">1221</p>
9A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY): <p>Pending</p>	10A. LIST ALL CURRENT 45CSR13 AND 45CSR30 (TITLE V) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR EXISTING FACILITY ONLY):	

PRIMARY OPERATING SITE INFORMATION

11A. NAME OF PRIMARY OPERATING SITE: <p align="center">Kuhn Ridge Surface Mine</p>	12A. MAILING ADDRESS OF PRIMARY OPERATING SITE: <p align="center">Same</p>	
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: OWNER AND OPERATOR ⇨ IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		
14A. ⇨ FOR MODIFICATIONS or ADMINISTRATIVE UPDATES , AT AN EXISTING FACILITY, PLEASE PROVIDE DIRECTIONS TO THE <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. <p align="center">From Charleston, take I-64 to Sam Black Church Exit, turn left to Rupert, turn right onto Church Street which turns into Anjean Road – follow Anjean Road approximately 2 miles past rail loadout – entrance to mine site on right.</p> <p align="center">INCLUDE A MAP AS ATTACHMENT F.</p>		
15A. NEAREST CITY OR TOWN: <p align="center">Rupert</p>	16A. COUNTY: <p align="center">Greenbrier</p>	
17A. UTM NORTHING (KM): <p align="center">4208.19330</p>	18A. UTM EASTING (KM): <p align="center">538.59128</p>	19A. UTM ZONE: <p align="center">17</p>

LAT/LONG FOR PLANT: 38-01-14.2074 AND 80-33-37.1819

1ST ALTERNATE OPERATING SITE INFORMATION

11B. NAME OF PRIMARY OPERATING SITE: <p align="center">N/A</p>	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

11C. NAME OF PRIMARY OPERATING SITE: <p align="center">N/A</p>	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: <u>January 1, 2017</u> ⇨ 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: <u>January 1, 2017</u>
22. PROVIDE MAXIMUM PROJECTED OPERATING SCHEDULE OF ACTIVITY/ ACTIVITIES OUTLINED IN THIS APPLICATION: HOURS PER DAY <u>10</u> DAYS PER WEEK <u>6</u> WEEKS PER YEAR <u>50</u> PERCENTAGE OF OPERATION <u>100%</u>		

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

ISSUED TO:
GREENBRIER SMOKELESS COAL MINING LLC
ANJEAN RD
RUPERT, WV 25984

BUSINESS REGISTRATION ACCOUNT NUMBER: 1029-7454

This certificate is issued on: 06/10/2010

*This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with W.Va. Code § 11-12.*

*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.

DETAILED PROCESS DESCRIPTION

The Kuhn Ridge Surface Mine is located in a remote area of Greenbrier County, WV. The 2014 Powerscreen Warrior 1800 coal screening system will be used for direct-ship pit cleaned coal and may be moved and set up periodically to adjacent coal pits as material is uncovered. Kuhn Ridge Surface Mine is not contiguous with the Mountaineer Plant or the Pollock Surface Facility.

The coal will be pit-cleaned and fed by front-end loader to bin BS-01(PW) @ TP-01(UD-PW) which is a 3 yard bin and used for transfer purposes only; BS-01 will transfer to belt conveyor BC-01(NC) @ TP-02(TC-PE); coal from belt conveyor BC-01(NC) will transfer to screen SS-01(FE) @ TP-09(TC-FE). Screen material will then be sent to the under screen conveyor BC-02(FE) for distribution on any one of three belt conveyors BC-03(NC), BC-04(NC), or BC-05(NC) for transfer to the stockpiles OS-01(SW-WS), OS-02(SW-WS), and OS-03(SW-WS) @ TP-10(TC-PE) thru TP-15(TC-MDH). Stockpiles will then be loaded to truck and delivered to the appropriate loadout for delivery @ TP-16(LO-MDH). The screen will be housed in a fully enclosed screen box as depicted in the attached brochure.

The feed bin will be used for coal transfer only and not storage, therefore, water sprays are not required.

ATTACHMENT C

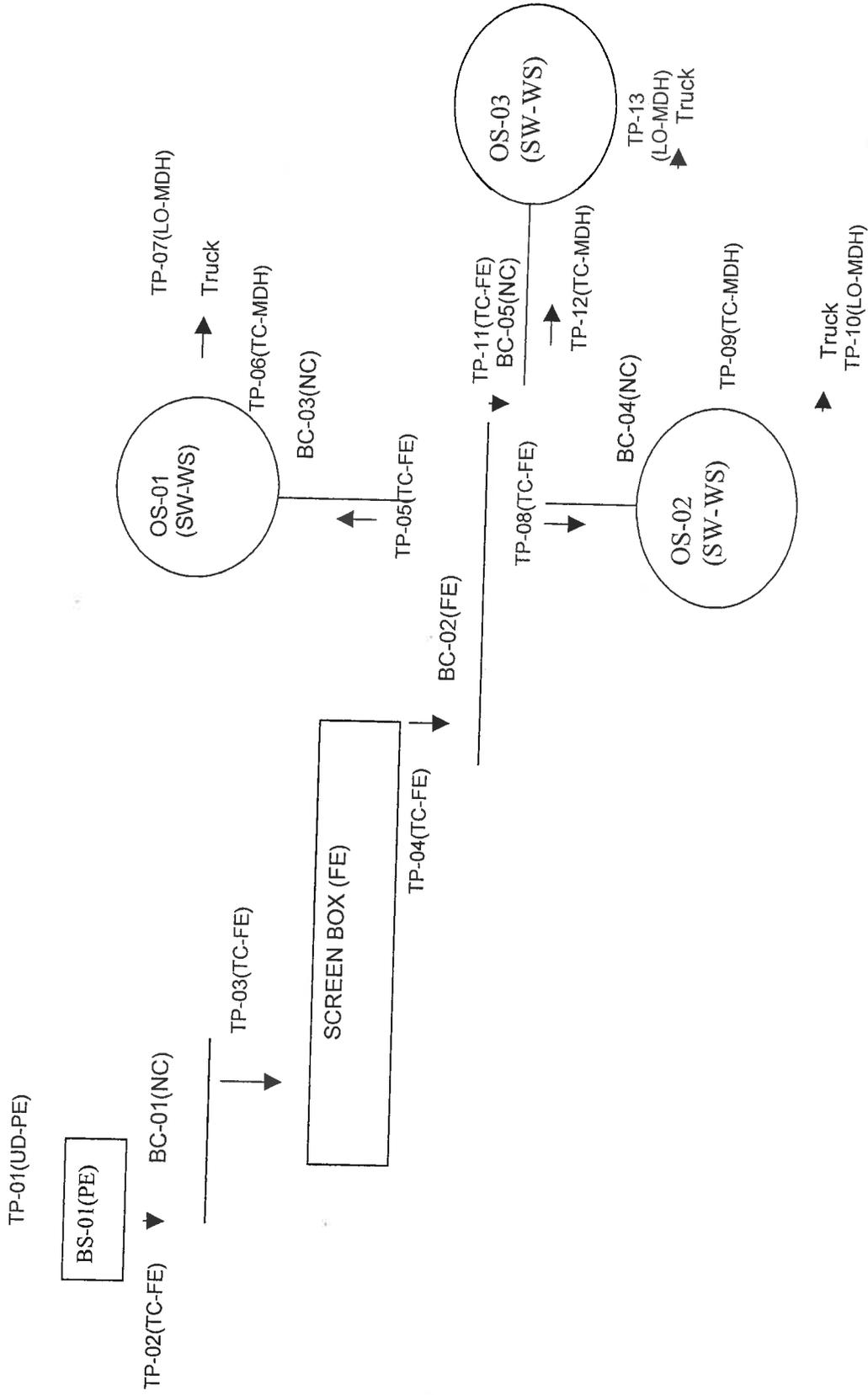
DESCRIPTION OF FUGITIVE EMISSIONS

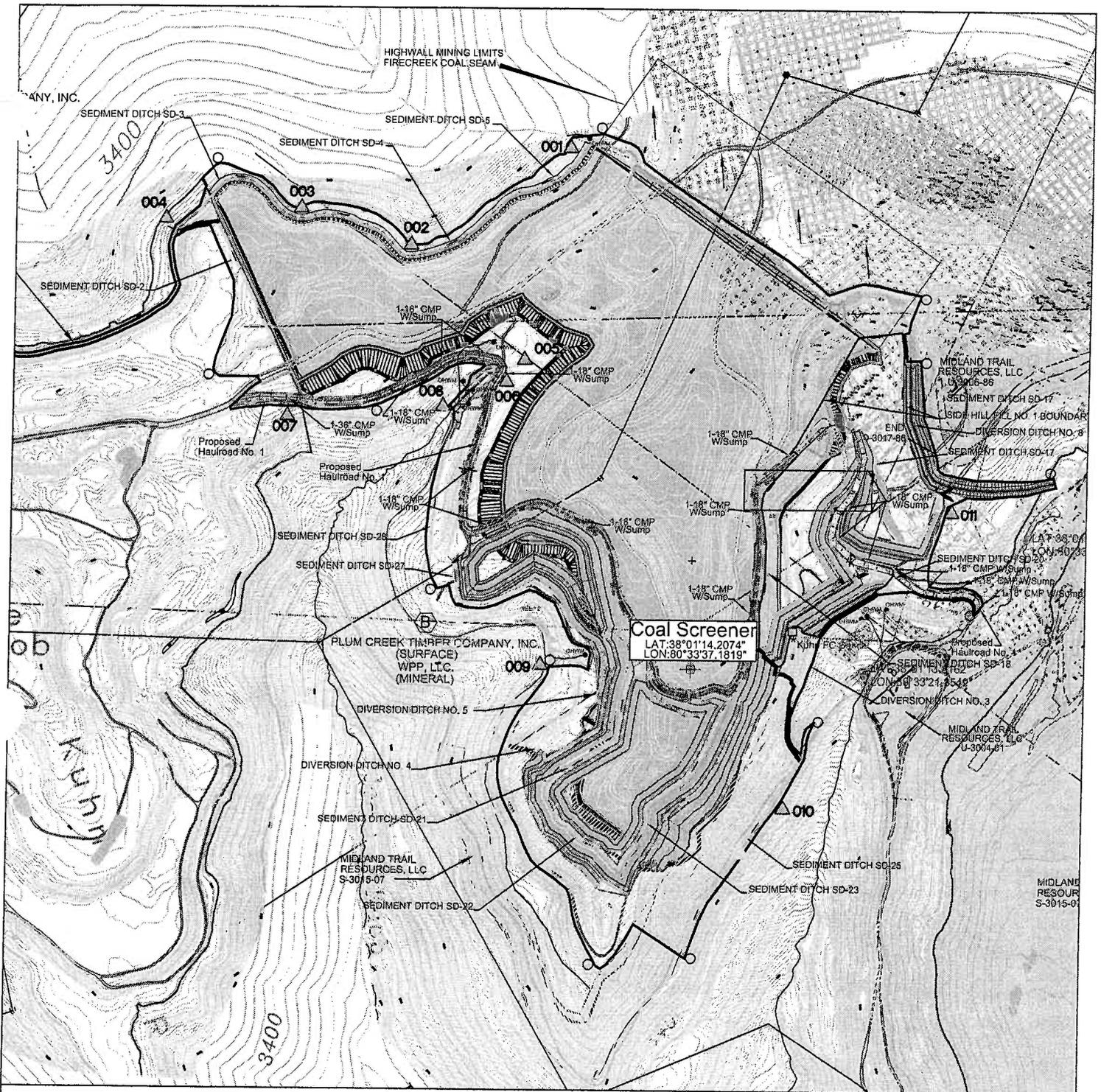
Potential sources of fugitive particulate emissions for this facility include emissions, which are not captured by pollution control equipment and emissions from open stockpiles and vehicular traffic on unpaved haulroads and work areas. The haulroads and work areas will be controlled by water truck in accordance with section E.6.c.i. of the General Permit. The stockpile areas will be controlled by water truck with pressurized pumps sufficient to control emissions. 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 rock base material will be added to unpaved haulroads as needed.

GREENBRIER SMOKELSS COAL MINING, LLC
 KUHN RIDGE SCREENING PLANT
 MATERIAL FLOW DIAGRAM

Coal Pit Area



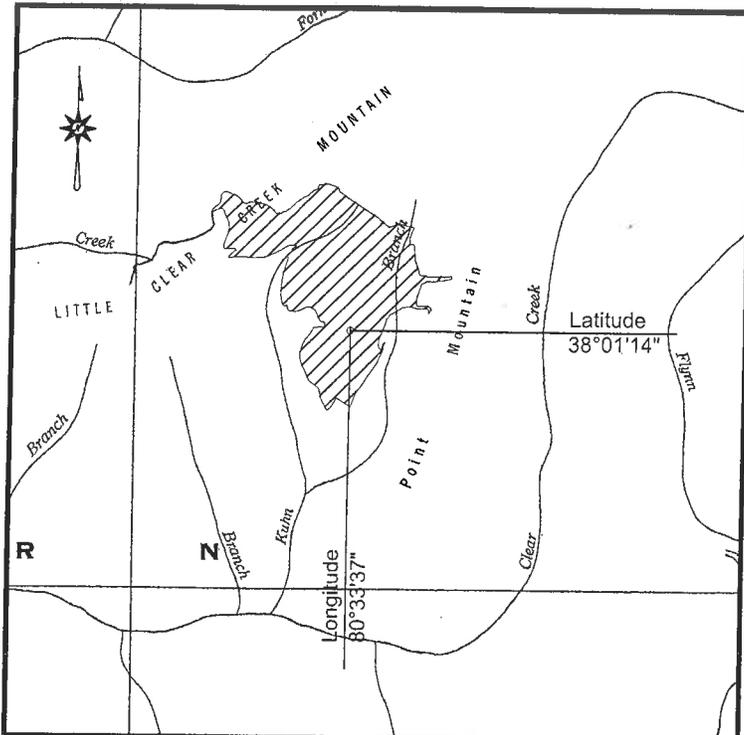


Kuhn Ridge Surface Mine Division of Air Quality Coal Screener - Site Plan



1 inch = 1000 feet

November 9, 2016



Permit No. S-3005-14

NPDES No. WV1028006

LOCATION MAP

Prepared from WV General Highway Map

Meadow Bluff District, Greenbrier County

Nearest Post Office: Williamsburg

USGS Quadrangles (WV): Duo

Receiving Streams: Unnamed tributaries of South Fork of Big Clear Creek; unnamed tributaries of/and Joe Knob Branch of Kuhn Branch of Little Clear Creek; unnamed tributaries of/and Kuhn Branch of Little Clear Creek; all of Meadow River of Gauley River of Kanawha River

SCALE: 1" = 1 MILE



Lon/Lat

Longitude: - 80 d 33 m 37.1819 S

Latitude: + 38 d 01 m 14.2074 S

DD: -80.560328 38.020613

Datum: NAD27 NAD83

UTM

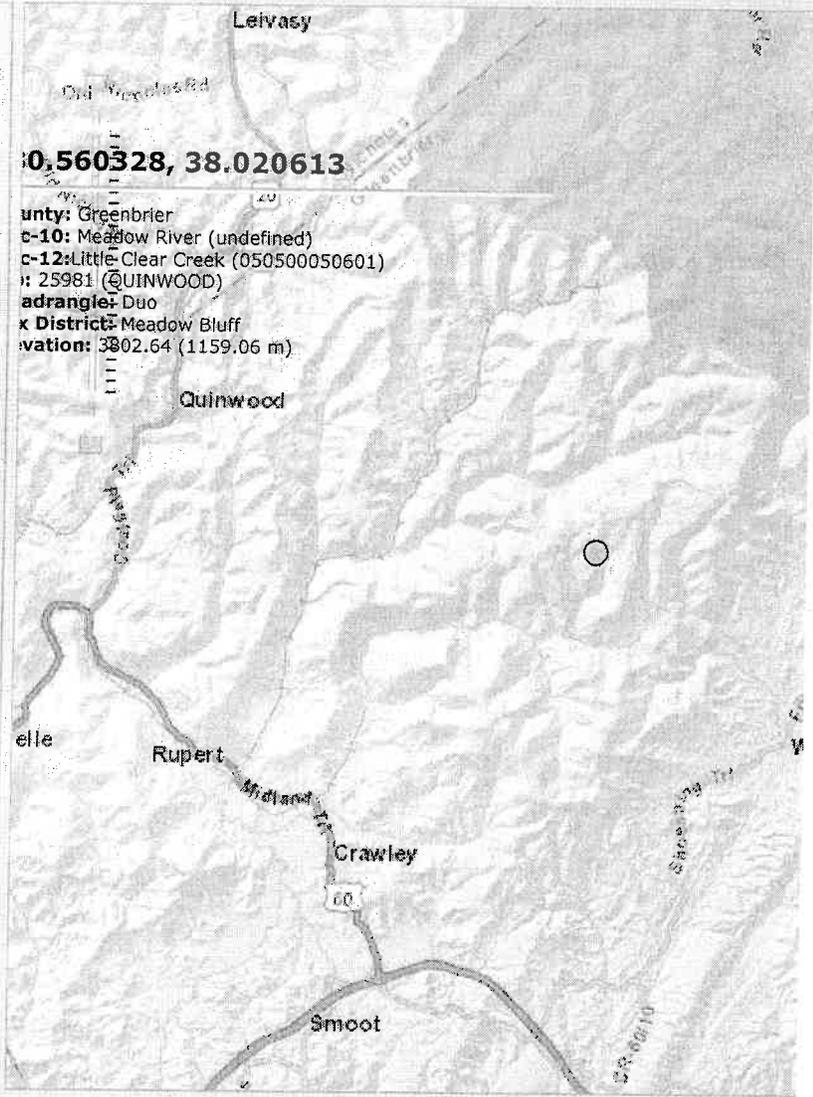
Coordinates: 538591.28 E 4208193.30 N

Datum: NAD27 NAD83 Zone: 17

WV State Plane (feet)

Coordinates: 1662944.12 E -172817.72 N

Datum: NAD27 NAD83 Zone: North



street map image topo

CRUSHING AFFECTED SOURCE SHEET

Source Identification Number ¹		SS-01					
Type of Crusher or Screen ²		DD					
Date of Manufacture ³		2014					
Maximum Throughput ⁴	tons/hour	600					
	tons/year	5,256,000					
Material sized from/to: ⁵		4x0					
Average Moisture Content (%) ⁶		5					
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					
Type of Material Stored ²	Coal					
Average Moisture Content (%) ³	5					
Maximum Yearly Storage Throughput (tons) ⁴	5,256,000					
Maximum Storage Capacity (tons) ⁵	3 yards (4ton)					
Maximum Base Area (ft ²) ⁶						
Maximum Pile Height (ft) ⁷						
Method of Material Load-in ⁸	FE					
Load-in Control Device Identification Number ⁹	UD-PE					
Storage Control Device Identification Number ⁹	Not used for storage – transfer only					
Method of Material Load-out ⁸	SS					
Load-out Control Device Identification Number ⁹	TC-FE					

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-01	OS-02	OS-03		
Type of Material Stored ²	Coal	Coal	Coal		
Average Moisture Content (%) ³	5	5	5		
Maximum Yearly Storage Throughput (tons) ⁴	5,256,000	5,256,000	5,256,000		
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	20'	20'	20'		
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	EndLoader FE	EndLoader FE	EndLoader 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 - Pressurized Water Truck

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

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:

EMISSIONS SUMMARY

Name of applicant: Greenbrier Smokeless
 Name of plant: Kuhn Ridge Plant

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>	360.46	1,582.79	108.14	474.84
<i>Paved Haulroad Emissions</i>	0.00	0.00	0.00	0.00
Fugitive Emissions Total	360.63	1,583.53	108.18	475.02

POINT SOURCE EMISSIONS				
<i>Equipment Emissions</i>	60.00	262.80	12.00	52.56
<i>Transfer Point Emissions</i>	7.93	34.74	4.70	20.58
Point Source Emissions Total*	67.93	297.54	16.70	73.14

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

Facility Emissions Total	428.56	1,881.07	124.88	548.16
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***Facility Potential to Emit (PTE) (Baseline Emissions) = 73.14**
 (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>	104.18	457.44	31.25	137.23
<i>Paved Haulroad Emissions</i>	0.00	0.00	0.00	0.00
Fugitive Emissions Total	104.26	457.79	31.27	137.32

POINT SOURCE EMISSIONS				
<i>Equipment Emissions</i>	28.20	123.52	5.64	24.70
<i>Transfer Point Emissions</i>	3.75	16.43	2.22	9.73
Point Source Emissions Total*	31.95	139.95	7.86	34.43

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

Facility Emissions Total	136.21	597.73	39.13	171.75
---------------------------------	---------------	---------------	--------------	---------------

1. Emissions From CRUSHING AND SCREENING (Continued)

EMISSION FACTORS

source: Air Pollution Engineering Manual and References
(lb/ton of material throughput)

PM	
Primary Crushing	0.02
Tertiary Crushing	0.06
Screening	0.1

PM-10	
Primary Crushing	0.0094
Tertiary Crushing	0.0282
Screening	0.047

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

Where:

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

Assumptions:

k - Particle size multiplier

For PM (< or equal to 30um) k = 0.74

For PM-10 (< or equal to 10um) k = 0.35

Emission Factor

For PM E= $\$I\$88 \cdot (0.0032) \cdot (((\text{Inputs!}\$I\$72)/5)^{1.3}) / (((\text{Inputs!}G78 + 0.000000001)/2)^{1.4})$
=lb/ton

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

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

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

3. Emissions From WIND EROSION OF STOCKPILES

Stockpile ID No.	PM				PM-10			
	Uncontrolled		Controlled		Uncontrolled		Controlled	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
OS-01	0.057	0.248	0.014	0.062	0.027	0.117	0.007	0.029
OS-02	0.057	0.248	0.014	0.062	0.027	0.117	0.007	0.029
OS-03	0.057	0.248	0.014	0.062	0.027	0.117	0.007	0.029
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
TOTALS	0.170	0.745	0.043	0.186	0.080	0.350	0.020	0.088

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

Emission Factors

For PM $E = (1.7) * ((\text{Inputs!F147})/1.5) * ((365 - \text{Inputs!I139})/235) * ((\text{Inputs!I140})/15)$

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

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	360.46	1582.79	108.14	474.84	104.18	457.44	31.25	137.23
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	360.46	1582.79	108.14	474.84	104.18	457.44	31.25	137.23

Source:

AP42, Fifth Edition, Revised 11/2006

13.2.2 Unpaved Roads

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

$$E = k \cdot \left(\frac{s}{12}\right)^a \cdot \left(\frac{W}{3}\right)^b = \text{lb/vmt}$$

Where:

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

Emission Factors

For PM $E = ((\$35) \cdot (((\text{Inputs!}\$163)/12)^{\$36}) \cdot (((\text{Inputs!}H171)/3)^{\$37}))$

For PM-10 $E = ((\$J35) \cdot (((\text{Inputs!}\$163)/12)^{\$J36}) \cdot (((\text{Inputs!}H171)/3)^{\$J37}))$

For lb/hr $(\text{lb/vmt}) \cdot (\text{miles per trip}) \cdot (\text{Max trips per hour})$

For Ton/yr $(\text{lb/vmt}) \cdot (\text{miles per trip}) \cdot (\text{Max trips per year}) \cdot (1/2000)$

5. Emissions From INDUSTRIAL PAVED HAULROADS

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

Source:

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

Emission Estimate For Paved Haulroads

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

Where:

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

Emission Factors

For PM E= $(k * (sL/2)^{0.65} * ((W/3)^{1.5} - C) * (1 - (P/4*N)))$

For PM-10 E= $(k * (sL/2)^{0.65} * ((W/3)^{1.5} - C) * (1 - (P/4*N)))$

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

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

Legal Advertisement

**AIR QUALITY PERMIT NOTICE
Notice of Application**

Notice is given that Greenbrier Smokeless Coal Mining, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a General Permit Registration for a Coal Screening Plant System to be located on Kuhn Ridge Surface Mine, Anjean/Clear Fork Road near Rupert in Greenbrier County, West Virginia. The facility coordinates are as follows: latitude 38.020613 and longitude -80.560328.

The applicant estimates the potential to discharge the following Regulated Air Pollutants from the diesel combustion engine will be: criteria pollutants for the engine is estimated to be: NOx 5.162 tons per year, CO 1.112 tons per year, VOC 0.411 tons per year, SOx 0.341 tons per year and PM10 0.366 tons per year. The potential to emit hazardous pollutants from the engine is estimated to be: Benzene 0.001397 tons per year, Toluene 0.000612 tons per year, Xylene 0.000427 tons per year, Acetaldehyde 0.001148 tons per year, Acrolein 0.000139 tons per year, Naphtalene 0.000127 tons per year and Formaldehyde 0.001767 tons per year. Total Hazardous Air Pollutants from the burning of diesel fuel is 0.005676 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 73 tons per year, particulate matter less than 10 microns emissions total of 34 tons per year and particulate matter facility emissions total of 548 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 18th day of November 2016

By: Greenbrier Smokeless Coal Mining, LLC
Michael C. Necessary
Authorized Agent
4425 Anjean Road
Rupert, WV 25984

ATTACHMENT K

**ELECTRONIC SUBMITTAL DISC LOCATED IN ORIGINAL
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)

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

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 C. NECESSARY, AUTHORIZED AGENT

(please print or type)

Signature _____

(please use blue ink)

Authorized Representative (if applicable)

Date

11/09/16

Applicant's Name: GREENBRIER SMOKELESS COAL MINING

Phone: 304-392-1000

Email: : mnecessary@gscoal.com - (Leslie Lavender, contact at llavender@gscoal.com)

APPOINTMENT OF AUTHORIZED AGENT

KNOW ALL MEN BY THESE PRESENTS, that GREENBRIER SMOKELESS COAL MINING, LLC, a Delaware limited liability company (the "Company"), hereby appoints MICHAEL C. NECESSARY, to be its authorized agent, to sign for and on behalf of the Company all coal mining related permit applications and other permit-related documents for the Company including permits required by state and/or federal law. This authority shall become effective with execution of this document.

GREENBRIER SMOKELESS COAL MINING, LLC

By: Greenbrier Minerals, LLC
Its: Manager

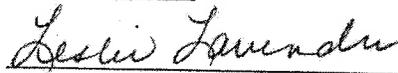
By: 
James I. Campbell
Its: President

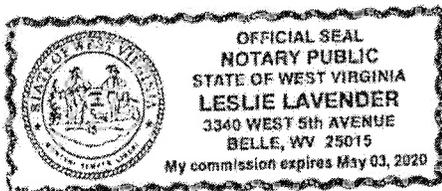
STATE OF WEST VIRGINIA,
COUNTY OF GREENBRIER, to wit:

I, LESLIE LAVENDER, a Notary Public in and for the state and county aforesaid, do hereby certify that JAMES I. CAMPBELL, as President of Greenbrier Minerals, LLC, the Manager of Greenbrier Smokeless Coal Mining, LLC, has signed and acknowledged the foregoing document this 10th day of May, 2016, before me, in my said County.

Given under my hand this 10th day of May, 2016.

My commission expires: May 03, 2020.


Notary Public



(SEAL)

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.

ENGINE DATA SHEET

Source Identification Number ¹		E1					
Engine Manufacturer and Model		Cat 4.4					
Manufacturer's Rated bhp/rpm		111/2200					
Source Status ²		A/F					
Date Installed/Modified/Removed (Month/Year) ³		Nov 2016					
Engine Manufactured/Reconstruction Date ⁴		2014					
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	N/A					
	Fuel Type ⁹	Diesel					
	H ₂ S (gr/100 scf)	N/A					
	Operating bhp/rpm	2200					
	BSFC (Btu/bhp-hr)	N/A					
	Fuel throughput (ft ³ /hr)	7.4gph					
	Fuel throughput (MMft ³ /yr)	22,200gpy					
Operation (hrs/yr)	3000						
Reference ¹⁰	Potential Emissions ¹¹	lbs/hr	tons/yr				
	NO _x	3.4410	5.162				
	CO	0.7415	1.112				
	VOC	0.2742	0.411				
	SO ₂	0.2276	0.341				
	PM ₁₀	0.2442	0.366				
	Formaldehyde	0.00118	0.001767				

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 HAZARDOUS/TOXIC POLLUTANTS

		Registration Number (Agency Use) G10-D											
		Potential Emissions (lbs/hr)					Potential Emissions (tons/yr)						
Source ID No.		Benzene	Acetaldehyde	Toluene	Xylenes	Acrolein	Formaldehyde	Benzene	Acetaldehyde	Toluene	Xylenes	Acrolein	Formaldehyde
Transfer Points													
Crush/Screen													
Stockpiles													
Haulroads													
CAT C4.4		0.00093	0.00077	0.00041	0.00028	0	0.00118	0.001397	0.001148	0.000612	0.000427	0.000139	0.001767

GREENBRIER SMOKELESS - KUHN RIDGE

COAL SCREENING PLANT

ID No. PENDING

POWER SCREEN 1800

TERIA POLLUTANTS

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

	82	kW
Caterpillar C4.4 Diesel Fuel Engine	111	hp
Max. Hours of Operation (10 hrs/day, 6 days/week, 50 weeks/year)	3000	hrs/year
Heating Value for diesel	19300	Btu/gal
	7.4	GPH

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	3.4410	5.162
CO	AP42	0.00668	0.95	D	0.7415	1.112
SOx	AP42	0.00205	0.29	D	0.2276	0.341
PM/PM10	AP42	0.00220	0.31	D	0.2442	0.366
VOC	AP42	0.00247	0.35	D	0.2742	0.411

HAZARDOUS AIR POLLUTANTS

12 5th Edition Section 3.3 Gasoline and Diesel Industrial Engines (10/96) - Table 3.3-2
 400SR30 Table 45-30A Hazardous Air Pollutants

Caterpillar C4.4 Diesel Fuel Engine	111	hp		
Maximum Hours of Operation (10hrs/day, 6 days/week, 50 weeks/year)			3000	hours/year
Maximum diesel usage, based on EPA WebFIRE/AP-42 3.4-1 assumptions on diesel			19300	Btu/lb
			7.1	lb/gal
	Heating Value for diesel		134900	BTU/US gal
	Maximum diesel usage at 2200 rpm		7.4	gal/hour based on kw

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

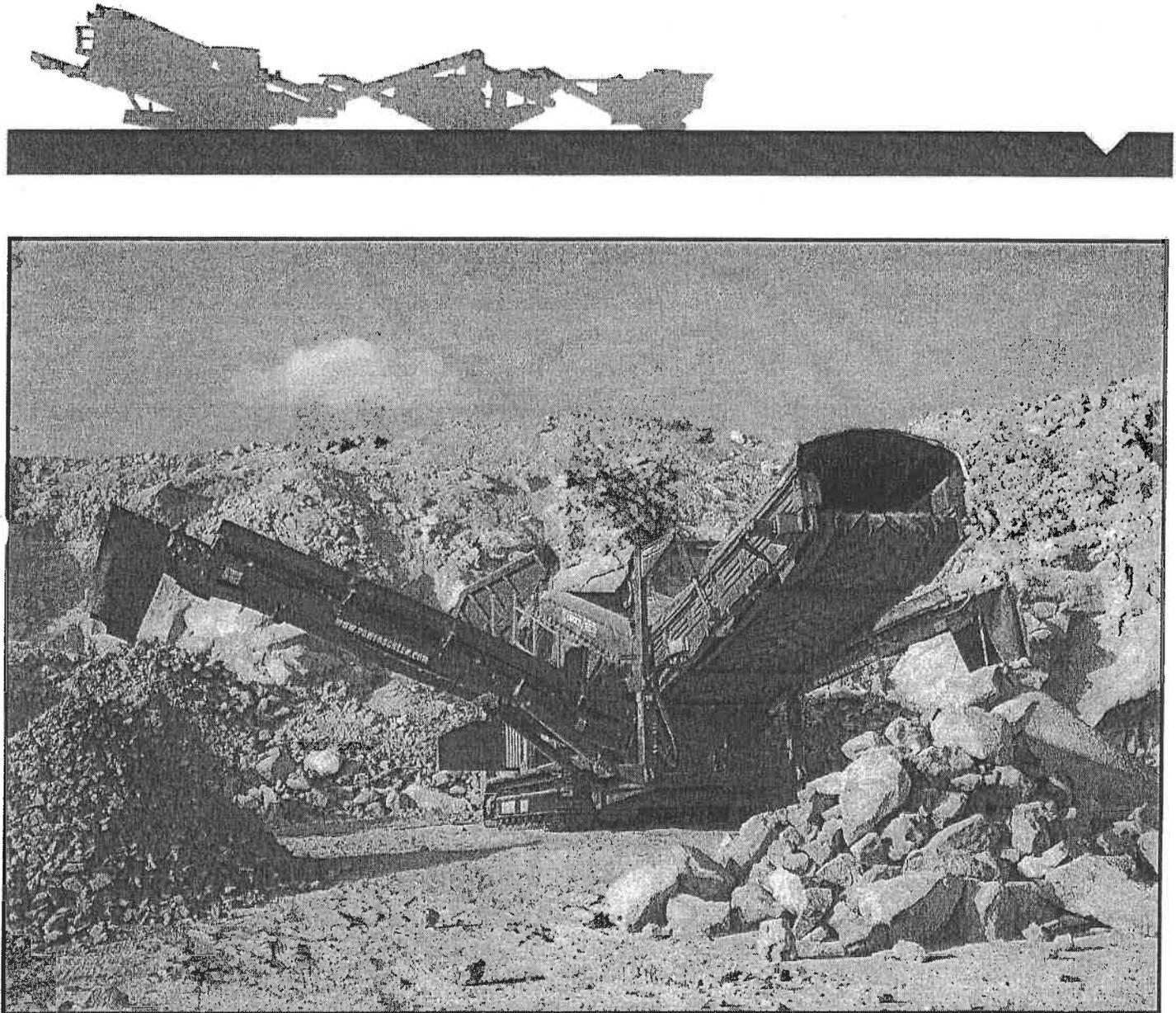
E (annual) = Emission Factor (lb/hp-hr) * Horse Power (hp) * Maximum Hours of Operation * 1 ton
 per 2000 lb

CAS NO.		Emission Factor (lb/MMBtu)	Rating	lb/hour	TPY
71-43-2	Benzene	0.000933	E	0.00093	0.001397
108-88-3	Toluene	0.000409	E	0.00041	0.000612
	Xylenes	0.000285	E	0.00028	0.000427
	1,3-Butadiene	0.0000391	E	3.9E-05	5.85E-05
50-00-0	Formaldehyde	0.00118	E	0.00118	0.001767
	Acetaldehyde	0.000767	E	0.00077	0.001148
	Acrolein	0.0000925	E	9.2E-05	0.000139
91-20-3	Naphthalene	0.0000848	E	8.5E-05	0.000127
	Burning diesel fuel:		Total HAPs	0.00378	0.005676
				lb/hour	TPY

Powerscreen® Warrior 1800

2 Deck Heavy Duty Incline Screen

Specification - Rev 8. 01/01/2013



Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

Specification

		Three Way Split	Two Way Split
Total weight	Incline Belt	30,000kg (66,200lbs)*	27,800kg (61,300lbs)*
	Incline Apron	32,500kg (71,650lbs)*	30,300kg (66,800lbs)*
Transport	Length	15.38m (50' 6")	14.99m (49' 2")
	Width	2.86m (9' 5")	2.86m (9' 5")
	Height	3.39m (11' 2")	3.39m (11' 2")
Operation	Length	14.4m (47' 2")	14.03m (46')
	Width	12.6m (41' 4")	7.74m (25' 5")
	Height	4.57m (14' 11")	4.55m (14' 11")
Screenunit		4.88m x 1.5m (16' x 5')	4.88m x 1.5m (16' x 5')
Powerunit		Diesel / Hydraulic	Diesel / Hydraulic
Plant Colour		RAL 5021	RAL 5021

Features & Benefits

- High capacity up to 600 tph (depending on feed size, mesh size & material type)
- Maximum feed size 600mm. Maximum allowable feed size may vary depending on material
- Suitable for scalping or stockpiling as a 3 way split or 2 way split machine
- Heavy duty inclined hopper & belt feeder belt featuring impact bars & impact rollers
- Hydraulic folding hopper sides & twin drive belt feeder
- Jack up screen facility for access to screen media & collection conveyor
- Unique hydraulic slide out facility on tail conveyor to aid screen media removal
- Heavy-duty aggressive 2 bearing screen box with 10mm stroke (optional 12mm stroke)
- Maximum mobility with heavy duty, low ground pressure crawler tracks
- Quick set up time typically under 15 minutes
- Hydraulically folding conveyors for transport
- Heavy duty crawler tracks, complete with removable pendant remote control system
- High performance hydraulic system

Application

Aggregate

- Sand & gravel
- Blasted rock
- River rock

Recycling

- Top soil
- C&D waste
- Composted materials
- Wood by-products
- Overburden
- Foundry waste

Mining

- Processed ores
- Processed minerals

Abbreviations: T=Track, W=Wheel, Std= Standard, Hyd= Hydraulic, W/O= Without, C/W= Complete with
 EXT= Extended, DDVG= Double deck vibrating grid, Inc= Including, Aux= Auxiliary,
 Conv= Conveyor, 3WS= 3 way split, 2WS= 2 way split, *= depending on machine specification

Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

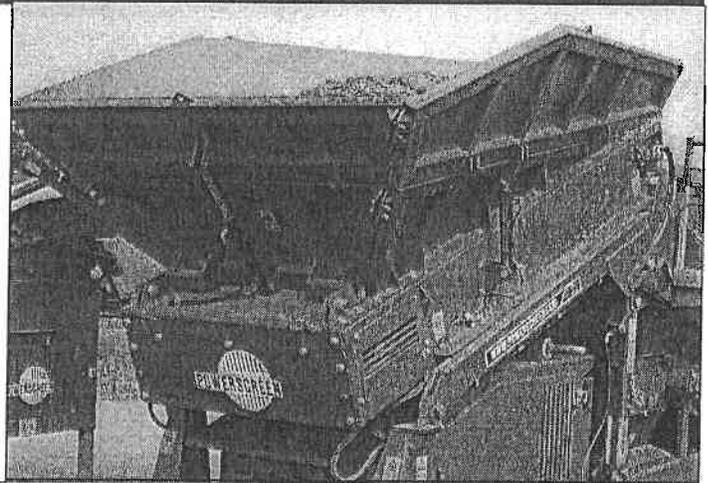
Hopper

Target area: 4.4m (14' 5") long x 2.7m (8' 10") wide
Hopper capacity: 6.8m³ (8.9 cu. yd.)
Feed in height: 4.23m (13' 10") (side)
Feed in height: 3.63m (11' 11") (rear)
Feed in height: 3.20m (10' 8") (collapsed hopper)

Hydraulic folding hopper sides, manufactured from wear resistant steel

Rear wall collapsible for direct feeding

Hydraulic slide & raise facilities for transport



Heavy Duty Feed Conveyor

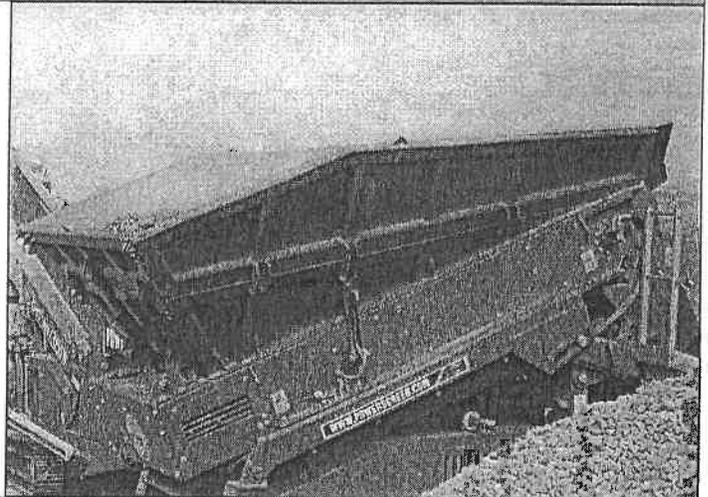
1300mm (51") 4 ply heavy duty grade belt
3.43m (11' 3") drum centres
Driving speed: 17rpm (20m/min)

Heavy duty impact bars & impact rollers

Heavy duty drive featuring twin gearbox drive

Variable speed control

Supergrip drive drum as standard



Screenbox

Heavy Duty 4.8m x 1.5m (16' x 5') 2 deck, 2 bearing
incline screen with highly aggressive screen drive

Self adjusting belt driven screen drive, increased
flexibility over direct drive alternatives, adjustable
stroke: 10mm - 12mm (3/8" - 1/2")

Side tensioned or modular top deck

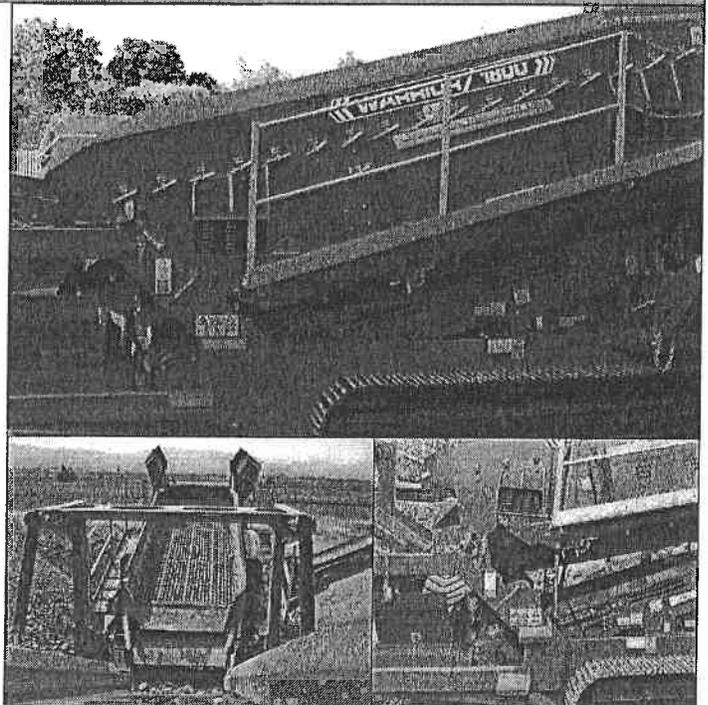
End tensioned or modular bottom deck

Hydraulic screen angle adjustment 14° - 18°

Jack up screen facility for access to screen media

Galvanised maintenance platforms on both sides of
screen

Modular screen suitable for bofor, finger, punch
plate and mesh screen media

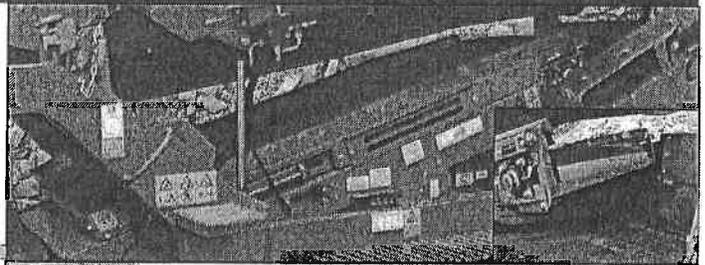


Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

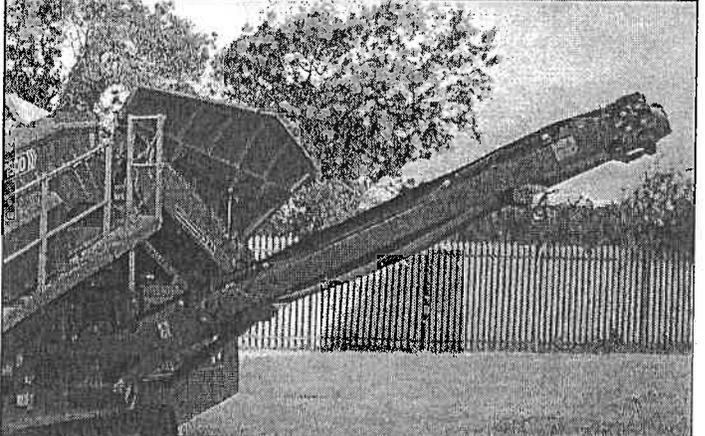
Underscreen Conveyor

1200mm (48") wide 3 ply plain belt
3.97m (11' 9") drum centres
Accessible via jack up screen facility



Fines - Side Conveyor

900mm (35") wide 3 ply plain belt (chevron option)
7.07m (23' 2") drum centres
3.70m (12' 2") stockpile height
76m³ (99 cu. yd.) stockpile capacity
Impact bars under feedboot area
Variable speed control
Hydraulically folding, angle adjustable 14° - 25°
Operates on separate hydraulic circuit



Midsized - Side Conveyor

900mm (35") wide 3 ply plain belt (chevron option)
7.07m (23' 2") drum centres
3.44m (11' 3") stockpile height
61m³ (80 cu. yd.) stockpile capacity
Impact bars under feedboot area
Variable speed control
Hydraulically folding, angle adjustable 14° - 25°
Removed during 2 way split operation



Oversize - Tail Conveyor

1400mm (55") wide 4 ply chevron belt
5.15m (16' 10") drum centres
3.73 m (12' 3") stockpile height 3WS mode
77m³ (101 cu. yd.) stockpile capacity
3.0m (9' 10") stockpile height 2WS mode
40m³ (52 cu. yd.) stockpile capacity
Hydraulic raise & lower facility
Impact bar/ roller combination
Hydraulic slide out facility to aid screen access
Angle adjustable 10° - 24°
Variable speed control



Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

Powerunit & Hydraulics

Engine:

Tier 3 / Stage 3A—Caterpillar C4.4 ATAAC 4 cylinder engine

Performance:

83 kW (111.3hp) @ 2200rpm

Tank Capacities:

Fuel: 336 L (88 US Gal)

Hydraulic Oil: 564 L (149 US Gal)

Pumps:

Flywheel: Cast iron 46/46/33/33cc/rev quad pump

PTO 'A': Cast iron 23/23cc/rev tandem

Motors:

Belt feeder: 125cc/rev

Tail conveyor: Cast iron 800cc/rev

Mid fines side conveyor: Cast iron 500cc/rev

Under screen: Cast iron 500cc/rev

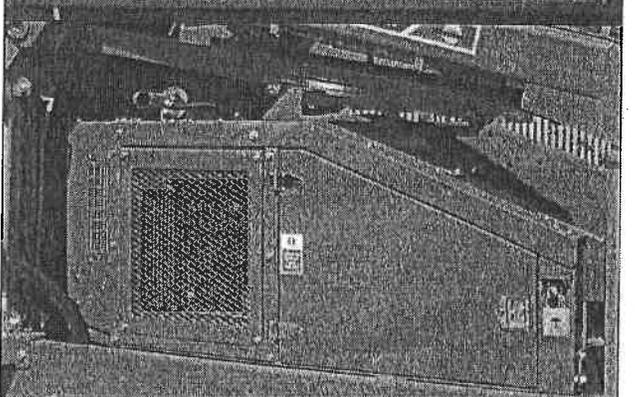
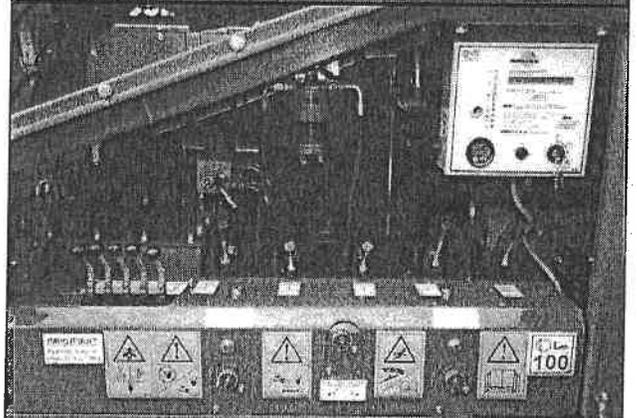
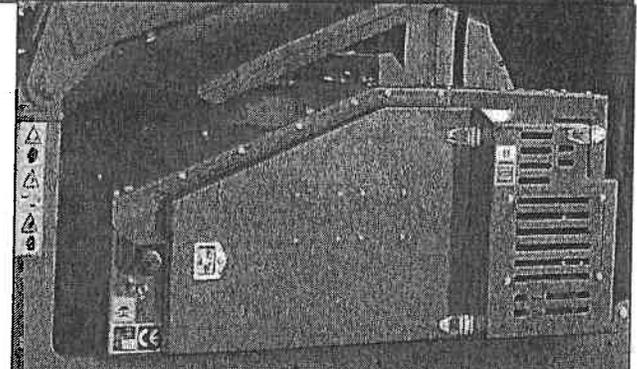
Fines conveyor : Cast iron 500cc/rev

Screen: Cast iron 101.1

Optional apron feeder: 400cc/rev

Optional Diesel Engine:

Tier 4i / Stage 3B—Caterpillar C4.4 4 cylinder engine developing 82kW @ 2200rpm

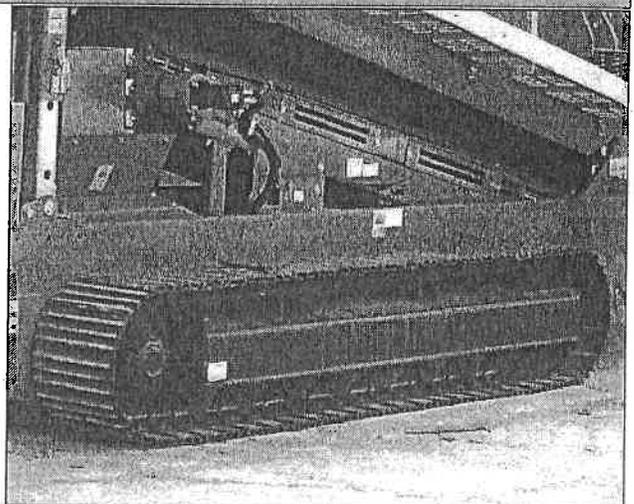


Crawler Track Data

Track width: 500mm

Approximate Speed: 1.0 kph (0.62mph)

Flow rate: 101 Lpm

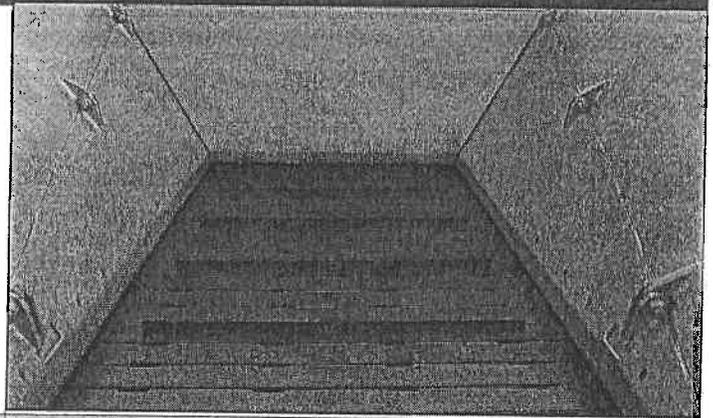


Powerscreen® Warrior 1800 Options

Specification - Rev 8. 01/01/2013

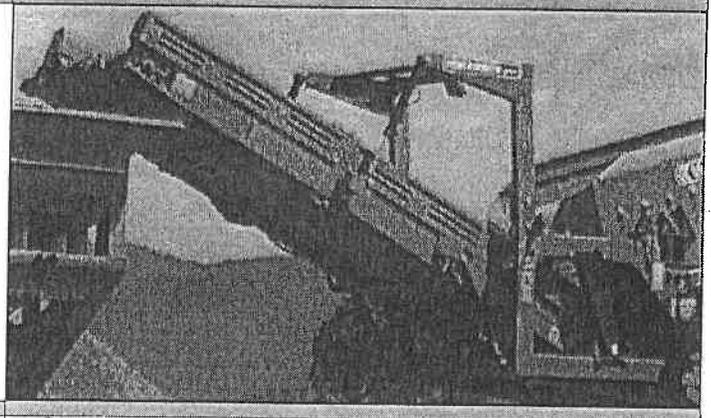
Incline Apron Feeder

1300mm (51") wide wear resistant feed apron
3.39m (11' 1") apron centres
Fitted with single gearbox drive
Variable speed control



2 Way Split Configuration

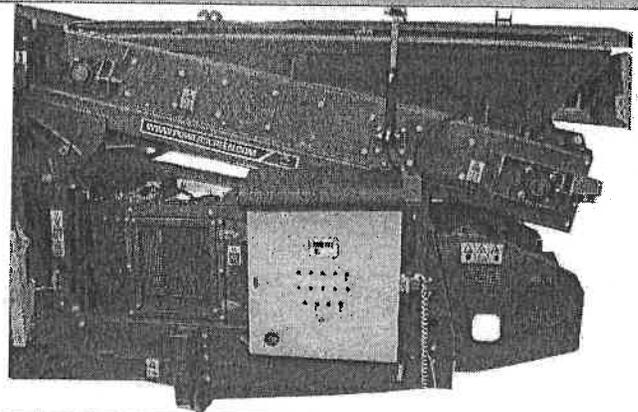
Mid sized side conveyor removed
Machine built as 2 way split
Top deck & bottom deck oversize material fed on to tail conveyor



Dual Power

Dual Power System:
2 of electric motors: 37 kW (50hp) & 37 kW (50hp)
Diesel engine
Integrated control system

This controls either diesel-hydraulic or electric-hydraulic functions



Other Options

Different coloured machine
Side conveyor telescopic hydraulic extensions
Chevron side conveyor belts
Optional engine
Auto lubrication system
Radio controlled tracking

Other Media Options

Top Deck

Grizzly / bofar deck
Finger screens
Punch plate: mild steel or wear resistant steel
Screen mesh: standard, heavy duty or welded

Bottom Deck

Finger screens
Punch plate: mild steel or wear resistant steel
Screen mesh: standard, heavy duty or welded

Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

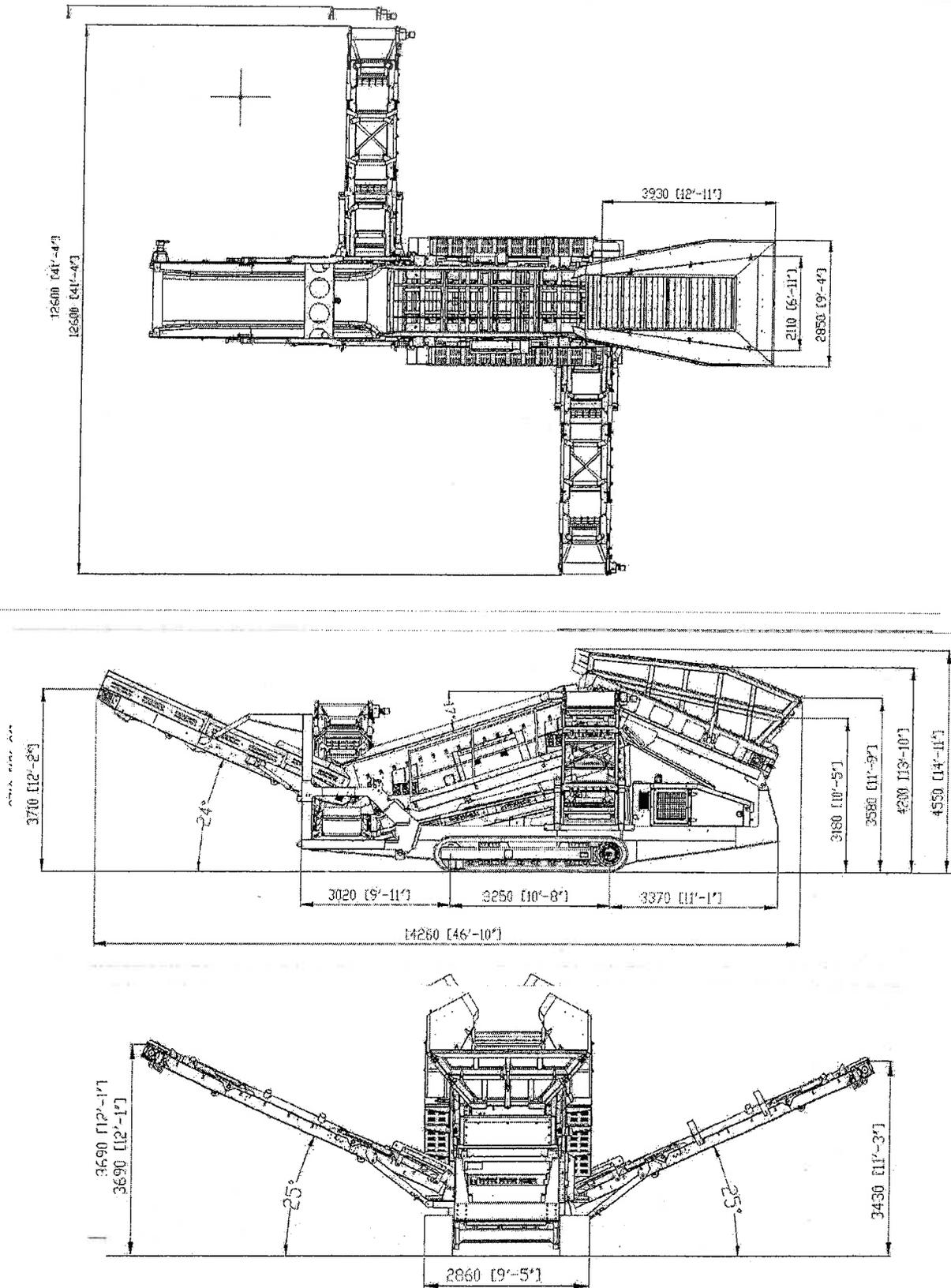


Figure 1: Warrior 1800 2 Deck Track
3 Way Split
Working Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

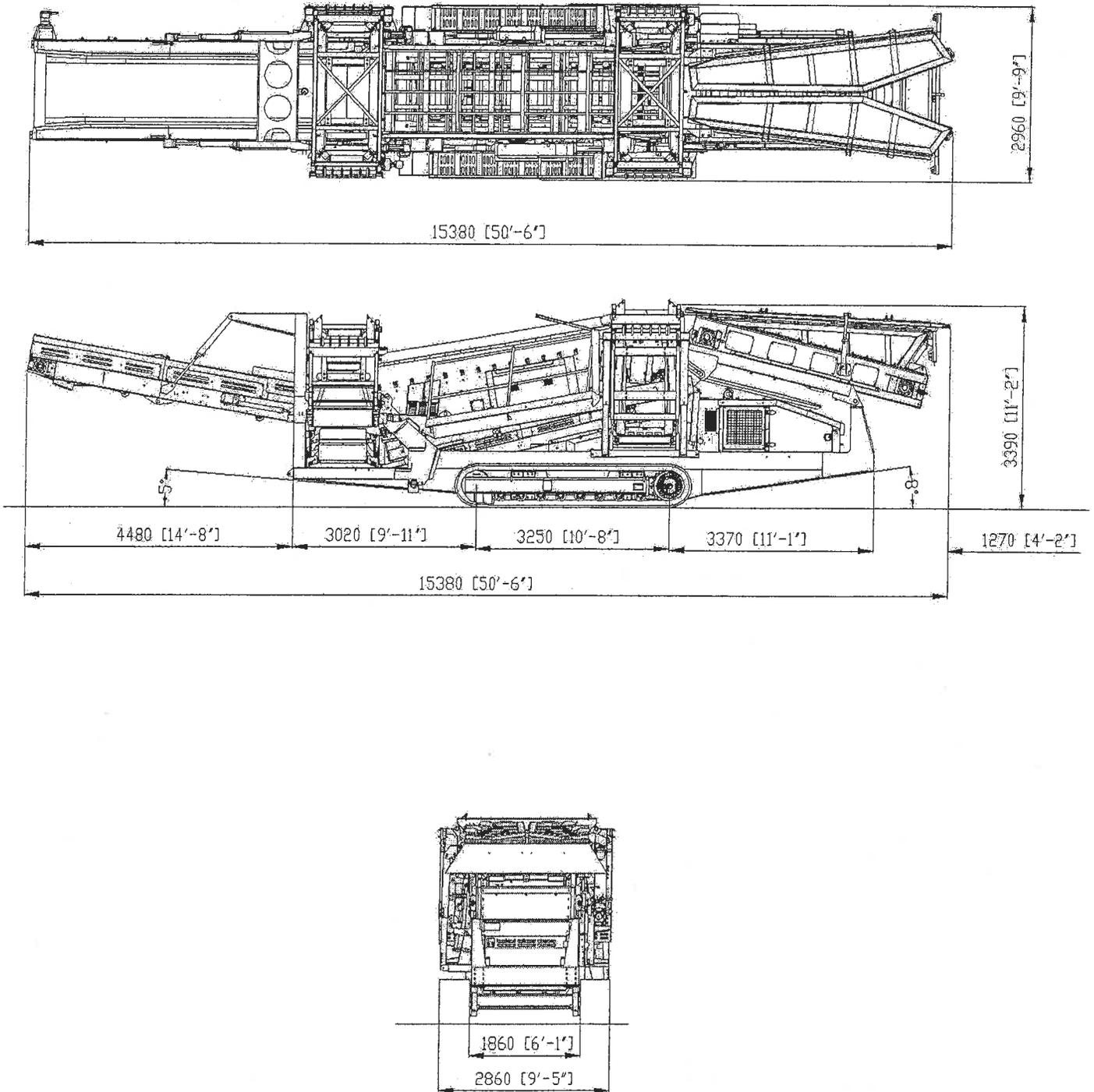


Figure 2: Warrior 1800 2 Deck Track
3 Way Split
Transport Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

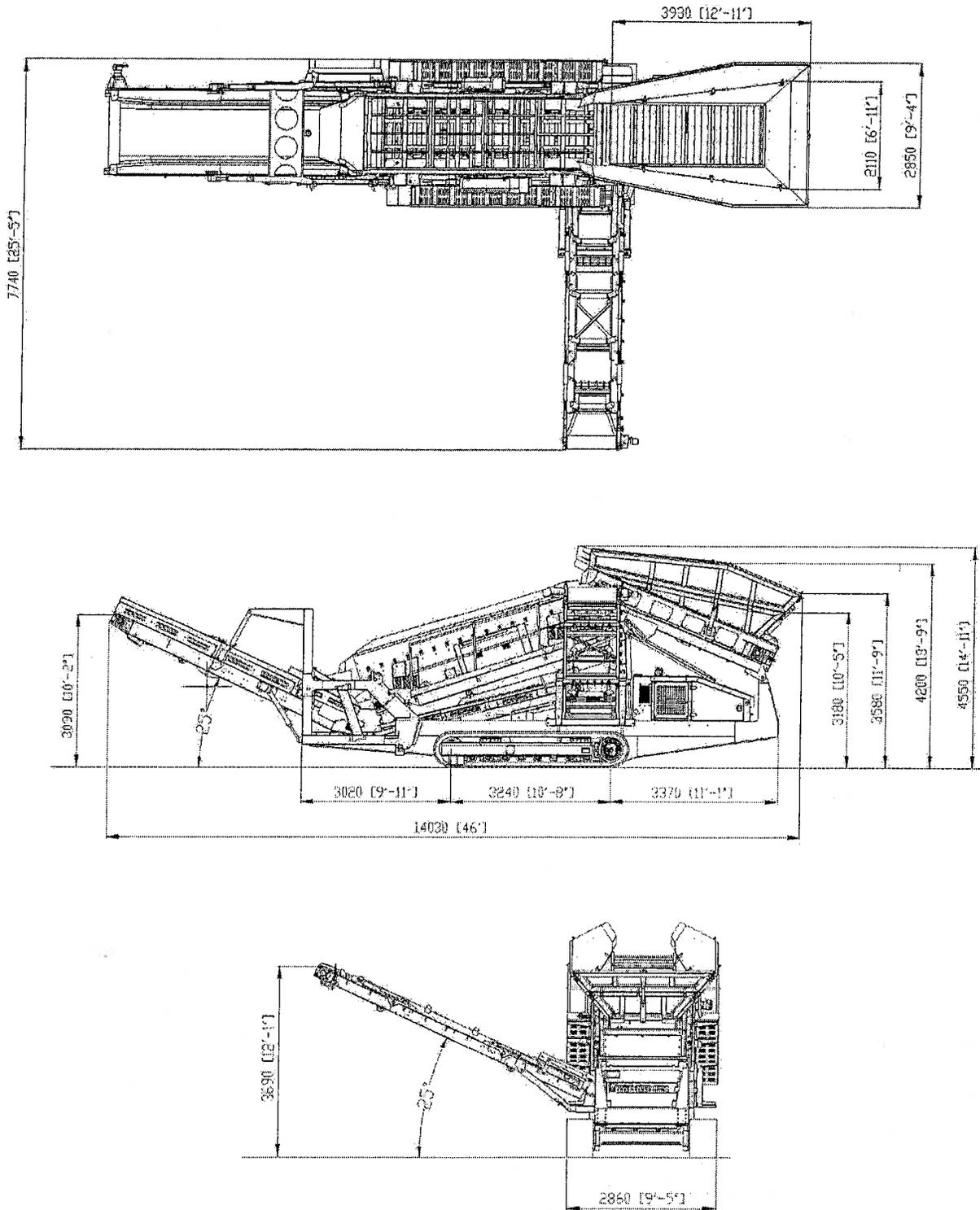


Figure 3: Warrior 1800 2 Deck Track
2 Way Split
Working Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

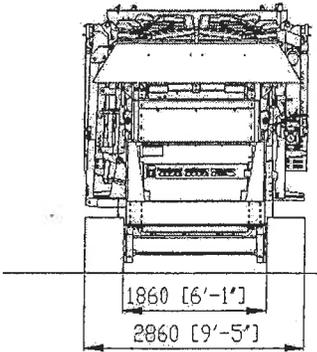
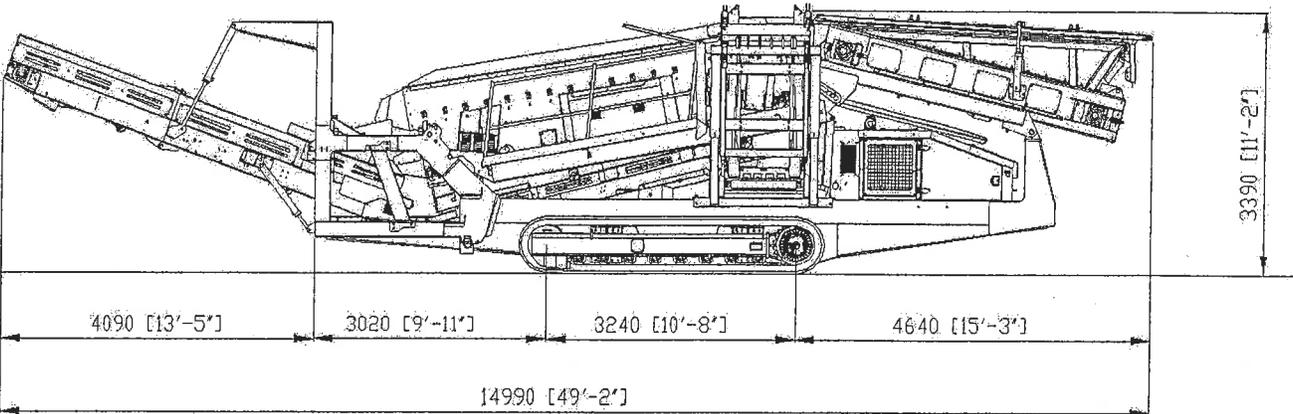
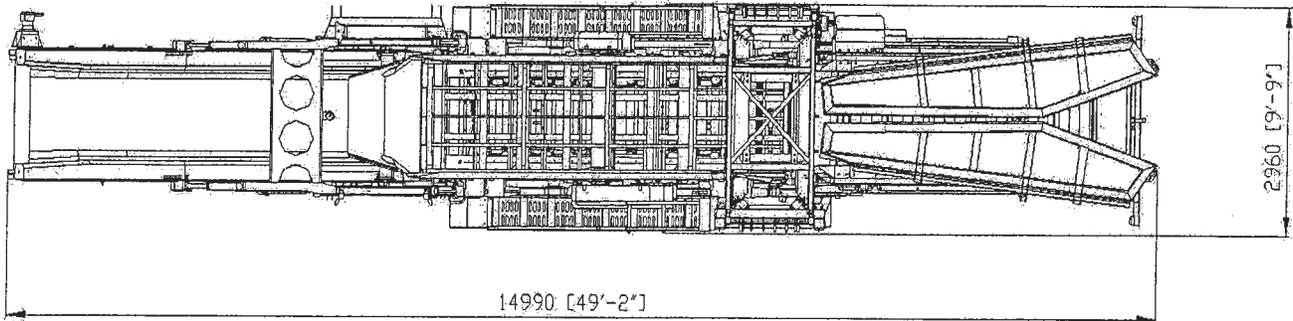


Figure 4: Warrior 1800 2 Deck Track
2 Way Split
Transport Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

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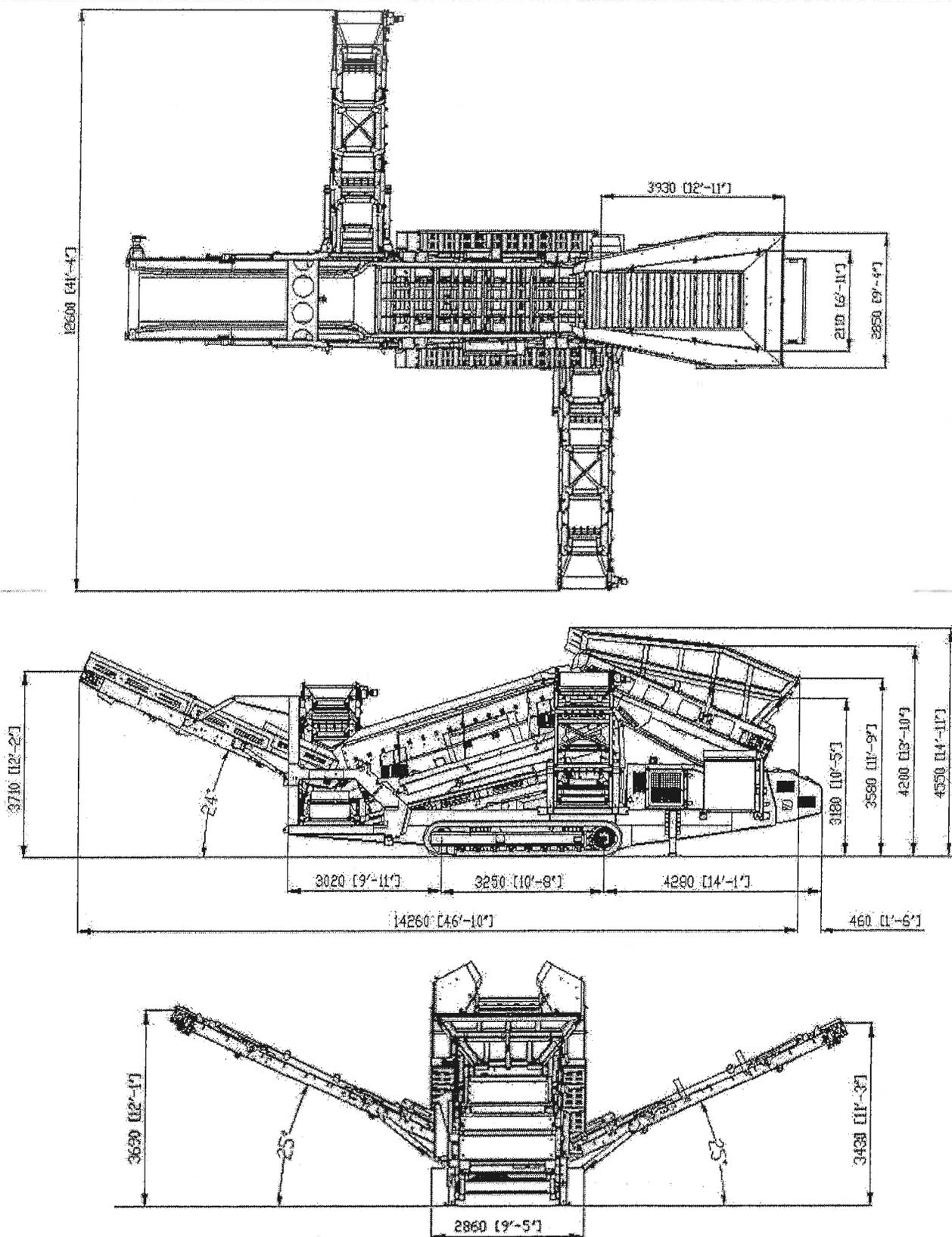


Figure 5: Warrior 1800 2 Deck Track
3 Way Split
Dual Power
Working Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

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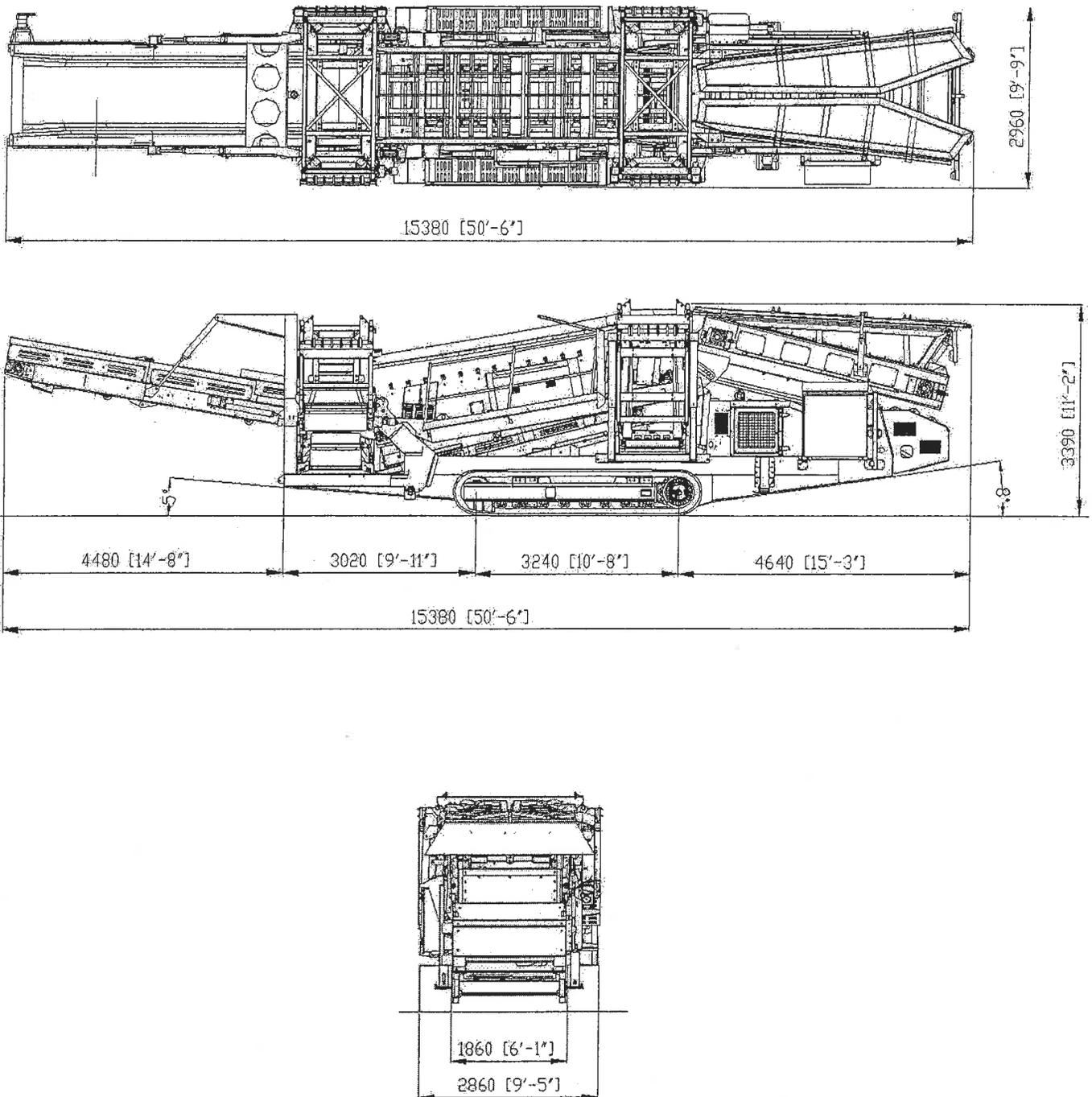


Figure 6: Warrior 1800 2 Deck Track
3 Way Split
Dual Power
Transport Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

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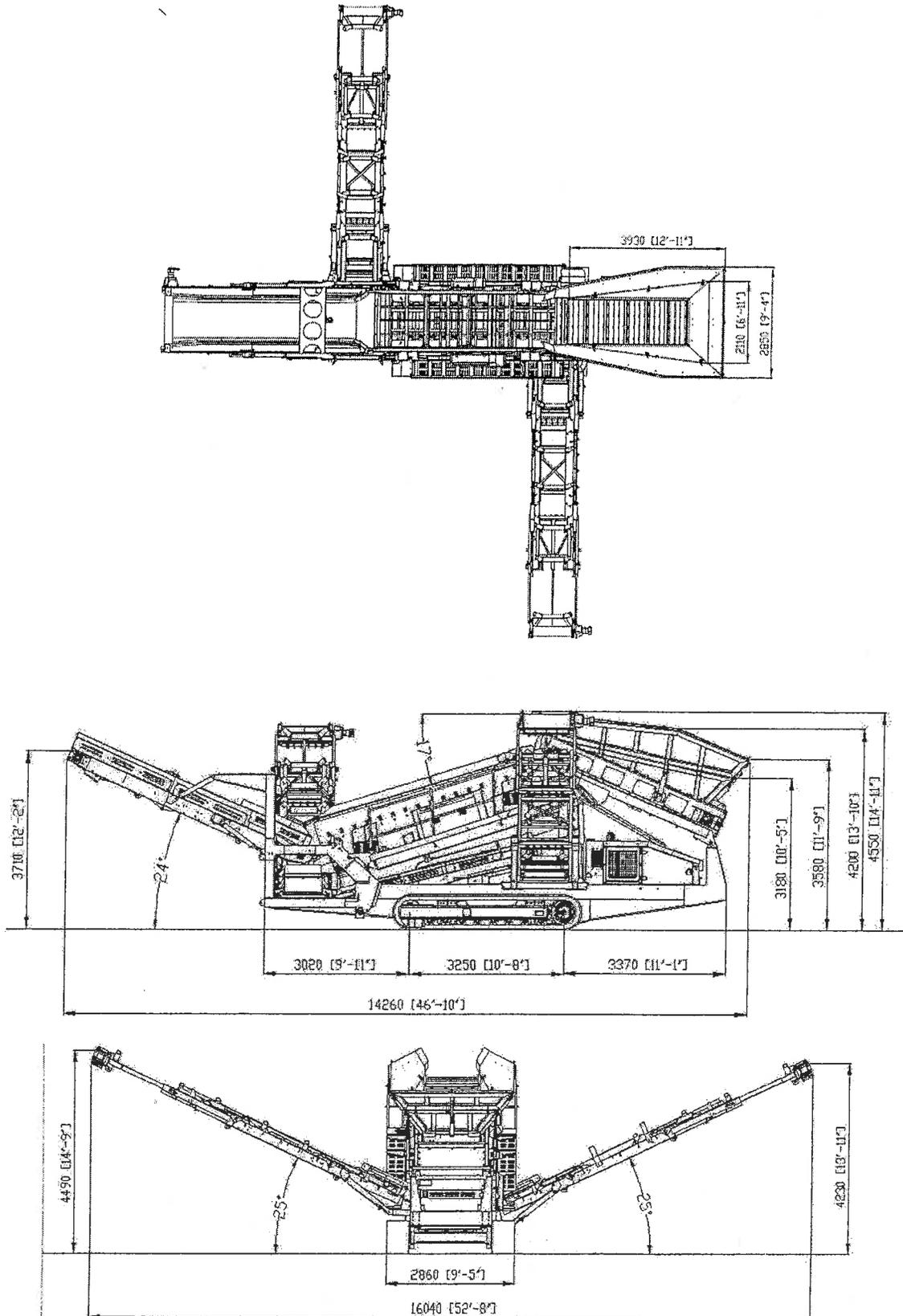


Figure 7: Warrior 1800 2 Deck Track
3 Way Split
Telescopic Side Conveyors
Working Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

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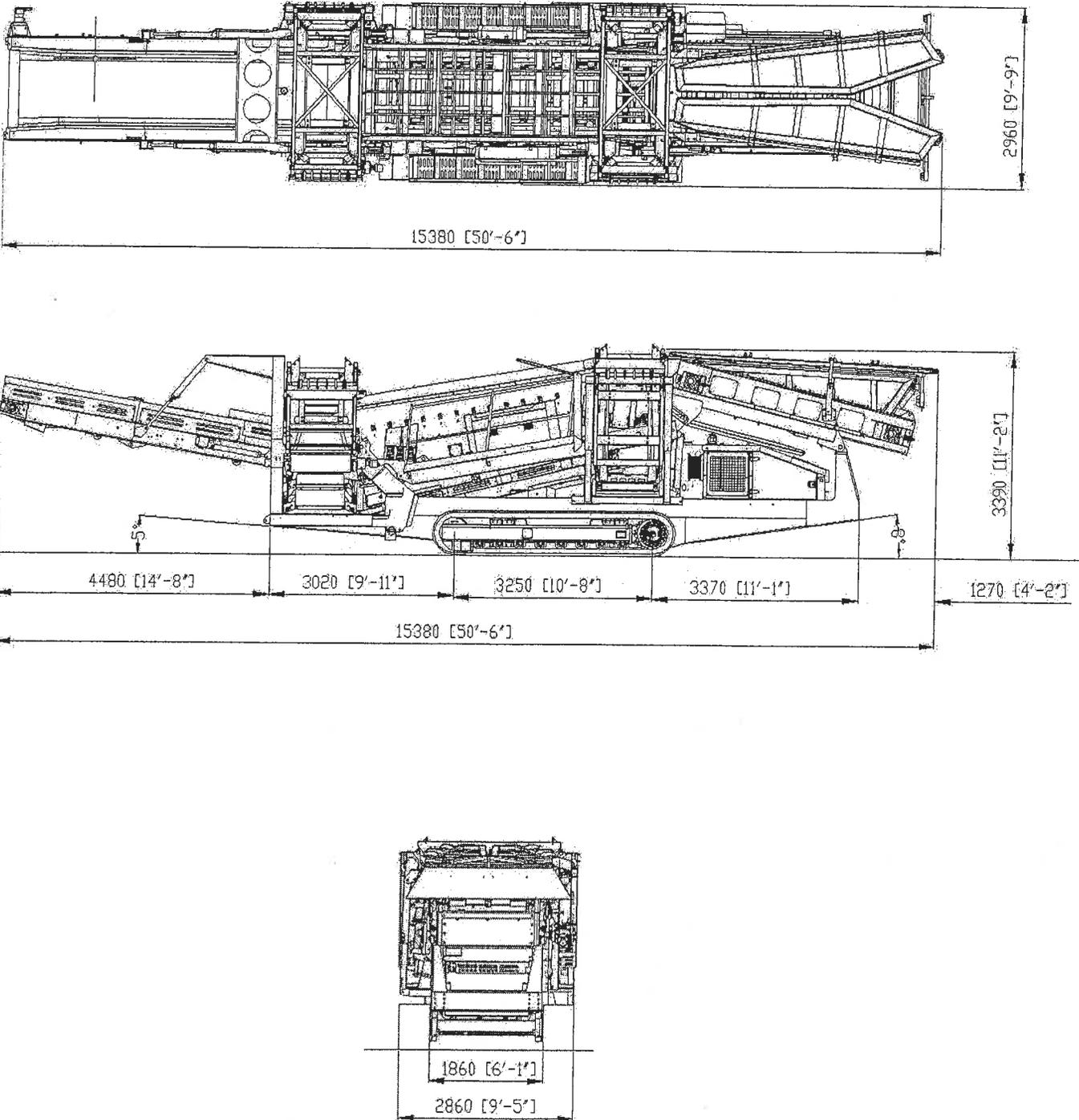


Figure 8: Warrior 1800 2 Deck Track
3 Way Split
Telescopic Side Conveyors
Transport Position

All specifications subject to change without prior notice



Powerscreen® Warrior 1800

Specification - Rev 8. 01/01/2013

Powerscreen equipment complies with CE requirements.

Please consult Powerscreen if you have any other specific requirements in respect of guarding, noise or vibration levels, dust emissions, or any other factors relevant to health and safety measures or environmental protection needs. On receipt of specific requests, we will endeavour to ascertain the need for additional equipment and, if appropriate, quote extra to contract prices.

All reasonable steps have been taken to ensure the accuracy of this publication, however due to a policy of continual product development we reserve the right to change specifications without notice.

It is the importers' responsibility to check that all equipment supplied complies with local legislation regulatory requirements.

Plant performance figures given in this brochure are for illustration purposes only and will vary depending upon various factors, including feed material gradings and characteristics. Information relating to capacity or performance contained within this publication is not intended to be, nor will be, legally binding.

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