



October 27, 2015

J.F. Jarrett
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street, SE
Charleston, West Virginia 25311

Re: General Permit Application
Petroleum Products, LLC
Nitro BP-9, Nitro, WV

Dear Mr. Jarrett:

Please find enclosed the General Permit Application for Petroleum Products, LLC Nitro WV, BP-9 facility.

If you have any questions or comments, please feel free to contact me at (304) 776-6717.

Sincerely,

Benjamin C. Greene II
Environmental Scientist

Cc: Bryan Christian – Pilot Thomas Logistics

Enclosure



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

APPLICATION FOR GENERAL PERMIT REGISTRATION
 CONSTRUCT, MODIFY, RELOCATE OR ADMINISTRATIVELY UPDATE
 A STATIONARY SOURCE OF AIR POLLUTANTS

CONSTRUCTION MODIFICATION RELOCATION CLASS I ADMINISTRATIVE UPDATE
 CLASS II ADMINISTRATIVE UPDATE

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

- | | |
|--|---|
| <input checked="" type="checkbox"/> G10-D – Coal Preparation and Handling | <input checked="" type="checkbox"/> G40-C – Nonmetallic Minerals Processing |
| <input checked="" type="checkbox"/> G20-B – Hot Mix Asphalt | <input checked="" type="checkbox"/> G50-B – Concrete Batch |
| <input checked="" type="checkbox"/> G30-D – Natural Gas Compressor Stations | <input checked="" type="checkbox"/> G60-C – Class II Emergency Generator |
| <input checked="" type="checkbox"/> G33-A – Spark Ignition Internal Combustion Engines | <input checked="" type="checkbox"/> G65-C – Class I Emergency Generator |
| <input checked="" type="checkbox"/> G35-A – Natural Gas Compressor Stations (Flare/Glycol Dehydration Unit) | <input checked="" type="checkbox"/> G70-A – Class II Oil and Natural Gas Production Facility |

SECTION I. GENERAL INFORMATION

1. Name of applicant (as registered with the WV Secretary of State's Office):
Petroleum Products, LLC

2. Federal Employer ID No. (FEIN):
55-0253577

3. Applicant's mailing address:
200 Viscose Road, Nitro, WV 25143

4. Applicant's physical address:
200 Viscose Road, Nitro, WV 25143

5. If applicant is a subsidiary corporation, please provide the name of parent corporation: **Pilot Thomas Logistics**

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 Registration Certificate as **Attachment A**.
- IF **NO**, provide a copy of the **Certificate of Authority / Authority of LLC / 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.): **emergency generator**

8a. Standard Industrial Classification (SIC) code: **5172** AND 8b. North American Industry System (NAICS) code:

9. DAQ Plant ID No. (for existing facilities only):
 Not Applicable

10. List all current 45CSR13 and other General Permit numbers associated with this process (for existing facilities only):
 Not Applicable



A: PRIMARY OPERATING SITE INFORMATION

11A. Facility name of primary operating site: Petroleum Products, LLC Emergency Generator	12A. Address of primary operating site: Mailing:200 Viscose Road, Nitro, WV 25143 Physical: 200 Viscose Road, Nitro, WV 25143	
13A. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? 9 YES 9 NO - IF YES, please explain: ownership _____ - 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. Include a MAP as Attachment F. I-64 West to exit 45. Turn left onto WV 25 and go approx. 2 miles. Turn right onto W 19 th Street/Republic Way. Go approx. .25 miles and turn left into the facility 200 viscose road.		
15A. Nearest city or town: Nitro	16A. County: Kanawha	17A. UTM Coordinates: Northing (KM): 520058.96 Easting (KM): 1725446.72 Zone: South
18A. Briefly describe the proposed new operation or change (s) to the facility: Emergency generator		19A. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: 38.425138 Longitude: -81.848444

B: 1ST ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits)

11B. Name of 1 st alternate operating site: Not Applicable	12B. Address of 1 st alternate operating site: Not Applicable Mailing: _____ Physical: _____	
13B. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? 9 YES 9 NO - IF YES, please explain: ___ Not Applicable - IF NO, YOU ARE NOT ELIGIBLE FOR A PERMIT FOR THIS SOURCE.		
14B. - For Modifications or Administrative Updates at an existing facility, please provide directions to the present location of the facility from the nearest state road; - For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a MAP as Attachment F. Not Applicable		

15B. Nearest city or town: Not Applicable	16B. County: Not Applicable	17B. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
18B. Briefly describe the proposed new operation or change (s) to the facility: Not Applicable		19B. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____

C: 2nd ALTERNATE OPERATING SITE INFORMATION (only available for G20, G40, & G50 General Permits):

11C. Name of 2 nd alternate operating site: Not Applicable	12C. Address of 2 nd alternate operating site: Not Applicable Mailing: _____ Physical: _____
--	--

13C. Does the applicant own, lease, have an option to buy, or otherwise have control of the proposed site? **9 YES 9 NO**

— IF YES, please explain: Not Applicable

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

14C. — For **Modifications or Administrative Updates** at an existing facility, please provide directions to the present location of the facility from the nearest state road;
For Construction or Relocation permits, please provide directions to the proposed new site location from the nearest state road. Include a **MAP as Attachment F**. Not Applicable

—

15C. Nearest city or town: Not Applicable	16C. County: Not Applicable	17C. UTM Coordinates: Northing (KM): _____ Easting (KM): _____ Zone: _____
---	-----------------------------	---

18C. Briefly describe the proposed new operation or change (s) to the facility: Not Applicable	19C. Latitude & Longitude Coordinates (NAD83, Decimal Degrees to 5 digits): Latitude: _____ Longitude: _____
--	--

20. Provide the date of anticipated installation or change: ____/____/____ X If this is an After-The-Fact permit application, provide the date upon which the proposed change did happen: : 2009	21. Date of anticipated Start-up if registration is granted: ____/____/____
--	--

22. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application if other than 8760 hours/year. (Note: anything other than 24/7/52 may result in a restriction to the facility's operation). 2 hours per month for testing purposes as well as during electrical failure.

Hours per day _____ Days per week _____ Weeks per year _____ Percentage of operation ____<5%__

SECTION III. ATTACHMENTS AND SUPPORTING DOCUMENTS

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

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

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

25. Please check all attachments included with this permit application. Please refer to the appropriate reference document for an explanation of the attachments listed below.

- 9 ATTACHMENT A : CURRENT BUSINESS CERTIFICATE
- 9 ATTACHMENT B: PROCESS DESCRIPTION
- 9 ATTACHMENT C: DESCRIPTION OF FUGITIVE EMISSIONS
- 9 ATTACHMENT D: PROCESS FLOW DIAGRAM
- 9 ATTACHMENT E: PLOT PLAN
- 9 ATTACHMENT F: AREA MAP
- 9 ATTACHMENT G: EQUIPMENT DATA SHEETS AND REGISTRATION SECTION APPLICABILITY FORM
- 9 ATTACHMENT H: AIR POLLUTION CONTROL DEVICE SHEETS
- 9 ATTACHMENT I: EMISSIONS CALCULATIONS
- 9 ATTACHMENT J: CLASS I LEGAL ADVERTISEMENT
- 9 ATTACHMENT K: ELECTRONIC SUBMITTAL
- 9 ATTACHMENT L: GENERAL PERMIT REGISTRATION APPLICATION FEE
- 9 ATTACHMENT M: SITING CRITERIA WAIVER
- 9 ATTACHMENT N: MATERIAL SAFETY DATA SHEETS (MSDS)
- 9 ATTACHMENT O: EMISSIONS SUMMARY SHEETS
- 9 OTHER SUPPORTING DOCUMENTATION NOT DESCRIBED ABOVE (Equipment Drawings, Aggregation Discussion, etc.)

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 of this application. Please **DO NOT** fax permit applications. For questions regarding applications or West Virginia Air Pollution Rules and Regulations, please refer to the website shown on the front page of the application or call the phone number also provided on the front page of the application.

SECTION IV. CERTIFICATION OF INFORMATION

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

FOR A CORPORATION (domestic or foreign)

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

FOR A PARTNERSHIP

G I certify that I am a General Partner

FOR A LIMITED LIABILITY COMPANY

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

FOR AN ASSOCIATION

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

FOR A JOINT VENTURE

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

FOR A SOLE PROPRIETORSHIP

G I certify that I am the Owner and Proprietor

G I hereby certify that (please print or type) _____

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 Director 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 Dup K. Christian 10/27/2015
(please use blue ink) Responsible Official Date

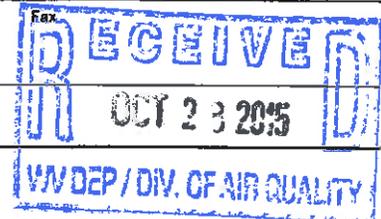
Name & Title BRYAN CHRISTIAN Sr REGIONAL EHS MANAGER
(please print or type)

Signature Dup K. Christian 10/27/2015
(please use blue ink) Authorized Representative (if applicable) Date

Applicant's Name Petroleum Products LLC

Phone & Fax 304-204-1794 304-204-5126
Phone

Email bryan.christian@petroleumproducts.com



ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING ✦ ENGINEERING ✦ ENVIRONMENTAL PROFESSIONALS

ATTACHMENT A: Current Business Certificate

State of West Virginia



Certificate

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

PETROLEUM PRODUCTS, LLC

made application to the West Virginia Secretary of State's Office to be a registered limited liability company in the State of West Virginia on January 25, 1938. The application was received and found to conform to law.

The company is filed as an at will company, for an indefinite period.

I further certify that the company's most recent annual report, as required by West Virginia Code §31B-2-211, has been filed with our office and that a Certificate of Termination has not been issued.

Accordingly, I hereby issue this

CERTIFICATE OF EXISTENCE

Validation ID:4WV03_3X7KG



*Given under my hand and the
Great Seal of the State of
West Virginia on this day of
April 09, 2015*

Natalie E. Tennant

Secretary of State

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING ♦ ENGINEERING ♦ ENVIRONMENTAL PROFESSIONALS

ATTACHMENT B: Process Description

Process Description: Emergency Generator for Power Outages

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING + ENGINEERING + ENVIRONMENTAL PROFESSIONALS

ATTACHMENT C: Description of Fugitive Emissions

Description of Fugitive Emissions: Single Emission Source - Exhaust

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING ✦ ENGINEERING ✦ ENVIRONMENTAL PROFESSIONALS

ATTACHMENT D: Process Flow Diagram

Process Flow Diagram: Not Applicable

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING # ENGINEERING # ENVIRONMENTAL PROFESSIONALS

ATTACHMENT E: Plot Plan

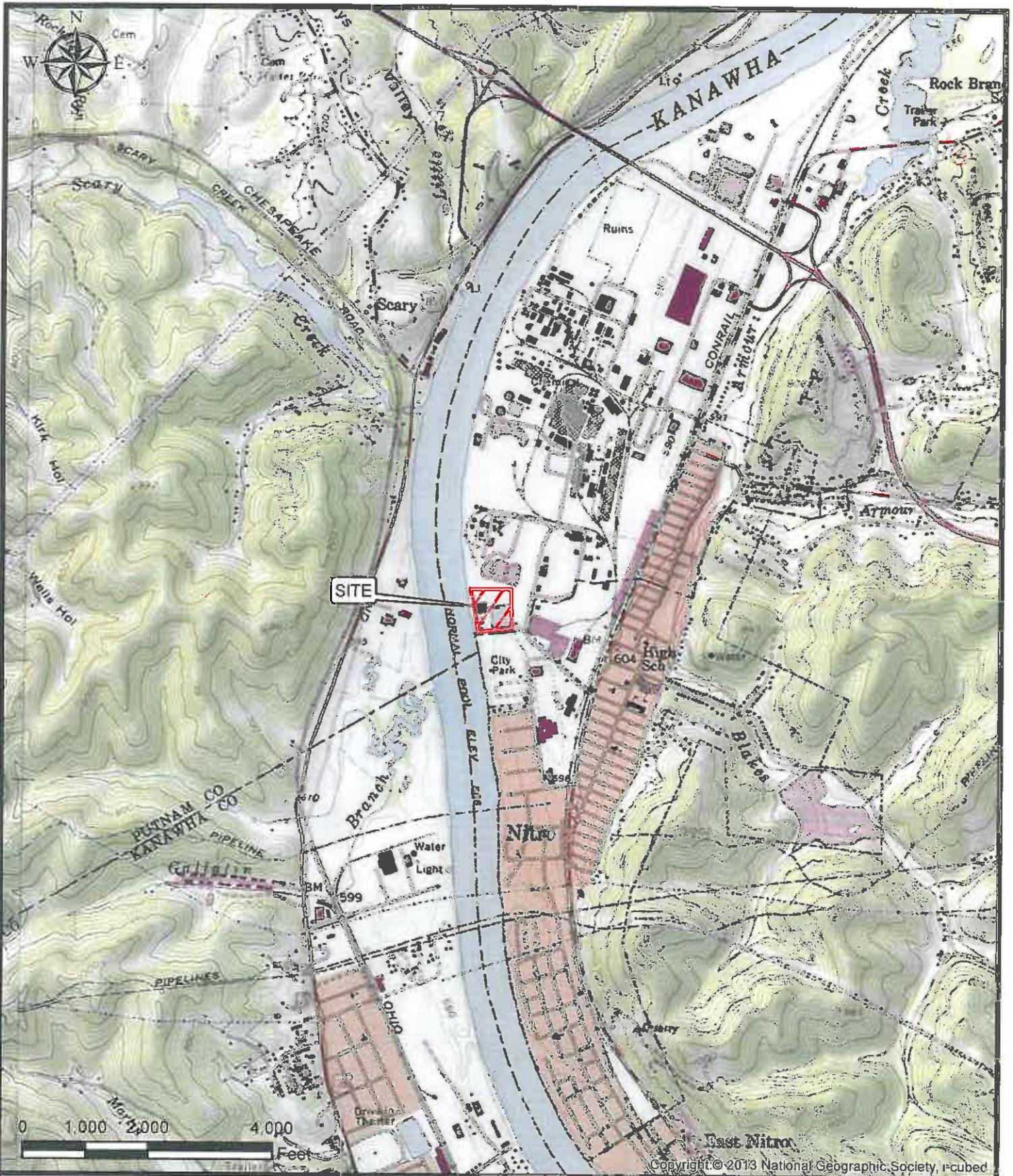
Plot Plan: Not Applicable

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING + ENGINEERING + ENVIRONMENTAL PROFESSIONALS

ATTACHMENT F: Area Map



ENVIROPROBE
INTEGRATED SOLUTIONS, INC.
 DRILLING ENGINEERING ENVIRONMENTAL PROFESSIONALS
 630 CROSS LANES DRIVE (304) 776-6717 OFFICE
 NITRO, WEST VIRGINIA, 25143 (304) 776-6769 FAX

SCALE: 1"=2000'
 DATE: 09/28/2015
 PROJECT NO.: 15-0201-002
 Projects\2014 PROJECTS\14-0161 PILOT Logistics - BP-9
 NITRO SPCC and AST Compliance\Map Documents\1
 FIGURE 1 - SITE LOCATION MAP - NITRO BULK PLANT BP-9.MXD

FIGURE 1 - SITE LOCATION MAP
PETROLEUM PRODUCTS, LLC.
NITRO PLANT -BP-9
200 VISCOSE RD.
NITRO, WV 25143



Client
ENVIROPROBE
INTEGRATED SOLUTIONS, INC.
BILLING, CO. FEDERAL GOVERNMENT LAND SERVICES
630 CROSS LAMBS DRIVE
1804 7TH STREET
NITRO, WEST VIRGINIA, 25143
804 778-4199 FAX

Scale: SEE GRAPHIC SCALE	Drawn: DAE
Date: 09/28/2015	Checked: BCG
Project No.: 15-201-002	Approved:
AV File No.	



Legend

- SITE FENCE
- EMERGENCY GENERATOR

10/28/2015 10:56:01 AM

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING + ENGINEERING + ENVIRONMENTAL PROFESSIONALS

ATTACHMENT G: Equipment Data Sheets

Equipment Data Sheets: Not Applicable

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING + ENGINEERING + ENVIRONMENTAL PROFESSIONALS

ATTACHMENT H: Air Pollution Control Device Data Sheet

Air Pollution Control Device Sheets: Not Applicable

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING + ENGINEERING + ENVIRONMENTAL PROFESSIONALS

ATTACHMENT I: Emission Calculation

**Petroleum Products, LLC
Nitro BP-9 Emissions Estimates**

Size	Engine Type	Make	Consumption	Max input	Full Load Contaminant Emission Rates in Lbs/hr					
KW	Type	Manufacturer	gal/hr	MMbtu/hr	VOC	NOx	CO	SO ₂	Partic.	PM10
175	diesel	Caterpillar	12.50	1.71	0.68	1.39	0.37	0.57	0.06	0.53
			SPEC SHEET	gal/hr*0.137 EPA AP 42 3.4-1	(manfir data) VOC	(manfir data) NOx	(manfir data) CO	(manfir data) SO ₂	(manfir data) Partic.	MMbtu/hr*0.31 EPA AP 42 3.3-1
Annual Totals (Tons) Using 8760 Hrs. PTE										
					(VOC- lbs/hr*8760hrs) 2000lbs	(NOx- lbs/hr*8760hrs) 2000lbs	(CO- lbs/hr*8760hrs) 2000lbs	(SO ₂ - lbs/hr*8760hrs) 2000lbs	(Partic.- lbs/hr*8760hrs) 2000lbs	(PM10 - lbs/hr*8760hrs) 2000lbs
Annual Totals (Tons) Using EPA 9/95 Guidance letter (500 Hrs PTE)										
					0.17 (VOC- lbs/hr*500hrs) 2000lbs	0.35 (NOx- lbs/hr*500hrs) 2000lbs	0.09 (CO- lbs/hr*500hrs) 2000lbs	0.14 (SO ₂ - lbs/hr*500hrs) 2000lbs	0.02 (Partic.- lbs/hr*500hrs) 2000lbs	0.13 (PM10 - lbs/hr*500hrs) 2000lbs



ATTACHMENT J:

Legal Advertisement

Notice is given that Petroleum Products, LLC has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a General Permit Registration, Class II Administrative Update, for an emergency generator located on 200 Viscose Road, Nitro, in Kanawha County, West Virginia.

The applicant estimates the potential to discharge the following Regulated Air Pollutants will be: **(Pollutants and associated amounts in tons per year)**.

Startup of operation is planned to begin on or about the **(Day)** day of **(Month)**, **(Year)**. 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 **(Day)** day of **(Month)**, **(Year)**.

By: Petroleum Products, LLC
Bryan Christian
Regional EHS Manager
200 Viscose Road
Nitro, WV 25143

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING + ENGINEERING + ENVIRONMENTAL PROFESSIONALS

ATTACHMENT K: Electronic Submittal

Electronic Submittal: Not Applicable

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING ↔ ENGINEERING ↔ ENVIRONMENTAL PROFESSIONALS

ATTACHMENT L: General Permit Registration Fee

EnviroProbe Integrated Solutions, Inc.

26869

DATE	INVOICE NO	COMMENT	AMOUNT	NET AMOUNT
10/21/2015	15-0201 Nitro	permit		500.00
DATE 10/21/15 VENDOR WV DEP - Div. Air Quality			TOTAL	500.00

EnviroProbe Integrated Solutions, Inc.
 630 Cross Lanes Drive
 Nitro, West Virginia 25143
 304-776-6717
 www.enviroprobeinc.com

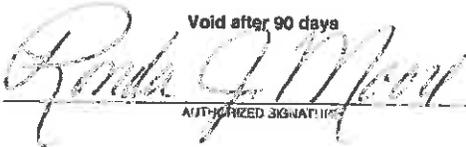
CITY NATIONAL BANK
 25 GATEWATER RD
 CROSS LANES , WV 25313
 69-452/519

26869

PAY **Five Hundred and no/100**

DATE	CHECK	CHECK AMOUNT
10/21/15	26869	\$500.00

TO THE **WV DEP - DIV. AIR QUALITY**
 ORDER **601 57TH STREET SE**
 OF **CHARLESTON WV 25304**

Void after 90 days

 AUTHORIZED SIGNATURE

⑈026869⑈ ⑆051904524⑆ 8005310746⑈

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING ✦ ENGINEERING ✦ ENVIRONMENTAL PROFESSIONALS

ATTACHMENT M: Siting Criteria Waiver

Siting Criteria Waiver: Not Applicable

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING • ENGINEERING • ENVIRONMENTAL PROFESSIONALS

ATTACHMENT N: Safety Data Sheets (SDS)



Material Safety Data Sheet

MSDS ID NO.: 0291MAR019
Revision date: 02/10/2007

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon No. 2 Ultra Low Sulfur Diesel Dyed 15 ppm Sulfur Max
Synonym: Ultra Low Sulfur Diesel No. 2 Dyed 15 ppm Sulfur Max; No. 2 Diesel, Tax Exempt-Motor Vehicle Use, Dyed; ULSD No. 2 Diesel Dyed 15 ppm Sulfur Max; No. 2 MV 15 Diesel Dyed.
Chemical Family: Petroleum Hydrocarbon
Formula: Mixture

Manufacturer:
Marathon Petroleum Company LLC
539 South Main Street Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

No. 2 Ultra Low Sulfur Diesel is a complex mixture of paraffins, cycloparaffins, olefins and aromatic hydrocarbon chain lengths predominantly in the range of C9-C16. Can contain small amounts of red dye and additives (<0.15%) which are not considered hazardous at the concentrations used.

Product information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Marathon No. 2 Ultra Low Sulfur Diesel	68476-30-2	100	Skin - potential significant contribution to overall exposure by the cutaneous route = 100 mg/m ³ TWA		

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Saturated Hydrocarbons	Mixture	70-80			
Aromatic Hydrocarbons	Mixture	17-25			
Unsaturated Hydrocarbons	Mixture	3-6			
Naphthalene	91-20-3	0.01-0.5	Skin - potential significant contribution to overall exposure by the cutaneous route = 10 ppm TWA = 15 ppm STEL	= 10 ppm TWA = 50 mg/m ³ TWA = 15 ppm STEL = 75 mg/m ³ STEL	

Notes: The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

NO. 2 DIESEL IS A RED COLORED LIQUID. THIS PRODUCT IS CONSIDERED TO BE A COMBUSTIBLE LIQUID PER THE OSHA HAZARD COMMUNICATION STANDARD AND SHOULD BE KEPT AWAY FROM HEAT, FLAME AND SOURCES OF IGNITION. NEVER SIPHON THIS PRODUCT BY MOUTH. IF SWALLOWED, THIS PRODUCT MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH. PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN WHICH MAY PRODUCE SEVERE IRRITATION OR DERMATITIS.

OSHA WARNING LABEL:

WARNING.
COMBUSTIBLE LIQUID.
ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA
OR EVEN DEATH.
PRODUCES SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

- Inhalation:** Exposure to high vapor concentrations may produce headache, giddiness, vertigo, and anesthetic stupor.
- Ingestion:** Ingestion may result in nausea, vomiting, diarrhea and restlessness. Aspiration (inadvertent suction) of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.
- Skin contact:** Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.
- Eye contact:** Produces little or no irritation on direct contact with the eye.

Carcinogenic Evaluation:

Product information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Marathon No. 2 Ultra Low Sulfur Diesel 68476-30-2	NE		A3 - Confirmed animal carcinogen with unknown relevance to humans (as total hydrocarbons)	

Notes: The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of diesel fuel/fuel oil in humans. IARC determined that there was limited evidence for the carcinogenicity of marine diesel fuel in animals. Distillate (light) diesel fuels were not classifiable as to their carcinogenicity to humans (Group 3A).

IARC has determined that there is sufficient evidence for the carcinogenicity in experimental animals of diesel engine exhaust and extracts of diesel engine exhaust particles. IARC determined that there is only limited evidence for the carcinogenicity in humans of diesel engine exhaust. However, IARC's overall evaluation has resulted in the IARC designation of diesel engine exhaust as probably carcinogenic to humans (Group 2A) because of the presence of certain engine exhaust components.

Component Information:

Name	IARC Carcinogens:	NTP Carcinogens:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Naphthalene 91-20-3	Monograph 82, 2002	Reasonably Anticipated To Be A Carcinogen Listed	A4 - Not Classifiable as a Human Carcinogen	Present

Notes: The International Agency for Research on Cancer (IARC) and the Environmental Protection Agency (EPA) have determined that naphthalene could be a possible human carcinogen.

4. FIRST AID MEASURES

Inhalation: If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.

Skin contact: Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.

Ingestion: If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.

Eye contact: Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Medical conditions aggravated by exposure: Pre-existing skin conditions and respiratory disorders may be aggravated by exposures to components of this product.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media: For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards: This product has been determined to be a combustible liquid per the OSHA Hazard Communication Standard and should be handled accordingly. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128.

Special protective equipment for firefighters: Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

Flash point: 120-190 F
Autoignition temperature: 489 F
Flammable limits in air - lower (%): 0.7
Flammable limits in air - upper (%): 5.0

NFPA rating:
Health: 1
Flammability: 2

HMIS classification:
Health: 1
Flammability: 2

Reactivity: 1
Other: -

Reactivity: 1
Special: *See Section 8 for guidance in selection of personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Avoid repeated and prolonged skin contact. Never siphon this product by mouth. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures: Local or general exhaust required when using at elevated temperatures that generate vapors or mists.

Respiratory protection: Use approved organic vapor chemical cartridge or supplied air respirators when material produces vapors that exceed permissible limits or excessive vapors are generated. Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting.

Skin and body protection: Neoprene, nitrile, polyvinyl alcohol (PVA), polyvinyl chloride and polyurethane gloves to prevent skin contact.

Eye protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.

Hygiene measures: No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Red Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Red
Odor:	Not applicable.
Molecular weight:	180
pH:	Neutral
Boiling point/range (5-95%):	360-550 F
Melting point/range:	Not determined.

MSDS ID NO.: 0291MAR019

Product name: Marathon No. 2 Ultra Low Sulfur Diesel Dyed 15 ppm Sulfur Max

Page 4 of 10

Decomposition temperature:	Not applicable.
Specific gravity:	C.A. 0.8
Density:	6.76 lbs/gal
Bulk density:	No data available.
Vapor density:	4-5
Vapor pressure:	1-10 mm Hg @ 100 F
Evaporation rate:	No data available.
Solubility:	Negligible
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	No data available.
VOC content(%):	10%
Viscosity:	1.3-2.1 @ 50 C

10. STABILITY AND REACTIVITY

Stability:	The material is stable at 70 F, 760 mm pressure.
Polymerization:	Will not occur.
Hazardous decomposition products:	Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.
Materials to avoid:	Strong oxidizers such as nitrates, perchlorates, chlorine, fluorine.
Conditions to avoid:	Excessive heat, sources of ignition and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information:

Name	CAS Number	Inhalation:	Dermal:	Oral:
Marathon No. 2 Ultra Low Sulfur Diesel	68476-30-2	No data available	No data available	No data available

Lifetime skin painting studies in animals with similar distillate fuels have produced weak to moderate carcinogenic activity following prolonged and repeated exposure. Similar middle distillates, when tested at nonirritating dose levels, did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chronic irritation and not to dose. Repeated dermal application has produced severe irritation and systemic toxicity in subacute toxicity studies. Some components of this product, have been shown to produce a species specific, sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. Subsequent research has shown that the kidney damage develops via the formation of a alpha-2μ-globulin, a mechanism unique to the male rat. Humans do not form alpha-2μ-globulin, therefore, the kidney effects resulting from this mechanism are not relevant in humans. Some components of this product were found to be positive in a few mutagenicity tests while negative in the majority of others. The exact relationship between these results and human health is not known.

Summary of health effect data on distillate fuel components:

This product may contain >0.1% naphthalene. Exposure to naphthalene at 30 ppm for two years caused lung tumors in female mice. Male mice with the same exposure did not develop tumors. Exposure to 10-60 ppm naphthalene for 2 years caused tumors in the tissue lining of the nose and respiratory tract in male and female rats. Oral administration of 133-267 mg/kg/day of naphthalene in mice for up to 90 days did not produce mortality, systemic toxicity, adversely affect organ or body weight or produce changes in blood. Repeated oral administration of naphthalene produced an anemia in dogs. Repeated intraperitoneal doses of naphthalene produced lung damage in mice. Repeated high doses of naphthalene has caused the formation of cataracts and retinotoxicity in the eyes of rats and rabbits due to accumulation of 1,2-naphthoquinone, a toxic metabolite. Effects in human eyes is uncertain and not well documented. Pregnant rats administered intraperitoneal doses of naphthalene during gestation gave birth to offspring that had delayed heart and bone development. Pregnant mice given near lethal doses of naphthalene showed no significant maternal toxicity and a reduction in the number of pups per litter, but no gross abnormalities in offspring. Suppressed spermatogenesis and progeny development have been reported in mice, rats and guinea pigs after exposure to high concentrations of naphthalene in their drinking water. Certain groups or individuals, i.e., infants, Semites, Arabs, Asians and Blacks, with a certain blood enzyme deficiency (glucose-6-phosphate dehydrogenase) are particularly susceptible to hemolytic agents and can rapidly develop hemolytic anemia and systemic poisoning from ingestion or inhalation of naphthalene.

Summary of health effect information on diesel engine exhaust:

Chronic inhalation studies of whole diesel engine exhaust in mice and rats produced a significant increase in lung tumors. Combustion of kerosine and/or diesel fuels produces gases and particulates which include carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur and hydrocarbons. Significant exposure to carbon monoxide vapors decreases the oxygen carrying capacity of the blood and may cause tissue hypoxia via formation of carboxyhemoglobin.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

Product can cause fouling of shoreline and may be harmful to aquatic life in low concentrations. The 96 hour LL50 values for an accomadated fraction (WAF) of fuel oil ranged from 3.2 to 65 mg/l in fish and 2-210 mg/l in invertebrates. EL50 values for inhibition of algal growth ranged from 1.8 to 2.9 mg/l for No. 2 fuel oil and from 10 to 78 mg/l for diesel fuel. This product does not concentrate or accumulate in the food chain. If released to soil and water, this product is expected to biodegrade under both aerobic and anaerobic conditions.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name:	Fuel Oil, No. 2
UN/Identification No:	NA 1993
Hazard Class:	3
Packing group:	III
DOT reportable quantity (lbs):	Not applicable.

TDG (Canada):

Proper shipping name:	Fuel Oil, No. 2
UN/Identification No:	NA 1993
Hazard Class:	3
Packing group:	III
Regulated substances:	Not applicable.

15. REGULATORY INFORMATION

Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Naphthalene	NA

SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Saturated Hydrocarbons	NA
Aromatic Hydrocarbons	NA
Unsaturated Hydrocarbons	NA
Naphthalene	= 0.454 kg final RQ = 1 lb final RQ = 100 lb final RQ = 45.4 kg final RQ

SARA Section 311/312: The following EPA hazard categories apply to this product:

Acute Health Hazard
 Fire Hazard
 Chronic Health Hazard

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Saturated Hydrocarbons	None
Aromatic Hydrocarbons	None
Unsaturated Hydrocarbons	None
Naphthalene	= 0.1 % de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Saturated Hydrocarbons

Louisiana Right-To-Know: Not Listed
 California Proposition 65: Not Listed
 New Jersey Right-To-Know: Not Listed.
 Pennsylvania Right-To-Know: Not Listed.
 Massachusetts Right-To Know: Not Listed.
 Florida substance List: Not Listed.
 Rhode Island Right-To-Know: Not Listed
 Michigan critical materials register list: Not Listed.
 Massachusetts Extraordinarily Hazardous Substances: Not Listed
 California - Regulated Carcinogens: Not Listed
 Pennsylvania RTK - Special Hazardous Substances: Not Listed
 New Jersey - Special Hazardous Substances: Not Listed
 New Jersey - Environmental Hazardous Substances List: Not Listed
 Illinois - Toxic Air Contaminants Not Listed
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed

Aromatic Hydrocarbons

Louisiana Right-To-Know: Not Listed
 California Proposition 65: Not Listed
 New Jersey Right-To-Know: Not Listed.
 Pennsylvania Right-To-Know: Not Listed.
 Massachusetts Right-To Know: Not Listed.
 Florida substance List: Not Listed.
 Rhode Island Right-To-Know: Not Listed
 Michigan critical materials register list: Not Listed.
 Massachusetts Extraordinarily Hazardous Substances: Not Listed
 California - Regulated Carcinogens: Not Listed
 Pennsylvania RTK - Special Hazardous Substances: Not Listed
 New Jersey - Special Hazardous Substances: Not Listed
 New Jersey - Environmental Hazardous Substances List: Not Listed
 Illinois - Toxic Air Contaminants Not Listed
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed

Unsaturated Hydrocarbons

MSDS ID NO.: 0291MAR019

Product name: Marathon No. 2 Ultra Low Sulfur Diesel Dyed 15 ppm Sulfur Max

Louisiana Right-To-Know: Not Listed
 California Proposition 65: Not Listed
 New Jersey Right-To-Know: Not Listed.
 Pennsylvania Right-To-Know: Not Listed.
 Massachusetts Right-To Know: Not Listed.
 Florida substance List: Not Listed.
 Rhode Island Right-To-Know: Not Listed
 Michigan critical materials register list: Not Listed.
 Massachusetts Extraordinarily Hazardous Substances: Not Listed
 California - Regulated Carcinogens: Not Listed
 Pennsylvania RTK - Special Hazardous Substances: Not Listed
 New Jersey - Special Hazardous Substances: Not Listed
 New Jersey - Environmental Hazardous Substances List: Not Listed
 Illinois - Toxic Air Contaminants Not Listed
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: Not Listed

Naphthalene

Louisiana Right-To-Know: Not Listed
 California Proposition 65: Listed
 New Jersey Right-To-Know: Listed
 Pennsylvania Right-To-Know: Listed
 Massachusetts Right-To Know: Listed
 Florida substance List: Not Listed.
 Rhode Island Right-To-Know: Listed
 Michigan critical materials register list: Not Listed.
 Massachusetts Extraordinarily Hazardous Substances: Not Listed
 California - Regulated Carcinogens: Not Listed
 Pennsylvania RTK - Special Hazardous Substances: Not Listed
 New Jersey - Special Hazardous Substances: Not Listed
 New Jersey - Environmental Hazardous Substances List: Listed
 Illinois - Toxic Air Contaminants Listed
 New York - Reporting of Releases Part 597 - List of Hazardous Substances: Listed

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Naphthalene	B4, D2A	1 %

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

The information and recommendations contained herein are based upon tests believed to be reliable. However, Marathon Petroleum Company LLC (MPC) does not guarantee their accuracy or completeness nor shall any of this information constitute a warranty, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for a particular purpose. Adjustment to conform to actual conditions of usage maybe required. MPC assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied.

End of Safety Data Sheet

VALVTECT A DIVISION OF
 KOP-COAT, INC.
 3400 DUNDEE ROAD
 NORTHBROOK
 IL 60062

EMERGENCIES

HEALTH/SPILLS.....: 800-548-0489
 CHEMTREC ASSISTANCE: 800-424-9300
 CHEMTREC OUTSIDE US: 703-527-3887
 CANUTEC.....: 613-996-6666

VALVTECT A DIVISION OF

PRODUCT INFORMATION: 847-272-2278
 OUTSIDE USA.....: 847-272-2278

 1 PRODUCT IDENTIFICATION

PRODUCT NAME: Diesel Guard Heavy Duty / Marine Diesel Additive
 PRODUCT USE.: Fuel additive
 APPEARANCE.: Clear liquid which may contain a colorant
 CAS NUMBER.: Mixture
 SYNONYMS.....: None

REVISION...: 3
 DATE.....: 9/22/05
 MSDS NUMBER: DFMSBK

 2 HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT	REG AGENCY	PPM	NOTES	MG/M3	NOTES
Ethyl Benzene CAS NUMBER:100-41-4 PERCENT BY WGT: 5 TO 10	ACGIH STEL	125		543	
	ACGIH-TWA	100		434	
	NIOSH	100		435	
	NIOSH STEL	125		545	
	OSHA STEL	125		545	
	OSHA TWA	100		435	
Ethylene glycol monobutyl ether (skin) CAS NUMBER:111-76-2 PERCENT BY WGT: 5 TO 10	ACGIH-TWA	25		121	
	NIOSH	25		120	
	OSHA TWA	25		120	
Xylene CAS NUMBER:1330-20-7 PERCENT BY WGT: 1 TO 5	ACGIH STEL	150		651	
	ACGIH-TWA	100		434	
	NIOSH	100		435	
	NIOSH STEL	150		655	
	OSHA STEL	150		655	
OSHA TWA	100		435		
2-Ethylhexyl Nitrate CAS NUMBER:27247-96-7 PERCENT BY WGT: 25 TO 30	MANF REC	1			

 2 HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT	REG AGENCY	PPM	NOTES	MG/M3	NOTES
Mineral spirits CAS NUMBER:64742-47-8 PERCENT BY WGT: 55 TO 60	ACGIH TWA	100		525	
	NIOSH	-		350	
	NIOSH STEL	-		1800	4
	OSHA TWA	100		525	
Amines, Polyethylenepoly CAS NUMBER:84605-20-9 PERCENT BY WGT: 5 TO 10			(None established.)		
Naphthalene CAS NUMBER:91-20-3 PERCENT BY WGT: < 1	ACGIH STEL	15		79	
	ACGIH TWA	10		52	
	NIOSH	10		50	
	NIOSH STEL	15		75	
	OSHA STEL	15		75	
	OSHA TWA	10		50	
1,2,4 Trimethylbenzene CAS NUMBER:95-63-6 PERCENT BY WGT: 1 TO 5			(None established.)		

NOTES:

- 4) The short term exposure limit (STEL) is a 15-minute TWA exposure that should not be exceeded at any time during a workday.

 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Combustible liquid and vapor. Harmful or fatal if swallowed, can enter lungs and cause damage.

EYES: May cause moderate to severe eye irritation. Not expected to cause permanent damage if promptly rinsed from eyes.

SKIN: May cause skin irritation. Prolonged and/or repeated contact with the skin may cause irritation characterized by redness, cracking and blistering. Skin contact may cause an allergic skin reaction (sensitization) in susceptible individuals. May be absorbed in toxic amounts through the skin and cause systemic effects.

INHALATION: Inhalation of high concentrations of vapors may cause respiratory tract irritation and central nervous system depression. Symptoms include headache, weakness, dizziness, nausea and loss of coordination. Continued inhalation may result in unconsciousness or death. Reports have associated repeated and prolonged overexposure to solvents with permanent brain, nervous system, liver and kidney damage or may cause cardiac arrhythmia.

3 HAZARDS IDENTIFICATION

INGESTION: Swallowing small amounts during normal handling is not likely to cause adverse effects. Swallowing larger amounts may cause gastrointestinal disturbances such as nausea, vomiting, and diarrhea. Aspiration of this product into the lungs may cause chemical pneumonitis, which can be fatal.

Individuals with pre-existing disease in or a history of ailments involving the skin, eyes, respiratory tract, liver, kidney, or central nervous system are at a greater than normal risk of developing adverse effects when exposed to this material.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals.

Naphthalene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence of carcinogenicity in experimental animals.

4 FIRST AID MEASURES

EYE CONTACT: Immediately flush the eyes with lukewarm, gently flowing water for at least 20 minutes, while holding the eyelids open. Take care not to rinse contaminated water into the unaffected eye or face. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

SKIN CONTACT: Wash affected areas immediately with non-abrasive soap and lukewarm water for 15-20 minutes. Under running water, remove contaminated clothing, shoes, and leather goods (i.e. watchbands, belts). Call a poison control center or doctor for treatment advice. Completely decontaminate clothing, shoes and leather goods before reuse or discard.

INHALATION: Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary edema may be delayed up to 48 hours after exposure. Call a poison control center or doctor for treatment advice.

INGESTION: Call a poison control center or doctor immediately for treatment advice. Have person rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. Have person drink 8-10 oz (240-300 mL) of water to dilute material in stomach. If milk is available, it may be administered AFTER the water has been given. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Repeat administration of water. Quickly transport person to emergency care facility.

NOTE TO PHYSICIAN: Mucosal damage may contraindicate the use of gastric lavage. Pulmonary aspiration hazard if swallowed. Treat symptomatically.

5 FIRE FIGHTING MEASURES

5 FIRE FIGHTING MEASURES

FLASH POINT: 125 F/ 52 C
AUTOIGNITION TEMPERATURE: Not determined.
FLAMMABLE LIMITS (% by volume/air)
Lower Limit: Not determined.
Upper Limit: Not determined.

EXTINGUISHING MEDIA: Use dry chemical, carbon dioxide, or foam.

FIRE FIGHTING PROCEDURES: As in any fire, wear complete fire service protective equipment, including full-face MSHA/NIOSH approved or equivalent self-contained breathing apparatus. Use water to cool fire-exposed container/structure/protect personnel. Do not put in contact with oxidizing or caustic materials.

FIRE AND EXPLOSION HAZARDS: 2-Ethylhexyl nitrate may undergo self-accelerating exothermic reaction if heated above 212 F. Rupture of storage vessels and fire should be anticipated in case of such temperature.

6 SPILL AND LEAK PROCEDURES

SMALL SPILL: Stop the flow of material. Absorb with non-flammable suitable absorbent such as sand or earth. Scoop/shovel absorbed material into container.

LARGE SPILL: Dike and contain spill. Pump to storage or salvage vessels. Contain run-off from fire control and dilution water. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities that a spill has occurred. Eliminate ALL sources of ignition. Ventilate area.

7 HANDLING AND STORAGE

Handling Procedures: Avoid prolonged or repeated skin contact with this material. Avoid eye contact with this material. Avoid prolonged or repeated breathing of this material. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Use this product with adequate ventilation.

Storage Procedures: Do not store near heat, sparks, open flame or strong oxidizing agents. Do not store this material in open, unlabeled containers. Keep in a closed, labeled container within a cool (well-shaded), dry, ventilated area. Protect from physical damage. Empty containers retain product residue (liquid or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode. Follow appropriate grounding procedures, as applicable.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide sufficient general / local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits and below flammable vapor concentrations. Ventilation rates should be matched to use conditions. Supplementary local exhaust ventilation may be needed in poorly ventilated spaces, during spraying, heating or other non-routine activities.

PERSONAL PROTECTIVE EQUIPMENT:

EYE PROTECTION: Industrial safety glasses, side shields, and as necessary, faceshield.

HAND/SKIN PROTECTION: As required, chemical resistant, flexible-type gloves (neoprene, nitrile or equal) to prevent contact. Gloves should be rinsed and removed immediately after use. Wash hands after removing gloves. Wear chemical resistant garments if contact is unavoidable.

RESPIRATORY PROTECTION: Respiratory protection may be necessary under certain use conditions. A NIOSH-approved respirator should be selected on the basis of the form and concentration of the contaminant.

OTHER: Facilities utilizing this material should be equipped with an eyewash station and safety shower. Thoroughly clean shoes and wash contaminated clothes before reuse.

9 PHYSICAL AND CHEMICAL PROPERTIES

Weight Per Gallon (lbs):	7.763	% VOL by Weight.:	Not determined
Vapor Density.:	Not determined	Boiling Point...:	Not determined
Vapor Pressure:	Not determined	Evaporation Rate:	Not determined
pH.....:	Not determined	Specific Gravity:	0.929
Solubility In Water:	Insoluble	Viscosity.....:	Not determined
VOC Content.....:	Not determined		

10 STABILITY AND REACTIVITY DATA

STABILITY: 2-ethylhexyl nitrate is unstable at temperatures greater than 100 C/212 F.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

INCOMPATIBILITY: Strong oxidizers and reducers.

HAZARDOUS DECOMPOSITION PRODUCT(S): Carbon dioxide, carbon monoxide, oxides of nitrogen, and other toxic organic compounds.

11 TOXICOLOGICAL INFORMATION

11 TOXICOLOGICAL INFORMATION

No data available on the product as a whole.

Xylene: Laboratory animals exposed to high levels of xylene showed evidence of effects on the liver, kidneys, lungs, spleen, and caused hearing loss. Rats exposed during pregnancy to xylene showed fetotoxic effects.

Naphthalene: Laboratory animals exposed to high levels of naphthalene showed evidence of red blood cell destruction with anemia, fever, jaundice and kidney and liver damage. Naphthalene caused an increased incidence of tumors in the nose in rats.

Ethylbenzene: Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

2-Butoxyethanol (CAS# 111-76-2): Laboratory studies on experimental animals indicate that exposure may cause red blood cell damage, and damage to the kidney and liver. These effects have not been observed in humans. Laboratory animal studies have reported adverse reproductive and developmental effects from over-exposure to 2-butoxyethanol.

12 ECOLOGICAL INFORMATION

Product has not been tested for ecotoxicity.

13 DISPOSAL CONSIDERATIONS

Dispose of in accordance with local, state and federal regulations.

14 TRANSPORTATION INFORMATION

DEPARTMENT OF TRANSPORTATION REPORTABLE QUANTITIES

<u>REPORTABLE QTY (LBS)</u>	<u>HAZARDOUS SUBSTANCE</u>
1000	Ethyl Benzene
100	Xylene
10	Benzene
100	Naphthalene

DOT SHIPPING INFORMATION FOR GROUND TRANSPORTATION ONLY:

DOT PROPER SHIPPING NAME: Combustible liquid, n.o.s. (contains petroleum

14 TRANSPORTATION INFORMATION

distillates)
DOT HAZARD CLASS: 3
PACKING GROUP III
DOT IDENTIFICATION NUMBER: UN1993

DOT SHIPPING INFORMATION FOR AIR TRANSPORTATION (IATA):
DOT PROPER SHIPPING NAME: Flammable liquid, n.o.s. (contains petroleum distillates)
DOT HAZARD CLASS: 3
PACKING GROUP: III
DOT IDENTIFICATION NUMBER: UN1993

15 REGULATORY INFORMATION

SARA TITLE III SECTION 313 CHEMICALS

Ethyl Benzene
Ethylene glycol monobutyl ether (skin)
Xylene
Naphthalene
1,2,4 Trimethylbenzene

WARNING: THIS PRODUCT CONTAINS CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

Ultra Low Sulfur Diesel Additives: The sulfur content of this Diesel Fuel Additive does not exceed 15 parts per million (ppm).
References: Code of Federal Regulations Title 40 Part 80 - EPA 2006 Regulation of Fuels and Fuel Additives, and EPA document EPA40-F-05-013.

16 OTHER INFORMATION

NOTICE: This document is generated for the purpose of distributing health, safety and environmental data. The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. Kop-Coat makes no warranty with respect thereto and disclaims all liability from reliance thereon.

PREPARED BY: Manager of Health, Safety and Environmental Affairs.

ENVIROPROBE

INTEGRATED SOLUTIONS, INC.

DRILLING + ENGINEERING + ENVIRONMENTAL PROFESSIONALS

ATTACHMENT O: Emission Summary Sheets



Engine Emissions Data

For Emissions feedback and questions submit [request form](#)

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	5YF01763
Sales Model	3208
Build Date	1994-02-14
Interlock Code Progression	No Interlock Code Progression
As Shipped Data	
Engine Arrangement Number	1061496
Test Spec Number	0T8010
Regulatory Status	Please Contact Engine Certification using request form
Flash File	No Flash File Found
CORR FL Power at RPM	
Advertised Power	263HP 1,800RPM

This is not an official emission certificate. This is for emission data information only.

[Need emission replacement label? Click here!](#)

Caterpillar Confidential: Green
 Content Owner: Commercial Processes Division
 Web Master(s): [PSC Web Based Systems Support](#)
 Current Date: Thursday, September 24, 2015 2:12:34 PM
 © Caterpillar Inc. 2015 All Rights Reserved.
 Data Privacy Statement.

GEN SET PERFORMANCE DATA [5YF01763]

SEPTEMBER 24, 2015

For Help Desk Phone Numbers [Click here](#)

Performance Number: TM8328

Change Level: 01 ▾

Sales Model: 3208 DIT Combustion: DI Aspr: T
 Engine Power:
 177 W/O F EKW Speed: 1,800 RPM After Cooler:
 263 HP
 Manifold Type: DRY Governor Type: CAT 3 After Cooler Temp(F): --
 Turbo Quantity: Engine App: GS Turbo Arrangement:
 Hertz: 60 Application Type: GEN SET-DIE Engine Rating: GS Strategy:
 Rating Type: STANDBY Certification:

General Performance Data

GEN PWR EKW	PERCENT LOAD	ENGINE POWER BHP	ENGINE BMEP PSI	FUEL BSFC LB/BHP-HR	FUEL RATE GPH	INTAKE MFLD TEMP DEG F	INTAKE MFLD P IN-HG	INTAKE AIR FLOW CFM	EXH MFLD TEMP DEG F	EXH STACK TEMP DEG F	EXH GAS FLOW CFM
177	100	262	181.45	0.35	13.1	261.32	32.37	503.23	1,249.34	1,058.18	1,435.9
165	93	243	168.25	0.34	11.94	237.02	27.48	473.22	1,188.14	1,011.92	1,305.23
150	85	220	152.15	0.34	10.67	213.26	21.88	442.14	1,121.36	962.78	1,179.16
135	76	197	136.48	0.34	9.56	193.1	17.41	413.89	1,054.76	912.38	1,067.56
120	68	175	120.96	0.34	8.51	174.02	13.59	389.52	981.5	854.24	955.97
105	59	153	105.73	0.34	7.5	157.64	10.6	367.98	907.7	796.46	862.03
90	51	131	90.65	0.35	6.53	143.78	8.08	349.62	832.46	737.6	778.34
75	42	110	76	0.36	5.63	132.26	5.98	334.08	756.32	677.48	703.47
60	34	88	61.06	0.37	4.73	122.54	4.15	321.01	676.4	612.14	633.19
45	25	67	46.12	0.4	3.83	114.98	2.55	310.06	592.7	542.3	568.21
30	17	45	30.89	0.46	2.93	109.58	1.3	301.59	505.04	467.78	509.24
15	8	23	15.52	0.64	2.06	106.16	0.33	295.58	413.24	388.58	456.27

Engine Heat Rejection Data

GEN PWR EKW	PERCENT LOAD	REJ TO JW BTU/MIN	REJ TO ATMOS BTU/MIN	REJ TO EXHAUST BTU/MIN	EXH RCOV TO 360F BTU/MIN	FROM OIL CLR BTU/MIN	WORK ENERGY BTU/MIN	LHV ENERGY BTU/MIN	HHV ENERGY BTU/MIN
177	100	6,426.3	1,467.2	11,146.5	6,767.5	881.5	11,146.5	28,321.2	30,141.0
165	93	6,028.2	1,211.3	9,952.2	5,914.5	853.0	10,293.5	25,818.9	27,525.0
150	85	5,516.4	949.7	8,758.0	5,061.4	824.6	9,326.7	23,089.2	24,624.7
135	76	5,061.4	864.4	7,734.3	4,322.1	790.5	8,359.9	20,700.6	22,008.6
120	68	4,606.5	818.9	6,710.6	3,639.7	756.4	7,393.1	18,369.0	19,620.1
105	59	4,208.4	762.1	5,857.6	3,014.1	722.2	6,483.2	16,207.9	17,288.4
90	51	3,753.4	688.1	5,061.4	2,445.4	688.1	5,573.2	14,160.6	15,070.5
75	42	3,355.3	619.9	4,322.1	1,933.6	648.3	4,663.3	12,170.2	12,966.3
60	34	2,900.4	557.3	3,639.7	1,478.6	608.5	3,753.4	10,179.7	10,862.2
45	25	2,445.4	506.1	3,014.1	1,023.7	563.0	2,843.5	8,246.1	8,814.8
30	17	1,990.4	466.3	2,388.5	625.6	517.5	1,876.7	6,369.4	6,767.5
15	8	1,535.5	449.3	1,819.8	170.6	466.3	966.8	4,492.7	4,777.1

EXHAUST Sound Data: 4.92 FEET

GEN PWR EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
177	100	107	115	99	102	102	99	100	100	98
165	93	106	115	99	102	101	98	99	99	97
150	85	105	114	98	101	100	97	98	98	96
135	76	104	113	97	100	99	96	97	97	95
120	68	103	111	95	98	98	95	96	96	93
105	59	102	110	94	97	97	94	95	95	92
90	51	101	109	93	96	96	93	94	94	91
75	42	100	108	92	95	95	92	93	93	90
60	34	98	107	91	94	94	91	92	92	89
45	25	97	106	90	93	92	89	90	90	88
30	17	96	105	89	92	91	88	89	89	87
15	8	95	103	87	90	90	87	88	88	85

EXHAUST Sound Data: 22.97 FEET

GEN PWR EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
177	100	94	107	90	89	88	87	86	86	84
165	93	93	106	89	88	87	86	85	85	83
150	85	92	105	88	87	86	85	84	84	82
135	76	91	104	87	86	85	84	83	83	81
120	68	90	103	86	85	84	83	82	82	80
105	59	88	102	85	84	83	82	81	81	79
90	51	87	101	84	83	82	81	80	80	78
75	42	86	100	82	81	80	79	79	78	77
60	34	85	99	81	80	79	78	78	77	75
45	25	84	98	80	79	78	77	77	76	74
30	17	83	96	79	78	77	76	75	75	73
15	8	81	95	78	77	76	75	74	74	72

EXHAUST Sound Data: 49.21 FEET

GEN PWR EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
177	100	87	101	83	82	81	80	80	79	77
165	93	86	100	82	81	80	79	79	78	76
150	85	85	99	81	80	79	78	78	77	75
135	76	84	98	80	79	78	77	77	76	74
120	68	83	97	79	78	77	76	76	75	73
105	59	82	96	78	77	76	75	75	74	72
90	51	81	94	77	76	75	74	73	73	71
75	42	80	93	76	75	74	73	72	72	70
60	34	78	92	75	74	73	72	71	71	69
45	25	77	91	73	72	71	70	70	69	68
30	17	76	90	72	71	70	69	69	68	66
15	8	75	88	71	70	69	68	67	67	65

MECHANICAL Sound Data: 3.28 FEET

GEN PWR EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
177	100	98	72	97	92	87	92	93	83	80
165	93	98	72	97	92	87	92	93	83	80
150	85	98	72	97	92	87	92	93	83	80
135	76	98	72	97	92	87	92	93	83	80
120	68	98	72	97	92	87	92	93	83	80
105	59	98	72	97	92	87	92	93	83	80
90	51	98	72	97	92	87	92	93	83	80
75	42	98	72	97	92	87	92	93	83	80
60	34	98	72	97	92	87	92	93	83	80
45	25	98	72	97	92	87	92	93	83	80
30	17	98	72	97	92	87	92	93	83	80
15	8	96	70	95	90	85	90	91	81	78

MECHANICAL Sound Data: 22.97 FEET

GEN PWR EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCJ 8000HZ DB
177	100	83	65	81	78	72	79	79	70	67
165	93	83	65	81	78	72	79	79	70	67
150	85	83	65	81	78	72	79	79	70	67
135	76	83	65	81	78	72	79	79	70	67
120	68	83	65	81	78	72	79	79	70	67
105	59	83	65	81	78	72	79	79	70	67
90	51	83	65	81	78	72	79	79	70	67
75	42	83	65	81	78	72	79	79	70	67
60	34	83	65	81	78	72	79	79	70	67
45	25	83	65	81	78	72	79	79	70	67
30	17	83	65	81	78	72	79	79	70	67
15	8	81	63	79	76	70	77	77	68	65

MECHANICAL Sound Data: 49.21 FEET

GEN PWR EKW	PERCENT LOAD	OVERALL SOUND DB(A)	OBCF 63HZ DB	OBCF 125HZ DB	OBCF 250HZ DB	OBCF 500HZ DB	OBCF 1000HZ DB	OBCF 2000HZ DB	OBCF 4000HZ DB	OBCF 8000HZ DB
177	100	77	59	74	72	66	72	72	64	60
165	93	77	59	74	72	66	72	72	64	60
150	85	77	59	74	72	66	72	72	64	60
135	76	77	59	74	72	66	72	72	64	60
120	68	77	59	74	72	66	72	72	64	60
105	59	77	59	74	72	66	72	72	64	60
90	51	77	59	74	72	66	72	72	64	60
75	42	77	59	74	72	66	72	72	64	60
60	34	77	59	74	72	66	72	72	64	60
45	25	77	59	74	72	66	72	72	64	60
30	17	77	59	74	72	66	72	72	64	60
15	8	75	57	72	70	64	70	70	62	58

EMISSIONS DATA

Certification:

To properly apply this data you must refer to performance parameter DM1176 for additional information...

REFERENCE EXHAUST STACK DIAMETER	--
WET EXHAUST MASS	--
WET EXHAUST FLOW (-- STACK TEMP)	--
WET EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	--
DRY EXHAUST FLOW RATE (32 DEG F AND 29.98 IN HG)	--
FUEL FLOW RATE	--

Altitude Capability Data(Corrected Power Altitude Capability)

Ambient Operating Temp.	50 F	68 F	86 F	104 F	122 F	NORMAL
Altitude						
0 FT	262.84 hp					
984.25 FT	262.84 hp					
1,640.42 FT	262.84 hp					
3,280.84 FT	262.84 hp	262.84 hp	262.84 hp	262.84 hp	261.5 hp	262.84 hp
4,921.26 FT	262.84 hp	262.84 hp	262.84 hp	254.79 hp	246.75 hp	262.84 hp
6,561.68 FT	262.84 hp	254.79 hp	246.75 hp	238.7 hp	232 hp	257.48 hp
8,202.1 FT	248.09 hp	240.04 hp	232 hp	223.95 hp	217.25 hp	244.07 hp
9,842.52 FT	233.34 hp	225.29 hp	217.25 hp	210.54 hp	203.84 hp	232 hp
10,498.69 FT	226.63 hp	219.93 hp	211.88 hp	205.18 hp	198.47 hp	227.97 hp

The powers listed above and all the Powers displayed are Corrected Powers

Identification Reference and Notes

Engine Arrangement:	9Y2229	Lube Oil Press @ Rated Spd(PSI):	60.5
Effective Serial No:	5YF00001	Piston Speed @ Rated Eng SPD(FT/Min):	1,496.1
Primary Engine Test Spec:	0T8010	Max Operating Altitude(FT):	5,905.5
Performance Parm Ref:	TM5738	PEEC Elect Control Module Ref	
Performance Data Ref:	TM8328	PEEC Personality Cont Mod Ref	
Aux Coolant Pump Perf Ref:			
Cooling System Perf Ref:	TD3059	Turbocharger Model	TM5401-1.34
Certification Ref:		Fuel Injector	7W3710
Certification Year:		Timing-Static (DEG):	18.00
Compression Ratio:	15.5	Timing-Static Advance (DEG):	40.00
Combustion System:	DI	Timing-Static (MM):	--
Aftercooler Temperature (F):	--	Unit Injector Timing (MM):	--
Crankcase Blowby Rate(CFH):	--	Torque Rise (percent)	--
Fuel Rate (Rated RPM) No Load(Gal/HR):	1.4	Peak Torque Speed RPM	--
Lube Oil Press @ Low Idle Spd(PSI):	47.3	Peak Torque (LB.FT):	--

Reference
Number: TM8328 --

Parameters
Reference: TM5738

GEN SET - DIESEL

TOLERANCES:

AMBIENT AIR CONDITIONS AND FUEL USED WILL AFFECT THESE VALUES. EACH OF THE VALUES MAY VARY IN ACCORDANCE WITH THE FOLLOWING TOLERANCES.

Power	+/- 3%
Exhaust Stack Temperature	+/- 8%
Generator Power	+/- 5%
Inlet Airflow	+/- 5%
Intake Manifold Pressure-gage	+/- 10%
Exhaust Flow	+/- 6%
Specific Fuel Consumption	+/- 3%
Fuel Rate	+/- 5%
Heat Rejection	+/- 5%
Heat Rejection - Exhaust Only	+/- 10%

T4) Tolerance Exceptions

C15: Power Tolerance +4% , -0%
C27: Power Tolerance +0% , -4%

CONDITIONS:

ENGINE PERFORMANCE IS CORRECTED TO INLET AIR STANDARD CONDITIONS OF 99 KPA (29.31 IN HG) AND 25 DEG C (77 DEG F).

THESE VALUES CORRESPOND TO THE STANDARD ATMOSPHERIC PRESSURE AND TEMPERATURE IN ACCORDANCE WITH SAE J1995. ALSO INCLUDED IS A CORRECTION TO STANDARD FUEL GRAVITY OF 35 DEGREES API HAVING A LOWER HEATING VALUE OF 42,780 KJ/KG (18,390 BTU/LB) WHEN USED AT 29 DEG C (84.2 DEG F) WHERE THE DENSITY IS 838.9 G/L (7.002 LB/GAL).

THE CORRECTED PERFORMANCE VALUES SHOWN FOR CATERPILLAR ENGINES WILL APPROXIMATE THE VALUES OBTAINED WHEN THE OBSERVED PERFORMANCE DATA IS CORRECTED TO SAE J1995, ISO 3046-2 & 8665 & 2288 & 9249 & 1585, EEC 80/1269 AND DIN70020 STANDARD REFERENCE CONDITIONS.

ENGINES ARE EQUIPPED WITH STANDARD ACCESSORIES; LUBE OIL, FUEL PUMP AND JACKET WATER PUMP. THE POWER REQUIRED TO DRIVE AUXILIARIES MUST BE DEDUCTED FROM THE GROSS OUTPUT TO ARRIVE AT THE NET POWER AVAILABLE FOR THE EXTERNAL (FLYWHEEL) LOAD. TYPICAL AUXILIARIES INCLUDE COOLING FANS, AIR COMPRESSORS, AND CHARGING ALTERNATORS.

RATINGS MUST BE REDUCED TO COMPENSATE FOR ALTITUDE AND/OR AMBIENT TEMPERATURE CONDITIONS ACCORDING TO THE APPLICABLE DATA SHOWN ON

THE PERFORMANCE DATA SET.

ALTITUDE:

ALTITUDE CAPABILITY - THE RECOMMENDED REDUCED POWER VALUES FOR SUSTAINED ENGINE OPERATION AT SPECIFIC ALTITUDE LEVELS AND AMBIENT TEMPERATURES.

COLUMN "N" DATA - THE FLYWHEEL POWER OUTPUT AT NORMAL AMBIENT TEMPERATURE.

AMBIENT TEMPERATURE - TO BE MEASURED AT THE AIR CLEANER AIR INLET DURING NORMAL ENGINE OPERATION.

NORMAL TEMPERATURE - THE NORMAL TEMPERATURE AT VARIOUS SPECIFIC ALTITUDE LEVELS IS FOUND ON TM2001.

THE GENERATOR POWER CURVE TABULAR DATA REPRESENTS THE NET ELECTRICAL POWER OUTPUT OF THE GENERATOR.

GENERATOR SET RATINGS

EMERGENCY STANDBY POWER (ESP)

OUTPUT AVAILABLE WITH VARYING LOAD FOR THE DURATION OF AN EMERGENCY OUTAGE. AVERAGE POWER OUTPUT IS 70% OF THE ESP RATING. TYPICAL OPERATION IS 50 HOURS PER YEAR, WITH MAXIMUM EXPECTED USAGE OF 200 HOURS PER YEAR.

STANDBY POWER RATING

OUTPUT AVAILABLE WITH VARYING LOAD FOR THE DURATION OF AN EMERGENCY OUTAGE. AVERAGE POWER OUTPUT IS 70% OF THE STANDBY POWER RATING. TYPICAL OPERATION IS 200 HOURS PER YEAR, WITH MAXIMUM EXPECTED USAGE OF 500 HOURS PER YEAR.

PRIME POWER RATING

OUTPUT AVAILABLE WITH VARYING LOAD FOR AN UNLIMITED TIME. AVERAGE POWER OUTPUT IS 70% OF THE PRIME POWER RATING. TYPICAL PEAK DEMAND IS 100% OF PRIME RATED EKW WITH 10% OVERLOAD CAPABILITY FOR EMERGENCY USE FOR A MAXIMUM OF 1 HOUR IN 12. OVERLOAD OPERATION CANNOT EXCEED 25 HOURS PER YEAR.

CONTINUOUS POWER RATING

OUTPUT AVAILABLE WITH NON-VARYING LOAD FOR AN UNLIMITED TIME. AVERAGE POWER OUTPUT IS 70-100% OF THE CONTINUOUS POWER RATING. TYPICAL PEAK DEMAND IS 100% OF CONTINUOUS RATED EKW FOR 100% OF OPERATING HOURS.

SOUND DEFINITIONS:

Sound Power : [E1M572C](#)
Sound Pressure : [TM7280](#)

Date Released : 03/14/12

Caterpillar Confidential: Green
Content Owner: Commercial Processes Division
Web Master(s): [PSG Web Based Systems Support](#)
Current Date: Thursday, September 24, 2015 1:58:31 PM
© Caterpillar Inc. 2015 All Rights Reserved.