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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: 3293199
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Filing Accepted

Envelope Number: 3293199
 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	
Court	Burleigh County - South Central District
Case Number	08-2018-CV-02937
Case Style	Environmental Law and Policy Center, et al. vs. North Dakota Public Service Commission, et al.
Date/Time Submitted	1/31/2019 6:34 PM CST
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Filed By	John Hamre
Filing Attorney	Illona Jeffcoat-Sacco

Document Details	
Lead Document	CR Exhibit 25 Record Addition 8 part 3 air permit application.pdf
Lead Document Page Count	150

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Pollutant Emitted Ethylbenzene	Chemical Abstract Services (CAS) Number 100-41-4
Proposed Emission Rate (lb/hr) 1.50×10^{-5}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) 1.15×10^{-3}	Vapor Pressure (in. Hg @ °F) 0.37 in Hg @ 77°F
Solubility In water 0.014 g/100mL @ 59 °F	Molecular Weight (lb/lb-mole) 106.17
Absorptive Properties -	

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Pollutant Emitted Selenium	Chemical Abstract Services (CAS) Number 7782-49-2
Proposed Emission Rate (lb/hr) 3.30×10^{-6}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Inorganic/Particulate
Concentration in Emission Stream (ppmv) 3.39×10^{-4}	Vapor Pressure (in. Hg @ °F) 0.29 in Hg @ 807
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 78.96
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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

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

Inside Diameter (ft) 4.0	Height Above Grade (ft) 95.0	
Gas Temperature at Exit (°F) 785.5	Gas Velocity at Exit (ft/sec) 22.4	Gas Volume (scfm) 16,894.20
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Nearest Residences or Building Utility building	Distance (ft) 1,091 ft	Direction Southwest
Nearest Property Line Fenceline	Distance (ft) 536 ft	Direction East

SECTION C – EMISSION STREAM DATA

Source ID No. From SFN 8516 118-H-1801	Mean Particle Diameter (μm) TBD
Flow Rate (scfm) 16,894.20	Drift Velocity (ft/sec) 22.4
Stream Temperature ($^{\circ}\text{F}$) 785.5	Particulate Concentration (gr/dscf) TBD
Moisture Content (%) TBD	Halogens or Metals Present? Metals
Pressure (in. Hg) TBD	Organic Content (ppmv) 9.22×10^{-1}
Heat Content (Btu/scfm) TBD	O ₂ Content (%) N/A

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

Pollutant Emitted Acetaldehyde	Chemical Abstract Services (CAS) Number 75-07-0
Proposed Emission Rate (lb/hr) 2.53×10^{-4}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic Vapor
Concentration in Emission Stream (ppmv) 5.15×10^{-3}	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 35.51 in Hg @ 68°C
Solubility $1 \times 10^{+6}$ mg/L in water @ 77°F	Molecular Weight (lb/lb-mole) 44.05
Absorptive Properties -	

Pollutant Emitted Benzene	Chemical Abstract Services (CAS) Number 71-43-2
Proposed Emission Rate (lb/hr) 4.42×10^{-5}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) 5.08×10^{-4}	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 3.73 in Hg @ 77 °F
Solubility In water 1.79×10^3 mg/L @ 77 °F	Molecular Weight (lb/lb-mole) 78.11
Absorptive Properties -	

Pollutant Emitted Dichlorobenzene	Chemical Abstract Services (CAS) Number Varies
Proposed Emission Rate (lb/hr) 2.53×10^{-5}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) 1.54×10^{-4}	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) Varies
Solubility Varies	Molecular Weight (lb/lb-mole) 147.00
Absorptive Properties -	

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Signature of Applicant 	Date 09/26/2016
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SEND COMPLETED APPLICATION AND ALL ATTACHMENTS TO:
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 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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Kero Hydrotreater / Heater

SECTION B – STACK DATA

Inside Diameter (ft) 2.5	Height Above Grade (ft) 96.0	
Gas Temperature at Exit (°F) 764.3	Gas Velocity at Exit (ft/sec) 21.9	Gas Volume (scfm) 6,224.68
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Utility building	Distance (ft) 778 ft	Direction South
Nearest Property Line Fenceline	Distance (ft) 970 ft	Direction Southwest

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Pollutant Emitted Selenium	Chemical Abstract Services (CAS) Number 7782-49-2
Proposed Emission Rate (lb/hr) 1.10×10^{-5}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Inorganic/Particulate
Concentration in Emission Stream (ppmv) 3.34×10^{-4}	Vapor Pressure (in. Hg @ °F) 0.29 in Hg @ 807
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 78.96
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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Utility Boiler 1

SECTION B – STACK DATA

Inside Diameter (ft) 3.0	Height Above Grade (ft) 100	
Gas Temperature at Exit (°F) 294.2	Gas Velocity at Exit (ft/sec) 93.9	Gas Volume (scfm) 19,914.79
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Utility building	Distance (ft) 0 ft	Direction N/A
Nearest Property Line Fenceline	Distance (ft) 451 ft	Direction East

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Utility Boiler 2

SECTION B – STACK DATA

Inside Diameter (ft) 3.0	Height Above Grade (ft) 100	
Gas Temperature at Exit (°F) 294.2	Gas Velocity at Exit (ft/sec) 93.9	Gas Volume (scfm) 19,914.79
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Utility building	Distance (ft) 0 ft	Direction N/A
Nearest Property Line Fenceline	Distance (ft) 415 ft	Direction East

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

Pollutant Emitted Toluene	Chemical Abstract Services (CAS) Number 108-88-3
Proposed Emission Rate (lb/hr) 4.95 x10⁻⁵	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) 2.48x10⁻⁴	Vapor Pressure (in. Hg @ °F) 1.12 in Hg @ 77°F
Solubility In water 526 mg/L @ 77°F	Molecular Weight (lb/lb-mole) 92.14
Absorptive Properties -	

Pollutant Emitted Xylene	Chemical Abstract Services (CAS) Number 95-47-6
Proposed Emission Rate (lb/hr) 3.75x10⁻⁴	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) 1.63x10⁻³	Vapor Pressure (in. Hg @ °F) 0.26 in Hg @ 77°F
Solubility In water 178 mg/L @ 77°F	Molecular Weight (lb/lb-mole) 106.16
Absorptive Properties -	

Pollutant Emitted PAH	Chemical Abstract Services (CAS) Number N/A
Proposed Emission Rate (lb/hr) 6.39x10⁻⁵	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) 3.02x10⁻⁴	Vapor Pressure (in. Hg @ °F) N/A
Solubility N/A	Molecular Weight (lb/lb-mole) TBD
Absorptive Properties -	

Pollutant Emitted Antimony	Chemical Abstract Services (CAS) Number 7740-36-0
Proposed Emission Rate (lb/hr) 3.12x10⁻⁵	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Inorganic/particulate
Concentration in Emission Stream (ppmv) 1.18x10⁻⁴	Vapor Pressure (in. Hg @ °F) 0 in Hg @ 77°F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 121.76
Absorptive Properties -	

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

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

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

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

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

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

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

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

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

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

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

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Utility Boiler 3

SECTION B – STACK DATA

Inside Diameter (ft) 3.0	Height Above Grade (ft) 100	
Gas Temperature at Exit (°F) 294.2	Gas Velocity at Exit (ft/sec) 93.9	Gas Volume (scfm) 19,914.80
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Utility building	Distance (ft) 0 ft	Direction N/A
Nearest Property Line Fenceline	Distance (ft) 379 ft	Direction East

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Catalytic Reforming Unit / 107-H-0701
--

SECTION B – STACK DATA

Inside Diameter (ft) 6.0	Height Above Grade (ft) 42.0	
Gas Temperature at Exit (°F) 787.7	Gas Velocity at Exit (ft/sec) 27.2	Gas Volume (scfm) 19,541.61
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Utility building	Distance (ft) 268.4 ft	Direction South
Nearest Property Line Fenceline	Distance (ft) 810 ft	Direction Southeast

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

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

Pollutant Emitted Total Polychlorinated biphenyls (PCB)	Chemical Abstract Services (CAS) Number 1336-36-3
Proposed Emission Rate (lb/hr) 9.49×10^{-7}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic/ Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) TBD
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 291.98
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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

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

Inside Diameter (ft) 4.0	Height Above Grade (ft) 42.0	
Gas Temperature at Exit (°F) 786.2	Gas Velocity at Exit (ft/sec) 27.5	Gas Volume (scfm) 8,796.80
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Nearest Residences or Building Utility building	Distance (ft) 228 ft	Direction South
Nearest Property Line Fenceline	Distance (ft) 657 ft	Direction Southeast

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

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

Pollutant Emitted Total Polychlorinated biphenyls (PCB)	Chemical Abstract Services (CAS) Number 1336-36-3
Proposed Emission Rate (lb/hr) 4.29×10^{-7}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic/ Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) TBD
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 291.98
Absorptive Properties -	

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

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Firewater Diesel Pump
--

SECTION B – STACK DATA

Inside Diameter (ft) TBD	Height Above Grade (ft) TBD	
Gas Temperature at Exit (°F) TBD	Gas Velocity at Exit (ft/sec) TBD	Gas Volume (scfm) TBD
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Administrative building	Distance (ft) 336 ft	Direction South
Nearest Property Line Fenceline	Distance (ft) 494 ft	Direction East

SECTION C – EMISSION STREAM DATA

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

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

Pollutant Emitted Acetaldehyde	Chemical Abstract Services (CAS) Number 75-07-0
Proposed Emission Rate (lb/hr) 3.45×10^{-4}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic Vapor
Concentration in Emission Stream (ppmv) TBD	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 35.51 in Hg @ 68°C
Solubility 1×10^{-6} mg/L in water @ 77°F	Molecular Weight (lb/lb-mole) 44.05
Absorptive Properties -	

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

Pollutant Emitted Benzene	Chemical Abstract Services (CAS) Number 71-43-2
Proposed Emission Rate (lb/hr) 1.06×10^{-2}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic Vapor
Concentration in Emission Stream (ppmv) TBD	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 3.73 in Hg @ 77 °F
Solubility In water 1.79×10^3 mg/L @ 77 °F	Molecular Weight (lb/lb-mole) 78.11
Absorptive Properties -	

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


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

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

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

Pollutant Emitted Xylene	Chemical Abstract Services (CAS) Number 95-47-6
Proposed Emission Rate (lb/hr) 2.64x10³	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) TBD	Vapor Pressure (in. Hg @ °F) 0.26 in Hg @ 77°F
Solubility In water 178 mg/L @ 77°F	Molecular Weight (lb/lb-mole) 106.16
Absorptive Properties -	

Pollutant Emitted PAH	Chemical Abstract Services (CAS) Number N/A
Proposed Emission Rate (lb/hr) 1.12x10³	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) TBD	Vapor Pressure (in. Hg @ °F) N/A
Solubility N/A	Molecular Weight (lb/lb-mole) TBD
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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Diesel/Natural gas-fired emergency generator set

SECTION B – STACK DATA

Inside Diameter (ft) TBD	Height Above Grade (ft) TBD	
Gas Temperature at Exit (°F) TBD	Gas Velocity at Exit (ft/sec) TBD	Gas Volume (scfm) TBD
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Nearest Residences or Building Administrative building	Distance (ft) 300 ft	Direction East
Nearest Property Line Fenceline	Distance (ft) 690 ft	Direction East

SECTION C – EMISSION STREAM DATA

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

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

Pollutant Emitted Acetaldehyde	Chemical Abstract Services (CAS) Number 75-07-0
Proposed Emission Rate (lb/hr) 4.38×10^{-3}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic Vapor
Concentration in Emission Stream (ppmv) TBD	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 35.51 in Hg @ 68°C
Solubility $1 \times 10^{+6}$ mg/L in water @ 77°F	Molecular Weight (lb/lb-mole) 44.05
Absorptive Properties -	

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

Pollutant Emitted Benzene	Chemical Abstract Services (CAS) Number 71-43-2
Proposed Emission Rate (lb/hr) 1.35×10^{-1}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic Vapor
Concentration in Emission Stream (ppmv) TBD	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 3.73 in Hg @ 77 °F
Solubility In water 1.79×10^3 mg/L @ 77 °F	Molecular Weight (lb/lb-mole) 78.11
Absorptive Properties -	

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


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

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

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

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

Pollutant Emitted PAH	Chemical Abstract Services (CAS) Number N/A
Proposed Emission Rate (lb/hr) 1.42×10^{-2}	Emission Source (describe) Process Point
Source Classification (process point, process fugitive, area fugitive) Process Point	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) TBD	Vapor Pressure (in. Hg @ °F) N/A
Solubility N/A	Molecular Weight (lb/lb-mole) TBD
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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

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

Inside Diameter (ft) 4.0	Height Above Grade (ft) 120	
Gas Temperature at Exit (°F) 480	Gas Velocity at Exit (ft/sec) 64.8	Gas Volume (scfm) 28,110
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532 Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Nearest Residences or Building Utility building	Distance (ft) 783 ft	Direction Southwest
Nearest Property Line Fenceline	Distance (ft) 590 ft	Direction South

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / Process Leaks (Fugitive) - FUG-1

SECTION B – STACK DATA

Inside Diameter (ft) N/A	Height Above Grade (ft) N/A	
Gas Temperature at Exit (°F) N/A	Gas Velocity at Exit (ft/sec) N/A	Gas Volume (scfm) N/A
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Administrative building	Distance (ft) N/A	Direction N/A
Nearest Property Line Fenceline	Distance (ft) N/A	Direction N/A

SECTION C – EMISSION STREAM DATA

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

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

Pollutant Emitted 1,3-Butadiene	Chemical Abstract Services (CAS) Number 106-99-0
Proposed Emission Rate (lb/hr) 1.23×10^{-3}	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 72.34 in Hg @ 68 $^{\circ}\text{F}$
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 54.09
Absorptive Properties -	

Pollutant Emitted 2,2,4-trimethylpentane	Chemical Abstract Services (CAS) Number 540-84-1
Proposed Emission Rate (lb/hr) 1.18×10^1	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic/Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 1.50 in Hg @ 68 $^{\circ}\text{F}$
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 114.22
Absorptive Properties -	

Pollutant Emitted Benzene	Chemical Abstract Services (CAS) Number 71-43-2
Proposed Emission Rate (lb/hr) 3.60×10^{-2}	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ $^{\circ}\text{F}$) 3.73 in Hg @ 77 $^{\circ}\text{F}$
Solubility In water 1.79×10^3 mg/L @ 77 $^{\circ}\text{F}$	Molecular Weight (lb/lb-mole) 78.11
Absorptive Properties -	

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

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

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


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

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

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

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

Pollutant Emitted Xylene	Chemical Abstract Services (CAS) Number 95-47-6
Proposed Emission Rate (lb/hr) 1.14×10^{-1}	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 0.26 in Hg @ 77°F
Solubility In water 178 mg/L @ 77°F	Molecular Weight (lb/lb-mole) 106.16
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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process

Petroleum Refining / Sulfur Recovering Unit / Oxidizer Vent (OV) and Flash Drum Vent (FDV), both directed to a thermal oxidizer (122-H-2201)

SECTION B – STACK DATA

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

SECTION C – EMISSION STREAM DATA

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

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

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

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

Signature of Applicant	Date
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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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Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

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

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

Inside Diameter (ft) N/A	Height Above Grade (ft) N/A	
Gas Temperature at Exit (°F) N/A	Gas Velocity at Exit (ft/sec) N/A	Gas Volume (scfm) N/A
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Nearest Residences or Building Administrative building	Distance (ft) 1,230 ft	Direction East
Nearest Property Line Fenceline	Distance (ft) 310 ft	Direction South

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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


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

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

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

Pollutant Emitted Xylene	Chemical Abstract Services (CAS) Number 95-47-6
Proposed Emission Rate (lb/hr) 8.59x10⁻²	Emission Source (describe) Tank Farm
Source Classification (process point, process fugitive, area fugitive) Area Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic/Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 0.26 in Hg @ 77 °F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 106.17
Absorptive Properties -	

Pollutant Emitted Volatile Organic Compounds (VOC)	Chemical Abstract Services (CAS) Number N/A
Proposed Emission Rate (lb/hr) 2.09	Emission Source (describe) Tank Farm
Source Classification (process point, process fugitive, area fugitive) Area Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic/Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) N/A
Solubility -	Molecular Weight (lb/lb-mole) 0.11
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 Meridian Energy Group - Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612

SECTION A2 - FACILITY INFORMATION

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

Describe Nature of Business/Process Petroleum Refining / WasteWater Treatment Plant - 206WWT (Fugitive)

SECTION B – STACK DATA

Inside Diameter (ft) N/A	Height Above Grade (ft) N/A	
Gas Temperature at Exit (°F) N/A	Gas Velocity at Exit (ft/sec) N/A	Gas Volume (scfm) N/A
Basis of any Estimates (attach separate sheet if necessary) 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"		
Are Emission Control Devices in Place? If YES – Complete SFN 8532		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Nearest Residences or Building Administrative building	Distance (ft) 1,434 ft	Direction South
Nearest Property Line Fenceline	Distance (ft) 963 ft	Direction Northwest

SECTION C – EMISSION STREAM DATA

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

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

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

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

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

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

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

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

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

Pollutant Emitted Methyl tertiary-butyl ether	Chemical Abstract Services (CAS) Number
Proposed Emission Rate (lb/hr) 1.17x10⁻³	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 2.95 in Hg @ 154 °F
Solubility In water 4.2 g/100mL @ 68°F	Molecular Weight (lb/lb-mole) 88.15
Absorptive Properties -	

Pollutant Emitted Naphthalene	Chemical Abstract Services (CAS) Number 91-20-3
Proposed Emission Rate (lb/hr) 6.32x10⁻⁴	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 0.003 in Hg @ 77 °F
Solubility In water 31 mg/L @ 77 °F	Molecular Weight (lb/lb-mole) 128.17
Absorptive Properties -	


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

Pollutant Emitted Styrene	Chemical Abstract Services (CAS) Number 100-42-5
Proposed Emission Rate (lb/hr) 8.26 x10⁻³	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 0.25 in Hg @ 77°F
Solubility In water 300 mg/L @ 77°F	Molecular Weight (lb/lb-mole) 104.15
Absorptive Properties -	

Pollutant Emitted Toluene	Chemical Abstract Services (CAS) Number 108-88-3
Proposed Emission Rate (lb/hr) 1.39×10^{-2}	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 1.11 in Hg @ 77 °F
Solubility In water 526 mg/L @ 77 °F	Molecular Weight (lb/lb-mole) 92.14
Absorptive Properties -	

Pollutant Emitted Xylene	Chemical Abstract Services (CAS) Number 95-47-6
Proposed Emission Rate (lb/hr) 1.68×10^{-2}	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 0.26 in Hg @ 77°F
Solubility In water 178 mg/L @ 77°F	Molecular Weight (lb/lb-mole) 106.16
Absorptive Properties -	

Pollutant Emitted 1,3-Butadiene	Chemical Abstract Services (CAS) Number 106-99-0
Proposed Emission Rate (lb/hr) 1.00×10^{-5}	Emission Source (describe) Fugitive
Source Classification (process point, process fugitive, area fugitive) Process Fugitive	Pollutant Class and Form (organic/inorganic - particulate/vapor) Organic /Vapor
Concentration in Emission Stream (ppmv) N/A	Vapor Pressure (in. Hg @ °F) 72.34 in Hg @ 68 °F
Solubility Insoluble in water	Molecular Weight (lb/lb-mole) 54.09
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 Meridian Energy Group – Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409)795-0792	E-mail Address tjohnson@meridianenergygroup.inc

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0001		
Capacity	Barrels 110,999	Gallons 4,661,958		
Dimensions	Diameter 115'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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>

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 6.8 - 7

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
Benzene	3.06E-03	1.34E-02	VOC from TANKS 4.0.9d software modeled runs. HAPs 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"
Biphenyl	6.11E-05	2.68E-04	
Cresol	1.83E-04	8.03E-04	
Cumene	1.53E-04	6.69E-04	
Ethylbenzene	4.89E-04	2.14E-03	
Hexane	2.57E-02	1.12E-01	
Naphthalene	1.83E-04	8.03E-04	
Phenol	2.75E-04	1.20E-03	
Toluene	2.29E-03	1.00E-02	
Xylene	1.89E-03	8.30E-03	
VOC	2.80E-01	1.22E+00	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0002		
Capacity	Barrels 110,999	Gallons 4,661,958		
Dimensions	Diameter 115'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 6.8 - 7

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
Benzene	3.06E-03	1.34E-02	VOC from TANKS 4.0.9d software modeled runs. HAPs 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"
Biphenyl	6.11E-05	2.68E-04	
Cresol	1.83E-04	8.03E-04	
Cumene	1.53E-04	6.69E-04	
Ethylbenzene	4.89E-04	2.14E-03	
Hexane	2.57E-02	1.12E-01	
Naphthalene	1.83E-04	8.03E-04	
Phenol	2.75E-04	1.20E-03	
Toluene	2.29E-03	1.00E-02	
Xylene	1.89E-03	8.30E-03	
VOC	2.80E-01	1.22E+00	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0003		
Capacity	Barrels 110,999	Gallons 4,661,958		
Dimensions	Diameter 115'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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:
--	--	--------------------------------	---

SECTION E – VAPOR PRESSURE DATA

psia	
Maximum True Vapor Pressure -	Maximum Reid Vapor Pressure 6.8 - 7

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
Benzene	3.06E-03	1.34E-02	VOC from TANKS 4.0.9d software modeled runs. HAPs 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"
Biphenyl	6.11E-05	2.68E-04	
Cresol	1.83E-04	8.03E-04	
Cumene	1.53E-04	6.69E-04	
Ethylbenzene	4.89E-04	2.14E-03	
Hexane	2.57E-02	1.12E-01	
Naphthalene	1.83E-04	8.03E-04	
Phenol	2.75E-04	1.20E-03	
Toluene	2.29E-03	1.00E-02	
Xylene	1.89E-03	8.30E-03	
VOC	2.80E-01	1.22E+00	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0005		
Capacity	Barrels 64,996	Gallons 2,729,832		
Dimensions	Diameter 88'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 1.2

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	2.4E-04	1.0E-03	<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>
Anthracene	1.6E-05	7.1E-05	
Benzene	4.7E-03	2.1E-02	
Biphenyl	1.1E-05	5.0E-05	
Chrysene	1.4E-05	6.2E-05	
Cresol	8.8E-04	3.8E-03	
Cumene	1.0E-03	4.4E-03	
Ethylbenzene	2.1E-03	9.2E-03	
Fluorene	2.4E-05	1.1E-04	
Hexane	2.8E-02	1.2E-01	
Methanol	2.6E-04	1.1E-03	
Methyl isobutyl ketone	2.2E-02	9.5E-02	
Methyl tertiary-butyl ether	2.1E-02	9.2E-02	
Naphthalene	5.1E-04	2.2E-03	
Phenanthrene	1.0E-04	4.4E-04	
Phenol	6.1E-05	2.7E-04	
Pyrene	2.6E-05	1.2E-04	
Styrene	4.5E-03	2.0E-02	
Toluene	1.2E-02	5.3E-02	
Xylene	9.5E-03	4.1E-02	
VOC	3.95E-02	1.73E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0006		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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) TBD	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) N/A
Average Throughput (gallons per day) 179,793.60	Tank Turnovers per Year 46.90

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-04	5.3E-04	<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>
Anthracene	8.3E-06	3.6E-05	
Benzene	2.4E-03	1.1E-02	
Biphenyl	5.9E-06	2.6E-05	
Chrysene	7.3E-06	3.2E-05	
Cresol	4.5E-04	2.0E-03	
Cumene	5.2E-04	2.3E-03	
Ethylbenzene	1.1E-03	4.7E-03	
Fluorene	1.2E-05	5.5E-05	
Hexane	1.5E-02	6.4E-02	
Methanol	1.3E-04	5.8E-04	
Methyl isobutyl ketone	1.1E-02	4.9E-02	
Methyl tertiary-butyl ether	1.1E-02	4.7E-02	
Naphthalene	2.6E-04	1.2E-03	
Phenanthrene	5.2E-05	2.3E-04	
Phenol	3.1E-05	1.4E-04	
Pyrene	1.4E-05	5.9E-05	
Styrene	2.3E-03	1.0E-02	
Toluene	6.2E-03	2.7E-02	
Xylene	4.8E-03	2.1E-02	
VOC	5.92E-02	2.59E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0007		
Capacity	Barrels 33,312		Gallons 1,399,104	
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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) TBD	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) N/A
Average Throughput (gallons per day) 179,793.60	Tank Turnovers per Year 46.90

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-04	5.3E-04	<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>
Anthracene	8.3E-06	3.6E-05	
Benzene	2.4E-03	1.1E-02	
Biphenyl	5.9E-06	2.6E-05	
Chrysene	7.3E-06	3.2E-05	
Cresol	4.5E-04	2.0E-03	
Cumene	5.2E-04	2.3E-03	
Ethylbenzene	1.1E-03	4.7E-03	
Fluorene	1.2E-05	5.5E-05	
Hexane	1.5E-02	6.4E-02	
Methanol	1.3E-04	5.8E-04	
Methyl isobutyl ketone	1.1E-02	4.9E-02	
Methyl tertiary-butyl ether	1.1E-02	4.7E-02	
Naphthalene	2.6E-04	1.2E-03	
Phenanthrene	5.2E-05	2.3E-04	
Phenol	3.1E-05	1.4E-04	
Pyrene	1.4E-05	5.9E-05	
Styrene	2.3E-03	1.0E-02	
Toluene	6.2E-03	2.7E-02	
Xylene	4.8E-03	2.1E-02	
VOC	5.92E-02	2.59E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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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County Billings		Source ID Number 203-T-0008		
Capacity	Barrels 64,996	Gallons 2,729,832		
Dimensions	Diameter 88'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 13-15

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	2.4E-04	1.0E-03	<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>
Anthracene	1.6E-05	7.1E-05	
Benzene	4.7E-03	2.1E-02	
Biphenyl	1.1E-05	5.0E-05	
Chrysene	1.4E-05	6.2E-05	
Cresol	8.8E-04	3.8E-03	
Cumene	1.0E-03	4.4E-03	
Ethylbenzene	2.1E-03	9.2E-03	
Fluorene	2.4E-05	1.1E-04	
Hexane	2.8E-02	1.2E-01	
Methanol	2.6E-04	1.1E-03	
Methyl isobutyl ketone	2.2E-02	9.5E-02	
Methyl tertiary-butyl ether	2.1E-02	9.2E-02	
Naphthalene	5.1E-04	2.2E-03	
Phenanthrene	1.0E-04	4.4E-04	
Phenol	6.1E-05	2.7E-04	
Pyrene	2.6E-05	1.2E-04	
Styrene	4.5E-03	2.0E-02	
Toluene	1.2E-02	5.3E-02	
Xylene	9.5E-03	4.1E-02	
VOC	1.20E-01	5.24E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0009		
Capacity	Barrels 64,996	Gallons 2,729,832		
Dimensions	Diameter 88'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 13-15

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	2.4E-04	1.0E-03	<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>
Anthracene	1.6E-05	7.1E-05	
Benzene	4.7E-03	2.1E-02	
Biphenyl	1.1E-05	5.0E-05	
Chrysene	1.4E-05	6.2E-05	
Cresol	8.8E-04	3.8E-03	
Cumene	1.0E-03	4.4E-03	
Ethylbenzene	2.1E-03	9.2E-03	
Fluorene	2.4E-05	1.1E-04	
Hexane	2.8E-02	1.2E-01	
Methanol	2.6E-04	1.1E-03	
Methyl isobutyl ketone	2.2E-02	9.5E-02	
Methyl tertiary-butyl ether	2.1E-02	9.2E-02	
Naphthalene	5.1E-04	2.2E-03	
Phenanthrene	1.0E-04	4.4E-04	
Phenol	6.1E-05	2.7E-04	
Pyrene	2.6E-05	1.2E-04	
Styrene	4.5E-03	2.0E-02	
Toluene	1.2E-02	5.3E-02	
Xylene	9.5E-03	4.1E-02	
VOC	1.20E-01	5.24E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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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SFN 8535 (10-13)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0010		
Capacity	Barrels 64,996	Gallons 2,729,832		
Dimensions	Diameter 88'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 13-15

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	2.4E-04	1.0E-03	<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>
Anthracene	1.6E-05	7.1E-05	
Benzene	4.7E-03	2.1E-02	
Biphenyl	1.1E-05	5.0E-05	
Chrysene	1.4E-05	6.2E-05	
Cresol	8.8E-04	3.8E-03	
Cumene	1.0E-03	4.4E-03	
Ethylbenzene	2.1E-03	9.2E-03	
Fluorene	2.4E-05	1.1E-04	
Hexane	2.8E-02	1.2E-01	
Methanol	2.6E-04	1.1E-03	
Methyl isobutyl ketone	2.2E-02	9.5E-02	
Methyl tertiary-butyl ether	2.1E-02	9.2E-02	
Naphthalene	5.1E-04	2.2E-03	
Phenanthrene	1.0E-04	4.4E-04	
Phenol	6.1E-05	2.7E-04	
Pyrene	2.6E-05	1.2E-04	
Styrene	4.5E-03	2.0E-02	
Toluene	1.2E-02	5.3E-02	
Xylene	9.5E-03	4.1E-02	
VOC	1.20E-01	5.24E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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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Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0011		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 0.04	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-05	5.1E-05	<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>
Anthracene	7.9E-07	3.5E-06	
Benzene	1.8E-04	7.8E-04	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	6.9E-07	3.0E-06	
Cresol	6.3E-07	2.7E-06	
Cumene	3.3E-05	1.4E-04	
Ethylbenzene	5.9E-05	2.6E-04	
Fluorene	1.2E-06	5.2E-06	
Hexane	1.6E-03	6.9E-03	
Methanol	1.3E-05	5.5E-05	
Methyl isobutyl ketone	1.1E-03	4.6E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	1.3E-05	5.8E-05	
Phenanthrene	5.0E-06	2.2E-05	
Phenol	2.2E-06	9.7E-06	
Pyrene	1.3E-06	5.6E-06	
Styrene	0.0E+00	0.0E+00	
Toluene	3.3E-04	1.4E-03	
Xylene	2.3E-04	1.0E-03	
VOC	2.57E-02	1.13E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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
DIVISION OF AIR QUALITY
SFN 8535 (10-13)

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Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
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Contact Person for Air Pollution Matters Tom Johnson		
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Color	Beige			
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 0.04	Maximum Reid Vapor Pressure -

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Benzene	1.8E-04	7.8E-04	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	6.9E-07	3.0E-06	
Cresol	6.3E-07	2.7E-06	
Cumene	3.3E-05	1.4E-04	
Ethylbenzene	5.9E-05	2.6E-04	
Fluorene	1.2E-06	5.2E-06	
Hexane	1.6E-03	6.9E-03	
Methanol	1.3E-05	5.5E-05	
Methyl isobutyl ketone	1.1E-03	4.6E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	1.3E-05	5.8E-05	
Phenanthrene	5.0E-06	2.2E-05	
Phenol	2.2E-06	9.7E-06	
Pyrene	1.3E-06	5.6E-06	
Styrene	0.0E+00	0.0E+00	
Toluene	3.3E-04	1.4E-03	
Xylene	2.3E-04	1.0E-03	
VOC	2.57E-02	1.13E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409)795-0792	E-mail Address tjohnson@meridianenergygroup.inc

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0013		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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: Cone Roof			
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 0.004	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-05	5.1E-05	<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>
Anthracene	7.9E-07	3.5E-06	
Benzene	1.8E-04	7.8E-04	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	6.9E-07	3.0E-06	
Cresol	6.3E-07	2.7E-06	
Cumene	3.3E-05	1.4E-04	
Ethylbenzene	5.9E-05	2.6E-04	
Fluorene	1.2E-06	5.2E-06	
Hexane	1.6E-03	6.9E-03	
Methanol	1.3E-05	5.5E-05	
Methyl isobutyl ketone	1.1E-03	4.6E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	1.3E-05	5.8E-05	
Phenanthrene	5.0E-06	2.2E-05	
Phenol	2.2E-06	9.7E-06	
Pyrene	1.3E-06	5.6E-06	
Styrene	0.0E+00	0.0E+00	
Toluene	3.3E-04	1.4E-03	
Xylene	2.3E-04	1.0E-03	
VOC	4.29E-03	1.88E-02	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0014		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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: Cone Roof			
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 0.004	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-05	5.1E-05	<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>
Anthracene	7.9E-07	3.5E-06	
Benzene	1.8E-04	7.8E-04	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	6.9E-07	3.0E-06	
Cresol	6.3E-07	2.7E-06	
Cumene	3.3E-05	1.4E-04	
Ethylbenzene	5.9E-05	2.6E-04	
Fluorene	1.2E-06	5.2E-06	
Hexane	1.6E-03	6.9E-03	
Methanol	1.3E-05	5.5E-05	
Methyl isobutyl ketone	1.1E-03	4.6E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	1.3E-05	5.8E-05	
Phenanthrene	5.0E-06	2.2E-05	
Phenol	2.2E-06	9.7E-06	
Pyrene	1.3E-06	5.6E-06	
Styrene	0.0E+00	0.0E+00	
Toluene	3.3E-04	1.4E-03	
Xylene	2.3E-04	1.0E-03	
VOC	4.29E-03	1.88E-02	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0015		
Capacity	Barrels 64,996	Gallons 2,729,832		
Dimensions	Diameter 88'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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: Cone Roof			
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 0.004	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	2.3E-05	9.9E-05	<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>
Anthracene	1.5E-06	6.8E-06	
Benzene	3.5E-04	1.5E-03	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	1.4E-06	5.9E-06	
Cresol	1.2E-06	5.4E-06	
Cumene	6.4E-05	2.8E-04	
Ethylbenzene	1.2E-04	5.1E-04	
Fluorene	2.3E-06	1.0E-05	
Hexane	3.1E-03	1.4E-02	
Methanol	2.4E-05	1.1E-04	
Methyl isobutyl ketone	2.1E-03	9.0E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	2.6E-05	1.1E-04	
Phenanthrene	9.7E-06	4.2E-05	
Phenol	4.3E-06	1.9E-05	
Pyrene	2.5E-06	1.1E-05	
Styrene	0.0E+00	0.0E+00	
Toluene	6.4E-04	2.8E-03	
Xylene	4.5E-04	2.0E-03	
VOC	7.95E-03	3.48E-02	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0016		
Capacity	Barrels 64,996	Gallons 2,729,832		
Dimensions	Diameter 88'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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: Cone Roof			
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 0.004	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	2.3E-05	9.9E-05	<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>
Anthracene	1.5E-06	6.8E-06	
Benzene	3.5E-04	1.5E-03	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	1.4E-06	5.9E-06	
Cresol	1.2E-06	5.4E-06	
Cumene	6.4E-05	2.8E-04	
Ethylbenzene	1.2E-04	5.1E-04	
Fluorene	2.3E-06	1.0E-05	
Hexane	3.1E-03	1.4E-02	
Methanol	2.4E-05	1.1E-04	
Methyl isobutyl ketone	2.1E-03	9.0E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	2.6E-05	1.1E-04	
Phenanthrene	9.7E-06	4.2E-05	
Phenol	4.3E-06	1.9E-05	
Pyrene	2.5E-06	1.1E-05	
Styrene	0.0E+00	0.0E+00	
Toluene	6.4E-04	2.8E-03	
Xylene	4.5E-04	2.0E-03	
VOC	7.95E-03	3.48E-02	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0017		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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: Cone Roof			
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 0,00002 – 0,00003	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-05	5.1E-05	<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>
Anthracene	7.9E-07	3.5E-06	
Benzene	1.8E-04	7.8E-04	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	6.9E-07	3.0E-06	
Cresol	6.3E-07	2.7E-06	
Cumene	3.3E-05	1.4E-04	
Ethylbenzene	5.9E-05	2.6E-04	
Fluorene	1.2E-06	5.2E-06	
Hexane	1.6E-03	6.9E-03	
Methanol	1.3E-05	5.5E-05	
Methyl isobutyl ketone	1.1E-03	4.6E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	1.3E-05	5.8E-05	
Phenanthrene	5.0E-06	2.2E-05	
Phenol	2.2E-06	9.7E-06	
Pyrene	1.3E-06	5.6E-06	
Styrene	0.0E+00	0.0E+00	
Toluene	3.3E-04	1.4E-03	
Xylene	2.3E-04	1.0E-03	
VOC	1.97E-03	8.64E-03	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0018		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 15

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-04	5.3E-04	<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>
Anthracene	8.3E-06	3.6E-05	
Benzene	2.4E-03	1.1E-02	
Biphenyl	5.9E-06	2.6E-05	
Chrysene	7.3E-06	3.2E-05	
Cresol	4.5E-04	2.0E-03	
Cumene	5.2E-04	2.3E-03	
Ethylbenzene	1.1E-03	4.7E-03	
Fluorene	1.2E-05	5.5E-05	
Hexane	1.5E-02	6.4E-02	
Methanol	1.3E-04	5.8E-04	
Methyl isobutyl ketone	1.1E-02	4.9E-02	
Methyl tertiary-butyl ether	1.1E-02	4.7E-02	
Naphthalene	2.6E-04	1.2E-03	
Phenanthrene	5.2E-05	2.3E-04	
Phenol	3.1E-05	1.4E-04	
Pyrene	1.4E-05	5.9E-05	
Styrene	2.3E-03	1.0E-02	
Toluene	6.2E-03	2.7E-02	
Xylene	4.8E-03	2.1E-02	
VOC	9.60E-02	4.20E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0019		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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 15

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-04	5.3E-04	<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>
Anthracene	8.3E-06	3.6E-05	
Benzene	2.4E-03	1.1E-02	
Biphenyl	5.9E-06	2.6E-05	
Chrysene	7.3E-06	3.2E-05	
Cresol	4.5E-04	2.0E-03	
Cumene	5.2E-04	2.3E-03	
Ethylbenzene	1.1E-03	4.7E-03	
Fluorene	1.2E-05	5.5E-05	
Hexane	1.5E-02	6.4E-02	
Methanol	1.3E-04	5.8E-04	
Methyl isobutyl ketone	1.1E-02	4.9E-02	
Methyl tertiary-butyl ether	1.1E-02	4.7E-02	
Naphthalene	2.6E-04	1.2E-03	
Phenanthrene	5.2E-05	2.3E-04	
Phenol	3.1E-05	1.4E-04	
Pyrene	1.4E-05	5.9E-05	
Styrene	2.3E-03	1.0E-02	
Toluene	6.2E-03	2.7E-02	
Xylene	4.8E-03	2.1E-02	
VOC	9.60E-02	4.20E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0020		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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) TBD	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) N/A
Average Throughput (gallons per day) 102,648	Tank Turnovers per Year 26.78

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1,2E-04	5,3E-04	<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>
Anthracene	8,3E-06	3,6E-05	
Benzene	2,4E-03	1,1E-02	
Biphenyl	5,9E-06	2,6E-05	
Chrysene	7,3E-06	3,2E-05	
Cresol	4,5E-04	2,0E-03	
Cumene	5,2E-04	2,3E-03	
Ethylbenzene	1,1E-03	4,7E-03	
Fluorene	1,2E-05	5,5E-05	
Hexane	1,5E-02	6,4E-02	
Methanol	1,3E-04	5,8E-04	
Methyl isobutyl ketone	1,1E-02	4,9E-02	
Methyl tertiary-butyl ether	1,1E-02	4,7E-02	
Naphthalene	2,6E-04	1,2E-03	
Phenanthrene	5,2E-05	2,3E-04	
Phenol	3,1E-05	1,4E-04	
Pyrene	1,4E-05	5,9E-05	
Styrene	2,3E-03	1,0E-02	
Toluene	6,2E-03	2,7E-02	
Xylene	4,8E-03	2,1E-02	
VOC	6.27E-02	2.74E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0021		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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) TBD	Vapor Space Outage (See AP-42, 7.1-92, Equation 1-15) N/A
Average Throughput (gallons per day) 102,648	Tank Turnovers per Year 26.78

SECTION G – SOLUTION STORAGE

If material stored is a solution, supply the following information:

Name of Solvent N/A	Name of Material Dissolved N/A
Concentration of Material Dissolved (% by weight or % by volume or lbs/gal) N/A	


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1,2E-04	5,3E-04	<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>
Anthracene	8,3E-06	3,6E-05	
Benzene	2,4E-03	1,1E-02	
Biphenyl	5,9E-06	2,6E-05	
Chrysene	7,3E-06	3,2E-05	
Cresol	4,5E-04	2,0E-03	
Cumene	5,2E-04	2,3E-03	
Ethylbenzene	1,1E-03	4,7E-03	
Fluorene	1,2E-05	5,5E-05	
Hexane	1,5E-02	6,4E-02	
Methanol	1,3E-04	5,8E-04	
Methyl isobutyl ketone	1,1E-02	4,9E-02	
Methyl tertiary-butyl ether	1,1E-02	4,7E-02	
Naphthalene	2,6E-04	1,2E-03	
Phenanthrene	5,2E-05	2,3E-04	
Phenol	3,1E-05	1,4E-04	
Pyrene	1,4E-05	5,9E-05	
Styrene	2,3E-03	1,0E-02	
Toluene	6,2E-03	2,7E-02	
Xylene	4,8E-03	2,1E-02	
VOC	6.27E-02	2.74E-01	

* Include an estimate of greenhouse gas emissions (CO₂e)

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

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0022		
Capacity	Barrels 33,312	Gallons 1,399,104		
Dimensions	Diameter 63'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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: Cone Roof			
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 0.004	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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


SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	1.2E-05	5.1E-05	<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>
Anthracene	7.9E-07	3.5E-06	
Benzene	1.8E-04	7.8E-04	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	6.9E-07	3.0E-06	
Cresol	6.3E-07	2.7E-06	
Cumene	3.3E-05	1.4E-04	
Ethylbenzene	5.9E-05	2.6E-04	
Fluorene	1.2E-06	5.2E-06	
Hexane	1.6E-03	6.9E-03	
Methanol	1.3E-05	5.5E-05	
Methyl isobutyl ketone	1.1E-03	4.6E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	1.3E-05	5.8E-05	
Phenanthrene	5.0E-06	2.2E-05	
Phenol	2.2E-06	9.7E-06	
Pyrene	1.3E-06	5.6E-06	
Styrene	0.0E+00	0.0E+00	
Toluene	3.3E-04	1.4E-03	
Xylene	2.3E-04	1.0E-03	
VOC	3.73E-02	1.63E-01	

* Include an estimate of greenhouse gas emissions (CO₂ 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 Meridian Energy Group – Davis Refinery		
Applicant's Name Tom Williams		
Title VP of Planning & Permitting	Telephone Number (707) 299-0182	E-mail Address twilliams@meridianenergygroup.inc
Mailing Address (Street & No.) 2062 Business Center Drive, Suite 115		
City Irvine	State CA	ZIP Code 92612
Contact Person for Air Pollution Matters Tom Johnson		
Title Vice President of Operations	Telephone Number (409)795-0792	E-mail Address tjohnson@meridianenergygroup.inc

SECTION B – TANK DATA

Legal Description of Facility Site 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				
County Billings		Source ID Number 203-T-0023		
Capacity	Barrels 64,996	Gallons 2,729,832		
Dimensions	Diameter 88'	Height 60'	Length	Width
Shape	<input checked="" type="checkbox"/> Cylindrical <input type="checkbox"/> Spherical <input type="checkbox"/> Other – Specify:			
Materials of Construction	Carbon Steel			
Construction	<input type="checkbox"/> Riveted <input checked="" type="checkbox"/> Welded <input type="checkbox"/> Other – Specify:			
Color	Beige			
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: Cone Roof			
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 0.000028	Maximum Reid Vapor Pressure -

SECTION F – OPERATIONAL DATA

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

SECTION G – SOLUTION STORAGE

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

SECTION H – AIR CONTAMINANTS EMITTED

Pollutant*	Maximum Pounds Per Hour	Tons Per Year	Basis and Calculations for Quantities (Attach separate sheet if needed)
2-Methyl naphthalene	2.3E-05	9.9E-05	<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>
Anthracene	1.5E-06	6.8E-06	
Benzene	3.5E-04	1.5E-03	
Biphenyl	0.0E+00	0.0E+00	
Chrysene	1.4E-06	5.9E-06	
Cresol	1.2E-06	5.4E-06	
Cumene	6.4E-05	2.8E-04	
Ethylbenzene	1.2E-04	5.1E-04	
Fluorene	2.3E-06	1.0E-05	
Hexane	3.1E-03	1.4E-02	
Methanol	2.4E-05	1.1E-04	
Methyl isobutyl ketone	2.1E-03	9.0E-03	
Methyl tertiary-butyl ether	0.0E+00	0.0E+00	
Naphthalene	2.6E-05	1.1E-04	
Phenanthrene	9.7E-06	4.2E-05	
Phenol	4.3E-06	1.9E-05	
Pyrene	2.5E-06	1.1E-05	
Styrene	0.0E+00	0.0E+00	
Toluene	6.4E-04	2.8E-03	
Xylene	4.5E-04	2.0E-03	
VOC	9.42E-04	4.13E-03	

* Include an estimate of greenhouse gas emissions (CO₂e)