SMTV FER/EIS Emissions Report (202106) for 2010
BP Oil Co - Todhunter Station
1409070866
April 15, 2011

2010 Emissions Summary Report : 202106

Oct 11 2011, 13:28:00

- Report Data

Report Category: SMTV

Submitted Date: 04/15/2011

Approved Date 04/18/2011

Reporting Year: 2010

Reporting State Approved

- Reports Included

FER: X ES: EIS: X

- Facility Emissions

Pollutant	Code	$	Fugitive Amount	Stack Amount	Total	Units
PE (Cond) - Primary PM Condensible Portion Only (All Less than 1 Micron)	PM-CON		0.	0.	0.	TONs
SO2 - Sulfur Dioxide	SO2	X	2.19261	0.	2.19261	TONs
NOx - Nitrogen Oxides	NOX	X	13.8938	0.	13.8938	TONs
Organic Compounds	OC	X	0.391763	0.	0.391763	TONs
Pb - Lead	7439921	X	0.	0.	0.	TONs
PE (Filt) - Primary PM, Filterable Portion Only	PM-FIL	X	0.269192	0.	0.269192	TONs
PM10 (Filt) - Primary PM10, Filterable Portion Only	PM10-FIL		0.269192	0.	0.269192	TONs
PM2.5 (FILT) - Primary PM2.5, Filterable Portion Only	PM25-FIL		0.269192	0.	0.269192	TONs
VOC - Volatile Organic Compounds	VOC		0.391763	0.	0.391763	TONs
Ammonia	NH3		0.	0.	0.	TONs
CO - Carbon Monoxide	CO		3.69054	0.	3.69054	TONs
Total of Chargable Pollutants					16.7474	TONS

The following Hazardous Air Pollutant information was developed using Ohio EPA-generated hazardous air pollutant emission calculations. The values may be provided to USEPA by Ohio EPA as part of Ohio EPA's federal grant commitments. You may modify these Ohio EPA-generated hazardous air pollutant emission calculations, at the process level, if you have more accurate information. There is no certification of these values as part of the emissions report submission.

Pollutant	Code	Fugitive Amount	Stack Amount	Total	Units
Acenaphthene	83329	3.08268E-06	0.	3.08268E-06	TONs
Acenaphthylene	208968	1.09848E-05	0.	1.09848E-05	TONs

Acetaldehyde	75070	0.00333017	0.	0.00333017	TONs
Acrolein	107028	2.00809E-04	0.	2.00809E-04	TONs
Anthracene	120127	8.11918E-06	0.	8.11918E-06	TONs
Benz[A]Anthracene	56553	7.29424E-06	0.	7.29424E-06	TONs
Benzene	71432	0.00405091	0.	0.00405091	TONs
Benzo[A]Pyrene	50328	4.0813E-07	0.	4.0813E-07	TONs
Benzo[B]Fluoranthene	205992	2.15137E-07	0.	2.15137E-07	TONs
Benzo[G,H,I,]Perylene	191242	1.06157E-06	0.	1.06157E-06	TONs
Benzo[K]Fluoranthene	207089	3.3649E-07	0.	3.3649E-07	TONs
Butadiene, 1,3-	106990	8.48823E-05	0.	8.48823E-05	TONs
Chrysene	218019	1.53266E-06	0.	1.53266E-06	TONs
Dibenzo[A,H]Anthracene	53703	1.26564E-06	0.	1.26564E-06	TONs
Ethyl Benzene	100414	9.19265E-05	0.	9.19265E-05	TONs
Fluoranthene	206440	3.30412E-05	0.	3.30412E-05	TONs
Fluorene	86737	1.26781E-04	0.	1.26781E-04	TONs
Formaldehyde	50000	0.00512333	0.	0.00512333	TONs
Indeno[1,2,3-C,D]Pyrene	193395	8.14089E-07	0.	8.14089E-07	TONs
Mercury, as HG; Alkyl & Aryl CMPNDS; Elemental & Inorganic Forms	7439976	1.30862E-06	0.	1.30862E-06	TONs
Naphthalene	91203	3.68185E-04	0.	3.68185E-04	TONs
PAH, 16-	40	7.29424E-04	0.	7.29424E-04	TONs
Phenanthrene	85018	1.27649E-04	0.	1.27649E-04	TONs
Pyrene	129000	2.07538E-05	0.	2.07538E-05	TONs
Toluene	108883	0.0017758	0.	0.0017758	TONs
Xylenes (Isomers and Mixture)	1330207	0.00123742	0.	0.00123742	TONs

- **Attachments**

Description	Type	Public Document	Trade Seceret Document	Trade secret Justification
Support Documentation for Todhunter 2010 EIS Annual Report	Other	X		

- **Notes**

User Name	Date	Note

Report Pollutant Summary: Total Emissions (Tons)

Unit	SCC Id	PM-CON	SO2	NOX	OC	7439921	PM-FIL	PM10-FIL	PM25-FIL	VOC	NH3	CO
TMP162077	**4-04-001-22**	0.	0.	0.	0.001	0.	0.	0.	0.	0.001	0.	0.
P001	**2-02-001-02**	0.	2.19261	13.8938	0.390763	0.	0.269192	0.269192	0.269192	0.390763	0.	3.69054
Total		0.	2.19261	13.8938	0.391763	0.	0.269192	0.269192	0.269192	0.391763	0.	3.69054

Emission Unit Summary: TMP162077

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Emissions Unit ID: TMP162077

Detailed Reporting

DAPC Description:

- Unit Emissions

Pollutant	Code	$	Fugitive Amount	Stack Amount	Total	Units	QA+
PE (Cond) - Primary PM Condensible Portion Only (All Less than 1 Micron)	PM-CON		0	0	0.	TONs	
SO2 - Sulfur Dioxide	SO2	X	0	0	0.	TONs	
NOx - Nitrogen Oxides	NOX	X	0	0	0.	TONs	
Organic Compounds	OC	X	0.001	0	0.001	TONs	
Pb - Lead	7439921	X	0	0	0.	TONs	
PE (Filt) - Primary PM, Filterable Portion Only	PM-FIL	X	0	0	0.	TONs	
PM10 (Filt) - Primary PM10, Filterable Portion Only	PM10-FIL		0	0	0.	TONs	
PM2.5 (FILT) - Primary PM2.5, Filterable Portion Only	PM25-FIL		0	0	0.	TONs	
VOC - Volatile Organic Compounds	VOC		0.001	0	0.001	TONs	
Ammonia	NH3		0	0	0.	TONs	
CO - Carbon Monoxide	CO		0	0	0.	TONs	
Total of Chargable Pollutants					0.001	TONS	

- Processes

- Process & Emissions Detail

Name: Fuel Storage Tank

Source Classification Code (SCC): 4-04-001-22

- Material Information, Annual Average Operating Schedule & Throughput Percent

Schedule Trade Secret:

Hours Per Day: 24

Days Per Week: 7

Weeks Per Year: 52

Hours Per Year: 8760

Winter (Dec - Feb)%: 21

Spring (March-May)%: 33

Summer (June-Aug)%: 28

Fall (Sept-Nov)%: 18

Material	Material Action	Throughput	X Units
Diesel	Throughput	59.887	1000 GALLON-YEARS

- **Process Emissions**

Pollutant	Code	$	Method Used	Hours UnCont.	UnCont. Factor (LBS/X)	Fugitive Amount	Stack Amount	Total	Units	Explanation
PE (Cond) - Primary PM Condensible Portion Only (All Less than 1 Micron)	PM-CON		emissions: ENG. JUDGEMENT			0	0	0.	TONs	
SO2 - Sulfur Dioxide	SO2	X	emissions: ENG. JUDGEMENT			0	0	0.	TONs	
NOx - Nitrogen Oxides	NOX	X	emissions: ENG. JUDGEMENT			0	0	0.	TONs	
Organic Compounds	OC	X	emissions: ENG. JUDGEMENT			0.001	0	0.001	TONs	Calculated using US EPA TANKS software. Please note that the emission unit should have a stack. Information pertaining to the dimensions and conditions of the stack are not available for this recording year and should be included for next year's report.
Pb - Lead	7439921	X	emissions: ENG. JUDGEMENT			0	0	0.	TONs	
PE (Filt) - Primary PM, Filterable Portion Only	PM-FIL	X	emissions: ENG. JUDGEMENT			0	0	0.	TONs	
PM10 (Filt) - Primary PM10, Filterable Portion Only	PM10-FIL		emissions: ENG. JUDGEMENT			0	0	0.	TONs	
PM2.5 (FILT) - Primary PM2.5, Filterable Portion Only	PM25-FIL		emissions: ENG. JUDGEMENT			0	0	0.	TONs	
VOC - Volatile	VOC		emissions:			0.001	0	0.001	TONs	Calculated using US EPA TANKS software

Organic Compounds			ENG. JUDGEMENT							
Ammonia	NH3		emissions: ENG. JUDGEMENT			0	0	0.	TONs	
CO - Carbon Monoxide	CO		emissions: ENG. JUDGEMENT			0	0	0.	TONs	
Total of Chargable Pollutants								0.001	TONS	

Emission Unit Summary: P001

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Emissions Unit ID: P001

Detailed Reporting

DAPC Description:

- Unit Emissions

Pollutant	Code	$	Fugitive Amount	Stack Amount	Total	Units	QA+
PE (Cond) - Primary PM Condensible Portion Only (All Less than 1 Micron)	PM-CON		0.	0.	0.	TONs	
SO2 - Sulfur Dioxide	SO2	X	2.19261	0.	2.19261	TONs	
NOx - Nitrogen Oxides	NOX	X	13.8938	0.	13.8938	TONs	
Organic Compounds	OC	X	0.390763	0.	0.390763	TONs	
Pb - Lead	7439921	X	0.	0.	0.	TONs	
PE (Filt) - Primary PM, Filterable Portion Only	PM-FIL	X	0.269192	0.	0.269192	TONs	
PM10 (Filt) - Primary PM10, Filterable Portion Only	PM10-FIL		0.269192	0.	0.269192	TONs	
PM2.5 (FILT) - Primary PM2.5, Filterable Portion Only	PM25-FIL		0.269192	0.	0.269192	TONs	
VOC - Volatile Organic Compounds	VOC		0.390763	0.	0.390763	TONs	
Ammonia	NH3		0	0	0.	TONs	
CO - Carbon Monoxide	CO		3.69054	0.	3.69054	TONs	
Total of Chargable Pollutants					16.7464	TONS	

The following Hazardous Air Pollutant information was developed using Ohio EPA-generated hazardous air pollutant emission calculations. The values may be provided to USEPA by Ohio EPA as part of Ohio EPA's federal grant commitments. You may modify these Ohio EPA-generated hazardous air pollutant emission calculations, at the process level, if you have more accurate information. There is no certification of these values as part of the emissions report submission.

Pollutant	Code	Fugitive Amount	Stack Amount	Total	Units
Acenaphthene	83329	3.08268E-06	0.	3.08268E-06	TONs
Acenaphthylene	208968	1.09848E-05	0.	1.09848E-05	TONs
Acetaldehyde	75070	0.00333017	0.	0.00333017	TONs
Acrolein	107028	2.00809E-04	0.	2.00809E-04	TONs
Anthracene	120127	8.11918E-06	0.	8.11918E-06	TONs
Benz[A]Anthracene	56553	7.29424E-06	0.	7.29424E-06	TONs

Benzene	71432	0.00405091	0.	0.00405091	TONs
Benzo[A]Pyrene	50328	4.0813E-07	0.	4.0813E-07	TONs
Benzo[B]Fluoranthene	205992	2.15137E-07	0.	2.15137E-07	TONs
Benzo[G,H,I,]Perylene	191242	1.06157E-06	0.	1.06157E-06	TONs
Benzo[K]Fluoranthene	207089	3.3649E-07	0.	3.3649E-07	TONs
Butadiene, 1,3-	106990	8.48823E-05	0.	8.48823E-05	TONs
Chrysene	218019	1.53266E-06	0.	1.53266E-06	TONs
Dibenzo[A,H]Anthracene	53703	1.26564E-06	0.	1.26564E-06	TONs
Ethyl Benzene	100414	9.19265E-05	0.	9.19265E-05	TONs
Fluoranthene	206440	3.30412E-05	0.	3.30412E-05	TONs
Fluorene	86737	1.26781E-04	0.	1.26781E-04	TONs
Formaldehyde	50000	0.00512333	0.	0.00512333	TONs
Indeno[1,2,3-C,D]Pyrene	193395	8.14089E-07	0.	8.14089E-07	TONs
Mercury, as HG; Alkyl & Aryl CMPNDS; Elemental & Inorganic Forms	7439976	1.30862E-06	0.	1.30862E-06	TONs
Naphthalene	91203	3.68185E-04	0.	3.68185E-04	TONs
PAH, 16-	40	7.29424E-04	0.	7.29424E-04	TONs
Phenanthrene	85018	1.27649E-04	0.	1.27649E-04	TONs
Pyrene	129000	2.07538E-05	0.	2.07538E-05	TONs
Toluene	108883	0.0017758	0.	0.0017758	TONs
Xylenes (Isomers and Mixture)	1330207	0.00123742	0.	0.00123742	TONs

- Processes

- Process & Emissions Detail

Name: Diesel Engine

Source Classification Code (SCC): 2-02-001-02

- Material Information, Annual Average Operating Schedule & Throughput Percent

Schedule Trade Secret:

Hours Per Day: 24

Days Per Week: 7

Weeks Per Year: 52

Winter (Dec - Feb)%: 21

Spring (March-May)%: 32

Summer (June-Aug)%: 21

Material	Material Action	Throughput	X Units
Distillate Oil (Diesel)	Burned	59.887	1000 GALLONS

Variable	Amount	Meaning
HCl	145,000	Liquid Heat Content (Btu/gallons)

- **Process Emissions**

Pollutant	Code	$	Method Used	Hours UnCont.	UnCont. Factor (LBS/X)	Fugitive Amount	Stack Amount	Total	Units	Explanation
PE (Cond) - Primary PM Condensible Portion Only (All Less than 1 Micron)	PM-CON		factor:ENG. JUDGEMENT	2273	0.	0.	0.	0.	TONs	Per AP-42 Table 3.31, all PM is assumed to be greater than 1 micron in diameter.
SO2 - Sulfur Dioxide	SO2	X	factor:ENG. JUDGEMENT	2273	73.225	2.19261	0.	2.19261	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated using U.S. EPA AP-42 Tables 3.4-1 and 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96). Please note that the emission unit should have a stack and the emissions reported under the "Stack Amount" column. Information pertaining to the dimensions and conditions of the stack are not available for this recording year and should be included for next year's report.
NOx - Nitrogen Oxides	NOX	X	factor:ENG. JUDGEMENT	2273	464	13.8938	0.	13.8938	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated using U.S. EPA AP-42 Tables 3.4-1 and 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96).
Organic Compounds	OC	X	factor:MATERIAL BALANCE	2273	13.05	0.390763	0.	0.390763	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated using U.S. EPA AP-42 Tables 3.4-1 and 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96).
Pb - Lead	7439921	X	factor:ENG. JUDGEMENT	2273	0.	0.	0.	0.	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated using U.S. EPA AP-42 Tables 3.4-1 and 3.4-2 (Gaseous

										Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96).
PE (Filt) - Primary PM, Filterable Portion Only	PM-FIL	X	factor:ENG . JUDGEMENT	2273	8.99	0.269192	0.	0.269192	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated using U.S. EPA AP-42 Tables 3.4-1 and 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96) and as specified by the permit.
PM10 (Filt) - Primary PM10, Filterable Portion Only	PM10-FIL		factor:ENG . JUDGEMENT	2273	8.99	0.269192	0.	0.269192	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated conservatively using U.S. EPA AP-42 Table 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96) for total filterable particulates.
PM2.5 (FILT) - Primary PM2.5, Filterable Portion Only	PM25-FIL		factor:ENG . JUDGEMENT	2273	8.99	0.269192	0.	0.269192	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated conservatively using U.S. EPA AP-42 Table 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96) for total filterable particulates.
VOC - Volatile Organic Compounds	VOC		factor:ENG . JUDGEMENT	2273	13.05	0.390763	0.	0.390763	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated using U.S. EPA AP-42 Tables 3.4-1 and 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96).
Ammonia	NH3		emissions: ENG. JUDGEMENT			0	0	0.	TONs	
CO - Carbon Monoxide	CO		factor:ENG . JUDGEMENT	2273	123.25	3.69054	0.	3.69054	TONs	Emission factors are calculated from actual emissions and throughput for entry here. Actual emissions were calculated using U.S. EPA AP-42 Tables 3.4-1 and 3.4-2 (Gaseous Emission Factors for Large Stationary Diesel and All Stationary Dual-Fuel Engines) (10/96).
Total of Chargable Pollutants								16.7464	TONS	

The following Hazardous Air Pollutant information was developed using Ohio EPA-generated hazardous air pollutant emission calculations. The values may be provided to USEPA by Ohio EPA as part of Ohio EPA's federal grant commitments. You may modify these Ohio EPA-generated hazardous air pollutant emission calculations, at the process level, if you have more accurate information. There is no certification of these values as part of the emissions report submission.

Process Emissions

Pollutant	Code	Method Used	Hours UnCont.	UnCont. Factor (LBS/X)	Fugitive Amount	Stack Amount	Total	Units	Explanation
Acenaphthene	83329	factor:OEPA (auto calculate)	2273	1.0295E-04	3.08268E-06	0.	3.08268E-06	TONs	Please note that emissions auto-calculated from OEPA use emission factors from AP-42 Section 3.3 (Gasoline and Diesel Industrial Engines). However, emission factors from AP-42 Section 3.4 (Large Stationary Diesel and All Stationary Dual-fuel Engines) should be used since the diesel-fired engine at the facility is >600 hp. BP will continue using the HAP emissions calculated by OEPA but emission factors should be changed for accuracy next year.
Acenaphthylene	208968	factor:OEPA (auto calculate)	2273	3.6685E-04	1.09848E-05	0.	1.09848E-05	TONs	
Acetaldehyde	75070	factor:OEPA (auto calculate)	2273	0.111215	0.00333017	0.	0.00333017	TONs	
Acrolein	107028	factor:OEPA (auto calculate)	2273	0.00670625	2.00809E-04	0.	2.00809E-04	TONs	
Anthracene	120127	factor:OEPA (auto calculate)	2273	2.7115E-04	8.11918E-06	0.	8.11918E-06	TONs	
Benz[A]Anthracene	56553	factor:OEPA (auto calculate)	2273	2.436E-04	7.29424E-06	0.	7.29424E-06	TONs	
Benzene	71432	factor:OEPA (auto calculate)	2273	0.135285	0.00405091	0.	0.00405091	TONs	
Benzo[A]Pyrene	50328	factor:OEPA (auto calculate)	2273	1.363E-05	4.0813E-07	0.	4.0813E-07	TONs	
Benzo[B]Fluoranthene	205992	factor:OEPA (auto calculate)	2273	7.18475E-06	2.15137E-07	0.	2.15137E-07	TONs	
Benzo[G,H,I,]Perylene	191242	factor:OEPA (auto calculate)	2273	3.54525E-05	1.06157E-06	0.	1.06157E-06	TONs	
Benzo[K]Fluoranthene	207089	factor:OEPA (auto calculate)	2273	1.12375E-05	3.3649E-07	0.	3.3649E-07	TONs	

Butadiene, 1,3-	106990	factor:OEPA (auto calculate)	2273	0.00283475	8.48823E-05	0.	8.48823E-05	TONs	
Chrysene	218019	factor:OEPA (auto calculate)	2273	5.1185E-05	1.53266E-06	0.	1.53266E-06	TONs	
Dibenzo[A,H]Anthracene	53703	factor:OEPA (auto calculate)	2273	4.22675E-05	1.26564E-06	0.	1.26564E-06	TONs	
Ethyl Benzene	100414	factor:OEPA (auto calculate)	2273	0.00307	9.19265E-05	0.	9.19265E-05	TONs	
Fluoranthene	206440	factor:OEPA (auto calculate)	2273	0.00110345	3.30412E-05	0.	3.30412E-05	TONs	
Fluorene	86737	factor:OEPA (auto calculate)	2273	0.004234	1.26781E-04	0.	1.26781E-04	TONs	
Formaldehyde	50000	factor:OEPA (auto calculate)	2273	0.1711	0.00512333	0.	0.00512333	TONs	
Indeno[1,2,3-C,D]Pyrene	193395	factor:OEPA (auto calculate)	2273	2.71875E-05	8.14089E-07	0.	8.14089E-07	TONs	
Mercury, as HG; Alkyl & Aryl CMPNDS; Elemental & Inorganic Forms	7439976	factor:OEPA (auto calculate)	2273	4.3703E-05	1.30862E-06	0.	1.30862E-06	TONs	
Naphthalene	91203	factor:OEPA (auto calculate)	2273	0.012296	3.68185E-04	0.	3.68185E-04	TONs	
PAH, 16-	40	factor:OEPA (auto calculate)	2273	0.02436	7.29424E-04	0.	7.29424E-04	TONs	
Phenanthrene	85018	factor:OEPA (auto calculate)	2273	0.004263	1.27649E-04	0.	1.27649E-04	TONs	
Pyrene	129000	factor:OEPA (auto calculate)	2273	6.931E-04	2.07538E-05	0.	2.07538E-05	TONs	
Toluene	108883	factor:OEP	2273	0.059305	0.0017758	0.	0.0017758	TONs	

		A (auto calculate)							
Xylenes (Isomers and Mixture)	1330207	factor:OEP A (auto calculate)	2273	0.041325	0.00123742	0.	0.00123742	TONs	