



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 45day 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.

<u>Si</u>ncerely,

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 ernail

Seyed Sadredin Executive Directer/Air Pellution Centrol Officer

Nerthoro Rogion 4800 Enterprise Way Modesto, CA 95356-8718 Tel: (209) 557-6400 FAX: (209) 557-6475 Centrel Region (Moin Offico) 1990 E. Gettysburg Avenue Fresne, CA 93728-0244 Tel: (559) 230-600D FAX: (559) 230-6061 Southern Region 34946 Flyaver Court Bakersfield, CA 933D8-9725 Tel: 661-392-5500 FAX: 661-392-5585

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

| Facility Name: | Equilon Entérprises, LLC | Date: | November 18, 2013 |
|-------------------|------------------------------------|----------------|-------------------|
| Mailing Address: | 2555 13 th 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 | 3-0 | |
| 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.

<u>N-758-13-9: Vapor recovery system serving loading racks and storage tanks</u> 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.

<u>N-758-14-4: 689, 139 gallons (16,408 barrels) external floating roof tank</u> 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.

<u>N-758-16-0: 2,226,000 gallons (53,000 barrels) internal floating roof tank</u>. 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, California. 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.

<u>N-758-16-0</u>

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):

<u>N-758-4-4, '-14-3</u>

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

<u>N-758-13-8</u>

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

2. Post-Project Emission Factors (EF2):

<u>N-758-4-5, '-13-9, '-14-4</u> 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-758-4-4¹

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.

¹Permit 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.

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

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

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

<u>N-758-13-7</u>

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 <u>N-758-14-3</u>

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 gal². 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.

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

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

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

²Monthly 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

<u>N-758-13-9</u>

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

<u>N-758-14-4</u>

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.

| Component Turo | Course Ture | VOC | Component | PE2 | |
|---|--------------|--------------|-----------|--------|-------|
| Component Type | Source Type | lb/hr/source | Count | lb/day | lb/yr |
| Valves | Gas | 2.87E-05 | 0 | 0.00 | 0 |
| Valves | 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 | Gas | 2.65E-04 | 0 | 0.00 | 0 |
| (compressors and others) | Light Liquid | 2.87E-04 | 0 | 0.00 | 0 |
| Fittings | Gas | 9.26E-05 | 0 | 0.00 | 0 |
| (connectors and flanges) | Light Liquid | 1.76E-05 | 42 | 0.02 | 6 |
| _ · · · · · · · · · · · · · · · · · · · | | | Total: | 0.16 | 55 |

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

 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.

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.

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

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

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.

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

<u>N-758-4</u> 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-758-13EF2 = 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.

 $\frac{N-758-14}{EF2}$ = 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.

<u>N-758-16</u>

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 # | NOx | 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 | : O | 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 | |

| Permit # | NOx | SOx | PM ₁₀ | CÔ | VOC |
|------------|-----|-----|------------------|----|----------------|
| N-758-9-1 | 0 | 0 | 0 | 0 | 0 ³ |
| N-758-10-2 | 0 | 0 | 0 | 0 | 03 |
| 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 |

Equilon Enterprises LLC N-758-4-5, '-13-9, '-14-4 and '-16-0, N-1123247

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 # | NOx | 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 | Ō | | | |
| N-758-13-9 | 0 | 0 | 0 | Ō | 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 | | | |

³VOC 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.

Equilon Enterprises LLC N-758-4-5, '-13-9, '-14-4 and '-16-0, N-1123247

| PSD Major Source Determination (tons/year) | | | | | | | |
|---|-----------------|------|-----------------|-----|-----|-------|-------------------|
| Category | NO ₂ | VOC | SO ₂ | CO | PM | PM10. | <u>CO2e</u> |
| 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 . | Nŏ | ⁻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) |
|------------------|---------------|---------------|---------------|
| NOx | 0 | <u> </u> | 0 |
| SOx | . O | 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.

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

⁴CO2e (Storage Tanks) = (46,771 lb-VOC/yr, total for all tanks including fugilities) x (1.36 lb-CH4/100 lb-VOC taken from Appendix I, page 3 of Best Performance Standard for gasoline dispensing fecilities, 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 tor/2,000 lb) = 8.2 tons-CO2e/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.

 $\mathsf{NEI} = \sum(\mathsf{PE2} - \mathsf{HE})$

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

 $NEI = \sum PE2$ = PE2_{N-758-4-5} + PE2_{N-758-13-9} + PE2_{N-758-14-4} + PE2_{N-758-16-0} = (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.

<u>N-758-4-5</u>

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-758-4-5} = 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 = $BAE_{N-758-4-4}$ = 609⁵ 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 |

<u>N-758-13-9</u>:

Emission Increase = PAE - BAE - UBC

Where, PAE = PE2_{N-758-13-9} (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/yr⁶ 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

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

⁶Based 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.

<u>N-758-14-4</u>

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 ib-VOC/yr.

<u>N-758-16-0</u>

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 actions⁷:

- 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;

⁷Except for CO emissions from a new or modified emissions unit at a Stationary Source with an SSPE2 of iess 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.

<u>N-758-4-5</u>

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.

<u>N-758-13-9</u>

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]

<u>N-758-14-4</u>

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,

 $EOQ = \Sigma(PE2 - BE) + ICCE$, 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,

 $EOQ = \Sigma(PE2 - BE)$

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-inpractice 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 | PE1 | EOQ |
|------------|--|-------------|-------------|
| | (lb-VOC/yr) | (lb-VOC/yr) | (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 |
| | n an | EQQ: | 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:

<u>N-758-4-3</u>:

- 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]

<u>N-758-13-9</u>:

- 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]

<u>N-758-14-4</u>:

- 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]

<u>N-758-16-0</u>:

 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.

 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 unclassified, pollutants. The pollutants addressed in the PSD applicability determination are listed as follows:

- NO2 (as a primary pollutant)
- SO2 (as a primary pollutant)
- ČO
- 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.

Equilon Enterprises LLC N-758-4-5, '-13-9, '-14-4 and '-16-0, N-1123247

| 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:

Total CO2a = 5.2 tons/yr + 13 tons/yr = 18.2 tons/yr

^aCO2e (N-758-4, '-14-4 and '-16-0) = (36,376 lb-VOC/yr, total for all tanks including fugilives) 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) = $(1.07 \text{ lb-CH4/169,828 gal organic liquid loaded, source test September 2009) x 198,000,000 gal/yr, permitted loadout rate) x (21, GWP) x (1 ton/2,000 lb) = 13 tons-CO2e/yr$

- 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 m³ (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 m³ (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, 1984⁹. 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 m³ (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 $\S60.112b(a)(1)$ (a fixed roof in combination with an internal floating roof) or $\S60.112b(a)(2)$ (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

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

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

This tank is equipped with a mechanical shoe seal listed in (0.112b(a)). 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)]

 $\S60.112b(a)(1)(v)$ 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)]

 $\S60.112b(a)(1)(vii)$ 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

 $\S60.115b(a)(1)$ 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 $\S60.112b(a)(1)$ and $\S60.113b(a)(1)$. This report shall be an attachment to the notification required by $\S60.7(a)(3)$ (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 60.113b(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 galions) 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 calendarmonth 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 HAPs¹⁰. 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

¹⁰Per EPA's document, Gasoline Distribution Industry (Stage I) – Background Information for Proposed Standards, EPA-453/R-97-002a, Table 3.1, totel 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 ere 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:

Equilon Enterprises LLC N-758-4-5, '-13-9, '-14-4 and '-16-0, N-1123247

| Risk Management Review Summary | | | | | | | |
|---|---------------|---------------|----------------|-------------------------|-------------------|--------------------|--|
| Categories | Tank (4-5) | VRS (13-9) | Tank (14-4) | Tank (16- <u>0</u>) | Project Totals | Facility Totals | |
| Prioritization Score | 0.21 | 3.97 | 0.03 | 1.24 | >1.0 | <u>>1.0</u> | |
| 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 risk¹¹ or a greater than deminimus increase in non-cancer risk¹². T-BACT is the most stringent limitation or control technique for hazardous air pollutants of the following:

- Has been achieved in practice for such emissions unit and class of source; or
- 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 coupiers. [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 orderiy 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 CO₂/yr¹³. 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

¹³Permits 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 ib-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 Septembar 2009) x 123,733,750 gal/yr, permitted loadout rate) x (21, GWP) x (1 ton/2,000 lb) = 6.2 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; Increasa 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

| 1 M | | | | | | |
|----------------------|--------------|-----------------------|-----------------------|--|--|--|
| 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

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San Joaquin Valley Air Pollution Control District

AUTHORITY TO CONSTRUCT

PERMIT NO: N-758-4-5

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC MAILING ADDRESS: SHELL OIL PRODUCTS US AT

EQUILON ENTERPRISES LLC 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

- (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 <u>MUST</u> 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 NDT a PERMIT TO OPERATE. Approval or denisi 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 oparated in compliance with all Rules and Regulations of the San Joaquin Valley Unified Air Pollution Control Oistrict. Unless construction has commenced pursuant to Rule 2050, this Authority to Construct shell expire and application shall be cancelled two years from the date of issuance. The applicant is responsible for complying with all lawa, ordinances and regulations of <u>pall-other</u> governmental agencies which may parter in to the above equipment.

Seyed Sadredin, Executive PCO

DAVID WARNER-Director of Permit Services N-784-8 - Nov 18 2013 1, 16PM - KAHLONU , Juni Impedian MDT Required

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

ISSU

- 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
- 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 Permi
- 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
- No gap between the tank shell and the secondary seal shall exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title V Permit
- 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 sont on 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 Encorrectly integrable [Integration of the content of the con

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 ho case shall not exceed one-half (1/2) inch. [District Rule 4623] Federally Enforceable Through Title V Period 1

- 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

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- 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

PERMIT NO: N-758-13-9

MAILING ADDRESS:

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC 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

- {1830} This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 1. 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
- {1831} Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an 2. 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
- No gasoline delivery vessel shall be operated or be allowed to operate unless valid State of California decals are 3. 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 & PERMIT TO OPERATE. Approvel 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 eli 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 eil laws, ordinances and regulations of all-other governmentel agencies which may pertain to the above equipment.

Seyad Sadredin, Executive **APCO**

DAVID WARNER, Director of Permit Services

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- The John Zink vapor processing unit shall have two operational carbon adsorption columns. Each column shall be 6. regenerated every 15 minutes when the device is in operation. [District Rule 2201] Federally Enforceable Through Title V Permit
- The vapors from the facility's fixed roof tanks and loading rack may bypass the bladder tank (Tank #16) only during 7. 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
- Fugitive VOC emissions from this unit shall not exceed 9,362 lb-VOC/yr. [District Rule 2201] Federally Enforceable 8. Through Title V Permit
- Vapor return hose(s) shall connect displaced vapors from the truck to the vapor control system whenever tank truck, 9. 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 220] and 41021
- 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 108]] 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 15minute 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 specification Sestablished by mutual agreement of the District, the CARB, and the EPA. [District Rule 1080] Federally Enforceable Through Vide V Permit CONDITIONS CONTINUE ON NEXT PAGE

- 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

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- 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

PERMIT NO: N-758-14-4

MAILING ADDRESS:

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC 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
- VOC emissions from this tank shall not exceed 6,707 pounds in any 12 consecutive month rolling period. [District 4. 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 & PERMIT TO OPERATE. Approval or denial of a PERMIT TO OPERATE will be mede efter an inspection to verify that the soulpment 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 pureuant to Rule 2050, this Authority to Construct shall expire and application shall be cancellad two years from tha date of issuance. The applicant is reaponsible for complying with all laws, ordinances and regulations of the governmental agencies which may pertain to the above equipment.

Seyed Sadredin, Executive Dilector **PCO**

DAVID WARNER, Director of Permit Services

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- The permittee shall maintain records sufficient to demonstrate compliance with each emission limit. These records 5. 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
- Fugitive VOC from valves, flanges, connector, pump seals etc., associated with this tank shall not exceed any of the 6. following limits: 0.2 lb/day and 55 lb/year. [District Rule 2201] Federally Enforceable Through Title V Permit
- Fugitive VOC emissions from component leaks shall be calculated using component count and appropriate emission 7. 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
- Throughput of organic liquid for this tank shall not exceed any of the following limits: 698,136 gallons/day, 8. 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
- True vapor pressure (TVP) of the liquid stored in this tank shall be less than 11 psia. [District Rule 4623] Federally 9. 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 metallie 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 Trite 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 root shall provide a projection below the liquid surface. [District Rule 4623] Federally Enforceable Through Title VPertuit

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- 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
- 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 Perinit (D)

CONDITIONS CONTINUE ON NEXT PAGE

- 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

PERMIT NO: N-758-16-0

LEGAL OWNER OR OPERATOR: EQUILON ENTERPRISES LLC MAILING ADDRESS: SHELL OIL PRODUCTS US AT

EQUILON ENTERPRISES LLC 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

- {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 <u>MUST</u> NOTIFY THE DISTRICT COMPLIANCE DIVISION AT (209) 557-6400 WHEN CONSTRUCTION IS COMPLETED AND PRIOR TO OPERATING THE EQUIPMENT OR MODIFICATIONS AUTHORIZEO 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 varify their the equipment has been constructed in accordance with the epproved plens, specifications and conditions of this Authority to Construct, and to determine if the equipment can be operated in compliance with ell Rules end Regulations of the San Joaquin Velley Unified Air Pollution Control District. Unless construction has commanced pursuent to Rule 2050, this Authority to Construct shall expire and application shall be cancalled two years from the date of issuance. The applicant is responsible for complying with all laws, ordinances and regulations of gilletter governmental agencies which may partain to the above equipment.

Seyed Sadredin, Executiv ΣPCO

DAVID WARNER-Director of Permit Services N-764-14-0 Nev-18 2013 1 USPM - KARLONJ Junit Impetted NOT Resulted

Northern Regional Office • 4800 Enterprise Way • Modesto, CA 95356-8718 • (209) 557-6400 • Fax (209) 557-6475

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- 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
- 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 soal on in the primary seal envelope that surrounds the annular vapor space enclosed by the roof edge, seal abrie, and secondary seal. [District Rule 4623 and 40 CFR 60.1 13b(b)(4)(i)(B) and (ii)(C)] Federally Enforced by [Jindugh Title V Permit

- 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 repurement, and invite case shall not exceed 1/2 inch. [District Rule 4623] Federally Enforceable Through Title (Refinit)

- 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 60.1 [6b(b)] Pederally Enforceable Through Title V Permit

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- 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

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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 psla TVP

| Pollutant | Achieved in Practice or | Technologically | Alternate Basic |
|-----------|--|---|-----------------|
| | contained in the SiP | Feasible | Equipment |
| voc | 95% control (Primary metal shoa seal with secondary wiper seal, or equal) | 95% Control (Dual wiper saal with drip curtain or primary metal shoe seal with sacondary wiper saal, 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 feesible. 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

| Poilutant | Achieved in Practice or contained in the SIP | Technologically Feasible | Alternate Basic Equipment | | | | |
|-----------|--|-----------------------------|------------------------------|--|--|--|--|
| co | naturai gas fired pliot and air assist | 2 | - | | | | |
| NOx | naturai gas or LPG fired pliot and air assist | | | | | | |
| PM10 | air assisted flare with amokeless combustion | | | | | | |
| SOx | natural gas firad flare | | | | | | |
| VOC | bottom loading with dry break couplers end vapor collection vented to a tharmai 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

<u>N-758-4-5 and '-16-0</u>: Step 1: Identify All Possible Control Technologies

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

<u>Achieved in Practice or contained in SIP:</u> 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.

<u>N-758-13-9</u>: 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

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

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

| Identification User Identification: City: State: Company: Type of Tank: Description: | Stockton Tank 19 - max daily throughput Stockton California Shell Oil Products US Internal Floating Roof Tank Storing gasolina with maximum daily throughput (1 turnover/day) |
|--|--|
| Tank Dimensions Diameter (ft): Volume (galions): Tumovers: Self Supp. Roof? (y/n): No. of Columns: Eft. Col. Diam. (ft): | 48.00 504,000.00 365.00 N 1.00 1.00 |
| Paint Characteristics Internal Shell Condition: Shell Color/Shade: Shell Condition Roof Color/Shade: Roof Condition: | Light Rust White/White Good White/White Good |
| Rim-Seal System Primary Seal: Secondary Seal | Mechanical Shoe Rim-mounted |
| Deck Characteristics Deck Fitting Category: Deck Type: | Typical Welded |
| Deck Fitting/Status | |
| Access Hatch (24-In, Diam.)/Unbo Automatic Gauge Float Weil/Unbo Column Well (24-In, Diam.)/Built-L Ladder Well (36-In, Diam.)/Stiding Roof Leg or Hanger Well/Adjustat Sample Pipe or Well (24-in, Diam.)/W Vacuum Breaker (10-in, Diam.)/W | nted Cover, Ungasketed Jp Col-Sliding Cover, Ungesk. Cover, Ungasketed Je)/Slit Fabric Seal 10% Open |

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

Quantity

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

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

| | | | Daily Liquid Surf. | | Liquid Busk Temp | Vacor Pressure (osia) | | | Vepor Mol. | L Masa | sa Masa | Hol. | Basis for Vapor Pressure |
|--------------------------|-------|-------|--------------------|-------|------------------------|-----------------------|------------|------------|--------------------|------------------|------------------|----------------|---|
| lature/Component | Month | Avg. | Min, | Max, | (deg F) | Avg. | Min. | Max. | Weight | Fract, | Fract | Weight | Calcutations |
| guilon Gasoline RVP 14,0 | Jan | 55.08 | 51,49 | 58.67 | 81.57 | 6.8839 | NVA | N/A | 81_0000 | | | 82.50 | Option 4; RVP=14, ASTM Slope=3 |
| 1.2.4-Trimethylbenzene | | | - | • | | 0.0167 | NA | N/A | 120,1900 | 8.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.55 |
| 2.2.4-TrimeTryloantana | | | | | | 0.5131 | 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 | 8.0024 | 78,11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Actohexane | | | | | | 1.0586 | N/A | N/A | 84,1600 | 0,0024 | 0.0005 | 84,12 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.0913 | N/A | Ń/A | 105.1700 | 0.0120 | 0.0002 | 106.17 | Option 2: A=8.975; B=1424.255; C=213.21 |
| lexane (-n) | | | | | | 1.6818 | N/A | N/A | 86.1700 | 0.0130 | 0.0043 | 86-17 | Option 2: A=6.878, B=1171.17, C=224.41 |
| socropyl 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 |
| Arthyl alcohol | | | | | | 1.2329 | N/A | N/A | 32.0400 | 0.0014 | 0.0003 | 32.04 | Option 2: A=7.697, B=1474.08, C=229.13 |
| lephthalene | | | | | | 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 |
| Syrene | | | | | | 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 |
| oluene | | | | | | 0.2927 | N/A | N/A | 92.1300 | 0.0600 | 0.0033 | 92.13 | Opton 2: A=6.954, B=1344.8, C=219.48 |
| Inidentified Components | | | | | | 8.5331 | N/A | N/A | 60.6580 | 0.7529 | 0.9830 | 77,89 | |
| Kylenes (Mixed) | | | | | | 0.0759 | N/A | N/A | 106.1700 | 0.0700 | 0.0010 | 106.17 | Option 2: A=7.009, B=1482.266, C=215.11 |
| ulion Gasofine RVP 12.5 | Feb | 57.95 | 53,17 | 62,75 | 81.57 | 8.3968 | N/A | N/A | 63.0000 | | | 82.50 | Option 4; RVP=12.5, ASTM Slope=3 |
| 2,4-Trimethylbenzene | | | | | | 0.0185 | N/A | N/A | 120.1600 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2,4-Trimethylpentane | | | | | | 0.5615 | N/Å | N/A | 114,2300 | 0.0470 | 0.0054 | 114.23 | Option 2: A=6.8118, 3=1257.84, C=220.74 |
| entene | | | | • | | 1.1033 | N/A | : NVA | 78.1100 | 0.0120 | 0.0027 | 78.11 | Option 2: A=8.005, B=1211.033, C=220.78 |
| yolohexene | | | | | | 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 |
| Shyberzene | | | | | | 0.1010 | N/A | N/A | 106.1700 | 0.0120 | 0.0002 | 106.17 | Option 2: A=6.975, 9=1424,255, C=213.21 |
| terane (-n) | | | | | | 1,8140 | N/A | N/A | 85.1700 | 0.0130 | 8400.0 | 66, 17 | Option 2: A=6.876, B=1171, 17, C=224.41 |
| sopropyl benzene | | | | | | 0.0473 | N/A | N/A | 120.2000 | 8.0016 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, C=207.78 |
| Acthyl 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 |
| laphthalene | | | | | | 0.0013 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128, 16 | Option 2: A=6.8181, B=1585.86, C=164.32 |
| tyrene | | | | | | 0.0668 | N'A | N/A | 104,1500 | 8000.0 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| oluene | | | | | | 6.3097 | N'A | NVA. | 92,1300 | 0.0600 | 0.0038 | 92_13 | Option 2: A=6.954, B=1344.9, C=218.49 |
| Inidentified Components | | | | | | 7,9104 | N/A | N/A | 62.6250 | 0.7529 | 0.9807 | 77,89 | |
| Kylenes (Mixed) | | | | | | 0.0641 | N/A | N/A | 106.1700 | 0.8700 | 0.0012 | 106,17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| ution Gasoline RVP 12.5 | Mar | 60.22 | 54.38 | 66.07 | 61.57 | 6.6772 | N/A | N/A | 63.0000 | | | \$2.50 | Option 4: RVP=12.5, ASTM 6lope=3 |
| ,2,4-TrimeBylbenzene | | | | | | 0.0206 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.15 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2.4 Trimethylpentane | | | | | | 0.5994 | N/A | N/A | 114.2300 | e.0470 | 0.0055 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| 00,2800 | | | | | | 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 |
| yclohexane | | | | | | 1,218\$ | N¥A | N/A | 84,1600 | 0.0024 | 0.0008 | 84.19 | Option 2: A=6.841, B=1201.53, C=222.65 |
| shylbenzene | | | | | | 8,1094 | N/A | N/A | 106.1700 | 0.0120 | 0.0000 | 106.17 | Option 2: A=0.975, B= 1424.255, C=213.21 |
| enerce (-n) | | | | | | 1.9242 | N/A | N/A | 88.1700 | 0.0130 | 0.0049 | 66.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| lapropyl bantene | | | | | | 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 |
| fethyl zlochol | | | | | | 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 |
| laphthalene | | | | | | 0.0015 | NVA | N/A | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.86, C=164.32 |
| Хутепе | | | | | | 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 8.2582 | N/A N/A | N/A N/A | 92,1300 62,6168 | 0.0600 0.7529 | 0.0039 0.9203 | 92.13 77.89 | Option 2: A=6.954, B=1344.8, C=218.48 |

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TANKS 4.0 Report

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| Xylenes (Wixed) | | | | | | 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 |
|----------------------------|-----|-------|--------|-------|-------|--------|------|-----|----------|--------|----------|--------------|---|
| Equiton Gasoline RVP 12.5 | Apr | 63.26 | \$5.98 | 70.54 | 61.57 | 7.0675 | N/A | N/A | 63.0000 | | | 82.50 | Option 4; RVP=12.5, ASTM Slope=3 |
| 1,2,4-Trimethylbenzene | | | | | | 9.0233 | 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 |
| Benzone | | | | | | 1.2775 | N/A | N/A | 78.1100 | 0.0120 | 0.0029 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1.3224 | N/A | N/A | 84.1600 | D.0024 | 0.0006 | 84,18 | Option 2: A=6.041, B+1201.53, C=222.65 |
| Ethylberzene | | | | | | 0.1215 | N/A | N/A | 106.1700 | 9.0128 | 0.0003 | 105.17 | Option 2: A=6.975, B=1424,255, C=213.21 |
| Hexane (-n) | | | | | | 2.0815 | N/A | N/A | 86.1700 | 9.0130 | 0.0050 | 66.17 | Option 2: A=8.878, 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 etochol | | | | | | 1.5969 | N/A | N/A | 32.0400 | 9.0014 | 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=6.6101, B=1585.85, 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 | 9,0600 | 0.0041 | 82,13 | Option 2: A=6.954, B=1344.B, C=219.48 |
| Unidenched 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=1452.266, C=215.11 |
| Equion Gasoino RVP 5.99 | May | 67.10 | 58.63 | 75.36 | 61.57 | 3.3850 | N/A | N'A | 68,0000 | 0.00 | 0.0010 | 62.50 | Option 4; RVP=5.99, ASTM Slope=3 |
| 1,2,4-TrimeTrybenzene | | 07.10 | 30.00 | .0.00 | 0127 | 0.0270 | N/A | N'A | 120,1900 | 0.0240 | 0.0002 | 120.19 | Option 2; A=7.04383, B=1573.267, C=206.56 |
| 2,2,4-Trimethylpectane | | | | | | 0.7284 | Ň/A | N'A | 114,2300 | 0.0470 | 0.0123 | 114.23 | Option 2; A=6.8118, B=1257.84, C=220.74 |
| | | | | | | | N/A | N/A | 78,1100 | 0.0120 | 0.0123 | 78.11 | Option 2: A=6.905, B= 1211.033, C=220.79 |
| Berzene | | | | | | 1.4173 | | | | | | 84.16 | Option 2: As6.841, B-1201.53, C=222.65 |
| Cyclohexane | | | | | | 1.4635 | N/A | N/A | 84.1600 | 0.0024 | 0,0813 | | |
| Eunyibenzene | | | | | | 0.1384 | N'A | N/A | 106.1700 | 0.0120 | 0.0006 | 105.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.2945 | N/A | N/A | B6.1700 | 0.0130 | 0.0107 | 65,17 | Option 2: A=8.878, B=1171.17, C=224.41 |
| Isopropyi benzene | | | | | | 0.0664 | N/A | N/A | 120.2000 | D.0015 | 0.0000 | 120.20 | Option 2: A=8.963, B=1460,763, C=207.78 |
| Methyl alcohol | | | | | | 1.7968 | N/A | N/A | 32.0400 | 0.0014 | 0.0009 | 52.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphthalane | | | | | | 0.0021 | N/A | N/A | 128.1600 | 0.0030 | 0.0000.0 | 125,16 | Option 2: A=8.8101, B=1585.86, C=184.32 |
| Styrena | | | | | | 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 |
| Totuene | | | | | | 0.4103 | N/A | N/A | 62,1300 | 9.0600 | 0.0088 | 62.13 | 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 | 9.8700 | 0.0029 | 106.17 | Option 2: A=7.009, B=1452.255, C=215.11 |
| Equilon Gasoline RVP 5.99 | Jun | 70.33 | 81.45 | 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-Trimethylbenzone | | | | | | 0.0309 | N/A | N/A | 120.1900 | 9.0240 | 0.0002 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2.2.4-Trimethylpentene | | | | | | 0.7967 | N/A | N/A | 114,2300 | 9.0470 | 0.0126 | 114.23 | Option 2: A=6.8116, B=1257.84, C=220.74 |
| Benzene | | | | | | 1,5449 | N'A | N/A | 78,1100 | 0.0120 | 9.0052 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexana | | | | | | 1.5922 | NA | N/A | 84,1600 | 0.0024 | 0.0013 | 84,16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethybenzene | | | | | | 0.1542 | N/A | N/A | 106,1700 | 0.8120 | 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 | Oction 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyi borzene | | | | | | 0.0745 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Octor 2: A=6.963, B=1460.793, C=207.70 |
| Mathyl alcohol | | | | | • | 1,9820 | N/A | N/A | 32.0400 | 0.0014 | 0.0009 | 32.04 | Option 2: A=7.697, 8=1474.08, C=229.13 |
| Naphthalene | | | | | | 0.0025 | NYA | N/A | 128,1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.66, C=184.32 |
| Shrane | | | | | | D.1023 | N'A | NA | 104,1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, 8=1574.51, C=224.09 |
| Toluene | | | | | | 0.4520 | N/A | N/A | 92,1300 | 0.0600 | 0.0091 | 82.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| UnidenClied Components | | | | | | 4.3817 | N/A | NA | 67.2114 | 0.7520 | 9.9551 | 77.69 | |
| - · · · - · · · · · · | | | | | | 0.1268 | N/A | N/A | 106,1700 | 0.0700 | 0.0000 | 106_17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Xylenes (Mixed) | | | | | | | N/A | N/A | 68,0000 | 0.0700 | 0.0000 | 82.50 | Option 4; RVP=5,99, ASTM Slope=3 |
| Equilon Gasoline RVP 5.99 | Jt4 | 72.25 | 63.02 | 61.48 | 61.57 | 3.7570 | N/A | N/A | 120.1900 | 9.0240 | 0.0003 | 120,19 | Option 2: A=7.04383, B=1573.287, C=208.66 |
| 1,2,4-Trimethybenzene | | | | | | 0.0329 | | | | | 9.0127 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| 2,2,4 Trimethylpentane | | | | | | 0.8396 | NVA. | N/A | 114,2300 | D.0470 | | 78_11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Banzeno | | | | | | 1.6250 | N/A | N/A | 78,1100 | 0.6120 | 0.0063 | - | Option 2: A=6.841, B=1201.53, C=222.65 |
| Cyclohoxane | | | | | | 1.6728 | N/A | NA | 84.1600 | 0.0024 | 0.0013 | 84.18 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Elhyiberizene | | | | | | 0.1642 | N/A | N/A | 106.1700 | 0.0128 | 0.0006 | 106.17 | |
| Hexano (-n) | | | | | | 2.6088 | NA | N/A | 86_1700 | 0.0130 | 0.0119 | 86.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| Isopropyi banzena | | | | • | | 9.0798 | N/A | NA | 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 | D.0014 | 9.0009 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphthelene | | | | | | 0,0027 | N/A | N/A | 128,1600 | 0.0036 | 6.0000 | 128,16 | Option 2: A=6,8181, B=1585.88, C=184.32 |
| Styrene | | | | | | 0.1091 | N/A | N/A | 104.1500 | 9,0008 | 0.0000 | 104,15 | Option 2; A=7.14, B=1574.51, C=224.09 |
| Tolueno | | | | | | 0.4784 | N/A | N/A | 62.1300 | 0.0600 | 0.0093 | \$2.13 | Option 2: A=6.954, B=1344.6, C=219.45 |
| Unidentified Components | | | | | | 4.5501 | N/A | NA | 67.1990 | 0.7529 | 0.9544 | 77.89 | |
| Xytenes (Mixed) | | | | | | 0.1373 | N/A | NVA | 106.1700 | 0.0700 | 0.0031 | 108.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Equition Gasoline RVP 5.99 | Aug | 71.45 | 62.84 | 60.06 | 61.57 | 3.6975 | N/A | N/A | 68.0000 | | | 82.50 | Option 4: RVP=5.99, ASTM Sibpe=3 |
| 1,2,4-TrimeDylbenzono | | | | | | 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 |
| Benzane | | | | | | 1_5910 | N/A | N/A | 78.1100 | 0.0120 | 0.0063 | 78.11 | Option 2: A=6.905, 6=1211.033, C=220.79 |
| | | | | | | | | | | | | | |

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file://C:/Program Files/Tanks409d/summarvdisplav.htm

الحاجا الحارية الحجاجان بالمعام والمستر ويتعامر مصف الحار فاعر

TANKS 4.0 Report

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| Cyclohexane | | | | | | 1.6386 | N/A | N/A | 84.1600 | 0.0024 | 0.0013 | 84,15 | Option 2: A=6.841, B=1201.53, C=222.65 |
|----------------------------|-----|-------|-------|-------|-------|--------|-------|------------|---------------------|------------------|----------|-----------------|---|
| Ectyberzene | | | | | | 0.1599 | N'A | N/A | 106.1700 | 0.0120 | 0.0006 | 105.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.5576 | N/A | N/A | 86.1700 | 6.0130 | 0.0100 | 邦 17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropy! benzene | | | | | | 0.0776 | N/A | NA | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=5.953, B=1460.793, C=207.78 |
| Methyl alcohof | | | | | | 2.0494 | N/A | N/A | 32.0400 | 0.0014 | 0.0009 | 32.04 | Option 2: A=7.697, B=1474.08, C=229.13 |
| Naphtheliene | | | | | | 8.0026 | N/A | N/A | 128.1600 | 8.0030 | 0.0000 | 128.18 | Option 2: A=6.8181, B=1585.86, C=164.32 |
| Styrene | | | | | | 0.1052 | N/A | N/A | 104,1500 | 6,0008 | 0.0000 | 104,15 | Option 2: A=7,14, B=1574.51, C=224.09 |
| Tolusne | | | | | | 0.4672 | N/A | N/A | 92.1300 | 8.0600 | 0.0092 | 82.13 | Option 2: A=6.954, B=1344.8, C=219.43 |
| Unidentified Components | | | | | | 4.4790 | N/A | N/A | 67.2042 | 0.7529 | 0.9547 | 77.89 | |
| Xylenes (Mirad) | | | | | | 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 |
| Equilion Gasoline RVP 5.99 | Sep | 69.03 | 61.29 | 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 | 120.1930 | 0.0240 | 0.0002 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.58 |
| 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 | 8.0024 | 0.0013 | 84.18 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzena | | | | | | 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 |
| Haxane (-n) | | | | | | 2.4093 | N/A | N/A | 85.1700 | 0.0130 | 0.0108 | 85.17 | 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 |
| Methys alcohol | | | | | | 1.9054 | NA | 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 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.88, C=184.32 |
| Styrene | | | | | | 0.0979 | N/A | N'A | 104.1500 | 0.0009 | 0.0000.0 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Totuene | | | | | | 0.4347 | N/A | N'A | 92,1300 | 0.0600 | 0.0090 | 82.13 | Option 2: A=6.954, B=1344.9, C=218.48 |
| Unidentified Components | | | | | | 4,2696 | N/A | Ň/A | 67,2197 | 0.7529 | 0.9555 | 77,89 | |
| Xylanes (Mixad) | | | | | | 0.1233 | N/A | N/A | 106.1700 | 0.0700 | 0.0030 | 108.17 | Option 2: A=7.009, B=1462.255, C=215.11 |
| Equilon GaseEna 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 | 0.0240 | 0.0002 | 120.16 | Option 2: A=7_04383, B=1573.267, C=206.56 |
| 2,2,4-Trime:hylpentane | | | | | | 0.6800 | N/A | N/A | 114,2300 | 8.0470 | 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 | NA | 64,1600 | 8.0024 | 8.0012 | 84.18 | Option 2: A=5.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1274 | N/A | NA | 106.1700 | 6.0120 | 0.0006 | 105.17 | Option 2: A=6.975, 8=1424.255, C=213.21 |
| Herane (-n) | | | | | | 2,1564 | N'A | N/A | 88.1700 | 0.0130 | 0.0108 | 65.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| isopropyi benzena | | | | | | 0.0607 | N'A | NVA. | 120,2000 | 0.0015 | 0.0000 | 120,20 | Option 2: A=6.963, B=1450.793, C=207.78 |
| Methyl alcohol | | | | | | 1.6668 | N'A | N/A | 32.0400 | 8.0014 | 0.0009 | 32.04 | Option 2: A=7.897, B=)474.08, C=229.13 |
| Naphthalene | | | | | | 0.0016 | N/A | N/A | 129.1600 | 0.0030 | 0.0000 | 128.18 | Option 2: A=6.8181, B=1585.88, C=184.32 |
| Styrene | | | | | | 0.0644 | N/A | 1VA | 104.1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Tolueno | | | | | | 0.3808 | N/A | NVA. | 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 | 105.1700 | 6.0700 | 0_0028 | 106.17 | Option 2: A=7.009, B=1482.265, 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, 8=1573.267, C=208.56 |
| 2,2,4-Trimethylpentane | | | | | | 0.5765 | N/A | N/A | 114,2300 | 0.0470 | 0.0055 | 114,23 | Opdon 2: A=6.8118, B=1257.04, C=220.74 |
| Benzene | | | | | | 1.1317 | N/A | N/A | 76.1100 | 0.0120 | 9.0027 | 7L11 | Option 2: A=5.905, B=1211.033, C=220.79 |
| Gyclohexane | | | | | | 1.1748 | NVA . | N/A | 84.1600 | 0.0024 | 8.0006 | 64.16 | Option 2: A=8.841, B=1201.53, C=222.65 |
| Ethyloenzane | | | | | | 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 |
| Hexana (-n) · | | | | | | 1.8578 | N/A | N/A | 88,1700 | 0.0130 | 0.0049 | 25.17 | Option 2: A=6.878, B=1171.17, C=224.41 |
| Isopropyi benzene | | | | | | 0.0490 | N/A | NA | 120,2000 | 0.0015 | 0.0006 | 120.20 | Option 2: A=6.953, B=1480.793, C=207.78 |
| Atelnyl alcohol | | | | | | 1,3915 | N/A | NA | 32,0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphthalena | | | | | | 4100.0 | N/A | N/A | 128.1600 | 0.0030 | 0.000 | 129,16 | 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=224.3B |
| Toluene | | | | | | 0.3187 | N/A | N/A | 92,1300 | 0.0600 | 0.0038 | 82.13 | Option 2: A-8.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 8.0529 | N/A | NA | 62.6222 | 0.7529 | 0.9806 | 77,89 | |
| Xylenas (Mixed) | | | | | | 0.0658 | N/A | N/A | 105.1700 | 6.0700 | 0.0012 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Equion Gasoline RVP 14.0 | Dec | 54.98 | 51.51 | 58.44 | 61.57 | 8.6705 | N/A | N/A | 61,0000 | | | 82.50 | Option 4: RVP=14, ASTM Slope=3 |
| 1,2,4-TrimeTryberzene | | | | | | 0.0167 | NVA | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.58 |
| 2,2,4-Trimetryipentane | | | | | | 0.5145 | N/A | N/A | 114.2300 | 0.0470 | 0.0048 | 114.23 | Option 2: A=6.01 18, B=1257.84, C=220.74 |
| Benzene | | | | | | 1.0143 | NA | N/A | 78,1100 | 8.0120 | 0.0024 | 78.11 | Option 2: A=8.905, B=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1,0556 | NA | N/A | 84,1600 | 0.0024 | 0.0005 | 84,10 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethybenzene | | | | | | 0.0909 | N/A | N/A | 106.1700 | 0.0120 | 0.0002 | 108.17 | Option 2: A=6.975, B=1424.255, C=213.21 Option 2: A=6.976, B=1121.17, C=224.41 |
| Hexene (-n) | | | | | | 1.6765 | N/A | N/A | 86.1700 | 0.0130 | 0.0043 | 68_17 120,20 | Option 2: A=6.876, B=1171.17, C~224.41 Option 2: A=6.963, B=1460.793, C=207.78 |
| Isopropyi benzene | | | | | | 0.0423 | N/A | N¥A N/A | 120,2000 32,0400 | 0.0015 0.0014 | 0.0000 | 32.04 | Option 2: A=7,897, B=1474.08, C=229.13 |
| Methyl Blochol | | | | | | 12/2/9 | N/A | N/A | 32,0400 | 0.0014 | 0.000 | الالعد | Alian 2. Met 201 De (11 440, Oe223, (3 |

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| Naphthalene | 0.0011 | N/A | N/A | 121.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.0181, 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 |
| Tolucne | 0.2818 | N/A | N/A | 82.1300 | 0.0600 | 0.0033 | 92.13 | Option 2: A=8.954, B=1344.8, C=219.48 |
| Unidentified Components | 8.5170 | N/A | N/A | 60.6584 | 0.7529 | 0.9630 | 77,89 | |
| Xytenes (Mixed) | 0.0756 | N/A | N/A | 106.1700 | 0.0700 | 0.0010 | 105.17 | Option 2: A=7.009, B=1452.266, C=215.11 |

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

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

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| Seaf Factor A (b-mack-tryn): L0000 L0000 <th< th=""><th>Month:</th><th>January</th><th>February</th><th>March</th><th>April</th><th>May</th><th>June</th><th>July</th><th>August</th><th>September</th><th>October</th><th>November</th><th>December</th></th<> | Month: | January | February | March | April | May | June | July | August | September | October | November | December |
|--|---|-------------------|----------|----------|----------|----------|-----------------|----------------|--------------|-----------|--------------|--------------------|-------------|
| Sail February ID-match of prophyni: CACCOD CACCOD <thcaccod< th=""> CACCOD <thcacc< td=""><td></td><td></td><td></td><td></td><td>24.5143</td><td>10.6594</td><td></td><td></td><td></td><td></td><td></td><td></td><td>22.830</td></thcacc<></thcaccod<> | | | | | 24.5143 | 10.6594 | | | | | | | 22.830 |
| Value of Vapor Pressues Function: 0.154 0.1477 0.1520 0.0531 0.0774 0.0774 0.0773 0.0783 0.0777 0.1450 0.1451 Surface Terromizants (plu): 6.1858 6.3988 6.5772 7.077 3.388 3.5161 3.7570 3.5273 3.2224 8.5099 6.6 Tax submetting (plu-mole): 6.10000 6.3000 6. | | | | | | | | | | | | | 0.600 |
| Vigoo Presume (Daly Arenega Lunid Data | | | | | | | | | | | | | 0.400 |
| Surters Temperizario (pub): 6.8388 6.8388 6.6772 7.0673 3.2880 3.6161 3.7570 3.8273 3.5223 3.2224 6.5079 6.8 Virab Underki Wicking (Pub-mok): 61.0000 64.0000 46.0000 46.0000 46.0000 46.0000 64.0000 64.0000 64.0000 64.0000 64.0000 64.0000 64.0000 64.0000 64.0000 64.0000 63.000 63.000 <td< td=""><td></td><td>0.1564</td><td>0.1417</td><td>0.1500</td><td>0.1621</td><td>0.0653</td><td>0.0704</td><td>0.0736</td><td>0.0722</td><td>0.0683</td><td>0.0517</td><td>0.1450</td><td>0.155</td></td<> | | 0.1564 | 0.1417 | 0.1500 | 0.1621 | 0.0653 | 0.0704 | 0.0736 | 0.0722 | 0.0683 | 0.0517 | 0.1450 | 0.155 |
| Tra Bunner (N: 48.0000 | | | | | | | | | | | | e care | C 0 77 |
| Vipor Medicadar Wedgra (brb-mole): 61,0000 62,0000 | | | | | | | | | | | | | |
| Product Factor 1,0000 <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>61.000</td></th<> | | | | | | | | | | | | | 61.000 |
| Immedia 10000 < | | | | | | | | | | | | | 1.000 |
| Effective Column Clameter (1): 10000 < | Vilhdrawad Losses (Ib): | 61,4890 | 61.4890 | 61,4890 | 61,4890 | 61.4890 | 61,4890 | 61,4890 | 61.4890 | 61,4890 | 61.4890 | | 61,485 |
| Net Througheut (gel/mol) 15,000,00000000000000000000000000000000 | | | | | | | | | | | | | 1.000 |
| Straft Gringbage Factor (bet/1000 cc/n): 0.0015 0.0001 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 < | | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | | | | 1.000 |
| Average Grand: Liquit Density (bypa): SE000 | | | | | | | | | | | | 5,330,000,000011 | 330,000,000 |
| Tark Daments (1): 42.0000 | | | | | | | | | | | | | 5,600 |
| Construction (p) Construction (p)< | Average Organic Liquid Density (Ib/gal); | | | | | | | | | | | | 48,000 |
| Open of Vipper Prises D.0554 D.1117 D.1556 D.1117 D.1550 D.1157 D.0553 D.0773 D.0773 <thd.0773< th=""> D.0773 <thd.0773< th=""></thd.0773<></thd.0773<> | I Brik D-ameter (II): | 48.0000 | 48.0000 | 48.0000 | 48,0000 | 48.0000 | 45.0000 | 48.0000 | 48.0000 | 48.0000 | 43.0000 | 48.0000 | 40.004 |
| Vago: Mage: Laboratis: Weight (b/b-mole): 61 0000 62 0000 62 0000 62 0000 62 0000 62 0000 63 0000 53 0000 50 0000 50 0000 50 0000 50 0000 50 0000 50 0000 50 0000 50 0000 50 0000 50 0000 50 0000 60 0000 60 0000 60 0000 60 0000 60 0000 60 0000 60 0000 60 0000 60 0000 63 0000 | | 239.6678 | 224.4744 | 237.6688 | 256.8899 | | | | | | | | 239.24 |
| Product Factor: 1,0000 301,8000 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.155</td></t<> | | | | | | | | | | | | | 0.155 |
| To: Roof Fitting Loss Fact_(0-mole/yr): 301 3000 | | | | | | | | | | | | | |
| Construction Contract Contrant Contract Contract | | | | | | | | | | | | | |
| Deck Seam Langh (f): 0.0000 | Tot. Root Hitting Loss Fact (ID-mole/yr); | 301.8000 | 301-9000 | 301,8000 | 301,9000 | 301,6000 | 301,6000 | 301.8000 | 301,8000 | 301,6000 | 301,9000 | 3012000 | 301.000 |
| Deck Seam Loss per Unit Langth Croce Croe Croce Croce <t< td=""><td></td><td>0.0000.0</td><td></td><td></td><td>0.0000</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.00</td></t<> | | 0.0000.0 | | | 0.0000 | | | | | | | | 0.00 |
| Factor (b-mote/hyr); 0.0000 0.000 0.0000 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000.0 | 0.0000 | 0.00 |
| Deck Seam Length Factor(thrugf): 0,0000 48,0000 48,000 58,000 10,000 10,000 </td <td></td> | | | | | | | | | | | | | |
| Tark Damiter (ft): 40,000 | | | | | | | | | | | | | 0.00 |
| Vispon Malanzia: Weight (b/b-male): B1.0000 B3.0000 B3.000 S3.0000 B3.0000 | | | | | | | | | | | | | 48.00 |
| Product Factor: 1,0000 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>61.00</td></t<> | | | | | | | | | | | | | 61.00 |
| Roof Fitting-Status Roof Fitting-Status <throof fitting-status<="" th=""> Roof Fitting-Status</throof> | | | | | | | | | | | | | 1.00 |
| Roof Fitting/Status Quantity KFa(th-modelyr) KFa(th-modelyr) m Losses(th) Access Hatch (24-In. Diam.)/Unbolted Cover, Ungasketed 1 38.00 5.80 1.20 253.6522 Automatic Gauge Float Well/Linbolted Cover, Ungasketed 1 14.00 5.40 1.10 98.6425 Column Well (24-In. Diam.)/Stath-Up ColStating Cover, Ungask. 1 147.00 0.00 0.00 331.1571 Ledder Well (24-In. Diam.)/Stath-Up ColStating Cover, Ungask. 1 76.00 0.00 535.4883 Rool Leg or Hanger Well/Adjustatie 14 7.90 0.00 76.2760 Sample Pipe or Well (24-In, Diam.)/Stath-Up ColStating Cover 14 7.90 0.00 94.5507 | Total Losses (%): | 324.2468 | 307.3844 | 321.8379 | 342,8932 | 163,8485 | 193.3287 | 189.2813 | 196.7571 | 189,4185 | 177,1193 | 313,1007 | 323.56 |
| Roof Ficing/Status Quantity KFs(th-mode/yr) KFs(th-mode/yr) m Losses(th) Access Hatch (24-In. Diam.)/Unbolied Cover, Ungasketed 1 38.00 5.90 1.20 253.6522 Automatic Gauge Float Well/Linbolted Cover, Ungasketed 1 14.00 5.40 1.10 98.6425 Column Well (24-In. Diam.)/Stath-Up ColStating Cover, Ungask. 1 147.00 0.00 0.00 331.1571 Ladder Well (24-In. Diam.)/Stath-Up ColStating Cover, Ungask. 1 76.00 0.00 535.4883 Rool Leg or Hanger Well/Adjustatie 14 7.90 0.00 76.2760 Sample Floe or Well (24-In, Diam.)/Stath-Up ColStating Cover 14 7.90 0.00 94.5507 | | | | | | | | Real Puiza Los | Eactors | | | | |
| Automatic Gauge Final Wet/Unbotted Cover, Ungaskead 1 14.00 5.40 1.10 98.6425 Column Wet (24-In, Diam, Youth-Up ColStiting Cover, Ungaskead 1 47.00 0.00 331.1571 Ladder Weil (24-In, Diam, Youth-Up ColStiting Cover, Ungaskead 1 47.00 0.00 0.00 331.1571 Ladder Weil (24-In, Diam, Youth-Up ColStiting Cover, Ungaskeard 1 78.00 0.00 0.00 535.4853 Rool Leg to Hanger Weil/Adjustaties 14 7.90 0.00 0.00 776.2750 Sample Pipe or Weil (24-In, Diam, VSI) Fabric Sagi 10% Open 1 12.00 0.00 0.00 845507 | Roof Fining/Status | | | | Qu | antily | KFa(to-mote/yr) | | | | m | (d)seeoJ | |
| Automatic Gauge Final Wel/Unbotted Cover, Ungaskaad 1 14.00 5.40 1.10 98.6425 Column Well (24-In, Diam, Youth Up ColSitting Cover, Ungask, Ladder Weil (24-In, Diam, Youth Up ColSitting Cover, Ungask, Rool Leg or Hanger Well/Adjustatie Sample Pipe or Weil (24-In, Diam, Youth Date) 1 47,00 0.00 0.00 331.1571 Sample Pipe or Weil (24-In, Diam, Youth Date) 1 78,007 0.00 0.00 535.4853 Sample Pipe or Weil (24-In, Diam, Yoil Fabric Sagi 10% Open 14 7,90 0.00 0.00 742.7507 | Arross Hatch 24-In Diam Mitched Care | | | | | | 38.00 | | 5.90 | | | 253.6522 | |
| Column Well (24-In, Diam, VBuBh-Up ColSilting Cover, Ungask, 1 47,00 0.00 331.1571 Ledder Well (36-In, Dam, VBuBh-Up ColSilting Cover, Ungask, 1 78,00 0.00 535.4880 Rool Leg or Hanger Well/Adjustable 1 78,00 0.00 535.4880 Sample Pibe or Well (24-In, Diam, VBL Fabric Segi 10% Open 14 7,90 0.00 645507 | Automatic Gauge Final Well/Linbolted Cover. | Uncaskeled | | | | i | | | | | | | |
| adder Well (36-In. Diam.)/Sliding Cover, Ungsäkated 1 76,00 0.00 535,4880 Rool Leg or Hanger Well/Adjustable 14 7,600 0.00 0.00 762,760 Sample Piloe Well (24-In, Diam.)/Slid Fabric Segi 10% Open 1 1 12,00 0.00 0.00 84,5507 | Column Well (24-In, Diam.)/Buth-Up ColState | ng Cover, Ungask, | | | | i | | | | | | 331,1571 | • |
| Sample Pipe or Well (24-in, Diam, VSI2 Fabric Seq1 10% Open 1 1 12:00 0.00 84.5507 | adder Well (36-in: D/am.)/Sliding Cover, Ung | askned | | | | 1 | | | | | | | |
| | | | | | | 14 | | | | | | | |
| /accam Breaker (10-in, Diam, Wileinheid Mech, Actuation, Gask, 1 6.20 1.20 0.94 43.6846 | Sample Pipe or Well (24-In, Diam.)/SI3 Fabric | Seal 10% Open | | | | 1 | | | 0.00 1.20 | | 0.00 0.94 | 84.5507 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 Filting Loss | Deck Seam Loss | Total Emissions |
| Equilon Gasoline RVP 5.89 | 67.15 | 368.93 | 703.67 | 0.00 | 1,139.75 |
| 1,2,4-Trimethylbenzene | 0.02 | 8.65 | 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 | 1.19 |
| Ethylbenzene | 0.02 | 2.95 | 0.24 | 0.00 | 3.22 |
| Hexane (-n) | 0.44 | 3.20 | | 0.00 | 6.29 |
| Isopropyi benzene | 0.00 | 0.37 | 0.01 | 0.00 | |
| Methyl alcohol | 0.04 | 0.34 | 0.38 | 0.00 | |
| Naphthalene | 0.00 | 0.74 | 0.00 | 0.00 | |
| Styrene | 0.00 | 0.20 | | 0.00 | |
| Toluene | 0.35 | 14.76 | | 0.00 | |
| Unidentified Components | 88.75 | 165.18 | 930.03 | 0.00 | 1,203.96 |

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| 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 | | 2.06 | 0.00 | 3.85 |
| tsopropyl benzene | 0.00 | ·0.18 | 0.01 | 0.00 | 0.19 |
| Melinyi alcohol | 0.02 | .0.17 | 0.16 | 0.00 | 0.35 |
| Naphthalene | 0.00 | | (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 |

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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 ga/month) |
| Tank Dimensions | |
| Diameter (ft): | 48.00 |
| Volume (gallons): | 504,000,00 |
| Tumovers: | 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: | WhiteWhite |
| Roof Condition: | Good |
| Rim-Seal System | |
| Primary Seal: | Mechanical Shoe |
| Secondary Seal | Bim-mounted |
| occontrally occar | |
| Deck Characteristics | |
| Deck Fitting Category: | Typical |
| | Welderi |
| Deck Type: | maleu |

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

Quantity

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14

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

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

| icture/Component | | Month | Month | ponent Month | Month | re/Component Month | | ily Liquid Gu peratura (de | | Liquid Bulk Temp | Vaco | Pressure (| peta) | Vapor Mol. | Liquid Mass | Vapor Mass | MoL | Basis for Vapor Pressure |
|--|-------|-------|----------|--------------|---------|--------------------|-------------|-------------------------------|--------------------|------------------------|----------|-----------------|---|---------------|----------------|---------------|-----|--------------------------|
| | Month | Avg. | Min | Marc. | (deg F) | Avg. | Min. | Max. | Weight | Fract. | Fract | Weight | Calcutations | | | | | |
| inuiton Gasoline RVP 14.0 | | 55.08 | 51.49 | 58.67 | 61.57 | 8.6636 | N/A | N/A | 91_0000 | | | 82.50 | Option 4: RVP=14, ASTM Slope=3 | | | | | |
| 1,2,4-TrimeDythenzere | | | | | | 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 TrimeInvicentane | | | | | | 0.5161 | N/A | N/A | 114.2300 | 0.0470 | 0.0048 | 114.23 | Option 2; A=6.8118, 8=1257.84, C=223.74 | | | | | |
| Benzena | | | | | | 1.0172 | N/A | N/A | 78.1100 | 0.0120 | 0.0024 | 78.11 | Option 2: A=6.905, B=1211.033, C=223.79 | | | | | |
| 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 | | | | | | 6.0913 | N'A | N/A | 106.1700 | 0.0120 | 0.0002 | 106.17 | Option 2: A=5.975, B=1424.255, C=213.21 | | | | | |
| Herene (-n) | | | | | | 1.6810 | N/A | N/A | 85,1700 | 0.0130 | 0.0043 | 85.17 | 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 | | | | | |
| Wainyi alcohof | | | | | | 1.2329 | N/A | N/A | 32.0400 | 0.0014 | 0.0003 | 32.04 | Option 2: A=7.897, 8=1474.08, C=229.13 | | | | | |
| Nachthelene | | | | | | 0.0011 | N'A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.18 | Option 2: A=6.8161, B= 1585.88, C= 184.32 | | | | | |
| Shrene | | | | | | 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 | \$2.13 | Oction 2: A=6.954, B+1344.8, C=218.48 | | | | | |
| Unidentified Components | | | | | | L5331 | N'A | N/A | 60.6580 | 8,7529 | 0.9830 | 77.89 | • | | | | | |
| Kylenas (Mixad) | | | | | | 0.0759 | N"A | N/A | 106.1700 | 0.0700 | 0.0010 | 106.17 | Ondon 2: A=7.009, B=1452.256, C=215.11 | | | | | |
| aution 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 | 140 | | W | | 01.20 | 0.0188 | N/A | N/A | 120.1900 | 0.0240 | 9.0001 | 120.19 | Option 2: A=7.04383, B=1573.257, C=208.56 | | | | | |
| 2,2,4-Trimethylentane | | | | | | 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 | 79.11 | Option 2: A=6.905, B=1211.033, C=220.79 | | | | | |
| Cyclohexane | | | | | | 1.1459 | N/A | N/A | B4.1600 | 0.0024 | 0.0006 | 84.16 | Option 2: A=8.841, B=1201.53, C=222.65 | | | | | |
| Elivibenzane | | | | | | 9.1910 | NYA | N/A | 106,1700 | 0.0120 | 20000 | 106.17 | Option 2: A=8.975, B=1424.255, C=213.21 | | | | | |
| Hexane (-n) | | | | | | 1,9140 | N/A | N/A | 85.1700 | 0.0120 | 0.0048 | 84.17 | Ortion 2: A=6.876, B=1171.17, C=224.41 | | | | | |
| sopropyl berzene | | | | | | 0.0473 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, C=207.78 | | | | | |
| Nethyl 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 | | | | | |
| Veshyi zaskasi Veshifiziene | | | | | | 0.0013 | N/A | N/A | 128,1600 | 0.0030 | 0.0000.0 | 126.19 | Option 2: A=6.8191, B=1565.86, C=184.32 | | | | | |
| | | | | | | 9.0668 | | N/A | 104,1600 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.61, C=224.09 | | | | | |
| Styrene Toluena | | | | | | 9.0658 | N'A 14'A | N/A | 92,1300 | 0.0600 | 0.0038 | 92.13 | Option 2: A=6.954, B=1344.B, C=219.48 | | | | | |
| Indentified Components | | | | | | 0.3097 | N/A | N/A | 92,1300 62,6258 | 0.7529 | 0.9807 | \$2,13 77,89 | VINCE - 100,000, 0= 10112, 0-218,40 | | | | | |
| Undent Fed Components Xylanes (Mixed) | | | | | | 7.9164 | N/A | N/A | 106,1700 | 0./529 | 0.9807 | 106.17 | Option 2; A=7.009, B=1462.266, C=215.11 | | | | | |
| igudon Gasolina RVP 12.5 | Mar | 60.22 | 54.36 | 66.07 | 61.57 | 8.6772 | N/A | N/A | 63.0000 | 0.0100 | 0.0012 | 82.50 | Ontion 4: RVP=12.5. ASTM Slope=3 | | | | | |
| 1.2.4-Tranenybergene | M. S. | 00.22 | 34-30 | 00.07 | 01,37 | 0.0206 | N/A | NVA | 120,1900 | 0.0240 | 9,0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.5 | | | | | |
| 2,2,4-Trimethylpentane | | | | | | 0.5094 | N/A | N/A | 114,2300 | 0.0470 | 0.0055 | 114.23 | Option 2: A=6.8113, B=1257.84, C=220.74 | | | | | |
| 2,2,4-1153901ypestune Benzene | | | | | | 1,1749 | N/A | N/A | 78,1100 | 9.0120 | 0.0028 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 | | | | | |
| Dydohexane | | | | | | 1,1/49 | N/A | N/A | 64,1500 | 0.0024 | 0.0025 | 84.16 | Option 2: A=6.841, B=1201.53, C=222.65 | | | | | |
| Ethylbenzene | | | | | | 9,1094 | N'A | N/A | 105.1700 | 0.0120 | 0.0003 | 105.17 | Option 2: A=6.975, B=1424.255, C=213.21 | | | | | |
| Hezene (-n) | | | | | | 1.8242 | N/A | N/A | 85,1700 | 0.0130 | 0.0048 | 86.17 | Option 2: A=6.875, B=1171,17, C=224.41 | | | | | |
| • • | | | | | | 0.0515 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460,783, C=207.78 | | | | | |
| sopropyl benzene | | | | | | | N/A | N/A | 32,0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7,897, B=1474,08, C=229,13 | | | | | |
| Methyl alcohol | | | | | | 1.4520 0.0015 | N/A | N/A | 128.1600 | 0.003a | 0.0000 | 128,19 | Option 2; A=6.8191, B=1565.86, C=184.32 | | | | | |
| Naphthelene | | | | | | 0.0015 | N/A | N/A | 128.1600 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 | | | | | |
| Slyrene | | | | | | | N/A | N/A | 92,1300 | 0.0600 | 0.0039 | 92.13 | Option 2: A=8.954, B=1344.B, C=219.48 | | | | | |
| Toluene Unidentified Components | | | | | | 0.3324 8.2582 | N/A | N/A | 92,1300 62,6168 | 0.7529 | 0.9803 | 17.89 | Ofmins: weiter, Derfer D. Cas1840 | | | | | |

| Option 2: A-6.905, 8-1211, 0031, C=220.79 | 11.67 | 6300.0 | 0210.0 | 0011182 | ¥/N | AW | 01651 | | | | | | 2,2,4-Trinetivitensi Banzene |
|---|-----------------|-----------------|----------------|----------|------------|------------|---------|--------------|-------|-------|-------|------------|--|
| Option 2: A=6.0118, B=1257.84, C=220.74 | 62 M I | 12100 | 0/100 | 1145300 | V/N | V/N | 1290 | | | | | | enstnedfyrtterritT-A,S,F enstnerfyrtterritT-A,S,F |
| Option 2: A-7.04383, 8-1573.267, C-208.56 | 150119 | 6000-0 | 0+2016 | 120.1900 | Y/N | V/N | 61000 | | | | | 6 | |
| Everyoli2 NIT2A ,06.3-9VA : > notigo | 85.50 | | | 0000 99 | V/N | VAN | 5/69°C | 72.to | 90.06 | 10.53 | 5712 | 6ny | Edition Gatopos HAL 2.99 |
| Option 2: A=7,009, B=1452,256, C=215,11 | 21.901 | 1500.0 | 002010 | 00/1.801 | Y/N | ¥/N | 5261.0 | | | | | | Xylenes (Mized) |
| | 68 (L | ** \$6'0 | 6227.6 | 0861'29 | Y/N | W/N | 10551 | | | | | | Totypene Unidentified Components |
| Option 2: A-6.954, B-1344.8, C-218.48 | E1.58 | CBOULO | 0090'0 | 0001-28 | ¥/N | ¥/N | ¥817 0 | | | | | | BURLEY |
| 0122-0,12,451-8,41,7-4 2 mappi | 21.101 | 000070 | 6000.0 | 104.1500 | ¥/N | ¥/N | 1801.0 | | | | | | BURELEUGEN |
| CEAST-0.68.2621-9.1818.0-A-5 notigo | 91.821 | 0000010 | 00000 | 128,1600 | V/N | YAN | 2200'0 | | | | | | |
| CI.055-CI.00.1474.6 (728.7-4.5 0000) | +0°2C | 600010 | \$100.0 | 35.0400 | Y/N | ¥/N | 26607 | | | | | | ionoola hethelik |
| Option 2: A=6.963, B=1460.783, C=207.78 | 150.20 | 00000 | 2100.0 | 150,2000 | Y/N | AV/ | 9620.0 | | | | | | ischoold peuseue |
| 19.955-0.71,1711-8,378.3-4 -5 0000 | 21.99 | 0110.0 | 0610-0 | 0021.88 | VA | ¥/N | 2,0039 | | | | | | (-1) Hexenseue |
| Open 2: A=0.975, 8=1424.255, C=213.21 | 11.801 | 900010 | 02100 | 0021'901 | ¥/N | A'H | 0 1845 | | | | | | ersteindigt) |
| Copton 2: A-6.141, B-1201 53, C-222.65 | ar.#8 | 0.0013 | 0.0024 | 0091.98 | ¥/N | AW | 6213.1 | | | | | | euszueg |
| Option 2: A-6.905, B-1211,033, C-220,79 | 11/182 | £900'0 | 0210.0 | 0011-82 | ¥/N | ¥/N | 05291 | | | | | | |
| 47.055-0, 48.7251-8, 8118.8-4 S notio | C2-011 | 12100 | 02100 | 114,2300 | V/N | ¥/N | 960810 | | | | | | Section 1-4.2.5 |
| 02400 2. A-7,04383, B-1573, 24, C-206,56 | 61.051 | 6,0003 | 0.0240 | 120,1900 | A'N | V/N | 6200.0 | | | 7-144 | | | 0.050000000000000000000000000000000000 |
| E-acid2 Mf2A , 68.5-9VA 14 notio0 | 62.50 | | | 0000.88 | A\N | AVA | 0/5/°C | 15.18 | 84.18 | S8.69 | σu | PC . | Equipor Gession RVP 5.93 |
| 11.215-0,885.58+1-8,901.7-4.5 nobp0 | 71.301 | 0.0030 | 002010 | 0021.001 | V/N | ¥/N | 8.1266 | | | | | | Xitenes (Mited) |
| | 687 <i>11</i> | 1556.0 | 625410 | 1112,73 | ¥/N | V/N | 1185.4 | | | | | | etnencimo. beilänebinU |
| Opeon 2: A=6.054, 8=1344.0, C=219.48 | C176 | 1600'0 | 0090'6 | 9051-28 | ¥/N | ¥/N | 0.4520 | | | | | | anantoT |
| 00666 2. A-7.14, B-1574,51. C-224,00 | S1 101 | 000010 | 8000.0 | 0021.501 | V/N | ¥/N | 011053 | | | | | | Syrene |
| Cpdon 2: A=6.0191, 8=1565.66, C=164.32 | 917621 | 000070 | 00000 | 123.1600 | AW. | ¥/N | \$200.0 | | | | | | enstantigeli |
| C1.055C-2.30.111+1-8.783.7-A.15 C-229.13 | 32.04 | 6000.0 | +100.0 | 32.0400 | V/N | ¥/N | 1,9620 | | | | | | Indicate Mittail |
| 87.705-0 ,087.03+1-8 ,096.2-4 ;5 nobrO | 05.051 | 0000-6 | 5100.0 | 150 5000 | AW | ¥/N | 9+2010 | | | | | | |
| 14.455-0 .71.1711-8 .878.8-4 .5 roino | ¥1.89 | 6010.0 | 00100 | 0071.88 | AVÁ | ¥/N | 2,4880 | | | | | | |
| Option 2: A=6.975, B= 1424.255, C=213.21 | 21.901 | 900010 | 02:08 | 0021-901 | YAN | ¥/N | 2121.0 | | | | | | erestied the second sec |
| Option 2: A=8.841, 8-1201.53, C-222.65 | 91.48 | 0.0013 | •200-0 | 0091.46 | ¥/N | ¥/N | 2265"1 | | | | | | Cycloherane |
| Option 2: A=6.905, B=1211.033, C=220.79 | 11782 | Z900'0 | 0210.0 | 0011182 | VAN | ¥/N | 67751 | | | | | | Benzene |
| •T.055+0, •A.7251+8, 8118,8+4.5 hold(0) | EZ PLI | 9210.0 | 0210010 | 0052.011 | VAN | ¥/N | 1962'0 | | | | | | ອາຣາາຍຕ່ຳເວລາກ1-4.S.S |
| 82.805-0 ,T355F731-8 ,E85H0.Y-A-5 noiseO | 61 OZ1 | 2000.0 | 810540 | 120.1900 | AW. | A'N | SOE0.6 | | | | | | enstrediyiteriniT-9,5,1 |
| E-ecols MT2A, 68.2-9VR 1 notino | 62.50 | | | 0000.83 | ¥/N | ¥/N | 1919.0 | 1519 | 22.67 | 57.18 | CE.07 | art | Equipon Casoline RVP 5.99 |
| 11.215.0,65.4+145.266, C+215.11 | 21.901 | 6500.0 | 002010 | 00217901 | VAN | ¥/N | 55:10 | | | | | | Xylenes (Kized) |
| | 68°11 | 2996-0 | 625210 | 122219 | Y/N | VA | 6801" | | | | | | amenoqmoD be&mebrill |
| Option 2: A=6.954, B=1344.B, C=219.48 | C1 26 | 8900.6 | 009010 | 85.1300 | ¥/N | V/N | CO11-0 | | | | | | Towere |
| Octon 2: A-7.14, B-1574.51, C-224.09 | 51'901 | 000070 | 8000.0 | 104.1500 | A'N | ¥/N | 1160.0 | | | | | | eventis |
| \$5.481-0 ,89.2921-6 ,1918.8-4 :\$ notion | SI 621 | 000010 | 0600.0 | 0091761 | Y/N | ¥/N | 0.0021 | | | | | | ecsteringsh |
| Critich 2: A-1474 B-1474 DB, C-229.13 | 10.52 | 6000-6 | \$100.0 | 35 0400 | ¥/N | ¥/N | 8962.1 | | | | | | loricite hyritely |
| Option 2: A=6,963, 8= 1460,753, C=207,78 | 150.20 | 0.0000 | 510078 | 150,2000 | ¥/N | A'N | ¥990'0 | | | | | | ane zned horizone |
| Option 2: A=6.876, B=1171.17, C=224.41 | Z1 98 | 2010.0 | 02120 | 0021.88 | A'N | VAN | 2,2945 | | | | | | (n-) ensish |
| Option 2: A-6.575, B-1424.255, C-213.21 | 21°901 | 9000.0 | 0218-8 | 0071,301 | ¥/N | ¥/N | P361.0 | | | | | | Ellyberrere |
| Option 2: A=6.541, 8=1201,53, C=222,65 | âr.18 | £100.0 | 1,200.0 | 0091799 | ¥/N | V/N | SC91 I | | | | | | Cyclofrexane |
| Oppor 2: V=9:802' B=1211.033' C=250'79 | 11.182 | 1900.0 | 0210.8 | 001,1182 | ¥/N | ¥/N | 621111 | | | | | | Gentone |
| Option 2: A=6.8118, B=1257.64, C=220.74 | 62 ¥ L L | 62:0.0 | 021018 | 0002.001 | ¥/N | ¥/N | 1857.0 | | | | | | ensinertyrbenii1.6,5,5 |
| Option 2: A=7.04383, B=1573.267; C=206.56 | 81,851 | 5000.0 | 8 0540 | 1501800 | V/N | ¥/N | 022010 | | | | | | anasodynaami 1-1,2,1 |
| C-equila MITZA (09.249VR (4 notido | 05.58 | | | 0000.83 | ¥/N | A/H | 3-3390 | 2919 | 90°52 | 69795 | 0:'29 | ATW | Equition Casoline RVP 5.99 |
| 11.215m3,665.5341=8,600,5m4.5 nobro | 21'901 | C100 0 | 002070 | 0071.001 | ¥ЛN | V/N | 0,1013 | | | | | | Xylenes (Mired) |
| | 687 <i>1</i> ,2 | 2626-0 | 6252'0 | SH09.59 | ¥/N | ¥/N | 69CZ.6 | | | | | | emenognoù bellinebinù |
| Option 2: Am6.954, B-1344.B, C-219.48 | 61.58 | 1100.0 | 009010 | 9001.58 | ¥/N | A'N | 1596'0 | | | | | | aneutoT |
| Option 2. A.7.14, B.1574,51, C-224,09 | 21.HOT | 0000.0 | 8000.0 | 0051.101 | ¥/N | V/N | P080.0 | | | | | | energis |
| SE A81-0, 282.8821-6, r819.8-A :S nobio | 81.851 | 00000 | 00000 | 126.1600 | ¥/N | ¥/N | Tr00.0 | | | | | | ensishingsi |
| Option 2: A.7 897, B-1474,06, C-229,13 | ¥0765 | 0,0004 | 1:000 | 32,0400 | ¥/N | ¥/N | 69651 | | | | | | include hydraid |
| Option 2: A=6.963, B=1<60.793, C=207.79 | 150-50 | 000010 | 510010 | 150,2000 | ¥/N | ¥/N | 2250.0 | | | | | | enstred hydrogod |
| Option 2: A+6.876, B=1171.17, C=224.41 | 21.28 | 090010 | 061019 | 0071.38 | ¥/N | ¥/N | 2,0015 | | | | | | (U-) oceralit |
| Option 2: A=6.975, 8=1424.255, C=213.21 | 71,201 | 600000 | 0510.8 | 00211901 | ¥/N | ¥/N | 5:21.0 | | | | | | 0u82u80j/uj73 |
| Option 2: A=6.341, 8+1201.53, C+222.65 | 91'19 | 9000.0 | P200.8 | 0031.48 | A\M | ¥/N | 1 3554 | | | | | | Cydohexane |
| Option 2: A=6.905, B=1211.023, C=220.79 | 11.82 | 8200.0 | 0210.0 | 0011-82 | ¥/N | ¥/N | 5/12.1 | | | | | | ອບສະນອອ |
| 0ption 2: A=6.0116, 8=1257.54, C=220.74 | 62'91 L | <u>i</u> 500'0 | 02100 | 11-3300 | ¥/N | V/N | 6559-0 | | | | | | ensinedy/damin1.4,S.S |
| Option 2: A=7.04383, 8=1573.267, C=206.56 | 150 18 | 1000.0 | 0-20.8 | 1501300 | ¥/N | V/N | 0.0233 | | | | | | ອກອະກອດຊີ້ແຫຼຍກາກ7-4,5,1 |
| C=equis MT2A ,2.51=9VR ;h noligo | 05.58 | | | 0000759 | ¥/N | ¥/N | £290°2 | <i>LS</i> 18 | PS-02 | 66.22 | 92.09 | xtA | Equition Gasoling RVP 12.5 |
| 11.215-0, 362.5341-9, 600, T-A.5 nobp | 71.301 | £100.0 | 00/010 | 00211901 | ¥/N | ¥/N | 115010 | | | | | | (pe∞n) sauak/x |
| | | | | | | | | | | | | | |

المحافظين الالتواد يوتوك والمالة

TANKS 4.0 Report

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| Cyclohexane | | | | | | 1.6386 | N/A | N'A | 84,1600 | 0.0024 | 6.0013 | 84.16 | Option 2: A=5.841, 8=1201.53, C=222.65 |
|---|-----|--------|-------|-------|-------|--------|-------|------|----------|------------------|--------|--------|---|
| Ethybergera | | | | | | 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 |
| Hexano (-n) | | | | | | 2.5576 | N/A | N/A | 85.1700 | 0.0130 | 0.0109 | 85.17 | Option 2: A=8.876, 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, 8=1460.793, C=207.78 |
| MEDTyf alcohol | | | | | | 2.0494 | N/A | N/A | 32.0400 | 6.0014 | 0.0009 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphthelene | | | | | | 0.0026 | N/A | N/A | 128.1600 | 0.0030 | 6.0000 | 128.16 | Option 2: A=6.6181, 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 |
| Toluena | | | | | | 0.4872 | N/A | N'A | 82,1300 | 6.0600 | 0.0092 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 4,4790 | Ń'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 |
| Equilion Gasolino 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-Trimethylpeniane | | | | | | 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 |
| Berttene | | | | | | 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=6.641, 9=1201.53, C=222.65 |
| Ethylbenzene | | | | | | D.1476 | N'A | N/A | 106,1700 | 0_0120 | 0.0008 | 106.17 | Option 2: A=8.975, B=1424.255, C=213.21 |
| Hexana (-n) | | | | | | 2.4083 | N/A | N/A | 88.1700 | 6.0130 | 6.0106 | 66.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyi berizene | | | | | | 0.9712 | 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, G=229.13 |
| Nzphthalene | | | | | | 0.0023 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, 8=1585.88, 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 |
| Totuena | | | | | | 0.4347 | N/A | N/A | 92,1300 | 0.0600 | 0.0090 | 82.13 | Option 2: A=5.954, B=1344.8, C=216.46 |
| Unidentified Components | | | | | | 4,2698 | N'A | N/A | 67.2197 | 0.7529 | 6.9555 | 77,89 | |
| Xylenes (Mixed) | | | | | | 0.1233 | N'A | N/A | 106,1790 | 0.0700 | 6.0000 | 108.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| Equilon Gasofine RVP 5.99 | Oct | 64.64 | 56.13 | 71.19 | 61.57 | 3,2234 | N/A | N/A | 68.0000 | | | \$2.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trimetrythenzone | ~~~ | | 34210 | | | 0.0246 | N'A | N/A | 120,1900 | 0.0240 | 0.0002 | 120.19 | Option 2: A=7,04383, B=1573,257, C=208.55 |
| 2,2,4-TrimeTrylpentane | | | | | | 0.6900 | N/A | N/A | 114,2300 | 0.0470 | 6.0120 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| Benzene | | | | | | 1.3266 | NVA | N/A | 76.1100 | 0.0120 | 0.0000 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexana | | | | | | 1,3720 | N/A | N/A | 84,1900 | 0.0024 | 0.0012 | 64.19 | Option 2: A=6.841, B=1201.53, C+222.65 |
| Ethylbenzene | | | | | | 0.1274 | N/A | N/A | 105.1700 | 0.0120 | 0.0006 | 106.17 | Option 2: A=6.975, 8=1424.255, C=213.21 |
| Haxane (•n) | | | | | | 2.1564 | N/A | N'A | 85.1700 | 0.0130 | 0.0106 | 66.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyi benzame | | | | | | 0.0607 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, C=207.78 |
| Meshyl alcohol | | | | | | 1.6668 | N/A | NVA. | 32.0400 | 6.0014 | 0.0009 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphthelene | | | | | | 0.0016 | NA | N/A | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Styrane | | | | | | 0.0844 | NVA . | N/A | 104,1500 | 0.0006 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Tokusne | | | | | | 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 |
| Uniden/25ed Components | | | | | | 3,9117 | N'A | N/A | 67.2478 | 0.7529 | 0.9570 | 17,89 | |
| | | | | | | 0.1062 | N/A | N/A | 106.1700 | 6.0700 | 0.0028 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Xylenes (Mixed) Equilon Gasoline RVP 12.5 | Nov | 58.87 | 54,21 | 63.53 | 61.57 | 6.5099 | N/A | N'A | 63.0000 | 02.00 | | 12.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-Trimethylbenzene | | 36.67 | 39,21 | 03-33 | 01.37 | 0.0195 | N/A | N/A | 120,1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, 8=1573.267, C=208.56 |
| 2,2,4-Trimebylperize | | | | | | 0.5765 | N/A | N/A | 114,2300 | 6.0470 | 0.0055 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| | | | | | | 1.1317 | N/A | N/A | 78.1100 | 6.0120 | 0.0027 | 76.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Benzene Cyclohekane | | | | | | 1.5748 | N/A | N/A | 84,1600 | 6.0024 | 0.0006 | 04,16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzena | | | | | | 0.1043 | NVA | N/A | 106,1700 | 0.0120 | 0.0003 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| | | | | | | 1_8578 | NVA | N/A | 88,1790 | 0.0130 | 0.0049 | 66.17 | Option 2: A=0.876, B=1171.17, C=224.41 |
| Hexano (-n) | | | | | | 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 |
| Isogropyi benzene | | | | | | 1.3915 | N/A | N/A | 32.0400 | 0.0014 | 9.0004 | 32.04 | Ontion 2: A=7,897, B=1474,08, C=229.13 |
| Mothyl alcohol | | | | | | 0.0014 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 125.16 | Option 2: A=8.8181, B=1585.86, C=184.32 |
| Naphthalene | | | | | | 0.0014 | N/A | N/A | 104 1500 | 0.0008 | 0.0000 | 104.15 | Option 2; A=7.14, B=1574.51, C=224.09 |
| Styrene Totuene | | | | | | 0.3167 | N/A | N'A | 92,1300 | 6.0600 | 0.0038 | 92.13 | Option 2: A=6.954, B= 1344.8, C=219.48 |
| Unidentified Components | | | | | | 0.0529 | N/A | N/A | 62.6222 | 0.7529 | 0.9306 | 77.69 | |
| | | | | | | 0.0668 | N/A | N/A | 106.1700 | 0.0700 | 0.0012 | 105.17 | Option 2; A=7.009; B=1462.268, C=215.11 |
| Xylenes (Mixed) Equition Gasotine RVP 14.0 | Dec | 54.99 | 51.51 | 58.44 | 61.57 | 6.8705 | N/A | N/A | 61.0000 | 0.0100 | | 82.50 | Option 4: RVP=14, ASTM Slope=3 |
| • | Duc | an .30 | 16.10 | 30.44 | 51.37 | 0.0167 | N/A | NYA | 120,1900 | 0.0240 | 6.0001 | 120.18 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 1,2,4-Trimethybenzere | | | | | | 0.5145 | N/A | N/A | 114,2300 | 0.0240 0.0478 | 0.0048 | 114.23 | Option 2: A=6.81 18, B=1257.84, C=220.74 |
| 2,2,4-Trimethylpentano | | | | | | 1.0143 | N/A | NVA | 78,1100 | 0.0120 | 6.0024 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Bertzene | | | | | | 1.0558 | N/A | N/A | 84,1900 | 0.0024 | 0.0005 | 84.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Cyclotexane | | | | | | 0.0909 | N/A | N/A | 106,1700 | 0.0120 | 0.0002 | 106.17 | Ordina 2: A=8.975, B=1424.255, C=213.21 |
| Elhybenzene | | | | | | 1.6765 | N/A | N/A | 88,1700 | 0.0120 | 6.0043 | 85.17 | Option 2: A=6.876; B=1171.17; C=224.41 |
| Hexano (-n) | | | | | | 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 |
| Isopropyi benzena | | | | | | 1 7000 | N/A | N/A | 32,0400 | 0.0014 | 0.0003 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Methyl alcohol | | | | | | 1,4269 | IVA | 198 | 220-00 | | | | |

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| Naphihaisna | 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 |
|-------------------------|--------|-----|-----|----------|--------|--------|---------------|---|
| Stytene | 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 | \$2.13 | Option 2: A=6.954, B=1344.8, C=210.48 |
| Unidentified Components | 8.5170 | N/A | N/A | 60.6S84 | 0.7529 | 8.9830 | <i>11.</i> 89 | |
| Xylenes (Mixed) | 0.0756 | N/A | N/A | 106.1700 | 0.0700 | 0.0010 | 106.17 | Option 2: A=7.009, B=1462.258, C=215.11 |

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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 | Qecembe |
|---|------------------|----------|----------|------------------|--------------|-----------------|------------------|---------------|-----------|----------|----------------|-------------------|
| tim Seal Losses (1b): | 22,8900 | 21.4210 | 22.5801 | 24,5143 | 10.6594 | 11.4851 | 12.0037 | 11.7838 | 11.1445 | 10.0731 | 21.9190 | 22.830 |
| Seal Factor A (b-mole/1-yr): | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | | 0.6000 | 0003.0 | 0.6000 | 0.6000 | 0.600 |
| Seal Factor B (D-motern-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 | 0.400 |
| Value of Vapor Pressure Function: Vapor Pressure at Daily Average Liquid | 0.1564 | 0.1417 | 0.1500 | 0.1621 | 0.0653 | 0.0704 | 0.0736 | 0.0722 | 0.0683 | 0.0617 | 0.1450 | 0.155 |
| Surface Temperature (psia): | 6_6836 | 6.3968 | 6.6772 | 7.0673 | 3.3880 | 3.6161 | 3.7570 | 3.6975 | 3.5226 | 3.2234 | 6.5099 | 6.870 |
| Tank Diameter (ft): | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48,0000 | | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48.000 |
| Vapor Molecular Weight (Ib/Ib-mole): | 61,0000 | 68.0000 | 63.0000 | 63.0000 | 68.0000 | 68.0000 | | 68.0000 | 68.0000 | 68.0000 | 63.0000 | 61.000 |
| Product Factor: | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Vithdrawel Losses (Ib): | 30.3233 | 30.3233 | 30.3233 | 30.3233 | \$0.3233 | 30.3233 | | 30.3233 | 30.3233 | 30.3233 | 30.3233 | · 30.323 1.000 |
| Number of Columns: | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Effective Column Diameter (II): | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | | | |
| Net Throughout (gal/mo.): | 7,550,000,0000 7 | | | | 550,000.0000 | 7,560,000,000 | 0.0015 | 7,560,000,000 | 6.0015 | 0.0015 | 2,560,000,0000 | 1,580,000.000 |
| Shell Clingage Factor (bbl/1000 soft): | 0.0015 5.6000 | 0.0015 | 0.0015 | 0.0015 5.6000 | 0.0015 | 0.0015 | | 5.6000 | 5.6000 | | 5.6000 | 5.600 |
| Average Organic Liquid Density (Ib/gal): | | 5.6000 | 5.6000 | | | | | 48,0000 | 48,0000 | | 48.0000 | 48.000 |
| Terris Diameter (1): | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48.0000 | <610000 | +8.000 | 40.000 | 48.0000 | | | |
| Deck Fitting Losses (Ib): | 239.6578 | 224,4744 | 237.6688 | 256,8899 | 111.7012 | | | 123,4843 | 116 7850 | | 229.6927 | 239.24 |
| Value of Vapor Pressure Function: | 0.1554 | 0.1417 | 0.1500 | 0.1621 | 0.0653 | 0.0704 | | 0.0722 | 0.0683 | | 0.1450 | 0.155 |
| Vapor Molecular Weight (Ib/Io-mole): | 61.0000 | 63.0000 | 68.0000 | 63.0000 | 68.0000 | | | | 68,0000 | | 63.0000 | 61.000 |
| Product Factor: | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | 1.0000 | 1.0000 | | 1.0000 | 1.000 |
| Tol. Roof Fitting Loss Fact (to-mole/yr): | 301,8000 | 301.6000 | 301.8000 | 301,0000 | 301.8000 | 301.8000 | 301,8000 | 301_6000 | 301.8000 | 301.8000 | 301.8000 | 301.60 |
| Deck Seam Losses (b): | . 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | | . 0.0000 | | | |
| Deck Seam Length (ft): Deck Seam Loss per Unit Length | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.0000 | 0.0000 | 0.0000 | 0.00 |
| Factor (b-mola/t-vrt): | 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(1/soft); | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | |
| Tank Diameter (II): | 48,0000 | 48,0000 | 48.0000 | 48,0000 | 48.0000 | 48.0000 |) 48.0000 | 48.0000 | 48.0000 | 48.0000 | | |
| Vapor Molecular Weight (Ib/Ib-mole): | 61.0000 | 63.0000 | 63.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68,0000 | | | |
| Product Factor; | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 |) 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.00 |
| Total Losses (b): | 293.0611 | 276.2188 | 290.6723 | 311.7276 | 152.6839 | 162.1630 | 0 168.1156 | 165.5915 | 158.2528 | 145,9537 | 281.9350 | 292.39 |
| · · · · · · · · · · · · · · · · · · · | | | · | | | | Acol Fiting Loss | Factors | | | | |
| Root Fitting/Status | | | | Quant | ty i | (Fa(b-mole/yri) | KPb(b-mole(y | | | m | Losses(b) | |
| | · | | | | | 36.00 | | 5.90 | | 1.20 | 253,6522 | |
| Nocens Harry (24-in, Diam.)/Unbolied Cover, Ung Automatic Gauge Float Well/Unbolied Cover, Unc | iter cupo | | | | - | 14.00 | | 5.40 | | 1.10 | 98.8425 | |
| Column Well (24-In, Diam.)/Buil-Up Col-Sitting (| | | | | ; | 47.00 | | 0.00 | | 0.00 | 331,1571 | |
| adder Well (36-In, Diam, VSIding Cover, Ungesh | | | | | i | 76.00 | | 0.00 | | 0.00 | 535,4880 | |
| loof Leg or Hanger Well/Adjustable | | | | | 4 | 7.90 | | 0.00 | | 0.00 | 779.2760 | |
| anole Pipe or Well (24-in, Diam.)/Sia Fabric Set | d 10% Open | | | | 1 | 12.00 | | 0.00 | | 0.00 | 84.5507 | |
| Actum Breaker (10-in, Diam, Weighted Mach, / | | | | | 1 | 6.20 | | 1.20 | | 0.94 | 43.6846 | |

TANKS 4.0.9d

Emissions Report - Detail Format

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Individual Tank Emission Totals

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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 |
| Нехале (-л) | 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 |
| Totuene | 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 | 9.02 | 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 | |
| Methyl alcohol | 0.04 | 0.17 | 0.38 | 0.00 | 0.58 |
| Naphthalene | 0.00 | 0.36 | 0.00 | 0.00 | |
| Styrene | 0.00 | 0.10 | 0.01 | 0.00 | |
| Toluene | 0.35 | 7.28 | 3.71 | 0.00 | |
| Unidentified Components | 68.75 | 91.32 | 930.03 | 0.00 | 1,110:10 |

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| Xylenes (Mixed) | 0.11 | 8.49 | 1.19 | 0.00 | 9.78 |
|----------------------------|-------|-------|--------|-------|--------|
| Equilion 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 | 0.64 |
| Hexano (-n) | 0.20 | 0.79 | 2.06 | 0.00 | 3.04 |
| isopropyi 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 |

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

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

Identification

| Deck Fitting/Status | |
|--|---|
| Deck Characteristics Deck Fitting Category: Deck Type: | Typical Walded |
| | |
| Secondary Seal | Rim-mounted |
| Rim-Seal System Primary Seal: | Mechanical Shoe |
| Roof Condition: | Good |
| Roof Color/Shade: | White/White |
| Shell Condition | Good |
| Shell Color/Shade: | White |
| Paint Characteristics Internal Shell Condition: | Light Rust |
| Eff. Col. Diam. (ft): | 1.00 |
| No. of Columns: | 1.00 |
| Self Supp. Root? (y/n): | N |
| Turnovers: | 365.00 |
| Volume (gallons): | 504.000.00 |
| Fank Dimensions Diameter (It): | 48.00 |
| Description: | Storing gasoline with maximum daily throughput (1 turnover/day) |
| Type of Tank: | Internal Floating Root Tank |
| Company: | Shell Oil Products US |
| State: | California |
| User identification: City: | Stockton Tank 19 - max daily throughput Stockton |

Access Hatch (24-in. Diam.)/Unboited Cover, Ungasketed Automatic Gauge Float Well/Unboited Cover, Ungasketed Column Well (24-in. Diam.)/Built-Up Col.-Silding Cover, Ungask. Ladder Well (36-in. Diam.)/Silding Cover, Ungasketed Roof Leg or Hanger Well/Adjustable Sample Pipe or Well (24-In. Diam.)/Silt Fabric Seal 10% Open Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuallon, Gask.

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

Page 1 of 41

ElevilCirDrogrom Silon Maples 400 daummary diantary htm.

Quantity

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

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

| | | | ily Liquid Si peratura (di | | Uquid Buik Temp | Vera | r Pressure i | (neta) | Vapor Mol | Uquid Mass | Vapor | 14-1 | Desis for Manual Descar |
|-------------------------|-------|-------|-------------------------------|-------|-----------------------|--------|--------------|----------------|--------------|---------------|---------------|----------------|---|
| Aixture/Component | Month | Avg. | Min. | Max. | (deg F) | Avg. | Min. | (рала) Мах. | Weight, | Fract. | Masa Fract | Mai, Weight | Basis for Vapor Pressure Calculations |
| quilon Gascine 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-Trimestylpentane | | | | | | 0.5161 | N/A | N/A | 114,2300 | 0.0470 | 0.0043 | 114.23 | Option 2: A=0.8118, B=1257.04, C=220,74 |
| Icnzeno | | | | | | 1.0172 | N'A | 1VA | 78,1100 | 0.0120 | 9.0024 | 78.11 | Option 2: A=6.935, B=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1.0585 | N'A | N/A | 84,1500 | 0.0024 | 0.0005 | 64.16 | Option 2: A=0.641, B+1201.53, C-222.65 |
| Ethylbenzene | | | | | | 9.0913 | N/A | N/A | 106,1700 | 0.0120 | 0.0002 | 105.17 | Option 2: A=5.975, B=1424.255, C=213.21 |
| lazane (-n) | | | | | | 1.5810 | N'A | ₩A | 85.1700 | 0.0130 | 0.0043 | 85.17 | Option 2: A=5.878, B=1171.17, C=224,41 |
| sopropyl benzene | | | | | | 9.0424 | N'A | N'A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=5.963, B=1450,793, C=207.7B |
| Asthyl alcohol | | | | | | 1,2329 | N/A | N/A | 32.0400 | 9.0014 | 9.0003 | 32.04 | Option 2: A=7.897, 9=1474.03, C=229.13 |
| taphthalene | | | | | | 0.0011 | N/A | N'A | 128.1600 | 9,0000 | 0.0000 | 128.15 | Option 2: A=6.8181, B=1585.85, C=184.32 |
| Striene | | | | | | 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 |
| duene | | | | | | 0.2827 | N'A | N/A | 92.1300 | 0.0600 | 0.0033 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.45 |
| Inidani Ded Componenta | | | | | | 8.5331 | N/A | N/A | 0323.00 | 0.7529 | 0.9830 | 77.89 | |
| (ylanes (Mixad) | | | | | | 0.0759 | N¥A | N/A | 105.1700 | 0.0700 | 0.0010 | 105.17 | Ontion 2: A=7.009, 9=1482.268, C=215.11 |
| ution Gasobne RVP 12.5 | Feb | 57.96 | 53.17 | 62,75 | 61.67 | 8.3938 | N/A | N/A | 63.0000 | 0.0700 | 0.0070 | 82.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 2.4-Trimetrybenzene | | | | | | 0.0188 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.15 | Option 2: A=7.04383, B=1573.287, C=208.56 |
| 2.4-Trimetryloentane | | | | | | 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 |
| lenzen4 | • | | | | | 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 |
| Volonezane | | | | | | 1,1459 | N/A | N/A | 84.1600 | 0.0024 | 0.0006 | 84.16 | Option 2: A=6.841, 9=1201.53, C=222.65 |
| lindonzana | | | | | | 0.1010 | NVA | N/A | 106,1700 | 0.0120 | 9.0002 | 106.17 | Option 2: A=6.975, B=1424,255, C=213,21 |
| lexane (-n) | | | | | | 1.8140 | N/A | N/A | 85,1700 | 0.0130 | 0.0048 | 85.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| sapropyl benzene | | | | | | 9.0473 | N/A | N/A | 120,2000 | 0.0015 | 9.0000 | 120.20 | Option 2: A=6.963, B=1450.783, C=207.78 |
| iethyl alcohol | | | | | | 1.3519 | ÍVA | N/A | 32.0400 | 0.0014 | 0.0004 | 32.04 | Option 2; A=7.897, B= 1474.09, C=229.13 |
| vischihatene | | | | | | 0.0013 | N/A | N/A | 126,1603 | 0.0030 | 0.0000 | 128_18 | Option 2: A=6.81B1, 9=1585.86, C=184.32 |
| iyrene | | | | | | 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 |
| Toluane | | | | | | 0.3097 | N/A | N/A | 82,1305 | 9.0600 | 0.0033 | 92,13 | Option 2: A=6.954, B=1344,8, C=219.48 |
| Internation Components | | | | | | 7.6164 | N/A | N/A | 62.6258 | 9,7529 | 0.9807 | 77_89 | |
| Kylenas (Mixed) | | | | | | 5.0841 | N'A | N/A | 106.1700 | 9.5700 | 9.0012 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| ullon Gasoline RVP 12.5 | Mar | 60.22 | 54.36 | 86.07 | 61.57 | 8.6772 | N/A | N/A | 63.0000 | | | 82.50 | Option 4: RVP+12.5, ASTM Slope-3 |
| 2.4-Trime#ybenzene | | - | - | | | 0.0206 | N/A | N/A | 120,1900 | 0.6240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.5 |
| 2,2.4 Trimethylipeniana | | | | | | 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 |
| lenzene | | | | | | 1,1749 | N/A | N/A | 78,1100 | 0.0120 | 0.0025 | 78.11 | Option 2: A=0.905, B=1211.033, C=229.79 |
| Cyclohexane | | | | | | 1,2186 | N/A | N/A | 84,1600 | 9.0024 | 0.0006 | 84,16 | Option 2: A=6.641, B=1201.53, C=222.65 |
| inylanzene | | | | | | 0.1094 | N'A | N/A | 106.1700 | 0.0120 | 0.0003 | 108.17 | Option 2: A-8.975, B+1424,255, C=213.21 |
| texane (-n) | | | | | | 1.9242 | N/A | N/A | 86.1700 | 0.0130 | 0.0049 | 86.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| sopropyl benzene | | | | | | 0.0515 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=5.963, B=1460.793, C=207.78 |
| Activi 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 |
| Naphinciene | | | | | | 0.0015 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, 8+1585.68, 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=5.954, B=1344.8, C=219.48 |
| Unider#lied Components | | | | | | 8.2582 | N/A | N'A | 62.6168 | 0.7529 | 0.9803 | 77,89 | |

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TANKS 4.0 Report

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|---|-------|-------|-------|-------|-------|---------------|-----|------|----------|------------------|------------------|-----------------|---|
| Xylencs (Mixed) Equilion Gasoline RVP 12.5 | • • • | | | _ | | 0.0911 | N/A | N/A | 106.1700 | 0.0700 | 0.0013 | 106.17 | Option 2: A=7.009, 8=1462.268, C=215.11 |
| • | Apr | 63.26 | 55.9B | 70.54 | B1_57 | 7.0673 | N/A | N/A | 63.0000 | | | 82.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-TrimeDybenzene | | | | | | 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 | 8.0470 | 0.0057 | 114.23 | Option 2: A=8.8118, 8=1257,84, C=228.74 |
| Benzene | | | | | | 1.2775 | N/A | N/A | 78.1106 | 8.0120 | 0.0029 | 78.11 | Option 2: A=5.905, B=1211.033, C=220.79 |
| Cyclohavane | | | | | | 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 |
| Elhylbenzene | | | | | | D.1215 | N/A | N/A | 105.1700 | 6.0120 | 0.0003 | 108.17 | Option 2: A=6.975, B= 1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.0815 | N/A | N/A | 66.1700 | 8.0139 | 0.0060 | ES.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| hopropyl benzane | | | | | | 0.0577 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Op5on 2: A=6.963, B=1460.793, C=207.78 |
| Methyl alcohol | | | | | | 1.5963 | N/A | N/A | 32.0400 | 0.0014 | 8,0004 | 32.04 | Option 2: A=7_897, B=1474.08, C=229.13 |
| Naphthalene | | | | | | 0.0017 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 125,16 | Option 2: A=6.8181, 8=1585.86, C=184.32 |
| Styrene | | | | | | 0.0804 | N/A | N/A | 104.1500 | 0.0005 | 0.0000 | 10415 | Oction 2; A=7.14, 8=1574.51, C=224.09 |
| Toluane | | | | | | P.3651 | N/A | 1J/A | 92.1300 | 0.0500 | 0.0041 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 8,7363 | N/A | NA | 62.6045 | 0.7529 | 0.9797 | 77.89 | • |
| Xylenes (Mixed) | | | | | | 0,1013 | N⁄A | N/A | 108,1706 | 0.0700 | 0.0013 | 108.17 | 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 | NVA | N/A | 68.0000 | | | 82 50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trimethybenzens | | | | | | 0.0270 | ŃA | N/A | 120,1900 | 0.0240 | 0.0002 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2,2,4-Trimethylpeniane | | | | | | 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 |
| Benzane | | | | | | 1,4173 | N/A | N/A | 78.1106 | 0.0120 | 0.0061 | 78,11 | Option 2: A=6.905, 8=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1,4635 | N'A | N/A | 84,1600 | 8.0024 | 0.0013 | 84.16 | Option 2: A=6.641, B=1201.53, C=222.65 |
| Ethylbenzena | | | | | | D.1384 | N/A | NA | 106.1700 | 0.0120 | 0.0006 | 106.17 | Option 2: A+6.975, B=1424.255, C+213.21 |
| Hezane (-n) | | | | | | 2.2945 | N/A | N/A | 56,1706 | 0.0130 | 0.0107 | 86.17 | Option 2: A=6.876, 8=1171,17, C=224.41 |
| hopropyl benzana | | | | | | 0.0664 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, C=207.78 |
| Methyl sicohol | | | | | | 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 | 8.0038 | 6.0000 | 129, 16 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Shyrene | | | | | | 0.0917 | N/A | N/A | 104,1500 | 8,0008 | 0.0000 | 104,15 | Option 2: A=7,14, B=1574.51, C=224.09 |
| Toluene | | | | | | | N'A | N/A | 92,1300 | 0.0000 | 0.0000 | 92.13 | Option 2: A=6.954, B=1344.0, C=219.48 |
| Unidentified Components | | | | | | 0.4103 | N/A | N/A | | | | 77.89 | Opadi 2: And 334, Dr (3442), Or218,40 |
| , | | | | | | 4,1069 | N/A | N/A | 87.2221 | 0.7529 0.0700 | 0.9562 0.0029 | 106.17 | Option 2: A=7.009, B=1462.256, C=215.11 |
| Xylenes (Mixed) | • | | | | | 0.1155 | N/A | | 106,1700 | 00/00 | 0.0029 | 100.17 82.50 | Option 4; RVP=5.99, ASTM Slope=3 |
| Equilan Occorre RVP 5.89 | አጣ | 70.33 | B1.45 | 79.22 | 91.57 | 3.6161 | | N/A | 68.0000 | | 0.0002 | 120.19 | • |
| 1,2,4-Trimethytoenzene | | | | | | 0.0308 | N/A | N/A | 120.1900 | 6.0240 | | | Option 2: A=7.04363, B=1573.267, C=205.56 |
| 2,2,4-Trimelbytpentane | | | | | | 0.7967 | N/A | N/A | 114,2300 | 0.0470 | 0.0126 | 114.23 | Option 2: A=6.6118, B=1257.84, C=220.74 |
| Benzane | | | | | | 1.5449 | N/A | N/A | 79.1100 | 0.0120 | 0.0062 | 78.11 | Option 2: A=6.905, B=1211.030, C=220.79 |
| Cyclohexane | | | | | | 1.5922 | N/A | N/A | B4.1600 | 9.0024 | 0.0013 | 64.16 | Option 2: A=6.841, B=1201.53, C=222.85 |
| Elhyberzene | | | | | | 8.1542 | N/A | N/A | 105.1700 | 0.0120 | 0.0008 | 106,17 | Option 2: A=5.975, B=1424.255, C=213.21 |
| Havane (-n) | | | | | | 2.4680 | N/A | N/A | 86.1700 | 0.0130 | 0.0109 | 65.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropy) benzene | | | | | | 0.0746 | N/A | tua | 120.2000 | 6.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1450.783, 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 |
| Nachthalene | | | | | | 0.0025 | N/A | N/A | 128.1900 | D.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, 8=1585.86, C=184.32 |
| Styrene | | | | | | 0.1023 | N/A | N/A | 104.1500 | 6.0008 | B.0000 | 184.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluene | | | | | | 0.4520 | N/A | NYA | 92.1300 | 0.0600 | 9.0091 | 92.13 | Option 2: A=6.954, B=1344.8, C=218,48 |
| Unidentified Components | | | | | | 4.3817 | N/A | N/A | 67.2114 | 0.7529 | 0.9551 | 77.89 | |
| Xylenes (Mixed) | | | | | | 6.1288 | NVA | N/A | 106.1700 | 6.0700 | 0.0030 | 106.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| Equilon Gasoline RVP 5.99 | Jul | 72,25 | 63.02 | 61.48 | 61.57 | 3.7570 | N/A | NYA | 68,0000 | | | 82.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0329 | N/A | NA | 120.1900 | 0.0240 | 0.0003 | 120,19 | Option 2: A=7.04383, B=1573.287, C=208.56 |
| 2,2,4-Trimothylpontane | | | | | | 0.8398 | N/A | N/A | 114,2300 | 6.0470 | 0.0127 | 114.23 | Option 2: A=8.8118, 8=1257.84, C=220.74 |
| Benzene | | | | | | 1.6250 | N/A | N/A | 78.1100 | 6.0120 | 0.0063 | 76.11 | Option 2: A=6.905, B=1211.833, C=220.79 |
| Cycloherane | | | | | | 1.6728 | N/A | N/A | 84,1600 | B.0024 | 0.0613 | 84.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1642 | N/A | N/A | 106.1700 | 0.0120 | 8.0006 | 106.17 | Option 2: A=8.975, 9=1424.255, C=213.21 |
| Hetarw (-n) | | | | | | 2.6088 | N/A | N/A | 66.1700 | <i>e</i> .0130 | 0.8110 | 68.17 | Option 2; A=5.876, 8=1171.17, C=224.41 |
| Isopropyl benzena | | | | | | 0.6795 | N/A | N/A | 120.2000 | 0.0015 | 0.0006 | 120.20 | Option 2: A=8.963, 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 | 8.0030 | 0.0000 | 128.16 | Option 2: A=6.9181, B=1585.28, C=164.32 |
| Slymone | | | | | | 0.1091 | N/A | N/A | 104.1500 | 0.0008 | 8.0006 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluene | | | | | | 5.4764 | N/A | N/A | 92.1300 | 0.0600 | 6.0093 | 92,13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 4.5501 | N/A | N/A | 87.1990 | 0.7529 | 6.9544 | 77 E9 | |
| Xylenes (Mired) | | _ | | | | 0.1373 | N'A | N/A | 106.1700 | 8.0700 | 6.0031 | 106.17 | Opdon 2: A=7.009, B=1452.268, C=215.11 |
| Equilon Gasoline RVP 5.99 | Aug | 71,45 | 62.64 | 80.06 | 61.57 | 3.6975 | N/A | N/A | 68.0000 | | | 82.50 | Option 4: RVP-5.99, ASTM Slope+3 |
| 1,2,4-Trimetryberzene | | | | | | 6.0318 | N/A | N/A | 120.1900 | 0.0240 | 6.0003 | 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 | 6.0127 | 114.23 | Option 2: A=6.8118, 8=1257,84, C=220,74 |
| Genzene | | | | | | 1.5918 | N'A | N/A | 78.1100 | 9,0120 | 0.0063 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.78 |
| | | | | | | | | | | | | | |

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|---------------------------|-----|-------|---------|-------|-------|--------|-----|-----|----------|--------|--------|--------|---|
| Cyclohexane | | | | | | 1.6388 | N/A | N/A | 84,1600 | 8.0024 | 0.0013 | 84.16 | Option 2: A=6.841, 8=1201.53, C=222.65 |
| Einyborzene | | | | | | 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 |
| Havene (-n) | | | | | | 2.5576 | N/A | N/A | 85.1700 | 0.0130 | 0.0109 | 65.17 | 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=5.953 B=1450,793, C=207.78 |
| Methyl alcohol | | | | | | 2.0494 | N/A | N/A | 32.0400 | 0.0014 | 0.0009 | 32.04 | Option 2: A=7.297, 8=1474.08, C=229.13 |
| Naphthalene | | | | | | 0.0028 | N/A | N/A | 128,1600 | 8.0030 | 0.0000 | 129.16 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Styrene | | | | | | 0.1052 | Ň/A | N/A | 104,1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C+224.09 |
| Taluena | | | | | | 0.4572 | N/A | N/A | 92.1300 | 0.0600 | 0.0092 | 52.13 | Option 2: A=6.954, 8=1344.8, C=218.48 |
| Unidentified Components | | | | | | 4.4790 | N/A | N/A | 67.2042 | 0.7529 | 0.9547 | 77.89 | • |
| Xylenes (Mixed) | | | | | | 0.1337 | Ń/Ă | N/A | 106,1700 | 0.0700 | 0.0031 | 106.17 | Option 2: A=7.009, B=1462.256, C=215.11 |
| Equilon GasoEne 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+S.99, ASTM Slope-3 |
| 1.2.4-Trimetrybenzene | | | | | | 0.0291 | N/A | N/A | 120,1900 | 0.0240 | 0.0002 | 120.19 | Option 2; A=7.04383, B=1573.267, C=203.56 |
| 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 |
| Bonzene | | | | | | 1.4923 | N/A | N/A | 79.1100 | 0.0120 | 0.0062 | 78.11 | Option 2; A=6.905, B=1211.033, C=220.79 |
| Cycloherane | | | | | | 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 |
| Elhylpenzene | | | | | | 0.1476 | N/A | N/A | 106.1700 | 0.0120 | 0.0006 | F06,17 | Option 2: A=6.975, 9=1424.255, C=213.21 |
| Haxane (-n) | | | | | | 2,4063 | NA | N/A | 88.1700 | 0.0130 | 0.0108 | 65.17 | Option 2; A=6.876, B=1171.17, C=224.41 |
| Isopropyl benzane | | | | | | 0.0712 | N/A | N/A | 120.2000 | 8.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1450.793, 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 |
| Naphthalere | | | | | | | N/A | N/A | | | | | · |
| Siyrene | | | | | | 0.0023 | | | 128,1600 | 0.0030 | 0.0000 | 125.16 | Option 2: A=5.8181, B=1585.86, C=164.32 |
| • | | | | | | 0.0979 | N/A | N/A | 104,1500 | 8000.0 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| | | | | | | 0.4347 | N/A | ₩A | 82.1300 | 0.0600 | 0.0090 | 82.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentilled Components | | | | | | 4.2598 | N/A | N¥Ă | 67.2197 | 0.7529 | 0.9555 | 77,69 | |
| Xylenes (Mixed) | _ | | | | | 0.1233 | N/A | N/A | 106.1700 | 0.0700 | 0.0030 | 108.17 | Option 2: A=7.009, B=1452.266, C=215.11 |
| Equilon Gasoline RVP 5.09 | Oci | 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-Trimetrybanzena | | | | | | 0.0246 | N'A | N/A | 120.1900 | 0.0240 | 0.0002 | 120.19 | Option 2: A=7,04383, B=1573,297, C=208.5t |
| 2,2,4-Trimethylcentane | | | | | | 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 | 0.8120 | 0300.0 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1.3720 | N/A | N/A | 84.1600 | 8.0024 | 0.0012 | 64.16 | Option 2: A=5.841, 8=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 (-o) | | | | | | 2.1564 | N/A | N/A | 66.1700 | 0.0130 | 8.0108 | \$6.17 | Option 2: A=6.878, 9=1171,17, C=224.41 |
| Isopropyl benzena | | | | | | 0.0607 | N/A | N/A | 120.2000 | 6.0015 | 8.0000 | 120.20 | Option 2: A=6.953, 8=1460,793, C=207.78 |
| Methyl alcohol | | | | | | 1,6668 | N/A | N/A | 32.0400 | 0.0014 | 8.0009 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naprthalene | | | | | | 0.0019 | N/A | N/A | 128.1600 | 0.0030 | 8.0000 | 128.16 | 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 |
| Toluena | | | | | | 0,3809 | N/A | N/A | 92,1300 | 0.0900 | 0.0065 | 62.13 | Option 2: A+6.954, 8+1344.8, C=216.40 |
| Unidentified Components | | | | | | 3.9117 | N/A | N/A | 57.2478 | 0.7529 | 8.9570 | 77.89 | |
| Xylenes (Mixed) | | | | | | 0.1062 | N/A | N/A | 108,1700 | 8.8700 | 0.6028 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Equion Gasoline RVP 12.5 | Nov | 58.97 | 54,21 | 63.53 | 61.57 | 6.5099 | N/A | N∕A | 63,0000 | | | 62.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-Trimethybenzane | | | | | | 8.0195 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Oction 2: A=7.04383, B=1573.267, C=208.56 |
| 2,2,4-Trimethylpentane | | | | | | 0,5765 | N/A | N/A | 114,2300 | 8.0478 | 0.0055 | 114.23 | Opdon 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=5.841, B=1201.53, C=222.65 |
| Ethylbenzarie | | | | | | 0.1043 | N/A | N/A | 108.1700 | 0.0120 | 0.0003 | 106.17 | Option 2: A=6.975, B=1424,255, G=213,21 |
| tiexane (-n) | | | | | | 1,6578 | N/A | N/A | 86,1700 | 0.0130 | 8.0049 | 65.17 | Oction 2: A=6.876, 8=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 e cohol | | | | | | 1,3915 | N/A | N/A | 32,0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7,E97, B=1474.08, C=229.13 |
| fizphthelene | | | | | | 0.0014 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 129.18 | Option 2: A=6.8191, B=1585.86, C=184.32 |
| Styrene | | | | | | 0.0690 | N/A | N/A | 104.1500 | 0.0003 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.69 |
| Totuene | | | | | | 0.3187 | N/A | N/A | 92.1300 | 0.0600 | 0.0038 | 92,13 | Option 2: A=6.854, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 8.0529 | N/A | N/A | 62.6222 | 0.7529 | 8.9906 | 77,29 | |
| Xylanes (Mared) | | | | | | 0.0868 | N/A | N/A | 106.1700 | 0.0700 | 0.0012 | 106.17 | Option 2: A=7.009, B=1452.265, C=215.11 |
| Equion Gaseine RVP 14.0 | Dec | 54,98 | 51.51 | 58,44 | 61.57 | 6.6705 | N/A | N/A | 81.0000 | | | 62.50 | Option 4: RVP=14, ASTM Stope=3 |
| 1.2.4-Trimethybenzero | | | • • • • | | ·· | 0.0167 | N/A | NVA | 120,1900 | 0,0240 | 0.0001 | 120.19 | Option 2: A=7.04383, 8=1573.267, C-208.56 |
| 2.2.4-Trimethylpeniano | | | | | | D.5145 | N/A | N/A | 114,2300 | 0.0470 | 0.0048 | 114.23 | Option 2: A=6.8116, B=1257.84, C=220.74 |
| Benzine | | | | | | 1.0143 | N/A | N/A | 78.1100 | 0.0120 | 0.0024 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.76 |
| Cyclohexane | | | | | | 1,0556 | Ñ/A | N/A | 84,1600 | 0.0024 | D.0005 | 84,18 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylberzene | | | | • | | 0.0909 | N'A | N/A | 106,1700 | 0.0120 | 0.0002 | 196.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 1.8765 | N/A | N/A | 86.1700 | 0.0130 | 0.0043 | 86.17 | Option 2: A=6.876, B=1171.17, G=224.41 |
| tsopropyl benzene | | | | | | 0.0423 | N/A | N'A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2; A=6.963, 6=1460.793, C=207.78 |
| Methyl alcohol | | | | | | 1,2259 | N/A | N'A | 32.0400 | 0.0014 | 0.0000 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| | | | | | | | | | | | | | |

| Naphihalang | 0.0011 | N/A | N/A | 128,1500 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.6181, B=1565.66, C=184.32 |
|-------------------------|--------|-----|-----|----------|--------|--------|--------|---|
| Shrene | 0.0601 | N/A | N/A | 104.1500 | 8000.0 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluena | 0.2618 | N'A | N/A | 92.1300 | 0.0600 | 0.0033 | 82.13 | Option 2: A=8.954, B=1344.B, 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=1452.256, C=215.11 |

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

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

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| | January | February | March | April | May | June | July | August | September | October | November | December |
|--|--------------------|----------|----------------|----------|----------|---------------|-------------------------------------|---------------|-----------------|---------------|-----------------|--------------|
| Rim Sazi Losses (b): | 22,8900 | 21.4210 | 22,6801 | 24,5143 | 10.6594 | 11,4851 | 12.0037 | 11.7839 | 11,1445 | 10.0731 | 21,9190 | 22.830 |
| Sezi Factor A (Ib-mole/II-yr): | 0.6000 | 0.5000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 9.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.600 |
| Seal Factor B (ID-mole/II-yr (mph)*n): | 0.4000 | 9.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.400 |
| Value of Vapor Pressure Function: Vector Pressure at Delly Average Liquid | 0.1564 | Q.1417 | 0.1500 | 0.1521 | 0.0653 | 0.0704 | 0.0735 | 0.0722 | 0.0683 | 0.0617 | 0.1450 | 0.155 |
| Surface Temperature (psia): | 6-8836 | 6.3988 | 6.5772 | 7.0673 | 3_3880 | 3.6161 | 3.7570 | 3.6975 | 3.5225 | 3,2234 | 6.5099 | 6.970 |
| 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 | 48.000 |
| Vapor Molecular Weight (Ib/Ib-mole): | 61.0000 | 63.0000 | 53.0000 | 63.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 63.0000 | 61.000 |
| Product Factor: | 1.0000 | 1.0000 | 1.9000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Withdrawel Losses (Ib): | 61.4890 | 61,4890 | 61.4890 | 61.4890 | 61.4890 | 61.4890 | 61.4890 | 61.4850 | 61.4890 | 61,4890 | 61,4890 | 61,489 |
| 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 | 1.000 |
| 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 | 1.000 |
| Net Throughout (gaVmo.): | 15.330,000.000015, | | | | | | | 20,000.000015 | 330,000.000015; | 30,000.000015 | ,330.000.000015 | ,230,000,000 |
| Shell Clingage Factor (bbl/1000 solu): | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0,0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.001 |
| Average Organic Liquid Density (b/gal) | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.500 |
| Tarik Diameter (11): | 45.0000 | 48.0000 | 48,0000 | 48.0000 | 48.0000 | 48.0000 | 45.0000 | 43.0000 | 48.0000 | 48.0000 | 48.0000 | 45.000 |
| Deck Fitting Losses (Ib): | 239.6678 | 224 4744 | 237.6688 | 256.8899 | 111.7012 | 120.3546 | 125.7685 | 123.4843 | 116.7850 | 105.5573 | 229,£927 | 233.24 |
| Value of Vapor Pressure Function: | 0.1564 | 0.1417 | 0.1500 | 0.1621 | 0.0653 | 0.0704 | 0.0735 | 0.0722 | 0.0583 | 0.0617 | 0.1450 | 0.155 |
| Vepor Molecular Weight (brib-mole): | 61,0000 | 63.0000 | 63.0000 | 63.0000 | 68.0000 | 68.0000 | 68.0000 | 68.000 | 68.0000 | 68.0000 | 63.0000 | 61.000 |
| Product Factor: | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.9000 | 1.0000 | 1.0000 | 1.00 |
| Tot. Roci Fitting Loss Fact.(ib-mole/yr): | 301_6000 | 301.6000 | 301.6000 | 301,8000 | 301,6000 | 301,8000 | 301.8000 | 301.8000 | 301,8000 | 301_8000 | 301.8000 | 301.60 |
| Deck Seam Losses (b): | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 6.0000 | 0.0000 | 0.0000 | 0,0000 | 0.0000 | 6.0000 | 0.0000 | 0.00 |
| Deck Seam Length (ft): Deck Seam Loss per Unit Length | 0000.0 | 0.000 | 00000 | 0,0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 6.0000 | 0.000 |
| Factor (to-moleft-yr); | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0006 | 0.0000 | 0.0000 | 0.00 |
| Deck Seam Length Fector(1/soft): | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 8.0000 | 0.0000 | 0.0000 | 0.0000 | 0.00 |
| Tank Diameter fit): | 48.0000 | 48,0000 | 48.0000 | 48,0000 | 48.0000 | 48,0000 | 48.0000 | 48.0000 | 45,0000 | 48.0000 | 48,0000 | 48.00 |
| Vepor Motecular Weight (Ib/Ib-mole); | 61,0000 | 63.0000 | 63,0000 | 63.0000 | 68.0000 | 0000.83 | 68,0000 | 63.0000 | £3.0000 | 69,0200 | 63.0000 | 61.00 |
| Produci Factor: | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.00 |
| Tetal Losses (b): | 324.2468 | 307.3844 | 321,8379 | 342.6832 | 183.8495 | 183.3287 | 109,2813 | 196.7571 | 189.4185 | 177,1193 | 313.1007 | 323.56 |
| Roof Filling/Status | | | | Ou | ມາຈິງ | KFs(b-moleyr) | Roof Fitting Loss Kfo(b-mole/iv) | | | | Loeses(fb) | |

| Access Hatch (24-in, Diam, Winhofted Cover, Ungaskeled | 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 ColSitting Cover, Ungask, | 1 | 47.00 | 0.00 | 0.00 | 331,1571 |
| Ladder Well (36-th, Diam, VSiding Cover, Ungaskated | 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 We8 (24-in, Diam, VSH Fabric Seal 10% Open | 1 | 12.00 | 0.00 | 0.00 | 84.5507 |
| Vacuum Greaker (10-in. Dizm.) Weighted Mech. Actuation, Gask. | 1 | 6.20 | 1.20 | 0.94 | 43.6846 |

TANKS 4.0.9d Emissions Report - Detail Format

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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 | | | | | | | | |
| Equiion 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 | | | | | | | | |
| tsopropyl 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 | | 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 | | 0.00 | | | | | | | | | |
| Cyclohexane | 0.05 | 0.59 | | 0.00 | 1.19 | | | | | | | | |
| Elhylbenzene | 0.02 | | | 0.00 | | | | | | | | | |
| Hexane (-n) | 0.44 | | | 0.00 | 8.29 | | | | | | | | |
| lsopropyl benzene | 0.00 | | | 0.00 | | | | | | | | | |
| Methyl elcohol | 0.04 | | | 0.00 | | | | | | | | | |
| Naphihalene | 0.00 | | | | | | | | | | | | |
| Slyrene | 0.00 | | | 0.00 | | | | | | | | | |
| Toluene | 0.35 | | | 0.00 | | | | | | | | | |
| Unidentified Components | 88.75 | 185.18 | 930.03 |]0.00 | 1,203.88 | | | | | | | | |

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| 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 | 3.8 |
| Isopropyl benzene | 0.00 | 0.18 | 0.01 | 0.00 | 0.19 |
| Methyl alcohol | 0.02 | 0.17 | 0.16 | 0.00 | 0.3 |
| Naphthalene | 0.00 | 0.37 | 0.00 | 0.00 | 0.3 |
| Styrene | 0.00 | 0.10 | 0.00 | 0.00 | 0.1 |
| Toluene | 0.15 | 7.38 | 1.60 | 0.00 | 9,1 |
| Unidentified Components | 44.94 | 92.59 | 470.97 | 0.00 | 608.5 |
| Xylenes (Mixed) | 0.05 | 8.61 | 0.50 | 0.00 | 9.1 |

and search more

ElsellOdDen-mar Tiles/Teales 100d/nummarsdienlaus.htm.

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

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Identification

| User identification: | Stockton Tank 19 pre-project ann throughput | | | | | | | | | | |
|---------------------------|---|--|--|--|--|--|--|--|--|--|--|
| City: | Stockton | | | | | | | | | | |
| State: | California | | | | | | | | | | |
| Сотралу: | Shell Oil Products US | | | | | | | | | | |
| Type of Tank: | Internal Floating Roo! Tank | | | | | | | | | | |
| Description: | Storing gasoline with meximum annual pre-project throughput (1,250,000 gal/month) | | | | | | | | | | |
| | oround describe with moviment annothing his broker interdubat (theoring damaged) | | | | | | | | | | |
| Tank Dimensions | | | | | | | | | | | |
| Diameter (It): | 48.00 | | | | | | | | | | |
| Volume (gallons): | 504.000.00 | | | | | | | | | | |
| Turnovers: | 29.76 | | | | | | | | | | |
| Self Supp. Rool? (y/n): | N 20110 | | | | | | | | | | |
| No. of Cotumns: | 1.00 | | | | | | | | | | |
| | 1.00 | | | | | | | | | | |
| Eff. Col. Diam. (II): | 1.00 | | | | | | | | | | |
| Paint Characteristics | | | | | | | | | | | |
| Internal Shell Condition: | Light Rust | | | | | | | | | | |
| Shell Color/Shade: | WhiteWhite | | | | | | | | | | |
| Shell Condition | Good | | | | | | | | | | |
| Roof Color/Shade: | White/White | | | | | | | | | | |
| Roof Condition: | Good | | | | | | | | | | |
| Ruu Cunaturi. | 5000 | | | | | | | | | | |
| Rim-Seal System | | | | | | | | | | | |
| Primary Seal: | Mechanical Shoe | | | | | | | | | | |
| Secondary Seal | Rim-mounted | | | | | | | | | | |
| Deck Characteristics | | | | | | | | | | | |
| Deck Fitting Category: | Typical | | | | | | | | | | |
| Deck Type: | Welded | | | | | | | | | | |
| реск тура. | 44 Q1UQU | | | | | | | | | | |
| Deck Fitting/Status | | | | | | | | | | | |

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

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

Quantity

1 1 1

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 M | | | Deily Liquid Surt. Temperature (deg F) | | Liquid Butk Temp | Vacor Pressure (osta) | | Vapor Mol. | Liquid Mass | Vapor Mass | Mal | Basis for Vacor Pressure | |
|------------------------------------|------------|-------|---|-------|------------------------|-----------------------|------------|---------------|---------------------|---------------|--------|--------------------------|---|
| | Month | Avg. | Kin. | Max. | (deg F) | Avg. | Min, | Max. | Weight | Fraci. | Fract | Weight | Calculations |
| Equilon Gasoline RVP 14.0 | י | 55.03 | 51.49 | 58.67 | 61,57 | 6.8836 | N/A | N/A | 61.0000 | | | 82.50 | Option 4: RVP=14, ASTNI Stope=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=208.58 |
| 2,2,4-Trimethylpentzna | | | | | | 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 | NVA | 84.1600 | 0.0024 | 0.0005 | 84.16 | Option 2: Ae6.841, B=1201.53, C=222.65 |
| Ethylbenzena | | | | | | 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 |
| Henculae (-n) | | | | | | 1.6910 | N/A | NVA. | B5.1700 | 0.0130 | 0.0043 | 85.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| sopropyt benzene | | | | | | 0.0424 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120,20 | Option 2: A=6.953, B=1450.793, C=207.78 |
| Methyl Elophol | | | | | | 1,2329 | N/A | NA | 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, 8= 1585.86, C=184.32 |
| Styrone | | | | | | 8.0603 | 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, 8-1344.8, C=219.48 |
| Unidentified Components | | | | | | 8.5331 | N/A | NA | 60.6580 | 0.7529 | 0.9830 | 77.89 | |
| Xylenes (Wixed) | - . | | | | | 0.0759 | N/A | N/A | 108.1700 | 0.0700 | 0.0010 | 105.17 | Option 2; A=7.009, 8=1452.268, C=215.11 |
| iguiton Gescline RVP 12.5 | Feb | 57.96 | 53.17 | 62.75 | 61.57 | 6.3968 | N/A | N/A | 63.0000 | | | 62.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-Trimethybenzene | | | | | | 0.0168 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.16 | Option 2: A=7.04383, B=1573.267, C=208.58 |
| 2,2,4. Trimethylpentane Benzene | | | | | | 0.5615 | N/A | N/A | 114.2300 | B.0470 | | 114,23 78,11 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| | | | | | | 1.1033 | NA | N/A | 78.1100 | 0.0120 | 0.0027 | 78.11 84.16 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexane Ethylosnzene | | | | | | 1,1459 | N/A | N/A | 64.1600 106.1700 | 0.0024 | 0.0005 | 106.17 | Option 2: A=6.841, B=1201.53, C=222.65 Option 2: A=6.975, B=1424.255, C=213.21 |
| Hazana (-n) | | • | | | | 0,1010 1,8140 | NVA N/A | N/A N/A | 89.1700 | 0.0130 | 0.0048 | 26.17 | Option 2: A=0.876, B=1171.17, C=224.41 |
| Isopropyi benzene | | | | | | 0.0473 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=8.963, B=1460.793, C=207.78 |
| Mathyf alcohol | | | | | | 1,3519 | N/A | NVÁ | 32,0400 | B.0014 | 0.0004 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Nachthelene | | | | | | 0.0013 | N/A | NVA | 128,1600 | 0.0030 | 6.0000 | 128.16 | Option 2: A=6.B1B1, B=1585.B6, C=184.32 |
| Styrone | | | | | | 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 |
| Toluane | | | | | | 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 | NA | N/A | 62,6258 | 0.7529 | 0.9807 | 77.89 | |
| Xylenes (Mazel) | | | | | | 0.0841 | N/A | N/A | 106.1700 | 0.0700 | 0.0012 | 108,17 | Option 2: A=7.009, B=1452.265, C=215.11 |
| guilon Gasoline RVP 12.5 | Mar | 60.22 | 54.36 | 66.07 | 61.57 | 9.8772 | N/A | N/A | 83.0000 | | | 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_18 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2.2.4-Trimothylpentane | | | | | | 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=220.70 |
| Cyclohazana | | | | | | 1.2168 | N/A | NVA | 64,1600 | 0.0024 | 0.0008 | 84,18 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1094 | N/A | N/A | 106.1700 | 0.0120 | 0.0008 | 108.17 | Opton 2: A=6.975, B=1424.255, C=213.21 |
| Henano (-n) | | | | | | 1.9242 | NVA | NA | 06.1700 | 6.0130 | 0.0049 | 69.17 | Option 2: A=6.878, B=1171.17, C=224.41 |
| sopropyl benzane | | | | | | 0.0515 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.953, B=1450.793, C=207.78 |
| Mesnyl eloohol | | | | | | 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 |
| Naphihalene | | | | | | 0.0015 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.18 | Option 2: A=6.8161, B=1585.88, C=184.32 |
| Styrene | | | | | | 0.0724 | N/A | NVA | 104,1500 | 0.0003 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Tolucne | | | | | | 0.3324 | N/A | NVA | 92,1300 | 0.0600 | 0.0039 | 92.13 | Option 2: A=6.954, 8=1344.8, C=219.48 |
| Unidentified Components | | | | | | 0.2582 | N/A | N/A | 62.8168 | 0.7529 | 0.9803 | 77_69 | |

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TANKS 4.0 Report

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| Xylenes (Mixed) | _ | | | | | 0.0911 | N/A | N/A | 105.1700 | 0.0700 | 0.0013 | 106,17 | Option 2: A=7.009, B=1462.266, C=215.11 |
|----------------------------|------|-------|---------------|-------|--------|--------|-----|------|----------|--------|--------|-----------------|--|
| Equion Gaseline RVP 12.5 | Apr | 63.26 | 55. 98 | 70.54 | 61.57 | 7.0673 | NA | N/A | 63.0000 | | | 82.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-Trimethylbonzene | | | | | | 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-Trimethylpontene | | | | | | 0.6539 | N/A | NVA. | 114.2300 | 0.0470 | 0.0057 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 Option 2: A=6.905, B=1211.033, C=220.79 |
| Benzene | | | | | | 1.2775 | NA | N/A | 75.1100 | 0.0120 | 0.0028 | 78.11 | |
| Cyclohexare | | | | | | 1.3224 | N/A | N/A | 84,1600 | 0.0024 | 0.0006 | 84.18 | Option 2: A=6.841, B=1201.53, C=222.65 Option 2: A=6.975, B=1424.255, C=213.21 |
| EUtybenzene | | | | | | 0.1215 | N/A | NVA | 108.1700 | 0.0120 | 0.0003 | 106.17 | Option 2: A=6.875, B=1171.17, C=224.41 |
| Herane (-n) | | | | | | 2.0815 | NA | N/A | 86.1700 | 0.0130 | 0.0050 | 85,17 | Option 2: A=6.963, B=1460.783, C=207.78 |
| tsopropyl benzene | | | | | | 0.0577 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Methyl alcohol | | | | | | 1,5969 | N/A | N/A | 32.0400 | 0.0014 | 0.0004 | 32.04 128.16 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Naphthalane | | | | | | 8.0017 | N/A | N/A | 128.1600 | 9.0030 | 0.0000 | | |
| Styrene | | | | | | 0.0804 | N/A | N/A | 104,1500 | 0.0008 | 0.0000 | 104.15 92.13 | Option 2: A=7.14, B= 1574.51, C=224.09 |
| Toluene | | | | | | 0.3651 | N/A | N/A | 92,1300 | 0.0600 | | | Option 2: A=8.854, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 8.7369 | NA | N/A | 62.6045 | 0.7529 | 0.9707 | 77,83 106.17 | Option 2: A=7.009, B=1452.255, C=215.11 |
| Xyfenes (Mixed) | | | | | | 0.1013 | N/A | N/A | 105.1700 | 0.0700 | 0.0013 | | |
| Equilon Gesoline RVP 5.09 | May | 67.10 | 58.83 | 75.36 | \$1.57 | 3.3880 | N/A | N/A | 58.0000 | | | 82.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-TrimeStylbenzene | | | | | | 0.0270 | N/A | N/A | 120,1900 | 0.0246 | 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=8.8118, B=1257.84, C=220.74 |
| Benzene | | | | | | 1.4173 | N/A | N/A | 75.1100 | 0.0120 | 0.0061 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohezane | | | | | | 1.4635 | N/A | N/A | 84,1600 | 0.0024 | 0.0013 | 84.16 | Option 2: A=6.041, B=1201.53, C=222.65 |
| Elhybonzene | | | | | | 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 |
| Hexene (-n) | | | | | | 2,2945 | N/A | N/A | 66.1700 | 0.0133 | 0.8107 | 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=1460.783, 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 |
| Nzphihalone | | | | | | 0.0021 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=5,8181, B=1585,86, C=184.32 |
| Styrena | | | | | | 0.0917 | N/A | N/A | 104.1500 | 0.0008 | 0.0000 | 184.15 | Option 2: A=7,14, B=1574.51, C=224.09 |
| Toluene | | | | | | 0.4103 | N/A | N/A | 82.1300 | 0.0600 | 0.0065 | 92,13 | Option 2: A=6.854, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 4.1089 | N/A | N'A | 67.2321 | 0.7529 | 0.9562 | 77_£9 | |
| Xylenes (Mixad) | | | | | | 0.1155 | N/A | N/A | 106.1700 | 0.0700 | 0.0029 | 185.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Equilon GasoEne 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 Slape=3 |
| 1,2,4-Trimothylbonzena | | | | | | 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, Be1257.84, C=220.74 |
| Benzene | | | | | | 1.5449 | N/A | N/A | 76.1100 | 0.0120 | 0.0062 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexana | | | | | | 1.5322 | N/A | N/A | 84.1600 | 0.0024 | 0.0013 | 84,16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylberizena | | | | | | 0.1542 | N/A | N/A | 106,1700 | 8,0120 | 0.0006 | 106.17 | Option 2: A=6.975; B=1424.255, C=213.21 |
| Hexans (-n) | | | | | | 2,4880 | N/A | N/A | 86.1700 | 0.0130 | 0.0109 | 86.17 | Option 2: A=5.876, B=1171.17, C=224.41 |
| Isopropyl benzene | | • | | | | 0.0748 | N/A | ₩A. | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.793, C=207.79 |
| Methyl stochol | | | | | | 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 |
| Naphthatene | | | | | | 0.0025 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 125.15 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Stytene | | | | | | 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=6.854, B=1344.8, C=219.48 |
| Undentified Components | | | | | | 4.3817 | N/A | NVA. | 67,2114 | 0.7529 | 0.9551 | 77.89 | |
| Xylenes (Mixed) | | | | | | 0.1258 | N/A | N/A | 106,1700 | 0.0700 | 0.0030 | 106.17 | Option 2: A=7.009, B=1452.268, C=215.11 |
| Equilion Gasoline RVP 5.99 | Jul. | 72,25 | 63.02 | 61,48 | 61,57 | 3.7570 | N/A | N/A | 68.0000 | | | \$2.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trimethylbonzone | | | | | | 0.0329 | N/A | N/A | 120.1900 | 0.0240 | 0.0008 | 120.16 | Option 2: A=7.04383, B+1573.267, C=208.56 |
| 2,2.4 Trincingpercane | | | | | | 0.6396 | N/A | N/A | 114,2300 | 0.0470 | 0.0127 | 114.23 | Option 2: A=6.5118, 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 | | | | | | 1.6725 | N/A | N/A | 64.1600 | 0.0024 | 0.0013 | 84.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylosnzene | | | | | | 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 | 88.1700 | 0.0130 | 0.0110 | 66.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyl benzene | | | | | | 0.0796 | 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.E97, B=1474.08, C=229.13 |
| Naphthalene | | | | | | 0.0027 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 128.18 | Option 2: A=6.8161, B=1585.86, C=104.32 |
| Styrane | | | | | | 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 | 62.13 | Option 2: A=6.954, B= 1344.8, C=219.48 |
| Unidentified Components | | | | | | 4,5501 | N/A | NA | 67.1090 | 8,7520 | 0.9544 | 77.89 | Auf 0.4 7000 B-1100 000 C. 017 11 |
| Xylenes (Mood) | | | | | | 0.1373 | N'A | NVA | 108.1700 | 0.0700 | 0.0031 | 106.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| Equilon Gasoline RVP 5.99 | Aug | 71.45 | 62.84 | 60.06 | 61.57 | 3.6975 | N/A | N/A | 68.0000 | | | 62.50 | Option 4; RVP-5.99, ASTM 6bpe-3 |
| 1,2,4-Trimethyibenzene | | | | | | 0.0318 | N/A | N/A | 120.1900 | 0.0248 | 0.0003 | 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 78,11 | Option 2: A=6.8118, B=1257.84, C=220.74 Option 2: A=6.905, B=1211.033, C=220.78 |
| Benzene | | | | | | 1.5918 | N/A | N/A | 78.1100 | 0.0120 | 0.0063 | /0.11 | Upicii C. 190.000, 041211403, 04220.10 |
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| Cyclohexane | | | | | | 1.6386 | N/A | N/A | 84.1600 | 0.0024 | 0.0013 | 64.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
|---------------------------|-----|-------|-------|-------|-------|--------|-------|-------|----------|--------|----------|---------------|---|
| Ethyloenzena | | | | | | 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 |
| Heiane (-n) | | | | | | 2.5579 | N/A | N/A | 66.1700 | 0.0130 | 0.0109 | 28.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyl benzane | | | | | | 0.0776 | NVA . | N/A | 120.2000 | 9.0015 | 0.0000 | 120.20 | Option 2: A=6.953, 8=1450.793, 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=147#.08, C=229.13 |
| Nophthalene | | | | | | 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 |
| Styrone | | | | | | 0.1062 | NVA | N/A | 104,1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluene | | | | | | 0.4572 | NVA. | N/A | 82.1300 | 0.0600 | 0.0092 | \$2.13 | 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 (Mored) | | | | | | 0.1337 | N'A | N/A | 106,1700 | 0.0700 | 0.0031 | 108.17 | Option 2: A=7.009, B=1452.268, C=215.11 |
| Equiton Gasoine RVP 5.99 | Sep | 69.03 | 61.28 | 76.77 | 61.57 | 3.5226 | N'A | N/A | 68.0000 | | | 62.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trimethybenzene | | | | | | 0.0291 | 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-Tranet tylpentene | | | | | | 0.7685 | N/A | N/A | 114,2300 | 9.0470 | 0.0124 | 114.23 | Option 2: A=8.8118, B=1257.84, C=220.74 |
| Benzene | | | | | | 1.4923 | N/A | NVA | 78,1100 | 0.0120 | 0.0052 | 78,11 | Option 2: A=6.905, B=1211.033, C-220.79 |
| Cyclohexane | | | | | | 1.5392 | N/A | NVA | 84.1600 | 0.0024 | 0.0013 | 84.15 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Edyberzere | | | | | | 0.1476 | N/A | NA | 166.1700 | 0.0120 | 9.0006 | 106,17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexano (-n) | | | | | | 2.4063 | N/A | ŇA | 66.1700 | 0.0130 | 0.0108 | 65.17 | 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 | NVA | 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 | 128.15 | 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 | NVA | 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 | 0.6700 | 0.0030 | 106.17 | Option 2: A=7.009, B=1482.258, C=215.11 |
| Equilor Gascine RVP 5.89 | 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-Trimethylbenzane | | | | | | 0.0246 | 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-Trimethylpentzne | | | | | | 0.6800 | ·N/A | N'A | 114.2300 | 0.0470 | 0.0120 | 114.23 | Option 2: A=6.8119, B=1257.54, C=220.74 |
| Benzena | | | | | | 1.3268 | NVA. | NVA. | 78.1100 | 9.0120 | 0.0060 | 78.11 | Option 2: A=6.805, B=1211.033, C=220.79 |
| Cyclohekane | | | | | | 1.3720 | N/A | N/A | 64,1600 | 0.0024 | 0.0012 | 64.16 | Option 2: A=6.841, B= 1201.53, C=222.65 |
| Ethyloenzena | | | | | | 0.1274 | N/A | N/A | 106.1700 | 0.0120 | 0.0006 | 106.17 | Ontion 2: A=6.975. B= 1424.255, C=213.21 |
| Hexana (-n) | | | | | | 2,1564 | N/A | N/A | 86,1700 | 0.0130 | 0.0106 | 28,17 | Option 2: A=6.876, B=1171,17, C=224.41 |
| Isopropyi benzene | | | | | | 0.0507 | N'A | N/A | 120,2000 | 9.0015 | 0.0000 | 120.20 | Option 2: Au6 963, 8-1460,793, 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 |
| Nachinalene | | | | | | 0.0019 | N/A | N/A | 128.1600 | 0.0030 | 9.0000 | 128.16 | Option 2: A=6.8161, 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 |
| Tokiene | | | | ٩ | | 0.3809 | NVA | NVA | 92.1300 | 0.0600 | 0.0086 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| | | | | | | 3.9117 | NVA | N/A | 67.2475 | 9,7529 | . 0.9570 | 17.89 | |
| Unidentified Components | | | | • | | | N/A | N/A | 106.1700 | 0.0700 | 0.0028 | 156.17 | Option 2; A=7.009, B=1462.266, C=215.11 |
| Xylenss (Mixed) | | | | | | 0.1052 | | | | 00100 | 01026 | 82.50 | Option 4: RVP-12.5, ASTM Slope-3 |
| Equilon Gasoline RVP 12.5 | Nov | 58.87 | 54.21 | ଷ.ସ | 61.57 | 6.5099 | N'A | N/A | 63.0000 | | | | |
| 1,2,4-Trimethylbenzene | | | | | | 0.0195 | N'A | N/A | 120.1900 | 9.0240 | 0.0001 | 120.16 | Option 2: A=7.04383, B=1573.287, C=208.56 |
| 2,2,4-Trimethylpentane | | | | | | 9.5765 | N'A | N/A | 114.2300 | 0.0470 | 0.0065 | 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 | 79.11 | 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 | ₩A | NVA. | 106.1700 | 0.0120 | 9.0003 | 106,17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 1.6578 | NVA. | . N∕A | 65.1700 | 0.0130 | 0.0049 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyl benzene | | | | | | 9,9490 | 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=1585.68, C=184.32 |
| Stytene | | | | | | 0.0690 | NVA . | 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 | 82.1300 | 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=1462.256, 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 a-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 TrimeOn/pentane | | | | | | 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=6,805, B=1211.033, C=220.78 |
| Cyclohecane | | | | | | 1.0556 | N/A | N/A | 84.1600 | 0.0024 | 9.0005 | 84.18 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethybonzene | | | | | | 0.0909 | N/A | N/A | 106.1700 | 0.0120 | 0.0002 | 108.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hazare (-n) | | | | | | 1.6765 | N'A | N/A | 85.1700 | 0.0130 | 0.0043 | 85.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| isopropyi benzene | | | | | | 0.0423 | N'A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, 8=1450.793, C=207.78 |
| Methyl stochol | | | | | | 1.2289 | N/A | N/A | 32.0400 | 0.0014 | 0.0003 | 32.04 | Option 2: A=7.897, B=1474.06, C=229.13 |
| | | | | | | | | | | | | | |

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| Nephthalene | 0.0011 | N'A | N/A | 128,1600 | 6.0030 | 0.0000 | 125.16 | Option 2: A=6.8181, B=1585.86, C=184.32 |
|-------------------------|--------|-----|-----|----------|--------|--------|--------|---|
| Shirene | 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 | NĽA | 92.1300 | 0.0600 | 0.0033 | \$2,13 | Option 2: A=5.954, B=1344.8, C=219.48 |
| Unidentified Components | 8.5170 | N/A | N/A | 60.6584 | 6.7529 | 0.9830 | 17.89 | |
| Xylenes (Mbred) | 0.0756 | N/A | N/A | 106.1700 | 0.0700 | 0.0016 | 105.17 | Option 2: A=7.009, B=1452.266, C=215.11 |

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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 | Apr1 | May | June | July | August | September | October | November | Decembe |
|---|-----------|----------|----------|-------------------|----------|-----------------|-------------------|----------|-----------|----------------|-----------|---------|
| Rim Seal Losses (b): | 22.8900 | 21.4210 | 22.5801 | 24.5143 | 10.6594 | 11.4851 | 12.0037 | 11.7838 | 11.1445 | 10.0731 | 21,9190 | 22.830 |
| Sezi Factor A (D-mole/1-yr): | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.600 |
| Seal Factor B (to-mole/th yr (mph)*n); | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 0.4000 | 9.4000 | 0.4000 | 0.400 |
| Value of Vapor Pressure Function: Vapor Pressure at Daily Average Liquid | 0.1564 | 0.1417 | 0.1500 | 9.1621 | 0.0853 | 0.9704 | | 0.0722 | 0.0683 | 0.0617 | 0.1450 | 0.155 |
| Surface Temperature (psia): | 6.8838 | 6.3968 | 6.6772 | 7.0673 | 3.3880 | 3.8161 | | 36975 | 3.5226 | 3,2234 | 6.5099 | 6.870 |
| Tank Diameter (it): | 48.0000 | 48.0000 | 48,0000 | 48.0000 | 48.0000 | 48.0000 | | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48.000 |
| Vepor Molecular Weight (Ib/Ib-mole): | 61.0000 | 63.0000 | 63.0000 | 63.0000 | 68.0000 | 68.0000 | | 66.0000 | 68.0000 | 68.0000 | 63.0000 | 61.000 |
| Product Factor: | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | \$.0000.8 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Nithdrawal Losses (b): | 5.0138 | 5.0138 | 5.0138 | 5.0138 | 5.0138 | | | 5.0138 | 5.0138 | 5.0138 | 5.0138 | 5.013 |
| Number of Columns: | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | 1.0000 | 1.0000 | | 1.0000 | 1.000 |
| Effective Column Diameter (fi): | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Net Throughout (gz/mo.): | | | | 1,250,000.0000 1, | | | | | | 1,250,000.0000 | | |
| Shell Clingage Factor (bbl/1000 soft): | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 | | | 0.0015 | 0.0015 | | 0.0015 | |
| Average Organic Liquid Density (b/gal): | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | | | 5.6000 | 5.6000 | | 5.6000 | |
| Tank Diameter (It): | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48.0000 | 48,0003 | 48.0000 | 48.0000 | 48.0000 | 48.000 |
| Deck Filling Losses (Ib); | 239.8678 | 224.4744 | 237.6688 | 256,8899 | 111.7012 | | | 1214843 | 118.7850 | | 229.6927 | 239.242 |
| Value of Vapor Pressure Function; | 0.1584 | 0.1417 | 0.1500 | 0.1621 | 0.0653 | | | 0.0722 | 0.0683 | | 0.1450 | |
| Vapor Molecular Weight (Ibrib-mole): | 61,0000 | 63.0000 | 63.0000 | 63.0000 | 68L0000 | | | 68,0000 | 68.0000 | | 63.0000 | |
| Product Factor: | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | | | 1.0000 | 1.0000 | | 1.0000 | |
| ToL Roof Fizing Loss Fact.(ib-mole/yr): | 301,8000 | 301.8000 | 301.8000 | 301_8000 | 301.8000 | 301,8000 | 301.8000 | 301.5000 | 301.8000 | 301,8000 | 301.8000 | 301,800 |
| Deck Scam Losses (Ib): | | 0.0000 | 0,0000 | 0.0000 | 0.0000 | | | | 0.0000 | | | |
| Deck Seam Length (#): | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 |
| Deck Seam Lose per Unit Length | | | | | | | | | | | | |
| Factor (to-molefil-yr): | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | | 0.0000 | | | |
| Deck Seam Length Fector(f/soft): | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | | | 0.0000 | | | |
| Tank Diameter (ff): | 48.0000 | 48.0000 | 48.0000 | | 48.0000 | | | 48,0000 | 48.0000 | | 48.0000 | |
| Vapor Molecular Weight (Ib/Ib-mole): | 61.0000 | 63.0000 | 63.0000 | | 68.0000 | | | | 68.0000 | | | |
| Produci Factor: | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Total Losses (Ib): | 267.7716 | 250.9082 | 265.3627 | 288.4180 | 127.3743 | 138,8535 | 142.6060 | 140,2819 | 132,9433 | 120.6441 | 256.6254 | 257,081 |
| | | | - | - | | | Roof Fitting Loss | Factors | | | | |
| Roof Fibing/Status | | | | Quant | y I | (Fa(to-mole/yr) | KFb(tb-mole/ty | | | ត | Losses(b) | |
| Access Heich (24-In, Diam.)/Unbolted Cover, Ungag | tand | | | | | 38.00 | | 5,80 | | 1.20 | 253.6522 | |
| Automatic Gauge Ficel Well/Unbolted Cover, Unges | | | | | 1 | 14.00 | | 5.40 | | 1.10 | 98.6425 | |
| Column Woll (24-in. Diam.)/Buth-Up ColSilding Cov | | | | | : | 47.00 | | 0.00 | | 0.00 | 331.1571 | |
| Ledder Well (36-in. Diam.)/Sliding Cover, Ungeskete | | | | | : | 76.00 | | 0.00 | | 0.00 | 535.4880 | |
| Roof Log of Hanger Well/Adjustable | ~ | | | | | 7_90 | | 0.00 | | 0.00 | 779.2750 | |
| Sample Pipe or Well (24-in, Diam.)/SII Fabric Seci 1 | IEL Conto | | | • | - | 12.00 | | 0.00 | | 0.00 | 84.5507 | |
| | | | | | | | | | | | | |

TANKS 4.0.9d

Emissions Report - Detall Format

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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 | (60.0 | 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 |
| lsopropyl 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 |
| Elhylbenzene | 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 | |
| Toluene | 0.35 | 1.20 | 3.71 | 0.00 | 5.27 |
| Unidentified Components | 68.75 | 15.10 | 930.03 | 0.00 | 1,033.68 |

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| 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 | 0.0 | 0.03 | 0.00 | 0.00 | 0.03 |
| Styrena | 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 | 1.25 |

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

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N-758-14

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

| Identification | |
|-------------------------------------|--------------------------------|
| User Identification: | Stockton Tank 18 annual |
| City: | Stockton |
| State: | California |
| Сотралу: | 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 Syst | tem |
| Construction: | Welded |
| Primary Seal: | Liquid-mounted |
| Secondary Seal | Weather Shield |
| | |

Deck Fitting/Statue

Quantity

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| Access Hatch (24-in. Diam.)/Botted Cover, Gasketed | 1 |
|---|---|
| Automatic Gauge Float Well/Unbolted Cover, Ungasketed | 1 |
| Roof Leg (3-In. Dlametor)/Adjustable, Center Area, Ungasketed | 7 |
| Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed | 9 |
| Vacuum Breaker (10-in. Diam.)Weighted Mech. Actuation, Gask. | ī |
| 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

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Page 1 of 15

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Liquid Contents of Storage Tank

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

| | | | elly Liquid S | | Liquid Bulk | | | | Vapor | Liquid | Vapor | | 0 |
|---|-------|-------|---------------------|---------------|-----------------|--------------|------|----------------|----------------|---------------|----------------|-----------------|---|
| Kinture/Component | Month | | perature (d Min. | eg F) Max. | Temp (deg F) | Vapo Avg. | Min. | (psia) Maz. | Mal. Weight | Mass Fract | Mass Fract, | Mol. V/eight | Basis for Vepor Pressure Calculations |
| Guilon Gesaine RVP 14.0 | | 55.08 | 51,49 | 50.67 | 61.57 | 6.8836 | N/A | N/A | 51.0000 | <u>.</u> | • | 12.50 | Oction 4: RVP+14, ASTM Slope=3 |
| 12.4-Trimeinyiberzene | | | •• | ••••• | | 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-Trimetrylpentane | | | | | | 0.5161 | NA | N/A | 114,2300 | 0.0470 | 0.0048 | 114.23 | Option 2: A=6.8119, B=1257.84, C=220.74 |
| Benzena | | | | | | 1.0172 | N/A | NVA | 78.1100 | 0.0120 | 0.0024 | 70.11 | Option 2: A=6.905, 8=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1.0585 | N/A | N/A | 84,1600 | 0.0024 | 9.0005 | 64.16 | Option 2: A=6.641, B=1201.53, C=222.65 |
| Ehytenzere | | | | | | 9.0913 | N/A | N/A | 106.1700 | 0.0120 | 0.0002 | 105.17 | Ontion 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=6.576, B=1171,17, C=224.41 |
| Isopropyi benzene | | | | | | 9.0424 | N/A | N/A | 120,2000 | 0.0015 | 9,0000 | 120.20 | Option 2: A=6.963, 8=1460.793, C=207.78 |
| Methyl sloohol | | | | | | 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 |
| Naolihalene | | | | | | 0.0011 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 128.18 | Option 2: A=6.6161, B=1585.86, C=184.32 |
| Styrene | | | | | | 9.0603 | NA | NA | 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 | 82,13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 6.5331 | N/A | N/A | 60.6580 | 0.7529 | 9,9830 | 77.89 | |
| Xylenes (Mized) | | | | | | 0.0759 | N'A | N/A | 106.1700 | 0.0700 | 0.0019 | 108_17 | Option 2: A=7.009, B=1452,266, C=215.11 |
| gulon 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, ASTU Slope=3 |
| 1,2,4-Trimethylbenzene | | 41.24 | | | ••== | 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-Trimethylaentane | | | | | | 0.5615 | N/A | N/A | 114.2300 | 0,0476 | 0.0049 | 114.23 | Option 2: A=6.5118, B=1257.64, C=220.74 |
| Banzena | | | | | | 1,1033 | N/A | N/A | 78.1100 | 0.0120 | 9.0025 | 78.11 | Oction 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohe.czne | | | | | | 1.1459 | N/A | NA | 84.1600 | 0.0024 | 0.0005 | 84.18 | 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) | | | | | | 1.0140 | N/A | N/A | 85.1700 | 9.0130 | 0.0044 | 65.17 | Oction 2: A=6.676, B=1171, 17, C=224.41 |
| Isopropyl benzene | | | | | | 0.0473 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Oction 2: A=6.963, 8=1460.793, C=207.78 |
| Methyl exchol | | | | | | 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 |
| Nachthalene | | | | | | 9.0013 | N/A | N/A | 128.1000 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8191, B=1585.86, C=184.32 |
| Styrene | | | | | | 0.0568 | N/A | N/A | 104.1500 | 0.0006 | 0.0000 | 104.15 | Option 2: A=7,14, B=1574.51, C=224.09 |
| Toluene | | | | | | 9.3097 | N/A | N/A | 92,1300 | 9.0520 | 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 | 0.9625 | 77.89 | |
| Kylenes (Mized) | | | | | | 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 |
| ayienes (4440) ayien Gasoline RVP 14.0 | Mar | 60.22 | 54.36 | 65.07 | 61.57 | 7.5756 | N/A | N/A | 61,0000 | 0.0700 | 0.0011 | 82.50 | Octon 4: RVP=14, ASTM Slope=3 |
| 1,2,4-TrimeChylbenzene | Mar | 90.22 | 24-30 | 00.07 | 61.27 | 6.0206 | 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-Trimethylpertane | | | | | | 0.5394 | N/A | N/A | 114,2300 | 0.0470 | 0.0050 | 114.23 | Option 2; A=6.6118, B=1257.84, C=220.74 |
| Benzena ' | | | | | | 1.1749 | N/A | N/A | 76,1100 | 0.0120 | 9.0025 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cvclohezana | | | | | | 1.2188 | N/A | N/A | 84.1600 | 0.0024 | 0.0005 | 84.18 | Option 2: A=6.841, 8=1201.53, C=222.65 |
| Ethybergene | | | | | | 0.1094 | N/A | N/A | 106.1700 | 9.0120 | 6.0002 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| confisional anna Mancenne (-n) | | | | | | 1.9242 | N/A | N'A | 85.1700 | 9.0120 | 0.0045 | B6.17 | Option 2: A=6.875, B=1171.17, C=224.41 |
| ranzine (-n) Istriaciji 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 siconal | | | | | | 1.4520 | NVA | N/A | 32,0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7.897, B=1474.08, C=228.13 |
| Nachthalena | | | | | | 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 |
| Styrane | | | | | | 0.0015 | N/A | N/A | 104,1500 | 9.0008 | 0.0000 | 104.15 | Oction 2: A=7.14, B=1574.51, C=224.09 |
| Toluene | | | | | | 0.5324 | N/A | N/A | 92,1300 | 0.0600 | 0.0036 | 92.13 | Option 2: A=6.954, B=1344.B, C=219.48 |
| Unidentified Components | | | | | | 9.3849 | N/A | N/A | 60,6383 | 0.7529 | 0.9621 | 77.89 | |
| Uragenaties Components Xylenes (Mized) | | | | | | 0.0911 | N/A | N/A | 106.1700 | 0.9700 | 0.0011 | 106,17 | Option 2: A=7.009, B=1452.266, C=215.11 |
| Aylenes (1920-0) Equiton Gasoline RVP 14.0 | Acr | 63.25 | 55.98 | 70.54 | 51.57 | 8.0167 | N'A | N/A | 61.0000 | | | 62.50 | Option 4: RVP=14, ASTM Slope=3 |
| 124 Trimestylbenzene | ~ | 03.60 | 04, LA | 10.34 | 01.4 | 0.0233 | N/A | N/A | 120,1900 | 0.0240 | 0.0001 | 120.19 | Ontion 2: A=7.04383, B=1573.257, 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 |

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| Banzene | | | | | | 1.2775 | N/A | N/A | 78,1100 | 0.0120 | 0.0026 | 76.11 | Option 2: A=5.905, B=1211.033, C=220.79 |
|----------------------------|-----|-------|-------|-------|-------|---------|------|------|----------|--------|--------|--------|---|
| Cyclohexane | | | | | | 1.3224 | N/A | N/A | 84,1600 | 0.0024 | 0.0005 | 84.16 | Option 2: A=6.641, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1215 | N/A | N/A | 108.1700 | 0.0120 | 0.0002 | 106.17 | Option 2: A=8.975, 8=1424.255, C=213.21 |
| Hauane (-n) | | | | | | 2.0815 | N/A | N/A | 86,1700 | 0.0130 | 0.0046 | 86.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| tsopropyi benzene | | | | | | 0.0577 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=8.963, B=1460.793, C=207.78 |
| Methyl aloshol | | | | | | 1.5969 | N/A | N/A | 32.0400 | 0.0014 | 0.0004 | 32.04 | Oction 2: A=7,897, B=1474.08, C=229.13 |
| Naphthelene | | | | | | 0.0017 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.6181; 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=8.954, B=1344.8, C=218.48 |
| Unidentified Components | | | | | | 9.9200 | N/A | N/A | 60.6264 | 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 | 81.0000 | | | 82.50 | Option 4: RVP=14, ASTM Slope=3 |
| 1,2,4-Trimetrylaenzene | | | | | | 0.0270 | N/A | N/A | 120.1900 | 0.0240 | 6.0001 | 120,19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2.2.4-Trimetrytoentane | | | | | | 0.7284 | 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 | 76,1100 | 0.0120 | 0.0027 | 76.11 | 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 | Oction 2: A=6.641, 8=1201_53, C=222.65 |
| Ethylbenzene | | | | | | 0.1354 | N/A | N/A | 108.1700 | 0.0128 | 0.0003 | 106.17 | Oction 2: A=8.975, 8-1424,255, C=213.21 |
| Hexane (-n) | | | | | | 2.2945 | N/A | N/A | 86, 1700 | 0.0130 | 0.0047 | 85.17 | 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=267,78 |
| Methyl alcohol | | | | | | 1,7968 | N/A | NA | 32,0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7,697, B=1474.08, C=229.13 |
| Naphchalene | | | | | | 0.0021 | NA | N/Å | 123,1600 | 0.0030 | 0.0000 | 123.18 | Option 2: A=6.6161, 8=1585.86, C=184.32 |
| Styrene | | | | | | 0.0917 | N/A | N/A | 104,1500 | 9.0009 | 0.0000 | 104.15 | Option 2: A+7, 14, B= 1574.51, C=224.09 |
| Toluene | | | | | | 0.4103 | NA | N/A | 92,1300 | 0.0600 | 0,0039 | \$2,13 | Option 2: A=6.954, B=1344.5, C=219.45 |
| Unidentified Components | | | | | | 10.6281 | N/A | N/A | 60.6111 | 0.7529 | 0.9807 | 77,89 | |
| Xylenes (LUxed) | | | | | | 0.1155 | N/A | NA | 106.1700 | 0.0700 | 0.0013 | 108,17 | Option 2: A=7.009, 8=1462.266, C=215.11 |
| Equilion Gasofine RVP 14.0 | Jun | 70.33 | 51.45 | 79.22 | 61.57 | 9.0984 | N/A | N/A | 61,0000 | | | 82.50 | Option 4: RVP=14, ASTM Slope=3 |
| 1.2.4-Trimethyberzene | | | | | | 0.0305 | N/A | NA | 120,1600 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.58 |
| 2.2.4 TrimeTrylpentane | | | | | | 0.7957 | N/A | N/A | 114,2300 | 0.0470 | 0.0056 | 114.23 | Oction 2: A=6.8118, 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, 8= 1211.033, C=220.78 |
| Cyclohexane | | | | | | 1.5922 | N/A | N/A | 84.1600 | 0.0024 | 0.0006 | 64,16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Einythenzane | | | | | | 0.1542 | N/A | NA | 106.1700 | 0.0120 | 0.0003 | 108.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hezane (-n) | | | | | | 2,4850 | N/A | N'A | 85.1700 | 0.0130 | 0.0048 | 66,17 | Option 2: A=8.876, B=1171,17, C=224,41 |
| isopropyi benzene | | | | | | 0.0746 | NA | N/A | 120,2000 | 0.0015 | 0.0000 | 120,20 | Option 2: A=8.963, B=1450.753, C=207.78 |
| Methyl alcohol | | | | | | 1,9820 | N/A | N/A | 32,0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7.897, 8=1474.08, C=229.13 |
| Nephthalene | | | | | | 0.0025 | NA | 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 |
| Tolugne | | | | | | 0.4520 | N/A | N/A | 92,1300 | 0.0600 | 0.0040 | 92.13 | Option 2: A=8.954, B=1344.B, C=219.45 |
| Unidentified Components | | | | | | 11,2564 | N/A | N/A | 60,5980 | 0.7529 | 0.9801 | 77.89 | |
| Xvianes (Mized) | | | | | | 0.1288 | N/A | N/A | 106.1700 | 0.0700 | 0.0013 | 106.17 | Option 2; A=7.009, 8=1462.268, C=215.11 |
| Equilon Gasoline RVP 14.0 | Jul | 72.25 | 63.02 | 81.48 | 61.57 | 0.4125 | N/A | N/A | 61.0000 | • | 0.001 | 82.58 | Option 4; RVP=14, ASTM Slope=3 |
| 1.2.4 Trimethylashzene | | | | | | 0.0329 | N/A | NVA. | 128,1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7,04383, B=1573,257, C=208.56 |
| 2.2,4-Trimethyloentane | | | | | | 0.8396 | N/A | N/A | 114,2300 | 0.0470 | 0.0057 | 114.23 | Option 2; A=6.6118, B=1257.84, C=220.74 |
| Benzono | | | | | | 1,6250 | NA | N/A | 78,1100 | 0.0128 | 0.0028 | 78,11 | Option 2: A=8,905, B=1211.033, C=220.79 |
| Cyclohesane | | | | | | 1.6728 | NA | N/A | 84,1600 | 0,0024 | 0.0006 | 64.18 | Option 2: A=6.841, B=1201,53, C=222,65 |
| Ethylbenzene | | | | | | 0.1642 | N/A | NVA | 106.1700 | 0.8120 | 0.0003 | 105.17 | Option 2: A=6.975, B=1424,255, C=213.21 |
| Hezana (-n) | | | | | | 2,6088 | N/A | N'A | 85.1700 | 0.0130 | 0.0049 | 69.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| Isopropyl benzene | | | | | | 0.0798 | N/A | N/A | 128,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=0.963, B=1450,783, 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 |
| Nephtialene | | | | | | 0.0027 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.66, C=184.32 |
| Styrane | | | | | | 0.1091 | N/A | N/A | 104,1500 | 0.0005 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluena | | | | | | 8,4784 | N/A | N/A | 92,1300 | 0.0600 | 0.0041 | 92.13 | Option 2: A=6.954, B=1344, B, C=219.48 |
| Unidentified Components | | | | | | 11.8423 | N/A | NA | 60.5901 | 0.7529 | 0.9797 | 77.89 | · · · · · · · · · · · · · · · · · · · |
| Xylenes (Mixed) | | | | | | 9.1373 | NA | NA | 106.1700 | 0.0700 | 0.0014 | 106,17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| Equion 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-Trime@ytbonzene | - | | | | | 0.0319 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, 8=1573.267, C=208.55 |
| 2,2,4-7 meetry partane | | | | | | 9.6214 | N/A | N/A | 114.2300 | 0.0470 | 0.0056 | 114.23 | Option 2: A=8.8118, B=1257.84, C=220.74 |
| Bonzena | | | | | | 1.5910 | NA | N/A | 76.1100 | 0.0120 | 0.0028 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.78 |
| Cyclohexane | | | | | | 1.6388 | N/A | N/A | 84.1900 | 0.0024 | 0.0006 | 84.16 | Option 2: A=8.841, 8=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1599 | N/A | NVA. | 106.1700 | 0.0120 | 0.0003 | 108.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-r) | | | | | | 2,5576 | N/A | N/A | 86,1700 | 0.0130 | 0.0048 | 66.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropy! Denzene | | | | | | 0.0776 | N/A | N/A | 120.2000 | 6.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.793, C=207.78 |
| | | | | | | | | | | | | | |

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|--|----------|-------|-------|-------|-------|---------|-----|------------|----------|--------|----------|--------------|---|
| 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 |
| Napithalene Styrene | | | | | | 0.0026 | N/A | NA | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.0181, B=1565.86, C=184.32 |
| Toluene | | | | | | 0.1062 | N/A | N/A | 104.1500 | 0.0005 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| | | | | | | 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 Xylenes (Mixed) | | | | | | 11.4795 | N/A | NIA | 60.5934 | 0,7529 | 0.9799 | 77,89 | |
| Equilon Gasoline RVP 14.0 | B | ~~~ | | | | 0.1337 | N/A | N/A | 106.1760 | 0.0700 | 0.0014 | 105.17 | Option 2; A=7.009, B=1452.268, C=215.11 |
| 1,2,4-Trimethylbonzene | 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 |
| 2,2,4-Trimethylpentene | | | | | | 0.0291 | N/A | N'A | 120.1800 | 0.0240 | 6.0001 | 120.19 | Option 2: A=7.84393, B=1573.287, C=208.56 |
| 2,2,4~1 menyipencene Benzone | | | | | | 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 |
| Cyclohexane | | | | | | 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 |
| | | | | | | 1.5392 | N/A | N/A | 84.1600 | 0.0024 | 0.0006 | 64.16 | Option 2: A=6.841, 8=1201.53, C=222.65 |
| Estylbenzane | | | | | | 6,1478 | N/A | NľA | 106.1700 | 0.0120 | 0.0003 | 108.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Herane (-n) Isopropyl benzene | | | | | | 2.4083 | N/A | N/A | 86.1700 | 0.0130 | 0.0048 | 88,17 | Option 2: A=5.876, B=1171.17, C=224.41 |
| | | | | | | 0.0712 | N/A | N/A | 120.2000 | 0.0015 | 0.0000.0 | 120.20 | Option 2: A=6.963, B=1460,793, C=207.78 |
| Methyl sloohol | | | | | | 1,9054 | N/A | N/A | 32.0400 | 0.0014 | 0.0004 | 32,84 | Option 2: A=7.697, 8=1474.08, C=229.13 |
| Naphthalene | | | | | | 0.0023 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8161, B=1585.86, C=184.32 |
| Styrena | | | | | | 0.0979 | N/A | N/A | 104,1500 | 0.0006 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluene | | | | | | D.4347 | N/A | N/A | 92_1300 | 6.0600 | 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 | 6.9804 | 77,£9 | |
| Xylenes (Mixed) | _ | | | | | 0.1233 | N/A | NYA | 106,1700 | 0.0700 | 0.0013 | 106,17 | Option 2: A=7.009, B=1462.266, Ce215.11 |
| Equilon Gasoline RVP 14.0 | Oa | 64.64 | 58.13 | 71.16 | 61.57 | 8.2151 | N/A | N/A | 61,0000 | | | 62.50 | Option 4: RVP=14, ASTM Slope=3 |
| 1,2,4-Trimestybenzene | | | | | | 6.0246 | N/A | NYA | 120.1900 | 6.0240 | 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 | D.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 | 6.6120 | 0.0025 | 76,11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohezane | | | | | | 1.3720 | N/A | N/A | 84,1600 | 0.0024 | 0.0005 | 84,18 | Option 2: A=6.641, B=1201.53, C=222.65 |
| Ethylbenzone | | | | | | 0.1274 | N/A | N/A | 106,1700 | 0.6120 | 0.0003 | 106.17 | Option 2: A=8.975, B=1424.255, C=213.21 |
| Hezana (-n) | | | | | | 2,1564 | N/A | N/A | 86.1700 | 0.0130 | 6.0045 | 86.17 | Option 2: A=6.676, B=1171.17, C=224.41 |
| Isopropy! benzena | | | | | | 0.0607 | N/A | N/A | 120.2060 | 6.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, 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 |
| Napithalene | | | | | | 0.0019 | N/A | N/A | 128.1600 | 0.0030 | 6.0000 | 128.16 | Option 2: A=6.8181, B=1585.66, C=184.32 |
| Styrene | | | | | | 6.0644 | N'A | N/A | 104.1500 | 0.0005 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Tolusne | | | | | | 6.3809 | N'A | 1J/A | 82,1390 | 0.0600 | 0.0038 | 92,13 | Option 2: A=6.954, B=1344.8, C=219.43 |
| Unidentified Components | | | | | | 16.1713 | N'A | t¥A | 60.6209 | 0.7529 | 0,9812 | 77,89 | |
| Xylenes (Mixed) | | | | | | 0.1062 | N/A | N/A | 106.1700 | 6.0700 | 0.0012 | 105.17 | Option 2: A=7.009, B=1452.265, C=215.11 |
| Equilon Gasoline RVP 14.0 | Nov | 58.87 | 54.21 | S.S | 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-Trimethylpontane | | | | | | 0.5765 | N/A | N/A | 114,2300 | 0.0470 | 0.0050 | 114.23 | Option 2; A=6.6116, B=1257.84, C=220.74 |
| Benzane | | | | | | 1.1317 | N/A | N¥A | 78,1100 | 0.6120 | 6,0025 | 78.11 | Option 2: A=6.905, B=1211,033, C=220.79 |
| Cyclohexane | | | | | | 1.1749 | N/A | N/A | 84,1600 | 6.0024 | 6.0005 | 84.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1043 | N/A | N/A | 106.1700 | 6.0120 | 0.0002 | 106.17 | Option 2: A=5.975, 8=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 1.8578 | N/A | N/A | 85.1700 | 0.6130 | 0.0044 | 86,17 | Option 2: A=6.676, B=1171, 17, C=224,41 |
| lsopropyi benzene | | | | | | 6.0490 | N/A | NYA | 120.2000 | 0.0015 | 6.0006 | 120.20 | Option 2: A=6.963, 9=1460.793, C=207.78 |
| Methyl alcohol | | | | | | 1.3915 | N/A | N/A | 32,0400 | 0.0014 | 0.0004 | 32.84 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphshalene | | | | | | 0.0014 | N/A | N/A | 128,1600 | 0.0030 | 6.0000 | 128.18 | Option 2: A=8.8181, B=1585.86, C=184.32 |
| Styrene | | | | | | 0.0690 | N/A | N∛A | 184.1500 | 6.0005 | 0.0000 | 104.15 | Option 2: A=7.14, B=1674.51, C=224.09 |
| Toluene | | | | | | 0.3167 | N/A | N/A | 92.1300 | 0.0600 | 0.0035 | 82.13 | Option 2: A=5.954, B=1344.8, C=219.46 |
| Unidentified Components | | | | | | 9.1552 | N'A | N/A | 60.6436 | 0.7529 | 0.9823 | 77,69 | |
| Xylenas (Mirad) | | | | | | 6.0668 | N'A | N/A | 106.1700 | 6.0700 | 0.0011 | 106.17 | Option 2: A=7.009, 8=1462.268, 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-Trimethybenzene | | | | | | 0.0167 | N/A | N/A | 120.1900 | 0.0240 | 6.0001 | 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 | 6100.0 | 114.23 | Option 2: A=5.8118, B=1257.84, C=220,74 |
| 8crzene | | | | | | 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 | 64,1600 | 0.0024 | 0.0005 | 84.16 | Option 2: A=8.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 6.0909 | N/A | N/A | 106.1700 | 6.0120 | 0.0002 | 106,17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexene (-n) | | | | | | 1.6765 | N/A | HVA | 66,1700 | 0.0130 | 6.0043 | 65.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| Isopropyl benzene | | | | | | 0.0423 | N/A | NA | 120.2000 | 6.0015 | 0.0000 | 120,20 | Option 2: A=6.963, B=1460.793, C=207.78 |
| Methyl alcohol | | | | | | 1.2269 | NA | NA | 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 | 6.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluena | | | | | | 0.2816 | N/A | N/A | 92.1300 | 0.0600 | 6.0033 | 82.13 | Option 2: A=6.954, B=1344.8, C=219.46 |
| Undentified Components | | | | | | 8.5170 | N/A | N/A | 88.6584 | 6.7529 | 0.9630 | 77_89 | |
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| Xylenes (Mixad) | 0.0756 | N/A | N/A | 106.1700 | 0.0700 | 0.0010 | 105.17 | Option 2: A=7.009, B+1462.265, C=215.11 |
|-----------------|--------|-----|-----|----------|--------|--------|--------|---|
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TANKS 4.0.9d Emissions Report - Detail Format Detail Calculations (AP-42)

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

| Month: | January | February | March | InqA | May | era£ | July | August | September | October | November | Decembe |
|---|-----------------------------|-------------------|----------|-------------------|------------------|--------------|----------------------|--------------------------|----------------------------|----------|--------------------------|---------|
| Rim Seal Lossas (b): | 173.6028 | 192.5166 | 227.6882 | 265.3714 | 326.7710 | 360,3067 | 338.7079 | 310.5718 | 267.3274 | 213.9865 | 167.0127 | 165.669 |
| Seal Factor A (ID-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 | 0.700 |
| Seal Factor B (ID-mole/it-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 | 0.300 |
| 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 | 6.400 |
| 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 | 1,200 |
| Value of Vapor Pressure Function: Vapor Pressure at Daily Average Liquid | 0.1564 | 0.1685 | 0.1788 | 0.1940 | 0.2155 | 0.2362 | 0.2497 | 0.2439 | 0.2275 | 0.2014 | 0.1726 | 0.155 |
| Surface Temperature (psia): | 6.8836 | 7.2549 | 7.5756 | 6.0107 | 8.5869 | 9.0964 | 9.4128 | 92501 | 0.8891 | 8,2151 | 7,3890 | 6.870 |
| Tank Diameter (t): | 60,0000 | 60.0000 | 60.0000 | 60,0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60,000 | 60.0000 | 60.0000 | 60.000 |
| Vapor Molecular Weight (Ib/Ib-mole): | 61,0000 | 61,0000 | 61,0000 | 61,0000 | 61.0000 | 61.0000 | 61.0000 | 61.0000 | 01.0000 | 61,0000 | 61,0000 | 01.000 |
| Product Factor: | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.000 |
| Withdrawai Losses (Ib): | 13.3468 | 13.3458 | 13.3468 | 13.34 66 | 13.3459 | 13,3466 | 13.3468 | 13.3468 | 13.3466 | 13.3468 | 13.9468 | 13.346 |
| Net Throughout (gal/mo.): | 4.246,068,9160 4.2 | | | | | | | 246,068,9160 4 0.0015 | 246,053,9160 4,2 0.0015 | 0.0015 | 246,068.9160 4 0.0015 | 0.001 |
| Shell CEngage Factor (bbl/1000 sch): | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 5.6000 | 0.0015 | 0.0015 | 5.5000 | 5.6000 | 5.6000 | 5.6000 | 5.600 |
| Average Organic Liquid Density (Ib/gal): Tank Diameter (II): | 5.6000 60.0000 | 5.6000 60.0000 | 60.0000 | 5.6000 60.0000 | 5.6000 | 60.0000 | 60.0000 | 601000 | 220000 | 50,0000 | 60.0000 | 60.000 |
| Root Fitting Losses (tc): | 198.1342 | 220,7531 | 265.4482 | 316.8840 | 401_3201 | 439.8148 | 401.8144 | 353,4410 | 308.0319 | 242,5068 | 187,1756 | 167.627 |
| 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 | 6.1728 | 0.155 |
| Vapor Molecular Weight (Ibrio-mole): | 61.0000 | 61.0000 | 61,0000 | 61.0000 | 61.0000 | 01.0000 | 61,0000 | 61,0000 | 61.0000 | 61.0000 | 61,0000 | 61,000 |
| Product Factor: | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Tot. Ruol Fizing Loss Fact (Ib-mole/yr): | 249.2911 | 257,7306 | 293.1182 | 321.3452 | 368.3441 | 366.3441 | 316.5414 | 263.1182 | 268.1340 | 236.9412 | 213.3680 | 236.94 |
| Average Wind Speed (mph): | 9.7000 | 6.9000 | 7,7000 | 8.3000 | 9.2000 | 9.2000 | 1.2000 | 7.7000 | 7,1000 | 5.4000 | 5.8000 | 6.400 |
| Total Losses (Ib): | 385.0838 | 426.6160 | 507.4832 | 596.6022 | 743.4379 | 013.4683 | 753.8692 | 687.1595 | 588.7060 | 459.9401 | 367.5351 | 365.643 |
| | <u> </u> | | | | | F | Rool Fitting Loss Fi | ectors | | | | |
| Root Fitting/Status | | | | Overnity | KE | (lo-male/yr) | KFb(lb-mole/(yr n | etr :s)) | | 6 | Losses(b) | |
| Access Hatch (24-In, Diam.)/Botted Cover, Gaske | | | | 1 | | 1.00 | | 0.00 | | 00 | 19,5408 | |
| Automatic Gauge Float Well/Unbotted Cover, Unc | | | | 1 | | 10,00 | | 5.40 | 1. | | 584,7658 | |
| Root Leg (3-In. Diameter)/Adjustable, Conter Area | a, Ungasketed | | | 7 | | 0.82 | | 6.53 | 0 | | 127,2578 | |
| Roof Leg (3-in, Diameter)/Adjustable, Pontoon An | ea, Ungasketed | | | 9 | | 2.00 | | 6.37 | 0. | | 405.3292 | |
| Vecuum Breaker (10-in. Diam.)/Weighted Mech. / | | | | 1 | | 6.20 | | 1.20 | 0.5 | 94 | 148.01e3 | |
| Slotted Guide-Pole Sample Wel/Gask, Sliding Co | wer, w. Float, Wiper | | | 1 | | 21.00 | | 7.90 | 1. | | 2,228.0924 | |
| Gauge-Hatch/Sample Well (8-In, Diam, I/Weighted | A Lines Actuation Incomes | | | | | 2.30 | | 0.00 | 0,0 | ~~ | 28.0899 | |

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

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) | <u> </u> | |
|---------------------------|---------------|----------------|-------------------|----------------|-----------------|
| 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 |

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

Identification

| User Identification; | Stockton Tank 18 max daily gasoline |
|-------------------------------|--|
| City: State: | Stockton |
| | California Shall Oli Beaduate 110 |
| Company: Type of Tenk: | Shell Oil Products US |
| Description: | External Floating Roof Tank Throughput = 689,136 gal/day (1 turnover) |
| Description. | Throughput = 065,150 gavday (Thurnover) |
| Tank Dimensions | |
| Diameter (ft): | 60.00 |
| Volume (gallons): | 689,136.00 |
| Turnovers: | 365.00 |
| Painl Characteristics | |
| Internal Shell Condition: | Light Rust |
| Shell Color/Shade: | White/White |
| Shell Condition | Good |
| Root Characteristics | |
| Туре: | Pontoon |
| Fitting Category | Detail |
| Tank Construction and Rim-Sea | u System |
| Construction: | Welded |
| Primary Seal: | Liguid-mounted |
| Secondary Seal | Weather Shield |
| Deck Fitting/Status | |

Access Hatch (24-In. Ulam.)/Boited Cover, Gasketed Automatic Gauge Float Well/Unbolted Cover, Ungasketed Roof Leg (3-in. Diameter)/Adjustable, Center Area, Ungasketed Roof Leg (3-in. Diameter)/Adjustable, Pontoon Area, Ungasketed Vacuum Breaker (10-in. Diam.)/Weighted Mech. Actuation, Gask. Slotted Guide-Pole/Sample Well/Gask. Sliding Cover, w. Float, Wiper Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actuation, Ungask. s Haich (24-In, Ulam.)/Bolled Cover, Gaskeled

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

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TANKS 4.0.9d

Emissions Report - Detail Format

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Quantity

4

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Liquid Contents of Storage Tank

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

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| | | Тел | nily Liquid S operature (ch | eg (F) | Liquid Bulk Temp | Vapo | r Pressure I | (مندم) | Vapor Mol. | Liquid Mass | Vapor Mass | McL. | Basis for Vapor Pressure |
|---|--------------|-------|--------------------------------|--------|------------------------|---------|--------------|------------|----------------------|------------------|---------------|------------------|---|
| fixture/Component | Month | Avg. | Min. | Max. | (deg F) | Avg. | Min. | Max. | Weight. | FradL | Fract. | Weight | Calcutations |
| qualon 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 Skope=3 |
| 1,2,4-Trimethylbenzene | | | | | | 0.0167 | NA | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2.2.4-Trimethylpeniane | | | | | | 8.5161 | 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 | 76.1100 | 0.0120 | 0.0024 | 78.11 | Option 2: A=6.905, B=1211.033, C=220,79 |
| Cyclohexana | | | | | | 1.0586 | N/A | NVA | 84,1500 | 0.0024 | 0.0005 | 84.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| UnyDenzene | | | | | | 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 |
| lexane (-n) | | | | | | 1.6910 | NA | N/A | 66.1700 | 8.0130 | 8.0043 | 86.17 | Option 2: A=8.878, 8=1171.17, C=224.41 |
| icpropyl benzene | | | | | | 0.0424 | N/A | N/A | 120.2000 | D.0015 | 0.0000 | 120.20 | Option 2: A=6.953, B=1460.793, C=207,78 |
| tethyl 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 |
| laphthalene | | | | | | 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 |
| tyrene | | | | | | 0.0603 | N/A | N/A | 104,1500 | 0.0008 | 0.0000 | 184.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| oluene | | | | | | 0.2827 | N/A | N/A | \$2,1300 | 0.0600 | 0.0033 | \$2,13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Inidentified Components | | | | | | 8.5331 | NA | NVA | 68,6580 | 0.7529 | 0.9830 | 77,89 | Same 2, 180, 326, 28 (386, 2, 68219.40 |
| ylenes (Mixed) | | | | | | 0.0759 | N/A | N/A | 106.1700 | 0.0700 | 0.0010 | 105.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| uilon Gasofine RVP 14.0 | Feb | 57.96 | 53.17 | 62.75 | 81.57 | 7.2649 | N'A | N/A | 61.0000 | 0.0700 | 10.0010 | 82.50 | Option 4: RVP=14, ASTM Slope=3 |
| 2,4-Trimenylpenzene | | 41.54 | | wc.113 | 0 | 8.0168 | N'A | N/A | 128,1900 | 0.0240 | 0.0001 | 120.19 | Option 2; A=7.04383, B=1573.267, C=208.50 |
| 2.4-Trimethylpeniane | | | | | | 0.5615 | N/A | N/A | 114,2300 | 0.0470 | 0.0049 | 114.23 | Option 2: A#6.8116, B=1257.54, C=220.74 |
| Sizena | | | | | | 1,1033 | N/A | N/A | 78,1100 | 0.0120 | 0.0025 | 78.11 | |
| volohexane | | | | | | 1.1459 | N/A | N/A | 84.1600 | 0.0024 | 0.0005 | 84.16 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Dybenzene | | | | | | 0.1010 | N'A | N/A | 108.1700 | 0.0120 | 0.0002 | 106.17 | Option 2: A=6.841, B=1201.53, C=222.65 Option 2: A=6.975, B=1424.255, C=213.21 |
| Exans (-n) | | | | | | 1.8140 | N'A | NA | 65,1700 | 8.0130 | 0.0044 | 106.17 86.17 | |
| opropyl banzene | | | | | | 0.0473 | N'A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.876, B=1171.17, C=224.41 |
| ethyl alcohol | | | | • | | 1.3518 | N/A | N/A | 32,0400 | 0.0015 | 0.0004 | 32.04 | Option 2: A=6.963, B=1460.793, C=207.78 |
| aphthalene | | | | | | 0.0013 | N/A | N/A | 128,1600 | 0.000 | 0.0000 | 128,16 | Option 2: A=7.897, B=1474.08, C=229.13 |
| trene | | | | | | 0.0668 | N/A | N/A | 104,1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=8.8181, B=1585.86, C=104.32 |
| oluene | | | | | | 0.3097 | N/A | N/A | \$2,1300 | 0.0600 | 0.0035 | 92.13 | Option 2: A=7.14, B=1574.51, C=224.09 |
| nidentified Components | | | | | | 9.0025 | N/A | N/A | 60.5471 | 0.7529 | 8,9825 | 52.13 77.89 | Option 2; A=6.954, B=1344.8, C=218.48 |
| ytenes (Mixed) | | | | | | 0.0841 | N/A | N/A | - | | | | |
| ulion Gasoline RVP 14.0 | Mar | 60.22 | 54.36 | 66.07 | 61.57 | 7.5756 | N'A | N/A | 105,1700 61,0000 | 9.0700 | 0.0011 | 106.17 82.50 | Option 2: A=7.009, B=1462.266, C=215.11 |
| 2,4 Trimcthylbenzene | | 00.22 | 38.30 | 00.07 | 10,10 | 0.0206 | N/A | N/A | | 9 0340 | 0.000 | | Option 4: RVP=14, ASTM Slope=3 |
| 2,4-TrimeTrypenane | | | | | | 8,5994 | N/A | N/A N/A | 120,1900 114,2300 | 8.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.5 |
| enzena | | | | | | 1,1749 | N/A | N/A N/A | 78.1108 | 0.0476 | 0.0050 | 114.23 | Option 2: A=6.8116, B=1257, 64, C=220,74 |
| yciohexano | | | | | | 1.1749 | N/A | N/A N/A | 78.1108 84.1600 | 0.0120 | 0.0025 | 76.11 | Option 2: A=6.905, B=1211.033, C=220.76 |
| Dylbenzene | | | | | | 8,1094 | NVA NVA | N/A | 105,1700 | 0.0024 0.0120 | 0.0005 | 84.18 105.13 | Option 2: A=6.641, B=1201:53, C=222.65 |
| axune (-n) | | | | | | 1.9242 | N/A | N/A | 88,1708 | - | 0.0002 | 106.17 | Option 2: A=6.975, B=1424,255, C=213,21 |
| opropyl benzene | | | | | | 0,0515 | N/A | N/A | 120,2000 | 6.0130 0.0015 | 0.0045 | 86.17 120.20 | Option 2: A=6.878, B=1171,17, C=224,41 |
| entry alcohol | | | | | | 1.4520 | N/A | NA | 32,0400 | 0.0015 | 8.0004 | 32,04 | Option 2: A=6.963, B=1460.793, C=207.76 |
| aphthalene | | | | | | 0.0015 | N/A | N/A | 32,0400 | 0.0014 | | | Option 2: A=7.897, B=1474.08, C=229,13 |
| yrene | | | | | | 0.0724 | N/A | N/A | 126.1500 | 0.0030 | 0.0000 | 128.16 104.15 | Option 2: A=6.6181, B=1585.86, C=184.32 |
| ciuona | | | | | | 0.3324 | N/A | N/A | \$2,1300 | 0.0500 | 0.0000 | 104.15 \$2.13 | Option 2: A=7.14, B=1574.51, C=224.09 |
| midentified Components | | | | | | 9.3849 | N/A | N/A | 52,1300 60,6383 | 0.0500 | 0.9821 | \$2,13 77,89 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Aenes (Mixed) | | | | | | 0.0911 | N/A | NVA | 108.1700 | 0.7529 | 0.9021 | 108.17 | Orden 7: 6-7 000 B 1400 000 C 017 1- |
| ulon Gasoline RVP 14.9 | Apr | 63.26 | 55.98 | 70.54 | 61.57 | 6.0167 | N/A | N/A | 61,0000 | 0.0100 | 0.001 | 82.50 | Option 2: A=7.009, B=1462.266, C=215.11 Option 4: RVP=14, ASTM Stops=3 |
| 2.4-Trimethylbenzene | - + - | 0010 | | | 100 | 0.0233 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | |
| ter a second de la seconda de la se | | | | | | وتنهيدن | | 1074 | 120.1300 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.5 |

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| 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 | 64.1600 | 0.0024 | 9.0005 | 84.15 | Option 2: A=6.841, B=1201.53, C+222.65 |
| Emyloerzene | | | | | | 9.1215 | N/A | N/A | 106.1700 | 0.0120 | 9.0002 | 105.17 | Option 2: A=6.975, B+1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.0815 | N'A | N/A | 86,1700 | 9.0139 | 0.0046 | 65.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| hopropyl benzene | | | | | | 0.0577 | N/A | N'A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.953, 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=7.697, 8=1474.08, C=229, 13 |
| Naphthalene | | | | | | 9.0017 | N'A | N'A | 128.1600 | 9.0030 | 9.0000 | 128.15 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Styrene | | | | | | 9.0604 | 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=1344.0, C=219.48 |
| Unidentified Components | | | | | | 9.9200 | N/A | N/A | 60.6264 | 9.7529 | 0.9815 | 77.89 | |
| Xylenes (Mixed) | | | | | | 9,1013 | N/A | N/A | 106.1700 | 9.0700 | 0.0012 | 106.17 | Option 2: A=7.009, 8=1462,266, C=215.11 |
| Equilon Gasoline RVP 14.9 | May | 67,10 | 58.83 | 75.30 | 61.57 | 8.5869 | N/A | N/A | 61.0000 | | | 52.50 | 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, 8=1573.267, C=208.56 |
| 2.2,4-TrimeTrylpentane | | | | | | 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 |
| Benzena | | | | | | 1.4173 | N/A | N/A | 76.1100 | 0.0120 | 0.0027 | 78.11 | Option 2: A=6.905, 8=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1,4635 | N/A | N/A | 84,1600 | 9.0024 | 0.0006 | 84.16 | Option 2: A=6.641, B=1201.53, C=222.65 |
| Ethylbenzena | | | | | | 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 (-ri) | | | | | | 2,2945 | N/A | N/A | 86.1700 | 8.0130 | 0.0047 | \$6.17 | Option 2: A=6.876, 8=1171.17, C=224.41 |
| Isopropyl benzene | | | | | | 0.0664 | N/A | NYA | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=0.963, 8=1460.793, C=207.76 |
| Methyl alcohol | | | | | | 1.7968 | N¥A | N/A | 32,0400 | 0.0014 | 9.0004 | 32.04 | Option 2: A=7.697, B=1474.08, C=229.13 |
| Naphihalene | | | | | | 0.0021 | N/A | N/A | 128.1600 | 8.0030 | 9.0000 | 128.16 | Option 2: A=6.5181, B=1585.66, C=184.32 |
| Styrene | | | | | | 0.0917 | N/A | N'A | 104.1500 | 9.0008 | 9.0000 | 104,15 | Oction 2: A=7.14, B=1574.51; C=224.09 |
| Taluena | | | | | | 9.4103 | NA | ₽¥A | 92.1300 | 0.0600 | 9.0039 | 52.13 | Option 2: A=6.954, B=1344 A, C=219.48 |
| Unidentified Components | | | | | | 16.6281 | N/A | t∛A | 60.6111 | 0.7529 | 9.9607 | 77_89 | 0,000,000,000,000,000,000,000 |
| Xylenes (Mbed) | | | | | | 6,1155 | NA | NVA | 106.1700 | 9.9700 | 0.0013 | 105.17 | Option 2: A=7.608, 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 | 0.0100 | 0.001.0 | 82.50 | Option 4: RVP=14, ASTM Slope=3 |
| 1,2,4-Trimethylbanzene | | | •,,.• | | 01.01 | 0.0306 | N/A | N/A | 120,1900 | 9.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, 8=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=6.6118, 8=1257.84, C=220.74 |
| Benzene | | | | | | 1.5449 | N/A | N'A | 78,1100 | 0.0120 | 9,0023 | 73,11 | Option 2: A=6.905. B=1211.033. C=220.76 |
| Cycloherane | | | | | | 1.5922 | N/A | N/A | 84.1600 | 0.0024 | 9.0006 | 84.16 | |
| Elhyberzene | | | | | | 0.1542 | N/A | N/A | 106_1700 | 9.9120 | 9.0003 | 106.17 | Option 2: A=6.841, B=1201.53, C=222.65 Option 2: A=8.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2,4880 | N/A | N/A | 85,1700 | 9.9130 | 6.0048 | 66.17 | • |
| Isoprocyl benzene | | | | | | 0.0745 | N/A | N/A | 120,2000 | 9.0015 | 0.0000 | 120.20 | Option 2: A+6.876, B=1171.17, C=224.41 |
| Methyl stochol | | | | | | 1.9820 | N/A | N/A | 32.0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=6.953, B=1460.793, C=207.78 |
| Naphthalene | | | | | | 0.0025 | N/A | N/A | 128,1600 | 0.0030 | - | | Option 2: A=7.897, B=1474.08, C=229.13 |
| Shrene | | | | | | 0.1023 | N/A | N/A | 128,1600 | 0.0006 | 9.0000 | 128,15 | Option 2: A=5,8161, 8=1585.86, C=184.32 |
| Toluene | | | | | | 0.4520 | NA | N/A | 92.1500 | 9.0500 | 0.0000 | 104.15 92.13 | Option 2: A=7.14, 8=1574.51, C=224.09 |
| Undertified Components | | | | | | 11.2564 | N/A | N/A | 60.5960 | 9.7529 | 8,5801 | 77.89 | Option 2, A=6.954, B=1344.8, C=219.48 |
| Xylenes (Mixed) | | | | | | 6,1283 | N'A | N/A | 106,1700 | | 9,0813 | 106.17 | Option 2: A=7.009, B=1462.266, C=215,11 |
| Equilon Gasoline RVP 14.0 | J.J. | 72.25 | ഒര | 61.48 | 61.57 | | N/A | N/A | 61.0000 | 9.9700 | 610013 | 106,17 E2.50 | |
| 1,2,4-Tripetarbenzene | 501 | 144 | 03.04 | 01.40 | 01-27 | 9.4125 0.0329 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Option 4; RVP=14, ASTM Slope=3 |
| 2,2,4-Trimethylpentane | | | | | | | N'A | N/A | | | | | Option 2: A=7.04383, B=1573.267, C=208.56 |
| Benzene | | | | | | 9.6398 | N/A | | 114,2300 | 0.0470 | 9.0057 | 114.23 | Option 2: A=6.8119, 8=1257.84, C=220.74 |
| Cyclohexane | | | | | | 1.6250 | | NA | 78.1100 | 9.9120 | 0.0028 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Ethylbenzene | | | | | | 1.6728 | N/A | N/A | 84,1600 | 6.0024 | 9.0006 | 84,18 | Option 2: A=5.841, B=1201.53, C=222.65 |
| | | | | | | 9.1642 | N'A | N/A | 106,1700 | 0.0120 | 9.0008 | 106.17 | Option 2: A=6.975, 8=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 |
| sopropyl benzene | | | | | | 6.0798 | NA | N/A | 120.2000 | 0.0015 | 6.0000 | 120.20 | Option 2: A=6.953, B=1460.793, C=207.78 |
| Methyl alcohol | | | | | | 2.0992 | NA | N/A | 32.0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7,897, B=1474.08, C=229.13 |
| Naphthelene | | | | | | 0.0027 | N/A | NA | 128.1600 | 0.0030 | 0.0000 | 120.16 | Option 2: A=6.8181, 8=1585.88, C=184.32 |
| Styrene | | | | | | 0,1091 | N/A | N/A | 104.1500 | 0.0006 | 0.0000 | 104,15 | Option 2: A=7.14, 8=1574.51, C=224.09 |
| Toluene | | | | | | 0.4784 | N'A | NYA | 92.1300 | 0.0600 | 0.0041 | 92.13 | Option 2: A=6.954, B=1344.6, C=219.48 |
| Unidentified Components Videous Different | | | | | | 11.6423 | N/A | N/A | 60.5901 | 0.7529 | 0.9797 | 77.69 | |
| Xylenes (Mixed) | | 7 | aa - 4 | | . | 9,1373 | N/A | NA | 108.1700 | 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 | | | 82.50 | Option 4: RVP=14, ASTM Stope=3 |
| 1,2,4-Trimetrytoerzene 3.3.4 Trimetrytoerzene | | | | | | 9.0319 | N/A | N/A | 120,1900 | 9.0240 | 9,0001 | 120.19 | Option 2: A=7.04383, 8=1573.267, C=208.56 |
| 2.2.4-Trimemylpentane | | | | | | 0.6214 | N/A | N'A | 114,2300 | 0.0470 | 0.0058 | 114.23 | Option 2: A=6.6119, B=1257.64, C=220.74 |
| Benzene | | | | | | 1.5910 | N/A | NA | 78,1100 | 0.0120 | 9.0028 | 79.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexane Etc. Boursons | | | | | | 1.6366 | N/A | N/A | 64,1600 | 0.0024 | 0.0006 | 64.18 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0.1599 | N/A | N'A | 106.1700 | 0.0120 | 9.0003 | 105.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexana (-n) | | | | | | 2.5576 | N'A N'A | NA | 65.1700 | 9.9130 | 0.0048 | 89,17 | Option 2: A=6.878, B=1171.17, C=224,41 |
| isopropyi benzene | | | | | | 0.0776 | N/A | NA | 120.2000 | 9.0015 | 6.0006 | 120.20 | Option 2: A=6.953, B=1460.793, C=207.78 |

file://C:\Program Files\Tanks409d\summarydisplay.htm

| | 69.77 | 0086-0 | 62\$7.0 | 1859.09 | V/N | ¥/N | 041578 | | | | | | |
|--|-----------------|---------|------------------|------------------------|------------|-------------|-------------------|---------------|-------|-------|--------------|------|---|
| 89.612-0 (8.9401-8 (456.3-4 :5 robdo | EL 25 | £200.0 | 0090.0 | 0001725 | ¥/N ¥/N | ViN | BIEZ O | | | | | | i osiene Unidertified Companents |
| Opport 2. A.7.14, B.1574,51, C.224,09 | SL'HOL | 0000.0 | 8000.0 | 0051'901 | ViN | ¥/N | 1090.0 | | | | | | كالانجناق |
| Option 2: A=6.3161, B= 1585,36, C= 184,32 | 817821 | 0000'0 | 00000 | 128.1600 | ViN | ¥/N | 110010 | | | | | | anelaritrigaN |
| Option 2: A=7,697, B=1474,06, C=229,13 | 32.04 | 6000.0 | ¥100'0 | 35.0400 | Van | V/N | 1.2289 | | | | | | toricola tyrcola |
| Option 2: A=6,963, 8= 1460,783, C=207,76 | 05.051 | 000010 | 5100.0 | 120,2000 | ¥81 | ¥/N | C2+0'0 | | | | | | Isopropy benance |
| Option 2: A=6.876, B=1171, 17, C=224, 41 | £1.5\$ | £100.0 | 00100 | 0021198 | ¥/N | ¥/N | 59291 | | | | | | (u-) 8072384 |
| Option 2: Am6.975, 8-1424.255, C+213.21 | 21'901 | 2000 0 | 01120 | 00211901 | ¥/N | Van | 606010 | | | | | | enscheitete |
| Option 2: A=6.841, B=1201.53, C=222.65 | 91.10 | 2000.0 | 0.0024 | 0091'+8 | ¥/N | VAN | 9550"1 | | | | | | Cydonexane |
| Octor 2: A=6.906, B=1211.033, C=220.79 | 11.97 | +200.0 | 0210.0 | 0011782 | Y/N | ¥/N | E>1011 | | | | | | geureus |
| •5.055-0, •8.7251-8, 8118.8-4:5 mixed | C2 +11 | B>00.0 | 0410.8 | 11475300 | ¥/N | W/N | \$7150 | | | | | | anstractivitierenT-+.2.2 |
| 0ption 2: A=7,04383, B=1573,267, C=200 56 | EL 051 | 1000.0 | 0.0240 | 1501300 | ¥/N | ¥/N | £910.0 | | | | | | 908309000001-4,5 F |
| C+9qoita MT2A , MT-9VR : A notico | 0579 | | | 0000.18 | VAN | W/N | 502879 | 15-19 | PP 85 | 15115 | 96°#S | 39() | 0.41 9VR andozzo nolup3 |
| rr.2rs=0.365.54r=8.200.7=4.5 rong0 | (1.90L | 1100.0 | 0020'0 | 00/1.901 | ¥#N | ¥/N | 8990'0 | | | | | | (benik) terah(X |
| | 69° <i>11</i> | £285 0 | 6257,0 | 95149.03 | VAN | ¥/N | 2221.8 | | | | | | UnidersTeed Components |
| 84,812+0,8.4401+8,420244 S nobio | 61.58 | 8500.0 | 00000.0 | 0001726 | ¥/N | ¥/N | 1916-0 | | | | | | avanjo <u>1</u> |
| Option 2: A-7,14, 8-1574.51, C-224.09 | SLINDL | 000000 | 90000.0 | 0051701 | ¥/N | ¥/N | 069010 | | | | | | ananyis |
| Option 2: A=6.0181, 8=1585.66, C=164.32 | 91°821 | 000010 | 0 0030 | 128.1600 | V/N | W/N | P10010 | | | | | | analerizingen |
| Option 2: A=7,897, B=1474.08, C=229.13 | 10.22 | H000T0 | A100.0 | 32 OH00 | ¥∕N | V/N | 51601 | | | | | | forfoots fyritehi |
| Oktion 2: A=6.963, 8=1460,783, C=207,78 | 150 20 | 0,000 | S100.8 | 120,2000 | ¥/N | ¥/N | 06>0'0 | | | | | | eneurad hyperies |
| Option 2: A=6.676, 8=1171,17, C=224,41 | 71.83 | 110010 | 0.0130 | 0021199 | AW | AVM. | 0250TI | | | | | | (u) sustah |
| Option 2: A-6.975, B=1424.255, C=213.21 | £1.801 | 00005 | 07150 | 00/1/201 | YAN | Υл | CH01.0 | | | | | | auazuaqykyzy |
| Option 2: A=0.641, 8=1201.53, C=222.65 | 51'19 | 5000-0 | 100024 | 0091'18 | YAN | Y/N | 8471.1 | | | | | | ensister of the second s |
| 87.055-0,5051.151-8,505,8-4.50 (0000) | 11.07 | 5200'0 | 00120 | CO11'82 | ¥/N | V/N | 21C1 1 | | | | | | acazuag |
| Option 2: A-7.04 383, 8-1 573 267, C-206.56 Option 2: A-8.51 46, 8-1 257.64, C-220.74 | 114 23 | 0500'0 | 0210.0 | 0062.111 | A'M | V/N | \$925-0 | | | | | | ensineckyritemnT-4,S,S |
| C=0002 ATRA, AI-979 (APP) 00000 | 61.051 | 1000-0 | 0.0240 | 150,1800 | Y/N | V/N | \$610.0 | | | | | | eneurediyitterin T-4.S.1 |
| Option 2; A=7.009, 8+1462.266, C=215.11 | 05-20 21-901 | 210070 | | ¢1,0000 | V/N | V/N | 0685.7 | 25.13 | 65.69 | 12.42 | 29°95 | AON | 0.11 9VA snitesed nations |
| 11 312-3 33C 2711-8 000 2-4-20-00 | 69°11 | 21000 | 0020'0 6252'0 | 00/1901 | VAN | V in | 0.1062 | | | | | | XHenes (Wited) |
| Option 2: A-6,954, B=1344,8, C=218,48 | E1725 | 800010 | 009010 | 6023 09 | VAN | WN | £121'01 | | | | | | theory Components |
| Option 2: A=7.14, 6=1574,51, C=224,09 | 51.101 | 000070 | 900010 | 005176 | ¥/N ¥/N | ¥/N | 6080-0 | | | | | | Toluene |
| SE 481 - O . 38 2821 - 8 . 1918 - 9 . 5 . 6 . 00000 | 91'82'I | 000070 | 00000 | | | Y/N | 179000 | | | | | | Strene |
| Option 2: A=7,897, 8=1474.00, C=229.13 | 10'20 | 100010 | \$100'0 | 1581 (600 · 35°0«00 | ¥∕N | ¥/N | 6100.0 | | | | | | analarurqsM |
| Option 2: A=6.953, B=1460.793, C=207.78 | OZ OZI | 000070 | 510018 | 120,2000 | | Y/N | 89991 | | | | | | Interial Article |
| Option 2: A=6.878, 8=1171,17, C=224,41 | 21.99 | 8100.0 | 001070 | 0021199 | A'N A'N | AV AV | 1090'0 19951'Z | | | | | | scorophy beneaus |
| Option 2: A-6.975, B-1424, 2555, C-213,21 | 21 90 | £000T0 | 0210.0 | 0021 901 | ¥/N ¥/N | ¥/N | V/21 0 | | | | | | (n-) ensish |
| Option 2: A=6.841, B= 1201.53, C+222.65 | 01.00 | \$000.0 | ¥200'0 | 0091.28 | Y/N | ¥/N | 02/210 | | | | | | Eliytoentene |
| Option 2: A=6.905, 8-1211.033, C=220.75 | t1'97 | \$200.0 | 02:00 | 0011782 | Y/N | YAN | 1 3568 | | | | | | Cycloherane |
| Option 2: A=6.6118, B=1257, 84, C=220,74 | 114'53 | E900'0 | 04+010 | 11+5200 | YAN | VAN | 003910 | | | | | | |
| Option 2: A=7.04383, B= 1573.267, C=208.56 | 61 021 | 1000.0 | 0.0240 | 0061'021 | YAN | W/N | 0.0246 | | | | | | animating a |
| E-ogois UTEA . M-949 . Maine | 05 28 | | | 000019 | V/N | VAN | ISIZE | <i>LS</i> *19 | 91.12 | CU195 | P9'19 | ÞΟ | enstractional - F.S. I |
| 11.215-0, 365, 541-8, 600, 7-A 15 notice | 21'901 | £100.0 | 002810 | 0021-901 | V/N | VAN | 0 /533 | L. 1.3 | 31 14 | C1 83 | 1019 | -0 | 0.41 TYP 0.000 200 DATE |
| | 69712 | 102510 | 6251'0 | 60.6033 | ¥/N | VA | HGG0 OL | | | | | | Unidentified Components Xytenes (Mixed) |
| Option 2: A=6.954, B=1344.B, C=219.48 | £1725 | 010010 | 0090'0 | 00C1 26 | ¥/N | ¥/N | TACA.0 | | | | | | Totoere |
| 0pdon 2: A=7.14, 8-1574.51, C=224.09 | SI'101 | 000010 | B000°0 | 0051-101 | ¥/N | ¥/N | 6460"0 | | | | | | energi2 |
| Option 2: A=6.6101, 9-1565,66, C+164.32 | 91 92 | 000070 | 0000.0 | 0091'021 | VAN | ¥/N | 6200.0 | | | | | | analarticah anany2 |
| EI. 255-0 .80. 17+1-8 .728. TA .5 mildO | 35.04 | P000.0 | \$100°0 | 33 OH 60 | ¥/N | ¥/N | M505"L | | | | | | incols from |
| 07.105-0 EET.03+1-8 E3E.3-A 12 noiseO | 150.20 | 000010 | \$100.0 | 1 20,2000 | Y/N | ¥/N | S170.0 | | | | | | euezueg juliosi |
| 1%,%25=3 .{1,17,11=8 ,878,8=4 :S milition | 21.99 | 6100.0 | 0510.0 | 00/1199 | V/N | W AN | 24083 | | | | | | (U-) BUETAH |
| Option 2: A=6.975, 9+1424,255, C=213.21 | 21.301 | £000.0 | 0.0120 | 0021'901 | ¥/N | ¥/N | 9/110 | | | | | | anaznadini a |
| Option 2: A.6.641, 8-1201,53, C-222,65 | 91.18 | 900070 | >20010 | 0031.48 | ¥/N | ¥/N | 26051 | | | | | | Cycloherane |
| Option 2: A=6.905, 650,1121-6,220,79 | 11.87 | 1500.0 | 02100 | 0011.87 | AW | ¥/N | C261 I | | | | | | Benzene |
| Option 2: A=6.6116, 6=1257.64, C=220.74 | 62741 | 5500'0 | 021070 | 114 5300 | ¥/N | V/N | 5892.0 | | | | | | entirectyrtents 1. A.S.S. |
| Option 2: A=7 04363, 8= 1573,267, C=206,56 | 81.0ST | 1000.0 | 0*20.0 | 150'1900 | ¥/N | ¥/N | 1620.0 | | | | | | enscredit/domail.A.S.1 |
| E=agol3 MT2A _+1=9VR :+ noilgO | 02.58 | | | 0000.18 | Y/N | A'N | 1699.9 | 15.18 | 11.91 | 92°L9 | CO 69 | des | Culton Gasoline RVP 14.0 |
| 00000 2: A=7,009, B=1462 266, C=215.11 | 21.301 | 100.0 | 002070 | 00211901 | VN | ¥/N | 70. 1337 | | | | | _ | X/poes (reces) |
| | 69°11 | 6616.0 | 6252.0 | ¥C65 09 | ₩/N | ¥/N | 962711 | | | | | | Unider taged Components |
| Option 2: Ar6.954, 8=1344.8, C=215,48 | £178 | 1100.0 | 009010 | 0061.58 | A'N | ¥/N | C197'0 | | | | | | Toluene |
| Option 2: A=7,14, 8=1574,51, C=224,09 | SC'HOL | 000010 | 2000.0 | 0051.101 | AW | ¥/N | 290110 | | | | | | Synteme |
| 20.481-0.281.92-161.818.8-A-2 military | 91.921 | 000070 | 0.0030 | 0091,051 | ¥/N | ¥/N | 0.0026 | | | | | | enalertings/ |
| Er.252-3, 80, 4741-8, 768,74A :S noigO | 10.55 | P000.0 | ¥100'0 | 35,0400 | AW | W/N | 20434 | | | | | | lontocke hyrtoshe |
| | | | | | | | | | | | | | |

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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

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

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

| Month: | January | February | March | April | May | June | July | August | September | October | November | December |
|--|------------------------------|---------------------------|----------|----------|----------|---------------------------|-------------------|-----------|-----------------------------|---------------------------------------|--------------------------|------------------------|
| Rim Seal Losses (b): | 173.5028 | 192.5168 | 227.6882 | 266.3714 | 328.7710 | 360.3067 | 338,7079 | 310.5716 | 267.3274 | 213.9865 | 157.0127 | 165.6694 |
| Seal Factor A (Ib-mole/fl-yr): | 0.7000 | 0.7000 | 0.7000 | 0.7000 | D.7000 | D.7000 | 0,7000 | 0.7000 | D.7000 | 0.7000 | 9.7000 | 0.7000 |
| Seal Factor B (Ib-mole/It-yr (mph)*n): | 0.3000 | 0.3000 | 0.3000 | 0.3000 | 0.3000 | 0.3000 | 0.3000 | 0.3000 | D.3000 | 0.3000 | 8.3000 | 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; Vapor Pressure at Daily Average Liquid | D.1564 | 0.1685 | 0.1788 | 0.1940 | 0.2155 | 0.2362 | 0.2497 | D.2439 | 0.2275 | 0.2014 | 8,1726 | 0.1555 |
| Surface Temperature (psia): | 6.6838 | 7_2649 | 7.5756 | 8.0107 | 8.5869 | 8.0984 | 9.4128 | 9.2801 | 8.6891 | 5.2151 | 7.3890 | 6.8705 |
| Tenk Diameter (II): | 60.0000 | 60,0000 | 60.0000 | 60.0000 | 60,0000 | 60.0000 | 60.0000 | 60.0000 | 50.0000 | 60.0000 | 60.0000 | 60.0000 |
| Vapor Molecular Weight (Ib/lo-mole): | 61.0000 | 81,0000 | B1,0000 | 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 | 1,8000 | 1.0000 | 1,0000 | 1.0000 |
| Withdrawal Losses (b): | 65,8881 | 65.8881 | 65.6881 | 65.8891 | 65.8891 | 65.8861 | 65.6881 | 65.8981 | 65.8881 | 65.8851 961.220.000020 | 65.6681 961.220.00020 | 65.8881 961,220,000 |
| Net Throughout (galimo.); Shell Clingage Factor (bbl/1000 soft); | 20,961,220.000020. 0.0015 | 961.220.000020, 0.0015 | 0.0015 | 0.0015 | 0.0015 | 961,220,000020, 8,0015 | 0.0015 | 0.0015 | 0,961,220.000020; 0,0015 | 0.0015 <u>220</u> .00002 | 0.0002 | 0.0015 |
| Average Organic Liquid Density (bloch: | 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 (10: | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.0000 | 60.000 |
| Roof Fitting Lasses (b): | 198.1342 | 220,7531 | 266.4482 | 316.8840 | 401.2201 | 439.8148 | 401.8144 | 353.4410 | 308.0318 | 242.6068 | 167,1756 | 187.8274 |
| Value of Vapor Pressure Function: | 0.1564 | 0,1685 | D.1768 | 0.1940 | 0.2155 | 0.2362 | 0,2497 | 0.2439 | 0.2275 | 0,2014 | 0.1726 | B.155 |
| Vapor Molecular Weight (Ib/Io-mole): | 61.0000 | 61,0000 | 61.0000 | 61.0000 | 61.0000 | 61.0000 | 61.0000 | 61.0000 | 61.0000 | 61.0000 | 01.0000 | 61.0000 |
| Product Factor: | 1,0000 | 1.0000 | 1,0000 | 1.0000 | 1.0900 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1,0000 | 1,0000 | 1.000 |
| Tot. Roof Fiting Loss Fact (b-mole/yr): | 249.2911 | 257.7306 | 290.1182 | 321.3452 | 368.3441 | 366.3441 | 318.5414 | 293.1182 | 266.3340 | 236.9412 | 213,3680 | 236.941 |
| Average Wind Speed (mph): | B.7000 | 6.9000 | 7,7000 | 8.3000 | 9.2000 | 9.2000 | B.2000 | 7.7000 | 7.1000 | 6,4000 | 5.6000 | 6.400 |
| Total Losses (b): | 437.6251 | 479,1579 | 560.0245 | 649.1435 | 795.9792 | 866.0035 | 806.4105 | 739.9007 | 641.2473 | 522.4814 | 420.0764 | 419,384 |
| | | | | | • | | Root Ficting Loss | Factors | | · · · · · · · · · · · · · · · · · · · | | |
| Root Fitting/Status | _ | | | Qua | πzγ | KFa(lo-mole/yr) | KPb(lo-mole/y | r mph*nj) | | TB- | Losses(b) | |
| | | | | | | 1.60 | | B.00 | | | 18.5408 | |
| Access Hatch (24-In. Diam.)/Botted Cover, Ga Automatic Geoge Flost Well/Unbotted Cover, | | | | | - | 14.00 | | 5.40 | | . 18 | 584,7658 | |
| Roof Leg (3-in, Diameter/Adjustable, Center | | | | | ; | 0.82 | | 0.53 | | 1.14 | 127,2678 | |
| Roof Leg (3-in, Diameter) Adjustable, Ponion | | | | | 4 | 2.00 | | 6.37 | | 0.91 | 405.3292 | |
| Vacuum Breaker (10-in, Diam.)/Weighted Me | | | | | ī | 6.20 | | 1.20 | | 1.94 | 146.0143 | |
| Slotted Guide-Pole/Sample Well/Gask, Sliding | a Cover, w. Float, Whee | | | | i | 21.00 | | 7.90 | | .80 | 2,228.0924 | |
| Gauge-Hatch/Sample Well (8-in, Diam, I/Weld | | 1 | | | | 2.30 | | 0.00 | | 1.00 | 28.0899 | |

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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 | | | | | | | | | |
| Isopropyi 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 | | | | | | | | | |

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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 gas | soline Shell Oil Products US | External Floating Roof Tank | Stockton, California | 7,337.44 |
| Total Emissions for all Tanks: | | | | 14,044.39 |

للمصبح وجماعهم والمراج

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,

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

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

Page 25 of 41

N-758-16-0

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

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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 (it); | 85.00 | |
| Votume (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 | |
| Reaf Condition: | Good | |
| | | |
| Rim-Seal System | | |
| Primary Seal: | Mechanical Shoe | |
| Secondary Seal | Rim-mounted | |
| Deck Cherecteristics | | |
| Deck Fitting Category: | Detail | |
| Deck Type: | Welded | |
| | | |
| Deck Fitting/Status | | |

Access Hatch (24-In. Diam.)/Bolted Cover, Gasketed Gauge-Hatch/Sample Well (8-in. Diam.)/Weighted Mech. Actualion, Gask. Column Well (24-in. Diam.)/Pipo Col.-Siding Cover, Gask. Ladder Well (36-in. Diam.)/Siding Cover, Gasketed Roof Leg (3-In. Diameter)/Adjustable, Center Area, Sock Sample Pipe or Well (24-in. Diam.)/Sit Fabric Seal 10% Open Vacuum Breaker (10-in. Diam.)/Sit Fabric Seal 10% Open Vacuum Breaker (10-in. Diameter)/Adjustable, Pontoon Area, Sock Slotted Guide-Pole/Sample Well/Gask Sliding Covr. w. Float, Sleeve, Wiper

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

Quantity

16

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

| | | | ully Liquid Se | | Liquid _Bulk | | | | Vapor | Liquid | Vapor | | |
|--|-------|-------|-----------------------|-------|-----------------|------------------|--------------------|---------------|----------------------|------------------|---------------|------------------|---|
| ixture/Component | Month | Avg. | iperatura (di Min. | Max. | Temp (deg F) | Vepol Avg. | Pressure (Mén. | pela) Max. | Mai. Weight | Masa FracL | Mass FracL | Mol. Weight | Basis for Vapor Pretsure Calculations |
| guilon Gascilne RVP 14.0 | | 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-Trimethybonzene | | | | | | 0.0167 | 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 Trimethylpantane | | | | | | 0.5161 | N/A | N/A | 114.2300 | 0.0470 | 8.0048 | 114.23 | Option 2: A=8.8118, B=1257.84, C=220.74 |
| Senzena | | | | | | 1.0172 | N/A | N'A | 78,1100 | 0.0120 | 0.0024 | 78.11 | Option 2: A=6.905, 8=1211.033, C=220.79 |
| ydoherane | | | | | | 1,0586 | N/A | N/A | 84.1630 | 6.0024 | 0.0005 | 84.16 | Option 2: A=6.841, 8=1201.53, C=222.65 |
| by benzene | | | | | | 0.0913 | N/A | N/A | 106,1700 | 9.0120 | 0.0002 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| le=ans (-n) | | | | | | 1.6810 | N/A | N/A | 85.1700 | 0.0130 | 0.0043 | 66.17 | Option 2: A=6.676, B=1171.17, C=224.41 |
| iopropyl benzene | | | | | | 0.0424 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.953, 8=1460.783, C+207.78 |
| fethyl alcohol | | | | | | 1.2329 | N/A | N/A | 32.0400 | 0.0814 | 0.0003 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| laphtheicne | | | | | | 0.0011 | N/A | ₩A. | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.88, C=184.32 |
| ityrene Toluene | | | | | | 0.0503 | N'A | N/A | 104.1500 | 80008 | 0.0000 | 104,15 | Option 2: A=7.14, B=1574.51; C=224.09 |
| Inidentified Components | | | | | | 0.2827 | N/A | N/A | 92.1300 | 0.0600 | 0.0033 | 92.13 | Option 2: A=6.954, B=1344.8, C=218.48 |
| vienes (Mized) | | | | | | 8.5331 8.0759 | N/A N/A | N#A N#A | 60.6580 106.1700 | 0.7529 | 0.9630 | 77,89 106,17 | |
| ulion Gasoline RVP 12.5 | Feb | 57.96 | 53.17 | 62.75 | 61.57 | 6.3988 | N/A | N/A | 63.0000 | 00/00 | 0.0018 | 82.50 | Option 2: A=7.009, B=1452.258, C=215.11 Option 4: RVP=12.5, ASTM Stops=3 |
| 2.4-Trimelivibenzono | | 07.00 | | 02.75 | 01.57 | 0.0189 | N'A | N/A | 120,1900 | 0.0240 | 0.0001 | 120.18 | Option 2: A=7.04383, B=1573.287, C=208.56 |
| 2.4-Trimethyloentane | | | | | | 0.5815 | N/A | N/A | 114,2300 | 8.0470 | 0.0054 | 114.23 | Option 2: A=6.8118, B=1257.84, G=220.74 |
| lenzene | | | | | | 1,1033 | NUA. | N/A | 76.1100 | 0.0120 | 0.0027 | 78.11 | Option 2: A=6.905, 8=1211,033, C=220.79 |
| yciohexana | | | | | | 1,1459 | N/A | NA | 84,1800 | 0.0024 | 0.0006 | 64.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| inyberzene | | | | | | 0.1010 | N/A | N/A | 106.1700 | 0.0120 | 0.0002 | 108,17 | Option 2: A=0.975, B=1424.255, C=213.21 |
| texane (-n) | | | | | | 1.8140 | N/A | N/A | 66.1700 | 6,8130 | 0.0045 | 66.17 | Option 2: A=6.678, B=1171.17, C=224.41 |
| sopropyl benzene | | | | | | 0.0473 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=8.963, B=1460.793, C=207.78 |
| lethyl 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 |
| aphthalene | | | | | | 0.0013 | NºA | NVA. | 128.1600 | 0.0030 | 0.0000 | 128,18 | Option 2: A=6.8161, 8=1585.85, C=184.32 |
| tyrene | | | | | | 6.0668 | N/A | N/A | 104_1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| oluene | | | | | | 0.3097 | N/A | N/A | 92,1300 | 8.0600 | 0.0038 | 92.13 | Option 2: A=8.954, B=1344.8, C=216.48 |
| inidentified Components | | | | | | 7.9164 | N'A | N/A | 62,6258 | 0.7529 | 0.9807 | 77,89 | |
| Vienes (Mixed) Izilon Gasoline RVP 12.5 | NA | | | | | 0.0641 | N/A | N/A | 106,1700 | 0.0700 | 0.0012 | 106.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| 2.4-Trimethyberzene | Mar | 60.22 | 54.36 | 66.07 | 61.57 | 6.6772 | N/A N/A | N/A | 63.0000 | | | 62.50 | Option 4: RVP+12.5, ASTM Stope=3 |
| 2,4-Trimethylpentane | | | | | | 0.0205 | r¥A N∕/A | N/A N/A | 126.1900 114.2300 | 0.0240 0.0478 | 0.0001 | 120.19 114.23 | Option 2: A=7.04383, B=1573.287, C=208.56 |
| lenzene | | - | | | | 1,1749 | N/A | N/A | 78,1100 | 0.0120 | 0.0029 | 78,11 | Option 2: A=8.81 18, 8=1257.84, C=220.74 Option 2: A=8.905, B=1211,033, C=220.79 |
| Velohexane | | | | | | 1,2185 | N/A | N/A | 84,1600 | 0.0024 | 0.0006 | 84.16 | Option 2: A=6.841, 8=1201.53, C=222.65 |
| thereas | | | | | | 0,1094 | N/A | N/A | 105.1700 | 0.0120 | 0.0003 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| exane (-n) | | | | | | 1,6242 | N'A | N/A | 86,1700 | 0.0130 | 0.0049 | 88.17 | Option 2: A=5.876, B=1171.17, C=224.41 |
| opropyl benzene | | | | | | 0.0515 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=8.953, B=1460.793, C=207.79 |
| tethyl alcohol | | | | | | 1.4520 | N/A | N/A | 32,0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7.697, 8=1474.08, C=229.13 |
| taphthetene | | | | | | 0.0015 | N/A | N/A | 128.1600 | 0.0030 | 0.0000 | 128.18 | Option 2: A=5.8181, B=1585.86, C=184.32 |
| ilynene | | | | | | 0.0724 | N/A | N/A | 104,1500 | 0.0003 | 0.0000 | 184.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| duene | | | | | | 0.3324 | N/A | N/A | 92.1300 | 0.0600 | 0.0039 | 92.13 | Option 2: A=8.954, B=1344.8, C=219.46 |
| Unidentified Components | | | | | | 8.2582 | N/A | N/A | 62,6168 | 0.7529 | 0.9803 | 77_89 | |

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| Xylenos (Mixed) | | | | | | 0.0911 | N/A | N/A | 108,1700 | 0.0700 | 0.0013 | 108.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
|---|---------------|-------|---------------|---------------|-------|------------------|------------|------------|----------------------|------------------|---------|------------------|--|
| Equilon Gasoline RVP 12.5 | Apr | 63.28 | £5.9 6 | 70.54 | 61.57 | 7.0679 | N/A | N/A | 63.0000 | | | 62.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-Trimethybenzene | | | | | | 0.0233 | N'A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.257, C=208.58 |
| 2.2.4-Trimethylpontano | | | | | | 0.6539 | N/A | N/A | 114,2300 | 6.0470 | 0.0057 | 114.23 | Option 2: A=8.8118, B=1257.84, C=220.74 |
| Benzene | | | | | | 1.2775 | N/A | N/A | 76_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=8.876, B=1171.17, C=224.41 |
| isopropyl benzene Methyl alcohol | | | | | | 0.0577 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.953, B=1450.783, C=207.78 |
| | | | | | | 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, 6=1585.86, C=164.32 |
| 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 Heldert Ted Company | | | | | | 0.3651 | N/A | N/A | 92.1300 | 6.0600 | 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 | 77.96 | |
| Xytanes (Mixed) | | | | | | 0.1013 | NA | N/A | 106.1700 | 0.0700 | 0.0013 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Equilon Gesofine RVP 5.99 | May | 67.10 | 58.63 | 75.36 | 61,57 | 3.3580 | NA | N/A | 8000.83 | | | 82.50 | 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 Trimemylpentane | | | | | | 0.7294 | N/A | N/A | 114.2300 | 6.0470 | 9.0123 | 114.23 | Option 2: A=8.8118, B=1257.84, C=220.74 |
| Benzane | | | | | | 1.4173 | N/A | N/A | 78.1100 | 6.0120 | 0.0061 | 78.11 | Option 2: A=6.905, 8=1211.033, C=220,79 |
| Cyclohexane | | | | | | 1.4635 | N/A | N/A | 84.1900 | 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 |
| Hexana (-n) | | | | | | 2.2945 | N/A | N/A | B6,1700 | 0.0130 | 0.0107 | 66.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyt benzene | | | | | | 0.0664 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2; A=6.953, B=1460.793, C=207.78 |
| Methyl alcohol | | | | | | 1.7968 | ·N/A | N'A | 32.0400 | 0.0014 | 6.0009 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Nephchalene | | | | | | 0.0021 | N/A | N'A | 128,1900 | 0.0030 | 0.0000 | 128.16 | Option 2: A=8.8181, 8=1585.88, C=184.32 |
| Shrene | | | | | | 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 |
| Unident/lied 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, 8=1452.255, C=215.11 |
| Equilon Gasoline RVP 5.99 | ປະກ | 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 | | | | | | 0.0396 | N/A | N/A | 120.1900 | 6,0240 | 0.0002 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.58 |
| 2,2,4-Trimetryipentane | | | | | | 0.7967 | N'A | N/A | 114,2300 | 0.0470 | 0.0128 | 114.23 | Option 2: A=8.8118, 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 |
| Cyclohezane | | | | | | 1.5922 | hựa | N/A | 84,1900 | 0.0024 | 0.0013 | 84,16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Elhyiberzena | | | | | | 0.1542 | N'A | N/A | 106.1700 | 0.0120 | 9.0006 | 106.17 | Opton 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2,4880 | N'A | N/A | 86.1700 | 0.0130 | 0.0109 | 66.17 | Option 2: A=6.676, B=1171.17, C=224.41 |
| isopropyi benzene | | | | | | 0.0748 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, C=207.78 |
| Methol 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 |
| Naphihalene | | | | | | 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 | 0.000.0 | 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=219.46 |
| Unidercified Components | | | | | | 4.3817 | N'A | N/A | 67.2114 | 9.7529 | 0.9551 | 77,89 | |
| Xytenes (Mixed) | | | | | | 0.1288 | N/A | N/A | 105.1700 | 0.0700 | 0.0030 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Equilion Gasoline RVP 5.99 | لىد | 72.25 | 63.02 | 61.48 | 61.57 | 3,7578 | N'A | N/A | 0000.88 | | | 82.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trinestybenzene | | | | | | 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=8.8118, B=1257.84, C=220.74 |
| Berzane | | | | | | 1.6250 | N/A | N/A | 78.1100 | 0,6120 | 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 | 94,15 | Option 2: A=8.841, B=1201.53, C=222.65 |
| Ethylbenzens | | | | | | 0.1842 | N/A | N/A | 106.1706 | 0.0120 | 6.0005 | 106.17 | Option 2: A=6.975, B=1424.256, C=213.21 |
| Hoxano (-n) | | | | | | 2.0068 | N/A | N/A | \$6.1706 | 0.0150 | 9.0110 | 86.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| Isopropyi 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 | | | | | | 2.0792 | N/A | N/A | 32.0400 | 0.0014 | 0.0009 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphthalana | | | | | | 0.0027 | N/A | NA | 128,1900 | 0.0030 | 0.0000 | 128,16 | Option 2: A=8.8161, 8=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 |
| Totuene Unide stilled Components | | | | | | 0.4784 | N/A | N/A | 92,1300 | 0.0600 | 6.0093 | 92,13 77,60 | Option 2: A=6.954, B=1344.8, C=210.46 |
| Unidentified Components | | | | | | 4,5501 | N/A | N/A | 87,1990 | 0.7529 | 0.8544 | 77,59 | O-10-014 7000 D-1100 000 0 015 |
| Xylenes (Mixed) Equilion Gasoline RVP 5.99 | 8 1.45 | 71.45 | ~ ~ ~ | 80.0 7 | A | 0.1373 | N'A | N/A | 106.1700 | 9.0700 | 0.0031 | 106.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| 1,2,4-Trimstrytbenzene | Aug | 71,45 | 62.84 | 80.06 | 61.57 | 3.6975 | N/A N/A | N/A N/A | 68.0000 | 0.0240 | 0.0000 | 82.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trimethylpentane | | | | | | 0.0319 0.8214 | N/A N/A | N/A | 120.1900 114.2300 | 0.0240 | 6.0000 | 120.19 114.23 | Option 2: A=7.04383, B=1573.267; C=208.58 |
| 2,2,4 Pronosygenusno Benzone | | | | | | 1.5916 | N/A | N/A | 76.1100 | 0.0478 6.0120 | 0.0353 | 78.11 | Option 2: A=6.8116, B=1257.84, C=220.74 Option 2: A=6.905, B=1211.033, C=220.79 |
| Carlos and All of the | | | | | | 1.0010 | 110 | | 70.1100 | 0.0120 | | 70.11 | |

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| Page | 28 | of | 41 | |
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| Cyclohexane | | | | | | 1.6386 | N/A | N/A | 64.1600 | 6,0024 | 6.0013 | 84.16 | Option 2: A=6.841, B=1201_53, C=222_65 |
|---------------------------|-----|-------|-------|-------|-------|--------|---------------|------------|----------|------------------|--------|-----------------|---|
| Ethylbenzene | | | | | | 0.1599 | N/A | N/A | 105.1700 | 0.0120 | 0.0006 | 106.17 | Option 2: A=5.975, 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 | | | | | | 6.0776 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, 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 | 6.0003 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluena | | | | | | 0.4672 | N/A | N/A | 92.1300 | 0.0600 | 6.0092 | 92.13 | Option 2: A=6.954, B=1344.8, C=216.46 |
| Unidentified Components | | | | | | 4.4780 | N/A | NVA. | 67.2042 | 0.7529 | 0.9547 | 77.59 | |
| Xylenes (Mized) | | | | | | 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 | | | 62.50 | Option 4; RVP+5.99, ASTM Slope+3 |
| 1,2,4-Trimethytoenzere | | | | | | 0.0291 | N/A | N/A | 120.1600 | 0.0240 | 0.0002 | 120.16 | Option 2: A=7.04383, B=1573.287, 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 | NVA | N/A | 76.1100 | 0.0120 | 0.0052 | 76_11 | Option 2: A=6.905, B= 1211.033, C=220.79 |
| Cyclohexane | | | | | | 1.5392 | NVA | N/A | 84.1600 | 6.0024 | 0.0013 | 84.16 | Option 2: A=6.641, 8=1201.53, C=222.65 |
| Ethylbenzene | | | | | | 0,1475 | 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 | 66.1700 | 0.0130 | 0.0108 | 65.17 | Option 2: A=8.876, B=1171.17, C=224.41 |
| Isopropyl benzane | | | | | | 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 |
| Mathyl alcohol | | | | | | 1.9054 | NVA | N/A | 32,0400 | 0.0014 | 070008 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphthelene | | | | | | 0.0023 | N/A | N/A | 128,1600 | 6.0030 | 0,0006 | 128.16 | Option 2: A=6.8181, B=1585.88, 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_59 | |
| Xylenes (Mixed) | | | | | | 0.1233 | N/A | N/A | 108.1700 | 6.6700 | 0.0030 | 109,17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| Equilon GasoEne 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=208.58 |
| 2.2.4-Trimethylpeniane | | | | | | 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 |
| Benzane | | | | | | 1.3268 | N/A | N/A | 76.1100 | 6.0120 | 6.0060 | 78.11 | Option 2: A=5.905, B=1211.033, C=220.79 |
| Cyclohexana | | | | | | 1,3720 | N/A | NA | B4.1600 | 6.0024 | 0.0012 | 84.18 | 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 |
| Henane (-n) | | | | | | 2.1564 | N'A | N/A | £5.1700 | 0.0130 | 0.0108 | 66.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyi benzene | | | | | | 0.0607 | N/A | N/A | 120.2000 | 0,0015 | 0.0000 | 120,20 | Option 2: A=8.953, 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 |
| Naphthalens | | | | | | 0.0019 | H#A | N/A | 128.1600 | 0.0000 | 0.0000 | 125.19 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Styrene | | | | | | 0.0844 | N/A | N/A | 104.1500 | 8.0008 | 0,0006 | 104.15 | Option 2: A=7,14, B=1574.51, C=224.09 |
| Tatuene | | | | | | 0.3809 | N/A | N/A | 92.1300 | 0.0600 | 6800.0 | 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_B9 | |
| Xylenca (Mixed) | | | | | | 0.1062 | N'A | N/A | 105.1700 | 6.0700 | 6.0026 | 106.17 | Option 2: A=7.009, B=1482.268, C=215.11 |
| Equilon Gasoline RVP 12.5 | Nov | 58.67 | 54.21 | 63.53 | 61.67 | 6.5099 | N/A | N/A | 63.0000 | | | 82.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-7 rimethylbenzene | | | | | | 0.0195 | NA | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2,2,4-Trimethylperstane | | | | | | 0.5765 | N/A | N/A | 114,2300 | Q.0478 | 0.0055 | 114,23 | Option 2: A=6.81 18, B=1257.84, C=220.74 |
| Benzene | | | | | | 1.1317 | N'A | N/A | 76_1100 | 0.0120 | 6.0027 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohezane | | | | | | 1.1748 | t\ V A | N'A | 64,1600 | 0.0024 | 8.0000 | 64.18 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ehybenzene | | | | | | 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 |
| Hexana (-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 |
| teopropyt benzena | | | | | | 0.0490 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=8.963, B=1450.793, 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 |
| Naphcheleno | | | | | | 0.0014 | N/A | 1VA | 128.1900 | 9.0030 | 0.0000 | 128_16 | Option 2: A=6.8191, B=1585.88, C=164.32 |
| Styteme | | | | | | 0.0690 | tv/a | N'A | 104,1600 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1674.51, C=224.09 |
| Totuene | | | | | | 0.3167 | N/A | N/A | B2.1300 | 0.0600 | 6.0038 | 82.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 8.0529 | N/A | N/A | 62.6222 | 9.7529 | 0.9805 | 77.69 | |
| Xylenes (Mored) | _ | _ | | | | 0.0868 | N/A | N/A | 108.1700 | 0.0700 | 0.0012 | 106.17 | Option 2: A=7.009, B=1462.266, C=215.11 |
| Equilon Gasoline RVP 14.0 | Dec | 64.98 | 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-TrimeInybenzene | | | | | | 0.9167 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120,16 | Option 2: A=7.04383, B=1573.267, C=208.58 |
| 2,2,4-Trimethylpentane | | | | | | 0.5145 | N/A | NVA | 114,2300 | 0.0470 | 0.0049 | 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=8.905, B=1211.033, C=220.79 Option 2: A=8.841, B=1201, 53, C=222, 55 |
| Cyclohexane | | | | | | 1.0556 | N/A | N/A | 84,1900 | 0.0024 | 0.0005 | 84,15 106,17 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Ehylbenzene | | | | | | 0.0909 | N/A | N/A | 108.1700 | 0.0120 | 0.0002 | 86.17 | Option 2: A=5.875, B=1424.255, C=213.21 Option 2: A=5.875, B=1171.17, C=224.41 |
| Hazana (-n) | | | | | | 1.6765 | ' NVA | N/A | 86.1700 | 0.0130 | 0.0043 | 120,20 | Option 2: A=6.963, B=1460,793, C=207.78 |
| sopropyi benzene | | | | | | 0.0423 | N/A | N/A N/A | 120.2000 | 6.0015 0.0014 | 0.0003 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Methyl alcohol | | | | | | 1.2269 | N/A | rvA | 32.0400 | 0.0014 | D.ULAS | 36.34 | Grants, PETART, OPTIMIS, GRADING |

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| Naphthalens | 0.0011 N | ĽA N/A | 125,1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.86, C=164.32 |
|------------------------|----------|--------|----------|--------|--------|--------|---|
| Styrena | 0.0601 N | UA 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 | VA NYA | 92.1300 | 0.0600 | 0.0033 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unident/ind Components | 6.5170 N | VA N/A | 60.6584 | 0.7529 | 0.9830 | 77,89 | |
| Xylenes (Mixed) | 0.0756 N | VA N'A | 106.1700 | 0.0700 | 0.0010 | 108.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| Xylanas (Nixad) | 0.0756 N | VA N/A | 106.1700 | 0.0700 | 0.0010 | 108.17 | Option 2: A=7.009, B=1462.268, C=215.11 |

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

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

| | | | | | | | | | | <u> </u> | · · · · · | <u>.</u> |
|--|-------------------------|----------|----------|----------|----------|-----------------|-------------------|----------|-----------|----------|-------------------|--------------------|
| Month: | January | February | March | April | May | June | ylit | August | September | October | November | December |
| Rim Seal Losses (b): | 40.5343 | 37.9331 | 40.1627 | 43,4108 | 16.8759 | 20,3382 | 21.2565 | 20.8671 | 19.7350 | 17.8377 | 38.8149 | 40.4285 |
| Seal Factor A (b-molefl-wr): | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 9.6000 | 0.6000 | 0.6000 |
| Seal Factor B (Ib-moleft)-yr (mph)*ri); | 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: Vapor Pressure et Daily Average Liquid | 9.1564 | 0.1417 | 0.1500 | 0.1621 | 0.0653 | 0.0704 | 0.0735 | 0.0722 | 0.0683 | 0.0817 | 0.1450 | 0.1559 |
| Surface Temperature (pala): | 6.8336 | 6.3968 | 6.6772 | 7.0673 | 3.3880 | 3.6161 | 3.7570 | 3.6975 | 3.5228 | 3.2234 | 8.5099 | 6.8705 |
| Tank Diameter (II): | 65.0000 | 65.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | ES.0000 | 85.0000 | 85.0000 61.0000 |
| Vapor Molecular Weight (Ib/Ib-mole): | 61,000 | 63.0000 | 63.0000 | 63.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 63.0000 1.0000 | 1,0000 |
| Product Factor: | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | |
| Withdrawel Losses (Ib): | 30,4566 | 30,4566 | 30.4566 | 30.4556 | 30.4566 | 30,4558 | 30.4566 | 30,4566 | 30.4568 | 30,4568 | 30.4568 1.0000 | 30.4555 1.0000 |
| 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 (4): | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1_0000 | 1.0000 | | 1,568,845,000013 | |
| Net Throughput (gal/mo.): | 13,568,845,000013 | | | | | 3,566,845,00001 | 3,566,845,000013, | 20015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 |
| Shell Clingage Factor (bbl/1000 soft): | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 0.0015 | 5,6000 | 5.6000 | 5.6000 | 5.6000 | 5,6000 |
| Average Organic Liquid Density (Ib/gal): | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | ES.0000 | B5,0000 | 85,0000 | 85.0000 | 85,0000 |
| Tank Diameter (ff): | 85.0000 | 65.0000 | B5.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 65.000 | 63.0000 | 63.0000 | | |
| Deck Fitting Losses (Ib): | 113.7027 | 106.4059 | 112.6604 | 121.7718 | 52.9489 | 57.0508 | 59.6265 | 58.5344 | 55.3587 | 50.0355 | 108.8795 | 113.4061 0.1559 |
| Value of Vapor Pressure Function: | 0.1554 | 0.1417 | 0.1500 | 0,1621 | 0.0653 | 0.0704 | 0.0736 | 0.0722 | 0.0683 | 0.0617 | 0,1450 | |
| Vapor Molecular Weight (Ib/Ib-mole): | 61.0000 | 63.0000 | 68.0000 | 63.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 68.0000 | 63.0000 1.0000 | 61.0000 1.0000 |
| Product Factor: | 1_0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 143.0600 | 143.0600 |
| Tol. Roal Filling Lass Fect. (ib-mole/yr): | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0500 | 143.0600 | 14330600 | 1431000 |
| Deck Seam Losses (Ib): | 0000.0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Dock Seem Length (b): | 0.0000 | 0.000 | 0.0000 | 9.0000 | 0.0000 | 0.0000 | 9.0000 | 0.0000 | 0.000 | 0.0000 | 0.0000 | 0.0000 |
| Deck Seam Loss per Unit Longth Factor (20-moterfi-yn); | 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(1/soft): | 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 (h): | 85,0000 | 65.0000 | R5.0000 | 85,0000 | 85.0000 | 85.0000 | AS.0000 | 85,0000 | 65.0000 | B5.0000 | 65.0000 | 85.0000 |
| Vapor Molecular Weight (b/b-mola): | 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 (b): | 184.0936 | 174,7958 | 183.2797 | 195.6390 | 102.2814 | 107.8456 | 111.3397 | 109,8581 | 105.5603 | 88.3308 | 178.1509 | 184,2913 |
| | | | | ····· | | | Roal Ficing Loss | Eactor | | | | |
| Roof Fizing/Status | | | | Qu | anciy | KFa(b-mole/y | | | | m | Lossos(8) | |
| | | | | | | 1.6 | | 0.00 | | 0.00 | 11,2734 | |
| Access Hatch (24-In: Diam.)/Bohad Cover, G Gauge-Hatch/Sample Well (8-In: Diam.)/Weig | | her | | | | 0,4 | | 0.02 | | 0.97 | 3.3116 | |
| Course Well (24-In. Diam.)/Pipe ColStoing | Contra Gast | | | | i | 210 | | 0.00 | | 0.00 | 176.1474 | |
| Ledder Well (38-in, Diam.)/Stiding Cover, Gas | | | | | i | 56.0 | | 0.00 | | 0.00 | 394.5701 | |
| Roof Leg (3-in. Diameter)/Adjustable, Center | | | | | 11 | 0,4 | | 0.16 | | 0.14 | 37.9774 | |
| Sample Pipe or Well (24-in, Diam, VSt; Fabric | | | | | 1 | 12.0 | | 0.00 | | 0.00 | 84.5507 | |
| Vacuum Breaker (10-In, Diam.)/Weighted Me | ch. Actuation, Gask. | | | | 2 | 6.2 | | 1.29 | | 0.94 | 07.3691 | |
| Roof Leg (3-in. Diameter)/Adjustable, Pontoo | n Area, Sock | | | | 10 | 1.2 | | 0.14 | | 0.65 | 135.2812 | |
| Slotted Guide-Pole/Sample Web Gask Silding | Covr. w. Float,Sleeve,V | Mper | | | 1 | 11.0 | 0 | 9.90 | | 0.89 | 77_5049 | |

TANKS 4.0.9d

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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

| 1 | Losses(Ds) | | | | | | | | | | | |
|---------------------------|---------------|----------------|-------------------|----------------|-----------------|--|--|--|--|--|--|--|
| 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 | | | | | | | | |
| 2,2,4-Trimethylpentane | 0.89 | 5.73 | 2.48 | 0.00 | 9.10 | | | | | | | |
| Benzene | 0.44 | 1.46 | 1.24 | 0.00 | | | | | | | | |
| Cyclohexana | 0.09 | 0.29 | 0.26 | 0.00 | | | | | | | | |
| Elhylbenzene | 0.04 | 1.46 | 0.12 | 0.00 | 1.62 | | | | | | | |
| Hexane (-n) | 0.79 | 1.58 | 2.21 | 0.00 | 4.56 | | | | | | | |
| Isopropyl benzene | 0.00 | 0.18 | 0.01 | 0.00 | 0.19 | | | | | | | |
| Methyl alcohol | 0.06 | 0.17 | 0.18 | 0.00 | 0.4 | | | | | | | |
| Naphthalene | 0.00 | 0.37 | 0.00 | 0.00 | | | | | | | | |
| Styrene | 0.00 | 0.10 | 0.01 | 0.00 | 0.10 | | | | | | | |

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| Page 32 of 41 |
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| Toluene | 0.63 | 7.31 | 1.76 | 0.00 | 9.69 |
|---------------------------|--------|-------|--------|------|--------|
| Unidentified Components | 157.18 | | 440.86 | 0.00 | 689.74 |
| Xylanes (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 | |
| Benzene | 0.19 | 0.73 | 0.54 | 0.00 | |
| Cyclohexane | 0.04 | 0.15 | 0.11 | 0.00 | 0.30 |
| Ethylbenzene | 0.02 | 0.73 | 0.05 | 0.00 | 0.80 |
| Hexana (-n) | 0.35 | 0.79 | 0.97 | 0.00 | 2.11 |
| Isopropyi 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 |
| Toluane | 0.27 | 3.65 | 0.76 | 0.00 | |
| Unident/fied Components | 79.59 | 45.86 | 223.25 | 0.00 | 348.70 |
| Xylenes (Mixed) | 0.08 | 4.26 | 0.24 | 0.00 | 4.59 |

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

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| dentification User Identification: City: State: Company: Type of Tank: Description: | Stockton Tank 24 - max daily throughput Stockton California Shell Oil Products US Internal Floaling Roof Tank Storing gasoline with maximum daily throughput (1 turnover/day) |
|---|--|
| Tank Dimensions | 85.00 |
| Diameter (It): | 2,226,000.00 |
| Volume (galions): | 365.00 |
| | N |
| Self Supp, Roof? (y/n): No. of Columns: | 1.00 |
| Eff. Col. Diam. (ft): | 1.00 |
| Paint Characteristics Internal Shell Condition: Shell Color/Shada: Shell Condition Roof Color/Shade: Roof Condition: Rim-Seal System Primary Seal: Secondary Seal | Light Rust White/White Good White/White Good Mechanical Shoe Rim-mounted |
| Deck Characteristics | |
| Deck Fitting Category: | Delail |
| Deck Type: | Welded |
| Deck Fitting/Status | |

Nooi Leg (3-in, DiameteryAcjusteble, Center Area, Sock Sample Pipe or Well (24-in, Diam.)/Slit Fabric Seal 10% Open Vacuum Breaker (10-in, Diam.)/Welghted Mech. Actuation, Gask. Roof Leg (3-in, Diameter)/Adjustable, Pontoon Area, Sock Stotted Guide-Pote/Sample Well/Gask Stiding Covr, w. Float, Sleeve, Wiper

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

Quantity

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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

| | | Daily Liquid Surt. Temperature (deg F) | | | Liquid Buck Temp | Vapor Pressure (paia) | | Vepor MoL | Liquid Mass | Vapor Mass | Mol. | Basis for Vapor Pressure | |
|--------------------------|-------|---|-------|-------|------------------------|-----------------------|------|--------------|----------------|---------------|--------|--------------------------|---|
| inture/Component | Month | Avg. | Min, | Max. | (deg F) | Avg. | Min. | Max. | Weight | Fract. | FracL | Weight | Galcutations |
| guilon Gasoline RVP 14.0 | Jan . | 65.08 | 51.40 | 58.67 | 61.57 | 8.8836 | N/A | N/A | 61_0000 | | | 82.50 | Option 4: RVP=14, ASTM Slope=3 |
| 1,2,4-Trimethybenzene | | | | | | 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-Trimethylpenizne | | | | | | 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 | 76.1100 | 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 | 64.16 | Option 2: A=6.841, B=1201.63, C=222.65 |
| Ethylberzene | | | | | | 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 |
| lexane (-n) | | | | | | 1.6810 | N/A | NA | 85.1700 | 0.0130 | 0.0043 | 85.17 | Option 2: A=6.676, B=1171.17, C=224.41 |
| sopropyt benzene | | | | | | 0.0424 | N/A | N/A | 120.2000 | 0.0015 | 0.0006 | 126.20 | Option 2; A=6.953, B=1460.793, C=207.78 |
| Asthyl alcohol | | | | | | 1,2320 | N/A | N/A | 32.0400 | 0.0014 | 0.0003 | 32.04 | Option 2: A=7.697, B=1474.08, C=229.13 |
| lapititatione | | | | | | 0.0011 | N/A | N/A | 128.1600 | 0.0030 | 0.0006 | 128.16 | Option 2: A=6.8181, B=1585.88, C=184.32 |
| Styrane | | | | | | 0.0603 | N/A | N/A | 104.1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.08 |
| Toluzno | | | | | | 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 |
| Inidentified Components | | | | | | 8.5331 | N/A | N/A | 60.6580 | 0.7529 | 0.9630 | 77.89 | |
| Kylenes (Mitted) | | | | | | 0.0759 | N/A | N/A | 105.1700 | 0.0700 | 0.0010 | 106.17 | Option 2: A=7.009, B=1452.266, C=215.11 |
| action Gascine RVP 12.5 | Feb | 57.96 | 53,17 | 92,75 | 61.57 | 6,3968 | Ń'A | NVA | 63.0000 | | | 82.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 2.4-Trimethylbenzane | | | | | | 0.0166 | N/A | N/A | 120.1900 | 0.0240 | 0.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2.4-Trimethybertane | | | | | | 0.5615 | N/A | N/A | 114,2300 | 9.0470 | 0.0054 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| Senzone | | | | | • | 1,1033 | ŇA | N/A | 78,1100 | 0.0120 | 0.0027 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| lyclohexane | | | | | | 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 |
| Unibenzena | | | | | | 0.1010 | N/A | NA | 105.1700 | 0.0120 | 0.0002 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| texana (-n) | | | | | | 1.8140 | Ń/A | N/A | 05,1700 | 0.0130 | 0.0048 | 68.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| sopropyl benzene | | | | | | 0.0473 | N/A | N/A | 120,2000 | 0.0015 | 9.0000 | 120.20 | Option 2: A-6.863, B- 1460.793, C-207.70 |
| Methyl alcohol | | | | | | 1,3519 | N/A | N/A | 32.0400 | 0.0014 | 9.0004 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| taphthalene | | | | | | 0.0019 | N/A | N/A | 128,1900 | 0.0006 | 0.0000 | 128.16 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Styrene | | | | | | 0.0668 | NA | N/A | 104.1500 | 0.0006 | 0.0006 | 104.15 | Option 2: A=7,14, B=1574.51, C=224.09 |
| Totuene | | | | | | 0.3097 | N/A | N/A | 92,1300 | 0.0600 | 0.0038 | 92.13 | Option 2: A=8.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 7,9164 | N/A | NVA | 62.6258 | 0.7529 | 0.9807 | 77,69 | |
| Kylenes (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 |
| guilon Gesoline 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 |
| 2,4 Trimethybenzene | | | | | | 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 | | | | | | 0.5894 | N/A | N/A | 114.2300 | 0.0470 | 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 |
| Syclohezane | | | | | | 1.2186 | NVA | N/A | 84,1600 | 0.0024 | 0,0008 | 84.15 | Option 2: A=6.641, B=1201.53, C=222.65 |
| Ediylbenzene | | | | | | 0.1094 | Î₩A | N/A | 106.1700 | 6.0120 | 0.0003 | 105.17 | Option 2: A=6.975, B=1424.255, C=219.21 |
| lezaño (-n) | | | | | | 1,9242 | N/A | N/A | 66.1700 | 0.0130 | 0.0049 | 86.17 | Option 2: A=6.876, B=1171, 17, C=224.41 |
| second 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 |
| Actinyi alcohol | | | | | | 1,4520 | N/A | N/A | 32.0400 | 0.0014 | 0.0004 | 32.04 | Option 2: A=7.897, 8 = 1474.08, C=229.13 |
| Vaphihalene | | | | | | 0.0015 | N/A | N/A | 128.1600 | 0.0008 | 0.0008 | 128.15 | Option 2; A=6.8181, B=1585.86, C=184.32 |
| Styrane | | | | | | 0.0724 | N/A | N/A | 104.1600 | 0.0006 | 00000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluena | | | | | | 0.3324 | NA | N/A | 92.1300 | 9.0600 | 0.0039 | 92.19 | Option 2: A=6.954, B=1344.8, C=218.48 |
| Unidentified Components | | | | | | 6.2562 | N/A | N/A | 92,6168 | 0.7529 | 0.9803 | 77.89 | |

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| Xylenes (Mixed) | | | | | | 0.0911 | N/A | N/A | 106.1700 | 6.0700 | 0.0013 | 105.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
|---------------------------|----------------|-------|-------|-------|-------|--------|-----|------------|---------------------|------------------|------------------|-----------------|---|
| Equilon Gasoline RVP 12.5 | Apr | 63.26 | 55,98 | 70.54 | 61.67 | 7.0673 | N/A | N/A | 63.0000 | 0.0700 | 0.0013 | 82.50 | Option 4: RVP-12.5, ASTM Slope-3 |
| 1,2,4 Trimetrybenzene | ~ ~ | 0020 | 33.80 | 10.54 | 0.101 | 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-Trimetryipentane | | | | | | 0.6539 | NA | N/A | 114.2300 | 0.0470 | 0.0057 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| Benzene | | | | | | 1.2775 | NVA | 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 | 64,1600 | 0.0024 | 0.0005 | 84,16 | Option 2: A=6.641, B=1201.53, C=222.65 |
| Etylbenzene | | | | | | 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 |
| Herane (-n) | | | | | | 2.0815 | N/A | N'A | 68.1700 | 0.0130 | 0.0050 | 86.17 | Option 2: A=8.876, 8=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=1460.783, C=207.78 |
| Methyl alcohol | | | | | | 1.5969 | N/A | N/A | 32 0400 | 0.0014 | 0.0004 | 32.04 | Oction 2: A=7.897, B=1474.08, C=229.13 |
| Naprchalane | | | | | | 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 | 0.0000.0 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Tchuene | | | | | | 0.3651 | N/A | N/A | 92,1300 | 0.0630 | 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 (Mirad) | | | | | | 8.1D13 | N/A | N/A | 108.1700 | 0.0700 | 0.0013 | 106.17 | Option 2: A=7.009, B=1462.255, C=215.11 |
| Equilon Gasoline RVP 5.99 | May | 67,10 | 58,98 | 75.36 | 61,57 | 3.3880 | N/A | N/A | 68.0000 | | | 82.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-Trimetrybenzone | | | | - | | 0.0270 | N/A | N/A | 120,1900 | 0.0240 | 0.0002 | 120.16 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2.2.4-Trimethylpeniane | | | | | | 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 | 6.0120 | 0.0061 | 76.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Cyclohexana | | | | | | 1,4635 | N/A | ŇA | 84.1600 | 0.0024 | 0.0013 | 84.18 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Einylbenzene | | | | | | 0.1384 | N/A | N/A | 108.1700 | 6,0120 | 0.0006 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.2945 | N/A | N/A | B5.1700 | 0.0130 | 0.0107 | 86,17 | Option 2: A=5.876, B=1171.17, C=224.41 |
| Isopropyl benzane | | | | | | 0.0664 | N/A | N/A | 120,2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=8.963, 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, D=1474.00, C=229.13 |
| Naphshalane | | | | | | 0.0021 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 128,16 | Option 2: A=6.0161, 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 |
| Tokiene | | | | | | 0.4103 | N/A | N/A | 82,1300 | 0.0600 | 0.0088 | 92.13 | Option 2: A=8.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 4,1089 | N/A | N/A | 57.2321 | 8,7529 | 0.9562 | 77.89 | |
| Xylenes (Mixed) | | | | | | 0.1155 | N/A | N/A | 106,1700 | 0.0700 | 0.0029 | 105.17 | Option 2: A=7.009, B=1462.265, C=215.11 |
| Equilon Gasoline RVP 5.99 | Jun | 70.33 | 61.45 | 79.22 | 61.57 | 3.6161 | N/A | ₩A | 68.0000 | | | 82.50 | 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-Trimethylpenlane | | | | | | 0.7967 | N/A | N/A | 114.2300 | 6,0470 | 0.0128 | 114.23 | Option 2: A=8.0118, B=1257.84, C=220.74 |
| Benzone | | | | | | 1.5449 | N/A | N⊮A | 78.1100 | 0.0120 | 0.0052 | 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=8.841, B=1201.53, C=222.65 |
| Ethybanzane | | | | | | 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=5.876, 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=1450.763, C=207.78 |
| Methyl alcohol | | | | | | 1,9820 | N/A | N/A | 32.0400 | 0.0014 | 0.0009 | 32.04 | Option 2: A=7.897, 8=1474.08, C=229.13 |
| Naphthalene | | | | | | 0.0025 | N/A | N/A | 128.1600 | 0.0030 | 6.0008 | 128.16 | Option 2: A=6.8181, B=1585.68, C=164.32 |
| Styrene | | | | | | 0.1023 | N/A | N/A | 104.1500 | 0.0008 | 6.0000 | 184.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluena | | | | | | 0.4520 | N/A | N/A | 62,1300 | 0.0600 | 6.0091 | 92.13 | Option 2: A=6.954, 8=1344.8, C=219.48 |
| Unidentified Components | | | | | | 4,3817 | N/A | N/A | 67.2114 | 0.7529 | 0.9551 | 77.89 | |
| Xylenes (Mixed) | | | | | | 8.1258 | N/A | N'A ' | 106,1700 | 0.0700 | 0.0030 | 106,17 | Option 2: A=7.009, B=1462.265, C=215.11 |
| Equilon Gasofine RVP 5.99 | است | 72.25 | 63.02 | 81,48 | 61_57 | 3.7570 | N/A | N/A | 68.0000 | | | 82.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2.4-Trimethylberizene | | | | | | 0.0329 | N/A | N/A | 120.1000 | 6.0240 | 0.0003 | 120.19 | Option 2: A=7.04383, B=1573.257, C=208.58 |
| 2,2,4-Triznethylpeniane | | | | | | 0.8398 | N/A | N/A | 114,2300 | 6.0470 | 0.0127 | 114.23 | Option 2: A=6.6118, B=1257.64, C=220.74 |
| Banzene | | | | | | 1,6250 | N/A | N/A | 78,1100 | 0.0120 | 0.0063 | 78.11 | Option 2: A=6.905, 8=1211.033, C=220.79 |
| Cyclohoxane | | | | | | 1.6728 | N/A | N/A | 64.1600 | 0.0024 | 0.0013 | 84.16 | Option 2: A=6.041, B=1201.53, C=222.65 |
| EDybenzene | | | | | | 0.1842 | N/A | N/A | 108.1700 | 6.0120 | 0.0006 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Haxane (-ri) | | | | | | 2.6068 | N/A | N/A | B6.1700 | 0.0130 | 0.0110 | 85.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isopropyt benzene | | | | | | 0.0798 | N/A | N/A | 120.2000 | 6.0015 | 0.0000 | 120.20 | Option 2: A=6.963, B=1460.783, C=207.78 |
| Methyl alcohol | | | | | | 2.0992 | N/A | N/A | 32.0400 | 6.0014 | 0.0009 | 32.04 | Option 2: A=7.897, 8=1474.08, C=229.13 |
| Naphthalene | | | | | | 8.0027 | N/A | NA | 120.1600 | 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 |
| Toluzne | | | | | | 0.4784 | N/A | N/A | 62.1300 | 6.0600 | 0.0093 | 62.13 | Option 2: A=0.954, B=1344.8, C=218.48 |
| Unidentified Components | | | | | | 4.5501 | N/A | N/A | 67.1990 | 6.7529 | 0.9544 | 77.89 | A |
| Xylenes (Mxad) | _ | _ | | | | 0.1373 | N/A | N/A | 108.1700 | 0.0700 | 0.0031 | 106.17 82.50 | Option 2: A=7,009, B=1462,266, C=215.11 |
| Equiton Gasoline RVP 5.99 | Aug | 71.45 | 62.84 | 60.06 | 61.57 | 3.6975 | N/A | N/A | 68.0000 | | | 120.19 | Option 4; RVP=5.99, ASTM Stope=3 Option 2: A=7.04383, B=1573.267, C=208.55 |
| 1,2.4-Trimethylbenzone | | | | | | 0.0019 | N/A | N/A | 120.1900 | 0.0240 6.0470 | 0.0003 8.0127 | 120.19 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| 2,2,4-TrineBylpenizne | | | | | | 0.8214 | N/A | N/A N/A | 114,2300 78,1100 | 6,0470 | 0.0053 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Berticce | | | | | | 1.5910 | N/A | R/A | 70.1100 | A10157 | 0.0003 | 10.11 | where a successing on the property for every state |

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| Cyclohexane | | | | | | 1,6386 | N/A | N/A | 84.1600 | 0.0024 | 0.0013 | B4.16 | Option 2: A=8.841, B=1201.53, C=222.65 |
|---------------------------|----------|-------|-------|---------------|-------|--------|------|------|----------|--------|--------|---------------|---|
| Ehybenzena | | | | | | 0.1599 | N/A | N/A | 105.1700 | 0.0120 | 0.0006 | 106.17 | Option 2: A=6.975, B= 1424.255, C=213.21 |
| Hexana (-n) | | | | | | 2.5578 | N/A | N/A | 85.1700 | 0.0130 | 6.0109 | 86.17 | Option 2: A=6.876, B=1171.17, C=224.41 |
| Isoprapyi benzene | | | | | | 0.0776 | N/A | N/A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.953, B=1460.783, C=207.78 |
| Mechyl alcohol | | | | | | 2.0494 | N/A | N/A | 32.0400 | 0.0014 | 0.0009 | 32.04 | Option 2: A=7.897, 8=1474.08, C=229.13 |
| Naphthalene | | | | | | 0.0026 | N'A | NVA | 128.1600 | 0.0030 | 0.0000 | 128.16 | Option 2: A=6.8181, 8=1585.86, C=184.32 |
| Styrene | | | | | | 0.1062 | NA | N/A | 104,1500 | 0.0008 | 0.0000 | 104,15 | Option 2: A=7,14, 8=1574.51, C=224.09 |
| Toluene | | | | | | 0.4672 | N/A | N/A | 82.1300 | 0.0600 | 9.0092 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.49 |
| Unidentified Components | | | | | | 4.4790 | N/A | NVA. | 67.2042 | 0.7529 | 6.9547 | 77.89 | |
| Xylenes (Minut) | | | | | | 6,1337 | N/A | N/A | 106,1700 | 0,0700 | 0.0031 | 105.17 | Option 2: A=7.009, B=1462.265, 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-Trimethybenzane | | | | | | 0.0291 | N/A | N/A | 120.1900 | 0.0240 | 0.0002 | 120.19 | Option 2; A=7.04383, 8=1573.267, C=208.58 |
| 2,2,4-Trimethylpentane | | | | | | 0.7685 | N/A | N/A | 114.2300 | 9.0470 | 6.0124 | 114.23 | Option 2: A=6.8118, B=1257.84, C=220.74 |
| Genzene | | | | | | 1,4923 | N/A | N/A | 78.1100 | 0.0120 | 0.0062 | 76.11 | Option 2; A=6.905, B=1211.033, C=220.79 |
| Cyclohexane | | | | | | 1.5392 | N/A | N/A | B4.1600 | 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 | 0.0006 | 106,17 | Option 2: A=6.975, 8=1424.255, C=213.21 |
| Hexane (-n) | | | | | | 2.4063 | N/A | N/A | 66.1700 | 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 | Ň/A | 32,0400 | 0.0014 | 0.0009 | 32.04 | Option 2: A=7.897, B=1474.08, C=229.13 |
| Naphshalene | | | | | | 0.0023 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 128,18 | Option 2: A=8.8191, 8=1585.88, C=184.32 |
| Styrene | | | | | | 0.0979 | NA | N/A | 104.1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7.14, B=1574.51, C=224.09 |
| Toluena | | | | | | 0.4347 | NVA. | N/A | 92,1300 | 0.0600 | 0.0090 | 82,13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidentified Components | | | | | | 4,2698 | NA | IVA | 67.2197 | 9.7529 | 0.9555 | 77.89 | |
| Xylenes (Mixed) | | | | | | 0.1233 | N/A | N/A | 106,1700 | 0.0700 | 0.0030 | 105.17 | Option 2: A=7.009, B=1462.268, C=215.11 |
| Equilon Gaseline RVP 5.89 | Oct | 64,64 | 58.13 | 71,16 | 61.57 | 3.2234 | N/A | N/A | 68.0000 | 02/00 | 0.000 | 82.50 | Option 4: RVP=5.99, ASTM Slope=3 |
| 1,2,4-1 rimethylbenzene | <u>u</u> | 04,04 | 30.13 | <i>*</i> 1,10 | 121 | 0.02<6 | N/A | N/A | 120,1900 | 0.0240 | 0.0002 | 120.19 | Option 2; A=7.04383, 8=1573.267, C=208.56 |
| | | | | | | 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 |
| 2.2.4-Trimethylpontane | | | | | | | N/A | N/A | 78,1100 | 0.0120 | 0.0050 | 78.11 | Option 2: A=6.905, B=1211.033, C=220.79 |
| Benzene | | | | | | 1,3266 | N/A | NVA | 84,1600 | 0.0024 | 0.0012 | B4.16 | Option 2: A=6.841, B=1201.53, C=222.65 |
| Cyclohexana | | | | | | 1.3720 | | | | | 0.0009 | 106.17 | Option 2: A=6.975, B=1424.255, C=213.21 |
| Ethylbenzene | | | | | | 6.1274 | N/A | N/A | 106.1700 | 0.0120 | | | Option 2: A=8.876, B=1171.17, C=224.41 |
| Hexane (-n) | | | | | | 2.1584 | N/A | N/A | 88.1700 | 9.0130 | 6.0106 | B6.17 | |
| Isopropyl benzene | | | | | | 0.0607 | N/A | N/A | 120.2000 | 0.0015 | 9.0000 | 120.20 | Option 2: A=8.963, B=1460.793, C=207.78 |
| Methyl alcohol | | | | | | 1.5650 | 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, 8=1585.86, C=184.32 |
| Styrene | | | | | | 0,0844 | N/A | N/A | 184.1500 | 0.0008 | 0.0000 | 104.15 | Option 2: A=7,14, B=1574.51, C=224.09 |
| Toluene | | | | | | 0.3609 | N/A | N⁄A | 82,1300 | 0.0600 | 0.0086 | 82.13 | 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) | | | | | | 0.1052 | N/A | N/A | 106.1700 | 6.0700 | 0.0028 | 106.17 | Option 2: A=7,009, B=1462,266, C=215.11 |
| Equiton Gasoline RVP 12.5 | Nov | 58.67 | 54.21 | ស. 53 | 91.57 | 6.5099 | N/A | N/A | 63.0000 | | | 82.50 | Option 4: RVP=12.5, ASTM Slope=3 |
| 1,2,4-Trimethybenzene | | | | | | 0.0195 | N/A | N'A | 120.1900 | 9.0240 | 6.0001 | 120.19 | Option 2: A=7.04383, B=1573.267, C=208.56 |
| 2,2.4 Trimethylponizne | | | | | | 0.5765 | N/A | N/A | 114.2300 | 0,0470 | 0.0055 | 114.23 | Opton 2: A=0.8118, B= 1257.84, C=220.74 |
| Benzene | | | | | | 1.1317 | N/A | N/A | 78,1100 | 8.0120 | 0.0027 | 70,11 | Option 2: A=6.905, B=1211.033, C=220.78 |
| Cyclohexane | | | | | | 1,1745 | N/A | N/A | 64.1600 | 9.0024 | 0.0008 | B4 .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 | 85.1700 | 0.9130 | 9.0049 | \$6.17 | 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=1460.733, 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 | | | | | | 0.0614 | N'A | N/A | 128.1600 | 9.0030 | 0.0000 | 126.16 | Option 2: A=6.8181, B=1585.86, C=184.32 |
| Slyrena | | | | | | 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 |
| Toluona | | | | | | 0.3187 | N/A | N/A | 92.1300 | 0.0600 | 0.0038 | 82.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unidertified Components | | | | | | 8.0529 | N'A | N/A | 62.6222 | 0.7529 | 6.9506 | 77_89 | |
| Xylenes (Mixed) | | | | | | 0.0658 | N/A | N/A | 108.1700 | 0.0700 | 0.0012 | 106.17 | Option 2: A=7.009, B=1462.255, C=215.11 |
| Equion Gasoline RVP 14.0 | Dec | 54.98 | 51.51 | 58.44 | 61,57 | 6.8705 | N/A | N/A | 81.0000 | • | | 82.50 | Option 4: FVP=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=208.58 |
| 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 | NA | 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 | B4.1600 | 0.0024 | 0.0005 | 64.19 | Option 2: A=8.841, 8=1201.53, C=222.65 |
| Ehylbenzene | | | | | | 0.0909 | N/A | N/A | 108.1700 | 0.0120 | 0.0002 | 106.17 | Option 2: A=6.975, 8=1424.255, C=213.21 |
| Herzano (-n) | | | | | | 1.6765 | N/A | N/A | 86.1700 | 0.8130 | 0.0043 | 86.17 | Option 2: A=6.878, B=1171.17, C=224.41 |
| Isopropyi benzene | | | | | | 0.0423 | N/A | N⁄A | 120.2000 | 0.0015 | 0.0000 | 120.20 | Option 2: A=6.963, 8=1460.793, C=207.78 |
| Mathyl acohol | | | | | | 1.2289 | N'A | N/A | 32.0400 | 9.0014 | 0.0003 | 32.04 | Option 2: A=7.697, B=1474.08, C=229.13 |
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| Naphthalene | 0.0011 | N/A | N/A | 128,1600 | 0.0030 | 0.0000 | 129.18 | 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 |
| Taluena | 0.2918 | N/A | N/A | 62.1300 | 0.0600 | 0.0033 | 92.13 | Option 2: A=6.954, B=1344.8, C=219.48 |
| Unident/Tied Components | 8,5170 | N/A | N/A | 60.6584 | 0.7529 | 0.9830 | 77.89 | |
| Xylenas (Mbred) | 0.0756 | N/A | N/A | 106.1700 | 0.0700 | 0.0010 | 106.17 | Option 2: A=7.009, B=1482.266, C=215.11 |

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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 (b): | 40.5343 | 37.9331 | 40.1627 | 43,4105 | 18,8759 | 20,3382 | 21,2565 | 20.6671 | 19.7350 | 17,8377 | 38.6149 | 40.4288 |
| Seal Factor A (ID-mole TI-yr): | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.003.0 | 0.6000 | 0.6000 | 0.6000 | 0.6000 | 0.6000 |
| Seal Factor B (Ib-mole/II-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: Vapor Pressure at Daily Average Liquid | 0.1564 | 0.1417 | 0.1500 | 0.1621 | 0.0653 | 0.0704 | 0.0736 | 0.0722 | 0.0683 | 0.0617 | 0.1450 | 0.1556 |
| Surface Temperature (paia): | 6.8836 | 6.3968 | 6.6772 | 7.0673 | 3.3880 | 3.6161 | 3,7570 | 3.6975 | 3.5226 | 3.2234 | 6.5099 | 6.870 |
| Tank Diameter (h): | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 65.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.000 |
| Vapor Molecular Weight (Ib/Ib-mole): | 61.0000 | 63.0000 | 63.0000 | 63.0000 | 0000.83 | 0000.83 | 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 |
| Muhdrawal Losses (D): | 151,9984 | 151_9984 | 151.9984 | 151.9994 | 151.9984 | 151.9984 | 151.9984 | 151.9984 | 151.9984 | 151.9984 | 151.9984 | 151.998 |
| 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 | 1.000 |
| Effective Column Diamater (#): Net Throughout (gat/mg.): | 1.0000 67,707,500.000067, | 1.0000 | 1.0000 | 1_0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.000 |
| Sheft Clingage Factor (bb/1000 upfi): | 0.0015 | 0.0015 | 0.0015 | ,707,500000087. 0.0015 | 0.0015 | 7,707,500.000087 0.0015 | 0.0015 | 0.0015 | ,707,500,000067, 0,0015 | 0.0015 | 707,500,000087, 0.0015 | 0.001 |
| Average Organic Liquid Density (bogal): | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.6000 | 5.600 |
| Tank Diameter (ft): | 85.0000 | 85.0000 | 65.0000 | 85,0000 | 85.0000 | 65.0000 | 65,0000 | 85.0000 | 85.0000 | 65.0000 | 85.0000 | 85,000 |
| Deck Figing Losses (Ib): | 113.7027 | 108,4059 | 112,6604 | 121.7716 | 52,9489 | 57.050B | 59,6266 | 58,5344 | 55.3587 | 50.0365 | 108,8795 | 113,406 |
| 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 | 0.155 |
| Vapor Molecular Weight (Ib/b-mole): | 61,0000 | 63.0000 | 63,0000 | 63,0000 | 68,0000 | 68,0000 | 68.0000 | 0000.63 | 68.0000 | 68.0000 | 63.0000 | 61.000 |
| Product Factor: | 1.0000 | 1,0000 | 1,0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1,0000 | 1.0000 | 1.0000 | 1.000 |
| Tot. Roof Fitting Loss Fect. (Io-mole/yr): | 143.0600 | 143.0500 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.0600 | 143.060 |
| Deck Seam Losses (b): | 0.000.0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 |
| Deck Seam Length (It); Deck Seam Loss per Unit Length | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | -0.000 |
| Factor (Ib-mole/fl-yr): | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 | 0.000 |
| Deck Seem Length Factor(ft/soft): | 0.0000 | 0000.0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.000 |
| Tank Diameter (h): | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.0000 | 85.000 |
| Vapor Molecular Weight (Ib/Ib-mole): Product Factor: | 61.0000 1.0000 | 63.0000 1.0000 | 63.0000 1.0000 | 63.0000 1.0000 | 68.0000 1.0000 | 68.0000 1.0000 | 68.0000 1.0000 | 68.0000 1.0000 | 68.0000 1.0000 | 68.0000 1.0000 | 53.0000 1.0000 | 61.000 1.000 |
| Talaki | | | | | | | | | | | 000 6000 | |
| Total Losses (b): | 308.2355 | 295.3374 | 304.8215 | 317.1808 | 223.8232 | 229.3874 | 232.8816 | 231.3999 | 227.0922 | 219.8728 | 299.6828 | 305.833 |
| | | | | | | | Roof Fitting Loss | | | | | |
| Roof Fitting/Status | | | | Qu | antay | KFa(b-mole/yr) | KFb(lb-mole/() | t mph*a)) | | | Losses(b) | |
| Access Hatch (24-in. Diam.)/Bobed Cover, G | acketed | | | | 1 | 1.60 | | 0.00 | | | 11,2734 | |
| Bauge-Hatch/Sample Well (8-in. Diam.)/Weig | hted Mech. Actuation, Ga | ssie, | | | i | 0.47 | | 0.02 | | .07 | 3.3116 | |
| Column Well (24-In, Diam.)/Pipe Col-Stiding | Cover, Gesk. | | | | 1 | 25.00 | | 0.00 | Ċ | .00 | 176.1474 | |
| Ladder Well (36-In. Diam.)/Siding Cover, Gas | | | | | 1 | 56.00 | | 0.00 | | .00 | 394.5701 | |
| Roof Leg (3-in. Diameter)/Adjustable, Center | | | | | 17 | 0,49 | | 0.16 | | . 14 | 37.9774 | |
| Sample Pipe or Well (24-In, Diam.)/SE) Febric | | | | | 1 | 12.00 | | 0.00 | | 000 | 84,5507 | |
| Vacuum Breaker (10-In. Diam.)/Weighted Me | | | | | 2 | 6.20 | | 1.20 | | 194 | 67.3691 | |
| Roo: Leg (3-In. Diameter/VAdjustable, Pontoo Slotted Quide-Pole/Sample Well/Gask Stiding | n Avea, 500X Court of Electric Views W | | | | 16 | 1.20 | | 9,14 9,90 | |).65).89 | 135.2812 77.5048 | |
| NOTO CHOS. LOG SELEN MED CITY SUCH | 10041, W. FERLIGISONE, VI | daria. | | | 1 | 11.00 | | H.W. | | .67 | 17.3046 | |
| - | | | | | | | | | | | | |

TANKS 4.0.9d

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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(ibs) | | |
|----------------------------|---------------|----------------|-------------------|----------------|-----------------|
| Components | Rim Seal Loss | Withdrawi Loss | Deck Fitting Loss | Deck Seam Loss | Total Emissions |
| Equilion 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 | 2.19 | 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 |
| Nephihelene | 0.00 | 2.74 | i 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-Trimethylpontane | 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 | | | |
| Naphthalene | 0.00 | 1.82 | 0.00 | | 1.82 |
| Styrene | 0.00 | 0.49 | 0.01 | 0.00 | 0.49 |
| | | | | | |

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| 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-Trimethylbenzeno | 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 |
| Totuene | 0.27 | 1B.24 | 0.76 | 0.00 | 19.27 |
| Unidentified Components | 79.59 | 228.88 | 223,25 | 00.00 | 531.72 |
| Xylenes (Mixed) | 0.08 | 21.28 | 0.24 | 0.00 | 21.60 |

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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 (Ibs) |
|--|-----------------------|-----------------------------|----------------------|--------------|
| 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, Calilornia | 2,698.79 |
| Stockton Tank 19 pre-project ann throughput | Shell Oil Products US | Internal Floating Roof Tank | Stockton, Calitornia | 2,395.08 |
| Stockton Tank 24 - max annual throughput | Shell Oil Products US | Internal Floating Roof Tank | Slockton, California | 1,736.06 |
| Stockton Tank 24 - max dally Ihroughput | 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



RECEIVED

SEP 1 0 2013

September 9, 2013

SJVAPCD NORTHERN REGION

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 |
| Signai Hiil 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,

Ame C. Ande

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 [] Pa | artnership []Utility |
| 2. Owner's Name: | |
| 3. Agent to the Owner: | |

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

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).

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.



(A)

Corrected information will be provided to the District when 1 become aware that incorrect or incomplete information has been submitted.



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:

9-5-13

Date

Signature of Responsible Official

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

| То: | 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 Dlameter. (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 | | | |

' Capped

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

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

Equilon Enterprises LLC, Project # N-1123247 Page 3 of 3

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

ill. Conclusion

<u>Unit 13-9</u>

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. Priorilization 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

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
- 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

EXPIRATION DATE: 01/31/2017

Permit Unit Requirements for N-758-4-4 (continued)

- 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 t0,000 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 for N-758-4-4 (continued)

- 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, rcpair, 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 for N-758-4-4 (continued)

- 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

EQUIPMENT DESCRIPTION:

EXPIRATION DATE: 01/31/2017

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
- 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
 - 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 for N-758-13-8 (continued)

- 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 15minute 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 for N-758-13-8 (continued)

- 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

EQUIPMENT DESCRIPTION:

EXPIRATION DATE: 01/31/2017

DNE 689,136 GALLON (16,408 BBL) ABOVEGROUND WELDED EXTERNAL FLOATING RODF GASDLINE STDRAGE TANK (TANK #18) WITH A MECHANICAL SHOE TYPE PRIMARY SEAL AND A SECONDARY WIPE SEAL

PERMIT UNIT REQUIREMENTS

- A vapor recovery system shall be required if the true vapor pressure of the stored liquid equals or exceeds 11 psia. 1. [District Rule 4623]
- Daily throughput for this tank shall not exceed 689,136 gallons per day. [District Rule 2201] 2.
- Annual throughput for this tank shall not exceed 50,952,827 gallons per year based on a 12-month rolling basis. 3. [District Rule 2201]
- This tank shall be equipped with a closure device between the tank shell and roof edge consisting of two seals mounted 4. 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
- The external floating roof shall float on the surface of the stored liquid at all times (i.e., off the roof leg supports) 5. 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
- The cumulative length of all gaps between the tank shell and the primary seal greater than 1/2 inch shall not exceed 7. 10% of the circumference of the tank. [District Rule 4623] Federally Enforceable Through Title V Permit
- Accumulated area of gaps between the tank wall and the mechanical shoe or liquid-mounted primary seal shall not 8. 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
- The cumulative length of all primary seal gaps greater than 1/8 inch shall not exceed 30% of the circumference of the 9. 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 for N-758-14-3 (continued)

- 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

Permit Unit Requirements for N-758-14-3 (continued)

- 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

Permit Unit Requirements for N-758-14-3 (continued)

- 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