

Construction Permit Application Preliminary Analysis Summary

Section 1 – Applicant Information	
Company Name:	Carrizo Oil & Gas, Inc.
Permit Number:	14WE0563
Source Location:	SWSE SEC 28 T10N R59W
Equipment Description:	Six (6) 400 BBL Crude Oil Storage Tanks
AIRS ID:	123-9C90-003
Date:	09/02/2014
Review Engineer:	Christopher Kester
Control Engineer:	Stefanie Rucker

Section 2 – Action Completed				
X	1 st Issuance		Modification	APEN Required/Permit Exempt
	Final Approval		Transfer of Ownership	APEN Exempt/Permit Exempt
* If tank is a true minor source at a true minor facility, it may be granted "Final Approval" without first being issued an Initial Approval permit				
*Grandfathered exemption is for any tanks in service prior to December 30, 2002				

Section 3 – Applicant Completeness Review				
Was the correct APEN submitted for this source type?	X	Yes		No
Is the APEN signed with an original signature?	X	Yes		No
Was the APEN filled out completely?	X	Yes		No
Did the applicant submit all required paperwork?	X	Yes		No
Did the applicant provide ample information to determine emission rates?	X	Yes		No
If you answered "no" to any of the above, when did you mail an Information Request letter to the source?				
On what date was this application complete?	January 24 th , 2014			

Section 4 – Source Description					
AIRS Point	Equipment Description				
003	Six (6) 400 BBL Crude Oil Storage Tanks				
Is this a portable source?		Yes	X	No	
Is this location in a non-attainment area for any criteria pollutant?		Yes	X	No	
If "yes", for what pollutant?		PM ₁₀		CO	Ozone
Is this location in an <i>attainment maintenance</i> area for any criteria pollutant?		Yes	X	No	
If "yes", for what pollutant? (Note: These pollutants are subject to minor source RACT per Regulation 3, Part B, Section III.D.2)		PM ₁₀		CO	Ozone
Is this source located in the 8-hour ozone non-attainment region? (Note: If "yes" the provisions of Regulation 7, Sections XII and XVII.C may apply)		Yes	X	No	

Section 5 – Emission Estimate Information				
AIRS Point	Emission Factor Source			
003	Weighted Average of two emission factors developed from 2 E&P Tank runs using projected annual production from each well to determine “weight”.			
Did the applicant provide actual process data for the emission inventory?			X	Yes
No				
Basis for Actual Emissions Reported During this APEN Filing (Reported to Inventory)				
AIRS Point	Process Consumption/Throughput/Production			Data Year
003	N/A			N/A
Basis for Permitted Emissions (Permit Limits)				
AIRS Point	Process Consumption/Throughput/Production			
003	165217 BBL/yr			
Does this source use a control device?		X	Yes	No
AIRS Point	Process	Control Device Description		% Reduction Granted
003	01	48’ Cimarron Enclosed Flare		95

	Point	NO _x	VOC (tpy)	CO	Total HAP (lbs/yr)
Uncontrolled point source emission rate:	003	---	142.13	---	39,416
Controlled point source emission rate:	003	---	7.11	---	1,971

Section 7 – Non-Criteria / Hazardous Air Pollutants				
Pollutant	CAS #	Uncontrolled Emission Rate (lb/yr)	Are the emissions reportable?	Controlled Emission Rate (lb/yr)
Benzene	71432	5,052	Y	253
n-Hexane	110543	24,305	Y	1,215
Toluene	108833	6,237	Y	312
Xylenes	1330207	1,748	Y	87
2,2,4 TMP	540841	1,752	Y	88
Ethylbenzene	100414	322	Y	16
Note: Regulation 3, Part A, Section II.B.3.b APEN emission reporting requirements for non-criteria air pollutants are based on potential emissions without credit for reductions achieved by control devices used by the operator.				

Section 8 – Testing Requirements				
Will testing be required to show compliance with any emission rate or regulatory standard?			Yes	X
			No	
If “yes”, complete the information listed below				
AIRS Point	Process	Pollutant	Regulatory Basis	Test Method

Section 9 – Source Classification						
Is this a new previously un-permitted source?	X	Yes		No		
What is this facility classification?		True Minor	X	Synthetic Minor		Major
Classification relates to what programs?	X	Title V	X	PSD		MACT
Is this a modification to an existing permit?		Yes	X	No		
If “yes” what kind of modification?		Minor		Synthetic Minor		Major

Section 10 – Public Comment				
Does this permit require public comment per CAQCC Regulation 3?	X	Yes		No
If “yes”, for which pollutants? Why?				
For Reg. 3, Part B, III.C.1.a (emissions increase > 25/50 tpy)?	X	Yes		No
For Reg. 3, Part B, III.C.1.c.ii (subject to MACT)?		Yes		No
For Reg. 3, Part B, III.C.1.d (synthetic minor emission limits)?	X	Yes		No

Section 11 – Modeling				
Is modeling required to demonstrate compliance with National Ambient Air Quality Standards (NAAQS)?		Yes	X	No
If “yes”, for which pollutants? Why?				

AIRS Point	Section 12 – Regulatory Review
	<u>Regulation 1 - Particulate, Smoke, Carbon Monoxide and Sulfur Dioxide</u>
003	<p>Section II.A.1 - Except as provided in paragraphs 2 through 6 below, no owner or operator of a source shall allow or cause the emission into the atmosphere of any air pollutant which is in excess of 20% opacity. This standard is based on 24 consecutive opacity readings taken at 15-second intervals for six minutes. The approved reference test method for visible emissions measurement is EPA Method 9 (40 CFR, Part 60, Appendix A (July, 1992)) in all subsections of Section II. A and B of this regulation.</p> <p>Section II.A.5 - Smokeless Flare or Flares for the Combustion of Waste Gases No owner or operator of a smokeless flare or other flare for the combustion of waste gases shall allow or cause emissions into the atmosphere of any air pollutant which is in excess of 30% opacity for a period or periods aggregating more than six minutes in any sixty consecutive minutes.</p>
	<u>Regulation 2 – Odor</u>
003	<p>Section I.A - No person, wherever located, shall cause or allow the emission of odorous air contaminants from any single source such as to result in detectable odors which are measured in excess of the following limits: For areas used predominantly for residential or commercial purposes it is a violation if odors are detected after the odorous air has been diluted with seven (7) or more volumes of odor free air.</p>
	<u>Regulation 3 - APENs, Construction Permits, Operating Permits, PSD</u>
003	<p>Part A-APEN Requirements Criteria Pollutants: For criteria pollutants, Air Pollutant Emission Notices are required for: each individual emission point in an attainment area with uncontrolled actual emissions of two tons per year or more of any individual criteria pollutant (pollutants are not summed) for which the area is attainment. (Applicant is required to file an APEN since emissions exceed 2 tons per year VOC)</p>
003	<p>Part B – Construction Permit Exemptions Applicant is permit exempt, Reg 3 Section II.D.1.n but is requesting FEL’s.</p>
	<u>Regulation 6 - New Source Performance Standards</u>

003	<p>NSPS Kb: for storage vessels greater than 19,800 gallons after 7/23/84.</p> <p>Is this source greater than 19,800 gallons (471 bbl)? No Is this source subject to NSPS Kb? No This point is also pre-custody transfer – not subject to Kb</p>
Regulation 7 – Volatile Organic Compounds	
003	<p>XII. VOLATILE ORGANIC COMPOUND EMISSIONS FROM OIL AND GAS OPERATIONS (Applicant is not subject to the emission control requirements for condensate tanks since it is located in an attainment area.)</p> <p>XVII.C STATEWIDE CONTROLS FOR OIL AND GAS OPERATIONS...</p>
Regulation 8 – Hazardous Air Pollutants	
003	<p>MACT EEEE: Organic Liquids Distribution</p> <p>Pick one:</p> <ul style="list-style-type: none"> This source is not subject to MACT EEEE because it is not located at a major source of HAP. This source is not subject to MACT EEEE because it is located at a “production field facility” as defined in 40 CFR 63.761 (located upstream of the natural gas processing plant).
003	<p>MACT HH</p> <p>Pick one:</p> <ul style="list-style-type: none"> This source is not subject to MACT HH because it is not located at a major source of HAP. This source is not subject to MACT HH because it is not a “storage vessel with the potential for flash emissions” as defined in 40 CFR 63.761 because annual average hydrocarbon liquid will be less than 500 BBL/day (182,500 BBL/yr).

Section 13 – Aerometric Information Retrieval System Coding Information							
Point	Process	Process Description	Emission Factor (lb/BBL)	Pollutant / CAS #	Fugitive (Y/N)	Emission Factor Source	Control (%)
003	01	E&P Crude Storage Tanks	1.72	VOC	No	Weighted Average – Two E&P Tank Runs with Projected Annual Production	95
			0.0306	Benzene / 71432	No	Weighted Average – Two E&P Tank Runs with Projected Annual Production	95
			0.147	n-Hexane / 110543	No	Weighted Average – Two E&P Tank Runs with Projected Annual Production	95
			0.0378	Toluene / 108833	No	Weighted Average – Two E&P Tank Runs with Projected Annual Production	95
			0.0106	Xylenes / 1330207	No	Weighted Average – Two E&P Tank Runs with Projected Annual Production	95
			0.0106	224 TMP / 540841	No	Weighted Average – Two E&P Tank Runs with Projected Annual Production	95
			0.00195	Ethylbenzene / 100414	No	Weighted Average – Two E&P Tank Runs with Projected Annual Production	95
SCC	40400311 – Fixed Roof Tank, Condensate, working+breathing+flashing losses						

Construction Permit Application Preliminary Analysis Summary

Section 1 – Applicant Information	
Company Name:	Carrizo Oil & Gas, Inc.
Permit Number:	14WE0565
Source Name:	Nelson Ranches 1-33, 4-27-10-59
Source Location:	SWSE SEC 28 T10N R59W
Equipment Description:	Crude Oil Truck Loading
AIRS ID:	123-9C90-005
Review Date:	Christopher Kester
Review Engineer:	Stefanie Rucker

Section 2 – Action Completed			
X	CP1	Modification	APEN Required/Permit Exempt
	Final Approval	Transfer of Ownership	APEN Exempt/Permit Exempt

Section 3 – Applicant Completeness Review				
Was the correct APEN submitted for this source type?	X	Yes		No
Is the APEN signed with an original signature?	X	Yes		No
Was the APEN filled out completely?	X	Yes		No
Did the applicant submit all required paperwork?	X	Yes		No
Did the applicant provide ample information to determine emission rates?	X	Yes		No
If you answered “no” to any of the above, when did you mail an Information Request letter to the source?				
On what date was this application complete?	January 24 th , 2014			

Section 4 – Source Description					
AIRS Point	Equipment Description				
005	Crude Oil Truck Loading				
Is this a portable source?		Yes	X	No	
Is this location in a non-attainment area for any criteria pollutant?		Yes	X	No	
If “yes”, for what pollutant?		PM ₁₀		CO	Ozone
Is this location in an <i>attainment maintenance</i> area for any criteria pollutant?		Yes	X	No	
If “yes”, for what pollutant? (Note: These pollutants are subject to minor source RACT per Regulation 3, Part B, Section III.D.2)		PM ₁₀		CO	Ozone
Is this source located in the 8-hour ozone non-attainment region? (Note: If “yes” the provisions of Regulation 7, Sections XII and XVII.C may apply)		Yes	X	No	
Is this source located at an oil and gas exploration site?	X	Yes		No	

If yes, does this source load less than 10,000 gallons of crude oil per day on an annual average, splash fill less than 6750 bbl of condensate (hydrocarbons that have an API gravity of 40 degrees or greater) per year or submerged fill less than 16,308 bbl of condensate per year?		Yes	X	No	
Is this source located at a facility that is considered a major source of hazardous air pollutant (HAP) emissions?		Yes	X	No	
Will this equipment be operated in any NAAQS nonattainment area?		Yes	X	No	
Does this source load gasoline into transport vehicles?		Yes	X	No	

Section 5 – Emission Estimate Information						
AIRS Point	Emission Factor Source					
005	AP-42: Chapter 5.2, Equation 1 $L = 12.46 * S * P * M / T$ L = loading losses in lb per 1000 gallons loaded S = Saturation Factor P = true vapor pressure of liquid loaded [psia] M = molecular weight of vapors [lb/lb-mole] T = temperature of bulk liquid loaded [deg. R]					
Did the applicant provide actual process data for the emission inventory?				X	Yes	No
Basis for Permitted Emissions (Permit Limits)						
AIRS Point	Process Consumption/Throughput/Production					
005	165,217 BBL Crude Oil Loaded per Year					
Does this source use a control device?		Yes	X	No		

Section 6 – Emission Summary (tons per year)					
	Point	NO_x	VOC	CO	HAP
Permitted point source emission rate:	005	---	8.32	---	1.04

Section 7 – Non-Criteria / Hazardous Air Pollutants				
Pollutant	CAS #	Uncontrolled Emission Rate (lb/yr)	Are the emissions reportable?	Controlled Emission Rate (lb/yr)
Benzene	71432	300	Y	NA
n-Hexane	110543	1420	Y	NA
Toluene	108883	360	Y	NA
Ethylbenzene	100414	19	N	NA
Xylenes	1130207	102	N	NA
224 TMP	540841	102	N	NA
Note: Regulation 3, Part A, Section II.B.3.b APEN emission reporting requirements for non-criteria air pollutants are based on potential emissions without credit for reductions achieved by control devices used by the operator.				

Section 8 – Testing Requirements					
Will testing be required to show compliance with any emission rate or regulatory standard?			Yes	X	No

Section 9 – Source Classification						
Is this a new previously un-permitted source?	X	Yes		No		
What is this facility classification?		True Minor	X	Synthetic Minor		Major
Classification relates to what programs?	X	Title V	X	PSD	NA NSR	MACT
Is this a modification to an existing permit?		Yes	X	No		
If “yes” what kind of modification?		Minor		Synthetic Minor		Major

Section 10 – Public Comment			
Does this permit require public comment per CAQCC Regulation 3?		Yes	X No
If “yes”, for which pollutants? Why?			
For Reg. 3, Part B, III.C.1.a (emissions increase > 25/50 tpy)?		Yes	No
For Reg. 3, Part B, III.C.1.c.iii (subject to MACT)?		Yes	No
For Reg. 3, Part B, III.C.1.d (synthetic minor emission limits)?		Yes	No

Section 11 – Modeling			
Is modeling required to demonstrate compliance with National Ambient Air Quality Standards (NAAQS)?		Yes	X No

AIRS Point	Section 12 – Regulatory Review
	<u>Regulation 1 - Particulate, Smoke, Carbon Monoxide and Sulfur Dioxide</u>
005	Visible emissions shall not exceed twenty percent (20%) opacity during normal operation of the source. During periods of startup, process modification, or adjustment of control equipment visible emissions shall not exceed 30% opacity for more than six minutes in any sixty consecutive minutes. (Reference: Regulation No. 1, Section II.A.1. & 4.)
	<u>Regulation 2 – Odor</u>
005	Section I.A - No person, wherever located, shall cause or allow the emission of odorous air contaminants from any single source such as to result in detectable odors which are measured in excess of the following limits: For areas used predominantly for residential or commercial purposes it is a violation if odors are detected after the odorous air has been diluted with seven (7) or more volumes of odor free air.
	<u>Regulation 3 - APENs, Construction Permits, Operating Permits, PSD</u>
005	<p>Criteria Pollutants: For criteria pollutants, Air Pollutant Emission Notices are required for: each individual emission point in an attainment area with uncontrolled actual emissions of two tons per year or more of any individual criteria pollutant (pollutants are not summed) for which the area is attainment. (Applicant is required to file an APEN since emissions exceed 2 tons per year VOC)</p> <p>Part B – Construction Permit Exemptions <i>Applicant is required to obtain a permit since uncontrolled VOC emissions from this facility are greater than the 5.0 TPY threshold (Reg. 3, Part B, Section II.D.3.a)</i></p> <p>Part B, III.D.2 - RACT requirements for new or modified minor sources This section of Regulation 3 requires RACT for new or modified minor sources located in nonattainment or attainment/maintenance areas. This source is/is not located in the 8-hour ozone nonattainment area, but not the 1-hour ozone area.</p> <p>Since source is in attainment, RACT is not required. However, operator is using 0.6 saturation factor, which does satisfy RACT requirements.</p>
	<u>Regulation 6 - New Source Performance Standards</u>
005	No applicable subpart. <u>This facility is not a bulk gasoline terminal.</u>

	<u>Regulation 7 – Volatile Organic Compounds</u>
005	No sections apply. Per Regulation 7, Section VI.C, a terminal is defined as a petroleum liquid storage and distribution facility that has a daily average throughput of more than 76,000 liters of gasoline (20,000 gallons), which is loaded directly into transport vehicles. This facility is neither a terminal, nor a bulk plant per definitions in Reg 7, Section VI.C.
	<u>Regulation 8 – Hazardous Air Pollutants</u>
005	None

Section 13 – Aerometric Information Retrieval System Coding Information								
Point	Process	Process Description	Process/throughput Limit	Emission Factor (lb/1000gal)	Pollutant / CAS #	Fugitive (Y/N)	Emission Factor Source	Control (%)
005	01	Truck Condensate Loadout	165217 BBL/yr	2.39	VOC	N	AP-42	0
				0.043	Benzene / 71432	N	AP-42	0
				0.204	n-Hexane / 110543	N	AP-42	0
				0.052	Toluene / 108883	N	AP-42	0
	SCC	40600132: Crude Oil: Submerged Loading (Normal Service) Use if S = 0.6						

Section 14 – Miscellaneous Application Notes

AIRS Point	002	Truck Condensate Loadout	
		Units	Basis
S	0.6		Submerged loading: dedicated normal service based on source's description/drawings
P	7.25	Psia	Based on extended natural gas sample OR based on EPA TANKs run
M	50	Lb/lb-mole	Based on extended natural gas sample OR based on EPA TANKs run
T	520	Deg R	Based on source's knowledge of bulk liquid temperature OR based on EPA TANKs run
L		Lb/10 ³ gal	Clarify if this value is used to calculate annual emissions or if methane/ethane are removed to represent VOC vs TOC or if a safety factor is applied OR any other relevant notes
		Lb/bbl	

AP-42: Chapter 5.2

Equation 1

$$L = 12.46 \cdot S \cdot P \cdot M / T$$

L = loading losses in lb per 1000 gallons loaded

S = Saturation Factor

P = true vapor pressure of liquid loaded [psia]

M = molecular weight of vapors [lb/lb-mole]

T = temperature of bulk liquid loaded [deg. R]

Use the loadout PA spreadsheet to calculate emission factor and emissions

L	5.21 lb/10 ³ gal
	2.19E-01 lb/bbl
Annual requested Throughput	1443960 gal/yr
Annual requested VOC emissions	7525 lb/yr
	3.76 tpy

Preliminary Alanalysis SEPARATOR 123-9C90-006

Attainment Status

Division Information

Engineer:	Christopher Kester
Control Engineer:	Stefanie Rucker
Review Date:	09/03/2014
Application Date:	01/24/2014

PM10	Attainment
PM2.5	Attainment
SOx	Attainment
NOx	Attainment
VOC	Attainment
CO	Attainment

Facility Information

Permit No.	14WE0566		
County #	123	Weld	
Facility #	9C90		
Point #	006		
Facility Equipment ID	SEPARATOR		
Company Name:	Camzo Oil & Gas Inc		
Source Name:	Nelson Ranches 1-33, 4-27-10-59		
Source Location:	SWSE SEC 28 T10N R59W		
NAICS	211111		
Elevation (feet)	5212		
X	New Permit (CP1)	Modification (Issuance #)	APEN Required/Permit Exempt
		Transfer of Ownership	APEN Exempt/Permit Exempt
Notes			

Equipment Description

This source vents natural gas from:	a well head separator
Emissions from this source are:	routed to an open-flame flare

Natural gas venting from a well head separator. Emissions from this source are routed to an open-flame flare.

Emission Calculation Method

EPA Emission Inventory Improvement Program Publication: Volume II, Chapter 10 - Displacement Equation (10.4-3)

$$Ex = Q * MW * Xx / C$$

Ex = emissions of pollutant x

Q = Volumetric flow rate/volume of gas processed

MW = Molecular weight of gas = SG of gas * MW of air

Xx = mass fraction of x in gas

C = molar volume of ideal gas (379 scf/lb-mol) at 60F and 1 atm

Throughput (Q)	60.2 MMscf/yr	6872.1 scf/hr	5.11 MMscf/mo
MW	29.290 lb/lb-mol	0.001 MMscf/d	

	mole %	MW	lbx/lb-mol	mass fraction	E	lb/hr	lb/yr
Helium	0.01	4.0026	0.000	0.000	Helium	0.0	64
CO2	2.41	44.01	1.061	0.036	CO2	19.2	168471
N2	0.93	28.013	0.277	0.009	N2	5.0	44051
methane	57.45	16.041	9.216	0.315	methane	167.1	1463790
ethane	12.3985	30.063	3.727	0.127	ethane	67.6	592050
propane	13.3425	44.092	5.830	0.201	propane	106.7	934446
isobutane	1.5636	58.118	0.9087	0.031	isobutane	16.5	144342
n-butane	5.966	58.118	3.4673	0.118	n-butane	62.9	550746
isopentane	1.3095	72.114	0.9446	0.032	isopentane	17.1	150043
n-pentane	1.8495	72.114	1.3337	0.046	n-pentane	24.2	211851
cyclopentane	0.1783	70.13	0.1250	0.004	cyclopentane	2.3	19862
n-Hexane	0.4784	86.18	0.4123	0.014	n-Hexane	7.5	65487
cyclohexane	0.1309	84.16	0.1102	0.004	cyclohexane	2.0	17499
Other hexanes	0.8266	86.18	0.7124	0.024	Other hexanes	12.9	113151
heptanes	0.4728	100.21	0.4738	0.016	heptanes	8.6	75257
methylcyclohexane	0.1095	98.19	0.1075	0.004	methylcyclohexane	1.9	17078
224-TMP	0.0003	114.23	0.0003	0.000	224-TMP	0.0	54
Benzene	0.084	78.12	0.0656	0.002	Benzene	1.2	10423
Toluene	0.0606	92.15	0.0558	0.002	Toluene	1.0	8870
Ethylbenzene	0.0064	106.17	0.0068	0.000	Ethylbenzene	0.1	1079
Xylenes	0.0171	106.17	0.0182	0.001	Xylenes	0.3	2884
C8+ Heavies	0.2383	128.52	0.3934	0.013	C8+ Heavies	7.0	60898
	99.9532		VOC mass fraction: 29.290	0.5124			Total VOC Emissions (Uncontrolled annual limit assuming 95% control monthly limit assuming 95% control (lb/mo.)

Notes

Mole %, MW, and mass fractions from Nelson Ranches 1-33, 4-27-10-59 gas analysis.

I calculated the average MW of C8+ based on the average MW on the analysis for the gas.

Flaring Information

Equipment Description

Flare to combust produced gas until pipeline is available at this wellhead facility.

Manufacturer	TBD
Model	TBD
Serial Number	TBD
Gas Heating Value	1643.2 Btu/scf
Throughput	98920.64 MMBtu/yr

Combustion emission factor source:

AP-42: Chapter 13.5

0.068 lb NOx/MMBtu	0.37 lb CO/MMBtu
3.36 tpy NOx	18.30 tpy CO

Emissions Summary

Uncontrolled/PTE	3.36 tpy NOx
	18.30 tpy CO
	1191.985 tpy VOC
Controlled	59.599 tpy VOC

	Uncontrolled Total (lb/yr)	Scenario A Reportable?	Controlled Total (lb/yr)
Benzene	10423	Yes	521
Toluene	8870	Yes	444
Ethylbenzene	1079	Yes	54
Xylenes	2884	Yes	144
n-hexane	65487	Yes	3274
224-TMP	54	No	3

Regulatory Applicability

AQCC Regulation 1

This source is subject to the opacity requirements for flares in Section II.A.5: 'No owner or operator of a smokeless flare or other flare for the combustion of waste gases shall allow or cause emissions into the atmosphere of any air pollutant which is in excess of 30% opacity.'

AQCC Regulation 2

Section I.A applies to all emission sources. "No person, wherever located, shall cause or allow the emission of odorous air contaminants from any single source such as to result in detectable odors which are measured in excess of the following limits: For areas used predominantly for residential or commercial purposes it is a violation if odors are detected after the odorous air has been diluted with seven (7) or more volumes of odor free air."

AQCC Regulation 3

Part A:	An APEN is required for this source because uncontrolled VOC emissions exceed two tons per year in an attainment area.
Part B:	A permit is required for this source because uncontrolled VOC emissions from this facility exceed five tons per year in an attainment area. This source is not subject to Section III.D.2 (Minor Source RACT) because it is not located in a nonattainment area.
Is public comment required?	Public Comment Required

Facility Status

This facility is a synthetic minor source of VOC/HAP for Title V applicability.
This facility is a synthetic minor source of VOC/HAP for PSD applicability.

Emission Factors for Permit

Uncontrolled

NOX	111.7376	lb/MMscf natural gas vented
CO	607.984	lb/MMscf natural gas vented
VOC	39600.8298	lb/MMscf natural gas vented
Benzene	173.1420	lb/MMscf natural gas vented
Toluene	147.3427	lb/MMscf natural gas vented
Ethylbenzene	17.9284	lb/MMscf natural gas vented
Xylenes	47.9026	lb/MMscf natural gas vented
n-Hexane	1087.8235	lb/MMscf natural gas vented
2,2,4-TMP	0.9042	lb/MMscf natural gas vented

Controlled

NOX	111.7376	lb/MMscf natural gas vented
CO	607.984	lb/MMscf natural gas vented
VOC	1980.0415	lb/MMscf natural gas vented
Benzene	8.6671	lb/MMscf natural gas vented
Toluene	7.3671	lb/MMscf natural gas vented
Ethylbenzene	0.8964	lb/MMscf natural gas vented
Xylenes	2.3951	lb/MMscf natural gas vented
n-Hexane	54.3912	lb/MMscf natural gas vented
2,2,4-TMP	0.0452	lb/MMscf natural gas vented