Texas Commission on Environmental Quality

Table 7(c)

External Floating Roof Storage Tank Summary

| **Applicant's Full Name** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | |
| **I. Tank Identification** *(Use a separate form for each tank)*. | | | | | | | | | |
| Location *(indicate on plot plan and provide coordinates)* | | | | | | | | | |
| Tank No.: | | | | | |  | | | |
| Emission Point No. (EPN) *(from flow diagram)*: | | | | | |  | | | |
| Facility Identification Number (FIN): | | | | | |  | | | |
| Control Identification Number (CIN): | | | | | |  | | | |
| Status of the tank | | | | | | | | | |
| New Tank | | Altered Tank | | | | | Relocation | | Change of Service |
| Previous Permit No.: | |  | | | | | | | |
| Previous Permit by Rule No.: | |  | | | | | | | |
| Previous Exemption No.: | |  | | | | | | | |
| **II. Tank Physical Characteristics** | | | | | | | | | |
| Dimensions of the Tank | | | | | | | | | |
| Shell Height (*ft.*): | |  | | | | | | | |
| Maximum Liquid Height (*ft.*): | |  | | | | | | | |
| Diameter (*ft.*): | |  | | | | | | | |
| Nominal Capacity or Tank Volume (*gallons*): | | | | |  | | | | |
| Turnovers per year: | | |  | | | | | | |
| Net Throughput (*gallons/year*): | | |  | | | | | | |
| Maximum Pumping Rate *(gallons/hour[[1]](#footnote-2))*: | | | |  | | | | | |
| Shell and Paint Characteristics | | | | | | | | | |
| Shell Condition | | | | | | | | | |
| Light Rust | | | Dense Rust | | | | | Gunite Lining | |
| Paint Color/Shade | | | | | | | | | |
| White/White | | | Aluminum/Specular | | | | | Aluminum/Diffuse | |
| Gray/Light | | | Gray/Medium | | | | | Red/Primer | |
| Other *(Describe)*: |  | | | | | | | | |

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| **II. Tank Physical Characteristics *(continued)*** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| Paint Condition. | | | | | | |
| Good | | | Poor | | | |
| Tank Construction and Rim-Seal System | | | | | | |
| Tank Construction | | | | | | |
| Welded | | | Riveted | | | |
| Primary Seal | | | | | | |
| Vapor-mounted | | | Liquid-mounted | | | Mechanical Shoe |
| Secondary Seal: | | | | | | |
| Rim-mounted | | | Shoe-mounted | | | None |
| Roof Type | | | | | | |
| Pontoon | | | Double Deck | | | |
| Roof Fitting Loss Factor (lb-mole/year): | | |  | | | |
| Based Upon | | | | | | |
| Typical Fittings | | | Controlled Fittings | | | Actual Fittings |
| *Complete Section IV, Fittings Information, to record fittings count used to calculate the roof fitting loss factor.* | | | | | | |
| **III. Liquid Properties of Stored Material** | | | | | | |
| Chemical Category | | | | | | |
| Organic Liquids | | | Petroleum Distillates | | Crude Oils | |
| Single *(complete Section III.1.)* or Multi-Component Liquid *(complete Section III.2.)* | | | | | | |
| Single | | | Multiple | | | |
| 1. Single Component Information | | | | | | |
| Chemical Name: |  | | | | | |
| Average Liquid Surface Temperature (*°F*): | | |  | | | |
| True Vapor Pressure at Average Liquid Surface Temperature (*psia*): | | | |  | | |
| Liquid Molecular Weight: | |  | | | | |

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External Floating Roof Storage Tank Summary

| **III. Liquid Properties of Stored Material *(continued)*** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 2. Multiple Component Information | | | | | | | | |
| Mixture Name: |  | | | | | | | |
| Average Liquid Surface Temperature (*°F*): | | | | |  | | | |
| Minimum Liquid Surface Temperature (*°F*): | | | | |  | | | |
| Maximum Liquid Surface Temperature (*°F*): | | | | |  | | | |
| True Vapor Pressure at Average Liquid Surface Temperature (*psia*): | | | | | | |  | |
| True Vapor Pressure at Minimum Liquid Surface Temperature (*psia*): | | | | | | |  | |
| True Vapor Pressure at Maximum Liquid Surface Temperature *(psia*): | | | | | | |  | |
| Liquid Molecular Weight: | | |  | | | | | |
| Vapor Molecular Weight: | | |  | | | | | |
| **Chemical Components Information** *(Below)* | | | | | | | | |
| **Chemical Name** | | **CAS Number** | | **Percent of Total Liquid Weight *(typical)*** | | **Percent of Total Vapor Weight *(typical)*** | | **Molecular Weight** |
|  | |  | |  | |  | |  |
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|  | |  | |  | |  | |  |
| Permit No.: | |  | | | | | | |
| Tank No.: | |  | | | | | | |

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External Floating Roof Storage Tank Summary

| ***IV. Fitting Information*** | | | | |
| --- | --- | --- | --- | --- |
| **Fitting Type(1)** | **Fitting Status** | **Quantity** | **Deck Fitting Loss Factor KF(2)(3)** | **Quantity x KF** |
| Access Hatch | Bolted Cover, Gasketed |  |  |  |
| Access Hatch | Unbolted Cover, Ungasketed |  |  |  |
| Access Hatch | Unbolted Cover, Gasketed |  |  |  |
| Column Well | Round Pipe - Sliding Cover, Ungasketed |  |  |  |
| Column Well | Round Pipe - Sliding Cover, Gasketed |  |  |  |
| Column Well | Round Pipe - Flex. Fabric Sleeve Seal |  |  |  |
| Column Well | Built-Up Col. - Sliding Cover, Ungask. |  |  |  |
| Column Well | Built-Up Col. - Sliding Cover, Gasketed |  |  |  |
| Unslotted Guidepole and Well | Sliding Cover, Ungasketed |  |  |  |
| Unslotted Guidepole and Well | Sliding Cover, Ungasketed w/Pole Sleeve |  |  |  |
| Unslotted Guidepole and Well | Sliding Cover, Gasketed |  |  |  |
| Unslotted Guidepole and Well | Sliding Cover, Gasketed w/Pole Wiper |  |  |  |
| Unslotted Guidepole and Well | Sliding Cover, Gasketed w/Pole Sleeve |  |  |  |
| Slotted Guidepole/Sample Well | Ungasketed or Gasketed Sliding Cover |  |  |  |
| Slotted Guidepole/Sample Well | Ungask. or Gask. Sliding Cover w/Float |  |  |  |
| Slotted Guidepole/Sample Well | Gasketed Sliding Cover, w/Pole Wiper |  |  |  |
| Slotted Guidepole/Sample Well | Gasketed Sliding Cover, w/Pole Sleeve |  |  |  |
| Slotted Guidepole/Sample Well | Gasketed Sliding Cover, w/Pole Wiper and Sleeve |  |  |  |
| Slotted Guidepole/Sample Well | Gasketed Sliding Cover, w/Float and Pole Wiper |  |  |  |

*Note (1): Document any fittings not listed above in blank rows and include in total loss factor.*

*Note (2): Refer to current EPA AP-42 Chapter 7 for deck fitting loss factors (KF).*

*Note (3): For external floating roof tanks, KF should reflect the sum of the zero wind speed loss factor and the wind speed*

*dependent loss factors as specified in Equation 2-7 of AP-42 Chapter 7 (November 2006 Edition).*

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External Floating Roof Storage Tank Summary

| ***IV. Fitting Information (continued)*** | | | | |
| --- | --- | --- | --- | --- |
| **Fitting Type(1)** | **Fitting Status** | **Quantity** | **Deck Fitting Loss Factor KF(2)(3)** | **Quantity x KF** |
| Slotted Guidepole/Sample Well | Gasketed Sliding Cover, w/Float, Pole Wiper, and Pole Sleeve |  |  |  |
| Slotted Guidepole/Sample Well | Flexible Enclosure |  |  |  |
| Automatic Gauge Float Well | Unbolted Cover, Ungasketed |  |  |  |
| Automatic Gauge Float Well | Unbolted Cover, Gasketed |  |  |  |
| Automatic Gauge Float Well | Bolted Cover, Gasketed |  |  |  |
| Gauge Hatch/Sample Port | Gasketed, Weighted Mech. Actuation |  |  |  |
| Gauge Hatch/Sample Port | Ungasketed, Weighted Mech. Actuation |  |  |  |
| Gauge Hatch/Sample Port | Slit Fabric Seal, 10% Open Area |  |  |  |
| Vacuum Breaker | Ungasketed, Weighted Mech. Actuation |  |  |  |
| Vacuum Breaker | Gasketed, Weighted Mech. Actuation |  |  |  |
| Deck Drain | Open |  |  |  |
| Deck Drain | 90% Closed |  |  |  |
| Deck Drain | Stub Drain (1-inch Diameter) |  |  |  |
| Deck Leg – Pontoon Area of Pontoon Roof | Ungasketed |  |  |  |
| Deck Leg – Pontoon Area of Pontoon Roof | Gasketed |  |  |  |
| Deck Leg – Pontoon Area of Pontoon Roof | Sock |  |  |  |
| Deck Leg – Double Deck Roof and Center Area of Pontoon | Ungasketed |  |  |  |
| Deck Leg – Double Deck Roof and Center Area of Pontoon | Gasketed |  |  |  |

*Note (1): Document any fittings not listed above in blank rows and include in total loss factor.*

*Note (2): Refer to current EPA AP-42 Chapter 7 for deck fitting loss factors (KF).*

*Note (3): For external floating roof tanks, KF should reflect the sum of the zero wind speed loss factor and the wind speed*

*dependent loss factors as specified in Equation 2-7 of AP-42 Chapter 7 (November 2006 Edition).*

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External Floating Roof Storage Tank Summary

| ***IV. Fitting Information (continued)*** | | | | |
| --- | --- | --- | --- | --- |
| **Fitting Type(1)** | **Fitting Status** | **Quantity** | **Deck Fitting Loss Factor KF(2)(3)** | **Quantity x KF** |
| Deck Leg – Double Deck Roof and Center Area of Pontoon | Sock |  |  |  |
| Deck Leg or Hanger (no opening) | Fixed |  |  |  |
| Rim Vent | Ungasketed, Weighted Mech. Actuation |  |  |  |
| Rim Vent | Gasketed, Weighted Mech. Actuation |  |  |  |
| Ladder Well | Sliding Cover, Ungasketed |  |  |  |
| Ladder Well | Sliding Cover, Gasketed |  |  |  |
| Ladder-Guidepole Combo Well | Sliding Cover, Ungasketed |  |  |  |
| Ladder-Guidepole Combo Well | Ladder Sleeve, Ungasketed Sliding Cover |  |  |  |
| Ladder-Guidepole Combo Well | Ladder Sleeve, Gasketed Sliding Cover |  |  |  |
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|  |  |  |  |  |
|  |  |  |  |  |
| Total deck fitting loss factor, lb-mole/year | | | |  |

*Note (1): Document any fittings not listed above in blank rows and include in total loss factor.*

*Note (2): Refer to current EPA AP-42 Chapter 7 for deck fitting loss factors (KF).*

*Note (3): For external floating roof tanks, KF should reflect the sum of the zero wind speed loss factor and the wind speed*

*dependent loss factors as specified in Equation 2-7 of AP-42 Chapter 7 (November 2006 Edition).*

1. *Use the higher of the maximum fill rate or maximum withdrawal rate.* [↑](#footnote-ref-2)