

EMISSION SOURCES - EMISSIONS CAPS

Flexible Permit Numbers 9708 and PSDTX861M2

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

(See Attachment I for Source Name and Emission Point Number Index)

AIR CONTAMINANTS DATA

| Emission Point No. (1) | Source Name (2) | Year | lb/hr | Emission Rates * TPY** |
|------------------------------------|--|-------------------|---------|---------------------------|
| <u>VOC CAPS:</u> | | | | |
| | Combustion Units, Tanks, Process Vents, Loading, Flares, Vapor Combustors, Fugitives, Wastewater, Cooling Towers, Engines, Relief Valves, and Maintenance (4) | Initial | 2199.5 | 1271.9 |
| | | Initial Subcap*** | 2195.9 | 1256.2 |
| | | Final | 2320.5 | 1690.48 |
| | | Final Subcap*** | 2316.92 | 1674.81 |
| <u>NO_x CAPS:</u> | | | | |
| | Combustion Units, Flares, Vapor Combustors, Process Vents, Loading, Engines, and Maintenance | Initial | 954.0 | 3511.1 |
| | | Final | 538.2 | 1865.21 |
| <u>CO CAPS:</u> | | | | |
| | Combustion Units, Flares, Vapor Combustors, Process Vents, Loading, Engines, and Maintenance | Initial | 1400.0 | 3080.0 |
| | | Final | 1542.65 | 3595.76 |
| <u>SO₂ CAPS:</u> | | | | |
| | Combustion Units, Flares, Vapor Combustors, Process Vents, Loading, Engines, and Maintenance | Initial | 1642.5 | 4709.1 |
| | | Final | 1223.08 | 2847.61 |
| <u>PM CAPS:</u> | | | | |
| | Combustion Units, Flares, Vapor Combustors, Process Vents, Engines, and Maintenance | Initial | 364.7 | 1563.2 |
| | | Final | 151.13 | 623.5 |
| <u>BENZENE CAPS:</u> | | | | |

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

| Emission Point No. (1) | Source Name (2) | Year | lb/hr | Emission Rates * TPY** |
|---|---|---------|--------|------------------------|
| | Tanks, Cooling Towers, and Loading, Fugitives (4) | Initial | 1.3 | 954.0 |
| | | Final | 2.4 | 538.2 |
| <u>H₂S CAPS:</u> | | | | |
| | Flares, Process Vents, Fugitives, and Maintenance (4) | Initial | 10.4 | 1400.0 |
| | | Final | 7.6 | 1542.65 |
| <u>SULFURIC ACID CAPS:</u> | | | | |
| | Process Vents | Initial | 10.6 | 1642.5 |
| | | Final | 12.4 | 1223.08 |
| <u>CHLORINE CAPS:</u> | | | | |
| | Process Vents | Initial | 4.3 | 364.7 |
| | | Final | 0.4 | 151.13 |
| <u>HCl CAPS:</u> | | | | |
| | Process Vents and Maintenance | Initial | 20.4 | 4.0 |
| | | Final | 7.1 | 4.3 |
| <u>NH₃ CAPS:</u> | | | | |
| | Process Vents, Fugitives, and Maintenance (4) | Initial | 800.3 | 164.6 |
| | | Final | 800.4 | 164.8 |
| <u>MAINTENANCE EMISSIONS CAPS:</u> (5) | | | | |
| | VOC | (5) | 1102.6 | 3.21 |
| | NO _x | (5) | 54.8 | 0.09 |
| | CO | (5) | 383.6 | 0.66 |
| | SO ₂ | (5) | 504.8 | 1.22 |
| | H ₂ S | (5) | 6.3 | 0.01 |
| | HCl | (5) | 4.0 | 0.002 |

EMISSION SOURCES - MAXIMUM ALLOWABLE EMISSION RATES

AIR CONTAMINANTS DATA

| Emission Point No. (1) | Source Name (2) | Year | lb/hr | Emission Rates * TPY** |
|---------------------------|--------------------|------|-------|---------------------------|
|---------------------------|--------------------|------|-------|---------------------------|

MAINTENANCE EMISSIONS CAPS: (5)

| | | | | |
|--|-----------------|-----|-------|------|
| | NH ₃ | (5) | 700.0 | 0.95 |
|--|-----------------|-----|-------|------|

- (1) Emission point identification - either specific equipment designation or emission point number from a plot plan.
- (2) Specific point source names. For fugitive sources, use an area name or fugitive source name.
- (3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1.
 NO_x - total oxides of nitrogen
 SO₂ - sulfur dioxide
 PM - particulate matter, suspended in the atmosphere, including PM₁₀
 PM₁₀ - particulate matter equal to or less than 10 microns in diameter. Where PM is not listed, it shall be assumed that no PM greater than 10 microns is emitted.
 CO - carbon monoxide
 NH₃ - ammonia
 H₂S - hydrogen sulfide
 HCl - hydrogen chloride
- (4) Fugitive emissions are an estimate only and should not be considered as a maximum allowable emission rate.
- (5) Emissions from maintenance activities authorized by this permit shall not exceed these rolling 12-month caps. These emissions are also included, where noted, in the preceding individual contaminant category caps. The maintenance emissions are the same from year to year - no difference between initial and final.

* Emission rates are based on operating 8,760 hrs/year.

** Compliance with annual emission limits is based on a rolling 12-month period.

*** The VOC subcap applies only when EPN F-ISO is taken off-line.

Dated July 28, 2009

ATTACHMENT I

SOURCE CATEGORIES, EMISSION POINT NUMBERS AND SOURCE NAMES

Flexible Permit Numbers 9708 and PSDTX861M2

This table lists the emission point numbers and the source names of all emission sources covered by this permit that are included in an emission cap.

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|----------------------------|-----------------------------------|---|
| COMBUSTION | | |
| | B-10 | No. 18 Boiler |
| | B-11 | No. 19 Boiler |
| | B-12 | 600 # Boiler |
| | B-19 | New 300# Steam Boiler No. 1 |
| | B-20 | New 300# Steam Boiler No. 2 |
| | B-21 | New 300# Steam Boiler No. 3 |
| | B-3 | No. 10 Boiler |
| | B-4 | No. 11 Boiler |
| | B-5 | No. 12 Boiler |
| | B-6 | No. 13 Boiler |
| | B-8 | No. 15 Boiler |
| | B-9 | No. 16 Boiler |
| | H-1 | No. 1 Crude Charge Heater |
| | H-11 | No. 2 Crude Charge-Anderson |
| | H-13 | GO Fractionator Heater |
| | H-14 | Unifiner Charge Heater |
| | H-15 | No. 1 Nap. Hydrotreater DeS ₂ Reboiler |
| | H-18 | No. 1 Reformer Charge Heater (Charge, 3, 4 Inter- |
| | H-2 | No. 1 Vacuum Heater |
| | H-26 | No. 2 Vacuum Heater |
| | H-27 | PP Mol. Sieve Regeneration Heater |
| | H-28 | Active Butane Oxygenate Heater |
| | H-30 | Asphalt Tank Heaters 5501, 5502, and 5503 (6 |
| | H-31B | Asphalt Tank Heaters 27, 28 (2 stacks) |
| | H-32 | Asphalt Tank Heaters 20M5, 20M6 (6 stacks) |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|----------------------------|-----------------------------------|--|
| | H-32C | Asphalt Tank Heaters 20M7 |
| | H-33 | Asphalt Tank Htrs. 34, 121, 141, 551, and 552 (7 |
| | H-34 | No. 1 Reformer Stabilizer Reboiler |
| | H-35 | Asphalt Tank Heater 300M2 (4 stacks) |
| | H-36 | No. 2 Naphtha Hydrotreater Charge Heater (initial) No. 2 Naphtha Hydrotreater DeS2 Reboiler (final) |
| | H-37 | No. 2 Naphtha Hydrotreater DeS2 Reboiler (initial) Shutdown and Remove (final) |
| | H-38 | No. 2 Reformer Charge Heater (Charge, 3, 4 Inter- |
| | H-39 | No. 2 Reformer Stabilizer Reboiler |
| | H-40 | No. 1 PDA Asphalt Heater (Asphalt-South) |
| | H-41 | No. 2 Crude Charge-Born |
| | H-42 | HCU Recycle Heater |
| | H-43 | HCU DeC ₄ Reboiler Heater |
| | H-45 | No. 1 Naphtha Hydrotreater Charge Heater |
| | H-46 | No. 1 Reformer No. 1 Interheater |
| | H-47 | Asphalt Blowstill Heater |
| | H-48 | Turbine Fuel HDSU Heater |
| | H-51 | Asphalt Tank Heater 300M3 (4 stacks) |
| | H-6 | DAGO Heater |
| | H-64 | No. 4 Hydrotreater Charge Heater |
| | H-70 | No. 2 Crude Charge Heater |
| | H-71 | No. 3 Vacuum Heater |
| | H-72 | PDA Asphalt Heater |
| | H-73 | HCU Fractionator Charge Heater |
| | H-74 | HCU Recycle Gas Heater |
| | H-75 | HCU DeC ₄ Reboiler Heater |
| | H-76 | Diesel Hydrotreater Charge Heater |
| | H-77 | No. 1 Reformer Charge Heater |
| | H-78 | No. 1 Reformer Interheaters |
| | H-79 | No. 1 Ref. Stabilizer Reboiler |
| | H-8 | No. 3 Crude Heater-PetroChem (North) |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|----------------------------|-----------------------------------|---|
| | H-80 | FCC Gas HDS Charge Heater |
| | H-81 | C ₄ Isom Heater |
| | H-82 | Coker Heater |
| | H-83 | Polymer Modified Asphalt Heater |
| | H-84 | No. 2 Reformer No. 1 Interheater |
| | H-85 | No. 2 Ref. Stab. Reboiler |
| | H-86 | No. 2 Naptha Hydrotreater Charge Heater (final) |
| | H-87 | SRU No. 3 Hot Oil Heater |
| | H-88 | Acid Plant Feed Heater |
| | H-9 | No. 3 Crude Heater-PetroChem (South) |

STORAGE

| | |
|-------|------------|
| S-001 | Tank 120M1 |
| S-002 | Tank 133 |
| S-003 | Tank 134 |
| S-004 | Tank 139 |
| S-005 | Tank 150M1 |
| S-006 | Tank 157 |
| S-007 | Tank 168 |
| S-008 | Tank 1001 |
| S-009 | Tank 1003 |
| S-010 | Tank 1501 |
| S-011 | Tank 1502 |
| S-012 | Tank 3001 |
| S-013 | Tank 3002 |
| S-014 | Tank 6701 |
| S-015 | Tank 6702 |
| S-016 | Tank 31 |
| S-017 | Tank 138 |
| S-018 | Tank 161 |
| S-019 | Tank 163 |
| S-020 | Tank 167 |
| S-021 | Tank 101 |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|----------------------------|-----------------------------------|------------------------|
| | S-022 | Tank 120M2 |
| | S-023 | Tank 120M3 |
| | S-024 | Tank 126 |
| | S-025 | Tank 151 |
| | S-026 | Tank 165 |
| | S-027 | Tank 166 |
| | S-028 | Tank 2 |
| | S-031 | Tank 100M2 |
| | S-032 | Tank 140 |
| | S-033 | Tank 145 |
| | S-035 | Tank 147 |
| | S-037 | Tank 21 |
| | S-038 | Tank 22 |
| | S-039 | Tank 130 |
| | S-040 | Tank 148 |
| | S-042 | Tank 162 |
| | S-043 | Tank 164 |
| | S-044 | Tank 144 |
| | S-045 | Tank 127 |
| | S-046 | Tank 142 |
| | S-049 | Tank 155 |
| | S-052 | Tank 128 |
| | S-053 | Tank 222 |
| | S-055 | Tank 1 |
| | S-056 | Tank 137 |
| | S-057 | Tank 441 |
| | S-058 | Tank 442 |
| | S-059 | Tank 23 |
| | S-060 | Tank 24 |
| | S-063 | Tank 27 |
| | S-064 | Tank 28 |
| | S-065 | Tank 29 |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|----------------------------|-----------------------------------|----------------------------|
| | S-066 | Tank 30 |
| | S-067 | Tank 32 |
| | S-068 | Tank 33 |
| | S-069 | Tank 34 |
| | S-070 | Tank 121 |
| | S-071 | Tank 141 |
| | S-072 | Tank 551 |
| | S-073 | Tank 552 |
| | S-074 | Tank 5501 |
| | S-075 | Tank 5502 |
| | S-076 | Tank 5503 |
| | S-086 | Tank 143 |
| | S-090 | Tank 4 |
| | S-095 | Tank 100 |
| | S-137 | Tank 20M5 |
| | S-138 | Tank 20M6 |
| | S-139 | Tank 125 |
| | S-140 | Tank 181 |
| | S-141 | Tank 182 |
| | S-142 | Tank 232 |
| | S-143 | Tank 5505 |
| | S-144 | Tank 5504 |
| | S-150 | Tank 300M1 |
| | S-168 | N Lube Tank (T-9) |
| | S-173 | 3rd from S Lube Tank (T-3) |
| | S-174 | 2nd from S Lube Tank (T-2) |
| | S-175 | S. Lube Tank (T-1) |
| | S-176 | Tank 200M1 |
| | S-177 | Tank 300M2 |
| | S-179 | Latex Tank 1 |
| | S-180 | Latex Tank 2 |
| | S-183 | Tank 120M4 |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|----------------------------|-----------------------------------|--------------------------|
| | S-184 | Tank 940T1 |
| | S-186 | Tank 80M1 |
| | S-187 | Tank 150M2 |
| | S-192 | Tank 20M7 |
| | S-194 | Tank 300M3 |
| | S-195 | Tank T101 |
| | S-196 | Tank T102 |
| | S-197 | Tank T109 |
| | S-198 | DGF Effluent (Tank T111) |
| | S-199 | WW Holding (Tank T115) |
| | S-200 | Tank 5506 |
| | S-202 | Tank 100M3 |
| | S-203 | Tank 150M3 |
| | S-204 | Tank 150M4 |
| | S-209 | Tank 200M2 |
| | S-210 | Tank 200M3 |
| | S-211 | Tank 150M5 |
| | S-212 | Tank 150M6 |
| | S-213 | Tank 100M4 |
| | S-214 | Tank 100M5 |
| | S-215 | Tank 100M6 |
| | S-216 | Tank 100M7 |
| | S-217 | Tank 100M8 |
| | S-218 | Tank 100M9 |
| | S-219 | Tank 100M10 |
| | S-220 | Tank 50M1 |
| | S-221 | Tank 50M2 |
| | S-222 | Tank 25M1 |
| | S-223 | Tank 25M2 |
| | S-224 | Tank 940T2 |
| | S-225 | PMA Wetting Tank |

| Source Category | Emission Point No. (1) | Source Name (2) |
|--------------------|---------------------------|-----------------|
|--------------------|---------------------------|-----------------|

PIPING

| | |
|------------|--------------------------------------|
| F-1CRUDE | No. 1 Crude/Vacuum Unit Fugitives |
| F-1REF_HT | No. 1 Naphtha HDS/Reformer Fugitives |
| F-2ALKY | No. 2 Alky Unit Fugitives |
| F-2CRUDE | No. 2 Crude/Vacuum Unit Fugitives |
| F-2REF_HT | No. 2 Naphtha HDS/Reformer Fugitives |
| F-3CRUDE | No. 3 Crude/Vacuum Unit Fugitives |
| F-4HT | No. 4 Naphtha Hydrotreater Fugitives |
| F-85 | Cleaning Slab |
| F-ALKY_PDA | Alky and PDA Unit Fugitives |
| F-ASPHALT | Heavy Oil Blending |
| F-BRINE | Brine Pond Fugitives |
| F-C4ISOM | C ₄ Isom Unit Fugitives |
| F-CASING | Cavern Well Casing Maintenance |
| F-CAVERN | Storage Cavern Wellhead Fugitives |
| F-COKE_VOC | Coker Fugitives |
| F-DESALT | Desalter Water Stripper |
| F-DHDSU | Diesel HDS Unit |
| F-ETNKFRM | East Tank Farm Fugitives |
| F-FCCU | FCCU Fugitives |
| F-GASBLD | Gasoline Blending Fugitives |
| F-GASPLT | Gas Plant Fugitives |
| F-GHDS | Gasoline HDS Fugitives |
| F-HCU | HCU Fugitives |
| F-HDS_GOF | GOF Fugitives |
| F-LPG | LPG Storage Fugitives |
| F-ISO | Iso-Octene Unit Fugitives |
| F-NBULKLD | Loading Fugitives |
| F-NTNKFRM | North Tank Farm Fugitives |
| F-ORU | Oil Recovery Unit Fugitives |
| F-PENEX | Isomerization Unit Fugitives |
| F-PMA | Polymer Modified Asphalt Fugitives |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|------------------------|-------------------------------|------------------------------------|
| | F-PSA | Hydrogen Pressure Swing Absorption |
| | F-PUMPSTA | Pump Station Fugitives |
| | F-RAILLOAD | Railroad Loading Rack Fugitives |
| | F-RLE | Light Ends Unit Fugitives |
| | F-SBULKLD | Bulk Loading Terminal Fugitives |
| | F-SRU1 | No. 1 SRU Fugitives |
| | F-SRU2 | No. 2 SRU Fugitives |
| | F-SRU3 | No. 3 SRU Fugitives |
| | F-SWS | Sour Water Stripper Fugitives |
| | F-TAME | TAME Unit Fugitives |
| | F-UNIFINER | Unifiner Unit Fugitives |
| | F-WTNKFRM | West Tank Farm Fugitives |
| | F-WWTP | Wastewater Treatment Fugitives |

PRODUCT

| | |
|------|---------------------------------------|
| L-11 | Truck Loading Rack |
| L-13 | Railcar Loading Rack |
| L-2 | Asphalt Truck Loading Rack (Asphalts) |
| L-5 | Railcar Rack (Diesel) |
| L-7 | Asphalt Railcar Rack |

MAINTENANCE

All Flares, All Storage Tanks (in VOC service <0.5 psia vapor pressure materials), and Piping Component Fugitive Areas (pump seal maintenance)

PROCESS

| | |
|------|---|
| V-10 | CO ₂ Plant Vent (CO ₂ release only) |
| V-11 | MEA Still CO ₂ Plant Vent |
| V-13 | Soda Ash Silo |
| V-14 | Water Treater Lime Silo |
| V-15 | Boiler House Lime Silo |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|------------------------|-------------------------------|----------------------------------|
| | V-16 | SRU No. 2 Incinerator |
| | V-17 | FCC Catalyst Silo Vent |
| | V-18 | No. 1 Reformer Regeneration Vent |
| | V-20 | FCC Stack Vent |
| | V-21 | No. 2 Reformer Regeneration Vent |
| | V-22 | Asphalt Blowstill Vent |
| | V-26 | Enviroguard Silo Vent |
| | V-28 | SRU No. 3 Incinerator |
| | V-29 | Sulfuric Acid Plant Stack |
| | V-30 | PMA Scrubber Stack |
| | V-5 | SRU No. 1 Incinerator |
| | V-6 | Acid Plant Mist Eliminator Vent |

RELIEF

| | |
|----------|--------------------------|
| Tank 326 | Relief Valve on LPG Tank |
| Tank 327 | Relief Valve on LPG Tank |
| Tank 328 | Relief Valve on LPG Tank |
| Tank 329 | Relief Valve on LPG Tank |
| Tank 330 | Relief Valve on LPG Tank |

CAS SUMPS

| | |
|------|-----------------------|
| CAS1 | Oily Sump #7 CAS |
| CAS2 | Crude Sump CAS |
| CAS3 | Tank Farm CAS (150M2) |
| CAS4 | Tank Farm CAS (150M1) |
| CAS5 | P&T Crude Sump 1 |
| CAS6 | P&T Crude Sump 2 |
| CAS7 | Railcar Sump |

ENGINES

| | |
|-----|---|
| E-1 | No. 1 RLE Compressor Engine (replaced with electric motor on 12/23/08) |
| E-2 | No. 2 RLE Compressor Engine (replaced with electric motor on 12/20/08) |

| <u>Source Category</u> | <u>Emission Point No. (1)</u> | <u>Source Name (2)</u> |
|------------------------|-------------------------------|---|
| | E-5 | PDA Propane Compressor Engine (removed from service December 2008) |
| | E-7 | Unifiner (Clark) Compressor Engine |
| | E-8 | Diesel H.T. No. 1 Compressor Engine (replaced with electric motor 5/07) |
| | E-9 | Diesel H.T. No. 2 Compressor Engine (replaced with electric motor 5/07) |

FLARES

| | |
|------|---------------------------------------|
| FL-1 | No. 1 Main Refinery Flare |
| FL-3 | FCCU Flare |
| FL-4 | HCU Flare |
| FL-6 | Wastewater Flare |
| FL-8 | No. 2 Main Refinery Flare |
| FL-9 | Brine Flare (pilot emissions only)(3) |

VAPOR COMBUSTION UNITS

| | |
|------|------------------------------|
| FL-7 | Loading Rack Vapor Combustor |
|------|------------------------------|

COOLING

| | |
|------|------------------------------|
| F-20 | No. 1 Refinery Cooling Tower |
| F-47 | No. 2 Refinery Cooling Tower |
| F-93 | No. 3 Refinery Cooling Tower |
| F-21 | Gasoline Plant Cooling Tower |

COKE HANDLING

| | |
|-----------|-------------------------|
| F-COKE_PM | Coke Handling Fugitives |
|-----------|-------------------------|

- (1) Emission point identification - either specific equipment designation or emission point number from plot plan.
- (2) Specific point source name. For fugitive sources use area name or fugitive source name.
- (3) The Brine Flare, FL-9, is a unique source and only pilot emissions were authorized. This source is not subject to continuous flow monitoring required for flares in the special conditions.

Dated July 28, 2009