San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING

NOV 22 2013

Ms. Theresa Geijer
Equilon Enterprises, LLC
2555 13th Ave SW
Seattle, WA 98134

Re: Proposed ATC / Certificate of Conformity (Significant Mod)
District Facility # N-758
Project # N-1123247

Dear Ms. Geijer:

Enclosed for your review is the District's analysis of an application for Authorities to Construct for the facility identified above. You requested that Certificates of Conformity with the procedural requirements of 40 CFR Part 70 be issued with this project. This project involves modifications to permits for storage and loading equipment at a gasoline bulk terminal.

After addressing all comments made during the 30-day public notice and the 45-day EPA comment periods, the District intends to issue the Authorities to Construct with Certificates of Conformity. Please submit your comments within the 30-day public comment period, as specified in the enclosed public notice. Prior to operating with modifications authorized by the Authorities to Construct, the facility must submit an application to modify the Title V permit as an administrative amendment, in accordance with District Rule 2520, Section 11.5.

If you have any questions, please contact Mr. Rupi Gill, Permit Services Manager, at (209) 557-6400.

Thank you for your cooperation in this matter.

Sincerely,

David Warner
Director of Permit Services

DW:JK/st

Enclosures

cc: Mike Tollstrup, CARB (w/enclosure) via email
cc: Gerardo C. Rios, EPA (w/enclosure) via email

Seyed Sadredin
Executive Director/Air Pollution Control Officer

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San Joaquin Valley Air Pollution Control District
Authority to Construct
Application Review

Facility Name:	Equilon Enterprises, LLC	Date:	November 18, 2013
Mailing Address:	2555 13th Ave SW	Engineer:	Jagmeet Kahlon
	Seattle, WA 98134	Lead Engineer:	Nick Peirce
Contact Person:	Theresa Geijer		
Telephone:	(206) 618-9061		
Fax:	(206) 826-0492		
Application #(s):	N-758-4-5, '-13-9, '-14-4 and '-16-0		
Project #:	N-1123247		
Deemed Complete:	October 8, 2013		

I. Proposal

N-758-4-5: 504,000 gallons (12,000 barrels) above ground internal floating roof tank
The applicant has proposed to expand the use of this tank to store diesel in addition to the currently permitted gasoline or denatured ethanol storage. They have proposed to increase the monthly throughput rate from 1,250,000 gallons to 7,560,000 gallons. No change to the daily throughput rate is proposed.

N-758-13-9: Vapor recovery system serving loading racks and storage tanks
The applicant has proposed to increase the annual throughput rate from 123,733,750 gallons to 196,000,000 gallons. No change to the daily throughput rate is proposed.

N-758-14-4: 689,139 gallons (16,408 barrels) external floating roof tank
The applicant has proposed to expand the use of this tank to store diesel or denatured ethanol in addition to the currently permitted gasoline storage. This tank is equipped with a mechanical shoe primary seal and wiper seal to reduce volatile organic compound (VOC) emissions.

N-758-16-0: 2,226,000 gallons (53,000 barrels) internal floating roof tank
The applicant has proposed to convert the existing diesel storage tank to store gasoline or denatured ethanol. This tank is evaluated as a new emissions unit.

This facility is a Major Source for VOC emissions, and possesses a Title V permit. The proposed project is a Federal Major Modification under Rule 2201; consequently this project triggers a 30-day public notice. The facility has requested to obtain Authorities to Construct (ATCs) with Certificate of Conformity (COC),

which is EPA's 45-day review of the draft permits before the issuance of final permits. Both COC and public notice will run concurrently.

II. Applicable Rules

Rule 2201 New and Modified Stationary Source Review Rule (4/21/11)
Rule 2410 Prevention of Significant Deterioration (11/26/12)
Rule 2520 Federally Mandated Operating Permits (6/21/01)
Rule 4001 New Source Performance Standards (4/14/99)
40 CFR Part 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984
40 CFR Part 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals
Rule 4002 National Emission Standards for Hazardous Air Pollutants (5/20/04)
40 CFR Part 63 Subpart R – Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)
40 CFR Part 63 Subpart BBBBBB – Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities
Rule 4102 Nuisance (12/17/92)
Rule 4623 Storage of Organic Liquids (5/19/05)
Rule 4624 Transfer of Organic Liquid (12/20/07)
California Health and Safety Code 41700 (Public Nuisance)
California Health and Safety Code 42301.6 (School Notice)
Public Resources Code 21000-21177: California Environmental Quality Act (CEQA)
California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387: CEQA Guidelines

III. Project Location

This facility is located at 3515 Navy Dr, Stockton, Califomia. There is no K-12 school within 1,000 feet of this location. Therefore, school notice, under California Health and Safety Code 42301.6, is not required for this project.

IV. Process Description

This facility is a bulk distribution terminal. Gasoline, diesel, and denatured ethanol are delivered to the facility via pipeline and trucks for bulk storage. As required by customer demand, organic liquids are loaded from the bulk storage tanks into tanker trucks for delivery to various retail/non-retail gasoline stations and other gasoline fueling facilities.

V. Equipment Listing

Pre-Project Equipment Description

Permit #	Equipment Description
N-758-4-4	ONE 504,000 GALLON (12,000 BBL) ABOVEGROUND INTERNAL FLOATING ROOF GASOLINE/DENATURED ETHANOL STORAGE TANK #19 WITH A PRIMARY MECHANICAL SHOE TYPE SEAL AND SECONDARY RIM-MOUNTED WIPER SEAL
N-758-13-8	ONE JOHN ZINK VAPOR RECOVERY SYSTEM, CARBON ADSORPTION UNIT, MODEL #AA1218715B AND VAPOR BLADDER TANK #16 IN THE VAPOR RECOVERY LINE BEFORE THE VAPOR RECOVERY SYSTEM.
N-758-14-3	ONE 689,136 GALLON (16,408 BBL) ABOVEGROUND WELDED EXTERNAL FLOATING ROOF GASOLINE STORAGE TANK (TANK #18) WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A SECONDARY WIPE SEAL

Post-Project Equipment Description

Permit #	Equipment Description
N-758-4-5	ONE 504,000 GALLON (12,000 BBL) ABOVEGROUND INTERNAL FLOATING ROOF GASOLINE/DENATURED ETHANOL STORAGE TANK #19 WITH A PRIMARY MECHANICAL SHOE TYPE SEAL AND SECONDARY RIM-MOUNTED WIPER SEAL
N-758-13-9	ONE JOHN ZINK VAPOR RECOVERY SYSTEM, CARBON ADSORPTION UNIT, MODEL #AA1218715B AND VAPOR BLADDER TANK #16 IN THE VAPOR RECOVERY LINE BEFORE THE VAPOR RECOVERY SYSTEM.
N-758-14-4	ONE 689,136 GALLON (16,408 BBL) ABOVEGROUND WELDED EXTERNAL FLOATING ROOF GASOLINE STORAGE TANK (TANK #18) WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A SECONDARY WIPE SEAL
N-758-16-0	ONE 2,226,000 GALLON (53,000 BBL) WELDED INTERNAL FLOATING ROOF GASOLINE/DENATURED ETHANOL/DIESEL STORAGE TANK (TANK #24) WITH A MECHANICAL SHOE PRIMARY SEAL AND A SECONDARY RIM-MOUNTED WIPER SEAL

VI. Emission Control Technology Evaluation

N-758-4-5, '-13-9 and '-14-4

The applicant is not proposing any changes to the existing emission control technique. Therefore, emission control technology evaluation is not required for these permit units.

N-758-16-0

The tank is equipped with a mechanical shoe primary seal and a secondary wiper seal to reduce VOC emissions. These seals are expected to control at least 95% of VOC emissions over the uncontrolled storage tank.

VII. General Calculations

A. Assumptions

- Assumptions will be stated, as they are made during this evaluation.

B. Emission Factors

1. Pre-Project Emission Factors (EF1):

N-758-4-4, '-14-3
Process:
The potential VOC emissions from each tank will either be calculated using EPA's Tanks 4.0.9d software program, or taken from the previous permitting actions. Therefore, emission factors are not listed here.

Other components:
Fugitive VOC emissions from valves, flanges, compressor seals etc. will be determined using CAPCOA 's "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) – Marketing Terminal. Total hydrocarbons (THC) reported in Table IV-1b are all assumed to be VOC.

Component Type	Source Type	VOC Emission Factor lb/hr/source
Valves	Gas	2.87E-05
	Light Liquid	9.48E-05
Pump Seals	Gas	1.43E-04
	Light Liquid	1.19E-03
Others (compressors and others)	Gas	2.65E-04
	Light Liquid	2.87E-04
Fittings (connectors and flanges)	Gas	9.26E-05
	Light Liquid	1.76E-05

N-758-13-8
Per PTO N-758-13-8,
EF1 = 0.08 lb-VOC/1,000 gallon of organic liquid loaded

2. Post-Project Emission Factors (EF2):

N-758-4-5, '-13-9, '-14-4
EF2 are same as EF1. Please refer to the discussion above.

N-758-16-0
Process:
The potential VOC emissions will be estimated using EPA's Tanks 4.0.9d software program.

Other components:
Please refer to the table above under N-758-4-4, '-14-3.

C. Calculations

1. Pre-Project Potential to Emit (PE1)

N-758-4-4[1]
Process:
This tank is permitted to store gasoline or denatured ethanol. The permit includes daily as well as monthly throughput limits. The potential emissions from this unit were estimated under project N-1110088 assuming gasoline with Reid Vapor Pressure (RVP) of 13 psi will be stored in the tank. However, RVP of the gasoline varies throughout the year, anywhere from 5.99 psi during summer months to 14 psi during winter months. The applicant's consultant has supplied the pre and post project TANKS runs under various RVP values using the permitted daily and monthly throughput of 504,000 gal/day and 1,250,000 gal/month. The results indicate that the highest emissions occur during the month of April; therefore, to get the daily emissions, the monthly emissions will be divided by 30.

PE1 = (342.9 lb-VOC/month) ÷ (30 days/month)
= 11.4 lb-VOC/day

The annual emissions are directly obtained from the TANKS run.

PE1 = 2,395 lb-VOC/yr

Note that EPA's Tanks 4.0.9d program results are included in Appendix III of this document.

Other components:
Fugitive component emissions are estimated using the following equation and are summarized in the following table.

[1]Permit N-758-4-4 also contains daily VOC emission limits. These limits are not used here since the pre and post project daily emissions are estimated using same methodology, that is, permitted daily and monthly throughput rates end various RVP values instead of a constant RVP of 13 for pre and post project emissions.

PE1 = VOC (lb/hr/source) × component count × 24 hr/day
= VOC (lb/hr/source) × component count × 8,760 hr/yr

Component Type	Source Type	VOC lb/hr/source	Component Count	PE2 lb/day	PE2 lb/yr
Valves	Gas	2.87E-05	0	0.00	0
	Light Liquid	9.48E-05	34	0.08	28
Pump Seals	Gas	1.43E-04	0	0.00	0
	Light Liquid	1.19E-03	3	0.09	31
Others (compressors and others)	Gas	2.65E-04	0	0.00	0
	Light Liquid	2.87E-04	0	0.00	0
Fittings (connectors and flanges)	Gas	9.26E-05	0	0.00	0
	Light Liquid	1.76E-05	64	0.03	10
			Total:	**0.20**	**69**

$PE1_{Total}$ = $PE1_{Tank}$ + $PE1_{Components}$
= 11.4 lb-VOC/day + 0.2 lb-VOC/day
= **11.6 lb-VOC/day**

= 2,395 lb-VOC/yr + 69 lb-VOC/yr
= **2,464 lb-VOC/yr**

N-758-13-7
VOC emissions due to loading of organic liquids in tanker trucks are routed to a vapor recovery system under this permit. This permit limits gasoline throughput to 895,000 gal/day and 123,733,750 gal/year. The potential emissions would be:

PE1 = (0.08 lb-VOC/1,000 gal of organic liquid loaded)(895,000 gal/day)
= 71.6 lb-VOC/day

= (0.08 lb-VOC/1,000 gal of organic liquid loaded)(123,733,750 gal/yr)
= 9,899 lb-VOC/yr

This permit limits fugitive VOC emissions associated with the unit to 9,362 lb-VOC/yr. Thus,

$PE1_{Total}$ = 9,899 lb-VOC/yr + 9,362 lb-VOC/yr
= 19,261 lb-VOC/yr

N-758-14-3
Process:
This tank is permitted to store gasoline. Further, the permit lists daily and annual throughput limits. The monthly throughput is estimated to be 20,961,220 gal[2]. EPA's TANKS 4.0d program run indicate that the highest emissions occur in the month of June. Therefore, to obtain the daily emissions, monthly emissions are divided by 30.

PE1 = (866.0 lb-VOC/month)/(30 days/month)
= 28.9 lb-VOC/day

The annual emissions are directly obtained from the TANKS run.

= 6,707 lb-VOC/yr

Note that EPA's Tanks 4.0.9d program results are included in Appendix III of this document.

Other components:
Fugitive component emissions are estimated using the following equation and are summarized in the following table.

PE1 = VOC (lb/hr/source) × component count × 24 hr/day
= VOC (lb/hr/source) × component count × 8,760 hr/yr

Component Type	Source Type	VOC lb/hr/source	Component Count	PE2 lb/day	PE2 lb/yr
Valves	Gas	2.87E-05	0	0.00	0
	Light Liquid	9.48E-05	5	0.01	4
Pump Seals	Gas	1.43E-04	0	0.00	0
	Light Liquid	1.19E-03	1	0.03	10
Others (compressors and others)	Gas	2.65E-04	0	0.00	0
	Light Liquid	2.87E-04	0	0.00	0
Fittings (connectors and flanges)	Gas	9.26E-05	0	0.00	0
	Light Liquid	1.76E-05	10	0.00	2
			Total:	**0.04**	**16**

$PE1_{Total}$ = $PE1_{Tank}$ + $PE1_{Components}$
= 28.9 lb-VOC/day + 0.0 lb-VOC/day
= 28.9 lb-VOC/day

[2]Monthly throughput rate = 689,136 gal/day × 365 days/yr × year/12 months

= 6,707 lb-VOC/yr + 16 lb-VOC/yr
= 6,723 lb-VOC/yr

2. Post Project Potential to Emit (PE2)

N-758-4-5
Process:
The applicant has proposed to increase the monthly throughput rate from 1,250,000 gallons to 7,560,000 gallons. EPA's TANKS 4.0.9d program is used to estimate daily and monthly emissions using the proposed throughput rate. The results indicate that the highest emissions occur during the month of April. Therefore, the monthly emissions will be divided by 30 to get the daily emissions.

PE2 = (342.9 lb-VOC/month) ÷ (30 days/month)
= 11.4 lb-VOC/day

The annual emissions are directly extracted from the TANKS run.

= 2,699 lb-VOC/yr

Note that EPA's Tanks 4.0.9d program results are included in Appendix III of this document.

Other components:
There is no change in component count. Therefore, PE2 will be same as PE1.

PE2 = 0.2 lb/day
= 69 lb-VOC/yr

$PE2_{Total}$ = $PE2_{Tank}$ + $PE2_{Components}$
= 11.4 lb-VOC/day + 0.2 lb-VOC/day
= 11.6 lb-VOC/day

= 2,699 lb-VOC/yr + 69 lb-VOC/yr
= 2,768 lb-VOC/yr

N-758-13-9
The applicant has proposed to increase the annual throughput rate from 123,733,750 gallons to 196,000,000 gallons. No change to the daily throughput rate is proposed; therefore, daily emissions will remain same.

PE2 =71.6 lb-VOC/day

= (0.08 lb-VOC/1,000 gal of organic liquid loaded)(196,000,000 gal/yr)
= 15,680 lb-VOC/yr

Fugitive VOC emissions associated with the unit will remain same at 9,362 lb-VOC/yr. Thus,

$PE2_{Total}$ = 15,680 lb-VOC/yr + 9,362 lb-VOC/yr
= 25,042 lb-VOC/yr

N-758-14-4
Process:
The applicant has proposed to expand the use of this tank to store denatured ethanol and diesel in addition to the already permitted storage of gasoline product. Storing gasoline would result in the highest amount of emissions as opposed to denatured ethanol. Therefore, PE2 will be same PE1.

Other components:
Fugitive component emissions are estimated using the following equation and are summarized in the following table.

PE2 = VOC (lb/hr/source) × component count × 24 hr/day
= VOC (lb/hr/source) × component count × 8,760 hr/yr

Component Type	Source Type	VOC	Component Count	PE2	
		lb/hr/source		lb/day	lb/yr
Valves	Gas	2.87E-05	0	0.00	0
	Light Liquid	9.48E-05	22	0.05	18
Pump Seals	Gas	1.43E-04	0	0.00	0
	Light Liquid	1.19E-03	3	0.09	31
Others (compressors and others)	Gas	2.65E-04	0	0.00	0
	Light Liquid	2.87E-04	0	0.00	0
Fittings (connectors and flanges)	Gas	9.26E-05	0	0.00	0
	Light Liquid	1.76E-05	42	0.02	6
			Total:	**0.16**	**55**

$PE2_{Total}$ = $PE2_{Tank}$ + $PE2_{Components}$
= 28.9 lb-VOC/day + 0.2 lb-VOC/day
= **29.1 lb-VOC/day**

= 6,707 lb-VOC/yr + 55 lb-VOC/yr
= **6,762 lb-VOC/yr**

N-758-16-0
Process:
EPA's TANKS 4.0.9d program is used to estimate the daily and annual emissions.

The daily emissions are estimated using the proposed monthly maximum throughput rate of 67,707,500 gal.

PE2 = (317.2 lb-VOC/month) ÷ (30 days/month)
= 10.6 lb-VOC/day

The annual emissions are estimated using the proposed annual maximum throughput rate of 162,802,140 gal.

PE2 = 1,736 lb-VOC/yr

Note that EPA's Tanks 4.0.9d program results are included in Appendix III of this document.

Other components:
Fugitive component emissions are estimated using the following equation and are summarized in the following table.

PE2 = VOC (lb/hr/source) × component count × 24 hr/day
= VOC (lb/hr/source) × component count × 8,760 hr/yr

Component Type	Source Type	VOC	Component Count	PE2	
		lb/hr/source		lb/day	lb/yr
Valves	Gas	2.87E-05	0	0.00	0
	Light Liquid	9.48E-05	26	0.06	22
Pump Seals	Gas	1.43E-04	0	0.00	0
	Light Liquid	1.19E-03	3	0.09	31
Others (compressors and others)	Gas	2.65E-04	0	0.00	0
	Light Liquid	2.87E-04	0	0.00	0
Fittings (connectors and flanges)	Gas	9.26E-05	0	0.00	0
	Light Liquid	1.76E-05	100	0.04	15
			Total:	**0.19**	**68**

$PE2_{Total}$ = $PE2_{Tank}$ + $PE2_{Components}$
= 10.6 lb-VOC/day + 0.2 lb-VOC/day
= 10.8 lb-VOC/day

= 1,736 lb-VOC/yr + 68 lb-VOC/yr
= 1,804 lb-VOC/yr

3. Quarterly Emissions Changes (QECs)

This calculation is required for application's emission profile, which is used for the District's internal tracking purposes. In general, QECs are calculated as follows:

QEC = (PE2 – PE1)/4

Permit #	VOC (lb)			
	Q1	Q2	Q3	Q4
N-758-4-5	76	76	76	76
N-758-13-9	1,445	1,445	1,445	1,446
N-758-14-4	9	10	10	10
N-758-16-0	451	451	451	451

4. Adjusted Increase in Permitted Emissions (AIPE)

AIPE is used to determine if BACT is required for emission units that are being modified. AIPE is calculated using the equations mentioned in Section 4.3 and 4.4 of Rule 2201.

$$AIPE = PE2 - \left(\frac{EF2}{EF1}\right)(PE1)$$

N-758-4
Process:
EF2 = EF1; therefore,

AIPE = PE2 – PE1
= 11.4 lb-VOC/day – 11.4 lb-VOC/day
= 0.0 lb-VOC/day

Other components:
PE2 is less than 2.0 lb-VOC/day; therefore, AIPE must be less than 2.0 lb-VOC/day.

N-758-13
EF2 = EF1; therefore,

AIPE = PE2 – PE1
= 71.6 lb-VOC/day – 71.6 lb-VOC/day
= 0.0 lb-VOC/day

Note that there is an increase in annual throughput rate, which is viewed as additional days of operation, and for each new day, the potential emissions (PE2) are over 2.0 lb-VOC/day.

N-758-14
EF2 = EF1; therefore,

Process:
AIPE = PE2 – PE1
= 28.9 lb-VOC/day – 28.9 lb-VOC/day
= 0.0 lb-VOC/day

Other components:
PE2 is less than 2.0 lb-VOC/day; therefore, AIPE must be less than 2.0 lb-VOC/day.

N-758-16
This is a new emission unit. Therefore, AIPE calculations are not required.

D. Facility Emissions

1. Pre-Project Stationary Source Potential to Emit (SSPE1)

Pursuant to Section 4.9 of District Rule 2201, the Pre-Project Stationary Source Potential to Emit (SSPE1) is the Potential to Emit (PE) from all emission units with valid ATCs or PTOs at the Stationary Source and the quantity of Emission Reduction Credits (ERCs) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site. Except for the permit units in this project, the potential emissions for each permit unit are taken from the application review of project N-1123688.

SSPE1 (lb/yr)					
Permit #	NO_x	SO_x	PM_{10}	CO	VOC
N-758-1-1	0	0	0	0	297
N-758-2-1	0	0	0	0	353
N-758-3-3 and '-7-3	0	0	0	0	26,600
N-758-4-4	**0**	**0**	**0**	**0**	**2,464**
N-758-5-5	0	0	0	0	3,742
N-758-6-2	0	0	0	0	6,583

Continue...

Permit #	NO_x	SO_x	PM_{10}	CO	VOC
N-758-9-1	0	0	0	0	0[3]
N-758-10-2	0	0	0	0	0[3]
N-758-11-2	0	0	0	0	0[3]
N-758-13-8	**0**	**0**	**0**	**0**	**19,261**
N-758-14-3	**0**	**0**	**0**	**0**	**6,723**
N-758-15-1	**0**	**0**	**0**	**0**	9
ERC	0	0	0	0	0
Total	0	0	0	0	66,032

2. Post-Project Stationary Source Potential to Emit (SSPE2)

Pursuant to Section 4.10 of District Rule 2201, the Post Project Stationary Source Potential to Emit (SSPE2) is the Potential to Emit (PE) from all units with valid Authorities to Construct (ATC) or Permits to Operate (PTO) at the Stationary Source and the quantity of emission reduction credits (ERC) which have been banked since September 19, 1991 for Actual Emissions Reductions that have occurred at the source, and which have not been used on-site.

SSPE2 (lb/yr)					
Permit #	NO_x	SOx	PM_{10}	CO	VOC
N-758-1-1	0	0	0	0	297
N-758-2-1	0	0	0	0	353
N-758-3-3 and '-7-3	0	0	0	0	26,600
N-758-4-5	**0**	**0**	**0**	**0**	**2,768**
N-758-5-5	0	0	0	0	3,742
N-758-6-2	0	0	0	0	6,583
N-758-9-1	0	0	0	0	0
N-758-10-2	0	0	0	0	0
N-758-11-2	0	0	0	0	0
N-758-13-9	**0**	**0**	**0**	**0**	**25,042**
N-758-14-4	**0**	**0**	**0**	**0**	**6,762**
N-758-15-1	**0**	**0**	**0**	**0**	9
N-758-16-0	**0**	**0**	**0**	**0**	**1,804**
ERC	0	0	0	0	0
Total	0	0	0	0	73,960

[3]VOC from permit units N-758-9, '-10 and '-11 are vented to the vapor recovery system under permit N-758-13. Therefore, VOC emissions from these units are counted toward permit unit N-758-13.

3. Major Source Determination

Rule 2201 Major Source Determination
Pursuant to District Rule 2201, a Major Source is a stationary source with a SSPE2 equal to or exceeding one or more of the following threshold values. For the purposes of determining major source status the following shall not be included:

- Any ERCs associated with the stationary source
- Emissions from non-road IC engines (i.e. IC engines at a particular site at the facility for less than 12 months)
- Fugitive emissions, except for the specific source categories specified in 40 CFR Part 70.2

This facility operates bulk terminal where organic liquids (gasoline, diesel, denatured ethanol, etc.) are stored and loaded to tanker trucks to be distributed to the nearby gasoline dispensing facilities. This operation is subject to various NSPS (40 CFR Part 60) and NEHAPS (40 CFR Part 63). Therefore, fugitive emissions from this facility will be included in the SSPE balance for Major source determination.

Rule 2201 Major Source Determination (lb/year)					
Category	NO_X	SO_X	PM_{10}	CO	VOC
SSPE1	0	0	0	0	66,032
SSPE2	0	0	0	0	73,960
Major Source Thresholds	20,000	140,000	140,000	200,000	20,000
Major Source?	No	No	No	No	Yes

From the above table, it is determined that this facility is an existing Major Source and will remain Major Source for VOC emissions after the proposed project.

Rule 2410 Major Source Determination
The total gasoline storage capacity at this site is less than 300,000 barrels. Therefore, this facility does not qualify for a source category specified in 40 CFR 52.21 (b)(1)(i). Therefore the following PSD Major Source thresholds are applicable.

PSD Major Source Determination (tons/year)							
Category	NO_2	VOC	SO_2	CO	PM	PM_{10}	CO2e
Estimated Facility PE before Project Increase	0.0	33.0	0.0	0.0	0.0	0.0	14.9[4]
PSD Major Source Thresholds	250	250	250	250	250	250	100,000
PSD Major Source?	No	No	No	No	No	No	No

From the above table, this facility is not an existing Major Source under PSD.

4. Stationary Source Increase in Potential Emissions (SSIPE)

It is District Practice to define the SSIPE as the difference of SSPE2 and SSPE1. Negative SSIPE values are equated to zero.

Pollutant	SSPE2 (lb/yr)	SSPE1 (lb/yr)	SSIPE (lb/yr)
NO_x	0	0	0
SO_x	0	0	0
PM_{10}	0	0	0
CO	0	0	0
VOC	73,960	66,032	7,928

5. SB-288 Major Modification

The purpose of Major Modification calculations is to determine the following:

A. If Best Available Control Technology (BACT) is triggered for a new or modified emission unit; and

B. If a public notification is triggered (District Rule 2201, Section 5.4.1).

Per section VII.D.3 of this document, this facility is a Major Source for VOC emissions. Thus, analysis is required to determine if this project triggers an SB-288 Major Modification.

[4]CO2e (Storage Tanks) = (46,771 lb-VOC/yr, total for all tanks including fugitives) x (1.36 lb-CH4/100 lb-VOC taken from Appendix I, page 3 of Best Performance Standard for gasoline dispensing facilities, assuming 1 lb-VOC = 1 lb-HC) x (21, global warming potential (GWP)) x (1 ton/2,000 lb) = 6.7 tons-CO2e/yr;

CO2e (loadout, N-758-13) = (1.07 lb-CH4/169,628 gal organic liquid loaded, source test September 2009) x 123,733,750 gal/yr, permitted loedout rate) x (21, GWP) x (1 ton/2,000 lb) = 8.2 tons-CO2e/yr

Total CO2e = 6.7 tons/yr + 8.2 tons/yr = 14.9 tons/yr

To determine if the proposed project triggers an SB-288 major modification, net emission increase (NEI) is calculated by determining the sum of the difference of PE2 and historical emissions (HE) of all the units involved in the project. This NEI value is then compared with the SB 288 Major Modification threshold of 50,000 lb-VOC/year.

$NEI = \sum(PE2 - HE)$

NEI would be highest if HE is set equal zero. Thus,

$NEI = \sum PE2$
$= PE2_{N\text{-}758\text{-}4\text{-}5} + PE2_{N\text{-}758\text{-}13\text{-}9} + PE2_{N\text{-}758\text{-}14\text{-}4} + PE2_{N\text{-}758\text{-}16\text{-}0}$
$= (2{,}768 + 25{,}042 + 6{,}762 + 1{,}804)$ lb-VOC/yr
$= 36{,}376$ lb-VOC/yr

The total VOC emissions from the units involved in the project are less than the SB 288 Major Modification threshold. Therefore, this project is not an SB 288 Major Modification.

6. Federal Major Modification

District Rule 2201 states that a Federal Major Modification is the same as a "Major Modification" as defined in 40 CFR 51.165 and part D of Title I of the CAA.

N-758-4-5
For existing emissions units, the increase in emissions is calculated as follows.

Emission Increase = PAE – BAE - UBC

Where: PAE = Projected Actual Emissions, and
BAE = Baseline Actual Emissions
UBC = Unused baseline capacity

If there is no increase in design capacity or potential to emit, the PAE is equal to the annual emission rate at which the unit is projected to emit in any one year, selected by the operator, within 5 years after the unit resumes normal operation (10 years for existing units with an increase in design capacity or potential to emit). If detailed PAE are not provided, the PAE is equal to the PE2 for each permit unit.

$PAE = PE2_{N\text{-}758\text{-}4\text{-}5}$
$= 2{,}768$ lb-VOC/yr

The BAE is calculated based on historical emissions and operating records for any 24 month period, selected by the operator, within the previous 10 year period (5 years for electric utility steam generating units). The BAE must be adjusted to exclude any non-compliant operation emissions and emissions that are no longer allowed due to lower applicable emission limits that were in effect when this application was deemed complete. BAE are determined using the emissions inventory data for the past two years 2010 and 2011. The average of these two year data is used to estimate the BAE for this unit.

BAE = $BAE_{N\text{-}758\text{-}4\text{-}4}$
= 609[5] lb-VOC/yr

UBC: UBC is the portion of PAE that the emission units could have accommodated during the baseline period. This cannot be used in this project because the applicant has proposed to increase the utilization of this unit. Therefore,

UBC = 0 lb-VOC/yr

Emissions Increase = PAE – BAE – UBC
= 2,768 lb-VOC/yr – 609 lb-VOC/yr – 0 lb-VOC/yr
= 2,159 lb-VOC/yr

N-758-13-9:
Emission Increase = PAE – BAE - UBC

Where, PAE = $PE2_{N\text{-}758\text{-}13\text{-}9}$ (Process Only, not including fugitives as it is assumed to be same for pre and post project configurations)
= 15,680 lb-VOC/yr
BAE = 5,144 lb-VOC/yr[6]
UBC = 0 lb-VOC/yr

Emissions Increase = 15,680 lb-VOC/yr – 5,144 lb-VOC/yr – 0 lb-VOC/yr
= 10,536 lb-VOC/yr

[5]BAE also includes 69 lb-VOC/yr emissions from other components including valves, flanges, connectors, etc.

[6]Based on the review of the emissions inventory data from 2007-2011, the highest amount of actual VOC emissions occurred in 2009 and 2010; therefore, 2009 and 2010 data are used here. The actual emissions are estimated using source test emission factor and loadout rate of gasoline and ethanol shown under permit N-758-9.

N-758-14-4
Process:
The proposed modification to include a capability to store denatured ethanol or diesel does not result in an increase in design capacity or potential to emit, and it does not impact the ability of any emission unit to operate at a higher utilization rate (and there are no increase in existing physical or legal limitations on the unit's ability to operate at a higher utilization rate), the emission increase from this unit is presumed to be 0.

Other components:
The emissions increase due to an increase in number of components is estimated to be 39 lb-VOC/yr.

N-758-16-0
For new emissions units, the increase in emissions is equal to the PE2 for each new unit included in this project.

Emissions Increase = 1,804 lb-VOC/yr

Summary:
The project's combined total VOC emission increase is 14,538 lb/yr (2,159 + 10,536 + 39 + 1,804), which exceed 0 lb/yr thresholds for Federal Major Modification. Therefore, this project is a Federal Major Modification.

VIII. Compliance

Rule 2201 New and Modified Stationary Source Review Rule

1. Best Available Control Technology (BACT)

BACT requirements shall be triggered on a pollutant-by-pollutant basis and on an emissions unit-by-emissions unit basis. Unless exempted pursuant to Section 4.2, BACT shall be required for the following actions[7]:

- Any new emissions unit or relocation from one Stationary Source to another of an existing emissions unit with a Potential to Emit (PE2) exceeding 2.0 pounds in any one day;

- Modifications to an existing emissions unit with a valid Permit to Operate resulting in an Adjusted Increase in Permitted Emissions (AIPE) exceeding 2.0 pounds in any one day;

[7]Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of less than 200,000 pounds per year of CO.

- Any new or modified emissions unit, in a stationary source project, which results in an SB 288 Major Modification or a Federal Major Modification, as defined in this rule.

N-758-4-5
Per section VII.C.4 of this document, AIPE from the proposed modifications is not greater than 2.0 pounds per day for VOC emissions.

However, the VOC emissions increase calculated under section VII.D.6 is greater than 0 lb/yr threshold for Federal Major Modification. Therefore, this unit triggers BACT for VOC emissions.

BACT guideline 7.3.3 requires 95% control for VOC emission using primary metal shoe seal with secondary wiper seal or equivalent. The tank is equipped with primary mechanical shoe and secondary wiper seals. Therefore, this unit meets the BACT requirements.

N-758-13-9
Per section VII.C.4 of this document, AIPE from the proposed modifications is not greater than 2.0 pounds per day for VOC emissions.

However, the proposed increase in annual throughput rate allows additional days of operation, and the PE2 for each of those days is 71.6 lb-VOC/day, greater than the 2.0 lb-VOC/day threshold. In addition, the VOC emissions increase calculated under section VII.D.6 is greater than 0 lb/yr threshold for Federal Major Modification. Therefore, this unit triggers BACT for VOC emissions.

BACT guideline 7.1.10 requires bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare (or equivalent) with destruction efficiency of 99% or greater. The following conditions will ensure compliance with the BACT:

- All trucks shall be bottom loaded (or submerge loaded) using dry break couplers. [District Rules 2201 and 4102]

- VOC control efficiency of the carbon adsorber system shall be at least 99% on weight basis. [District Rules 2201 and 4102]

N-758-14-4
Per section VII.C.4 of this document, AIPE from the proposed modifications is not greater than 2.0 pounds per day. Furthermore, the VOC emissions increase calculated under section VII.D.6 is not greater than 0 lb/yr threshold for Federal Major Modification. Therefore, this unit does not trigger BACT for VOC emissions.

N-758-16-0
Per section VII.C.2 of this document, PE2 is greater than 2.0 pounds per day for VOC emissions. Thus, this unit triggers BACT for VOC emissions.

BACT guideline 7.3.3 requires 95% control for VOC emission using primary metal shoe seal with secondary wiper seal or equivalent. The tank is equipped with primary mechanical shoe and secondary wiper seals. Therefore, this unit meets the BACT requirements.

Please refer to Appendix II for Top-Down BACT Analysis for permit units N-758-4, '-13, and '-16.

2. Offsets

This facility's total VOCs are above the offset threshold of 20,000 pounds per year. Therefore, offset calculations are required for this project.

Section 4.7.1 states that for pollutants with SSPE1 greater than the emission offset threshold levels, emission offsets shall be provided for all increases in Stationary Source emissions, calculated as the differences of post-project Potential to Emit (PE2) and the Baseline Emissions (BE) of all new and modified emissions units, plus all increases in Cargo Carrier emissions. Thus,

EOQ = Σ(PE2 – BE) + ICCE, where

PE2 = Post-Project Potential to Emit
BE = Baseline Emissions
ICCE = Increase in Cargo Carrier emissions

There is no increase in Cargo Carrier emissions from this project. Thus,

EOQ = Σ(PE2 – BE)

N-758-4 and '-14:
The storage tanks are clean emission unit as they both comply with the achieved-in-practice BACT standard, which is 95% control of VOC using primary mechanical seal and secondary wiper seals. Therefore, BE for these units is set equal to PE1.

N-758-14:
The proposed increase in VOC emissions is 0.2 lb/day, which is below 0.5 lb/day; therefore, this increase is equated to zero per District Policy APR-1130, and no offsets are required for this permit unit.

N-758-13:
The loading racks are served by a vapor collection and control system. These units are found to be clean emissions units as they comply with the achieved-in-practice BACT, which is bottom loading of trucks and use of control equipment capable of reducing at least 99% of VOC emissions. The existing carbon adsorber system was found to be 99.5% efficient in reducing VOC emissions during a test on September 29, 2011. Therefore, BE for this unit is set equal to PE1.

N-758-16-0:
The emission unit under this permit is a new emission unit; therefore, BE is set equal to 0.

Based on the above discussion, the total EOQ is summarized in the table below:

Permit #	PE2 (lb-VOC/yr)	PE1 (lb-VOC/yr)	EOQ (lb-VOC/yr)
N-758-4-5	2,768	2,464	304
N-758-13-9	25,042	19,261	5,781
N-758-14-4	–	–	0
N-758-16-0	1,804	0	1,804
		EOQ:	7,889

Per section 4.8.1 of Rule 2201, for NO_x and VOC offsets for new Major Sources and Federal Major Modifications, the distance offset ratio shall be 1.5. This project triggers a Federal Major Modification. Therefore, the total amount of offset would be 11,834 pounds per year for VOC emissions (7,889 lb-VOC/yr × 1.5).

The applicant is in contract to purchase a total of 11,902 lb-VOC/yr (11,310 lb-VOC/yr from ERC S-3809-1, and 592 lb-VOC/yr from ERC N-1000-1) of Emission Reduction Credits (ERC) to offset the VOC emissions increase from this project. The amount is determined to be sufficient to offset the VOC emissions increase.

3. Public Notification

District Rule 2201, section 5.4, requires a public notification for the affected pollutants from the following types of projects:

- New Major Sources
- Major Modifications (SB -288, Federal)
- New emission units with a PE>100 lb/day of any one pollutant

- Modifications with SSPE1 below an Offset threshold and SSPE2 above an Offset threshold on a pollutant-by-pollutant basis
- New stationary sources with SSPE2 exceeding Offset thresholds
- Any permitting action with a SSIPE exceeding 20,000 lb/yr for any one pollutant

Per section VII.D.6 of this document, this project is a Federal Major Modification. Therefore, 30-day public notice is required for this project.

4. Daily Emission Limits

Rule 2201 requires having daily emissions limit (DEL) in a permit. The proposed DELs are as follows:

N-758-4-3:

- VOC emissions from this tank shall not exceed 11.4 pounds in any one day. [District Rule 2201]

- Fugitive VOC from valves, flanges, connector, pump seals etc., associated with this tank shall not exceed any of the following limits: 0.2 lb/day and 69 lb/year. [District Rule 2201]

N-758-13-9:

- The facility shall be equipped with bottom loading and a vapor collection and control system such that the VOC emissions shall not exceed 0.08 pounds per 1,000 gallons of organic liquid loaded. [District Rules 2201 and 4624]

- The John Zink vapor processing unit is authorized to handle gasoline vapors from a total of no more than 895,000 gallons of gasoline throughput per day, nor 196,000,000 gallons of gasoline throughput in a 12 consecutive month rolling period. [District Rules 2201 and 4624]

N-758-14-4:

- VOC emissions from this tank shall not exceed 28.9 pounds in any one day. [District Rule 2201]

- Fugitive VOC from valves, flanges, connector, pump seals etc., associated with this tank shall not exceed any of the following limits: 0.2 lb/day and 55 lb/year. [District Rule 2201]

N-758-16-0:

- VOC emissions from this tank shall not exceed 10.6 pounds in any one day. [District Rule 2201]

- Fugitive VOC from valves, flanges, connector, pump seals etc., associated with this tank shall not exceed any of the following limits: 0.2 lb/day and 68 lb/year. [District Rule 2201]

5. Compliance Assurance

Source Testing
N-758-4-5, '-14-4, and '-16-0:
Pursuant to District Policy APR-1705 (10/9/97), source testing is not required to demonstrate compliance with Rule 2201.

N-758-13-9:
Per District Policy APR-1705 (10/9/97), source testing is required for units equipped with carbon adsorption for control of VOCs upon initial startup and annually thereafter.

The conditions in PTO N-758-13-8 require annual testing of the carbon adsorber system. Therefore, these conditions will be replicated on this permit. No initial startup testing is required as the applicant is not proposing any physical changes to the equipment that would adversely affects its existing control efficiency.

Monitoring
N-758-4-5, '-14-4, and '-16-0:
The permittee is required to monitor RVP, temperature of the organic liquid, and throughput rate. These parameters can be used in the TANKS program to determine on-going compliance with the daily and annual limits in the permit.

N-758-13-9:
The conditions in PTO N-758-13-8 requires to use continuous monitoring system to measure and record the VOC emissions (and other parameters to determine compliance with 0.08 lb-VOC/1,000 gallon of organic limit) while gasoline vapors are vented to the carbon adsorber system. Thus, no additional monitoring is required.

Recordkeeping
N-758-4-5, '-14-4, and '-16-0:
The facility will be required to keep records of throughput, RVP, TVP, temperature of the organic liquid and throughput rate. These records are required to be maintained on-site for a period of at least five years.

N-758-13-9:
The facility will be required to keep records of throughput and monitoring data. These records are required to be maintained on-site for a period of at least five years.

Reporting
N-758-4-5, '-13-9, '-14-4:
No additional reporting is required. However, any existing reporting requirements will be replicated in these permits.

N-758-16-0:
No reports are required for this unit.

6. Ambient Air Quality Analysis

Per Section 4.14 of Rule 2201, ambient air quality analysis (AAQA) shall be conducted for the purpose of determining whether a new or modified Stationary Source will cause or make worse the violation of an Ambient Air Quality Standard (AAQS).

This project results in an increase in VOC emissions for which AAQS does not exist; therefore, AAQA is not performed for this project.

7. Additional Requirements for new Major Sources and Federal Major Modifications

Per Section 4.15 of Rule 2201, "Compliance Certification" and "Alternative Siting Analysis" is required for any project, which constitutes a New Major Source or a Federal Major Modification.

Compliance Certification
The owner of a new Major Source or a source undergoing a Federal Major Modification to demonstrate to the satisfaction of the District that all other Major Sources owned by such person and operating in California are in compliance or are on a schedule for compliance with all applicable emission limitations and standards. The compliance certification from the facility is included in Appendix IV of this document.

Alternative Siting Analysis
This project involves about 12% increase in facility's potential VOC emissions, majority of which is merely due to the proposed operational changes. This project at the existing site is expected to result in the least possible impact to the environment as oppose to relocating the operations at an alternative site. Alternative sites would involve the relocation and/or construction of various

support structures and facilities on a much greater scale, and would therefore, result in a much greater impact.

Compliance is expected with this Rule.

Rule 2410 Prevention of Significant Deterioration

Rule 2410 applies to pollutants for which the District is in attainment or for unclasssified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- CO
- PM
- PM10
- Greenhouse gases (GHG): CO2, N2O, CH4, HFCs, PFCs, and SF6

Step1:
The first step of this PSD evaluation consists of determining whether the facility is an existing PSD Major Source or not.

Per section VII.D.3 of this document, this facility is not an existing Major PSD source.

Step2:
In the case the facility is NOT an existing PSD Major Source but is an existing source, the second step of the PSD evaluation is to determine if the project, by itself, would be a PSD major source.

I. Potential to Emit for New or Modified Emission Units vs PSD Major Source Thresholds

As a screening tool, the project potential to emit from all new and modified units is compared to the PSD major source threshold, and if total project potential to emit from all new and modified units is below this threshold, no futher analysis will be needed.

The facility or the equipment evaluated under this project is not listed as one of the categories specified in 40 CFR 52.21 (b)(1)(i). Therefore, the following PSD Major Source thresholds are applicable.

PSD Significant Emission Increase Determination: Potential to Emit (tons/year)							
Category	NO_2	VOC	SO_2	CO	PM	PM_{10}	CO2e
Total PE from N-758-4-5, '-13-9, '-14-4 and '-16-0	0.0	37.0	0.0	0.0	0.0	0.0	18.2[8]
PSD Major Source threshold	250	250	250	250	250	250	100,000
New PSD Major Source?	No	No	No	No	No	No	No

As shown in the table above, the project potential to emit, by itself, does not exceed any of the PSD major source thresholds. Therefore, Rule 2410 is not applicable and no further discussion is required.

Rule 2520 Federally Mandated Operating Permits

This facility is a Major Source for VOC emissions. Therefore, this facility is subject to the requirements of this rule. The proposed project is a "significant modification" to the Title V permit, as the project is a Federal Major Modification. The facility has proposed to process this project with COC. The following conditions will be included in the permit:

- This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201]

- Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

In accordance with Rule 2520, the application meets the procedural requirements of section 11.4 by including:

[8]CO2e (N-758-4, '-14-4 and '-16-0) = (36,376 lb-VOC/yr, total for all tanks including fugitives) x (1.36 lb-CH4/100 lb-VOC taken from Appendix I, page 3 of Best Performance Standard for gasoline dispensing facilities, assuming 1 lb-VOC = 1 lb-HC) x (21, global warming potential (GWP)) x (1 ton/2,000 lb) = 5.2 tons-CO2e/yr;

CO2e (loadout, N-758-13-9) = (1.07 lb-CH4/169,828 gal organic liquid loaded, source test September 2009) x 198,000,000 gal/yr, permitted loadout rate) x (21, GWP) x (1 ton/2,000 lb) = 13 tons-CO2e/yr

Total CO2e = 5.2 tons/yr + 13 tons/yr = 18.2 tons/yr

- A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs and
- The source's suggested draft permit (Appendix I of this document) and
- Certification by a responsible official that the proposed modification meets the criteria for use of major permit modification procedures and a request that such procedures be used (Appendix IV of this document).

Section 5.3.4 of this rule requires the permittee shall file an application for administrative permit amendments prior to implementing the requested change except when allowed by the operational flexibility provisions of section 6.4 of this rule. The facility is expected to notify the District by filing TV Form-008 upon implementing the ATCs. The District Compliance Division is expected to submit a change order to implement ATCs into Permits to Operate (PTOs).

Compliance is expected with this Rule.

Rule 4001 New Source Performance Standards

40 CFR Part 60 Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced After July 23, 1984

§60.110b: Applicability and designation of affected facility
This subpart applies to each storage vessel with a capacity greater than 75 m^3 (19,813 gal) that is used to store a volatile organic liquid for which construction, reconstruction, or modification is commenced after July 23, 1984. A storage vessel may be exempt from the requirements of this subpart as long as it qualifies §60.110b(b) or §60.110b(d), or meet alternate means of compliance in §60.110b(e).

N-758-4-5: 504,000 gallons (12,000 barrels) above ground internal floating roof tank
The storage capacity of this tank is greater than 75 m^3 (19,813 gal), and the tank was installed after July 23,1984. Furthermore, the tank operation is modified under this project in a way that would result in an increase in VOC emissions. Therefore, this tank is subject to the requirements of this subpart.

The applicable requirements from this subpart are evaluated during the application review under project N1111745 (Initial Title V, 2/7/2013). These requirements will be replicated in ATC N-758-4-5. Therefore, continued compliance is expected with this subpart.

N-758-14-4: 689,139 gallons (16,408 barrels) external floating roof tank
Based on the application review under project N1111745, this tank was installed before July 23, 1984[9]. Furthermore, the proposed modifications do not result in an increase in VOC emissions; therefore, this tank is not subject to the requirements of this subpart.

N-758-16-0: 2,226,000 gallons (53,000 barrels) internal floating roof tank
The storage capacity of this tank is greater than 75 m^3 (19,813 gal), and the tank will be modified to store gasoline or denatured ethanol, which results in an increase in VOC emissions. Since this modification occurs after the cut-off date of July 23, 1984, the tank is subject to the requirements of this subpart.

The requirements applicable to this tank are discussed in the following section:

§60.112b: Standard for volatile organic compounds (VOC):
This section requires to equip each storage vessel with systems listed in §60.112b(a)(1) (a fixed roof in combination with an internal floating roof) or §60.112b(a)(2) (an external floating roof) or 60.112b(a)(3) (a closed vent system and control device) or 60.112b(a)(4) (a system equivalent to (a)(1), (a)(2), or (a)(3)).

The storage tank is an internal floating roof tank. Therefore, this tank must meet the requirements in §60.112b(a)(1).

§60.112b(a)(1)(i) requires that the internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. The following condition will ensure compliance with this section:

- The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in

[9]Note that the tank under permit N-758-14 was instelled in 1953; therefore, it is not subject to 40 CFR Part 60 subparts K end Ka.

compliance with this rule before it may land the roof on its legs. [District Rule 4623 Section 5.4.3, 40 CFR 60.112b(a)(1)(i) and 63.11087(a)]

§60.112b(a)(1)(ii) requires that the internal floating roof shall be equipped with one of the closure devices provided in §60.112b(a)(1)(ii)(A), §60.112b(a)(1)(ii)(B), or §60.112b(a)(1)(ii)(C).

This tank is equipped with a mechanical shoe seal listed in §60.112b(a)(1)(ii)(C). The equipment description includes mechanical shoe seal. Therefore, compliance is expected with this section.

§60.112b(a)(1)(iii) requires that each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface. The following condition will ensure compliance with this section:

- Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 Section 5.5.2.1.1, 40 CFR 60.112b(a)(1)(iii) and 63.11087(a)]

§60.112b(a)(1)(iv) requires that each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. The following condition will ensure compliance with this section:

- Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 Section 5.5.2.1.2, 40 CFR 60.112b(a)(1)(iv) and 63.11087(a)]

§60.112b(a)(1)(v) requires that automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. The following condition will ensure compliance with this section:

- Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 Section 5.5.2.1.3, 40 CFR 60.112b(a)(1)(v) and 63.11087(a)]

§60.112b(a)(1)(vi) requires that rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. The following condition will ensure compliance with this section:

- Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 Section 5.5.2.1.4, 40 CFR 60.112b(a)(1)(vi) and 63.11087(a)]

§60.112b(a)(1)(vii) requires that each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The following condition will ensure compliance with this section:

- Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 Section 5.5.2.1.5, 40 CFR 60.112b(a)(1)(vii)]

§60.112b(a)(1)(viii) requires that each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The following condition will ensure compliance with this section:

- Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 Section 5.5.2.1.6, 40 CFR 60.112b(a)(1)(viii) and 63.11087(a)]

§60.112b(a)(1)(ix) requires that each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover. The following condition will ensure compliance with this section:

- Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix) and 63.11087(a)]

§60.113b: Testing and procedures.

§60.113b(a)(1) requires that the owner or operator shall visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with volatile organic liquid. If there are holes, tears or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the owner or operator shall repair the items before filling the storage vessel. The following condition will ensure compliance with this section:

- The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623, Section 6.1.4.1, 40 CFR 60.113b(a)(1) and 63.11092(e)(1)]

§60.113b(a)(2) requires that the owner or operator shall visually inspect the internal floating roof and the primary seal, or the secondary and the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the volatile organic liquid inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the owner or operator shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections cannot be repaired within 45 days and if the vessel cannot be emptied with 45 days, a 30-day extension may be requested from the Administrator in the inspection report required in §60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. The following conditions will ensure compliance with this section:

- The permittee shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of rule 4623. [District Rule 4623 Section 6.1.4.2, 40 CFR 60.113b(a)(2) and 63.11092(e)(1)]

- If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2) and 63.11092(e)(1)]

§60.113b(a)(5) requires that the owner or operator to notify the Administrator in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by §60.113b(a)(1) of this section to afford the Administrator the opportunity to have an observer present. The following condition will ensure compliance with this section:

- The permittee shall notify the District in writing at least 30 days prior to conduct the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR 60.113b(a)(5) and 63.11092(e)(1)]

§60.115b: Reporting and recordkeeping requirements
§60.115b(a)(1) requires that the owner or operator shall furnish the Administrator with a report that describes the control equipment and certifies that the control equipment meets the specifications of §60.112b(a)(1) and §60.113b(a)(1). This report shall be an attachment to the notification required by §60.7(a)(3) (i.e. initial startup notification).

The reports required are a part of the initial startup notification followed after the installation of primary mechanical shoe and secondary wiper seals. Since the tank is already equipped with these seals, startup notification is not required.

§60.115b(a)(2) requires that the owner or operator shall keep a record of each inspection performed as required by §60.113b(a)(1) and (a)(2). Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

§60.115b(a)(3) requires that the owner or operator shall furnish a report to the Administrator within 30 days if any of the condition described in §60.113b(a)(2) are detected during annual visual inspection required by §60.113 b(a)(2). The report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of the defect and date the repair was made.

The following condition will ensure compliance with §60.115b(a)(2) and (a)(3):

- The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623 Section 6.3.5, 60.115b(a)(2), 60.115b(a)(3) and 63.11094(a)]

§60.116b: Monitoring of operations

§60.116b(a) requires the owner or operator to keep copies of all records for at least two years. However, Rule 4623, requires to keep all records are required to be kept for a period of at least five year. Therefore, compliance is expected with this section. The following condition will ensure compliance with this section:

- The permittee shall keep all records on-site for a period of at least five years. These records shall be made available for District inspection upon request. [District Rules 2201 and 4623, and 40 CFR 60.116b(a)]

§60.116b(b) requires the owner or operator to keep records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. The following condition will ensure compliance with this section:

- The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR 60.116b(b)]

§60.116b(c) requires that except as provided in paragraphs (f) and (g) of this section, the owner or operator of each storage vessel either with a design capacity greater than or equal to 151 m 3 (39,890 gallons) storing a liquid with a maximum true vapor pressure greater than or equal to 3.5 kPa (0.5 psia) or with a design capacity greater than or equal to 75 m 3 but less than 151 m 3 storing a liquid with a maximum true vapor pressure greater than or equal to 15.0 kPa shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period. The following condition will ensure compliance with this section:

- The permittee shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the Reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR 60.116b(c)]

§60.116b(e)(1) refers to true vapor pressure requirements for vessels operated above or below ambient temperatures. Since these tanks are operated at ambient temperature, this section is not applicable.
§60.116b(e)(2)(i) requires that for crude oil or refined petroleum products the vapor pressure may be obtained by the available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference— see §60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). The following condition will ensure compliance with this section:

- Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)]

§60.116b(e)(2)(ii) requires that the true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.

Since the tank is not used to store crude oil, requirements of this section are not applicable.

40 CFR Part 60 Subpart XX – Standards of Performance for Bulk Gasoline Terminals

This subpart is applicable to all of the loading racks at a bulk gasoline terminal which deliver liquid product into gasoline tank trucks and that commenced construction or modification after December 17, 1980.

The loading racks are covered under permits N-758-9 and '-10, which are not being modified as part of this project. Therefore, no further discussion is required.

Rule 4002 National Emission Standards for Hazardous Air Pollutants

40 CFR Part 63 Subpart R – Gasoline Distribution Facilities (Bulk Gasoline terminals and Pipeline Breakout Stations

The potential Hazardous Air Pollutants (HAP) emissions from this facility are less than 10 tons/yr for single HAP and 25 tons/yr for combined HAPs[10]. Therefore, this facility is not becoming subject to the requirements of this subpart.

40 CFR Part 63 Subpart BBBBBB – Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities

This subpart establishes emission limitations and management practices for HAPs emitted from "area source" (i.e., not a Major HAP source) gasoline distribution bulk terminals, bulk plants and pipeline facilities.

§63.11081: Applicability
This subpart applies to each area source bulk gasoline terminal, pipeline breakout station, pipeline pumping station, and bulk gasoline plant identified below:

1. A bulk gasoline terminal that is not subject to the control requirements of 40 CFR Part 63 Subpart R or 40 CFR Part 63, Subpart CC.
2. A pipeline breakout station that is subject to the control requirements of 40 CFR Part 63 Subpart R.
3. A pipeline pumping station
4. A bulk gasoline plant

This terminal is not subject to 40 CFR Part 63 Subpart R (as determined above). Also, the terminal is not a part of petroleum refining process and is therefore not subject to 40 CFR Part 63, Subpart CC - National Emission Standards for

[10]Per EPA's document, Gasoline Distribution Industry (Stage I) – Background Information for Proposed Standards. EPA-453/R-97-002a, Table 3.1, total HAPs to VOC ratio is 11% (by weight). The total VOC from this facility will be 73,960 lb/yr after the proposed project. This means, the amount of HAPs will be 8,136 lb/yr (4.07 tons/yr), which is less than the 25 tons/yr threshold for combined HAPs. Since the combined HAPs are less than 10 tons/yr, the individual HAP must be less than 10 tons/yr.

Hazardous Air Pollutants From Petroleum Refineries. This facility is a bulk gasoline terminal (defined in 63.11100), and is an "area source" for HAP; therefore, it is subject to the requirements of this subpart.

§63.11082: Affected Sources
The emission sources to which this subpart applies are gasoline storage tanks, gasoline loading racks, vapor collection-equipped gasoline cargo tanks, and equipment components in vapor or liquid gasoline service that meet the criteria specified In Table 1 through 3 to this subpart.

This gasoline terminal has the emissions units listed above. Therefore, these units are required to comply with this subpart.

Note that the latest revision to some sections of this subpart occurred on January 24, 2011. The District has conducted detailed analysis of this subpart under "Initial TV" project N-1111745 on February 7, 2013, and ensured that each permit at this facility including N-758-4, '-13 and '-14 has all applicable requirements to ensure on-going compliance with this subpart. These requirements will be replicated in ATCs N-758-4-5, '-13-9 and '-14-4. Therefore, continued compliance is expected with this subpart.

Requirements for tank N-758-16 are as follows:

§63.11087: Gasoline Storage Tanks
§63.11087(a) requires each gasoline storage tank to meet the emissions limit and management practices in Table 1 to this subpart.

The capacity of each of the gasoline storage tanks under these permit units is greater than 75 cubic meters (19,813 gallon). Therefore, these gasoline storage tanks must meet the requirements listed under §63.11100, Table 1, item 2, as follows:

(a) Reduce emissions of total organic HAP or TOC by 95% (by weight) with a closed vent system and control device, as specified in § 60.112b(a)(3) of this chapter; or

(b) equip each internal floating roof gasoline tank according to the requirements in 40 CFR Part 60 Subpart Kb, specifically, §60.112b(a)(1) except for the secondary seal requirement under §60.112b(a)(1)(ii)(B) and the requirements in §60.112b(a)(1)(iv) through (ix); and

(c) equip each external roof gasoline storage tank according to the requirements in §60.112b(a)(2), except that the requirements of §60.112b(a)(2)(ii) shall only be required if such storage tank does not currently meet the requirements of §60.112b(a)(2)(i); or

(d) equip and operate each internal and external floating roof gasoline storage tank according to the applicable requirements in §63.1063(a)(1) and (b), and equip each external floating roof gasoline storage tank according to the requirements of §63.1063(a)(2) if such storage tank does not currently meet the requirements of §63.1063(a)(1).

The internal floating roof storage tank is equipped with mechanical shoe primary seals and secondary wiper seals that meet the requirements according to §60.112(b)(a)(1).

The following condition(s) will ensure compliance with this section:

- The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rule 4623 Section 5.4.3, 40 CFR 60.112b(a)(1)(i) and 63.11087(a)]

- Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 Section 5.5.2.1.1, 40 CFR 60.112b(a)(1)(iii) and 63.11087(a)]

§63.11087(c) requires the owner or operator to perform testing and monitoring specified in §63.11092(e)(1) through (e)(3). §63.11092(e)(1) requires the owner or operator of internal floating roof tanks to perform inspections of internal floating roof gasoline storage tank per §60.113b(a). The following condition(s) will ensure compliance with this section:

- The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623, Section 6.1.4.1, 40 CFR 60.113b(a)(1) and 63.11092(e)(1)]

- The permittee shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623 Section 6.1.4.2, 40 CFR 60.113b(a)(2) and 63.11092(e)(1)]

- If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2) and 63.11092(e)(1)]

- The permittee shall notify the District in writing at least 30 days prior to conduct the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR 60.113b(a)(5) and 63.11092(e)(1)]

§63.11087(d) requires the owner or operator to submit the applicable notifications as required under §63.11093.

The permit application to obtain ATC permit to convert diesel tank into gasoline, and subsequent actions to implement the ATC would satisfy the requirements of this section. Therefore, no further discussion is necessary.

§63.11087(e) requires the owner or operator to keep records and submit reports as specified in §63.11094 and §63.11095. §63.11094(a) requires the owner or operator of internal floating roof tanks to keep records as specified in §60.115b(a). Similarly §63.11095(a)(1) requires the owner or operator of internal floating roof tanks to meet the reporting requirements as specified in §60.115b(a).
The following condition(s) will ensure compliance with this section:

- The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through

5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623 Section 6.3.5, 60.115b(a)(2), 60.115b(a)(3) and 63.11094(a)]

Compliance is expected with this subpart.

Rule 4102 Nuisance

Section 4.0 prohibits discharge of air contaminants, which could cause injury, detriment, nuisance or annoyance to the public. Public nuisance conditions are not expected as a result of these operations provided the equipment is well maintained. Therefore, compliance with this rule is expected. The following condition will be placed on the permit.

- No air contaminant shall be released into the atmosphere, which causes a public nuisance. [District Rule 4102]

California Health & Safety Code 41700

District Policy APR 1905 – Risk Management Policy for Permitting New and Modified Sources specifies that for an increase in emissions associated with a proposed new source or modification, the District perform an analysis to determine the possible impact to the nearest resident or worksite.

Risk Management Review summary results are summarized in the following table:

Risk Management Review Summary						
Categories	Tank (4-5)	VRS (13-9)	Tank (14-4)	Tank (16-0)	Project Totals	Facility Totals
Prioritization Score	0.21	3.97	0.03	1.24	>1.0	>1.0
Acute Hazard Index	0.00	0.00	0.00	0.00	0.00	0.00
Chronic Hazard Index	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Individual Cancer Risk (10^{-6})	0.06	1.80	0.01	0.15	2.02	2.02
T-BACT Required?	No	Yes	No	No		
Special Permit Conditions?	No	Yes	No	No		

N-758-4-5, 14-4, and 16-0
The acute and chronic indices are below 1.0 and the cancer risk factors associated with these units are less than 1.0 in a million. In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).

N-758-13-9
The acute and chronic indices are below 1.0 and the cancer risk associated with unit N-758-13-9 is greater than 1.0 in a million, but less than 10 in a million. In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).

T-BACT Guidance
Per District Policy APR 1905 (3/2/2001), in order to control emissions of hazardous air pollutants to the maximum level achievable, applicants must apply Toxic Best Available Control Technology (T-BACT) to each new and modified emissions units with a greater than deminimus increase in cancer risk[11] or a greater than deminimus increase in non-cancer risk[12]. T-BACT is the most stringent limitation or control technique for hazardous air pollutants of the following:

a. Has been achieved in practice for such emissions unit and class of source; or

b. Is contained in any State Implementation Plan approved by the Environmental Protection Agency for such emissions unit category and class of source. A specific limitation or control technique shall not apply if the owner or operator of the proposed emissions unit demonstrates to the

[11] A deminimus increase in cancer risk is an increase in risk of one per million, as determined in section VIII of District Policy 1905.
[12] A deminimus increase in non-cancer risk is an increase in the hazard index of one, as determined in Section VII of District Policy 1905.

satisfaction of the APCO that such limitation or control technique is not presently achievable; or

c. Is contained in any Federal Standard promulgated pursuant to FCAA Section 111 (NSPS) or Section 112 (MACT) for such emissions unit category and class of source; or

d. Is any other emission limitation or control technique, including process and equipment changes of basic or control equipment, found by the APCO to be technologically feasible for such class or category of sources or for a specific source, and cost effective as determined by the District.

The proposed increase in throughput rate triggers T-BACT due to benzene emissions, which is a VOC. SJVUAPCD BACT guideline 7.1.10 for loading rack/switch loading is used to address T-BACT. This guideline requires the use of bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare (or equivalent system) with destruction efficiency of 99% or more, as achieved-in-practice control. No technologically feasible option or alternative basic equipment is listed in the guideline.

T-BACT Analysis
Equilon is utilizing bottom loading of the trucks using dry break couplers. The applicant states that the existing carbon adsorber system is capable of reducing at least 99% of the VOC emissions. The following conditions will be included in permit N-758-13-9:

- All trucks shall be bottom loaded (or submerge loaded) using dry break couplers. [District Rules 2201 and 4102]

- VOC control efficiency of the carbon adsorber system shall be at least 99% on weight basis. [District Rules 2201 and 4102]

Please refer to Appendix II for BACT/T-BACT analysis for permit unit N-758-13.

Compliance is expected with this Rule.

Rule 4623 Storage of Organic Liquids

The purpose of this rule is to limit volatile organic compound (VOC) emissions from the storage of organic liquids.

This rule applies to any tank with a capacity of 1,100 gallons or greater in which any organic liquid is placed, held, or stored.

Note that this rule was amended on May 19, 2005. The District has conducted detailed analysis of this rule under "Initial TV" project N-1111745 on February 7, 2013, and ensured that emission units subject to this rule (including permits N-758-4 and '-14) contain all applicable requirements. These requirements will be replicated in ATCs N-758-4-5 and '-14-4. Therefore, continued compliance is expected with this rule.

Equilon has proposed to convert permit exempt diesel tank to store gasoline. The requirements for this tank (N-758-16-0) are discussed in the following section.

Section 5.1 of this rule requires Group C vessels (capacity greater than 39,600 gallons) storing liquids with a TVP of greater than 1.5 psia but less than 11 psia to be equipped with a floating roof or have vapor control installed.

The proposed tank is an internal floating roof tank, therefore the requirements of this section are satisfied.

Section 5.1.3 requires all tanks to be leak-free, as defined by Section 3.17 of the rule. The following condition will ensure compliance with this section:

- A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three (3) drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three (3) drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623]

Section 5.4.1, the internal floating roof tanks shall be equipped with seals that meet the criteria set forth in Section 5.3 except for complying with the requirement specified in Section 5.3.2.1.3.

The tank is a welded tank and is equipped with mechanical shoe-type design primary seal. Therefore, the tank must meet all the specifications listed in Section 5.3.2.1. The following conditions will ensure compliance with this section:

- No gap between the tank shell and the primary seal shall exceed 1-1/2 inches. [District Rule 4623]

- The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623]

- The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623]

- No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623]

- The cumulative length of all gaps between the tank shell and the secondary seal, 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623]

- The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623]

- The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623]

- There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623]

- The secondary seal shall allow easy insertion of probes of up to 1-1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623]

- The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623]

Section 5.4.3 requires the owner or operator to comply with floating roof landing requirements specified in Section 5.3.1.3. The following condition will ensure compliance with this section:

- The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rule 4623 Section 5.4.3, 40 CFR 60.112b(a)(1)(i) and 63.11087(a)]

Section 5.5.1 requires that all openings in the roof used for sampling and gauging, except pressure-vacuum valves complying with Section 5.2, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained organic vapor from escaping from the liquid contents of the tank. The tank shall be equipped with a cover, seal or lid. The following condition will ensure compliance with this section:

- All openings in the roof used for sampling and gauging shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid. The cover seal or lid shall be in a closed position, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623]

Section 5.5.2.1 requires that internal floating roof deck fittings shall meet all the requirements specified in Section 5.5.2.1.1 through 5.5.2.1.6. The following conditions will ensure compliance with this section:

- Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623 Section 5.5.2.1.1, 40 CFR 60.112b(a)(1)(iii) and 63.11087(a)]

- Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623 Section 5.5.2.1.2, 40 CFR 60.112b(a)(1)(iv) and 63.11087(a)]

- Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623 Section 5.5.2.1.3, 40 CFR 60.112b(a)(1)(v) and 63.11087(a)]

- Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623 Section 5.5.2.1.4, 40 CFR 60.112b(a)(1)(vi) and 63.11087(a)]

- Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623 Section 5.5.2.1.5, 40 CFR 60.112b(a)(1)(vii)]

- Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623 Section 5.5.2.1.6, 40 CFR 60.112b(a)(1)(viii) and 63.11087(a)]

Sections 5.5.2.3 and 5.5.2.4 list requirements for solid guidepole and slotted guidepole respectively. The following conditions will ensure compliance with this section:

- For solid guidepole, all solid sampling or gauging wells, and similar fixed projections through the floating roof such as anti-rotational pipe shall provide a projection below the liquid surface. [District Rule 4623]

- For solid guidepole, the gap between the pole wiper and the guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall not exceed 1/2 inch. [District Rule 4623]

- For slotted guidepole, all slotted sampling or gauging wells, and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623]

- For slotted guidepole, gap between the pole wiper and the guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall not exceed 1/8 inch. [District Rule 4623]

Section 6.1.4 requires the owner or operator shall perform a visually inspections, and conduct actual gap measurements according to the timelines specified in this section. The following conditions will ensure compliance with this section:

- The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623, 40 CFR 60.113b(a)(1) and 63.11092(e)(1)]

- The permittee shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of rule 4623. [District Rule 4623, 40 CFR 60.113b(a)(2) and 63.11092(e)(1)]

- The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623]

Section 6.2 requires TVP and API gravity testing of stored organic liquid in uncontrolled fixed roof tank.

The storage tank is an internal floating roof tank. Therefore, this tank is not subject to the requirements of this section.

Section 6.3 requires the owner or operator shall retain accurate records required by this rule for a period of five years. The tank is subject to the requirements of Section 6.3.5. The following conditions will ensure compliance with this section:

- The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of

defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623; 40 CFR 60.115b(a)(2), 60.115b(a)(3), and 63.11094(a)]

- The permittee shall maintain all records required by this permit for a period of at least five years and shall make them readily available for District inspection upon request. [District Rules 2201 and 4623, and 40 CFR 60.116b(a) [District Rules 2201 and 4623]

Section 6.3.7 requires an operator to maintain records of the external floating roof or internal floating roof landing activities. The following conditions will ensure compliance with this section:

- The permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623]

Compliance is expected with this Rule.

Rule 4624 Transfer of Organic Liquid

This rule was amended on December 20, 2007. The District has conducted detailed analysis of this rule under "Initial TV" project N-1111745 on February 7, 2013, and ensured that permits for the emissions units subject to this rule (N-758-9, '-10 and '-13) contains all applicable requirements. These requirements will be replicated in ATC N-758-13-9 associated with this project. Therefore, continued compliance is expected with this rule.

California Environmental Quality Act (CEQA)

The California Environmental Quality Act (CEQA) requires each public agency to adopt objectives, criteria, and specific procedures consistent with CEQA Statutes and the CEQA Guidelines for administering its responsibilities under CEQA, including the orderly evaluation of projects and preparation of environmental documents. The San Joaquin Valley Unified Air Pollution Control District (District) adopted its *Environmental Review Guidelines* (ERG) in 2001. The basic purposes of CEQA are to:

- Inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities.
- Identify the ways that environmental damage can be avoided or significantly reduced.
- Prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures when the governmental agency finds the changes to be feasible.
- Disclose to the public the reasons why a governmental agency approved the project in the manner the agency chose if significant environmental effects are involved.

Greenhouse Gas (GHG) Significance Determination

It is determined that no other agency has or will prepare an environmental review document for the project. Thus, the District is the Lead Agency for this project.

This proposed project results in an increase in 7.9 m-tons of CO_2/yr[13]. This increase is below the zero equivalency level of 230 m-tons of CO2e/yr in District's Zero Equivalency Policy for Greenhouse Gases (APR-2015). Thus, the proposed project is presumed to have a less than cumulatively significant impact on global climate change.

District CEQA Findings

The District is the Lead Agency for this project because there is no other agency with broader statutory authority over this project. The District performed an Engineering Evaluation (this document) for the proposed project and determined that the activity will occur at an existing facility and the project involves negligible expansion of the existing use. Furthermore, the District determined that the activity will not have a significant effect on the environment. The District finds that the activity is categorically exempt from the provisions of CEQA pursuant to CEQA Guideline § 15031 (Existing Facilities), and finds that the project is exempt per the general rule that CEQA

[13]Permits N-758-4-4 and '-14-3 (total) = (9,187 lb-VOC/yr, total for all tanks including fugitives) x (1.36 lb-CH4/100 lb-VOC taken from Appendix I, page 3 of Best Performance Standard for gasoline dispensing facilities, assuming 1 lb-VOC = 1 lb-HC) x (21, global warming potential (GWP)) x (1 ton/2,000 lb) = 1.3 tons-CO2e/yr; Permit N-758-13-8 = (1.07 lb-CH4/169,828 gal organic liquid loaded, source test September 2009) x 123,733,750 gal/yr, permitted loadout rate) x (21, GWP) x (1 ton/2,000 lb) = 8.2 tons-CO2e/yr; Total Pre-Project CO2e = 1.3 tons/yr + 8.2 tons/yr = 9.5 tons/yr; Total Post-Project CO2e (footnote on page 26) = 18.2 tons/yr; Increase CO2e = 18.2 – 9.5 = 8.7 tons-CO2e/yr, or 7.9 metric tons/yr (8.7 short tons/yr x 0.9072 metric tons/short ton)

applies only to projects which have the potential for causing a significant effect on the environment (CEQA Guidelines §15061(b)(3)).

IX. Recommendation

Compliance with all applicable rules and regulations is expected. Therefore, issuance of Authorities to Construct N-758-4-5, '-13-9, '-14-4 and '-16-0 is recommend after addressing comments from the EPA, ARB and the public.

X. Billing Information

Permit #	Fee Schedule	Fee Description	Previous Fee Schedule
N-758-4-5	3020-05 F	504,000 gallon tank	3020-05 F
N-758-13-9	3020-01 C	63 hp	3020-01 C
N-758-14-4	3020-05 F	689,136 gallon tank	3020-05 F
N-758-16-0	3020-05 F	2,226,000 gallon tank	None

Appendices

Appendix I: Draft Authority to Construct Permits
Appendix II: Top-Down BACT Analysis and BACT Guidelines
Appendix III: Tanks 4.0.9d Emissions Reports
Appendix IV: Compliance Certification
Appendix V: Risk Management Review Summary
Appendix VI: Permits to Operate N-758-4-4, '-13-8 and '-14-3

Appendix I
Draft Authority to Construct Permits

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-758-4-5

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC
MAILING ADDRESS: SHELL OIL PRODUCTS US ATTN: ENV COORD
2555 13TH AVENUE SW
SEATTLE, WA 98134

LOCATION: ROUGH & READY ISLAND
STOCKTON, CA 95203

EQUIPMENT DESCRIPTION:
MODIFICATION OF ONE 504,000 GALLON (12,000 BBL) ABOVEGROUND INTERNAL FLOATING ROOF GASOLINE/DENATURED ETHANOL STORAGE TANK #19 WITH A PRIMARY MECHANICAL SHOE TYPE SEAL AND SECONDARY RIM-MOUNTED WIPER SEAL: TO INCREASE MONTHLY THROUGHPUT RATE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. VOC emissions from this tank shall not exceed 11.4 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
4. VOC emissions from this tank shall not exceed 2,699 pounds in any 12 consecutive month rolling period. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services
N-758-4-5 : Nov 18 2013 1:15PM – KAHLONJ : Joint Inspection NOT Required

5. The permittee shall maintain records sufficient to demonstrate compliance with each emission limit. These records shall contain each process variable used (e.g., throughput, RVP, etc.) in estimating VOC emissions from this tank and actual process variables (e.g. throughput, RVP, etc.) of this tank. The process variables used in estimating the emissions shall be compared to that of the actual process variables to demonstrate compliance with each emission limit. The permittee may also use EPA's Tanks program (or other District accepted methodologies) with actual process variables to demonstrate compliance with each emission limit. [District Rule 2201] Federally Enforceable Through Title V Permit

6. Fugitive VOC from valves, flanges, connector, pump seals etc., associated with this tank shall not exceed any of the following limits: 0.2 lb/day and 69 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Throughput of organic liquid for this tank shall not exceed any of the following limits: 504,000 gallons/day and 7,560,000 gallons/month. [District Rule 2201] Federally Enforceable Through Title V Permit

9. True vapor pressure (TVP) of the liquid stored in this tank shall be less than 11 psia. [District Rule 4623] Federally Enforceable Through Title V Permit

10. The owner or operator shall determine RVP and the temperature of the organic liquid stored on monthly basis. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

11. The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rule 4623; 40 CFR 60.112b(a)(1)(i) and 63.11087(a)] Federally Enforceable Through Title V Permit

12. No gap between the tank shell and the primary seal shall exceed 1-1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit

13. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

14. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

15. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

16. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

17. The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

18. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

19. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit

20. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623 and 40 CFR 60.113b(b)(4)(i)(B) and (ii)(C)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. The secondary seal shall allow easy insertion of probes of up to 1-1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

22. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

23. All openings in the roof used for sampling and gauging, except pressure-vacuum relief valve, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

24. The tank shall be operated in a leak-free condition. The pressure-vacuum relief valve shall be set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit

25. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three (3) drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three (3) drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

26. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623; 40 CFR 60.112b(a)(1)(iii) and 63.11087(a)] Federally Enforceable Through Title V Permit

27. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623; 40 CFR 60.112b(a)(1)(iv) and 63.11087(a)] Federally Enforceable Through Title V Permit

28. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623; 40 CFR 60.112b(a)(1)(v) and 63.11087(a)] Federally Enforceable Through Title V Permit

29. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623; 40 CFR 60.112b(a)(1)(vi) and 63.11087(a)] Federally Enforceable Through Title V Permit

30. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623; 40 CFR 60.112b(a)(1)(vii) and 63.11087(a)] Federally Enforceable Through Title V Permit

31. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623; 40 CFR 60.112b(a)(1)(viii) and 63.11087(a)] Federally Enforceable Through Title V Permit

32. Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix) and 63.11087(a)] Federally Enforceable Through Title V Permit

33. All solid sampling or gauging wells, and similar fixed projections through the floating roof such as anti-rotational pipe shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

34. The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement and in no case shall not exceed one-half (1/2) inch. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623; 40 CFR 60.113b(a)(1) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

36. The permittee shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of rule 4623. [District Rule 4623; 40 CFR 60.113b(a)(2) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

37. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623] Federally Enforceable Through Title V Permit

38. If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

39. The permittee shall notify the District in writing at least 30 days prior to conducting the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR 60.113b(a)(5) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

40. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623; 40 CFR 60.115b(a)(2), 60.115b(a)(3), and 63.11094(a)] Federally Enforceable Through Title V Permit

41. The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit

42. The permittee shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the Reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

43. (2623} Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit

44. The permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

45. The permittee shall maintain records of daily and monthly organic liquid throughput in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit

46. The permittee shall maintain all records required by this permit for a period of at least five years and shall make them readily available for District inspection upon request. [District Rules 2201 and 4623, and 40 CFR 60.116b(a)] Federally Enforceable Through Title V Permit

47. Prior to operating under this Authority to Construct, the permittee shall mitigate the following quantities of VOC: 1st quarter: 76 lb, 2nd quarter: 76 lb, 3rd quarter: 76 lb, and 4th quarter: 76 lb. Offsets shall be provided at the applicable offset ratio specified in Section 4.8.1 of Rule 2201 (as amended 4/21/11) [District Rule 2201] Federally Enforceable Through Title V Permit

48. VOC ERC S-3809-1 and N-1000-1 (or a certificate split from any of these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District. Following the revisions, this Authority to Construct permit shall be re-issued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to re-issuance of this Authority to Construct permit. [District Rule 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-758-13-9

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC
MAILING ADDRESS: SHELL OIL PRODUCTS US ATTN: ENV COORD
2555 13TH AVENUE SW
SEATTLE, WA 98134

LOCATION: ROUGH & READY ISLAND
STOCKTON, CA 95203

EQUIPMENT DESCRIPTION:
MODIFICATION OF ONE JOHN ZINK VAPOR RECOVERY SYSTEM, CARBON ADSORPTION UNIT, MODEL #AA1218715B AND VAPOR BLADDER TANK #16 IN THE VAPOR RECOVERY LINE BEFORE THE VAPOR RECOVERY SYSTEM: TO INCREASE ANNUAL THROUGHPUT RATE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. No gasoline delivery vessel shall be operated or be allowed to operate unless valid State of California decals are displayed on the cargo container, which attest to the vapor integrity of the container. [District Rule 4621] Federally Enforceable Through Title V Permit
4. The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded shall not exceed 18 inches water column pressure and 6 inches water column vacuum. [District Rule 4624] Federally Enforceable Through Title V Permit
5. The transfer rack and vapor collection equipment shall be maintained and operated such that there are no leaks and no excess organic liquid drainage at disconnections. [District Rule 4624] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services
N-758-13-9 Nov 18 2013 1:16PM – KAHLONJ : Joint Inspection NOT Required

6. The John Zink vapor processing unit shall have two operational carbon adsorption columns. Each column shall be regenerated every 15 minutes when the device is in operation. [District Rule 2201] Federally Enforceable Through Title V Permit

7. The vapors from the facility's fixed roof tanks and loading rack may bypass the bladder tank (Tank #16) only during periods of time when the bladder tank is down for maintenance, repairs, breakdowns, inspection of the bladder tank, or degassing of the bladder tank. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Fugitive VOC emissions from this unit shall not exceed 9,362 lb-VOC/yr. [District Rule 2201] Federally Enforceable Through Title V Permit

9. Vapor return hose(s) shall connect displaced vapors from the truck to the vapor control system whenever tank truck, trailer, or car is loading organic liquid. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit

10. Vapor return hose(s) and connections between the tanker truck, trailer, or car and the vapor control system shall be leak-free. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit

11. The facility shall be equipped with bottom loading and a vapor collection and control system such that the VOC emissions shall not exceed 0.08 pounds per 1,000 gallons of organic liquid loaded. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit

12. The John Zink vapor processing unit is authorized to handle gasoline vapors from a total of no more than 895,000 gallons of gasoline throughput per day, nor 196,000,000 gallons of gasoline throughput in a 12 consecutive month rolling period. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit

13. All trucks shall be bottom loaded (or submerge loaded) using dry break couplers. [District Rules 2201 and 4102] Federally Enforceable Through Title V Permit

14. VOC control efficiency of the carbon adsorber system shall be at least 99% on weight basis [District Rules 2201 and 4102]

15. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit

16. Source testing to demonstrate compliance with permit conditions and all rules and regulations, when the bladder tank is on-line, shall be conducted on an annual basis. [District Rule 2201] Federally Enforceable Through Title V Permit

17. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit

18. Compliance with the VOC emissions limit shall be determined using 40 CFR 60.503 "Test Methods and Procedures" and EPA Methods 2A, 2B, 25A and 25B and ARB Method 422, or ARB Test Procedure TP-203.1. [District Rule 4624] Federally Enforceable Through Title V Permit

19. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081] Federally Enforceable Through Title V Permit

20. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit

21. The owner or operator shall calibrate, certify, and maintain, and quality-assure a Continuous Monitoring System (CMS) which continuously measures and records the VOCs (and other parameters, if any, to determine compliance with lb-VOC/1,000 gallon of organic liquid) while gasoline vapors are displaced to the John Zink carbon adsorption system. [District Rule 1080 and 40 CFR 63.11092(b)] Federally Enforceable Through Title V Permit

22. The CMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

23. The CMS shall meet the requirements in 40 CFR 60 Appendix B Performance Specification 8 (PS 8) or 8A (PS 8), as appropriate, or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

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24. The CMS must be audited at least once every six months by conducting cylinder gas audits (CGA) using the procedure in 40 CFR Part 60 Appendix F, 5.1.2. Audit reports shall be submitted along with semi-annual compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit

25. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080] Federally Enforceable Through Title V Permit

26. The CMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit

27. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080] Federally Enforceable Through Title V Permit

28. The permittee shall maintain the following records: the date, time and duration of any malfunction of the continuous monitoring equipment; dates of performance testing; dates of evaluations, calibrations, checks, and adjustments of the continuous monitoring equipment; date and time period which a continuous monitoring system or monitoring device was inoperative. [District Rule 1080] Federally Enforceable Through Title V Permit

29. The owner or operator shall submit a written report of CMS operations on semi-annual basis to the District. The report shall include the following: Date, time intervals, data and magnitude of excess emissions, nature and the cause of excess (if known), corrective actions taken and preventive measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; Applicable time and date of each period during which the CMS was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

30. A leak is defined as the dripping of VOC-containing liquid at a rate of more than 3 drops per minute, or the detection of any gaseous or vapor emissions with a concentration of VOC greater than 10,000 ppmv as methane above a background when measured using a portable hydrocarbon detection instrument in accordance with EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit

31. Excess organic liquid drainage is defined as an average of more than 10 milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rule 4624] Federally Enforceable Through Title V Permit

32. The operator shall inspect the vapor collection system, the vapor disposal system, and each transfer rack handling organic liquids for leaks during transfer at least once every calendar quarter using the EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit

33. All leaking components shall be repaired or replaced within 72 hours of discovery. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624] Federally Enforceable Through Title V Permit

34. The operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624] Federally Enforceable Through Title V Permit

35. Each activated carbon adsorption column shall be equipped with an operational pressure differential gauge. The optimum pressure for each column shall be determined after source testing. [District Rule 4624] Federally Enforceable Through Title V Permit

36. The permittee shall maintain records of all maintenance, repair, breakdown, tank inspection and testing, and degassing of the bladder tank events when the vapors are not first sent to the bladder tank and are sent directly to the John Zink vapor processing unit. These records shall indicate the times, dates and reasons why the bladder tank was off-line. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

37. The permittee shall maintain records of the daily, monthly, 12-month total gasoline throughput, in gallons, and results of required leak inspections. These records shall be retained for a minimum of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit

38. Prior to operating under this Authority to Construct, the permittee shall mitigate the following quantities of VOC: 1st quarter: 1,445 lb, 2nd quarter: 1,445 lb, 3rd quarter: 1,445 lb, and 4th quarter: 1,446 lb. Offsets shall be provided at the applicable offset ratio specified in Section 4.8.1 of Rule 2201 (as amended 4/21/11) [District Rule 2201] Federally Enforceable Through Title V Permit

39. VOC ERC S-3809-1 and N-1000-1 (or a certificate split from any of these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District. Following the revisions, this Authority to Construct permit shall be re-issued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to re-issuance of this Authority to Construct permit. [District Rule 2201] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-758-14-4

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC
MAILING ADDRESS: SHELL OIL PRODUCTS US ATTN: ENV COORD
2555 13TH AVENUE SW
SEATTLE, WA 98134

LOCATION: ROUGH & READY ISLAND
STOCKTON, CA 95203

EQUIPMENT DESCRIPTION:
MODIFICATION OF ONE 689,136 GALLON (16,408 BBL) ABOVEGROUND WELDED EXTERNAL FLOATING ROOF GASOLINE STORAGE TANK (TANK #18) WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A SECONDARY WIPE SEAL: ALLOW STORAGE OF DIESEL AND DENATURED ETHANOL IN ADDITION TO GASOLINE STORAGE

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. VOC emissions from this tank shall not exceed 28.9 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
4. VOC emissions from this tank shall not exceed 6,707 pounds in any 12 consecutive month rolling period. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

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Seyed Sadredin, Executive Director / APCO

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DAVID WARNER, Director of Permit Services
N-758-14-4 : Nov 18 2013 1:18PM – KAHLONJ : Joint Inspection NOT Required

5. The permittee shall maintain records sufficient to demonstrate compliance with each emission limit. These records shall contain each process variable used (e.g., throughput, RVP, etc.) in estimating VOC emissions from this tank and actual process variables (e.g. throughput, RVP, etc.) of this tank. The process variables used in estimating the emissions shall be compared to that of the actual process variables to demonstrate compliance with each emission limit. The permittee may also use EPA's Tanks program (or other District accepted methodologies) with actual process variables to demonstrate compliance with each emission limit. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Fugitive VOC from valves, flanges, connector, pump seals etc., associated with this tank shall not exceed any of the following limits: 0.2 lb/day and 55 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal. [District Rule 2201] Federally Enforceable Through Title V Permit
8. Throughput of organic liquid for this tank shall not exceed any of the following limits: 698,136 gallons/day, 20,961,220 gallons/month and 50,952,827 gallons/year based on a 12-month rolling basis. [District Rule 2201] Federally Enforceable Through Title V Permit
9. True vapor pressure (TVP) of the liquid stored in this tank shall be less than 11 psia. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The owner or operator shall determine RVP and the temperature of the organic liquid (except diesel) stored on monthly basis. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit
11. This tank shall be equipped with a closure device between the tank shell and roof edge consisting of two seals mounted one above the other; the one below shall be referred to as the primary seal, and the one above shall be referred as the secondary seal. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit
12. The external floating roof shall float on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit
13. Gaps between the tank shell and the primary seal shall not exceed 1-1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
14. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
15. Accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm2 per meter (10.01 in2 per foot) of tank diameter, and the width of any gap shall not exceed 3.81 cm (1.5 inches). [40CFR 63.11087(c)] Federally Enforceable Through Title V Permit
16. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
17. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
18. Accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm2 per meter (1.0 inch2 per foot) of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm (1/2 inch). [District Rule 4623 and 40CFR 63.11087(c)] Federally Enforceable Through Title V Permit
19. If the primary seal used is a metallic shoe, one end of the metallic shoe is to extend into the stored liquid and the other end is to extend a minimum vertical distance of 61 cm (24 inches) above the stored liquid surface. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

20. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit

21. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

22. The secondary seal shall allow easy insertion of probes of up to 1-1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

23. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

24. All openings in the roof used for sampling and gauging, except pressure-vacuum relief valve, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

25. The tank shall be in a leak-free condition. The pressure-vacuum relief valve shall be set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit

26. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three (3) drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three (3) drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

27. Except for automatic bleeder vents, rim vents, and pressure relief vents, each opening in a non-contact external floating roof shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

28. Except for automatic bleeder vents and rim vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid that shall be maintained in a closed position at all times (i.e., no visible gap) except when in actual use. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

29. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

30. Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

31. Each emergency roof drain shall be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. The fabric cover must be impermeable if the liquid is drained into the contents of the tanks. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

32. External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a gas-tight condition so as to prevent VOC emissions from escaping through the roof leg opening. [District Rule 4623] Federally Enforceable Through Title V Permit

33. All wells and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

34. The solid guidepole well shall be equipped with a pole wiper and a gasketed cover, seal or lid which shall be in a closed position at all times (i.e., no visible gap) except when the well is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

35. The gap between the pole wiper and the solid guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

36. The slotted guidepole well on a external floating roof shall be equipped with the following: a sliding cover, a well gasket, a pole sleeve, a pole wiper, and an internal float and float wiper designed to minimize the gap between the float and the well, and provided the gap shall not exceed 1/8 inch; or shall be equipped with a well gasket, a zero gap pole wiper seal and a pole sleeve that projects below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

37. The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/8 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

38. The permittee of external floating roof tanks shall make the primary seal envelope available for unobstructed inspection by the APCO on an annual basis at locations selected along its circumference at random by the APCO. In the case of riveted tanks with toroid-type seals, a minimum of eight locations shall be made available; in all other cases, a minimum of four locations shall be made available. If the APCO suspects a violation may exist the APCO may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

39. Operator shall perform gap measurements on primary and secondary seals within 60 days of the initial fill and at least once every year thereafter to determine compliance with the requirements of Rule 4623. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

40. Operator shall also perform gap measurements on primary seals during hydrostatic testing of the vessel. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

41. If unit is out of service for a period of one year or more, subsequent refilling with gasoline shall be considered initial fill in accordance with the conditions of this permit. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

42. Operator shall determine gap widths and gap areas for compliance with 40 CFR 60.113b(b)(2) and (3) in the primary and secondary seals using the following procedure: 1) Measure seal gaps, at one or more floating roof levels when the roof is floating off roof leg supports; 2) Measure seal gaps around entire circumference of the tank in each place where a 0.32 cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the tank wall and measure the circumferential distance of each such location; 3) Total surface area of each gap shall be determined by using probes of various widths to accurately measure the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance; and 4) Add the gap surface area of each gap location for the primary seal and the secondary seal individually. Divide the sum for each seal by the nominal diameter of the tank. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

43. If the seals do not meet the required specifications of 40 CFR 60.113b(b)(4)(i) and (ii), operator shall repair or empty the storage vessel within 45 days of identification. [40CFR 63.11087(c)] Federally Enforceable Through Title V Permit

44. Operator shall notify the APCO 30 days in advance of any gap measurements required by 40 CFR 63.11092(e)(2) and 40 CFR 60.113b(b) to afford the APCO opportunity to have an observer present. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

45. After the tank has been emptied and degassed, if the external floating roof has defects, or the primary seal or secondary seal has holes, tears, or other openings in the seal or seal fabric, the operator shall repair the items as necessary so that none of these conditions exist before filling or refilling the storage vessel with gasoline. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

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46. For all visual inspections required by 40 CFR 63.11092(e)(2), the operator shall notify the APCO in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the APCO the opportunity to inspect the storage vessel prior to refilling, except when notification is specifically allowed otherwise by this permit. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

47. If a visual inspection required by 40 CFR 63.11092(e)(2) is not planned and the operator could not have known about the inspection 30 days in advance of refilling the tank, the operator shall notify the APCO at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so it is received by the APCO at least 7 days prior to the refilling. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

48. Operator shall record the vessel on which the measurement was performed, date of the seal gap measurement, raw data obtained in the measurement process in accordance with the conditions of this permit. [40 CFR 63.11087(e)] Federally Enforceable Through Title V Permit

49. Within 30 days of the end of each semi-annual period, the operator shall include in the report required by 40 CFR 63.11095(a) the following information regarding gap measurements: the date of measurement, raw data obtained in the measurement process, and all such gap calculations as required by 40 CFR 63.11092(e)(2). [40 CFR 63.11087(e)] Federally Enforceable Through Title V Permit

50. Within 30 days of the end of each semi-annual period, the operator shall include in the report required by 40 CFR 63.11095(a) the following information regarding gap measurements that exceeded 40 CFR 60.113b(4) limits: the date of measurement, raw data obtained in the measurement process, all such gap calculations as required by 40 CFR 63.1192(e)(2), and the date the vessel was emptied or the repairs made and the date of repair. [40 CFR 63.11087(e)] Federally Enforceable Through Title V Permit

51. The permittee shall inspect the primary and secondary seals for compliance with the requirements of Rule 4623 every time this tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 48 hours after the tank roof is re-floated. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

52. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit

53. The permittee shall maintain the records of the external floating roof landing activities that are performed pursuant to Rule 4623, Sections 5.3.1.3 and 5.4.3. The records shall include information on the true vapor pressure (TVP), API gravity, storage temperature, type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

54. The permittee shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the Reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201] Federally Enforceable Through Title V Permit

55. The permittee shall maintain records of daily, monthly and annual (12-month rolling total) organic liquid throughput in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit

56. The permittee shall maintain all records required by this permit for a period of at least five years and shall make them readily available for District inspection upon request. [District Rule 4623 and 40 CFR 63.11094(a)] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

AUTHORITY TO CONSTRUCT

DRAFT

PERMIT NO: N-758-16-0

ISSUANCE DATE: DRAFT

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC
MAILING ADDRESS: SHELL OIL PRODUCTS US ATTN: ENV COORD
2555 13TH AVENUE SW
SEATTLE, WA 98134

LOCATION: ROUGH & READY ISLAND
STOCKTON, CA 95203

EQUIPMENT DESCRIPTION:
ONE 2,226,000 GALLON (53,000 BBL) WELDED INTERNAL FLOATING ROOF GASOLINE/DENATURED ETHANOL/DIESEL STORAGE TANK (TANK #24) WITH A MECHANICAL SHOE PRIMARY SEAL AND A SECONDARY RIM-MOUNTED WIPER SEAL

CONDITIONS

1. {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District Rule 2201] Federally Enforceable Through Title V Permit
2. {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4] Federally Enforceable Through Title V Permit
3. VOC emissions from this tank shall not exceed 10.6 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
4. VOC emissions from this tank shall not exceed 1,736 pounds in any 12 consecutive month rolling period. [District Rule 2201] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

YOU MUST NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZED BY THIS AUTHORITY TO CONSTRUCT. This is NOT a PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be made after an inspection to verify that the equipment has been constructed in accordance with the approved plans, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control District. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shall expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of all other governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Director / APCO

DRAFT

DAVID WARNER, Director of Permit Services

N-758-16-0 Nov 18 2013 1:15PM – KAHLONJ Joint Inspection NOT Required

5. The permittee shall maintain records sufficient to demonstrate compliance with each emission limit. These records shall contain each process variable used (e.g., throughput, RVP, etc.) in estimating VOC emissions from this tank and actual process variables (e.g. throughput, RVP, etc.) of this tank. The process variables used in estimating the emissions shall be compared to that of the actual process variables to demonstrate compliance with each emission limit. The permittee may also use EPA's Tanks program (or other District accepted methodologies) with actual process variables to demonstrate compliance with each emission limit. [District Rule 2201] Federally Enforceable Through Title V Permit

6. Fugitive VOC from valves, flanges, connector, pump seals etc., associated with this tank shall not exceed any of the following limits: 0.2 lb/day and 68 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit

7. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal. [District Rule 2201] Federally Enforceable Through Title V Permit

8. Throughput of organic liquid for this tank shall not exceed any of the following limits: 2,256,917 gallons/day and 13,566,845 gallons/month. [District Rule 2201] Federally Enforceable Through Title V Permit

9. True vapor pressure (TVP) of the liquid stored in this tank shall be less than 11 psia. [District Rule 4623] Federally Enforceable Through Title V Permit

10. The owner or operator shall determine RVP and the temperature of the organic liquid stored on monthly basis. [District Rules 2201 and 4623] Federally Enforceable Through Title V Permit

11. The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rule 4623; 40 CFR 60.112b(a)(1)(i) and 63.11087(a)] Federally Enforceable Through Title V Permit

12. No gap between the tank shell and the primary seal shall exceed 1-1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit

13. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

14. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

15. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

16. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

17. The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

18. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

19. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit

20. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623 and 40 CFR 60.113b(b)(4)(i)(B) and (ii)(C)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

21. The secondary seal shall allow easy insertion of probes of up to 1-1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

22. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

23. All openings in the roof used for sampling and gauging, except pressure-vacuum relief valve, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

24. The tank shall be operated in a leak-free condition. The pressure-vacuum relief valve shall be set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit

25. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three (3) drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three (3) drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

26. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623; 40 CFR 60.112b(a)(1)(iii) and 63.11087(a)] Federally Enforceable Through Title V Permit

27. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid.shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623; 40 CFR 60.112b(a)(1)(iv) and 63.11087(a)] Federally Enforceable Through Title V Permit

28. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623; 40 CFR 60.112b(a)(1)(v) and 63.11087(a)] Federally Enforceable Through Title V Permit

29. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623; 40 CFR 60.112b(a)(1)(vi) and 63.11087(a)] Federally Enforceable Through Title V Permit

30. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623; 40 CFR 60.112b(a)(1)(vii) and 63.11087(a)] Federally Enforceable Through Title V Permit

31. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623; 40 CFR 60.112b(a)(1)(viii) and 63.11087(a)] Federally Enforceable Through Title V Permit

32. Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix) and 63.11087(a)] Federally Enforceable Through Title V Permit

33. For solid guidepole, all solid sampling or gauging wells, and similar fixed projections through the floating roof such as anti-rotational pipe shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

34. For solid guidepole, the gap between the pole wiper and the guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall not exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

35. For slotted guidepole, all slotted sampling or gauging wells, and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

36. For slotted guidepole, gap between the pole wiper and the guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall not exceed 1/8 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

37. The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623; 40 CFR 60.113b(a)(1) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

38. The permittee shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of rule 4623. [District Rule 4623; 40 CFR 60.113b(a)(2) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

39. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623] Federally Enforceable Through Title V Permit

40. If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

41. The permittee shall notify the District in writing at least 30 days prior to conducting the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR 60.113b(a)(5) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

42. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623; 40 CFR 60.115b(a)(2), 60.115b(a)(3), and 63.11094(a)] Federally Enforceable Through Title V Permit

43. The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit

CONDITIONS CONTINUE ON NEXT PAGE

44. The permittee shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the Reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit

45. {2623} Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit

46. The permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

47. The permittee shall maintain records of daily and monthly organic liquid throughput in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit

48. The permittee shall maintain all records required by this permit for a period of at least five years and shall make them readily available for District inspection upon request. [District Rules 2201 and 4623, and 40 CFR 60.116b(a)] Federally Enforceable Through Title V Permit

49. Prior to operating under this Authority to Construct, the permittee shall mitigate the following quantities of VOC: 1st quarter: 451 lb, 2nd quarter: 451 lb, 3rd quarter: 451 lb, and 4th quarter: 451 lb. Offsets shall be provided at the applicable offset ratio specified in Section 4.8.1 of Rule 2201 (as amended 4/21/11) [District Rule 2201] Federally Enforceable Through Title V Permit

50. VOC ERC S-3809-1 and N-1000-1 (or a certificate split from any of these certificates) shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District. Following the revisions, this Authority to Construct permit shall be re-issued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to re-issuance of this Authority to Construct permit. [District Rule 2201] Federally Enforceable Through Title V Permit

Appendix II
Top-Down BACT Analysis and BACT Guidelines

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.3.3*

Last Update 10/1/2002

Petroleum and Petrochemical Production - Floating Roof Organic Liquid Storage or Processing Tank, = or > 471 bbl Tank capacity, = or > 0.5 psia TVP

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
VOC	95% control (Primary metal shoe seal with secondary wiper seal, or equal)	95% Control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal.)	

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a s state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

San Joaquin Valley
Unified Air Pollution Control District

Best Available Control Technology (BACT) Guideline 7.1.10*

Last Updata 2/23/2005

Loading Rack/Switch Loading

Pollutant	Achieved in Practice or contained in the SIP	Technologically Feasible	Alternate Basic Equipment
CO	natural gas fired pilot and air assist		
NOx	natural gas or LPG fired pilot and air assist		
PM10	air assisted flare with smokeless combustion		
SOx	natural gas firad flare		
VOC	bottom loading with dry break couplers end vapor collection vented to a thermal incinerator or flare with destruction efficiency => 99%		

BACT is the most stringent control technique for the emissions unit and class of source. Control techniques that are not achieved in practice or contained in a s state implementation plan must be cost effective as well as feasible. Economic analysis to demonstrate cost effectiveness is required for all determinations that are not achieved in practice or contained in an EPA approved State Implementation Plan.

***This is a Summary Page for this Class of Source**

Top-Down BACT Analysis for VOC emissions

N-758-4-5 and '-16-0:

Step 1: Identify All Possible Control Technologies

The following VOC emission control technologies are listed in BACT guideline 7.3.3:

Achieved in Practice or contained in SIP:
95% control (Primary metal shoe seal with secondary wiper seal, or equal)

Technologically Feasible:
95% control (Dual wiper seal with drip curtain or primary metal shoe seal with secondary wiper seal, or equal)

Step 2: Eliminate Technologically Infeasible Options

There is no technologically infeasible option.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

The technologically feasible and achieved-in-practice have the same control effectiveness.

1. 95% control (Dual wiper seal with drip curtain **or** primary metal shoe seal with secondary wiper seal, or equal)
2. 95% control (Primary metal shoe seal with secondary wiper seal, or equal)

Step 4: Cost Effectiveness Analysis

The tanks under permits are equipped with primary metal shoe with a secondary rim mounted wiper seal. These seals are equivalent to the control requirements listed in the technologically feasible option. Therefore, cost analysis is not required.

Step 5: Select BACT

BACT requirements for VOC emissions are satisfied by the use of primary metal shoe with the secondary rim mounted wiper seal. Therefore, applicant's proposal meets District BACT requirements.

N-758-13-9:

Step 1: Identify All Possible Control Technologies

The following VOC emission control technologies are listed in BACT guideline 7.1.10:

Achieved in Practice or contained in SIP:
Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency of 99% or greater

Technologically Feasible:
None

Step 2: Eliminate Technologically Infeasible Options

There is no technologically infeasible option.

Step 3: Rank Remaining Control Technologies by Control Effectiveness

1. Bottom loading with dry break couplers and vapor collection vented to a thermal incinerator or flare with destruction efficiency of 99% or greater, or equivalent system

Step 4: Cost Effectiveness Analysis

There is no technologically feasible option in Step 3 (above) for which a cost effectiveness analysis is required.

Step 5: Select BACT

BACT to reduce VOC emission would be to load the tanker trucks from the bottom with the use of dry break couplers, and vent the vapors displaced from the tanker to a vapor collection system served by a thermal incinerator or flare with destruction efficiency of 99% or greater, or utilize equivalent system.

The applicant is utilizing bottom loading technique with dry break couplers and venting the vapors displaced from the tanker trucks to a vapor collection system served by a carbon adsorber system capable of achieving 99% or greater control efficiency. Therefore, this proposal meets the BACT requirements.

Appendix III
TANKS 4.0.9d Emissions Reports

N-758-4-5 (Post-Project)
Tanks 4.0.9d Emissions Reports

N-758-4

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 19 - max daily throughput
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	Internal Floating Roof Tank
Description:	Storing gasoline with maximum daily throughput (1 turnover/day)

Tank Dimensions

Diameter (ft):	48.00
Volume (gallons):	504,000.00
Turnovers:	365.00
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-In. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-In. Diam.)/Built-Up Col.-Sliding Cover, Ungesk.	1
Ladder Well (36-In. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	14
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank 19 - max daily throughput - Internal Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	55.09	51.49	58.67	61.57	6.8836	N/A	N/A	81.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5151	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6818	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0424	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0603	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.5331	N/A	N/A	60.6580	0.7529	0.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Feb	57.96	53.17	62.75	61.57	5.3968	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0185	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5815	N/A	N/A	114.2300	0.0470	0.0054	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0473	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3518	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0013	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0668	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3097	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						7.9104	N/A	N/A	62.6256	0.7529	0.9807	77.89	
Xylenes (Mixed)						0.0841	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Mar	60.22	54.36	66.07	61.57	6.6772	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5994	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2185	N/A	N/A	84.1600	0.0024	0.0006	84.19	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0120	0.0000	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0515	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0724	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.2582	N/A	N/A	62.6168	0.7529	0.9803	77.89	

Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Apr	63.26	55.98	70.54	61.57	7.0673	N/A	N/A	63.0000			62.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6539	N/A	N/A	114.2300	0.0470	0.0057	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.2775	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0128	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0130	0.0050	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5969	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0017	N/A	N/A	128.1600	0.0000	0.0000	128.16	Option 2: A=6.8101, B=1585.86, C=184.32
Styrene						0.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						9.3651	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.7369	N/A	N/A	62.6045	0.7529	0.9797	77.89	
Xylenes (Mixed)						0.1013	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	May	67.10	58.83	75.36	61.57	3.3860	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7284	N/A	N/A	114.2300	0.0470	0.0123	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0130	0.0107	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0664	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7968	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8101, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4103	N/A	N/A	92.1300	0.0600	0.0088	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.1089	N/A	N/A	67.2321	0.7529	0.9562	77.89	
Xylenes (Mixed)						0.1155	N/A	N/A	106.1700	0.0700	0.0029	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jun	70.33	61.45	79.22	61.57	3.0161	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0308	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7967	N/A	N/A	114.2300	0.0470	0.0126	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5449	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0748	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4520	N/A	N/A	92.1300	0.0600	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.3817	N/A	N/A	67.2114	0.7529	0.9551	77.89	
Xylenes (Mixed)						0.1288	N/A	N/A	106.1700	0.0700	0.0000	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jul	72.25	63.02	81.48	61.57	3.7570	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8396	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0128	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0130	0.0119	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0798	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0992	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0027	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1091	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4784	N/A	N/A	92.1300	0.0600	0.0093	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.5501	N/A	N/A	67.1990	0.7529	0.9544	77.89	
Xylenes (Mixed)						0.1373	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Aug	71.45	62.84	80.06	61.57	3.6975	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0316	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5910	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79

Cyclohexane						1.6386	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0130	0.0100	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0776	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						8.0026	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4872	N/A	N/A	92.1300	0.0600	0.0092	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.4790	N/A	N/A	67.2042	0.7529	0.9547	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Sep	69.03	61.28	76.77	61.57	3.5226	N/A	N/A	68.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						8.7685	N/A	N/A	114.2300	0.0470	0.0124	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0130	0.0100	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0979	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4347	N/A	N/A	92.1300	0.0600	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.2696	N/A	N/A	67.2197	0.7529	0.9555	77.89	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Oct	64.64	58.13	71.18	61.57	3.2234	N/A	N/A	68.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0245	N/A	N/A	120.1900	0.0240	0.0002	120.18	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6800	N/A	N/A	114.2300	0.0470	0.0120	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.3266	N/A	N/A	78.1100	0.0120	0.0060	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0012	84.18	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0130	0.0108	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0607	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6668	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0016	N/A	N/A	128.1600	0.0030	0.0000	128.18	Option 2: A=6.8181, B=1585.88, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3808	N/A	N/A	92.1300	0.0600	0.0086	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						3.9117	N/A	N/A	67.2478	0.7529	0.9570	77.89	
Xylenes (Mixed)						0.1062	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Nov	58.87	54.21	63.53	61.57	6.5099	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5765	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0006	84.18	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0490	N/A	N/A	120.2000	0.0015	0.0006	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0690	N/A	N/A	104.1500	0.0009	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3187	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.0529	N/A	N/A	62.5222	0.7529	0.9606	77.89	
Xylenes (Mixed)						0.0868	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	54.98	51.51	58.44	61.57	8.8705	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0157	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0143	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2289	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13

Naphthalene	0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene	0.0601	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene	0.2818	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components	8.5170	N/A	N/A	60.6584	0.7529	0.9630	77.89	
Xylenes (Mixed)	0.0756	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 19 - max daily throughput - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	22.8900	21.4210	22.6601	24.5143	10.6594	11.4851	12.0037	11.7838	11.1445	10.0731	21.9190	22.8303
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.8836	6.3968	6.6772	7.0673	3.3880	3.6161	3.7570	3.6975	3.5226	3.2234	6.5099	6.8705
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	68.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	15,330,000.000	15,330,000.000	16,330,000.000	16,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Deck Fitting Losses (lb):	239.8678	224.4744	237.6688	256.8899	111.7012	120.3548	125.7886	123.4843	116.7850	105.5573	229.6927	239.2421
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	324.2468	307.3844	321.8379	342.8932	183.8485	193.3287	199.2813	196.7571	189.4185	177.1193	313.1007	323.5613

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	38.00	5.90	1.20	253.6522
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	98.6425
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1	47.00	0.00	0.00	331.1571
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	535.4880
Roof Leg or Hanger Well/Adjustable	14	7.90	0.00	0.00	778.2760
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	84.5507
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	43.6846

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 19 - max daily throughput - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 5.99	67.15	368.93	703.67	0.00	1,139.75
1,2,4-Trimethylbenzene	0.02	8.85	0.17	0.00	9.04
2,2,4-Trimethylpentane	0.84	17.34	8.77	0.00	26.95
Benzene	0.41	4.43	4.35	0.00	9.19
Cyclohexane	0.09	0.99	0.90	0.00	1.87
Ethylbenzene	0.04	4.43	0.43	0.00	4.90
Hexane (-n)	0.72	4.80	7.60	0.00	13.12
Isopropyl benzene	0.00	0.55	0.03	0.00	0.58
Methyl alcohol	0.06	0.52	0.65	0.00	1.23
Naphthalene	0.00	1.11	0.00	0.00	1.11
Styrene	0.00	0.30	0.02	0.00	0.32
Toluene	0.60	22.14	6.34	0.00	29.08
Unidentified Components	64.16	277.77	672.32	0.00	1,014.25
Xylenes (Mixed)	0.20	25.83	2.10	0.00	28.13
Equilon Gasoline RVP 12.5	90.53	245.96	948.73	0.00	1,285.22
1,2,4-Trimethylbenzene	0.01	5.90	0.09	0.00	6.00
2,2,4-Trimethylpentane	0.50	11.56	5.24	0.00	17.30
Benzene	0.25	2.95	2.62	0.00	5.82
Cyclohexane	0.05	0.59	0.54	0.00	1.18
Ethylbenzene	0.02	2.95	0.24	0.00	3.22
Hexane (-n)	0.44	3.20	4.65	0.00	8.29
Isopropyl benzene	0.00	0.37	0.01	0.00	0.38
Methyl alcohol	0.04	0.34	0.38	0.00	0.76
Naphthalene	0.00	0.74	0.00	0.00	0.74
Styrene	0.00	0.20	0.01	0.00	0.21
Toluene	0.35	14.76	3.71	0.00	18.92
Unidentified Components	88.75	185.18	930.03	0.00	1,203.96

Xylenes (Mixed)	0.11	17.22	1.19	0.00	18.52
Equilon Gasoline RVP 14.0	45.72	122.98	479.11	0.00	647.81
1,2,4-Trimethylbenzene	0.00	2.95	0.04	0.00	2.99
2,2,4-Trimethylpentane	0.22	5.78	2.28	0.00	8.28
Benzene	0.11	1.49	1.15	0.00	2.73
Cyclohexane	0.02	0.30	0.24	0.00	0.56
Ethylbenzene	0.01	1.48	0.10	0.00	1.59
Hexane (-n)	0.20	1.60	2.06	0.00	3.85
Isopropyl benzene	0.00	0.18	0.01	0.00	0.18
Methyl alcohol	0.02	0.17	0.16	0.00	0.35
Naphthalene	0.00	0.37	0.00	0.00	0.37
Styrene	0.00	0.10	0.00	0.00	0.10
Toluene	0.15	7.38	1.60	0.00	9.13
Unidentified Components	44.94	92.59	470.97	0.00	608.51
Xylenes (Mixed)	0.05	9.61	0.50	0.00	9.16

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 19 post-project ann throughput
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	Internal Floating Roof Tank
Description:	Storing gasoline with maximum annual post-project throughput (7,560,000 gal/month)

Tank Dimensions

Diameter (ft):	48.00
Volume (gallons):	504,000.00
Turnovers:	180.00
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	14
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank 19 post-project ann throughput - Internal Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	55.08	51.49	58.67	61.57	8.8636	N/A	N/A	91.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5161	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0424	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.88, C=184.32
Styrene						0.0603	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.5331	N/A	N/A	60.6580	9.7529	0.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Feb	57.86	53.17	62.75	61.57	6.3968	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5815	N/A	N/A	114.2300	0.0470	0.0054	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0473	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3519	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0013	N/A	N/A	128.1600	0.0030	0.0000	128.19	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.0668	N/A	N/A	104.1600	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3097	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						7.9164	N/A	N/A	62.6258	0.7529	0.9807	77.89	
Xylenes (Mixed)						0.0841	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Mar	60.22	54.36	66.07	61.57	6.6772	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5994	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2186	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0515	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1600	0.0030	0.0000	128.19	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.0724	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.2582	N/A	N/A	62.6168	0.7529	0.9803	77.89	

Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Apr	63.26	55.99	70.54	61.57	7.0673	N/A	N/A	63.0000			62.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5539	N/A	N/A	114.2300	0.0470	0.0057	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.2775	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0008	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0130	0.0050	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5969	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0017	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3651	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.7369	N/A	N/A	62.6045	0.7529	0.9797	77.89	
Xylenes (Mixed)						0.1013	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	May	67.10	58.83	75.36	61.57	3.3880	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0240	0.0002	120.18	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7284	N/A	N/A	114.2300	0.0470	0.0123	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0130	0.0107	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0684	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7968	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1600	0.0030	0.0000	128.18	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4103	N/A	N/A	92.1300	0.0600	0.0068	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.1089	N/A	N/A	67.2321	0.7529	0.9562	77.89	
Xylenes (Mixed)						0.1155	N/A	N/A	106.1700	0.0700	0.0029	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jun	70.33	61.45	79.22	61.57	3.6161	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0305	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7967	N/A	N/A	114.2300	0.0470	0.0126	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5449	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5822	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0748	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1600	0.0030	0.0000	128.18	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4520	N/A	N/A	92.1300	0.0600	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.3817	N/A	N/A	67.2114	0.7529	0.9551	77.89	
Xylenes (Mixed)						0.1288	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jul	72.25	63.82	81.48	61.57	3.7570	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8396	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0130	0.0110	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0798	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0932	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0027	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1081	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4784	N/A	N/A	92.1300	0.0600	0.0093	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.5501	N/A	N/A	67.1980	0.7529	0.9544	77.89	
Xylenes (Mixed)						0.1373	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Aug	71.45	62.84	80.06	61.57	3.6975	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5910	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79

Cyclohexane						1.5386	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0776	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0026	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4872	N/A	N/A	92.1300	0.0600	0.0092	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.4790	N/A	N/A	67.2042	0.7529	0.8547	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Sep	69.03	61.28	76.77	61.57	3.5229	N/A	N/A	66.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7685	N/A	N/A	114.2300	0.0470	0.0124	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0130	0.0106	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0978	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4347	N/A	N/A	92.1300	0.0600	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.2698	N/A	N/A	67.2197	0.7529	0.9555	77.89	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1790	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Oct	64.64	58.13	71.19	61.57	3.2234	N/A	N/A	66.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6800	N/A	N/A	114.2300	0.0470	0.0120	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.3266	N/A	N/A	78.1100	0.0120	0.0060	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1900	0.0024	0.0012	84.19	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0130	0.0106	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0607	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6568	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0018	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3809	N/A	N/A	92.1300	0.0600	0.0086	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						3.9117	N/A	N/A	67.2478	0.7529	0.9570	77.89	
Xylenes (Mixed)						0.1062	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Nov	58.87	54.21	63.53	61.57	6.5099	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5765	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1780	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0490	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0690	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3187	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						5.0529	N/A	N/A	62.6222	0.7529	0.9806	77.89	
Xylenes (Mixed)						0.0868	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	54.98	51.51	58.44	61.57	6.8705	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.18	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0478	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0143	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1900	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2289	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13

Naphthalene	0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene	0.0601	N/A	N/A	104.1500	0.0008	8.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene	0.2918	N/A	N/A	92.1300	8.0600	8.0033	92.13	Option 2: A=6.954, B=1344.8, C=210.48
Unidentified Components	8.5170	N/A	N/A	60.6584	0.7529	8.9830	77.89	
Xylenes (Mixed)	0.0756	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 19 post-project ann throughput - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	22.8900	21.4210	22.6801	24.5143	10.6594	11.4851	12.0037	11.7838	11.1445	10.8731	21.9180	22.8303
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.8836	6.3988	6.6772	7.0673	3.3880	3.6161	3.7570	3.6975	3.5226	3.2234	6.5099	6.8705
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	68.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	30.3233	30.3233	30.3233	30.3233	30.3233	30.3233	30.3233	30.3233	30.3233	30.3233	30.3233	30.3233
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000	7,560,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Deck Fitting Losses (lb):	239.8678	224.4744	237.6688	256.8899	111.7012	120.3546	125.7886	123.4843	116.7850	105.5573	229.6927	239.2421
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	68.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	301.8000	301.8000	301.8000	301.0000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	293.0811	276.2188	290.6723	311.7276	152.6839	162.1630	168.1156	165.5915	158.2528	145.9537	281.8350	292.3957

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.90	1.20	253.6522
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	98.8425
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1	47.00	0.00	0.00	331.1571
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	535.4880
Roof Leg or Hanger Well/Adjustable	14	7.90	0.00	0.00	779.2760
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	84.5507
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	43.6846

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 19 post-project ann throughput - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 5.99	67.15	181.94	703.67	0.00	952.76
1,2,4-Trimethylbenzene	0.02	4.37	0.17	0.00	4.55
2,2,4-Trimethylpentane	0.84	8.55	8.77	0.00	18.16
Benzene	0.41	2.18	4.35	0.00	6.95
Cyclohexane	0.09	0.44	0.90	0.00	1.42
Ethylbenzene	0.04	2.18	0.43	0.00	2.66
Hexane (-n)	0.72	2.37	7.60	0.00	10.69
Isopropyl benzene	0.00	0.27	0.03	0.00	0.30
Methyl alcohol	0.06	0.25	0.65	0.00	0.96
Naphthalene	0.00	0.55	0.00	0.00	0.55
Styrene	0.00	0.15	0.02	0.00	0.17
Toluene	0.60	10.92	6.34	0.00	17.86
Unidentified Components	64.16	136.98	672.32	0.00	873.47
Xylenes (Mixed)	0.20	12.74	2.10	0.00	15.04
Equilon Gasoline RVP 12.5	90.53	121.29	948.73	0.00	1,160.55
1,2,4-Trimethylbenzene	0.01	2.91	0.09	0.00	3.01
2,2,4-Trimethylpentane	0.50	5.70	5.24	0.00	11.44
Benzene	0.25	1.46	2.62	0.00	4.33
Cyclohexane	0.05	0.29	0.54	0.00	0.89
Ethylbenzene	0.02	1.46	0.24	0.00	1.72
Hexane (-n)	0.44	1.58	4.65	0.00	6.67
Isopropyl benzene	0.00	0.18	0.01	0.00	0.20
Methyl alcohol	0.04	0.17	0.38	0.00	0.58
Naphthalene	0.00	0.36	0.00	0.00	0.36
Styrene	0.00	0.10	0.01	0.00	0.11
Toluene	0.35	7.28	3.71	0.00	11.34
Unidentified Components	88.75	91.32	930.03	0.00	1,110.10

Xylenes (Mixed)	0.11	8.48	1.19	0.00	9.78
Equilon Gasoline RVP 14.0	45.72	60.65	479.11	0.00	585.48
1,2,4-Trimethylbenzene	0.00	1.46	0.04	0.00	1.50
2,2,4-Trimethylpentane	0.22	2.85	2.28	0.00	5.35
Benzene	0.11	0.73	1.15	0.00	1.99
Cyclohexane	0.02	0.15	0.24	0.00	0.41
Ethylbenzene	0.01	0.73	0.10	0.00	0.84
Hexane (-n)	0.20	0.79	2.06	0.00	3.04
Isopropyl benzene	0.00	0.09	0.01	0.00	0.10
Methyl alcohol	0.02	0.08	0.16	0.00	0.26
Naphthalene	0.00	0.18	0.00	0.00	0.18
Styrene	0.00	0.05	0.00	0.00	0.05
Toluene	0.15	3.64	1.60	0.00	5.39
Unidentified Components	44.94	45.66	470.97	0.00	561.58
Xylenes (Mixed)	0.05	4.25	0.50	0.00	4.79

N-758-4-4 (Pre-Project)
Tanks 4.0.9d Emissions Reports

N-758-4

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 19 - max daily throughput
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	Internal Floating Roof Tank
Description:	Storing gasoline with maximum daily throughput (1 turnover/day)

Tank Dimensions

Diameter (ft):		48.00
Volume (gallons):		504,000.00
Turnovers:		365.00
Self Supp. Roof? (y/n):	N	
No. of Columns:		1.00
Eff. Col. Diam. (ft):		1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	14
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank 19 - max daily throughput - Internal Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	55.08	51.49	58.67	91.57	6.8838	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1800	0.0249	9.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5161	N/A	N/A	114.2300	0.0470	0.0043	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	9.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						9.0913	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.5810	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						9.0424	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	9.0014	9.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	9.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0603	N/A	N/A	104.1500	0.0008	9.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.5331	N/A	N/A	60.6580	0.7529	0.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Feb	57.96	53.17	62.75	61.67	8.3998	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5615	N/A	N/A	114.2300	0.0470	0.0054	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	9.0120	9.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0120	9.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						9.0473	N/A	N/A	120.2000	0.0015	9.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3519	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0013	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						9.0668	N/A	N/A	104.1500	9.0008	9.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3097	N/A	N/A	92.1300	9.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						7.6184	N/A	N/A	62.6258	9.7529	0.9807	77.89	
Xylenes (Mixed)						9.0841	N/A	N/A	106.1700	9.0700	9.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Mar	60.22	54.36	66.07	61.57	8.6772	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5994	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2186	N/A	N/A	84.1600	9.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0515	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0724	N/A	N/A	104.1500	0.0009	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.2582	N/A	N/A	62.6168	0.7529	0.9803	77.89	

Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Apr	63.26	55.98	70.54	61.57	7.0673	N/A	N/A	63.0000			62.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6539	N/A	N/A	114.2300	0.0470	0.0057	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.2775	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0130	0.0050	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5963	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0017	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3651	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.7363	N/A	N/A	62.6045	0.7529	0.9797	77.89	
Xylenes (Mixed)						0.1013	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	May	67.10	58.83	75.38	61.57	3.3880	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7284	N/A	N/A	114.2300	0.0470	0.0123	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0130	0.0107	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0664	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7958	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1600	0.0038	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4103	N/A	N/A	92.1300	0.0000	0.0068	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.1069	N/A	N/A	67.2221	0.7529	0.9562	77.89	
Xylenes (Mixed)						0.1155	N/A	N/A	106.1700	0.0700	0.0029	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jun	70.33	61.45	79.22	61.57	3.6161	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0308	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7967	N/A	N/A	114.2300	0.0470	0.0126	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5449	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0746	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1900	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4520	N/A	N/A	92.1300	0.0600	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.3817	N/A	N/A	67.2114	0.7529	0.9551	77.89	
Xylenes (Mixed)						0.1268	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jul	72.25	63.02	81.48	61.57	3.7570	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8398	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0130	0.0110	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0798	N/A	N/A	120.2000	0.0015	0.0006	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0992	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0027	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.9181, B=1585.88, C=184.32
Styrene						0.1091	N/A	N/A	104.1500	0.0008	0.0006	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4764	N/A	N/A	92.1300	0.0600	0.0093	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.5501	N/A	N/A	67.1990	0.7529	0.9544	77.89	
Xylenes (Mixed)						0.1373	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Aug	71.45	62.84	80.06	61.57	3.6975	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0318	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5918	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.78

Cyclohexane						1.6388	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0776	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0026	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4672	N/A	N/A	92.1300	0.0600	0.0092	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.4790	N/A	N/A	67.2042	0.7529	0.9547	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Sep	69.03	91.28	76.77	61.57	3.5226	N/A	N/A	69.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7685	N/A	N/A	114.2300	0.0470	0.0124	114.23	Option 2: A=6.8119, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0130	0.0108	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0979	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4347	N/A	N/A	92.1300	0.0600	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.2596	N/A	N/A	67.2197	0.7529	0.9555	77.69	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Oct	64.94	58.13	71.16	61.57	3.2234	N/A	N/A	68.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6800	N/A	N/A	114.2300	0.0470	0.0120	114.23	Option 2: A=6.8119, B=1257.84, C=220.74
Benzene						1.3266	N/A	N/A	78.1100	0.0120	0.0060	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0130	0.0108	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0607	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6668	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0019	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3809	N/A	N/A	92.1300	0.0600	0.0066	92.13	Option 2: A=6.954, B=1344.8, C=216.40
Unidentified Components						3.9117	N/A	N/A	67.2478	0.7529	0.9570	77.89	
Xylenes (Mixed)						0.1062	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Nov	58.97	54.21	63.53	61.57	6.5099	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5765	N/A	N/A	114.2300	0.0478	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0008	84.10	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0490	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.0690	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3187	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.0529	N/A	N/A	62.6222	0.7529	0.9806	77.89	
Xylenes (Mixed)						0.0858	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	54.98	51.51	58.44	61.57	6.8705	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.0143	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2289	N/A	N/A	32.0400	0.0014	0.0000	32.04	Option 2: A=7.897, B=1474.08, C=229.13

Naphthalene	0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1565.88, C=184.32
Styrene	0.0601	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene	0.2818	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components	8.5170	N/A	N/A	60.6584	0.7529	0.9830	77.89	
Xylenes (Mixed)	0.0758	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 19 - max daily throughput - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	22.8900	21.4210	22.6801	24.5143	10.6594	11.4851	12.0037	11.7839	11.1445	10.0731	21.9190	22.8303
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.8836	6.3988	6.6772	7.0673	3.3880	3.6161	3.7570	3.6975	3.5226	3.2234	6.5099	6.9705
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890	61.4890
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.000	15,330,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Deck Fitting Losses (lb):	239.8678	224.4744	237.0688	256.8899	111.7012	120.3546	125.7886	123.4843	116.7850	105.5573	229.6927	239.2421
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	324.2468	307.3844	321.8379	342.8932	183.8495	193.3287	199.2813	196.7571	189.4185	177.1193	313.1007	323.5613

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	38.00	5.90	1.20	253.6522
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	88.6425
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1	47.00	0.00	0.00	331.1571
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	78.00	0.00	0.00	535.4830
Roof Leg or Hanger Well/Adjustable	14	7.90	0.00	0.00	778.2760
Sample Pipe or Well (24-in. Diam.)/SH Fabric Seal 10% Open	1	12.00	0.00	0.00	84.5507
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.20	1.20	0.94	43.6846

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 19 - max daily throughput - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 5.99	67.15	368.93	703.67	0.00	1,139.75
1,2,4-Trimethylbenzene	0.02	8.85	0.17	0.00	9.04
2,2,4-Trimethylpentane	0.84	17.34	8.77	0.00	26.95
Benzene	0.41	4.43	4.35	0.00	9.19
Cyclohexane	0.09	0.89	0.90	0.00	1.87
Ethylbenzene	0.04	4.43	0.43	0.00	4.90
Hexane (-n)	0.72	4.80	7.60	0.00	13.12
Isopropyl benzene	0.00	0.55	0.03	0.00	0.58
Methyl alcohol	0.06	0.52	0.65	0.00	1.23
Naphthalene	0.00	1.11	0.00	0.00	1.11
Styrene	0.00	0.30	0.02	0.00	0.32
Toluene	0.60	22.14	6.34	0.00	29.08
Unidentified Components	64.16	277.77	672.32	0.00	1,014.25
Xylenes (Mixed)	0.20	25.83	2.10	0.00	28.13
Equilon Gasoline RVP 12.5	90.53	245.96	948.73	0.00	1,285.22
1,2,4-Trimethylbenzene	0.01	5.90	0.09	0.00	6.00
2,2,4-Trimethylpentane	0.50	11.56	5.24	0.00	17.30
Benzene	0.25	2.95	2.62	0.00	5.82
Cyclohexane	0.05	0.59	0.54	0.00	1.19
Ethylbenzene	0.02	2.95	0.24	0.00	3.22
Hexane (-n)	0.44	3.20	4.65	0.00	8.29
Isopropyl benzene	0.00	0.37	0.01	0.00	0.38
Methyl alcohol	0.04	0.34	0.38	0.00	0.76
Naphthalene	0.00	0.74	0.00	0.00	0.74
Styrene	0.00	0.20	0.01	0.00	0.21
Toluene	0.35	14.76	3.71	0.00	18.82
Unidentified Components	88.75	185.18	930.03	0.00	1,203.86

Xylenes (Mixed)	0.11	17.22	1.19	0.00	18.52
Equilon Gasoline RVP 14.0	45.72	122.98	479.11	0.00	647.81
1,2,4-Trimethylbenzene	0.00	2.95	0.04	0.00	2.99
2,2,4-Trimethylpentane	0.22	5.78	2.28	0.00	8.28
Benzene	0.11	1.48	1.15	0.00	2.73
Cyclohexane	0.02	0.30	0.24	0.00	0.56
Ethylbenzene	0.01	1.48	0.10	0.00	1.59
Hexane (-n)	0.20	1.60	2.06	0.00	3.85
Isopropyl benzene	0.00	0.18	0.01	0.00	0.19
Methyl alcohol	0.02	0.17	0.16	0.00	0.35
Naphthalene	0.00	0.37	0.00	0.00	0.37
Styrene	0.00	0.10	0.00	0.00	0.10
Toluene	0.15	7.38	1.60	0.00	9.13
Unidentified Components	44.94	92.59	470.97	0.00	608.51
Xylenes (Mixed)	0.05	8.61	0.50	0.00	9.16

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 19 pre-project ann throughput
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	Internal Floating Roof Tank
Description:	Storing gasoline with maximum annual pre-project throughput (1,250,000 gal/month)

Tank Dimensions

Diameter (ft):	48.00
Volume (gallons):	504,000.00
Turnovers:	29.76
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Typical
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1
Roof Leg or Hanger Well/Adjustable	14
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank 19 pre-project ann throughput - Internal Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	55.09	51.49	58.67	61.57	6.8836	N/A	N/A	61.0000			92.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0187	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5161	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0588	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.5810	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0424	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0603	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.5331	N/A	N/A	60.6580	0.7529	0.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Feb	57.96	53.17	62.75	61.57	6.3988	N/A	N/A	63.0000			92.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0240	0.0001	120.16	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5815	N/A	N/A	114.2300	0.0470	0.0054	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0473	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3519	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0013	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0668	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3097	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						7.9184	N/A	N/A	62.6258	0.7529	0.9807	77.89	
Xylenes (Mixed)						0.0841	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Mar	60.22	54.36	66.07	61.57	9.8772	N/A	N/A	83.0000			92.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0240	0.0001	120.18	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5894	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2188	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0120	0.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0515	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1600	0.0030	0.0000	128.18	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0724	N/A	N/A	104.1500	0.0003	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.2582	N/A	N/A	62.8168	0.7529	0.9803	77.89	

Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Apr	63.26	55.98	70.54	61.57	7.0673	N/A	N/A	63.0000			62.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5539	N/A	N/A	114.2300	0.0470	0.0057	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.2775	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0130	0.0050	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5969	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0017	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3651	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.7369	N/A	N/A	62.6045	0.7529	0.9787	77.89	
Xylenes (Mixed)						0.1013	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	May	67.10	58.83	75.36	61.57	3.3880	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0248	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7284	N/A	N/A	114.2300	0.0470	0.0123	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0130	0.0107	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0664	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7968	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4103	N/A	N/A	92.1300	0.0600	0.0088	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.1089	N/A	N/A	67.2321	0.7529	0.9562	77.89	
Xylenes (Mixed)						0.1155	N/A	N/A	106.1700	0.0700	0.0029	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jun	70.33	61.45	79.22	61.57	3.6161	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0306	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7957	N/A	N/A	114.2300	0.0470	0.0126	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5449	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0748	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.79
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.08
Toluene						0.4520	N/A	N/A	92.1300	0.0600	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.3817	N/A	N/A	67.2114	0.7529	0.9551	77.89	
Xylenes (Mixed)						0.1288	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jul	72.25	63.02	81.48	61.57	3.7570	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0240	0.0008	120.18	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8396	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0130	0.0110	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0798	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0992	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0027	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1091	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4784	N/A	N/A	92.1300	0.0600	0.0093	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.5501	N/A	N/A	67.1990	0.7529	0.9544	77.89	
Xylenes (Mixed)						0.1373	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Aug	71.45	62.84	80.06	61.57	3.6975	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0318	N/A	N/A	120.1900	0.0248	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	0.0478	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5918	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.78

Cyclohexane						1.6386	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5579	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0776	N/A	N/A	120.2000	9.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0026	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8191, B=1585.88, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4672	N/A	N/A	92.1300	0.0600	0.0092	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.4790	N/A	N/A	67.2042	0.7529	0.9547	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Sep	69.03	61.28	76.77	61.57	3.5226	N/A	N/A	68.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7685	N/A	N/A	114.2300	9.0470	0.0124	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0052	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0120	9.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4063	N/A	N/A	86.1700	0.0130	0.0106	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	9.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0976	N/A	N/A	104.1500	0.0000	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						9.4347	N/A	N/A	92.1300	0.0600	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.2698	N/A	N/A	67.2197	0.7529	0.9555	77.89	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Oct	64.64	58.13	71.16	61.57	3.2234	N/A	N/A	68.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0245	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6800	N/A	N/A	114.2300	0.0470	0.0120	114.23	Option 2: A=6.8119, B=1257.84, C=220.74
Benzene						1.3268	N/A	N/A	78.1100	9.0120	0.0060	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0130	0.0106	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0697	N/A	N/A	120.2000	9.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6668	N/A	N/A	32.0400	9.0014	9.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0019	N/A	N/A	128.1600	0.0030	9.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3809	N/A	N/A	92.1300	0.0600	0.0086	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						3.9117	N/A	N/A	67.2476	9.7529	0.9570	77.89	
Xylenes (Mixed)						0.1052	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Nov	58.87	54.21	63.53	61.57	6.5099	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	9.0240	0.0001	120.16	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						9.5765	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	9.0120	9.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	9.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						9.1043	N/A	N/A	106.1700	0.0120	9.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						9.0490	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1600	9.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.88, C=184.32
Styrene						0.0690	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3187	N/A	N/A	92.1300	6.0600	0.0038	92.13	Option 2: A=6.954, B=1344.0, C=219.49
Unidentified Components						8.0529	N/A	N/A	62.6222	0.7529	0.9806	77.89	
Xylenes (Mixed)						0.0858	N/A	N/A	106.1700	9.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	54.98	51.51	58.44	61.57	6.8705	N/A	N/A	91.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	6.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0143	N/A	N/A	78.1100	9.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	9.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2289	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13

Naphthalene	0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8161, B=1585.86, C=184.32
Styrene	0.0601	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene	0.2818	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components	8.5170	N/A	N/A	60.6584	8.7529	0.9830	77.89	
Xylenes (Mixed)	0.0756	N/A	N/A	106.1700	0.0700	0.0018	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 19 pre-project ann throughput - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	22.8900	21.4210	22.5801	24.5143	10.6594	11.4851	12.0037	11.7838	11.1445	10.0731	21.9190	22.8303
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.8838	6.3986	6.6772	7.0673	3.3880	3.6161	3.7570	3.6975	3.5226	3.2234	6.5099	6.8705
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	5.0138	5.0138	5.0138	5.0138	5.0138	5.0138	5.0138	5.0138	5.0138	5.0138	5.0138	5.0138
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000	1,250,000.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Deck Fitting Losses (lb):	239.8878	224.4744	237.6688	256.8899	111.7012	120.3546	125.7888	123.4843	118.7850	105.5573	229.6927	239.2421
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000	301.8000
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000	48.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	267.7716	250.9092	265.3627	288.4180	127.3743	136.8535	142.8060	140.2819	132.9433	120.6441	256.6254	267.0851

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Unbolted Cover, Ungasketed	1	36.00	5.80	1.20	253.6522
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.10	98.6425
Column Well (24-in. Diam.)/Built-Up Col.-Sliding Cover, Ungask.	1	47.00	0.00	0.00	331.1571
Ladder Well (36-in. Diam.)/Sliding Cover, Ungasketed	1	76.00	0.00	0.00	535.4880
Roof Leg or Hanger Well/Adjustable	14	7.90	0.00	0.00	779.2760
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	84.5507
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	43.6846

TANKS 4.0.9d
Emissions Report - Detail Format

Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 19 pre-project ann throughput - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 5.99	67.15	30.08	703.67	0.00	800.90
1,2,4-Trimethylbenzene	0.02	0.72	0.17	0.00	0.91
2,2,4-Trimethylpentane	0.84	1.41	8.77	0.00	11.02
Benzene	0.41	0.36	4.35	0.00	5.12
Cyclohexane	0.09	0.07	0.90	0.00	1.05
Ethylbenzene	0.04	0.36	0.43	0.00	0.83
Hexane (-n)	0.72	0.39	7.60	0.00	8.71
Isopropyl benzene	0.00	0.05	0.03	0.00	0.07
Methyl alcohol	0.06	0.04	0.65	0.00	0.75
Naphthalene	0.00	0.09	0.00	0.00	0.09
Styrene	0.00	0.02	0.02	0.00	0.04
Toluene	0.60	1.90	6.34	0.00	8.75
Unidentified Components	64.16	22.65	672.32	0.00	759.13
Xylenes (Mixed)	0.20	2.11	2.10	0.00	4.41
Equilon Gasoline RVP 12.5	90.53	20.06	948.73	0.00	1,059.32
1,2,4-Trimethylbenzene	0.01	0.48	0.09	0.00	0.58
2,2,4-Trimethylpentane	0.50	0.94	5.24	0.00	6.68
Benzene	0.25	0.24	2.62	0.00	3.11
Cyclohexane	0.05	0.05	0.54	0.00	0.84
Ethylbenzene	0.02	0.24	0.24	0.00	0.51
Hexane (-n)	0.44	0.26	4.65	0.00	5.36
Isopropyl benzene	0.00	0.03	0.01	0.00	0.05
Methyl alcohol	0.04	0.03	0.38	0.00	0.44
Naphthalene	0.00	0.06	0.00	0.00	0.06
Styrene	0.00	0.02	0.01	0.00	0.03
Toluene	0.35	1.20	3.71	0.00	5.27
Unidentified Components	88.75	15.10	930.03	0.00	1,033.88

Xylenes (Mixed)	0.11	1.40	1.19	0.00	2.70
Equilon Gasoline RVP 14.0	45.72	10.03	479.11	0.00	534.86
1;2,4-Trimethylbenzene	0.00	0.24	0.04	0.00	0.28
2,2,4-Trimethylpentane	0.22	0.47	2.28	0.00	2.97
Benzene	0.11	0.12	1.15	0.00	1.38
Cyclohexane	0.02	0.02	0.24	0.00	0.29
Ethylbenzene	0.01	0.12	0.10	0.00	0.23
Hexane (-n)	0.20	0.13	2.06	0.00	2.38
Isopropyl benzene	0.00	0.02	0.01	0.00	0.02
Methyl alcohol	0.02	0.01	0.16	0.00	0.19
Naphthalene	0.00	0.03	0.00	0.00	0.03
Styrene	0.00	0.01	0.00	0.00	0.01
Toluene	0.15	0.60	1.60	0.00	2.35
Unidentified Components	44.94	7.55	470.97	0.00	523.47
Xylenes (Mixed)	0.05	0.70	0.50	0.00	1.26

N-758-14 (Pre and Post-Project)
Tanks 4.0.9d Emissions Reports

N-758-14

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 18 annual
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	External Floating Roof Tank
Description:	Throughput = 50,952,827 gal/yr

Tank Dimensions

Diameter (ft):	60.00
Volume (gallons):	689,136.00
Turnovers:	73.94

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Liquid-mounted
Secondary Seal	Weather Shield

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	7
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	9
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Ungask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Stockton Tank 18 annual - External Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	55.08	51.49	58.67	61.57	6.8836	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0157	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5161	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8119, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						9.0913	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	9.9130	9.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						9.0424	N/A	N/A	120.2000	0.0015	9.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						9.0603	N/A	N/A	104.1500	0.0008	9.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	9.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.5331	N/A	N/A	60.6560	0.7529	9.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0019	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Feb	57.96	53.17	62.75	61.57	7.2549	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0240	9.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5615	N/A	N/A	114.2300	0.0476	0.0049	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	0.0120	9.0025	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						9.1010	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	9.0130	0.0044	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0473	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3516	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						9.0013	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.0668	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						9.3097	N/A	N/A	92.1300	9.0600	0.0035	92.13	Option 2: A=6.954, B=1344.8, C=219.46
Unidentified Components						9.0025	N/A	N/A	88.6471	0.7529	0.9825	77.89	
Xylenes (Mixed)						0.0841	N/A	N/A	106.1700	0.0700	9.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Mar	60.22	54.36	66.07	61.57	7.5756	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5994	N/A	N/A	114.2300	0.0470	0.0050	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1100	0.0120	9.0025	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2188	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	9.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	9.0130	0.0045	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						9.0515	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1900	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0724	N/A	N/A	104.1500	9.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0036	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.3849	N/A	N/A	60.6383	0.7529	0.9821	77.89	
Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	0.9700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Apr	63.26	55.98	70.54	61.57	8.0167	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6539	N/A	N/A	114.2300	0.0470	0.0052	114.23	Option 2: A=6.8118, B=1257.84, C=220.74

Benzene						1.2775	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0130	0.0046	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5969	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0017	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3651	N/A	N/A	92.1300	0.0600	0.0037	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.9200	N/A	N/A	60.0264	0.7529	0.9815	77.89	
Xylenes (Mixed)						0.1013	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	May	67.10	58.83	75.36	61.57	8.5869	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0240	8.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7264	N/A	N/A	114.2300	0.0470	0.0054	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1394	N/A	N/A	106.1700	0.0128	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0130	0.0047	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0684	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7968	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	9.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4103	N/A	N/A	92.1300	0.0600	0.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						10.6281	N/A	N/A	60.6111	0.7529	0.9807	77.89	
Xylenes (Mixed)						0.1155	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Jun	70.33	61.45	79.22	61.57	9.0984	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0306	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7967	N/A	N/A	114.2300	0.0470	0.0056	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.5449	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4850	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0746	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4520	N/A	N/A	92.1300	0.0600	0.0040	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						11.2564	N/A	N/A	60.5980	0.7529	0.9801	77.89	
Xylenes (Mixed)						0.1288	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Jul	72.25	63.02	81.48	61.57	9.4126	N/A	N/A	61.0000			82.56	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8396	N/A	N/A	114.2300	0.0470	0.0057	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	0.0128	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.8120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0788	N/A	N/A	128.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0992	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0027	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1091	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						8.4784	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						11.8423	N/A	N/A	60.5901	0.7529	0.9797	77.89	
Xylenes (Mixed)						0.1373	N/A	N/A	106.1700	0.0700	0.0014	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Aug	71.45	62.84	80.06	61.57	9.2801	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	0.0470	0.0056	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.5910	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6388	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0776	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78

Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0026	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4672	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						11.4795	N/A	N/A	60.5934	0.7529	0.9799	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0014	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Sep	69.03	61.26	76.77	61.57	8.8891	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.84393, B=1573.267, C=208.56
2,2,4-Trimethylpentane						6.7685	N/A	N/A	114.2300	0.8470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						6.1478	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0979	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4347	N/A	N/A	92.1300	0.0600	0.0040	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						18.9994	N/A	N/A	60.6033	0.7529	0.9804	77.89	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Oct	64.64	58.13	71.16	61.57	8.2151	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0248	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6800	N/A	N/A	114.2300	0.0470	0.0053	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.3266	N/A	N/A	78.1100	0.0120	0.0026	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0130	0.0046	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0607	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6668	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0019	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3809	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						16.1713	N/A	N/A	60.6209	0.7529	0.9812	77.89	
Xylenes (Mixed)						0.1062	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Nov	58.87	54.21	63.53	61.57	7.3890	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5765	N/A	N/A	114.2300	0.0470	0.0050	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	0.0120	0.0025	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1749	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0130	0.0044	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0490	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0690	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3167	N/A	N/A	92.1300	0.0600	0.0035	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.1552	N/A	N/A	60.6436	0.7529	0.9823	77.89	
Xylenes (Mixed)						0.0868	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	54.98	51.51	58.44	61.57	6.8705	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0143	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2289	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.19	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0601	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2816	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.5170	N/A	N/A	86.6584	6.7529	0.9830	77.89	

Xylenes (Mixed)	0.0756	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 18 annual - External Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	173.6028	192.5166	227.6882	266.3714	328.7710	360.3067	338.7079	310.5718	267.3274	213.9855	167.0127	165.6694
Seal Factor A (lb-mole/ft-yr):	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Average Wind Speed (mph):	6.7000	6.9000	7.7000	8.3000	9.2000	9.2000	8.2000	7.7000	7.1000	6.4000	5.8000	6.4000
Seal-related Wind Speed Exponent:	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000
Value of Vapor Pressure Function:	0.1564	0.1685	0.1788	0.1940	0.2155	0.2362	0.2497	0.2439	0.2275	0.2014	0.1726	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.8836	7.2649	7.5756	8.0107	8.5869	9.0984	9.4128	9.2801	8.8991	8.2151	7.3890	6.8705
Tank Diameter (ft):	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	13.3468	13.3468	13.3468	13.3468	13.3468	13.3468	13.3468	13.3468	13.3468	13.3468	13.3468	13.3468
Net Throughput (gal/mo.):	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160	4,246,068.9160
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000
Roof Fitting Losses (lb):	198.1342	220.7531	268.4482	316.8840	401.3201	439.8148	401.8144	363.4410	308.0319	242.5068	187.1756	187.8274
Value of Vapor Pressure Function:	0.1564	0.1685	0.1788	0.1940	0.2155	0.2362	0.2497	0.2439	0.2275	0.2014	0.1726	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	249.2911	257.7306	293.1182	321.3452	368.3441	366.3441	316.5414	293.1182	268.3340	236.9412	213.3680	236.9412
Average Wind Speed (mph):	8.7000	6.9000	7.7000	8.3000	9.2000	9.2000	8.2000	7.7000	7.1000	6.4000	5.8000	6.4000
Total Losses (lb):	385.0838	426.6160	507.4832	596.6022	743.4379	813.4683	753.8592	687.3595	588.7060	469.9401	367.5351	368.8436

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.00	0.00	0.00	19.5408
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	16.00	5.40	1.16	584.7658
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	7	0.82	6.53	0.14	127.2678
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	9	2.00	6.37	0.91	405.3292
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	148.01e3
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	1	21.00	7.90	1.80	2,226.0924
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Ungask.	1	2.30	0.00	0.00	28.0899

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 18 annual - External Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 14.0	3,012.53	160.16	3,534.25	0.00	6,706.95
1,2,4-Trimethylbenzene	0.30	3.84	0.35	0.00	4.49
2,2,4-Trimethylpentane	15.96	7.53	18.74	0.00	42.23
Benzene	7.94	1.92	9.32	0.00	19.19
Cyclohexane	1.64	0.38	1.93	0.00	3.95
Ethylbenzene	0.77	1.92	0.90	0.00	3.59
Hexane (-n)	13.97	2.08	16.40	0.00	32.45
Isopropyl benzene	0.05	0.24	0.05	0.00	0.34
Methyl alcohol	1.17	0.22	1.37	0.00	2.76
Naphthalene	0.00	0.48	0.00	0.00	0.49
Styrene	0.03	0.13	0.04	0.00	0.20
Toluene	11.44	9.61	13.43	0.00	34.48
Unidentified Components	2,955.54	120.59	3,467.32	0.00	6,543.45
Xylenes (Mixed)	3.73	11.21	4.39	0.00	19.33

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 18 max daily gasoline
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	External Floating Roof Tank
Description:	Throughput = 689,136 gal/day (1 turnover)

Tank Dimensions

Diameter (ft):	60.00
Volume (gallons):	689,136.00
Turnovers:	365.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good

Roof Characteristics

Type:	Pontoon
Fitting Category	Detail

Tank Construction and Rim-Seal System

Construction:	Welded
Primary Seal:	Liquid-mounted
Secondary Seal	Weather Shield

Deck Fitting/Status	Quantity
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	7
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	9
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Ungask.	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format

Liquid Contents of Storage Tank

Stockton Tank 18 max daily gasoline - External Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	55.08	51.49	58.67	61.57	6.8836	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						8.5161	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						8.0913	N/A	N/A	106.1700	0.0120	8.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6910	N/A	N/A	86.1700	8.0130	8.0043	86.17	Option 2: A=6.878, B=1171.17, C=224.41
Isopropyl benzene						0.0424	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0603	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.5331	N/A	N/A	68.6580	0.7529	0.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Feb	57.96	53.17	62.75	61.57	7.2649	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						8.0188	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5615	N/A	N/A	114.2300	0.0470	0.0049	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	0.0120	0.0025	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	8.0130	0.0044	86.17	Option 2: A=6.878, B=1171.17, C=224.41
Isopropyl benzene						0.0473	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3518	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0013	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=104.32
Styrene						0.0668	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3097	N/A	N/A	92.1300	0.0600	0.0035	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.0025	N/A	N/A	60.6471	0.7529	0.9825	77.89	
Xylenes (Mixed)						0.0841	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Mar	60.22	54.36	66.07	61.57	7.5756	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	8.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						8.5994	N/A	N/A	114.2300	0.0478	0.0050	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1108	0.0120	0.0025	78.11	Option 2: A=6.905, B=1211.033, C=220.78
Cyclohexane						1.2188	N/A	N/A	84.1600	0.0024	0.0005	84.18	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						8.1094	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	88.1708	6.0130	0.0045	86.17	Option 2: A=6.878, B=1171.17, C=224.41
Isopropyl benzene						0.0515	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	8.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0724	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0036	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.3849	N/A	N/A	60.6383	0.7529	0.9821	77.89	
Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Apr	63.26	55.98	70.54	61.57	8.0167	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6539	N/A	N/A	114.2300	0.0470	0.0052	114.23	Option 2: A=6.8116, B=1257.84, C=220.74

Benzene						1.2775	N/A	N/A	78.1100	0.0120	9.0026	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	9.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						9.1215	N/A	N/A	106.1700	0.0120	9.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	9.0139	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5969	N/A	N/A	32.0400	9.0014	9.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						9.0017	N/A	N/A	128.1600	9.0030	9.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						9.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						9.3651	N/A	N/A	92.1300	0.0600	0.0037	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.9200	N/A	N/A	60.6264	9.7529	0.9615	77.89	
Xylenes (Mixed)						9.1013	N/A	N/A	106.1700	9.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.9	May	67.10	58.83	75.38	61.57	8.5869	N/A	N/A	61.0000			62.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						9.0270	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7264	N/A	N/A	114.2300	0.0470	0.0054	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	9.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						9.1384	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	8.0130	0.0047	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0664	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7968	N/A	N/A	32.0400	0.0014	9.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1600	8.0030	9.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	9.0008	9.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						9.4103	N/A	N/A	92.1300	0.0600	9.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						16.6281	N/A	N/A	60.6111	0.7529	9.9807	77.89	
Xylenes (Mixed)						6.1155	N/A	N/A	106.1700	9.9700	0.0013	106.17	Option 2: A=7.008, B=1462.266, C=215.11
Equilon Gasoline RVP 14.9	Jun	70.33	61.45	79.22	61.57	9.0984	N/A	N/A	61.0000			62.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0306	N/A	N/A	120.1900	9.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7967	N/A	N/A	114.2300	9.0470	9.0056	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5449	N/A	N/A	78.1100	0.0120	9.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	9.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	9.9120	9.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	9.9130	6.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0745	N/A	N/A	120.2000	9.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1600	0.0030	9.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4520	N/A	N/A	92.1300	9.0600	0.0040	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						11.2564	N/A	N/A	60.5980	9.7529	8.9801	77.89	
Xylenes (Mixed)						6.1288	N/A	N/A	106.1700	9.9700	9.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Jul	72.25	63.02	81.48	61.57	9.4128	N/A	N/A	61.0000			62.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						9.6398	N/A	N/A	114.2300	0.0470	9.0057	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	9.9120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	6.0024	9.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						9.1642	N/A	N/A	106.1700	0.0120	9.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	9.0130	9.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						6.0798	N/A	N/A	120.2000	0.0015	6.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0992	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0027	N/A	N/A	128.1600	0.0030	0.0000	120.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1091	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4784	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						11.6423	N/A	N/A	60.5901	0.7529	0.9797	77.89	
Xylenes (Mixed)						9.1373	N/A	N/A	106.1700	6.0700	6.0014	106.17	Option 2: A=7.009, B=1462.268, C=215.11
Equilon Gasoline RVP 14.0	Aug	71.45	62.84	80.06	61.57	9.2601	N/A	N/A	61.0000			62.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						9.0319	N/A	N/A	120.1900	9.0240	9.0001	120.19	Option 2: A=7.04380, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	0.0470	0.0058	114.23	Option 2: A=6.8119, B=1257.84, C=220.74
Benzene						1.5910	N/A	N/A	78.1100	0.0120	9.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6386	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	9.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5576	N/A	N/A	86.1700	9.9130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0776	N/A	N/A	120.2000	9.0015	6.0006	120.20	Option 2: A=6.963, B=1460.793, C=207.78

Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0026	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4672	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						11.4795	N/A	N/A	60.5934	0.7529	0.9799	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0014	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Sep	69.03	61.28	76.77	61.57	8.8891	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7685	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0979	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4347	N/A	N/A	92.1300	0.0600	0.0040	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						10.9994	N/A	N/A	60.6033	0.7529	0.9804	77.89	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1700	0.8700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Oct	64.64	58.13	71.16	61.57	8.2151	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6500	N/A	N/A	114.2300	0.0470	0.0053	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.2268	N/A	N/A	78.1100	0.0120	0.0026	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1584	N/A	N/A	86.1700	0.0130	0.0046	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0607	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6668	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.00, C=229.13
Naphthalene						0.0019	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3809	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=218.48
Unidentified Components						10.1713	N/A	N/A	60.6209	0.7529	0.9812	77.89	
Xylenes (Mixed)						0.1062	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Nov	58.67	54.21	63.53	61.57	7.3890	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5765	N/A	N/A	114.2300	0.0470	0.0050	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	0.0120	0.0025	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0130	0.0044	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0490	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0690	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3187	N/A	N/A	92.1300	0.0600	0.0035	92.13	Option 2: A=6.954, B=1344.8, C=218.48
Unidentified Components						8.1552	N/A	N/A	60.6436	0.7529	0.9823	77.89	
Xylenes (Mixed)						0.0868	N/A	N/A	106.1700	0.0700	0.0011	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	54.98	51.51	58.44	61.57	6.8705	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.0143	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2269	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0601	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2818	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.5170	N/A	N/A	60.6584	0.7529	0.9830	77.89	

Xylenes (Mixed)	0.0756	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 18 max daily gasoline - External Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	173.6028	192.5168	227.6882	266.3714	325.7710	360.3067	338.7079	310.5716	267.3274	213.9865	167.0127	165.6694
Seal Factor A (lb-mole/ft-yr):	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000	0.7000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000	0.3000
Average Wind Speed (mph):	6.7000	6.9000	7.7000	8.3000	9.2000	9.2000	8.2000	7.7000	7.1000	6.4000	5.6000	6.4000
Seal-related Wind Speed Exponent:	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000	1.2000
Value of Vapor Pressure Function:	0.1564	0.1685	0.1788	0.1940	0.2155	0.2362	0.2497	0.2439	0.2275	0.2014	0.1726	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.6838	7.2649	7.5756	8.0107	8.5869	9.0984	9.4128	9.2801	8.8891	8.2151	7.3890	6.8705
Tank Diameter (ft):	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	65.8881	65.8881	65.8881	65.8881	65.8881	65.8881	65.8881	65.8881	65.8881	65.8881	65.8881	65.8881
Net Throughput (gal/mo.):	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.000020	20,961,220.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000	60.0000
Roof Fitting Losses (lb):	198.1342	220.7531	266.4482	316.8849	401.2201	439.8148	401.8144	363.4410	306.0318	242.6068	187.1756	187.8274
Value of Vapor Pressure Function:	0.1564	0.1685	0.1788	0.1940	0.2155	0.2362	0.2497	0.2439	0.2275	0.2014	0.1726	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	249.2911	257.7306	293.1182	321.3452	366.3441	366.3441	318.5414	293.1182	266.3340	236.9412	213.3680	236.9412
Average Wind Speed (mph):	8.7000	6.9000	7.7000	8.3000	9.2000	9.2000	8.2000	7.7000	7.1000	6.4000	5.6000	6.4000
Total Losses (lb):	437.6251	479.1579	560.0245	649.1435	795.9782	886.0095	806.4105	739.9007	641.2473	522.4814	420.0764	419.3848

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	8.00	8.00	18.5408
Automatic Gauge Float Well/Unbolted Cover, Ungasketed	1	14.00	5.40	1.18	584.7658
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed	7	0.82	0.53	0.14	127.2676
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed	9	2.00	0.37	0.91	405.3292
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	1	6.20	1.20	0.94	146.0143
Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper	1	21.00	7.90	1.80	2,228.0924
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Ungask.	1	2.30	0.00	8.00	28.0899

TANKS 4.0.9d
Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 18 max daily gasoline - External Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 14.0	3,012.53	790.66	3,534.25	0.00	7,337.44
1,2,4-Trimethylbenzene	0.30	18.98	0.35	0.00	19.62
2,2,4-Trimethylpentane	15.96	37.16	18.74	0.00	71.86
Benzene	7.94	9.49	9.32	0.00	26.75
Cyclohexane	1.64	1.90	1.93	0.00	5.47
Ethylbenzene	0.77	9.49	0.90	0.00	11.16
Hexane (-n)	13.97	10.28	16.40	0.00	40.64
Isopropyl benzene	0.05	1.19	0.05	0.00	1.29
Methyl alcohol	1.17	1.11	1.37	0.00	3.65
Naphthalene	0.00	2.37	0.00	0.00	2.38
Styrene	0.03	0.63	0.04	0.00	0.71
Toluene	11.44	47.44	13.43	0.00	72.31
Unidentified Components	2,955.54	595.29	3,467.32	0.00	7,018.15
Xylenes (Mixed)	3.73	55.35	4.39	0.00	63.47

TANKS 4.0.9d
Emissions Report - Detail Format
Total Emissions Summaries - All Tanks In Report

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank Identification				Losses (lbs)
Stockton Tank 18 annual	Shell Oil Products US	External Floating Roof Tank	Stockton, California	6,706.95
Stockton Tank 18 max daily gasoline	Shell Oil Products US	External Floating Roof Tank	Stockton, California	7,337.44
Total Emissions for all Tanks:				14,044.39

RVP to TVP for Tank under N-758-14

Permit to operate N-758-14-3 limits TVP to 11 psia. The Tanks runs were made at RVP of 14 psia. The following calculations indicate that RVP of 14 psia equates to 8.7 psia, which is below the 11 psia limit.

Per Appendix B of Rule 4623,

$TVP = (RVP)e^{[Co(IRTEMP - ITEMP)]}$, where

Co = -8,178 per Table C-3 of Rule 4623
IRTEMP = 1/(Ts + 459.69) = 1/(81.48[1] + 459.69) = 0.001848
ITEMP = 1/559.69 = 0.001787

Inserting the above parameter in the equation,

TVP = 8.5 psia

The correction factor is estimated using the following equation and is added to the calculated TVP of 8.5 psi.

Since the RVP >3,

$CF = e^{[(2.3452061 \log (RVP)) - 4.132622]}$
= 0.2 psia

Therefore,

TVP (corrected) = 8.5 psia + 0.2 psia
= 8.7 psia

[1] Maximum temperature per Tanks 4.0.9d program for July

N-758-16-0
Tanks 4.0.9d Emissions Reports

N-758-16-0

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 24 - max annual throughput
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	Internal Floating Roof Tank
Description:	Storing gasoline with maximum annual throughput

Tank Dimensions

Diameter (ft):	85.00
Volume (gallons):	2,226,000.00
Turnovers:	73.14
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Chereceristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-In. Diam.)/Bolted Cover, Gasketed	1
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1
Roof Leg (3-In. Diameter)/Adjustable, Center Area, Sock	11
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	2
Roof Leg (3-In. Diameter)/Adjustable, Pontoon Area, Sock	16
Slotted Guide-Pole/Sample Well/Gask Sliding Covr, w. Float,Sleeve,Wiper	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank 24 - max annual throughput - Internal Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	55.08	51.49	58.67	61.57	6.8336	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5161	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0586	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0424	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8161, B=1585.88, C=184.32
Styrene						0.0603	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.5331	N/A	N/A	60.6580	0.7529	0.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0018	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Feb	57.96	53.17	62.75	61.57	5.3988	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5815	N/A	N/A	114.2300	0.0470	0.0054	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1458	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0130	0.0045	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0473	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3519	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0013	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8161, B=1585.88, C=184.32
Styrene						0.0668	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3097	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						7.9164	N/A	N/A	62.6258	0.7529	0.9807	77.89	
Xylenes (Mixed)						0.0841	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Mar	60.22	54.36	66.07	61.57	6.6772	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0205	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5994	N/A	N/A	114.2300	0.0478	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2186	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8242	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0515	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.79
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8161, B=1585.88, C=184.32
Styrene						0.0724	N/A	N/A	104.1500	0.0003	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.2582	N/A	N/A	62.6168	0.7529	0.9803	77.89	

Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Apr	63.26	55.98	70.54	61.57	7.0673	N/A	N/A	63.0000			62.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.58
2,2,4-Trimethylpentane						0.6539	N/A	N/A	114.2300	0.0470	0.0057	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.2775	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0130	0.0050	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5969	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0017	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8161, B=1585.86, C=184.32
Styrene						0.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3651	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						9.7389	N/A	N/A	62.6045	0.7529	0.9797	77.89	
Xylenes (Mixed)						0.1013	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	May	67.10	58.83	75.36	61.57	3.3880	N/A	N/A	68.0008			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.58
2,2,4-Trimethylpentane						0.7284	N/A	N/A	114.2300	0.0470	0.0123	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4535	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0130	0.0107	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0664	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7968	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1900	0.0030	0.0000	128.16	Option 2: A=6.8161, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4103	N/A	N/A	92.1300	0.0600	0.0088	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.1089	N/A	N/A	67.2321	0.7529	0.9562	77.89	
Xylenes (Mixed)						0.1155	N/A	N/A	106.1700	0.0700	0.0029	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jun	70.33	61.48	79.22	61.57	3.6161	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0306	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.58
2,2,4-Trimethylpentane						0.7967	N/A	N/A	114.2300	0.0470	0.0128	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5448	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0120	9.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0748	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8101, B=1585.86, C=184.32
Styrene						9.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4520	N/A	N/A	92.1300	0.0600	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.3817	N/A	N/A	67.2114	9.7529	0.9551	77.89	
Xylenes (Mixed)						0.1288	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jul	72.25	63.02	81.48	61.57	3.7578	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.58
2,2,4-Trimethylpentane						0.8398	N/A	N/A	114.2300	0.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.78
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0013	94.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1642	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.256, C=213.21
Hexane (-n)						2.0068	N/A	N/A	86.1700	0.0130	9.0110	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0798	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0992	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0027	N/A	N/A	128.1900	0.0030	0.0000	128.16	Option 2: A=6.8161, B=1585.86, C=184.32
Styrene						0.1091	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4784	N/A	N/A	92.1300	0.0600	8.0093	92.13	Option 2: A=6.954, B=1344.8, C=210.46
Unidentified Components						4.5501	N/A	N/A	67.1990	0.7529	0.9544	77.89	
Xylenes (Mixed)						0.1373	N/A	N/A	106.1700	9.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Aug	71.45	62.84	80.06	61.57	3.6975	N/A	N/A	68.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0240	0.0000	120.19	Option 2: A=7.04383, B=1573.267, C=208.58
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	0.0478	0.0127	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.5916	N/A	N/A	78.1100	8.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79

Cyclohexane						1.6386	N/A	N/A	84.1600	6.0024	6.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5578	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						6.0776	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0026	N/A	N/A	128.1600	0.0030	8.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	6.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4672	N/A	N/A	92.1300	0.0600	6.0082	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.4780	N/A	N/A	67.2042	0.7529	0.9547	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Sep	69.03	61.28	76.77	61.57	3.5226	N/A	N/A	68.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1600	0.0240	0.0002	120.16	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7685	N/A	N/A	114.2300	0.0470	0.0124	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0052	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	6.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0130	0.0108	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	6.0030	0.0006	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0979	N/A	N/A	104.1500	9.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4347	N/A	N/A	92.1300	9.0600	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.2698	N/A	N/A	67.2197	0.7529	0.9555	77.89	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1700	6.6700	0.0030	109.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Oct	64.64	58.13	71.18	61.57	3.2234	N/A	N/A	68.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	8.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6800	N/A	N/A	114.2300	6.0470	0.0120	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.3268	N/A	N/A	78.1100	6.0120	6.0060	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	6.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						6.1274	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	0.0130	0.0106	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0607	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6568	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0019	N/A	N/A	128.1600	0.0000	0.0000	128.19	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	6.0008	0.0006	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3809	N/A	N/A	92.1300	0.0600	0.0088	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						3.9117	N/A	N/A	67.2476	0.7529	0.9570	77.89	
Xylenes (Mixed)						0.1062	N/A	N/A	106.1700	6.0700	6.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Nov	58.67	54.21	63.53	61.57	6.5099	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5765	N/A	N/A	114.2300	0.0478	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	0.0120	6.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1748	N/A	N/A	84.1600	0.0024	8.0000	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0490	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1900	9.0030	0.0000	128.16	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.0690	N/A	N/A	104.1600	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3167	N/A	N/A	92.1300	0.0600	6.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.0529	N/A	N/A	82.6222	9.7529	0.9606	77.89	
Xylenes (Mixed)						0.0868	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	64.96	51.51	58.44	61.57	6.6705	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.9167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8116, B=1257.84, C=220.74
Benzene						1.6143	N/A	N/A	78.1100	0.0120	6.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.5765	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	6.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2289	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13

Naphthalene	0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene	0.0601	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene	0.2818	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components	6.5170	N/A	N/A	50.6584	0.7529	0.9830	77.89	
Xylenes (Mixed)	0.0756	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 24 - max annual throughput - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	40.5343	37.9331	40.1627	43.4108	16.8759	20.3382	21.2565	20.8671	19.7350	17.8377	38.8149	40.4286
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	9.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.8836	6.3888	6.6772	7.0673	3.3880	3.6161	3.7570	3.6975	3.5228	3.2234	6.5099	6.8705
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	30.4566	30.4566	30.4566	30.4566	30.4566	30.4566	30.4566	30.4566	30.4566	30.4566	30.4566	30.4566
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.000	13,568,845.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Deck Fitting Losses (lb):	113.7027	108.4058	112.6804	121.7718	52.9489	57.0508	59.6268	58.5344	55.3587	50.0355	108.8795	113.4061
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0736	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	9.0000	0.0000	0.0000	9.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	184.6936	174.7956	183.2797	195.8390	102.2814	107.8456	111.3397	109.8581	105.5603	98.3308	178.1509	184.2913

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	11.2734
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.97	3.3116
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	176.1474
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	394.5701
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Sock	11	0.49	0.18	0.14	37.9774
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	84.5507
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	2	8.20	1.29	0.94	87.3691
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Sock	10	1.20	0.14	0.65	135.2912
Slotted Guide-Pole/Sample Well/Gask Sliding Cover, w. Float,Sleeve,Wiper	1	11.00	9.90	0.89	77.5049

TANKS 4.0.9d

Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 24 - max annual throughput - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 5.99	118.91	182.74	333.56	0.00	635.21
1,2,4-Trimethylbenzene	0.03	4.39	0.08	0.00	4.50
2,2,4-Trimethylpentane	1.48	8.59	4.16	0.00	14.23
Benzene	0.73	2.19	2.06	0.00	4.99
Cyclohexane	0.15	0.44	0.43	0.00	1.02
Ethylbenzene	0.07	2.19	0.20	0.00	2.47
Hexane (-n)	1.28	2.38	3.60	0.00	7.26
Isopropyl benzene	0.00	0.27	0.01	0.00	0.29
Methyl alcohol	0.11	0.26	0.31	0.00	0.67
Naphthalene	0.00	0.55	0.00	0.00	0.55
Styrene	0.00	0.15	0.01	0.00	0.16
Toluene	1.07	10.96	3.00	0.00	15.04
Unidentified Components	113.61	137.58	318.70	0.00	569.89
Xylenes (Mixed)	0.35	12.79	1.00	0.00	14.14
Equilon Gasoline RVP 12.5	160.32	121.83	449.72	0.00	731.87
1,2,4-Trimethylbenzene	0.02	2.92	0.04	0.00	2.98
2,2,4-Trimethylpentane	0.89	5.73	2.48	0.00	9.10
Benzene	0.44	1.46	1.24	0.00	3.15
Cyclohexane	0.09	0.29	0.26	0.00	0.64
Ethylbenzene	0.04	1.46	0.12	0.00	1.62
Hexane (-n)	0.79	1.58	2.21	0.00	4.58
Isopropyl benzene	0.00	0.18	0.01	0.00	0.19
Methyl alcohol	0.06	0.17	0.18	0.00	0.41
Naphthalene	0.00	0.37	0.00	0.00	0.37
Styrene	0.00	0.10	0.01	0.00	0.10

Toluene	0.63	7.31	1.76	0.00	9.69
Unidentified Components	157.18	91.72	440.86	0.00	689.74
Xylenes (Mixed)	0.20	8.53	0.56	0.00	9.29
Equilon Gasoline RVP 14.0	80.96	60.91	227.11	0.00	368.98
1,2,4-Trimethylbenzene	0.01	1.46	0.02	0.00	1.49
2,2,4-Trimethylpentane	0.39	2.86	1.08	0.00	4.33
Benzene	0.19	0.73	0.54	0.00	1.47
Cyclohexane	0.04	0.15	0.11	0.00	0.30
Ethylbenzene	0.02	0.73	0.05	0.00	0.80
Hexane (-n)	0.35	0.79	0.97	0.00	2.11
Isopropyl benzene	0.00	0.09	0.00	0.00	0.10
Methyl alcohol	0.03	0.09	0.08	0.00	0.19
Naphthalene	0.00	0.18	0.00	0.00	0.18
Styrene	0.00	0.05	0.00	0.00	0.05
Toluene	0.27	3.65	0.76	0.00	4.68
Unidentified Components	79.59	45.66	223.25	0.00	348.70
Xylenes (Mixed)	0.08	4.26	0.24	0.00	4.59

TANKS 4.0.9d
Emissions Report - Detail Format
Tank Indentification and Physical Characteristics

Identification

User Identification:	Stockton Tank 24 - max daily throughput
City:	Stockton
State:	California
Company:	Shell Oil Products US
Type of Tank:	Internal Floating Roof Tank
Description:	Storing gasoline with maximum daily throughput (1 turnover/day)

Tank Dimensions

Diameter (ft):	85.00
Volume (gallons):	2,226,000.00
Turnovers:	365.00
Self Supp. Roof? (y/n):	N
No. of Columns:	1.00
Eff. Col. Diam. (ft):	1.00

Paint Characteristics

Internal Shell Condition:	Light Rust
Shell Color/Shade:	White/White
Shell Condition	Good
Roof Color/Shade:	White/White
Roof Condition:	Good

Rim-Seal System

Primary Seal:	Mechanical Shoe
Secondary Seal	Rim-mounted

Deck Characteristics

Deck Fitting Category:	Detail
Deck Type:	Welded

Deck Fitting/Status	Quantity
Access Hatch (24-In. Diam.)/Bolted Cover, Gasketed	1
Gauge-Hatch/Sample Well (8-In. Diam.)/Weighted Mech. Actuation, Gask.	1
Column Well (24-In. Diam.)/Pipe Col.-Sliding Cover, Gask.	1
Ladder Well (36-In. Diam.)/Sliding Cover, Gasketed	1
Roof Leg (3-In. Diameter)/Adjustable, Center Area, Sock	11
Sample Pipe or Well (24-In. Diam.)/Slit Fabric Seal 10% Open	1
Vacuum Breaker (10-In. Diam.)/Weighted Mech. Actuation, Gask.	2
Roof Leg (3-In. Diameter)/Adjustable, Pontoon Area, Sock	16
Slotted Guide-Pole/Sample Well/Gask Sliding Covr, w. Float,Sleeve,Wiper	1

Meterological Data used in Emissions Calculations: Stockton, California (Avg Atmospheric Pressure = 14.72 psia)

TANKS 4.0.9d
Emissions Report - Detail Format
Liquid Contents of Storage Tank

Stockton Tank 24 - max daily throughput - Internal Floating Roof Tank
Stockton, California

Mixture/Component	Month	Daily Liquid Surf. Temperature (deg F) Avg.	Min.	Max.	Liquid Bulk Temp (deg F)	Vapor Pressure (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Equilon Gasoline RVP 14.0	Jan	65.08	51.49	58.67	61.57	6.8836	N/A	N/A	61.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5161	N/A	N/A	114.2300	0.8470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0172	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0588	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0913	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6810	N/A	N/A	86.1700	0.0130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0424	N/A	N/A	120.2000	0.0015	0.0006	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2329	N/A	N/A	32.0400	0.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0011	N/A	N/A	128.1600	0.0030	0.0006	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0503	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.2827	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.5331	N/A	N/A	60.6580	0.7529	0.9830	77.89	
Xylenes (Mixed)						0.0759	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Feb	57.96	53.17	62.75	61.57	6.3968	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0188	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5615	N/A	N/A	114.2300	0.8470	0.0054	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1033	N/A	N/A	78.1100	0.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.1459	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1010	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8140	N/A	N/A	86.1700	0.0130	0.0048	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0473	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3519	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0013	N/A	N/A	128.1900	0.0008	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0558	N/A	N/A	104.1500	0.0008	0.0006	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3097	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						7.9164	N/A	N/A	62.6258	0.7529	0.9807	77.89	
Xylenes (Mixed)						0.0841	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Mar	60.22	54.38	66.07	61.57	6.6772	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0206	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5694	N/A	N/A	114.2300	0.8470	0.0055	114.23	Option 2: A=6.8110, B=1257.84, C=220.74
Benzene						1.1749	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.2188	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1094	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.9242	N/A	N/A	86.1700	0.0130	0.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0515	N/A	N/A	120.2000	0.0015	0.0006	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.4520	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0015	N/A	N/A	128.1600	0.0008	0.0006	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0724	N/A	N/A	104.1600	0.0006	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3324	N/A	N/A	92.1300	0.0600	0.0039	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						6.2582	N/A	N/A	92.6168	0.7529	0.9803	77.89	

Xylenes (Mixed)						0.0911	N/A	N/A	106.1700	6.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Apr	63.26	55.98	70.54	61.57	7.0673	N/A	N/A	63.0000			62.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0233	N/A	N/A	120.1900	0.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6539	N/A	N/A	114.2300	0.0470	0.0057	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.2775	N/A	N/A	78.1100	0.0120	0.0028	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3224	N/A	N/A	84.1600	0.0024	0.0006	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1215	N/A	N/A	106.1700	0.0120	0.0003	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.0815	N/A	N/A	86.1700	0.0130	0.0050	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0577	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.5969	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0017	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0804	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3651	N/A	N/A	92.1300	0.0600	0.0041	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.7359	N/A	N/A	62.6045	0.7529	0.9797	77.89	
Xylenes (Mixed)						8.1013	N/A	N/A	106.1700	0.0700	0.0013	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	May	67.10	58.98	75.36	61.57	3.3880	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0270	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7284	N/A	N/A	114.2300	0.0470	0.0123	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4173	N/A	N/A	78.1100	0.0120	0.0061	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.4635	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1384	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.2945	N/A	N/A	86.1700	0.0130	0.0107	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0664	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.7968	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.00, C=229.13
Naphthalene						0.0021	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0917	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4103	N/A	N/A	92.1300	0.0600	0.0068	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.1089	N/A	N/A	67.2321	8.7529	0.9562	77.89	
Xylenes (Mixed)						0.1155	N/A	N/A	106.1700	0.0700	0.0029	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jun	70.33	61.45	79.22	61.57	3.6161	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0306	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7967	N/A	N/A	114.2300	0.0470	0.0126	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5449	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.78
Cyclohexane						1.5922	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1542	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4880	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0746	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9820	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0025	N/A	N/A	128.1600	0.0030	0.0008	128.16	Option 2: A=6.8181, B=1585.88, C=184.32
Styrene						0.1023	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4520	N/A	N/A	92.1300	0.0600	0.0091	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.3817	N/A	N/A	67.2114	0.7529	0.9551	77.89	
Xylenes (Mixed)						8.1288	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Jul	72.25	63.02	81.48	61.57	3.7570	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0329	N/A	N/A	120.1000	6.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8396	N/A	N/A	114.2300	6.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.6250	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.6728	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1842	N/A	N/A	106.1700	6.0120	0.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.6088	N/A	N/A	86.1700	0.0130	0.0110	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0798	N/A	N/A	120.2000	6.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0992	N/A	N/A	32.0400	6.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						8.0027	N/A	N/A	120.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1091	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4784	N/A	N/A	92.1300	6.0600	0.0093	92.13	Option 2: A=6.954, B=1344.8, C=218.48
Unidentified Components						4.5501	N/A	N/A	67.1890	6.7529	0.9544	77.89	
Xylenes (Mixed)						0.1373	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Aug	71.45	62.84	80.06	61.57	3.6975	N/A	N/A	58.0000			62.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0319	N/A	N/A	120.1900	0.0240	0.0003	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.8214	N/A	N/A	114.2300	6.0470	0.0127	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.5910	N/A	N/A	78.1100	0.0120	0.0063	78.11	Option 2: A=6.905, B=1211.033, C=220.79

Cyclohexane						1.6386	N/A	N/A	84.1600	0.0024	0.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1599	N/A	N/A	106.1700	0.0120	0.0006	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.5578	N/A	N/A	86.1700	0.0130	0.0109	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0776	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						2.0494	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0026	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.1062	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4672	N/A	N/A	92.1300	0.0600	9.0092	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.4790	N/A	N/A	67.2042	0.7529	6.9547	77.89	
Xylenes (Mixed)						0.1337	N/A	N/A	106.1700	0.0700	0.0031	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Sep	69.03	61.28	76.77	61.57	3.5226	N/A	N/A	88.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0291	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.7685	N/A	N/A	114.2300	9.0470	0.0124	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.4923	N/A	N/A	78.1100	0.0120	0.0062	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.5392	N/A	N/A	84.1600	0.0024	9.0013	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1476	N/A	N/A	106.1700	9.0120	0.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.4083	N/A	N/A	86.1700	0.0130	0.0108	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0712	N/A	N/A	120.2000	9.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.9054	N/A	N/A	32.0400	0.0014	0.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0023	N/A	N/A	128.1600	0.0030	0.0000	128.16	Option 2: A=6.8191, B=1585.86, C=184.32
Styrene						0.0979	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.4347	N/A	N/A	92.1300	0.0600	0.0090	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						4.2698	N/A	N/A	67.2197	9.7529	0.9555	77.89	
Xylenes (Mixed)						0.1233	N/A	N/A	106.1700	0.0700	0.0030	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 5.99	Oct	64.64	58.13	71.16	61.57	3.2234	N/A	N/A	88.0000			82.50	Option 4: RVP=5.99, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0246	N/A	N/A	120.1900	0.0240	0.0002	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.6800	N/A	N/A	114.2300	0.8470	0.0120	114.23	Option 2: A=6.8119, B=1257.84, C=220.74
Benzene						1.3266	N/A	N/A	78.1100	0.0120	0.0060	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.3720	N/A	N/A	84.1600	0.0024	0.0012	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1274	N/A	N/A	106.1700	0.0120	0.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						2.1564	N/A	N/A	86.1700	9.0130	0.0106	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0607	N/A	N/A	120.2000	0.0015	9.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.6668	N/A	N/A	32.0400	0.0014	9.0009	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0018	N/A	N/A	128.1600	0.0030	0.0008	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0844	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3809	N/A	N/A	92.1300	0.0600	0.0086	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						3.9117	N/A	N/A	67.2479	0.7529	0.9570	77.89	
Xylenes (Mixed)						0.1062	N/A	N/A	106.1700	0.0700	0.0028	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 12.5	Nov	58.87	54.21	63.53	61.57	6.5099	N/A	N/A	63.0000			82.50	Option 4: RVP=12.5, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0195	N/A	N/A	120.1900	9.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5765	N/A	N/A	114.2300	0.0470	0.0055	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.1317	N/A	N/A	78.1100	9.0120	0.0027	78.11	Option 2: A=6.905, B=1211.033, C=220.78
Cyclohexane						1.1748	N/A	N/A	84.1600	9.0024	0.0008	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.1043	N/A	N/A	106.1700	0.0120	0.0008	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.8578	N/A	N/A	86.1700	0.9130	9.0049	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0490	N/A	N/A	120.2000	0.0015	9.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.3915	N/A	N/A	32.0400	0.0014	0.0004	32.04	Option 2: A=7.897, B=1474.08, C=229.13
Naphthalene						0.0014	N/A	N/A	128.1600	9.0030	0.0000	128.16	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene						0.0690	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene						0.3187	N/A	N/A	92.1300	0.0600	0.0038	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components						8.0529	N/A	N/A	62.6222	0.7529	6.9806	77.89	
Xylenes (Mixed)						0.0868	N/A	N/A	106.1700	0.0700	0.0012	106.17	Option 2: A=7.009, B=1462.266, C=215.11
Equilon Gasoline RVP 14.0	Dec	54.98	51.51	58.44	61.57	8.8705	N/A	N/A	81.0000			82.50	Option 4: RVP=14, ASTM Slope=3
1,2,4-Trimethylbenzene						0.0167	N/A	N/A	120.1900	9.0240	0.0001	120.19	Option 2: A=7.04383, B=1573.267, C=208.56
2,2,4-Trimethylpentane						0.5145	N/A	N/A	114.2300	0.0470	0.0048	114.23	Option 2: A=6.8118, B=1257.84, C=220.74
Benzene						1.0143	N/A	N/A	78.1100	0.0120	0.0024	78.11	Option 2: A=6.905, B=1211.033, C=220.79
Cyclohexane						1.0556	N/A	N/A	84.1600	0.0024	0.0005	84.16	Option 2: A=6.841, B=1201.53, C=222.65
Ethylbenzene						0.0909	N/A	N/A	106.1700	0.0120	0.0002	106.17	Option 2: A=6.975, B=1424.255, C=213.21
Hexane (-n)						1.6765	N/A	N/A	86.1700	0.8130	0.0043	86.17	Option 2: A=6.876, B=1171.17, C=224.41
Isopropyl benzene						0.0423	N/A	N/A	120.2000	0.0015	0.0000	120.20	Option 2: A=6.963, B=1460.793, C=207.78
Methyl alcohol						1.2289	N/A	N/A	32.0400	9.0014	0.0003	32.04	Option 2: A=7.897, B=1474.08, C=229.13

Naphthalene	0.0011	N/A	N/A	128.1600	0.0030	0.0000	128.18	Option 2: A=6.8181, B=1585.86, C=184.32
Styrene	0.0601	N/A	N/A	104.1500	0.0008	0.0000	104.15	Option 2: A=7.14, B=1574.51, C=224.09
Toluene	0.2818	N/A	N/A	92.1300	0.0600	0.0033	92.13	Option 2: A=6.954, B=1344.8, C=219.48
Unidentified Components	8.5170	N/A	N/A	60.6584	0.7529	0.9830	77.89	
Xylenes (Mixed)	0.0756	N/A	N/A	106.1700	0.0700	0.0010	106.17	Option 2: A=7.009, B=1462.266, C=215.11

TANKS 4.0.9d
Emissions Report - Detail Format
Detail Calculations (AP-42)

Stockton Tank 24 - max daily throughput - Internal Floating Roof Tank
Stockton, California

Month:	January	February	March	April	May	June	July	August	September	October	November	December
Rim Seal Losses (lb):	40.5343	37.9331	40.1627	43.4108	18.8759	20.3382	21.2565	20.8871	19.7350	17.8377	38.8149	40.4286
Seal Factor A (lb-mole/ft-yr):	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000	0.6000
Seal Factor B (lb-mole/ft-yr (mph)^n):	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000	0.4000
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0739	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Pressure at Daily Average Liquid Surface Temperature (psia):	6.8836	6.3868	6.6772	7.0673	3.3880	3.6161	3.7570	3.6975	3.5226	3.2234	6.5099	6.8706
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Withdrawal Losses (lb):	151.9984	151.9984	151.9984	151.9984	151.9984	151.9984	151.9984	151.9984	151.9984	151.9984	151.9984	151.9984
Number of Columns:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Effective Column Diameter (ft):	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Net Throughput (gal/mo.):	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.000	67,707,500.0000
Shell Clingage Factor (bbl/1000 sqft):	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015	0.0015
Average Organic Liquid Density (lb/gal):	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000	5.6000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Deck Fitting Losses (lb):	113.7027	108.4059	112.6604	121.7716	52.9489	57.0508	59.6266	58.5344	55.3587	50.0365	108.8795	113.4061
Value of Vapor Pressure Function:	0.1564	0.1417	0.1500	0.1621	0.0653	0.0704	0.0739	0.0722	0.0683	0.0617	0.1450	0.1559
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Tot. Roof Fitting Loss Fact.(lb-mole/yr):	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600	143.0600
Deck Seam Losses (lb):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length (ft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Loss per Unit Length Factor (lb-mole/ft-yr):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Deck Seam Length Factor(ft/sqft):	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tank Diameter (ft):	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000	85.0000
Vapor Molecular Weight (lb/lb-mole):	61.0000	63.0000	63.0000	63.0000	68.0000	68.0000	68.0000	68.0000	68.0000	68.0000	63.0000	61.0000
Product Factor:	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total Losses (lb):	308.2355	296.3374	304.8215	317.1808	223.8232	229.3874	232.8816	231.3999	227.0922	219.8728	299.6928	305.8331

Roof Fitting/Status	Quantity	Roof Fitting Loss Factors KFa(lb-mole/yr)	KFb(lb-mole/(yr mph^n))	m	Losses(lb)
Access Hatch (24-in. Diam.)/Bolted Cover, Gasketed	1	1.60	0.00	0.00	11.2734
Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Gask.	1	0.47	0.02	0.07	3.3116
Column Well (24-in. Diam.)/Pipe Col.-Sliding Cover, Gask.	1	25.00	0.00	0.00	176.1474
Ladder Well (36-in. Diam.)/Sliding Cover, Gasketed	1	56.00	0.00	0.00	394.5701
Roof Leg (3-in. Diameter)/Adjustable, Center Area, Sock	11	0.49	0.16	0.14	37.9774
Sample Pipe or Well (24-in. Diam.)/Slit Fabric Seal 10% Open	1	12.00	0.00	0.00	84.5507
Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask.	2	6.20	1.20	0.94	87.3691
Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Sock	16	1.20	0.14	0.65	135.2812
Slotted Guide-Pole/Sample Well/Gask Sliding Covr, w. Float,Sleeve,Wipor	1	11.00	9.90	0.89	77.5046

TANKS 4.0.9d

Emissions Report - Detail Format
Individual Tank Emission Totals

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Stockton Tank 24 - max daily throughput - Internal Floating Roof Tank
Stockton, California

	Losses(lbs)				
Components	Rim Seal Loss	Withdrawl Loss	Deck Fitting Loss	Deck Seam Loss	Total Emissions
Equilon Gasoline RVP 5.99	118.91	911.99	333.56	0.00	1,364.46
1,2,4-Trimethylbenzene	0.03	21.89	0.08	0.00	22.00
2,2,4-Trimethylpentane	1.48	42.86	4.16	0.00	48.50
Benzene	0.73	10.94	2.06	0.00	13.74
Cyclohexane	0.15	2.18	0.43	0.00	2.77
Ethylbenzene	0.07	10.94	0.20	0.00	11.22
Hexane (-n)	1.28	11.86	3.60	0.00	16.74
Isopropyl benzene	0.00	1.37	0.01	0.00	1.38
Methyl alcohol	0.11	1.28	0.31	0.00	1.69
Naphthalene	0.00	2.74	0.00	0.00	2.74
Styrene	0.00	0.73	0.01	0.00	0.74
Toluene	1.07	54.72	3.00	0.00	58.80
Unidentified Components	113.61	686.64	318.70	0.00	1,118.95
Xylenes (Mixed)	0.35	63.84	1.00	0.00	65.19
Equilon Gasoline RVP 12.5	160.32	607.89	449.72	0.00	1,218.03
1,2,4-Trimethylbenzene	0.02	14.59	0.04	0.00	14.65
2,2,4-Trimethylpentane	0.89	28.58	2.48	0.00	31.95
Benzene	0.44	7.30	1.24	0.00	8.98
Cyclohexane	0.09	1.46	0.26	0.00	1.81
Ethylbenzene	0.04	7.30	0.12	0.00	7.45
Hexane (-n)	0.79	7.90	2.21	0.00	10.90
Isopropyl benzene	0.00	0.91	0.01	0.00	0.92
Methyl alcohol	0.06	0.85	0.18	0.00	1.09
Naphthalene	0.00	1.82	0.00	0.00	1.82
Styrene	0.00	0.49	0.01	0.00	0.49

Toluene	0.63	36.48	1.76	0.00	38.86
Unidentified Components	157.16	457.76	440.86	0.00	1,055.78
Xylenes (Mixed)	0.20	42.56	0.56	0.00	43.32
Equilon Gasoline RVP 14.0	80.96	304.00	227.11	0.00	612.07
1,2,4-Trimethylbenzene	0.01	7.30	0.02	0.00	7.32
2,2,4-Trimethylpentane	0.39	14.29	1.08	0.00	15.76
Benzene	0.19	3.65	0.54	0.00	4.39
Cyclohexane	0.04	0.73	0.11	0.00	0.88
Ethylbenzene	0.02	3.65	0.05	0.00	3.71
Hexane (-n)	0.35	3.95	0.97	0.00	5.27
Isopropyl benzene	0.00	0.46	0.00	0.00	0.46
Methyl alcohol	0.03	0.43	0.08	0.00	0.53
Naphthalene	0.00	0.91	0.00	0.00	0.91
Styrene	0.00	0.24	0.00	0.00	0.25
Toluene	0.27	18.24	0.76	0.00	19.27
Unidentified Components	79.59	228.88	223.25	0.00	531.72
Xylenes (Mixed)	0.08	21.28	0.24	0.00	21.60

TANKS 4.0.9d
Emissions Report - Detail Format
Total Emissions Summaries - All Tanks In Report

Emissions Report for: January, February, March, April, May, June, July, August, September, October, November, December

Tank Identification				Losses (lbs)
Stockton Tank 19 - max daily throughput	Shell Oil Products US	Internal Floating Roof Tank	Stockton, California	3,072.78
Stockton Tank 19 post-project ann throughput	Shell Oil Products US	Internal Floating Roof Tank	Stockton, California	2,698.79
Stockton Tank 19 pre-project ann throughput	Shell Oil Products US	Internal Floating Roof Tank	Stockton, California	2,395.08
Stockton Tank 24 - max annual throughput	Shell Oil Products US	Internal Floating Roof Tank	Stockton, California	1,736.06
Stockton Tank 24 - max daily throughput	Shell Oil Products US	Internal Floating Roof Tank	Stockton, California	3,194.56
Total Emissions for all Tanks:				13,097.26

Appendix IV
Compliance Certification

Shell Oil Products US

September 9, 2013

Mr. Rupi Gill
San Joaquin Valley Air Pollution Control District
4800 Enterprise Way
Modesto CA 95356-8718

Subject: Compliance Statement for Equilon Enterprises LLC dba Shell Oil Products US

Dear Mr. Gill:

In accordance with Rule 2201, Section 4.15, "Additional Requirements for New Major Sources and Federal Major Modifications," Equilon Enterprises LLC dba Shell Oil Products US (Shell) is providing this compliance statement regarding its proposed project at the Stockton bulk loading terminal (Project Number N-1123247).

All major stationary sources in California owned or operated by Shell, or by any entity controlling, controlled by, or under common control with Shell, and which are subject to emission limitations, are in compliance or on a schedule for compliance with all applicable emission limitations and standards. These sources include one or more of the following facilities:

Facility	Facility ID	City of Operation	Air Quality Management District
West Sacramento Terminal	00046	West Sacramento	Yolo-Solano Air Quality Management District
Martinez Terminal	11956	Martinez	Bay Area Air Quality Management District
Signal Hill Terminal	116931	Signal Hill	South Coast Air Quality Management District
Van Nuys Terminal	800369	Van Nuys	South Coast Air Quality Management District
Colton Terminal	117225	Bloomington	South Coast Air Quality Management District
Carson Terminal	800372	Carson	South Coast Air Quality Management District
Mormon Island Terminal	117560	Wilmington	South Coast Air Quality Management District
Coalinga Station	C-1234	Coalinga	San Joaquin Valley Air Pollution Control District
Emidio Station	S-83	Mettler	San Joaquin Valley Air Pollution Control District
Bakersfield Pump Station	S-1413	Bakersfield	San Joaquin Valley Air Pollution Control District

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Please contact me if you have any questions regarding this certification.

Sincerely,

Anne C. Anderson
General Manager, Supply & Distribution – US

San Joaquin Valley
Unified Air Pollution Control District

TITLE V MODIFICATION - COMPLIANCE CERTIFICATION FORM

I. TYPE OF PERMIT ACTION (Check appropriate box)

[x] SIGNIFICANT PERMIT MODIFICATION
[ ] MINOR PERMIT MODIFICATION
[ ] ADMINISTRATIVE AMENDMENT

COMPANY NAME: Equilon Enterprises, LLC dba Shell Oil Products US	FACILITY ID: N- 758
1. Type of Organization: [x] Corporation [ ] Sole Ownership [ ] Government [ ] Partnership [ ] Utility	
2. Owner's Name:	
3. Agent to the Owner:	

II. COMPLIANCE CERTIFICATION (Read each statement carefully and initial all circles for confirmation):

(AS) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will continue to comply with the applicable federal requirement(s).

(AS) Based on information and belief formed after reasonable inquiry, the equipment identified in this application will comply with applicable federal requirement(s) that will become effective during the permit term, on a timely basis.

(AS) Corrected information will be provided to the District when I become aware that incorrect or incomplete information has been submitted.

(AS) Based on information and belief formed after reasonable inquiry, information and statements in the submitted application package, including all accompanying reports, and required certifications are true accurate and complete.

I declare, under penalty of perjury under the laws of the state of California, that the forgoing is correct and true:

Anne Anderson — 9-5-13

Signature of Responsible Official — Date

Anne C. Anderson (for Project #N-1123247)

Name of Responsible Official (please print)

General Manager, Supply & Distribution – US

Title of Responsible Official (please print)

Appendix V
Risk Management Review Summary

San Joaquin Valley Air Pollution Control District
REVISED Risk Management Review

To:	Jag Kahlon – Permit Services
From:	Yu Vu – Technical Services
Date:	November 18, 2013
Facility Name:	Equilon Enterprises LLC
Location:	3515 Navy Dr, Stockton, CA
Application #(s):	N-758-4-5, -13-9, -14-4, -16-0
Project #:	N-1123247

A. RMR SUMMARY

RMR Summary						
Categories	**Tank (Unit 4-5)**	**Vapor Recovery System (Unit 13-9)**	**Tank (Unit 14-4)**	**Tank (Unit 16-0)**	**Project Totals**	**Facility Totals**
Prioritization Score	0.21	3.97	0.03	1.24	>1.0	>1.0
Acute Hazard Index	0.00	0.00	0.00	0.00	0.00	0.00
Chronic Hazard Index	0.00	0.00	0.00	0.00	0.00	0.00
Maximum Individual Cancer Risk (10^{-6})	0.06	1.91	0.01	0.15	2.13	2.13
T-BACT Required?	**No**	**Yes**	**No**	**No**		
Special Permit Conditions?	**No**	**Yes**	**No**	**No**		

Proposed Permit Conditions

To ensure that human health risks will not exceed District allowable levels; the following permit conditions must be included for:

Units # 4-5, 14-4, and 16-0

No special conditions are required.

Unit # 13-9

T-BACT is required for this unit because of emissions of Benzene, which is a VOC. In accordance with District policy, BACT for this unit will be considered to be T-BACT.

B. RMR REPORT

I. Project Description

Technical Services received a request on October 11, 2013, to perform a Risk Management Review for a proposed modification to three (3) gasoline/diesel/ethanol storage tanks (units 4-5, 14-4,and 16-0) and one vapor recovery system (unit 13-9). The applicant is proposing to increase the throughput of unit 4-5 from 1.25 million gallons to 7.56 million gallons, allow storage of diesel or denatured ethanol in unit 14-4, allow storage of gasoline or denatured ethanol in unit 16-0, and to increase annual throughput on unit 13-9 from 123,733,750 gallons to 196,000,000 gallons, with no increase in daily throughput.

This project also requires that Technical Services perform an Ambient Air Quality Analysis (AAQA) due to a public notice requirement. However, since this project only involves VOC emissions, an AAQA was not performed, because there are currently no standards by which to evaluate VOC emissions against.

II. Analysis

Technical Services performed a prioritization using the District's HEARTs database. Since the total facility prioritization score was greater than one, a refined health risk assessment was required. Emissions calculated using the District's profile for "Oilfield Fugitives - Heavy Crude Oil," were input into the HEARTs database. The AERMOD model was used, with the parameters outlined below and meteorological data for 2005-2009 from Stockton to determine the dispersion factors (i.e., the predicted concentration or X divided by the normalized source strength or Q) for a receptor grid. These dispersion factors were input into the Hot Spots Analysis and Reporting Program (HARP) risk assessment module to calculate the chronic and acute hazard indices and the carcinogenic risk for the project.

The following parameters were used for the review:

Analysis Parameters Unit 13-9			
Source Type	Point[1]	**Location Type**	Urban
Stack Height (m)	6.401	**Closest Receptor (m)**	~150
Stack Diameter. (m)	0.101	**Type of Receptor**	Residential
Stack Exit Velocity (m/s)	17.499	**Max Hours per Year**	8760
Stack Exit Temp. (°K)	297.039		

[1] Capped

Analysis Parameters Unit 4-5			
Source Type	Area	**Location Type**	Urban
Radius (m)	7.32	**Closest Receptor (m)**	~190
		Type of Receptor	Business
Release Height (m)	9.14	**Pollutant Type**	VOC
		Emission Rate (g/sec-m^2)	0.00594

Analysis Parameters Unit 14-4			
Source Type	Area	Location Type	Urban
Radius (m)	9.144	Closest Receptor (m)	~150
		Type of Receptor	Business
Release Height (m)	12.19	Pollutant Type	VOC
		Emission Rate (g/sec-m^2)	0.00381

Analysis Parameters Unit 16-0			
Source Type	Area	Location Type	Urban
Radius (m)	12.95	Closest Receptor (m)	~120
		Type of Receptor	Business
Release Height (m)	17.68	Pollutant Type	VOC
		Emission Rate (g/sec-m^2)	0.0019

III. Conclusion

Unit 13-9

The acute and chronic indices are below 1.0 and the cancer risk associated with unit N-758-13-9 is greater than 1.0 in a million, but less than 10 in a million. **In accordance with the District's Risk Management Policy, the project is approved with Toxic Best Available Control Technology (T-BACT).**

Units 4-5, 14-4, and 16-0

The acute and chronic indices are below 1.0 and the cancer risk factors associated with these units are less than 1.0 in a million. **In accordance with the District's Risk Management Policy, the project is approved without Toxic Best Available Control Technology (T-BACT).**

To ensure that human health risks will not exceed District allowable levels; the permit conditions listed on page 1 of this report must be included for this proposed unit.

These conclusions are based on the data provided by the applicant and the project engineer. Therefore, this analysis is valid only as long as the proposed data and parameters do not change.

IV. Attachments

A. RMR request from the project engineer
B. Additional information from the applicant/project engineer
C. Toxic emissions summary
D. Prioritization score
E. Facility Summary

Appendix VI
Permits to Operate N-758-4-4, '-13-8 and '-14-3

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-758-4-4 **EXPIRATION DATE:** 01/31/2017

EQUIPMENT DESCRIPTION:
ONE 504,000 GALLON (12,000 BBL) ABOVEGROUND INTERNAL FLOATING ROOF GASOLINE/DENATURED ETHANOL STORAGE TANK #19 WITH A PRIMARY MECHANICAL SHOE TYPE SEAL AND SECONDARY RIM-MOUNTED WIPER SEAL

PERMIT UNIT REQUIREMENTS

1. VOC emissions from this tank shall not exceed 14.1 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
2. Fugitive VOC from valves, flanges, connector, pump seals etc associated with this tank shall not exceed 0.2 pounds in any one day. [District Rule 2201] Federally Enforceable Through Title V Permit
3. The daily throughput of the organic liquid shall not exceed 504,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
4. The monthly throughput of the organic liquid shall not exceed 1,250,000 gallons. [District Rule 2201] Federally Enforceable Through Title V Permit
5. True vapor pressure (TVP) of the liquid stored in this tank shall not exceed 8.7 psia. [District Rule 2201] Federally Enforceable Through Title V Permit
6. The permittee shall determine TVP and the temperature of the organic liquid stored on monthly basis. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission factors from "California Implementation Guidelines for Estimating Mass Emissions of Fugitive Hydrocarbon Leaks at Petroleum Facilities", Table IV-1b (Feb 1999) - Marketing Terminal. [District Rule 2201] Federally Enforceable Through Title V Permit
8. The floating roof shall be floating on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports the processes of filling or emptying and refilling the tank shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land the roof on its legs. [District Rule 4623; 40 CFR 60.112b(a)(1)(i) and 63.11087(a)] Federally Enforceable Through Title V Permit
9. No gap between the tank shell and the primary seal shall exceed one and a half (1-1/2) inches. [District Rule 4623] Federally Enforceable Through Title V Permit
10. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
11. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
12. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

14. The cumulative length of all gaps between the tank shell and the secondary seal, greater than 1/8 inch shall not exceed 5% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

15. The metallic shoe-type seal shall be installed so that one end of the shoe extends into the stored liquid and the other end extends a minimum vertical distance of 18 inches above the stored liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

16. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit

17. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623 and 40 CFR 60.113b(b)(4)(i)(B) and (ii)(C)] Federally Enforceable Through Title V Permit

18. The secondary seal shall allow easy insertion of probes of up to one and a half (1-1/2) inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

19. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

20. All openings in the roof used for sampling and gauging, except pressure-vacuum (P/V) relief valve, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

21. The tank shall be in a leak-free condition. The pressure-vacuum (PV) relief valve shall be set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit

22. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three (3) drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three (3) drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

23. Each opening in a non-contact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and rim space vents shall provide a projection below the liquid surface. [District Rule 4623; 40 CFR 60.112b(a)(1)(iii) and 63.11087(a)] Federalty Enforceable Through Title V Permit

24. Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains shall be equipped with a cover, or a lid shall be maintained in a closed position at all times (i.e. no visible gaps) except when the device is in use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted in place except when they are in use. [District Rule 4623; 40 CFR 60.112b(a)(1)(iv) and 63.11087(a)] Federally Enforceable Through Title V Permit

25. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the leg roof supports. [District Rule 4623; 40 CFR 60.112b(a)(1)(v) and 63.11087(a)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

26. Rim vents shall be equipped with a gasket and shall be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting. [District Rule 4623; 40 CFR 60.112b(a)(1)(vi) and 63.11087(a)] Federally Enforceable Through Title V Permit

27. Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The well shall have a slit fabric cover that covers at least 90 percent of the opening. The fabric cover must be impermeable. [District Rule 4623; 40 CFR 60.112b(a)(1)(vii) and 63.11087(a)] Federally Enforceable Through Title V Permit

28. Each penetration of the internal floating roof that allows for the passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover. The fabric sleeve must be impermeable. [District Rule 4623; 40 CFR 60.112b(a)(1)(viii) and 63.11087(a)] Federally Enforceable Through Title V Permit

29. Each penetration of the internal floating roof that allows for the passage of a ladder shall have a gasketed sliding cover. [40 CFR 60.112b(a)(1)(ix) and 63.11087(a)] Federally Enforceable Through Title V Permit

30. All solid sampling or gauging wells, and similar fixed projections through the floating roof such as anti-rotational pipe shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

31. The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall not exceed one-half (1/2) inch. [District Rule 4623] Federally Enforceable Through Title V Permit

32. The permittee shall visually inspect the internal floating roof, and its appurtenant parts, fittings, etc. and measure the gaps of the primary seal and/or secondary seal prior to filling the tank for newly constructed, repair, or rebuilt internal floating roof tanks. If holes, tears, or openings in the primary seal, the secondary seal, the seal fabric or defects in the internal floating roof or its appurtenant parts, components, fittings, etc., are found, they shall be repaired prior to filling the tank. [District Rule 4623; 40 CFR 60.113b(a)(1) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

33. The permittee shall visually inspect, through the manholes, roof hatches, or other opening on the fixed roof, the internal floating roof and its appurtenant parts, fittings, etc., and the primary seal and/or secondary seal at least once every 12 months after the tank is initially filled with an organic liquid. There should be no visible organic liquid on the roof, tank walls, or anywhere. Other than the gap criteria specified by this rule, no holes, tears, or other openings are allowed that would permit the escape of vapors. Any defects found are violations of this rule. [District Rule 4623; 40 CFR 60.113b(a)(2) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

34. The permittee shall conduct actual gap measurements of the primary seal and/or secondary seal at least once every 60 months. Other than the gap criteria specified by this permit, no holes, tears, or other openings are allowed that would permit the escape of hydrocarbon vapors. Any defects found shall constitute a violation of this rule. [District Rule 4623] Federally Enforceable Through Title V Permit

35. If any failure (i.e. visible organic liquid on the internal floating roof, tank walls or anywhere, holes or tears in the seal fabric) is detected during 12 month visual inspection, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If the detected failure cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the APCO in the inspection report. Such a request must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible. [40 CFR 60.113b(a)(2) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

36. The permittee shall notify the District in writing at least 30 days prior to conducting the visual inspection of the storage vessel, so the District can arrange an observer. [40 CFR 60.113b(a)(5) and 63.11092(e)(1)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

37. The permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of this rule, including the following: 1) Date the storage vessel was emptied, date of inspection and names and titles of company personnel doing the inspection. 2) Tank identification number and Permit to Operate number. 3) Observed condition of each component of the control equipment (seals, internal floating roof, and fittings). 4) Measurements of the gaps between the tank shell and primary and secondary seals. 5) Leak free status of the tank and floating roof deck fittings. Records of the leak-free status shall include the vapor concentration values measured in parts per million by volume (ppmv). 6) Data, supported by calculations, demonstrating compliance with the requirements specified in Sections 5.4 and 5.5.2.4.3 of Rule 4623. 7) Nature of defects and any corrective actions or repairs performed on the tank in order to comply with rule 4623 and 40 CFR Part 60 Subpart Kb and the date(s) such actions were taken. [District Rule 4623; 40 CFR 60.115b(a)(2), 60.115b(a)(3), and 63.11094(a)] Federally Enforceable Through Title V Permit

38. The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. [40 CFR 60.116b(b)] Federally Enforceable Through Title V Permit

39. The permittee shall maintain records of the volatile organic liquid stored, the period of storage, and TVP of that volatile organic liquid during the respective storage period. TVP shall be determined using the data on the Reid vapor pressure (highest receipt or highest tank sample results) and actual storage temperature. [District Rule 2201 and 40 CFR 60.116b(c)] Federally Enforceable Through Title V Permit

40. Maximum true vapor pressure, for crude oil or refined petroleum products, may be determined from nomographs contained in API Bulletin 2517, by using the typical Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the stored product, unless the APCO specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s). [40 CFR 60.116b(e)(2)(i)] Federally Enforceable Through Title V Permit

41. The permittee shall maintain the records of the internal floating roof landing activities that are performed pursuant to Rule 4623, Section 5.3.1.3 and 5.4.3. The records shall include information on the TVP, API gravity, and type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

42. The permittee shall maintain records of daily and monthly organic liquid throughput in gallons. [District Rule 2201] Federally Enforceable Through Title V Permit

43. The permittee shall maintain all records required by this permit for a period of at least five years and shall made them readily available for District inspection upon request. [District Rules 2201 and 4623, and 40 CFR 60.116b(a)] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-758-13-8 **EXPIRATION DATE:** 01/31/2017

EQUIPMENT DESCRIPTION:
ONE JOHN ZINK VAPOR RECOVERY SYSTEM, CARBON ADSORPTION UNIT, MODEL #AA1218715B AND VAPOR BLADDER TANK #16 IN THE VAPOR RECOVERY LINE BEFORE THE VAPOR RECOVERY SYSTEM.

PERMIT UNIT REQUIREMENTS

1. No gasoline delivery vessel shall be operated or be allowed to operate unless valid State of California decals are displayed on the cargo container, which attest to the vapor integrity of the container. [District Rule 4621] Federally Enforceable Through Title V Permit
2. The vapor collection and control system shall operate such that the pressure in the delivery tank being loaded shall not exceed 18 inches water column pressure and 6 inches water column vacuum. [District Rule 4624] Federally Enforceable Through Title V Permit
3. The transfer rack and vapor collection equipment shall be maintained and operated such that there are no leaks and no excess organic liquid drainage at disconnections. [District Rule 4624] Federally Enforceable Through Title V Permit
4. The John Zink vapor processing unit shall have two operational carbon adsorption columns. Each column shall be regenerated every 15 minutes when the device is in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
5. The vapors from the facility's fixed roof tanks and loading rack may bypass the bladder tank (Tank #16) only during periods of time when the bladder tank is down for maintenance, repairs, breakdowns, inspection of the bladder tank, or degassing of the bladder tank. [District Rule 2201] Federally Enforceable Through Title V Permit
6. Fugitive VOC emissions from this unit shall not exceed 9,362 lb-VOC/yr. [District Rule 2201] Federally Enforceable Through Title V Permit
7. Vapor return hose(s) shall connect displaced vapors from the truck to the vapor control system whenever tank truck, trailer, or car is loading organic liquid. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit
8. Vapor return hose(s) and connections between the tanker truck, trailer, or car and the vapor control system shall be leak-free. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit
9. The facility shall be equipped with bottom loading and a vapor collection and control system such that the VOC emissions shall not exceed 0.08 pounds per 1,000 gallons of organic liquid loaded. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit
10. The John Zink vapor processing unit is authorized to handle gasoline vapors from a total of no more than 895,000 gallons of gasoline throughput per day, nor 123,733,750 gallons of gasoline throughput per year. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit
11. Sampling facilities for source testing shall be provided in accordance with the provisions of Rule 1081 (Source Sampling). [District Rule 1081] Federally Enforceable Through Title V Permit
12. Source testing to demonstrate compliance with permit conditions and all rules and regulations, when the bladder tank is on-line, shall be conducted on an annual basis. [District Rule 2201] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. [District Rule 1081] Federally Enforceable Through Title V Permit
14. Compliance with the VOC emissions limit shall be determined using 40 CFR 60.503 "Test Methods and Procedures" and EPA Methods 2A, 2B, 25A and 25B and ARB Method 422, or ARB Test Procedure TP-203.1. [District Rule 4624] Federally Enforceable Through Title V Permit
15. Source testing shall be witnessed or authorized by District personnel and samples shall be collected by a California Air Resources Board (CARB) certified testing laboratory or a CARB certified source testing firm. [District Rule 1081] Federally Enforceable Through Title V Permit
16. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081] Federally Enforceable Through Title V Permit
17. The owner or operator shall calibrate, certify, and maintain, and quality-assure a Continuous Monitoring System (CMS) which continuously measures and records the VOCs (and other parameters, if any, to determine compliance with lb-VOC/1,000 gallon of organic liquid) while gasoline vapors are displaced to the John Zink carbon adsorption system. [District Rule 1080 and 40 CFR 63.11092(b)] Federally Enforceable Through Title V Permit
18. The CMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each 15-minute quadrant of the hour or shall meet equivalent specifications established by mutual agreement of the District, the CARB and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
19. The CMS shall meet the requirements in 40 CFR 60 Appendix B Performance Specification 8 (PS 8) or 8A (PS 8), as appropriate, or shall meet equivalent specifications established by mutual agreement of the District, the CARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
20. The CMS must be audited at least once every six months by conducting cylinder gas audits (CGA) using the procedure in 40 CFR Part 60 Appendix F, 5.1.2. Audit reports shall be submitted along with semi-annual compliance reports to the District. [District Rule 1080] Federally Enforceable Through Title V Permit
21. APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080] Federally Enforceable Through Title V Permit
22. The CMS data shall be reduced to hourly averages as specified in 40 CFR 60.13(h), or by other methods deemed equivalent by mutual agreement with the District, the CARB, and the EPA. [District Rule 1080] Federally Enforceable Through Title V Permit
23. Upon written notice from the District, the owner or operator shall provide a summary of the data obtained from the CMS. This summary shall be in the form and the manner prescribed by the District. [District Rule 1080] Federally Enforceable Through Title V Permit
24. The permittee shall maintain the following records: the date, time and duration of any malfunction of the continuous monitoring equipment; dates of performance testing; dates of evaluations, calibrations, checks, and adjustments of the continuous monitoring equipment; date and time period which a continuous monitoring system or monitoring device was inoperative. [District Rule 1080] Federally Enforceable Through Title V Permit
25. The owner or operator shall submit a written report of CMS operations on semi-annual basis to the District. The report shall include the following: Date, time intervals, data and magnitude of excess emissions, nature and the cause of excess (if known), corrective actions taken and preventive measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; Applicable time and date of each period during which the CMS was inoperative, except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

26. A leak is defined as the dripping of VOC-containing liquid at a rate of more than 3 drops per minute, or the detection of any gaseous or vapor emissions with a concentration of VOC greater than 10,000 ppmv as methane above a background when measured using a portable hydrocarbon detection instrument in accordance with EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit

27. Excess organic liquid drainage is defined as an average of more than 10 milliliters liquid drainage per disconnect from three consecutive disconnects. [District Rule 4624] Federally Enforceable Through Title V Permit

28. The operator shall inspect the vapor collection system, the vapor disposal system, and each transfer rack handling organic liquids for leaks during transfer at least once every calendar quarter using the EPA Method 21. [District Rule 4624] Federally Enforceable Through Title V Permit

29. All leaking components shall be repaired or replaced within 72 hours of discovery. If the leaking component cannot be repaired or replaced within 72 hours, the component shall be taken out of service until such time the component is repaired or replaced. The repaired or replacement equipment shall be reinspected the first time the equipment is in operation after the repair or replacement. [District Rule 4624] Federally Enforceable Through Title V Permit

30. The operator may apply for a written approval from the APCO to change the inspection frequency from quarterly to annually provided no leaks were found during five consecutive quarterly inspections. Upon identification of any leak during an annual inspection, the inspection frequency shall revert back to quarterly, and the operator shall contact the APCO in writing within 14 days. [District Rule 4624] Federally Enforceable Through Title V Permit

31. Each activated carbon adsorption column shall be equipped with an operational pressure differential gauge. The optimum pressure for each column shall be determined after source testing. [District Rule 4624] Federally Enforceable Through Title V Permit

32. The permittee shall maintain records of all maintenance, repair, breakdown, tank inspection and testing, and degassing of the bladder tank events when the vapors are not first sent to the bladder tank and are sent directly to the John Zink vapor processing unit. These records shall indicate the times, dates and reasons why the bladder tank was off-line. [District Rule 2201] Federally Enforceable Through Title V Permit

33. The permittee shall maintain records of the daily gasoline throughput, cumulative annual gasoline throughput, in gallons, and results of required leak inspections. These records shall be retained for a minimum of five years and shall be made available for District inspection upon request. [District Rules 2201 and 4624] Federally Enforceable Through Title V Permit

34. U.S. EPA administers the requirements of 40 CFR Part 63 Subpart BBBBBB. The owner or operator shall submit all applicable notifications and records to the administrator by the required compliance dates. This condition may be removed administratively from this permit once the District gets delegation from EPA to administer the requirements of 40 CFR Part 63 Subpart BBBBBB. [District Rule 4002] Federally Enforceable Through Title V Permit

San Joaquin Valley
Air Pollution Control District

PERMIT UNIT: N-758-14-3 **EXPIRATION DATE:** 01/31/2017

EQUIPMENT DESCRIPTION:
DNE 689,136 GALLON (16,408 BBL) ABOVEGROUND WELDED EXTERNAL FLOATING ROOF GASOLINE STORAGE TANK (TANK #18) WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A SECONDARY WIPE SEAL

PERMIT UNIT REQUIREMENTS

1. A vapor recovery system shall be required if the true vapor pressure of the stored liquid equals or exceeds 11 psia. [District Rule 4623]
2. Daily throughput for this tank shall not exceed 689,136 gallons per day. [District Rule 2201]
3. Annual throughput for this tank shall not exceed 50,952,827 gallons per year based on a 12-month rolling basis. [District Rule 2201]
4. This tank shall be equipped with a closure device between the tank shell and roof edge consisting of two seals mounted one above the other; the one below shall be referred to as the primary seal, and the one above shall be referred as the secondary seal. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit
5. The external floating roof shall float on the surface of the stored liquid at all times (i.e., off the roof leg supports) except during the initial fill until the roof is lifted off the leg supports and when the tank is completely emptied and subsequently refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible. Whenever the permittee intends to land the roof on its legs, the permittee shall notify the APCO in writing at least five calendar days prior to performing the work. The tank must be in compliance with this rule before it may land on its legs. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit
6. Gaps between the tank shell and the primary seal shall not exceed 1 1/2 inches. [District Rule 4623] Federally Enforceable Through Title V Permit
7. The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
8. Accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not exceed 212 cm2 per meter (10.01 in2 per foot) of tank diameter, and the width of any gap shall not exceed 3.81 cm (1.5 inches). [40CFR 63.11087(c)] Federally Enforceable Through Title V Permit
9. The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
10. No continuous gap in the primary seal greater than 1/8 inch wide shall exceed 10% of the tank circumference. [District Rule 4623] Federally Enforceable Through Title V Permit
11. Accumulated area of gaps between the tank wall and the secondary seal shall not exceed 21.2 cm2 per meter (1.0 inch2 per foot) of tank diameter, and the width of any portion of any gap shall not exceed 1.27 cm (1/2 inch). [District Rule 4623 and 40CFR 63.11087(c)] Federally Enforceable Through Title V Permit
12. If the primary seal used is a metallic shoe, one end of the metallic shoe is to extend into the stored liquid and the other end is to extend a minimum vertical distance of 61 cm (24 inches) above the stored liquid surface. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

PERMIT UNIT REQUIREMENTS CONTINUE ON NEXT PAGE

13. The geometry of the metallic-shoe type seal shall be such that the maximum gap between the shoe and the tank shell shall be no greater than 3 inches for a length of at least 18 inches in the vertical plane above the liquid. [District Rule 4623] Federally Enforceable Through Title V Permit

14. There shall be no holes, tears, or openings in the secondary seal or in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal fabric, and secondary seal. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

15. The secondary seal shall allow easy insertion of probes of up to 1 1/2 inches in width in order to measure gaps in the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

16. The secondary seal shall extend from the roof to the tank shell and shall not be attached to the primary seal. [District Rule 4623] Federally Enforceable Through Title V Permit

17. All openings in the roof used for sampling and gauging, except pressure-vacuum (P/V) relief valve, shall provide a projection below the liquid surface to prevent belching of liquid and to prevent entrained or formed organic vapor from escaping from the liquid contents of the tank and shall be equipped with a cover, seal or lid that shall be in a closed position at all times, with no visible gaps and be gas tight, except when the device or appurtenance is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

18. The tank shall be in a leak-free condition. The pressure-vacuum (PV) relief valve shall be set to within 10% of the maximum allowable working pressure of the tank, permanently labeled with the operating pressure settings, properly maintained in good operating order in accordance with the manufacturer's instructions, and shall remain in leak-free condition except when the operating pressure exceeds the valve's set pressure. [District Rule 4623] Federally Enforceable Through Title V Permit

19. A leak-free condition is defined as a condition without a gas or liquid leak. A gas leak is defined as a reading in excess of 10,000 ppmv as methane, above background, as measured by a portable hydrocarbon detection instrument in accordance with the procedures specified in EPA Test Method 21. A liquid leak is defined as a dripping rate of more than three (3) drops per minute. A reading in excess of 10,000 ppmv as methane above background or a liquid leak of greater than three (3) drops per minute is a violation of this permit and Rule 4623 and shall be reported as a deviation. [District Rule 4623] Federally Enforceable Through Title V Permit

20. Except for automatic bleeder vents, rim vents, and pressure relief vents, each opening in a non-contact external floating roof shall provide a projection below the liquid surface. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

21. Except for automatic bleeder vents and rim vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid that shall be maintained in a closed position at all times (i.e., no visible gap) except when in actual use. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

22. Automatic bleeder vents shall be equipped with a gasket and shall be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

23. Rim vents shall be equipped with a gasket and shall be set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

24. Each emergency roof drain shall be provided with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening. The fabric cover must be impermeable if the liquid is drained into the contents of the tanks. [District Rule 4623 and 40 CFR 63.11087(a)] Federally Enforceable Through Title V Permit

25. External floating roof legs shall be equipped with vapor socks or vapor barriers in order to maintain a gas-tight condition so as to prevent VOC emissions from escaping through the roof leg opening. [District Rule 4623] Federally Enforceable Through Title V Permit

26. All wells and similar fixed projections through the floating roof shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

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27. The solid guidepole well shall be equipped with a pole wiper and a gasketed cover, seal or lid which shall be in a closed position at all times (i.e., no visible gap) except when the well is in use. [District Rule 4623] Federally Enforceable Through Title V Permit

28. The gap between the pole wiper and the solid guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

29. The slotted guidepole well on a external floating roof shall be equipped with the following: a sliding cover, a well gasket, a pole sleeve, a pole wiper, and an internal float and float wiper designed to minimize the gap between the float and the well, and provided the gap shall not exceed 1/8 inch; or shall be equipped with a well gasket, a zero gap pole wiper seal and a pole sleeve that projects below the liquid surface. [District Rule 4623] Federally Enforceable Through Title V Permit

30. The gap between the pole wiper and the slotted guidepole shall be added to the gaps measured to determine compliance with the secondary seal requirement, and in no case shall exceed 1/8 inch. [District Rule 4623] Federally Enforceable Through Title V Permit

31. The permittee of external floating roof tanks shall make the primary seal envelope available for unobstructed inspection by the APCO on an annual basis at locations selected along its circumference at random by the APCO. In the case of riveted tanks with toroid-type seals, a minimum of eight locations shall be made available; in all other cases, a minimum of four locations shall be made available. If the APCO suspects a violation may exist the APCO may require such further unobstructed inspection of the primary seal as may be necessary to determine the seal condition for its entire circumference. [District Rule 4623] Federally Enforceable Through Title V Permit

32. Operator shall perform gap measurements on primary and secondary seals within 60 days of the initial fill and at least once every year thereafter to determine compliance with the requirements of Rule 4623. The actual gap measurements of the floating roof primary and secondary seals shall be recorded. The inspection results shall be submitted to the APCO as specified in Section 6.3.5. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

33. Operator shall also perform gap measurements on primary seals during hydrostatic testing of the vessel. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

34. If unit is out of service for a period of one year or more, subsequent refilling with gasoline shall be considered initial fill in accordance with the conditions of this permit. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

35. Operator shall determine gap widths and gap areas for compliance with 40 CFR 60.113b(b)(2) and (3) in the primary and secondary seals using the following procedure: 1) Measure seal gaps, at one or more floating roof levels when the roof is floating off roof leg supports; 2) Measure seal gaps around entire circumference of the tank in each place where a 0.32 cm diameter uniform probe passes freely (without forcing or binding against seal) between the seal and the tank wall and measure the circumferential distance of each such location; 3) Total surface area of each gap shall be determined by using probes of various widths to accurately measure the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance; and 4) Add the gap surface area of each gap location for the primary seal and the secondary seal individually. Divide the sum for each seal by the nominal diameter of the tank. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

36. If the seals do not meet the required specifications of 40 CFR 60.113b(b)(4)(i) and (ii), operator shall repair or empty the storage vessel within 45 days of identification. [40CFR 63.11087(c)] Federally Enforceable Through Title V Permit

37. Operator shall notify the APCO 30 days in advance of any gap measurements required by 40 CFR 63.11092(e)(2) and 40 CFR 60.113b(b) to afford the APCO opportunity to have an observer present. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

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38. After the tank has been emptied and degassed, if the external floating roof has defects, or the primary seal or secondary seal has holes, tears, or other openings in the seal or seal fabric, the operator shall repair the items as necessary so that none of these conditions exist before filling or refilling the storage vessel with gasoline. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

39. For all visual inspections required by 40 CFR 63.11092(e)(2), the operator shall notify the APCO in writing at least 30 days prior to the filling or refilling of each storage vessel to afford the APCO the opportunity to inspect the storage vessel prior to refilling, except when notification is specifically allowed otherwise by this permit. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

40. If a visual inspection required by 40 CFR 63.11092(e)(2) is not planned and the operator could not have known about the inspection 30 days in advance of refilling the tank, the operator shall notify the APCO at least 7 days prior to the refilling of the storage vessel. Notification shall be made by telephone immediately followed by written documentation demonstrating why the inspection was unplanned. Alternatively, this notification including the written documentation may be made in writing and sent by express mail so it is received by the APCO at least 7 days prior to the refilling. [40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

41. Operator shall record the vessel on which the measurement was performed, date of the seal gap measurement, raw data obtained in the measurement process in accordance with the conditions of this permit. [40 CFR 63.11087(e)] Federally Enforceable Through Title V Permit

42. Within 30 days of the end of each semi-annual period, the operator shall include in the report required by 40 CFR 63.11095(a) the following information regarding gap measurements: the date of measurement, raw data obtained in the measurement process, and all such gap calculations as required by 40 CFR 63.11092(e)(2). [40 CFR 63.11087(e)] Federally Enforceable Through Title V Permit

43. Within 30 days of the end of each semi-annual period, the operator shall include in the report required by 40 CFR 63.11095(a) the following information regarding gap measurements that exceeded 40 CFR 60.113b(4) limits: the date of measurement, raw data obtained in the measurement process, all such gap calculations as required by 40 CFR 63.1192(e)(2), and the date the vessel was emptied or the repairs made and the date of repair. [40 CFR 63.11087(e)] Federally Enforceable Through Title V Permit

44. The permittee shall inspect the primary and secondary seals for compliance with the requirements of Rule 4623 every time this tank is emptied or degassed. Actual gap measurements shall be performed when the liquid level is static but not more than 48 hours after the tank roof is re-floated. [District Rule 4623 and 40 CFR 63.11087(c)] Federally Enforceable Through Title V Permit

45. Permittee shall submit the reports of the floating roof tank inspections to the APCO within five calendar days after the completion of the inspection only for those tanks that failed to meet the applicable requirements of Rule 4623, Sections 5.2 through 5.5. The inspection report for tanks that that have been determined to be in compliance with the requirements of Sections 5.2 through 5.5 need not be submitted to the APCO, but the inspection report shall be kept on-site and made available upon request by the APCO. The inspection report shall contain all necessary information to demonstrate compliance with the provisions of Rule 4623. [District Rule 4623] Federally Enforceable Through Title V Permit

46. Permittee shall maintain the records of the external floating roof landing activities that are performed pursuant to Rule 4623, Sections 5.3.1.3 and 5.4.3. The records shall include information on the true vapor pressure (TVP), API gravity, storage temperature, type of organic liquid stored in the tank, the purpose of landing the roof on its legs, the date of roof landing, duration the roof was on its legs, the level or height at which the tank roof was set to land on its legs, and the lowest liquid level in the tank. [District Rule 4623] Federally Enforceable Through Title V Permit

47. Permittee shall maintain cumulative records of annual gasoline throughput in gallons on a monthly basis. [District Rule 2080] Federally Enforceable Through Title V Permit

48. The permittee shall maintain all records required by this permit for a period of at least five years and shall made them readily available for District inspection upon request. [District Rule 4623 and 40 CFR 63.11094(a)] Federally Enforceable Through Title V Permit