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**To:** [Hamre, John G.](#)  
**Subject:** Filing Accepted for Case: 08-2018-CV-02937; Environmental Law and Policy Center, et al. vs. North Dakota Public Service Commission, et al.; Envelope Number: 3293135  
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## Filing Accepted

Envelope Number: 3293135

Case Number: 08-2018-CV-02937

Case Style: Environmental Law and  
Policy Center, et al. vs. North Dakota  
Public Service Commission, et al.



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Filing Details	
<b>Court</b>	Burleigh County - South Central District
<b>Case Number</b>	08-2018-CV-02937
<b>Case Style</b>	Environmental Law and Policy Center, et al. vs. North Dakota Public Service Commission, et al.
<b>Date/Time Submitted</b>	1/31/2019 5:02 PM CST
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<b>Filed By</b>	John Hamre
<b>Filing Attorney</b>	Illona Jeffcoat-Sacco

Document Details	
<b>Lead Document</b>	CR Exhibit 1 Supporting Exhibit C, part 3 of 6.pdf
<b>Lead Document Page Count</b>	150
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Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>1.50 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.15 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>6.94 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.87 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>1.69 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.59 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>5.63 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.56 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>3.09 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.72 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>2.34 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.79 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>3.99 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.32 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Antimony</b>	Chemical Abstract Services (CAS) Number <b>7740-36-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.95 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.30 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>121.76</b>
Absorptive Properties -	

Pollutant Emitted <b>Arsenic</b>	Chemical Abstract Services (CAS) Number <b>7440-38-2</b>
Proposed Emission Rate (lb/hr) <b><math>7.50 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>8.12 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Beryllium</b>	Chemical Abstract Services (CAS) Number <b>7440-41-7</b>
Proposed Emission Rate (lb/hr) <b><math>4.88 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>4.39 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>9.01</b>
Absorptive Properties -	

Pollutant Emitted <b>Cadmium</b>	Chemical Abstract Services (CAS) Number <b>7440-43-9</b>
Proposed Emission Rate (lb/hr) <b><math>4.13 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.98 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Chromium (hexavalent)</b>	Chemical Abstract Services (CAS) Number <b>1333-82-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.05 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.64 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>1,660 g/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Chromium</b>	Chemical Abstract Services (CAS) Number <b>7440-47-3</b>
Proposed Emission Rate (lb/hr) <b><math>5.25 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>8.19 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Cobalt</b>	Chemical Abstract Services (CAS) Number <b>7440-48-4</b>
Proposed Emission Rate (lb/hr) <b><math>3.08 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>4.23 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.93</b>
Absorptive Properties -	

Pollutant Emitted <b>Manganese</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>1.39 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.05 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Mercury</b>	Chemical Abstract Services (CAS) Number <b>7439-97-6</b>
Proposed Emission Rate (lb/hr) <b><math>9.38 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.79 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>7.85 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>200.59</b>
Absorptive Properties -	

Pollutant Emitted <b>Nickel</b>	Chemical Abstract Services (CAS) Number <b>7044-02-0</b>
Proposed Emission Rate (lb/hr) <b><math>7.88 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.09 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.69</b>
Absorptive Properties -	

Pollutant Emitted <b>Selenium</b>	Chemical Abstract Services (CAS) Number <b>7782-49-2</b>
Proposed Emission Rate (lb/hr) <b><math>3.30 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.39 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.29 in Hg @ 807</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>78.96</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Alkylation Unit / Iso-Stripper Reboiler</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>4.0</b>	Height Above Grade (ft) <b>95.0</b>	
Gas Temperature at Exit (°F) <b>785.5</b>	Gas Velocity at Exit (ft/sec) <b>22.4</b>	Gas Volume (scfm) <b>16,894.20</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 <span style="float: right;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></span>		
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>1,091 ft</b>	Direction <b>Southwest</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>536 ft</b>	Direction <b>East</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>118-H-1801</b>	Mean Particle Diameter (µm) <b>TBD</b>
Flow Rate (scfm) <b>16,894.20</b>	Drift Velocity (ft/sec) <b>22.4</b>
Stream Temperature (°F) <b>785.5</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>Metals</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b>9.22x10<sup>-1</sup></b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b>2.53x10<sup>-4</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b>5.15x10<sup>-3</sup></b>	Vapor Pressure (in. Hg @ °F) <b>35.51 in Hg @ 68°C</b>
Solubility <b>1x10<sup>+6</sup> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b>4.42x10<sup>-5</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>5.08x10<sup>-4</sup></b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water 1.79x10<sup>3</sup> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Dichlorobenzene</b>	Chemical Abstract Services (CAS) Number <b>Varies</b>
Proposed Emission Rate (lb/hr) <b>2.53x10<sup>-5</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>1.54x10<sup>-4</sup></b>	Vapor Pressure (in. Hg @ °F) <b>Varies</b>
Solubility <b>Varies</b>	Molecular Weight (lb/lb-mole) <b>147.00</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>3.37 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.85 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.56 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>4.66 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>3.79 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.95 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.26 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>8.85 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>6.95 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>6.77 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>5.26 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>4.45 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>8.96 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>8.25 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Antimony</b>	Chemical Abstract Services (CAS) Number <b>7740-36-0</b>
Proposed Emission Rate (lb/hr) <b><math>4.38 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.23 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>121.76</b>
Absorptive Properties -	

Pollutant Emitted <b>Arsenic</b>	Chemical Abstract Services (CAS) Number <b>7440-38-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.68 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.02 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Beryllium</b>	Chemical Abstract Services (CAS) Number <b>7440-41-7</b>
Proposed Emission Rate (lb/hr) <b><math>1.09 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.09 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>9.01</b>
Absorptive Properties -	

Pollutant Emitted <b>Cadmium</b>	Chemical Abstract Services (CAS) Number <b>7440-43-9</b>
Proposed Emission Rate (lb/hr) <b><math>9.26 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>7.40 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Chromium (hexavalent)</b>	Chemical Abstract Services (CAS) Number <b>1333-82-0</b>
Proposed Emission Rate (lb/hr) <b><math>2.36 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>4.07 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>1,660 g/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Chromium</b>	Chemical Abstract Services (CAS) Number <b>7440-47-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.18 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.04 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Cobalt</b>	Chemical Abstract Services (CAS) Number <b>7440-48-4</b>
Proposed Emission Rate (lb/hr) <b><math>6.90 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.05 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.93</b>
Absorptive Properties -	

Pollutant Emitted <b>Manganese</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>3.12 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>5.09 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Mercury</b>	Chemical Abstract Services (CAS) Number <b>7439-97-6</b>
Proposed Emission Rate (lb/hr) <b><math>2.10 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>9.42 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>7.85 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>200.59</b>
Absorptive Properties -	

Pollutant Emitted <b>Nickel</b>	Chemical Abstract Services (CAS) Number <b>7044-02-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.77 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.70 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.69</b>
Absorptive Properties -	

Pollutant Emitted <b>Selenium</b>	Chemical Abstract Services (CAS) Number <b>7782-49-2</b>
Proposed Emission Rate (lb/hr) <b><math>7.41 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>8.42 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.29 in Hg @ 807</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>78.96</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>125-H-2501</b>	Mean Particle Diameter (µm) <b>TBD</b>
Flow Rate (scfm) <b>6,224.68</b>	Drift Velocity (ft/sec) <b>21.9</b>
Stream Temperature (°F) <b>764.3</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>Metals</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b><math>3.65 \times 10^{-1}</math></b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b><math>3.75 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.04 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>35.51 in Hg @ 68°C</b>
Solubility <b><math>1 \times 10^{+6}</math> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>6.56 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.01 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Dichlorobenzene</b>	Chemical Abstract Services (CAS) Number <b>Varies</b>
Proposed Emission Rate (lb/hr) <b><math>3.75 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>6.11 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>Varies</b>
Solubility <b>Varies</b>	Molecular Weight (lb/lb-mole) <b>147.00</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>5.00 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.13 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>2.31 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.84 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>5.63 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.56 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.88 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.50 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.03 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.86 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>7.81 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.76 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>1.33 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.27 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Antimony</b>	Chemical Abstract Services (CAS) Number <b>7740-36-0</b>
Proposed Emission Rate (lb/hr) <b><math>6.50 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.28 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>121.76</b>
Absorptive Properties -	

Pollutant Emitted <b>Arsenic</b>	Chemical Abstract Services (CAS) Number <b>7440-38-2</b>
Proposed Emission Rate (lb/hr) <b><math>2.50 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>7.99 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Beryllium</b>	Chemical Abstract Services (CAS) Number <b>7440-41-7</b>
Proposed Emission Rate (lb/hr) <b><math>1.63 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>4.32 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>9.01</b>
Absorptive Properties -	

Pollutant Emitted <b>Cadmium</b>	Chemical Abstract Services (CAS) Number <b>7440-43-9</b>
Proposed Emission Rate (lb/hr) <b><math>1.38 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.93 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Chromium (hexavalent)</b>	Chemical Abstract Services (CAS) Number <b>1333-82-0</b>
Proposed Emission Rate (lb/hr) <b><math>3.50 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.61 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>1,660 g/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Chromium</b>	Chemical Abstract Services (CAS) Number <b>7440-47-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.75 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>8.06 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Cobalt</b>	Chemical Abstract Services (CAS) Number <b>7440-48-4</b>
Proposed Emission Rate (lb/hr) <b><math>1.03 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>4.17 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.93</b>
Absorptive Properties -	

Pollutant Emitted <b>Manganese</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>4.63 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.02 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Mercury</b>	Chemical Abstract Services (CAS) Number <b>7439-97-6</b>
Proposed Emission Rate (lb/hr) <b><math>3.13 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.73 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>7.85 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>200.59</b>
Absorptive Properties -	

Pollutant Emitted <b>Nickel</b>	Chemical Abstract Services (CAS) Number <b>7044-02-0</b>
Proposed Emission Rate (lb/hr) <b><math>2.63 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.07 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.69</b>
Absorptive Properties -	

Pollutant Emitted <b>Selenium</b>	Chemical Abstract Services (CAS) Number <b>7782-49-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.10 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.34 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.29 in Hg @ 807</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>78.96</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Utility Boiler 1</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>3.0</b>	Height Above Grade (ft) <b>100</b>	
Gas Temperature at Exit (°F) <b>294.2</b>	Gas Velocity at Exit (ft/sec) <b>93.9</b>	Gas Volume (scfm) <b>19,914.79</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>0 ft</b>	Direction <b>N/A</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>451 ft</b>	Direction <b>East</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>202-PK-0201A</b>	Mean Particle Diameter (µm) <b>TBD</b>
Flow Rate (scfm) <b>19,914.79</b>	Drift Velocity (ft/sec) <b>93.9</b>
Stream Temperature (°F) <b>294.2</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>Metals</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b><math>3.38 \times 10^{-1}</math></b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.80 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.88 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>35.51 in Hg @ 68°C</b>
Solubility <b><math>1 \times 10^{+6}</math> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>3.15 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.86 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Dichlorobenzene</b>	Chemical Abstract Services (CAS) Number <b>Varies</b>
Proposed Emission Rate (lb/hr) <b><math>1.80 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>5.65 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>Varies</b>
Solubility <b>Varies</b>	Molecular Weight (lb/lb-mole) <b>147.00</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>2.40 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.04 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.11 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.70 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>2.70 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.44 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>9.00 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.24 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>4.95 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.48 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>3.75 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.63 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>6.39 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.02 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Antimony</b>	Chemical Abstract Services (CAS) Number <b>7740-36-0</b>
Proposed Emission Rate (lb/hr) <b><math>3.12 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.18 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>121.76</b>
Absorptive Properties -	

Pollutant Emitted <b>Arsenic</b>	Chemical Abstract Services (CAS) Number <b>7440-38-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.20 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>7.39 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Beryllium</b>	Chemical Abstract Services (CAS) Number <b>7440-41-7</b>
Proposed Emission Rate (lb/hr) <b><math>7.80 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.99 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>9.01</b>
Absorptive Properties -	

Pollutant Emitted <b>Cadmium</b>	Chemical Abstract Services (CAS) Number <b>7440-43-9</b>
Proposed Emission Rate (lb/hr) <b><math>6.60 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.71 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Chromium (hexavalent)</b>	Chemical Abstract Services (CAS) Number <b>1333-82-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.68 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.49 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>1,660 g/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Chromium</b>	Chemical Abstract Services (CAS) Number <b>7440-47-3</b>
Proposed Emission Rate (lb/hr) <b><math>8.40 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>7.45 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Cobalt</b>	Chemical Abstract Services (CAS) Number <b>7440-48-4</b>
Proposed Emission Rate (lb/hr) <b><math>4.92 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.85 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.93</b>
Absorptive Properties -	

Pollutant Emitted <b>Manganese</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>2.22 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.86 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Mercury</b>	Chemical Abstract Services (CAS) Number <b>7439-97-6</b>
Proposed Emission Rate (lb/hr) <b><math>1.50 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.45 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>7.85 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>200.59</b>
Absorptive Properties -	

Pollutant Emitted <b>Nickel</b>	Chemical Abstract Services (CAS) Number <b>7044-02-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.26 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>9.90 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.69</b>
Absorptive Properties -	

Pollutant Emitted <b>Selenium</b>	Chemical Abstract Services (CAS) Number <b>7782-49-2</b>
Proposed Emission Rate (lb/hr) <b><math>5.28 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.08 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.29 in Hg @ 807</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>78.96</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Utility Boiler 2</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>3.0</b>	Height Above Grade (ft) <b>100</b>	
Gas Temperature at Exit (°F) <b>294.2</b>	Gas Velocity at Exit (ft/sec) <b>93.9</b>	Gas Volume (scfm) <b>19,914.79</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>0 ft</b>	Direction <b>N/A</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>415 ft</b>	Direction <b>East</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>202-PK-0201B</b>	Mean Particle Diameter (µm) <b>TBD</b>
Flow Rate (scfm) <b>19,914.79</b>	Drift Velocity (ft/sec) <b>93.9</b>
Stream Temperature (°F) <b>294.2</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>Metals</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b><math>3.381 \times 10^{-1}</math></b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.80 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.88 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>35.51 in Hg @ 68°C</b>
Solubility <b><math>1 \times 10^{+6}</math> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>3.15 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.86 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Dichlorobenzene</b>	Chemical Abstract Services (CAS) Number <b>Varies</b>
Proposed Emission Rate (lb/hr) <b><math>1.80 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>5.65 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>Varies</b>
Solubility <b>Varies</b>	Molecular Weight (lb/lb-mole) <b>147.00</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>2.40 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.04 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.11 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.70 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>2.70 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.44 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>9.00 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.24 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>4.95 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.48 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>3.75 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.63 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>6.39 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.02 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Antimony</b>	Chemical Abstract Services (CAS) Number <b>7740-36-0</b>
Proposed Emission Rate (lb/hr) <b><math>3.12 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.18 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>121.76</b>
Absorptive Properties -	

Pollutant Emitted <b>Arsenic</b>	Chemical Abstract Services (CAS) Number <b>7440-38-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.20 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>7.39 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Beryllium</b>	Chemical Abstract Services (CAS) Number <b>7440-41-7</b>
Proposed Emission Rate (lb/hr) <b><math>7.80 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.99 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>9.01</b>
Absorptive Properties -	

Pollutant Emitted <b>Cadmium</b>	Chemical Abstract Services (CAS) Number <b>7440-43-9</b>
Proposed Emission Rate (lb/hr) <b><math>6.60 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.71 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Chromium (hexavalent)</b>	Chemical Abstract Services (CAS) Number <b>1333-82-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.68 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.49 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>1,660 g/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Chromium</b>	Chemical Abstract Services (CAS) Number <b>7440-47-3</b>
Proposed Emission Rate (lb/hr) <b><math>8.40 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>7.45 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Cobalt</b>	Chemical Abstract Services (CAS) Number <b>7440-48-4</b>
Proposed Emission Rate (lb/hr) <b><math>4.92 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.85 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.93</b>
Absorptive Properties -	

Pollutant Emitted <b>Manganese</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>2.22 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.86 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Mercury</b>	Chemical Abstract Services (CAS) Number <b>7439-97-6</b>
Proposed Emission Rate (lb/hr) <b><math>1.50 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.45 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>7.85 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>200.59</b>
Absorptive Properties -	

Pollutant Emitted <b>Nickel</b>	Chemical Abstract Services (CAS) Number <b>7044-02-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.26 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>9.90 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.69</b>
Absorptive Properties -	

Pollutant Emitted <b>Selenium</b>	Chemical Abstract Services (CAS) Number <b>7782-49-2</b>
Proposed Emission Rate (lb/hr) <b><math>5.28 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.08 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.29 in Hg @ 807</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>78.96</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Utility Boiler 3</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>3.0</b>	Height Above Grade (ft) <b>100</b>	
Gas Temperature at Exit (°F) <b>294.2</b>	Gas Velocity at Exit (ft/sec) <b>93.9</b>	Gas Volume (scfm) <b>19,914.80</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering data and Emission factors from Table 1.4-2. AP 42, Chapter 1: External Combustion Sources. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>0 ft</b>	Direction <b>N/A</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>379 ft</b>	Direction <b>East</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>202-PK-0201C</b>	Mean Particle Diameter ( $\mu\text{m}$ ) <b>TBD</b>
Flow Rate (scfm) <b>19,914.80</b>	Drift Velocity (ft/sec) <b>93.9</b>
Stream Temperature ( $^{\circ}\text{F}$ ) <b>294.2</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>Metals</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b><math>2.81 \times 10^{-2}</math></b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.50 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.57 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>35.51 in Hg @ 68°C</b>
Solubility <b><math>1 \times 10^{+6}</math> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>2.63 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.55 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Dichlorobenzene</b>	Chemical Abstract Services (CAS) Number <b>Varies</b>
Proposed Emission Rate (lb/hr) <b><math>1.50 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>4.71 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>Varies</b>
Solubility <b>Varies</b>	Molecular Weight (lb/lb-mole) <b>147.00</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>2.00 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>8.89 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>9.25 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.42 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>2.25 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.20 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>7.50 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.70 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>4.13 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.06 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>3.13 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.36 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>5.32 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.52 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Antimony</b>	Chemical Abstract Services (CAS) Number <b>7740-36-0</b>
Proposed Emission Rate (lb/hr) <b><math>2.60 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/particulate</b>
Concentration in Emission Stream (ppmv) <b><math>9.85 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>121.76</b>
Absorptive Properties -	

Pollutant Emitted <b>Arsenic</b>	Chemical Abstract Services (CAS) Number <b>7440-38-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.00 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>6.15 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Beryllium</b>	Chemical Abstract Services (CAS) Number <b>7440-41-7</b>
Proposed Emission Rate (lb/hr) <b><math>6.50 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.33 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>9.01</b>
Absorptive Properties -	

Pollutant Emitted <b>Cadmium</b>	Chemical Abstract Services (CAS) Number <b>7440-43-9</b>
Proposed Emission Rate (lb/hr) <b><math>5.50 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.26 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Chromium (hexavalent)</b>	Chemical Abstract Services (CAS) Number <b>1333-82-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.40 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.24 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>1,660 g/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Chromium</b>	Chemical Abstract Services (CAS) Number <b>7440-47-3</b>
Proposed Emission Rate (lb/hr) <b><math>7.00 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>6.21 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Cobalt</b>	Chemical Abstract Services (CAS) Number <b>7440-48-4</b>
Proposed Emission Rate (lb/hr) <b><math>4.10 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.21 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.93</b>
Absorptive Properties -	

Pollutant Emitted <b>Manganese</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>1.85 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.55 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Mercury</b>	Chemical Abstract Services (CAS) Number <b>7439-97-6</b>
Proposed Emission Rate (lb/hr) <b><math>1.25 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.87 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>7.85 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>200.59</b>
Absorptive Properties -	

Pollutant Emitted <b>Nickel</b>	Chemical Abstract Services (CAS) Number <b>7044-02-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.05 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>8.25 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.69</b>
Absorptive Properties -	

Pollutant Emitted <b>Selenium</b>	Chemical Abstract Services (CAS) Number <b>7782-49-2</b>
Proposed Emission Rate (lb/hr) <b><math>4.40 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.57 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.29 in Hg @ 807</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>78.96</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Catalytic Reforming Unit / 107-H-0701</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>6.0</b>	Height Above Grade (ft) <b>42.0</b>	
Gas Temperature at Exit (°F) <b>787.7</b>	Gas Velocity at Exit (ft/sec) <b>27.2</b>	Gas Volume (scfm) <b>19,541.61</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering Calculation Notes and emission factors from Table 5-6 of the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>268.4 ft</b>	Direction <b>South</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>810 ft</b>	Direction <b>Southeast</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>107-H-0701</b>	Mean Particle Diameter ( $\mu\text{m}$ ) <b>TBD</b>
Flow Rate (scfm) <b>19,541.61</b>	Drift Velocity (ft/sec) <b>27.2</b>
Stream Temperature ( $^{\circ}\text{F}$ ) <b>787.7</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>N/A</b>	Halogens or Metals Present? <b>N/A</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b><math>2.67 \times 10^{-8}</math></b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.46 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>6.17 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>3.73 in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 <math>^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.28 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.29 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>0.003 in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water 31 mg/L @ 77 <math>^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>3.50 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.26 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>1.11 in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water 526 mg/L @ 77 <math>^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>2.56 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>7.94 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>Poly Aromatic Hydrocarbons (PAH)</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>8.78 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.85 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>TBD</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Hydrogen Chloride</b>	Chemical Abstract Services (CAS) Number <b>7647-01-0</b>
Proposed Emission Rate (lb/hr) <b>1.53</b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.39 \times 10^{+1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.39 in Hg @ 77 °F</b>
Solubility <b>67.3 g/100 mL of water @ 86 °F</b>	Molecular Weight (lb/lb-mole) <b>36.46</b>
Absorptive Properties -	

Pollutant Emitted <b>Chlorine</b>	Chemical Abstract Services (CAS) Number <b>7782-50-5</b>
Proposed Emission Rate (lb/hr) <b>0.08</b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.91 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>229.52 in Hg @ 77°F</b>
Solubility <b>6.30 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>70.91</b>
Absorptive Properties -	

Pollutant Emitted <b>Dioxin Toxic Equivalents (TEQ)b</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>2.08 \times 10^{-9}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>TBD</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Total Polychlorinated biphenyls (PCB)</b>	Chemical Abstract Services (CAS) Number <b>1336-36-3</b>
Proposed Emission Rate (lb/hr) <b><math>9.49 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>291.98</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Catalytic Reforming Unit / 106-H-0601</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>4.0</b>	Height Above Grade (ft) <b>42.0</b>	
Gas Temperature at Exit (°F) <b>786.2</b>	Gas Velocity at Exit (ft/sec) <b>27.5</b>	Gas Volume (scfm) <b>8,796.80</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering Calculation Notes and emission factors from Table 5-6 of the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>228 ft</b>	Direction <b>South</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>657 ft</b>	Direction <b>Southeast</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>106-H-0601</b>	Mean Particle Diameter (µm) <b>TBD</b>
Flow Rate (scfm) <b>8,796.80</b>	Drift Velocity (ft/sec) <b>27.5</b>
Stream Temperature (°F) <b>786.2</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>N/A</b>	Halogens or Metals Present? <b>N/A</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b><math>2.67 \times 10^{-8}</math></b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**  
**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>6.60 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>6.17 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>5.78 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.29 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.58 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.26 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.11 in Hg @ 77 °F</b>
Solubility <b>In water 526 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>1.16 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>7.95 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>Poly Aromatic Hydrocarbons (PAH)</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>3.97 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.85 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>TBD</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Hydrogen Chloride</b>	Chemical Abstract Services (CAS) Number <b>7647-01-0</b>
Proposed Emission Rate (lb/hr) <b>0.69</b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.39 \times 10^{+1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.39 in Hg @ 77 °F</b>
Solubility <b>67.3 g/100 mL of water @ 86 °F</b>	Molecular Weight (lb/lb-mole) <b>36.46</b>
Absorptive Properties -	

Pollutant Emitted <b>Chlorine</b>	Chemical Abstract Services (CAS) Number <b>7782-50-5</b>
Proposed Emission Rate (lb/hr) <b>0.04</b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.91 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>229.52 in Hg @ 77°F</b>
Solubility <b>6.30 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>70.91</b>
Absorptive Properties -	

Pollutant Emitted <b>Dioxin Toxic Equivalents (TEQ)<sub>b</sub></b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b>9.41 x10<sup>-10</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>TBD</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Total Polychlorinated biphenyls (PCB)</b>	Chemical Abstract Services (CAS) Number <b>1336-36-3</b>
Proposed Emission Rate (lb/hr) <b>4.29 x10<sup>-7</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/ Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>291.98</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Firewater Diesel Pump</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>TBD</b>	Height Above Grade (ft) <b>TBD</b>	
Gas Temperature at Exit (°F) <b>TBD</b>	Gas Velocity at Exit (ft/sec) <b>TBD</b>	Gas Volume (scfm) <b>TBD</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Emission factors From AP-42 Chapter 3 Section 3.4. Large Stationary Diesel And All Stationary Dual-fuel Engines. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 <span style="float: right;">Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></span>		
Nearest Residences or Building <b>Administrative building</b>	Distance (ft) <b>336 ft</b>	Direction <b>South</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>494 ft</b>	Direction <b>East</b>

### SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 <b>212-P-1201 A/B/C</b>	Mean Particle Diameter (µm) <b>TBD</b>
Flow Rate (scfm) <b>TBD</b>	Drift Velocity (ft/sec) <b>TBD</b>
Stream Temperature (°F) <b>TBD</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>N/A</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b>TBD</b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

### SECTION D – POLLUTANT SPECIFIC DATA

(Complete One Box for Each Pollutant in Emission Stream)

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b>3.45x10<sup>-4</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>35.51 in Hg @ 68°C</b>
Solubility <b>1x10<sup>+6</sup> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Acrolein</b>	Chemical Abstract Services (CAS) Number <b>107-02-8</b>
Proposed Emission Rate (lb/hr) <b>1.08x10<sup>-4</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>10.79 in Hg @ 77 °F</b>
Solubility <b>In water 2.12 x 10<sup>5</sup> mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>56.06</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b>1.06x10<sup>-2</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water 1.79x10<sup>3</sup> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.08 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	


Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.78 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Propylene</b>	Chemical Abstract Services (CAS) Number <b>115-07-1</b>
Proposed Emission Rate (lb/hr) <b><math>3.82 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>342.12 in Hg @ 77 °F</b>
Solubility <b>In water 200 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>42.08</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>3.85 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>2.64 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>1.12 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
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SFN 8329 (09-12)

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Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Diesel/Natural gas-fired emergency generator set</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>TBD</b>	Height Above Grade (ft) <b>TBD</b>	
Gas Temperature at Exit (°F) <b>TBD</b>	Gas Velocity at Exit (ft/sec) <b>TBD</b>	Gas Volume (scfm) <b>TBD</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Emission factors From AP-42 Chapter 3 Section 3.4. Large Stationary Diesel And All Stationary Dual-fuel Engines. See Document P-5715043-01-001-18042-1001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-1001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 <span style="float: right;">Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></span>		
Nearest Residences or Building <b>Administrative building</b>	Distance (ft) <b>300 ft</b>	Direction <b>East</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>690 ft</b>	Direction <b>East</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>216-EG-1601 A/B/C</b>	Mean Particle Diameter (µm) <b>TBD</b>
Flow Rate (scfm) <b>TBD</b>	Drift Velocity (ft/sec) <b>TBD</b>
Stream Temperature (°F) <b>TBD</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>N/A</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b>TBD</b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b>4.38x10<sup>-3</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>35.51 in Hg @ 68°C</b>
Solubility <b>1x10<sup>+6</sup> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Acrolein</b>	Chemical Abstract Services (CAS) Number <b>107-02-8</b>
Proposed Emission Rate (lb/hr) <b>1.37x10<sup>-3</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>10.79 in Hg @ 77 °F</b>
Solubility <b>In water 2.12 x 10<sup>5</sup> mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>56.06</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b>1.35x10<sup>-1</sup></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water 1.79x10<sup>3</sup> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.37 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>0.15 in Hg @ 77 °F</b>
Solubility <b>In water <math>4.00 \times 10^5</math> mg/L @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	


Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>2.26 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Propylene</b>	Chemical Abstract Services (CAS) Number <b>115-07-1</b>
Proposed Emission Rate (lb/hr) <b><math>4.85 \times 10^{-1}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>342.12 in Hg @ 77 °F</b>
Solubility <b>In water 200 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>42.08</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>4.89 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>3.36 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>1.42 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



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NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Fluid Catalytic Cracking Unit</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>4.0</b>	Height Above Grade (ft) <b>120</b>	
Gas Temperature at Exit (°F) <b>480</b>	Gas Velocity at Exit (ft/sec) <b>64.8</b>	Gas Volume (scfm) <b>28,110</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Emission factors from Table 5-4 of the Emissions Estimation Protocol for Petroleum Refineries. Metal HAPs were calculated using the Equation 5-1 and Table 5-3. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 <span style="float: right;">Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></span>		
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>783 ft</b>	Direction <b>Southwest</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>590 ft</b>	Direction <b>South</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>112-VS-1201</b>	Mean Particle Diameter ( $\mu\text{m}$ ) <b>&lt;10</b>
Flow Rate (scfm) <b>28,110</b>	Drift Velocity (ft/sec) <b>64.8</b>
Stream Temperature ( $^{\circ}\text{F}$ ) <b>480</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>Metals</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b>TBD</b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**

**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Acetaldehyde</b>	Chemical Abstract Services (CAS) Number <b>75-07-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.21 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.12 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>35.51 in Hg @ 68°C</b>
Solubility <b><math>1 \times 10^{+6}</math> mg/L in water @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>44.05</b>
Absorptive Properties -	

Pollutant Emitted <b>Acetone</b>	Chemical Abstract Services (CAS) Number <b>67-64-1</b>
Proposed Emission Rate (lb/hr) <b><math>1.49 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.05 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>9.09 in Hg @ 77°F</b>
Solubility <b>Miscible in water</b>	Molecular Weight (lb/lb-mole) <b>58.07</b>
Absorptive Properties -	

Pollutant Emitted <b>Acrolein</b>	Chemical Abstract Services (CAS) Number <b>107-02-8</b>
Proposed Emission Rate (lb/hr) <b><math>6.17 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>4.48 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>10.78 in Hg @ 77 °F</b>
Solubility <b>In water <math>2.12 \times 10^5</math> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>56.06</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.03 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>5.53 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Bromomethane</b>	Chemical Abstract Services (CAS) Number <b>74-83-9</b>
Proposed Emission Rate (lb/hr) <b><math>1.31 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>5.61 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>63.78 in Hg @ 68°F</b>
Solubility <b>In water 15,200 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>94.94</b>
Absorptive Properties -	

Pollutant Emitted <b>1,3-Butadiene</b>	Chemical Abstract Services (CAS) Number <b>106-99-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.87 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.41 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>72.34 in Hg @ 68°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.09</b>
Absorptive Properties -	

Pollutant Emitted <b>Carbon disulfide</b>	Chemical Abstract Services (CAS) Number <b>75-15-0</b>
Proposed Emission Rate (lb/hr) <b><math>3.46 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.85 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>14.4 in Hg @ 77 °F</b>
Solubility <b>In water 2,160 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>76.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Formaldehyde</b>	Chemical Abstract Services (CAS) Number <b>50-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>1.49 \times 10^{-1}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>2.03</b>	Vapor Pressure (in. Hg @ °F) <b>153.15 in Hg @ 68°F</b>
Solubility <b>Miscible in water</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexachlorodibenzofuran</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>5.89 \times 10^{-10}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>6.44 \times 10^{-10}</math></b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>TBD</b>	Molecular Weight (lb/lb-mole) <b>374.86</b>
Absorptive Properties -	

Pollutant Emitted <b>Heptachlorodibenzo-p-dioxin</b>	Chemical Abstract Services (CAS) Number <b>19408-74-3</b>
Proposed Emission Rate (lb/hr) <b><math>5.23 \times 10^{-10}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>5.01 \times 10^{-10}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>1.91 \times 10^{-12}</math> in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>390.86</b>
Absorptive Properties -	

Pollutant Emitted <b>Hydrogen Chloride</b>	Chemical Abstract Services (CAS) Number <b>7647-01-0</b>
Proposed Emission Rate (lb/hr) <b><math>2.06 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.29 \times 10^{-1}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.39 in Hg @ 77°F</b>
Solubility <b>Miscible in water</b>	Molecular Weight (lb/lb-mole) <b>36.46</b>
Absorptive Properties -	

Pollutant Emitted <b>Hydrogen Cyanide</b>	Chemical Abstract Services (CAS) Number <b>74-90-8</b>
Proposed Emission Rate (lb/hr) <b><math>8.03 \times 10^{-2}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>1.21</b>	Vapor Pressure (in. Hg @ °F) <b>29.21 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>27.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>1.49 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>5.73 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Methylene Chloride</b>	Chemical Abstract Services (CAS) Number <b>75-09-2</b>
Proposed Emission Rate (lb/hr) <b><math>4.11 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>1.97 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>17.13 in Hg @ 77 °F</b>
Solubility <b>In water <math>1.30 \times 10^4</math> mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>30.03</b>
Absorptive Properties -	

Pollutant Emitted <b>Pentachlorodibenzofurans</b>	Chemical Abstract Services (CAS) Number <b>57117-41-6</b>
Proposed Emission Rate (lb/hr) <b><math>2.99 \times 10^{-10}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>3.57 \times 10^{-10}</math></b>	Vapor Pressure (in. Hg @ °F) <b>TBD</b>
Solubility <b>TBD</b>	Molecular Weight (lb/lb-mole) <b>54.09</b>
Absorptive Properties -	

Pollutant Emitted <b>Phenol</b>	Chemical Abstract Services (CAS) Number <b>108-95-2</b>
Proposed Emission Rate (lb/hr) <b><math>5.32 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.30 \times 10^{-2}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.013 in Hg @ 68 °F</b>
Solubility <b>50 to 100 mg/mL @ 66°F</b>	Molecular Weight (lb/lb-mole) <b>94.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>6.54 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>2.08 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.96 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>8.66 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Trichlorofluoromethane</b>	Chemical Abstract Services (CAS) Number <b>75-69-4</b>
Proposed Emission Rate (lb/hr) <b><math>1.49 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>4.43 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>31.61 in Hg @ 77°F</b>
Solubility <b>In water 1,100 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>54.09</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>1.96 \times 10^{-3}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>7.52 \times 10^{-3}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>PAH</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b><math>3.32 \times 10^{-4}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b><math>7.40 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>N/A</b>	Molecular Weight (lb/lb-mole) <b>TBD</b>
Absorptive Properties -	

Pollutant Emitted <b>Antimony</b>	Chemical Abstract Services (CAS) Number <b>7740-36-0</b>
Proposed Emission Rate (lb/hr) <b><math>4.08 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.36 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>121.76</b>
Absorptive Properties -	

Pollutant Emitted <b>Arsenic</b>	Chemical Abstract Services (CAS) Number <b>7440-38-2</b>
Proposed Emission Rate (lb/hr) <b><math>6.28 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>3.41 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Beryllium</b>	Chemical Abstract Services (CAS) Number <b>7440-41-7</b>
Proposed Emission Rate (lb/hr) <b><math>1.88 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>8.51 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>9.01</b>
Absorptive Properties -	

Pollutant Emitted <b>Cadmium</b>	Chemical Abstract Services (CAS) Number <b>7440-43-9</b>
Proposed Emission Rate (lb/hr) <b><math>8.16 \times 10^{-7}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.95 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole)
Absorptive Properties -	

Pollutant Emitted <b>Chromium</b>	Chemical Abstract Services (CAS) Number <b>7440-47-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.57 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>1.23 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>51.99</b>
Absorptive Properties -	

Pollutant Emitted <b>Cobalt</b>	Chemical Abstract Services (CAS) Number <b>7440-48-4</b>
Proposed Emission Rate (lb/hr) <b><math>3.26 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.25 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.93</b>
Absorptive Properties -	

Pollutant Emitted <b>Manganese</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>8.16 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>6.04 \times 10^{-5}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Mercury</b>	Chemical Abstract Services (CAS) Number <b>7439-97-6</b>
Proposed Emission Rate (lb/hr) <b><math>1.12 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.27 \times 10^{-6}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>7.85 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>200.59</b>
Absorptive Properties -	

Pollutant Emitted <b>Nickel</b>	Chemical Abstract Services (CAS) Number <b>7044-02-0</b>
Proposed Emission Rate (lb/hr) <b><math>6.28 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>4.35 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0 in Hg @ 77°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>58.69</b>
Absorptive Properties -	

Pollutant Emitted <b>Selenium</b>	Chemical Abstract Services (CAS) Number <b>7782-49-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.57 \times 10^{-6}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>8.09 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>0.29 in Hg @ 807 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>78.96</b>
Absorptive Properties -	

Pollutant Emitted <b>Vanadium</b>	Chemical Abstract Services (CAS) Number <b>7440-62-2</b>
Proposed Emission Rate (lb/hr) <b><math>8.29 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>6.62 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b>Approx. 0 in Hg</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>50.94</b>
Absorptive Properties -	

Pollutant Emitted <b>Zinc</b>	Chemical Abstract Services (CAS) Number <b>7440-66-6</b>
Proposed Emission Rate (lb/hr) <b><math>4.65 \times 10^{-5}</math></b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Particulate</b>
Concentration in Emission Stream (ppmv) <b><math>2.89 \times 10^{-4}</math></b>	Vapor Pressure (in. Hg @ °F) <b><math>2.95 \times 10^{-8}</math> in Hg @ 908.6</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>65.38</b>
Absorptive Properties -	

Signature of Applicant	Date
------------------------	------

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Process Leaks (Fugitive) - FUG-1</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>N/A</b>	Height Above Grade (ft) <b>N/A</b>	
Gas Temperature at Exit (°F) <b>N/A</b>	Gas Velocity at Exit (ft/sec) <b>N/A</b>	Gas Volume (scfm) <b>N/A</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Emission factors from Tables 2-5, 2-6 and 2-7 of the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building <b>Administrative building</b>	Distance (ft) <b>N/A</b>	Direction <b>N/A</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>N/A</b>	Direction <b>N/A</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>FUG-1</b>	Mean Particle Diameter (µm) <b>N/A</b>
Flow Rate (scfm) <b>N/A</b>	Drift Velocity (ft/sec) <b>N/A</b>
Stream Temperature (°F) <b>N/A</b>	Particulate Concentration (gr/dscf) <b>N/A</b>
Moisture Content (%) <b>N/A</b>	Halogens or Metals Present? <b>No</b>
Pressure (in. Hg) <b>N/A</b>	Organic Content (ppmv) <b>N/A</b>
Heat Content (Btu/scfm) <b>N/A</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA**  
**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>1,3-Butadiene</b>	Chemical Abstract Services (CAS) Number <b>106-99-0</b>
Proposed Emission Rate (lb/hr) <b>1.23x10<sup>-3</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>72.34 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.09</b>
Absorptive Properties -	

Pollutant Emitted <b>2,2,4-trimethylpentane</b>	Chemical Abstract Services (CAS) Number <b>540-84-1</b>
Proposed Emission Rate (lb/hr) <b>1.18 x10<sup>1</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>1.50 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>114.22</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b>3.60 x10<sup>-2</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>3.73 in Hg @ 77 °F</b>
Solubility <b>In water 1.79x10<sup>3</sup> mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Biphenyl</b>	Chemical Abstract Services (CAS) Number <b>95-52-4</b>
Proposed Emission Rate (lb/hr) <b><math>6.01 \times 10^{-3}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b><math>3.51 \times 10^{-4}</math> in Hg @ 77 °F</b>
Solubility <b>In water 0.0004 g/100mL @ 68 °F</b>	Molecular Weight (lb/lb-mole) <b>154.21</b>
Absorptive Properties -	

Pollutant Emitted <b>1,2,4- Trimethyl benzene</b>	Chemical Abstract Services (CAS) Number <b>95-63-6</b>
Proposed Emission Rate (lb/hr) <b><math>3.87 \times 10^{-2}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.28 in Hg @ 111.92°F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>72.15</b>
Absorptive Properties -	

Pollutant Emitted <b>Cumene</b>	Chemical Abstract Services (CAS) Number <b>98-82-8</b>
Proposed Emission Rate (lb/hr) <b><math>3.36 \times 10^{-3}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.17 in Hg @ 77°F</b>
Solubility <b>61.3 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>120.19</b>
Absorptive Properties -	


Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>2.69 \times 10^{-2}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>8.19 \times 10^{-2}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.28 \times 10^{-2}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.06 \times 10^{-1}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>1.12 in Hg @ 77°F</b>
Solubility <b>In water 526 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>1.14 \times 10^{-1}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

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Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Sulfur Recovering Unit / Oxidizer Vent (OV) and Flash Drum Vent (FDV), both directed to a thermal oxidizer (122-H-2201)</b>
--

**SECTION B – STACK DATA**

Inside Diameter (ft) <b>TBD</b>	Height Above Grade (ft) <b>TBD</b>	
Gas Temperature at Exit (°F) <b>125 (OV)/ 125 (FDV)</b>	Gas Velocity at Exit (ft/sec) <b>TBD</b>	Gas Volume (scfm) <b>3,725.69 (OV)/53.47 (FDV)</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering data from vendor.</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Nearest Residences or Building <b>Utility building</b>	Distance (ft) <b>618 ft</b>	Direction <b>Southeast</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>820 ft</b>	Direction <b>Northwest</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>Not listed (directed to 122-H-2201)</b>	Mean Particle Diameter (µm) <b>N/A</b>
Flow Rate (scfm) <b>3,725.69 (OV)/ 53.47 (FDV)</b>	Drift Velocity (ft/sec) <b>TBD</b>
Stream Temperature (°F) <b>125 (OV)/ 125 (FDV)</b>	Particulate Concentration (gr/dscf) <b>N/A</b>
Moisture Content (%) <b>9.55%(OV)/ 5.88% (FDV)</b>	Halogens or Metals Present? <b>None</b>
Pressure (in. Hg) <b>29.92 (OV) / 50.28 (FDV)</b>	Organic Content (ppmv) <b>0.39% molar (OV) / 81.46% molar (FDV)</b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>16.16% (OV)/ 0% (FDV)</b>

**SECTION D – POLLUTANT SPECIFIC DATA**  
**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>Volatile Organic Compounds (VOC)</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b>64.88 (OV) / 202.29 (FDV)</b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility <b>-</b>	Molecular Weight (lb/lb-mole) <b>N/A</b>
Absorptive Properties <b>-</b>	

Pollutant Emitted <b>Hydrogen Sulfide</b>	Chemical Abstract Services (CAS) Number <b>7783-06-4</b>
Proposed Emission Rate (lb/hr) <b>- (OV) / - (FDV)</b>	Emission Source (describe) <b>Process Point</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Point</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Inorganic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>&lt;1 ppmv (OV) / &lt;10 ppmv (FDV)</b>	Vapor Pressure (in. Hg @ °F) <b>1.55x10<sup>-7</sup> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water; soluble in carbon disulfide</b>	Molecular Weight (lb/lb-mole) <b>34.08</b>
Absorptive Properties <b>-</b>	

Signature of Applicant	Date
------------------------	------

**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

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Division of Air Quality  
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City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / Storage Tanks (Tank farm)</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>N/A</b>	Height Above Grade (ft) <b>N/A</b>	
Gas Temperature at Exit (°F) <b>N/A</b>	Gas Velocity at Exit (ft/sec) <b>N/A</b>	Gas Volume (scfm) <b>N/A</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Emission factors from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Nearest Residences or Building <b>Administrative building</b>	Distance (ft) <b>1,230 ft</b>	Direction <b>East</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>310 ft</b>	Direction <b>South</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>Storage Tanks</b>	Mean Particle Diameter ( $\mu\text{m}$ ) <b>TBD</b>
Flow Rate (scfm) <b>N/A</b>	Drift Velocity (ft/sec) <b>TBD</b>
Stream Temperature ( $^{\circ}\text{F}$ ) <b>N/A</b>	Particulate Concentration (gr/dscf) <b>TBD</b>
Moisture Content (%) <b>TBD</b>	Halogens or Metals Present? <b>Halogens</b>
Pressure (in. Hg) <b>TBD</b>	Organic Content (ppmv) <b>TBD</b>
Heat Content (Btu/scfm) <b>TBD</b>	O <sub>2</sub> Content (%) <b>TBD</b>

**SECTION D – POLLUTANT SPECIFIC DATA**  
**(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>2-Methyl naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-57-6</b>
Proposed Emission Rate (lb/hr) <b><math>2.09 \times 10^{-3}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b><math>2.17 \times 10^{-3}</math> in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water mg/L @ 77 <math>^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>142.08</b>
Absorptive Properties -	

Pollutant Emitted <b>Anthracene</b>	Chemical Abstract Services (CAS) Number <b>120-12-7</b>
Proposed Emission Rate (lb/hr) <b><math>1.43 \times 10^{-4}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b><math>2.17 \times 10^{-5}</math> in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water 1.29 mg/L @ 77 <math>^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>178.23</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>5.01 \times 10^{-2}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>3.73 in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water <math>1.79 \times 10^3</math> mg/L @ 77 <math>^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Biphenyl</b>	Chemical Abstract Services (CAS) Number <b>95-52-4</b>
Proposed Emission Rate (lb/hr) <b><math>2.77 \times 10^{-4}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b><math>3.51 \times 10^{-4}</math> in Hg @ 77 °F</b>
Solubility <b>In water 0.0004 g/100mL @ 68 °F</b>	Molecular Weight (lb/lb-mole) <b>154.21</b>
Absorptive Properties -	

Pollutant Emitted <b>Chrysene</b>	Chemical Abstract Services (CAS) Number <b>218-01-9</b>
Proposed Emission Rate (lb/hr) <b><math>1.25 \times 10^{-4}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b><math>2.45 \times 10^{-10}</math> in Hg @ 77 °F</b>
Solubility <b>In water 0.002 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>228.29</b>
Absorptive Properties -	

Pollutant Emitted <b>Cresols</b>	Chemical Abstract Services (CAS) Number <b>106-44-5</b>
Proposed Emission Rate (lb/hr) <b><math>7.71 \times 10^{-3}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.004 in Hg @ 77°F</b>
Solubility <b>In water <math>2.15 \times 10^{-4}</math> @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>108.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Cumene</b>	Chemical Abstract Services (CAS) Number <b>98-82-8</b>
Proposed Emission Rate (lb/hr) <b><math>9.17 \times 10^{-3}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.17 in Hg @ 77°F</b>
Solubility <b>61.3 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>120.19</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b><math>1.93 \times 10^{-2}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Fluorene</b>	Chemical Abstract Services (CAS) Number <b>86-73-7</b>
Proposed Emission Rate (lb/hr) <b><math>2.15 \times 10^{-4}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b><math>1.26 \times 10^{-5}</math> in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>166.22</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b><math>3.30 \times 10^{-1}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Methanol</b>	Chemical Abstract Services (CAS) Number <b>67-56-1</b>
Proposed Emission Rate (lb/hr) <b><math>2.26 \times 10^{-3}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>5.0 in Hg @ 77 °F</b>
Solubility <b>Miscible in water</b>	Molecular Weight (lb/lb-mole) <b>32.04</b>
Absorptive Properties -	

Pollutant Emitted <b>Methyl isobutyl Ketone</b>	Chemical Abstract Services (CAS) Number <b>108-10-1</b>
Proposed Emission Rate (lb/hr) <b><math>1.91 \times 10^{-1}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b>0.78 in Hg @ 77 °F</b>
Solubility <b>In water 19,000 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>100.16</b>
Absorptive Properties -	

Pollutant Emitted <b>Methyl tertiary-butyl ether</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>1.71 \times 10^{-1}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>2.95 in Hg @ 154 °F</b>
Solubility <b>In water 4.2 g/100mL @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>88.15</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>4.91 \times 10^{-3}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Phenanthrene</b>	Chemical Abstract Services (CAS) Number <b>85-01-8</b>
Proposed Emission Rate (lb/hr) <b><math>8.94 \times 10^{-4}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b><math>4.76 \times 10^{-6}</math> in Hg @ 77 °F</b>
Solubility <b>In water 1.15 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>178.23</b>
Absorptive Properties -	

Pollutant Emitted <b>Phenol</b>	Chemical Abstract Services (CAS) Number <b>108-95-2</b>
Proposed Emission Rate (lb/hr) <b><math>1.35 \times 10^{-3}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.013 in Hg @ 77°F</b>
Solubility <b>In water 1 g/15mL</b>	Molecular Weight (lb/lb-mole) <b>94.11</b>
Absorptive Properties -	


Pollutant Emitted <b>Pyrene</b>	Chemical Abstract Services (CAS) Number <b>129-00-0</b>
Proposed Emission Rate (lb/hr) <b><math>2.32 \times 10^{-4}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>TBD</b>	Vapor Pressure (in. Hg @ °F) <b><math>1.77 \times 10^{-7}</math> in Hg @ 77 °F</b>
Solubility <b>In water 0.135 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>202.25</b>
Absorptive Properties -	

Pollutant Emitted <b>Styrene</b>	Chemical Abstract Services (CAS) Number <b>100-42-5</b>
Proposed Emission Rate (lb/hr) <b><math>3.63 \times 10^{-2}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.25 in Hg @ 77 °F</b>
Solubility <b>In water 300 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>104.15</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b><math>1.10 \times 10^{-1}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>1.11 in Hg @ 77 °F</b>
Solubility <b>In water 526 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b><math>8.59 \times 10^{-2}</math></b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Volatile Organic Compounds (VOC)</b>	Chemical Abstract Services (CAS) Number <b>N/A</b>
Proposed Emission Rate (lb/hr) <b>2.09</b>	Emission Source (describe) <b>Tank Farm</b>
Source Classification (process point, process fugitive, area fugitive) <b>Area Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>N/A</b>
Solubility -	Molecular Weight (lb/lb-mole) <b>0.11</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
HAZARDOUS AIR POLLUTANT (HAP) SOURCES**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8329 (09-12)

**SECTION A1 - APPLICANT INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group - Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>

**SECTION A2 - FACILITY INFORMATION**

Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409) 795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>
Facility Address (Street & No. or Lat/Long to Nearest Second) <b>37<sup>th</sup> Street / 46°52'45"N/103°14'55" W</b>		
City <b>Belfield</b>	State <b>ND</b>	ZIP Code <b>58622</b>
County <b>Billings</b>	Number of Employees at Location <b>TBD</b>	
Land Area at Plant Site <b>261</b> Acres (or)	Sq. Ft.	MSL Elevation at Plant <b>2,685 feet</b>

Describe Nature of Business/Process  <b>Petroleum Refining / WasteWater Treatment Plant - 206WWT (Fugitive)</b>
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**SECTION B – STACK DATA**

Inside Diameter (ft) <b>N/A</b>	Height Above Grade (ft) <b>N/A</b>	
Gas Temperature at Exit (°F) <b>N/A</b>	Gas Velocity at Exit (ft/sec) <b>N/A</b>	Gas Volume (scfm) <b>N/A</b>
Basis of any Estimates (attach separate sheet if necessary) <b>Engineering data and * Table 7-8. Table 7-9. and Table 7-10 from the Emissions Estimation Protocol for Petroleum Refineries. See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building <b>Administrative building</b>	Distance (ft) <b>1,434 ft</b>	Direction <b>South</b>
Nearest Property Line <b>Fenceline</b>	Distance (ft) <b>963 ft</b>	Direction <b>Northwest</b>

**SECTION C – EMISSION STREAM DATA**

Source ID No. From SFN 8516 <b>206WWT (Fugitive)</b>	Mean Particle Diameter ( $\mu\text{m}$ )
Flow Rate (scfm) <b>N/A</b>	Drift Velocity (ft/sec) <b>N/A</b>
Stream Temperature ( $^{\circ}\text{F}$ ) <b>N/A</b>	Particulate Concentration (gr/dscf) <b>N/A</b>
Moisture Content (%) <b>N/A</b>	Halogens or Metals Present? <b>No</b>
Pressure (in. Hg) <b>N/A</b>	Organic Content (ppmv) <b>N/A</b>
Heat Content (Btu/scfm) <b>N/A</b>	O <sub>2</sub> Content (%) <b>N/A</b>

**SECTION D – POLLUTANT SPECIFIC DATA****(Complete One Box for Each Pollutant in Emission Stream)**

Pollutant Emitted <b>2,2,4-trimethylpentane</b>	Chemical Abstract Services (CAS) Number <b>540-84-1</b>
Proposed Emission Rate (lb/hr) <b><math>2.41 \times 10^{-2}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic/Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>1.50 in Hg @ 68 <math>^{\circ}\text{F}</math></b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>114.22</b>
Absorptive Properties -	

Pollutant Emitted <b>Benzene</b>	Chemical Abstract Services (CAS) Number <b>71-43-2</b>
Proposed Emission Rate (lb/hr) <b><math>5.56 \times 10^{-3}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b>3.73 in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water <math>1.79 \times 10^3 \text{ mg/L @ } 77 \text{ }^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>78.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Biphenyl</b>	Chemical Abstract Services (CAS) Number <b>95-52-4</b>
Proposed Emission Rate (lb/hr) <b><math>2.34 \times 10^{-5}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$ ) <b><math>3.51 \times 10^{-4}</math> in Hg @ 77 <math>^{\circ}\text{F}</math></b>
Solubility <b>In water <math>0.0004 \text{ g/100mL @ } 68 \text{ }^{\circ}\text{F}</math></b>	Molecular Weight (lb/lb-mole) <b>154.21</b>
Absorptive Properties -	

Pollutant Emitted <b>Cresols</b>	Chemical Abstract Services (CAS) Number <b>106-44-5</b>
Proposed Emission Rate (lb/hr) <b>0</b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.004 in Hg @ 77°F</b>
Solubility <b>In water 2.15x10<sup>+4</sup> @77°F</b>	Molecular Weight (lb/lb-mole) <b>108.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Cumene</b>	Chemical Abstract Services (CAS) Number <b>98-82-8</b>
Proposed Emission Rate (lb/hr) <b>1.97x10<sup>-3</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.17 in Hg @ 77°F</b>
Solubility <b>61.3 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>120.19</b>
Absorptive Properties -	

Pollutant Emitted <b>Ethylbenzene</b>	Chemical Abstract Services (CAS) Number <b>100-41-4</b>
Proposed Emission Rate (lb/hr) <b>4.31x10<sup>-3</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.37 in Hg @ 77°F</b>
Solubility <b>In water 0.014 g/100mL @ 59 °F</b>	Molecular Weight (lb/lb-mole) <b>106.17</b>
Absorptive Properties -	

Pollutant Emitted <b>Hexane</b>	Chemical Abstract Services (CAS) Number <b>110-54-5</b>
Proposed Emission Rate (lb/hr) <b>4.28x10<sup>-2</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>5.90 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>86.1</b>
Absorptive Properties -	

Pollutant Emitted <b>Methyl tertiary-butyl ether</b>	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) <b><math>1.17 \times 10^{-3}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>2.95 in Hg @ 154 °F</b>
Solubility <b>In water 4.2 g/100mL @ 68°F</b>	Molecular Weight (lb/lb-mole) <b>88.15</b>
Absorptive Properties -	

Pollutant Emitted <b>Naphthalene</b>	Chemical Abstract Services (CAS) Number <b>91-20-3</b>
Proposed Emission Rate (lb/hr) <b><math>6.32 \times 10^{-4}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.003 in Hg @ 77 °F</b>
Solubility <b>In water 31 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>128.17</b>
Absorptive Properties -	


Pollutant Emitted <b>Phenol</b>	Chemical Abstract Services (CAS) Number <b>108-95-2</b>
Proposed Emission Rate (lb/hr) <b>0</b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.013 in Hg @ 77°F</b>
Solubility <b>In water 1 g/15mL</b>	Molecular Weight (lb/lb-mole) <b>94.11</b>
Absorptive Properties -	

Pollutant Emitted <b>Styrene</b>	Chemical Abstract Services (CAS) Number <b>100-42-5</b>
Proposed Emission Rate (lb/hr) <b><math>8.26 \times 10^{-3}</math></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.25 in Hg @ 77°F</b>
Solubility <b>In water 300 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>104.15</b>
Absorptive Properties -	

Pollutant Emitted <b>Toluene</b>	Chemical Abstract Services (CAS) Number <b>108-88-3</b>
Proposed Emission Rate (lb/hr) <b>1.39x10<sup>-2</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>1.11 in Hg @ 77 °F</b>
Solubility <b>In water 526 mg/L @ 77 °F</b>	Molecular Weight (lb/lb-mole) <b>92.14</b>
Absorptive Properties -	

Pollutant Emitted <b>Xylene</b>	Chemical Abstract Services (CAS) Number <b>95-47-6</b>
Proposed Emission Rate (lb/hr) <b>1.68x10<sup>-2</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>0.26 in Hg @ 77°F</b>
Solubility <b>In water 178 mg/L @ 77°F</b>	Molecular Weight (lb/lb-mole) <b>106.16</b>
Absorptive Properties -	

Pollutant Emitted <b>1,3-Butadiene</b>	Chemical Abstract Services (CAS) Number <b>106-99-0</b>
Proposed Emission Rate (lb/hr) <b>1.00x10<sup>-5</sup></b>	Emission Source (describe) <b>Fugitive</b>
Source Classification (process point, process fugitive, area fugitive) <b>Process Fugitive</b>	Pollutant Class and Form (organic/inorganic - particulate/vapor) <b>Organic /Vapor</b>
Concentration in Emission Stream (ppmv) <b>N/A</b>	Vapor Pressure (in. Hg @ °F) <b>72.34 in Hg @ 68 °F</b>
Solubility <b>Insoluble in water</b>	Molecular Weight (lb/lb-mole) <b>54.09</b>
Absorptive Properties -	

Signature of Applicant 	Date 09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of  
Health Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0001</b>		
Capacity	Barrels <b>110,999</b>	Gallons <b>4,661,958</b>		
Dimensions	Diameter <b>115'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

<i>Crude Oil, (RVP 6.8 – 7 psi)</i>
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**SECTION D – VAPOR DISPOSAL**

<input checked="" type="checkbox"/> Atmosphere	<input type="checkbox"/> Vapor Recovery Unit	<input type="checkbox"/> Flare	<input type="checkbox"/> Other – Specify:
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**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>6.8 - 7</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>770,000</b>	Tank Turnovers per Year <b>60.25</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>Benzene</b>	<b>3.06E-03</b>	<b>1.34E-02</b>	<b>VOC from TANKS 4.0.9d software modeled runs.</b>  <b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b>  <b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>
<b>Biphenyl</b>	<b>6.11E-05</b>	<b>2.68E-04</b>	
<b>Cresol</b>	<b>1.83E-04</b>	<b>8.03E-04</b>	
<b>Cumene</b>	<b>1.53E-04</b>	<b>6.69E-04</b>	
<b>Ethylbenzene</b>	<b>4.89E-04</b>	<b>2.14E-03</b>	
<b>Hexane</b>	<b>2.57E-02</b>	<b>1.12E-01</b>	
<b>Naphthalene</b>	<b>1.83E-04</b>	<b>8.03E-04</b>	
<b>Phenol</b>	<b>2.75E-04</b>	<b>1.20E-03</b>	
<b>Toluene</b>	<b>2.29E-03</b>	<b>1.00E-02</b>	
<b>Xylene</b>	<b>1.89E-03</b>	<b>8.30E-03</b>	
<b>VOC</b>	<b>2.80E-01</b>	<b>1.22E+00</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
--	--------------------

**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0002</b>		
Capacity	Barrels <b>110,999</b>	Gallons <b>4,661,958</b>		
Dimensions	Diameter <b>115'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input checked="" type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

<i>Crude Oil, (RVP 6.8 – 7 psi)</i>
-------------------------------------

**SECTION D – VAPOR DISPOSAL**

<input checked="" type="checkbox"/> Atmosphere	<input type="checkbox"/> Vapor Recovery Unit	<input type="checkbox"/> Flare	<input type="checkbox"/> Other – Specify:
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**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>6.8 - 7</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>770,000</b>	Tank Turnovers per Year <b>60.25</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>Benzene</b>	<b>3.06E-03</b>	<b>1.34E-02</b>	<b>VOC from TANKS 4.0.9d software modeled runs.</b>  <b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b>  <b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>
<b>Biphenyl</b>	<b>6.11E-05</b>	<b>2.68E-04</b>	
<b>Cresol</b>	<b>1.83E-04</b>	<b>8.03E-04</b>	
<b>Cumene</b>	<b>1.53E-04</b>	<b>6.69E-04</b>	
<b>Ethylbenzene</b>	<b>4.89E-04</b>	<b>2.14E-03</b>	
<b>Hexane</b>	<b>2.57E-02</b>	<b>1.12E-01</b>	
<b>Naphthalene</b>	<b>1.83E-04</b>	<b>8.03E-04</b>	
<b>Phenol</b>	<b>2.75E-04</b>	<b>1.20E-03</b>	
<b>Toluene</b>	<b>2.29E-03</b>	<b>1.00E-02</b>	
<b>Xylene</b>	<b>1.89E-03</b>	<b>8.30E-03</b>	
<b>VOC</b>	<b>2.80E-01</b>	<b>1.22E+00</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant		Date	09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0003</b>		
Capacity	Barrels <b>110,999</b>	Gallons <b>4,661,958</b>		
Dimensions	Diameter <b>115'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input checked="" type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

<i>Crude Oil, (RVP 6.8 – 7 psi)</i>
-------------------------------------

**SECTION D – VAPOR DISPOSAL**

<input checked="" type="checkbox"/> Atmosphere	<input type="checkbox"/> Vapor Recovery Unit	<input type="checkbox"/> Flare	<input type="checkbox"/> Other – Specify:
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**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>6.8 - 7</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>770,000</b>	Tank Turnovers per Year <b>60.25</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>Benzene</b>	<b>3.06E-03</b>	<b>1.34E-02</b>	<b>VOC from TANKS 4.0.9d software modeled runs.</b>  <b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b>  <b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b>
<b>Biphenyl</b>	<b>6.11E-05</b>	<b>2.68E-04</b>	
<b>Cresol</b>	<b>1.83E-04</b>	<b>8.03E-04</b>	
<b>Cumene</b>	<b>1.53E-04</b>	<b>6.69E-04</b>	
<b>Ethylbenzene</b>	<b>4.89E-04</b>	<b>2.14E-03</b>	
<b>Hexane</b>	<b>2.57E-02</b>	<b>1.12E-01</b>	
<b>Naphthalene</b>	<b>1.83E-04</b>	<b>8.03E-04</b>	
<b>Phenol</b>	<b>2.75E-04</b>	<b>1.20E-03</b>	
<b>Toluene</b>	<b>2.29E-03</b>	<b>1.00E-02</b>	
<b>Xylene</b>	<b>1.89E-03</b>	<b>8.30E-03</b>	
<b>VOC</b>	<b>2.80E-01</b>	<b>1.22E+00</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
--	--------------------

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North Dakota Department of Health  
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918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
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**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0005</b>		
Capacity	Barrels <b>64,996</b>	Gallons <b>2,729,832</b>		
Dimensions	Diameter <b>88'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Desulfurized Heavy Naphtha, (RVP 1.2 psi)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>1.2</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>89,896.8</b>	Tank Turnovers per Year <b>26.78</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>2.4E-04</b>	<b>1.0E-03</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>1.6E-05</b>	<b>7.1E-05</b>	
<b>Benzene</b>	<b>4.7E-03</b>	<b>2.1E-02</b>	
<b>Biphenyl</b>	<b>1.1E-05</b>	<b>5.0E-05</b>	
<b>Chrysene</b>	<b>1.4E-05</b>	<b>6.2E-05</b>	
<b>Cresol</b>	<b>8.8E-04</b>	<b>3.8E-03</b>	
<b>Cumene</b>	<b>1.0E-03</b>	<b>4.4E-03</b>	
<b>Ethylbenzene</b>	<b>2.1E-03</b>	<b>9.2E-03</b>	
<b>Fluorene</b>	<b>2.4E-05</b>	<b>1.1E-04</b>	
<b>Hexane</b>	<b>2.8E-02</b>	<b>1.2E-01</b>	
<b>Methanol</b>	<b>2.6E-04</b>	<b>1.1E-03</b>	
<b>Methyl isobutyl ketone</b>	<b>2.2E-02</b>	<b>9.5E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>2.1E-02</b>	<b>9.2E-02</b>	
<b>Naphthalene</b>	<b>5.1E-04</b>	<b>2.2E-03</b>	
<b>Phenanthrene</b>	<b>1.0E-04</b>	<b>4.4E-04</b>	
<b>Phenol</b>	<b>6.1E-05</b>	<b>2.7E-04</b>	
<b>Pyrene</b>	<b>2.6E-05</b>	<b>1.2E-04</b>	
<b>Styrene</b>	<b>4.5E-03</b>	<b>2.0E-02</b>	
<b>Toluene</b>	<b>1.2E-02</b>	<b>5.3E-02</b>	
<b>Xylene</b>	<b>9.5E-03</b>	<b>4.1E-02</b>	
<b>VOC</b>	<b>3.95E-02</b>	<b>1.73E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0006</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Reformate, (RVP 3 psi)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure 3

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>179,793.60</b>	Tank Turnovers per Year <b>46.90</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-04</b>	<b>5.3E-04</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>8.3E-06</b>	<b>3.6E-05</b>	
<b>Benzene</b>	<b>2.4E-03</b>	<b>1.1E-02</b>	
<b>Biphenyl</b>	<b>5.9E-06</b>	<b>2.6E-05</b>	
<b>Chrysene</b>	<b>7.3E-06</b>	<b>3.2E-05</b>	
<b>Cresol</b>	<b>4.5E-04</b>	<b>2.0E-03</b>	
<b>Cumene</b>	<b>5.2E-04</b>	<b>2.3E-03</b>	
<b>Ethylbenzene</b>	<b>1.1E-03</b>	<b>4.7E-03</b>	
<b>Fluorene</b>	<b>1.2E-05</b>	<b>5.5E-05</b>	
<b>Hexane</b>	<b>1.5E-02</b>	<b>6.4E-02</b>	
<b>Methanol</b>	<b>1.3E-04</b>	<b>5.8E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-02</b>	<b>4.9E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>1.1E-02</b>	<b>4.7E-02</b>	
<b>Naphthalene</b>	<b>2.6E-04</b>	<b>1.2E-03</b>	
<b>Phenanthrene</b>	<b>5.2E-05</b>	<b>2.3E-04</b>	
<b>Phenol</b>	<b>3.1E-05</b>	<b>1.4E-04</b>	
<b>Pyrene</b>	<b>1.4E-05</b>	<b>5.9E-05</b>	
<b>Styrene</b>	<b>2.3E-03</b>	<b>1.0E-02</b>	
<b>Toluene</b>	<b>6.2E-03</b>	<b>2.7E-02</b>	
<b>Xylene</b>	<b>4.8E-03</b>	<b>2.1E-02</b>	
<b>VOC</b>	<b>5.92E-02</b>	<b>2.59E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



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VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0007</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Reformate, (RVP 3 psi)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure 3

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>179,793.60</b>	Tank Turnovers per Year <b>46.90</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-04</b>	<b>5.3E-04</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>8.3E-06</b>	<b>3.6E-05</b>	
<b>Benzene</b>	<b>2.4E-03</b>	<b>1.1E-02</b>	
<b>Biphenyl</b>	<b>5.9E-06</b>	<b>2.6E-05</b>	
<b>Chrysene</b>	<b>7.3E-06</b>	<b>3.2E-05</b>	
<b>Cresol</b>	<b>4.5E-04</b>	<b>2.0E-03</b>	
<b>Cumene</b>	<b>5.2E-04</b>	<b>2.3E-03</b>	
<b>Ethylbenzene</b>	<b>1.1E-03</b>	<b>4.7E-03</b>	
<b>Fluorene</b>	<b>1.2E-05</b>	<b>5.5E-05</b>	
<b>Hexane</b>	<b>1.5E-02</b>	<b>6.4E-02</b>	
<b>Methanol</b>	<b>1.3E-04</b>	<b>5.8E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-02</b>	<b>4.9E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>1.1E-02</b>	<b>4.7E-02</b>	
<b>Naphthalene</b>	<b>2.6E-04</b>	<b>1.2E-03</b>	
<b>Phenanthrene</b>	<b>5.2E-05</b>	<b>2.3E-04</b>	
<b>Phenol</b>	<b>3.1E-05</b>	<b>1.4E-04</b>	
<b>Pyrene</b>	<b>1.4E-05</b>	<b>5.9E-05</b>	
<b>Styrene</b>	<b>2.3E-03</b>	<b>1.0E-02</b>	
<b>Toluene</b>	<b>6.2E-03</b>	<b>2.7E-02</b>	
<b>Xylene</b>	<b>4.8E-03</b>	<b>2.1E-02</b>	
<b>VOC</b>	<b>5.92E-02</b>	<b>2.59E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
--	--------------------

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Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0008</b>		
Capacity	Barrels <b>64,996</b>	Gallons <b>2,729,832</b>		
Dimensions	Diameter <b>88'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Gasoline, (RVP 13-15 psi)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>13-15</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>416,780</b>	Tank Turnovers per Year <b>55.73</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	

**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>2.4E-04</b>	<b>1.0E-03</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>1.6E-05</b>	<b>7.1E-05</b>	
<b>Benzene</b>	<b>4.7E-03</b>	<b>2.1E-02</b>	
<b>Biphenyl</b>	<b>1.1E-05</b>	<b>5.0E-05</b>	
<b>Chrysene</b>	<b>1.4E-05</b>	<b>6.2E-05</b>	
<b>Cresol</b>	<b>8.8E-04</b>	<b>3.8E-03</b>	
<b>Cumene</b>	<b>1.0E-03</b>	<b>4.4E-03</b>	
<b>Ethylbenzene</b>	<b>2.1E-03</b>	<b>9.2E-03</b>	
<b>Fluorene</b>	<b>2.4E-05</b>	<b>1.1E-04</b>	
<b>Hexane</b>	<b>2.8E-02</b>	<b>1.2E-01</b>	
<b>Methanol</b>	<b>2.6E-04</b>	<b>1.1E-03</b>	
<b>Methyl isobutyl ketone</b>	<b>2.2E-02</b>	<b>9.5E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>2.1E-02</b>	<b>9.2E-02</b>	
<b>Naphthalene</b>	<b>5.1E-04</b>	<b>2.2E-03</b>	
<b>Phenanthrene</b>	<b>1.0E-04</b>	<b>4.4E-04</b>	
<b>Phenol</b>	<b>6.1E-05</b>	<b>2.7E-04</b>	
<b>Pyrene</b>	<b>2.6E-05</b>	<b>1.2E-04</b>	
<b>Styrene</b>	<b>4.5E-03</b>	<b>2.0E-02</b>	
<b>Toluene</b>	<b>1.2E-02</b>	<b>5.3E-02</b>	
<b>Xylene</b>	<b>9.5E-03</b>	<b>4.1E-02</b>	
<b>VOC</b>	<b>1.20E-01</b>	<b>5.24E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
--	--------------------

**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0009</b>		
Capacity	Barrels <b>64,996</b>	Gallons <b>2,729,832</b>		
Dimensions	Diameter <b>88'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Gasoline, (RVP 13-15 psi)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>13-15</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>416,780</b>	Tank Turnovers per Year <b>55.73</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>2.4E-04</b>	<b>1.0E-03</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>1.6E-05</b>	<b>7.1E-05</b>	
<b>Benzene</b>	<b>4.7E-03</b>	<b>2.1E-02</b>	
<b>Biphenyl</b>	<b>1.1E-05</b>	<b>5.0E-05</b>	
<b>Chrysene</b>	<b>1.4E-05</b>	<b>6.2E-05</b>	
<b>Cresol</b>	<b>8.8E-04</b>	<b>3.8E-03</b>	
<b>Cumene</b>	<b>1.0E-03</b>	<b>4.4E-03</b>	
<b>Ethylbenzene</b>	<b>2.1E-03</b>	<b>9.2E-03</b>	
<b>Fluorene</b>	<b>2.4E-05</b>	<b>1.1E-04</b>	
<b>Hexane</b>	<b>2.8E-02</b>	<b>1.2E-01</b>	
<b>Methanol</b>	<b>2.6E-04</b>	<b>1.1E-03</b>	
<b>Methyl isobutyl ketone</b>	<b>2.2E-02</b>	<b>9.5E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>2.1E-02</b>	<b>9.2E-02</b>	
<b>Naphthalene</b>	<b>5.1E-04</b>	<b>2.2E-03</b>	
<b>Phenanthrene</b>	<b>1.0E-04</b>	<b>4.4E-04</b>	
<b>Phenol</b>	<b>6.1E-05</b>	<b>2.7E-04</b>	
<b>Pyrene</b>	<b>2.6E-05</b>	<b>1.2E-04</b>	
<b>Styrene</b>	<b>4.5E-03</b>	<b>2.0E-02</b>	
<b>Toluene</b>	<b>1.2E-02</b>	<b>5.3E-02</b>	
<b>Xylene</b>	<b>9.5E-03</b>	<b>4.1E-02</b>	
<b>VOC</b>	<b>1.20E-01</b>	<b>5.24E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
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Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



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NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0010</b>		
Capacity	Barrels <b>64,996</b>	Gallons <b>2,729,832</b>		
Dimensions	Diameter <b>88'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Gasoline, (RVP 13-15 psi)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>13-15</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>416,780</b>	Tank Turnovers per Year <b>55.73</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>2.4E-04</b>	<b>1.0E-03</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>1.6E-05</b>	<b>7.1E-05</b>	
<b>Benzene</b>	<b>4.7E-03</b>	<b>2.1E-02</b>	
<b>Biphenyl</b>	<b>1.1E-05</b>	<b>5.0E-05</b>	
<b>Chrysene</b>	<b>1.4E-05</b>	<b>6.2E-05</b>	
<b>Cresol</b>	<b>8.8E-04</b>	<b>3.8E-03</b>	
<b>Cumene</b>	<b>1.0E-03</b>	<b>4.4E-03</b>	
<b>Ethylbenzene</b>	<b>2.1E-03</b>	<b>9.2E-03</b>	
<b>Fluorene</b>	<b>2.4E-05</b>	<b>1.1E-04</b>	
<b>Hexane</b>	<b>2.8E-02</b>	<b>1.2E-01</b>	
<b>Methanol</b>	<b>2.6E-04</b>	<b>1.1E-03</b>	
<b>Methyl isobutyl ketone</b>	<b>2.2E-02</b>	<b>9.5E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>2.1E-02</b>	<b>9.2E-02</b>	
<b>Naphthalene</b>	<b>5.1E-04</b>	<b>2.2E-03</b>	
<b>Phenanthrene</b>	<b>1.0E-04</b>	<b>4.4E-04</b>	
<b>Phenol</b>	<b>6.1E-05</b>	<b>2.7E-04</b>	
<b>Pyrene</b>	<b>2.6E-05</b>	<b>1.2E-04</b>	
<b>Styrene</b>	<b>4.5E-03</b>	<b>2.0E-02</b>	
<b>Toluene</b>	<b>1.2E-02</b>	<b>5.3E-02</b>	
<b>Xylene</b>	<b>9.5E-03</b>	<b>4.1E-02</b>	
<b>VOC</b>	<b>1.20E-01</b>	<b>5.24E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
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NORTH DAKOTA DEPARTMENT OF HEALTH  
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SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

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Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0011</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Jet Fuel, (TVP 0.04 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.04</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>89,250</b>	Tank Turnovers per Year <b>23.28</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-05</b>	<b>5.1E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>7.9E-07</b>	<b>3.5E-06</b>	
<b>Benzene</b>	<b>1.8E-04</b>	<b>7.8E-04</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>6.9E-07</b>	<b>3.0E-06</b>	
<b>Cresol</b>	<b>6.3E-07</b>	<b>2.7E-06</b>	
<b>Cumene</b>	<b>3.3E-05</b>	<b>1.4E-04</b>	
<b>Ethylbenzene</b>	<b>5.9E-05</b>	<b>2.6E-04</b>	
<b>Fluorene</b>	<b>1.2E-06</b>	<b>5.2E-06</b>	
<b>Hexane</b>	<b>1.6E-03</b>	<b>6.9E-03</b>	
<b>Methanol</b>	<b>1.3E-05</b>	<b>5.5E-05</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-03</b>	<b>4.6E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>1.3E-05</b>	<b>5.8E-05</b>	
<b>Phenanthrene</b>	<b>5.0E-06</b>	<b>2.2E-05</b>	
<b>Phenol</b>	<b>2.2E-06</b>	<b>9.7E-06</b>	
<b>Pyrene</b>	<b>1.3E-06</b>	<b>5.6E-06</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>3.3E-04</b>	<b>1.4E-03</b>	
<b>Xylene</b>	<b>2.3E-04</b>	<b>1.0E-03</b>	
<b>VOC</b>	<b>2.57E-02</b>	<b>1.13E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant		Date	09/26/2016
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Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
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Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

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County <b>Billings</b>		Source ID Number <b>203-T-0012</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Jet Fuel, (TVP 0.04 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.04</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>89,250</b>	Tank Turnovers per Year <b>23.28</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-05</b>	<b>5.1E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>7.9E-07</b>	<b>3.5E-06</b>	
<b>Benzene</b>	<b>1.8E-04</b>	<b>7.8E-04</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>6.9E-07</b>	<b>3.0E-06</b>	
<b>Cresol</b>	<b>6.3E-07</b>	<b>2.7E-06</b>	
<b>Cumene</b>	<b>3.3E-05</b>	<b>1.4E-04</b>	
<b>Ethylbenzene</b>	<b>5.9E-05</b>	<b>2.6E-04</b>	
<b>Fluorene</b>	<b>1.2E-06</b>	<b>5.2E-06</b>	
<b>Hexane</b>	<b>1.6E-03</b>	<b>6.9E-03</b>	
<b>Methanol</b>	<b>1.3E-05</b>	<b>5.5E-05</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-03</b>	<b>4.6E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>1.3E-05</b>	<b>5.8E-05</b>	
<b>Phenanthrene</b>	<b>5.0E-06</b>	<b>2.2E-05</b>	
<b>Phenol</b>	<b>2.2E-06</b>	<b>9.7E-06</b>	
<b>Pyrene</b>	<b>1.3E-06</b>	<b>5.6E-06</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>3.3E-04</b>	<b>1.4E-03</b>	
<b>Xylene</b>	<b>2.3E-04</b>	<b>1.0E-03</b>	
<b>VOC</b>	<b>2.57E-02</b>	<b>1.13E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
--	--------------------

**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0013</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input checked="" type="checkbox"/> Other – Specify: <b>Cone Roof</b>			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Undesulphurized Diesel, (TVP 0.004 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.004</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>41.67</b>
Average Throughput (gallons per day) <b>88,208.4</b>	Tank Turnovers per Year <b>27.61</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	

**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-05</b>	<b>5.1E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>7.9E-07</b>	<b>3.5E-06</b>	
<b>Benzene</b>	<b>1.8E-04</b>	<b>7.8E-04</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>6.9E-07</b>	<b>3.0E-06</b>	
<b>Cresol</b>	<b>6.3E-07</b>	<b>2.7E-06</b>	
<b>Cumene</b>	<b>3.3E-05</b>	<b>1.4E-04</b>	
<b>Ethylbenzene</b>	<b>5.9E-05</b>	<b>2.6E-04</b>	
<b>Fluorene</b>	<b>1.2E-06</b>	<b>5.2E-06</b>	
<b>Hexane</b>	<b>1.6E-03</b>	<b>6.9E-03</b>	
<b>Methanol</b>	<b>1.3E-05</b>	<b>5.5E-05</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-03</b>	<b>4.6E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>1.3E-05</b>	<b>5.8E-05</b>	
<b>Phenanthrene</b>	<b>5.0E-06</b>	<b>2.2E-05</b>	
<b>Phenol</b>	<b>2.2E-06</b>	<b>9.7E-06</b>	
<b>Pyrene</b>	<b>1.3E-06</b>	<b>5.6E-06</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>3.3E-04</b>	<b>1.4E-03</b>	
<b>Xylene</b>	<b>2.3E-04</b>	<b>1.0E-03</b>	
<b>VOC</b>	<b>4.29E-03</b>	<b>1.88E-02</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0014</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input checked="" type="checkbox"/> Other – Specify: <b>Cone Roof</b>			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Undesulphurized Diesel, (TVP 0.004 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.004</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>41.67</b>
Average Throughput (gallons per day) <b>88,208.4</b>	Tank Turnovers per Year <b>27.61</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	

**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-05</b>	<b>5.1E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>7.9E-07</b>	<b>3.5E-06</b>	
<b>Benzene</b>	<b>1.8E-04</b>	<b>7.8E-04</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>6.9E-07</b>	<b>3.0E-06</b>	
<b>Cresol</b>	<b>6.3E-07</b>	<b>2.7E-06</b>	
<b>Cumene</b>	<b>3.3E-05</b>	<b>1.4E-04</b>	
<b>Ethylbenzene</b>	<b>5.9E-05</b>	<b>2.6E-04</b>	
<b>Fluorene</b>	<b>1.2E-06</b>	<b>5.2E-06</b>	
<b>Hexane</b>	<b>1.6E-03</b>	<b>6.9E-03</b>	
<b>Methanol</b>	<b>1.3E-05</b>	<b>5.5E-05</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-03</b>	<b>4.6E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>1.3E-05</b>	<b>5.8E-05</b>	
<b>Phenanthrene</b>	<b>5.0E-06</b>	<b>2.2E-05</b>	
<b>Phenol</b>	<b>2.2E-06</b>	<b>9.7E-06</b>	
<b>Pyrene</b>	<b>1.3E-06</b>	<b>5.6E-06</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>3.3E-04</b>	<b>1.4E-03</b>	
<b>Xylene</b>	<b>2.3E-04</b>	<b>1.0E-03</b>	
<b>VOC</b>	<b>4.29E-03</b>	<b>1.88E-02</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
--	--------------------

SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

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Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0015</b>		
Capacity	Barrels <b>64,996</b>	Gallons <b>2,729,832</b>		
Dimensions	Diameter <b>88'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input checked="" type="checkbox"/> Other – Specify: <b>Cone Roof</b>			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Desulphurized Diesel, (TVP 0.004 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.004</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>13.67</b>
Average Throughput (gallons per day) <b>351,792</b>	Tank Turnovers per Year <b>56.44</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>2.3E-05</b>	<b>9.9E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>1.5E-06</b>	<b>6.8E-06</b>	
<b>Benzene</b>	<b>3.5E-04</b>	<b>1.5E-03</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>1.4E-06</b>	<b>5.9E-06</b>	
<b>Cresol</b>	<b>1.2E-06</b>	<b>5.4E-06</b>	
<b>Cumene</b>	<b>6.4E-05</b>	<b>2.8E-04</b>	
<b>Ethylbenzene</b>	<b>1.2E-04</b>	<b>5.1E-04</b>	
<b>Fluorene</b>	<b>2.3E-06</b>	<b>1.0E-05</b>	
<b>Hexane</b>	<b>3.1E-03</b>	<b>1.4E-02</b>	
<b>Methanol</b>	<b>2.4E-05</b>	<b>1.1E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>2.1E-03</b>	<b>9.0E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>2.6E-05</b>	<b>1.1E-04</b>	
<b>Phenanthrene</b>	<b>9.7E-06</b>	<b>4.2E-05</b>	
<b>Phenol</b>	<b>4.3E-06</b>	<b>1.9E-05</b>	
<b>Pyrene</b>	<b>2.5E-06</b>	<b>1.1E-05</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>6.4E-04</b>	<b>2.8E-03</b>	
<b>Xylene</b>	<b>4.5E-04</b>	<b>2.0E-03</b>	
<b>VOC</b>	<b>7.95E-03</b>	<b>3.48E-02</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant		Date	09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0016</b>		
Capacity	Barrels <b>64,996</b>	Gallons <b>2,729,832</b>		
Dimensions	Diameter <b>88'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input checked="" type="checkbox"/> Other – Specify: <b>Cone Roof</b>			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Desulphurized Diesel, (TVP 0.004 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.004</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>13.67</b>
Average Throughput (gallons per day) <b>351,792</b>	Tank Turnovers per Year <b>56.44</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>2.3E-05</b>	<b>9.9E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>1.5E-06</b>	<b>6.8E-06</b>	
<b>Benzene</b>	<b>3.5E-04</b>	<b>1.5E-03</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>1.4E-06</b>	<b>5.9E-06</b>	
<b>Cresol</b>	<b>1.2E-06</b>	<b>5.4E-06</b>	
<b>Cumene</b>	<b>6.4E-05</b>	<b>2.8E-04</b>	
<b>Ethylbenzene</b>	<b>1.2E-04</b>	<b>5.1E-04</b>	
<b>Fluorene</b>	<b>2.3E-06</b>	<b>1.0E-05</b>	
<b>Hexane</b>	<b>3.1E-03</b>	<b>1.4E-02</b>	
<b>Methanol</b>	<b>2.4E-05</b>	<b>1.1E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>2.1E-03</b>	<b>9.0E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>2.6E-05</b>	<b>1.1E-04</b>	
<b>Phenanthrene</b>	<b>9.7E-06</b>	<b>4.2E-05</b>	
<b>Phenol</b>	<b>4.3E-06</b>	<b>1.9E-05</b>	
<b>Pyrene</b>	<b>2.5E-06</b>	<b>1.1E-05</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>6.4E-04</b>	<b>2.8E-03</b>	
<b>Xylene</b>	<b>4.5E-04</b>	<b>2.0E-03</b>	
<b>VOC</b>	<b>7.95E-03</b>	<b>3.48E-02</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant		Date	09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

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Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0017</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input checked="" type="checkbox"/> Other – Specify: <b>Cone Roof</b>			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Vacuum Gasoil, (TVP 0,00002 – 0,00003 )**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0,00002 – 0,00003</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>41.67</b>
Average Throughput (gallons per day) <b>124,740</b>	Tank Turnovers per Year <b>39.05</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-05</b>	<b>5.1E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>7.9E-07</b>	<b>3.5E-06</b>	
<b>Benzene</b>	<b>1.8E-04</b>	<b>7.8E-04</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>6.9E-07</b>	<b>3.0E-06</b>	
<b>Cresol</b>	<b>6.3E-07</b>	<b>2.7E-06</b>	
<b>Cumene</b>	<b>3.3E-05</b>	<b>1.4E-04</b>	
<b>Ethylbenzene</b>	<b>5.9E-05</b>	<b>2.6E-04</b>	
<b>Fluorene</b>	<b>1.2E-06</b>	<b>5.2E-06</b>	
<b>Hexane</b>	<b>1.6E-03</b>	<b>6.9E-03</b>	
<b>Methanol</b>	<b>1.3E-05</b>	<b>5.5E-05</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-03</b>	<b>4.6E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>1.3E-05</b>	<b>5.8E-05</b>	
<b>Phenanthrene</b>	<b>5.0E-06</b>	<b>2.2E-05</b>	
<b>Phenol</b>	<b>2.2E-06</b>	<b>9.7E-06</b>	
<b>Pyrene</b>	<b>1.3E-06</b>	<b>5.6E-06</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>3.3E-04</b>	<b>1.4E-03</b>	
<b>Xylene</b>	<b>2.3E-04</b>	<b>1.0E-03</b>	
<b>VOC</b>	<b>1.97E-03</b>	<b>8.64E-03</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant		Date	09/26/2016
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Applicant's Name <b>Tom Williams</b>		
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Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0018</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**FCC Naphtha, (RVP 15 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>15</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>181,146</b>	Tank Turnovers per Year <b>26.78</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-04</b>	<b>5.3E-04</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>8.3E-06</b>	<b>3.6E-05</b>	
<b>Benzene</b>	<b>2.4E-03</b>	<b>1.1E-02</b>	
<b>Biphenyl</b>	<b>5.9E-06</b>	<b>2.6E-05</b>	
<b>Chrysene</b>	<b>7.3E-06</b>	<b>3.2E-05</b>	
<b>Cresol</b>	<b>4.5E-04</b>	<b>2.0E-03</b>	
<b>Cumene</b>	<b>5.2E-04</b>	<b>2.3E-03</b>	
<b>Ethylbenzene</b>	<b>1.1E-03</b>	<b>4.7E-03</b>	
<b>Fluorene</b>	<b>1.2E-05</b>	<b>5.5E-05</b>	
<b>Hexane</b>	<b>1.5E-02</b>	<b>6.4E-02</b>	
<b>Methanol</b>	<b>1.3E-04</b>	<b>5.8E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-02</b>	<b>4.9E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>1.1E-02</b>	<b>4.7E-02</b>	
<b>Naphthalene</b>	<b>2.6E-04</b>	<b>1.2E-03</b>	
<b>Phenanthrene</b>	<b>5.2E-05</b>	<b>2.3E-04</b>	
<b>Phenol</b>	<b>3.1E-05</b>	<b>1.4E-04</b>	
<b>Pyrene</b>	<b>1.4E-05</b>	<b>5.9E-05</b>	
<b>Styrene</b>	<b>2.3E-03</b>	<b>1.0E-02</b>	
<b>Toluene</b>	<b>6.2E-03</b>	<b>2.7E-02</b>	
<b>Xylene</b>	<b>4.8E-03</b>	<b>2.1E-02</b>	
<b>VOC</b>	<b>9.60E-02</b>	<b>4.20E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
--	--------------------

**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0019</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**FCC Naphtha, (RVP 15 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>15</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>181,146</b>	Tank Turnovers per Year <b>26.78</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-04</b>	<b>5.3E-04</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>8.3E-06</b>	<b>3.6E-05</b>	
<b>Benzene</b>	<b>2.4E-03</b>	<b>1.1E-02</b>	
<b>Biphenyl</b>	<b>5.9E-06</b>	<b>2.6E-05</b>	
<b>Chrysene</b>	<b>7.3E-06</b>	<b>3.2E-05</b>	
<b>Cresol</b>	<b>4.5E-04</b>	<b>2.0E-03</b>	
<b>Cumene</b>	<b>5.2E-04</b>	<b>2.3E-03</b>	
<b>Ethylbenzene</b>	<b>1.1E-03</b>	<b>4.7E-03</b>	
<b>Fluorene</b>	<b>1.2E-05</b>	<b>5.5E-05</b>	
<b>Hexane</b>	<b>1.5E-02</b>	<b>6.4E-02</b>	
<b>Methanol</b>	<b>1.3E-04</b>	<b>5.8E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-02</b>	<b>4.9E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>1.1E-02</b>	<b>4.7E-02</b>	
<b>Naphthalene</b>	<b>2.6E-04</b>	<b>1.2E-03</b>	
<b>Phenanthrene</b>	<b>5.2E-05</b>	<b>2.3E-04</b>	
<b>Phenol</b>	<b>3.1E-05</b>	<b>1.4E-04</b>	
<b>Pyrene</b>	<b>1.4E-05</b>	<b>5.9E-05</b>	
<b>Styrene</b>	<b>2.3E-03</b>	<b>1.0E-02</b>	
<b>Toluene</b>	<b>6.2E-03</b>	<b>2.7E-02</b>	
<b>Xylene</b>	<b>4.8E-03</b>	<b>2.1E-02</b>	
<b>VOC</b>	<b>9.60E-02</b>	<b>4.20E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
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NORTH DAKOTA DEPARTMENT OF HEALTH  
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SFN 8535 (10-13)

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Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0020</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Alkylate, (RVP 4 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure 4

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>102,648</b>	Tank Turnovers per Year <b>26.78</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1,2E-04</b>	<b>5,3E-04</b>	<p>VOC from TANKS 4.0.9d software modeled runs.</p> <p>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</p> <p>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</p>
<b>Anthracene</b>	<b>8,3E-06</b>	<b>3,6E-05</b>	
<b>Benzene</b>	<b>2,4E-03</b>	<b>1,1E-02</b>	
<b>Biphenyl</b>	<b>5,9E-06</b>	<b>2,6E-05</b>	
<b>Chrysene</b>	<b>7,3E-06</b>	<b>3,2E-05</b>	
<b>Cresol</b>	<b>4,5E-04</b>	<b>2,0E-03</b>	
<b>Cumene</b>	<b>5,2E-04</b>	<b>2,3E-03</b>	
<b>Ethylbenzene</b>	<b>1,1E-03</b>	<b>4,7E-03</b>	
<b>Fluorene</b>	<b>1,2E-05</b>	<b>5,5E-05</b>	
<b>Hexane</b>	<b>1,5E-02</b>	<b>6,4E-02</b>	
<b>Methanol</b>	<b>1,3E-04</b>	<b>5,8E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>1,1E-02</b>	<b>4,9E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>1,1E-02</b>	<b>4,7E-02</b>	
<b>Naphthalene</b>	<b>2,6E-04</b>	<b>1,2E-03</b>	
<b>Phenanthrene</b>	<b>5,2E-05</b>	<b>2,3E-04</b>	
<b>Phenol</b>	<b>3,1E-05</b>	<b>1,4E-04</b>	
<b>Pyrene</b>	<b>1,4E-05</b>	<b>5,9E-05</b>	
<b>Styrene</b>	<b>2,3E-03</b>	<b>1,0E-02</b>	
<b>Toluene</b>	<b>6,2E-03</b>	<b>2,7E-02</b>	
<b>Xylene</b>	<b>4,8E-03</b>	<b>2,1E-02</b>	
<b>VOC</b>	<b>6.27E-02</b>	<b>2.74E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant		Date	09/26/2016
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**SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:**

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918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
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DIVISION OF AIR QUALITY  
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Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
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Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0021</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input checked="" type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input checked="" type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input type="checkbox"/> Other – Specify:			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input checked="" type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Alkylate, (RVP 4 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure <b>4</b>

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>N/A</b>
Average Throughput (gallons per day) <b>102,648</b>	Tank Turnovers per Year <b>26.78</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1,2E-04</b>	<b>5,3E-04</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>8,3E-06</b>	<b>3,6E-05</b>	
<b>Benzene</b>	<b>2,4E-03</b>	<b>1,1E-02</b>	
<b>Biphenyl</b>	<b>5,9E-06</b>	<b>2,6E-05</b>	
<b>Chrysene</b>	<b>7,3E-06</b>	<b>3,2E-05</b>	
<b>Cresol</b>	<b>4,5E-04</b>	<b>2,0E-03</b>	
<b>Cumene</b>	<b>5,2E-04</b>	<b>2,3E-03</b>	
<b>Ethylbenzene</b>	<b>1,1E-03</b>	<b>4,7E-03</b>	
<b>Fluorene</b>	<b>1,2E-05</b>	<b>5,5E-05</b>	
<b>Hexane</b>	<b>1,5E-02</b>	<b>6,4E-02</b>	
<b>Methanol</b>	<b>1,3E-04</b>	<b>5,8E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>1,1E-02</b>	<b>4,9E-02</b>	
<b>Methyl tertiary-butyl ether</b>	<b>1,1E-02</b>	<b>4,7E-02</b>	
<b>Naphthalene</b>	<b>2,6E-04</b>	<b>1,2E-03</b>	
<b>Phenanthrene</b>	<b>5,2E-05</b>	<b>2,3E-04</b>	
<b>Phenol</b>	<b>3,1E-05</b>	<b>1,4E-04</b>	
<b>Pyrene</b>	<b>1,4E-05</b>	<b>5,9E-05</b>	
<b>Styrene</b>	<b>2,3E-03</b>	<b>1,0E-02</b>	
<b>Toluene</b>	<b>6,2E-03</b>	<b>2,7E-02</b>	
<b>Xylene</b>	<b>4,8E-03</b>	<b>2,1E-02</b>	
<b>VOC</b>	<b>6.27E-02</b>	<b>2.74E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant		Date	09/26/2016
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City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
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Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

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County <b>Billings</b>		Source ID Number <b>203-T-0022</b>		
Capacity	Barrels <b>33,312</b>	Gallons <b>1,399,104</b>		
Dimensions	Diameter <b>63'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input checked="" type="checkbox"/> Other – Specify: <b>Cone Roof</b>			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Diluent, (TVP 0.004 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.004</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>41.67</b>
Average Throughput (gallons per day) <b>39,564</b>	Tank Turnovers per Year <b>0.01</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	


**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>1.2E-05</b>	<b>5.1E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>7.9E-07</b>	<b>3.5E-06</b>	
<b>Benzene</b>	<b>1.8E-04</b>	<b>7.8E-04</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>6.9E-07</b>	<b>3.0E-06</b>	
<b>Cresol</b>	<b>6.3E-07</b>	<b>2.7E-06</b>	
<b>Cumene</b>	<b>3.3E-05</b>	<b>1.4E-04</b>	
<b>Ethylbenzene</b>	<b>5.9E-05</b>	<b>2.6E-04</b>	
<b>Fluorene</b>	<b>1.2E-06</b>	<b>5.2E-06</b>	
<b>Hexane</b>	<b>1.6E-03</b>	<b>6.9E-03</b>	
<b>Methanol</b>	<b>1.3E-05</b>	<b>5.5E-05</b>	
<b>Methyl isobutyl ketone</b>	<b>1.1E-03</b>	<b>4.6E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>1.3E-05</b>	<b>5.8E-05</b>	
<b>Phenanthrene</b>	<b>5.0E-06</b>	<b>2.2E-05</b>	
<b>Phenol</b>	<b>2.2E-06</b>	<b>9.7E-06</b>	
<b>Pyrene</b>	<b>1.3E-06</b>	<b>5.6E-06</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>3.3E-04</b>	<b>1.4E-03</b>	
<b>Xylene</b>	<b>2.3E-04</b>	<b>1.0E-03</b>	
<b>VOC</b>	<b>3.73E-02</b>	<b>1.63E-01</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)

**SECTION I – STANDARDS OF PERFORMANCE**

Tank subject to:	<input type="checkbox"/> 40 CFR 60, Subpart K	<input type="checkbox"/> 40 CFR 60, Subpart Ka	<input checked="" type="checkbox"/> 40 CFR 60, Subpart Kb
Are the standards of performance for new stationary sources; petroleum liquid storage vessels, 40 CFR Part 60, Subparts K, Ka, and Kb being adhered to, where applicable? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No – Explain:			

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:

North Dakota Department of Health  
Division of Air Quality  
918 E Divide Ave., 2nd Floor  
Bismarck, ND 58501-1947  
(701) 328-5188



**PERMIT APPLICATION FOR  
VOLATILE ORGANIC COMPOUNDS STORAGE TANK**  
NORTH DAKOTA DEPARTMENT OF HEALTH  
DIVISION OF AIR QUALITY  
SFN 8535 (10-13)

**SECTION A – FACILITY INFORMATION**

Name of Firm or Organization <b>Meridian Energy Group – Davis Refinery</b>		
Applicant's Name <b>Tom Williams</b>		
Title <b>VP of Planning &amp; Permitting</b>	Telephone Number <b>(707) 299-0182</b>	E-mail Address <b>twilliams@meridianenergygroup.inc</b>
Mailing Address (Street & No.) <b>2062 Business Center Drive, Suite 115</b>		
City <b>Irvine</b>	State <b>CA</b>	ZIP Code <b>92612</b>
Contact Person for Air Pollution Matters <b>Tom Johnson</b>		
Title <b>Vice President of Operations</b>	Telephone Number <b>(409)795-0792</b>	E-mail Address <b>tjohnson@meridianenergygroup.inc</b>

**SECTION B – TANK DATA**

Legal Description of Facility Site <b>Property ID 07 0000 00165 000 in the SE 1/4 of Section 2, Twp 139N, Range 100W and Property ID: 07 0000 00162 000 in the NW1/4 and SW 1/4 of Section 1, Twp 139N, Range 100W</b>				
County <b>Billings</b>		Source ID Number <b>203-T-0023</b>		
Capacity	Barrels <b>64,996</b>	Gallons <b>2,729,832</b>		
Dimensions	Diameter <b>88'</b>	Height <b>60'</b>	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	<b>Carbon Steel</b>			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	<b>Beige</b>			
Condition	<input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor			
Status	<input checked="" type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing (Give Date Constructed):			
Type of Tank	<input checked="" type="checkbox"/> Fixed Roof <input type="checkbox"/> External Floating <input type="checkbox"/> Variable Vapor Space <input type="checkbox"/> Internal Floating <input type="checkbox"/> Pressure (low or high) <input type="checkbox"/> Other – Specify:			
Type of Roof	<input type="checkbox"/> Pan <input type="checkbox"/> Double Deck <input type="checkbox"/> Pontoon <input checked="" type="checkbox"/> Other – Specify: <b>Cone Roof</b>			
Type of Seal	Metallic Shoe Seal	Liquid Mounted Resilient Seal	Vapor Mounted Resilient Seal	
	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Shoe Mounted Secondary Seal	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	<input type="checkbox"/> Primary Seal Only <input type="checkbox"/> With Rim Mounted Seal <input type="checkbox"/> With Weather Shield	

**SECTION C – TANK CONTENTS**

**Fuel Oil, (TVP 0.000028 psia)**

**SECTION D – VAPOR DISPOSAL**

Atmosphere     Vapor Recovery Unit     Flare     Other – Specify:

**SECTION E – VAPOR PRESSURE DATA**

psia	
Maximum True Vapor Pressure <b>0.000028</b>	Maximum Reid Vapor Pressure -

**SECTION F – OPERATIONAL DATA**

Maximum Filling Rate (barrels per hour or gallons per hour) <b>TBD</b>	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) <b>14</b>
Average Throughput (gallons per day) <b>131,880</b>	Tank Turnovers per Year <b>21.16</b>

**SECTION G – SOLUTION STORAGE**

If material stored is a solution, supply the following information:	
Name of Solvent <b>N/A</b>	Name of Material Dissolved <b>N/A</b>
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) <b>N/A</b>	

**SECTION H – AIR CONTAMINANTS EMITTED**

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
<b>2-Methyl naphthalene</b>	<b>2.3E-05</b>	<b>9.9E-05</b>	<p><b>VOC from TANKS 4.0.9d software modeled runs.</b></p> <p><b>HAPs from Table 3-3 of the Emissions Estimation Protocol for Petroleum Refineries</b></p> <p><b>See Document P-5715043-01-001-18042-I001 "EMISSIONS INVENTORY" and P-5715043-01-001-18035-I001 "BACT Analysis"</b></p>
<b>Anthracene</b>	<b>1.5E-06</b>	<b>6.8E-06</b>	
<b>Benzene</b>	<b>3.5E-04</b>	<b>1.5E-03</b>	
<b>Biphenyl</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Chrysene</b>	<b>1.4E-06</b>	<b>5.9E-06</b>	
<b>Cresol</b>	<b>1.2E-06</b>	<b>5.4E-06</b>	
<b>Cumene</b>	<b>6.4E-05</b>	<b>2.8E-04</b>	
<b>Ethylbenzene</b>	<b>1.2E-04</b>	<b>5.1E-04</b>	
<b>Fluorene</b>	<b>2.3E-06</b>	<b>1.0E-05</b>	
<b>Hexane</b>	<b>3.1E-03</b>	<b>1.4E-02</b>	
<b>Methanol</b>	<b>2.4E-05</b>	<b>1.1E-04</b>	
<b>Methyl isobutyl ketone</b>	<b>2.1E-03</b>	<b>9.0E-03</b>	
<b>Methyl tertiary-butyl ether</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Naphthalene</b>	<b>2.6E-05</b>	<b>1.1E-04</b>	
<b>Phenanthrene</b>	<b>9.7E-06</b>	<b>4.2E-05</b>	
<b>Phenol</b>	<b>4.3E-06</b>	<b>1.9E-05</b>	
<b>Pyrene</b>	<b>2.5E-06</b>	<b>1.1E-05</b>	
<b>Styrene</b>	<b>0.0E+00</b>	<b>0.0E+00</b>	
<b>Toluene</b>	<b>6.4E-04</b>	<b>2.8E-03</b>	
<b>Xylene</b>	<b>4.5E-04</b>	<b>2.0E-03</b>	
<b>VOC</b>	<b>9.42E-04</b>	<b>4.13E-03</b>	

\* Include an estimate of greenhouse gas emissions (CO<sub>2</sub>e)