

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

B521562049

FACILITY: MPLX Terminals LLC - Lansing Terminal		SRN / ID: B5215
LOCATION: 6300 W GRAND RIVER, LANSING		DISTRICT: Lansing
CITY: LANSING		COUNTY: CLINTON
CONTACT: Faith Taylor , Environmental Professional		ACTIVITY DATE: 03/03/2022
STAFF: Michelle Luplow	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Scheduled, onsite, partial compliance evaluation inspection to determine compliance with PTI 302-05D.		
RESOLVED COMPLAINTS:		

MPLX Personnel Present: Barry Keller, Operator (wbkeller@mplx.com), et al.

MPLX Offsite Staff: Faith Taylor, HES Environmental Professional
(FLTaylor@marathonpetroleum.com)

Judson McCulloch, Terminal Manager (jamcculloch@marathonpetroleum.com)

Purpose

Conduct an unannounced, scheduled partial compliance evaluation (PCE) inspection by determining compliance with MPLX Lansing Terminal's Permit to Install No. 302-05D, as well as Air Pollution Control's Part 6 Rules, the NSPS Subpart Kb, and the NSPS Subpart XX. This includes verification that MPLX stayed within the permit's emission limits to remain an opt-out source. This inspection was conducted as part of a full compliance evaluation (FCE).

Facility Background/Regulatory Overview

MPLX is a fuel (gasoline, diesel, ethanol) distribution facility/terminal.

MPLX is an opt-out facility and is limited to the following emissions: VOC's 90 tpy, individual HAP 9 tpy and aggregate HAP 22.5 tpy. Additionally, EURACK is subject to Michigan Air Pollution Control Rules 609 and 627, as well as the New Source Performance Standards (NSPS) for Bulk Gasoline Terminals, Subpart XX.

EUTANK25-1, 25-3, and 25-4 are subject to the NSPS Subpart Kb for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. The NSPS Subpart Kb was revised in January 2021 to include an option for companies to comply with all of the NESHAP Subpart WW in lieu of portions of the NSPS Kb. Facilities who choose to comply with the NESHAP Subpart WW do not have to comply with NSPS Subpart Kb 60.112b - 60.117b, but must still comply with 60.116(a), (c), (e), and (f)(1)). They must also comply with all other portions of the NSPS Subpart Kb (60.110b – 60.111b, and 60.117b). This option allows facilities to conduct their 10-year inspections while the tanks are in-service, rather than emptying and degassing the tanks every 10 years for these inspections.

During the post-inspection phone call I had on March 9, 2022 with MPLX representatives Faith Taylor, Judson McCulloch, Michael Gray (Compliance Manager), Kevin Snyder, and Allison LeBrun (specialized in CEM), Faith

Taylor stated that MPLX Lansing Terminal has not yet submitted notification that it plans to comply with the NESHAP Subpart WW in lieu of the NSPS Subpart Kb. She said their stance on this is to submit the notification as it gets closer to the 10-year inspection deadline; at that time they will provide notice that they plan to comply with the NESHAP Subpart WW. The soonest 10-year inspection is due in August 2028 for tank 25-1. See the FGNSPS discussion within the report for additional details.

For the purposes of this inspection, compliance was determined according to the NSPS Subpart Kb in its entirety. Compliance options, demonstrations, and inspections will change to a combination of NSPS Subpart Kb and NESHAP Subpart WW once MPLX opts to comply with the NESHAP Subpart WW in lieu of the NSPS Subpart Kb.

MPLX is also subject to the NESHAP Subpart BBBBBB (GDGACT); however, the State of Michigan does not have delegated authority to enforce this regulation.

PTI 302-05D was issued to include permitted requirements for a 953-gallon in-ground sump used for transfer of pipeline transmix.

This facility was last inspected in July 2018.

Inspection

At ~12:45 p.m. on March 3, 2022 I met with Barry Keller, Operations Technician. I was informed that Victor Brzeg (corporate EHS) and Tyler Haan (Terminal Manager) were no longer with the company. Faith Taylor is the new corporate EHS representative, and Judson McCulloch is the new Terminal Manager.

B. Keller said that they load 40-50 trucks per day, and that loadout quantities typically remain consistent throughout the year.

I reviewed all equipment listed Tables 1 & 2 with B. Keller, which contain all emission units (permitted and exempt) that are located at the MPLX Lansing Terminal. Note: EUTANK5-5 and EUTANK25-6 listed in PTI 302-05D have been removed from the site and are not included in Table 1. B. Keller said that all tanks storing gasoline have horizontal vents located on the side of the tanks (see attached photo for example).

Table 1. Permitted emission units.

Permitted Equipment Under PTI 302-05D				
ID	Description	Material	Capacity (gallons)	Flexible Group
EURACK	Tanker truck loading rack		NA	FGFACILITY

		Gasoline, diesel, ethanol, distillate (kerosene) additives		
EUORTANK (1-17)	Fixed roof tank for overpressure pipeline relief. Diesel is kept in the tank above the receiving line to prevent electrostatic issues. This tank is used for any of the MPLX products in emergency situations.	Diesel	19,000	FGFACILITY
EUSUMP	In-ground steel sump installed in the 1950's	Transmix	935	FGFACILITY
EUTANK8-11	Fixed Roof	Ethanol	316,000	FGGASOLINETANKS, FGFACILITY
25-1	Internal Floating Roof, mechanical shoe	Gasoline	914,000	FGGASOLINETANKS; FGNSPSTANKS, FGFACILITY
25-2	Fixed Roof	Diesel	1,016,000	FGDISTILLATETANKS
25-3	Internal Floating Roof, mechanical shoe	Gasoline (84 octane)	956,000	FGGASOLINETANKS; FGNSPSTANKS FGFACILITY
25-4	Internal Floating Roof, mechanical shoe	Gasoline (84 octane)	915,000	FGGASOLINETANKS; FGNSPSTANKS FGFACILITY
25-7	Fixed Roof	Diesel	1,009,000	FGDISTILLATETANKS
25-8	Internal Floating Roof, mechanical shoe	Gasoline	961,000	FGGASOLINETANKS
15-9	Fixed Roof	Diesel	621,000	FGDISTILLATETANKS

1-12	Fixed Roof	Transmix	19,000	FGTRANSMIXTANKS
1-13	Fixed Roof	Transmix	19,000	FGTRANSMIXTANKS
AA 1-14	Fixed Roof	Winter Additive – 1128	6,000	FGGASOLINETANKS
AA 1-16	Fixed Roof;	Additive – HiTec 6590M Wholesale	15,000	FGGASOLINETANKS
AA 1-18	Horizontal storage;	Additive – HiTec 4142M “Lubricity”	3,000	FGDISTILLATETANKS
AA 1-19	Horizontal storage;	Additive – Unisol Liquid red dye for diesel	600	FGDISTILLATETANKS

Table 2. Exempt emission units

Exempt Equipment		
Tank	Description	Exemption
Butane	90,000-gallon butane tank, under pressure; butane is used to raise the RVP of gasoline for winter	Rule 284(2)(j)
Ethanol	225-gallon ethanol day tank; always kept empty. Would be used for sampling in the event Michigan regulations change and require sampling.	Rule 290(2)(a)(i)
	225-gallon gasoline recovery tank	Rule 290(2)(a)(ii)(C)

Gasoline recovery (S-1-21)		
Waste Water Sump	<p>15,000-gal Oil/Water Separator sump from gasoline and diesel drips through the grating at the load rack; located underground.</p> <p>Transfers the captured liquids to EUTANK1-12 and EUTANK1-13 (Transmix tanks).</p> <p>Water is removed and shipped to the wastewater treatment plant.</p>	Rule 284(2)(i)

Exempt Emission Units

The 225-gallon ethanol tank was installed under exemption Rule 290. The ethanol tank appears to meet exemption Rule 290(2)(a)(i). Ethanol is a noncarcinogenic VOC; its uncontrolled emissions should not exceed 1000 lbs/month. B. Keller confirmed during this inspection that the ethanol tank has never been used and therefore there are no emissions that have occurred since its installation, thus Rule 290 is being met.

The gasoline recovery tank (S 1-21) was installed under exemption Rule 290 and appears to specifically meet exemption Rule 290(2)(a)(ii)(C). Gasoline is a carcinogenic air contaminant with an initial risk screening level greater than or equal to 0.04 µg/m³; its uncontrolled emissions should not exceed 20 lbs/month. F. Taylor provided me with MPLX’s spreadsheets which specify tank S-1-21 as the 225-gallon gasoline recovery tank (see attached) for calculated working and standing losses from the tank. For calendar years 2020 and 2021, both years indicate that the highest VOC emissions was July, at 12.97 lbs, within the 20 lb limits of Rule 290 for calculated VOC. I will request additional information concerning why both years had peak VOC emissions in July at the exact same VOC emission rates.

The 90,000 gallon butane tank appears to meet exemption Rule 284(2)(j); butane has a boiling point of -10°C. Rick Vermeesch, previous terminal manager, explained during the 2014 inspection that the tank is under low pressure, which I would consider “pressurized” as required by the exemption. MPLX meets the PTI exemption for its butane tank.

The wastewater sump appears to meet exemption Rule 284(2)(i); MPLX has demonstrated that the liquids contained in this unit have a true vapor pressure of 0.51 psia (based on partial pressures of each of the constituents within a sample taken from MPLX’s Bay City Terminal).

EURACK

MPLX loads out diesel, kerosene, gasoline blends (containing octane & ethanol), and denatured ethanol through the loading rack (EURACK). EURACK is an affected facility under the NSPS Subpart XX. A vapor recovery unit (VRU) is installed to collect displaced vapors from the loading rack. It is equipped with 2 regenerative carbon beds, where flow is switched between each bed every 15 minutes. VOC reclaim can range from 1-3 gallons of vapor for every 1000 gallons of material loaded.

B. Keller, and others onsite, explained that when the VRU is undergoing maintenance, a portable Zink flare is brought onsite to combust vapors from the loading rack. Since 2018, MPLX has had to use the Zink flare only once in order to install the CEM while simultaneously changing out the carbon of the VRU. This event occurred in 2019. The notification that MPLX was installing a CEMs to determine VOC emissions from the VRU for compliance with GDGACT (63.11092(b)(1)(I)(A)) was received 10/5/18. EPA approved this method of VOC determination on 6/25/15 (see attached).

The Air Quality Division requires annual RATAs be conducted on the VRU CEM. All RATAs, including the most recent RATA in October 2021, were passing.

There are no Process/Operational Restrictions, Testing/Sampling, or Reporting requirements under EURACK at this time.

Emission Limits

MPLX is limited to 31 mg/L VOC from EURACK per PTI 302-05D and to 35 mg/L per the NSPS Subpart XX. Because the permit limit is more restrictive than the NSPS limit, MPLX is required to meet the 31 mg/L VOC limit.

The CEM produces instantaneous percentage rates for non-methane hydrocarbons (NMHC), total hydrocarbons (THC), and methane, and also 1-hour, 6-hour, and 24-hour average percentage rates of NMHC (see attached photo taken of CEM screen taken during inspection). NMHC is representative of VOC.

A. LeBrun provided me with equivalencies for NMHC% to mg/L during our phone call on 3/9/22. She said 1.30% NMHC is equivalent to 31 mg/L and 1.47% NMHC is equivalent to 35 mg/L. I confirmed with her that the % to mg/L is directly proportional to one another. Attached is the calculation MPLX used to convert 31 mg/L to an NMOC%. The conversion required the use of MPLX's 2008 stack test results (concentration VOC emitted in mg/L and ppm). After further review of this information by the AQD Lansing District as well as AQD TPU's Gina Angellotti, AQD is agreeable to the method with which MPLX determined the % equivalency.

During the inspection, the instantaneous CEM reading was 0.021% NMHC, and therefore less than the 1.30% NMHC equivalent of 31 mg/L. Based on the equivalency, MPLX appears to be in compliance with the emission limit.

A. Lebrun said that EURACK will shut down if the CEM reads an NMHC of 0.06% (much lower than the emission limit of 31 mg/L or 1.30%). A. LeBrun explained that they have an alarm that will sound if the NMHC 6-hour average reaches 1.47% (35 mg/L). I informed them that the permit limit is 31 mg/L and recommended that they

readjust the alarm to something below the permitted limit of 31 mg/L. A. LeBrun and F. Taylor were amenable to this recommendation.

K. Snyder said that if the CEM detects emissions at 45% of the permit limit, loading from the rack is discontinued until MPLX can determine the cause for the increase in emissions. They will not begin loading again until the CEM detects NMHC below 45% of the permit limit.

Material Limits

MPLX is limited to 400,000,000 gallons of gasoline, gasoline additives and ethanol (EtOH) and 100,250,000 gallons of distillate fuel and distillate additives per 12-month rolling time period. The highest gasoline/additive/EtOH gallon throughput was 140,112,589 gallons for the 12-month period of May 2020 – June 2021; the highest distillate/distillate additive throughput was 33,547,700 gallons for the 12-month period of November 2020 – October 2021 (see attached records). The material throughputs during this period for both types of fuel are within the permitted limits.

Design/Equipment Parameters

MPLX is required to operate a vapor control system (VRU) that is installed, maintained and operated in a satisfactory manner for all times when EURACK is used to load tanker trucks with organic compounds with a true vapor pressure of more than 1.5 psia (this includes gasoline).

K. Snyder said that both the CEM and annual carbon bed sampling are used to determine when carbon beds should be changed out on the VRU. The carbon beds are sampled once per year (as required by GDGACT) using a long grain probe – 1 sample core taken at random per carbon bed. The samples are then sent to John Zink for analysis. Each sample is given an overall grade by John Zink (A – F). K. Snyder said they watch for trends in the carbon beds (e.g. a “B” rated bed, gradually declined to a C or D carbon bed over the course of several years). When a decline in the bed is noted, MPLX looks into scheduling replacement, unless the CEM indicates that there are no excessive VOC emissions.

K. Snyder said MPLX conducts semi-annual preventative maintenance to look for “dusting” from the carbon beds: fine carbon in the glycol or VRU, as this is an indicator that the carbon beds are degrading. He said they also check for back pressure in the system and look for high pressure via the pressure transmitter on the vapor line. High pressure would indicate mechanical damage of the carbon bed.

MPLX is also required to operate the loading rack in accordance with Michigan Air Pollution Control Rules 609 and 627, in addition to the New Source Performance Standard (NSPS) Subpart XX for Bulk Gasoline Terminals.

Michigan Air Pollution Control Rule 609

In order to operate EURACK, MPLX must be in compliance with applicable conditions in Rule 609. Rule 609 requires the following:

1. *An interlocking system or procedure to ensure that the vapor-tight collection line is connected before any organic compound can be loaded (this is in reference to the vapor collection line from the load rack to the VRU).*

The vapor return hoses, which pull vapors from the loading trucks to the VRU, are inspected daily for worn ends on the connection or wear and tear on the hose itself (which is double-walled). Staff explained that if the vapor return hose is not properly connected to the truck, the system will reject the truck for loading.

Personnel onsite check for the sight, sound and smell of VOCs while trucks are loading, as well as conduct random checks using the portable PID monitor. During the inspection B. Keller used the portable PID meter to detect the % LEL at the vapor return line from the truck being loaded, as the LEL will indicate whether there is a vapor leak. The LEL meter read 0, i.e. there were no vapors leaking from the collection line. Each truck driver is also trained in MPLX's procedures for loading trucks, including attaching the vapor recovery hose correctly.

2. A device to ensure that the vapor-tight collection line shall close upon disconnection so as to prevent the release of organic vapor.

B. Keller said there are dry lock couplers (2 separate check valves) to minimize leaks from both gasoline and vapors. He said these are inspected twice per year.

3. A device to accomplish complete drainage before the loading device is disconnected, or a device to prevent liquid drainage from the loading device when not in use.

B. Keller said that there is a dry lock coupler on the loading rack that allows for disconnections without liquid drainage. While onsite, I noticed that a few drips do occur after loading and disconnection from the trucks, but the drips were minimal and would not contribute significantly to VOC emissions. Drips are also allowed per Michigan Air Pollution Control Rule 627.

4. Pressure-vacuum relief valves that are vapor-tight and set to prevent emission of displaced organic vapor during the loading of the delivery vessel, except under emergency conditions.

There are pressure vacuum relief valves on the vapor lines; they are used to prevent over pressurization of the truck compartment.

5. Hatch openings that are kept closed and vapor-tight during the loading of the delivery vessel.

During the annual tests required by LARA (see Rule 627 discussion, below) the tanker trucks hatches are checked to ensure they are working properly; during the 5-year inspections, the hatches are replaced.

Michigan Air Pollution Control Rule 627

Rule 627 requires that EPA test Method 27 (a pressure/vacuum test) be conducted on all delivery vessels annually. By Executive Order 3012-15, compliance determinations of the "627 Program" have been transferred from the DEQ to the Department of Licensing and Regulatory Affairs (LARA) as of December 3, 2012 (https://www.michigan.gov/lara/0,4601,7-154-42271_4115-11914--,00.html). Under their authority, the vessel can be provisionally certified. As a spot-check of compliance with this regulation. A list of approved tank trucks can be found here: https://www.michigan.gov/documents/lara/BFS--R627-Approved-Tank-Test_408258_7.pdf.

We observed an Eiseler Oil Co truck being loaded during the inspection (Truck #8, Serial # 1407, Lansing, MI). According to LARA's list of approved tank trucks, Eiseler passed the test and was certified on November 17, 2021. The certification lasts through November 17, 2022. MPLX is also able to view whether trucks are certified via their own database.

B. Keller explained that if the trucks are not tested by the expiration date, the truckers are not capable of entering MPLX's yard. The badge that they scan to get into the yard will not work and they will be locked out. It is important for the truckers to submit their test results paperwork in to MPLX as soon as possible so that MPLX can enter this information into the system, consequently allowing the trucks access to their yard.

Rule 627 also requires that there shall be no gas detector reading greater than or equal to 100% of the LEL at a distance of 1 inch from the location of the potential leak in the vapor collection system using the method in Rule 2005, which is used to confirm leak-tightness of the gasoline delivery vessel tanks during loading, but also for determining leak-tightness on the VRU. B. Keller said their PID monitors will go off at 10% of the LEL, but that MPLX wants to see 0% LEL on all leak-tightness checks.

NSPS Subpart XX

Subpart XX requires that data be kept on all tank truck delivery vessels: Test Title (Method 27), the tank owner and address, tank ID number, testing location, date of test, tester's name and signature, witnessing inspector (if any), and the test results (consisting of an average of 2 runs with actual pressure change in 5 minutes). MPLX keeps records of the "Gasoline Tank Truck Pressure/Vacuum Test Results" which contains all of this information for compliance with the NSPS. MPLX provided me with the test results record for Eiseler Truck #8, which contains all required information, including the test results.

MPLX is also required to either use a terminal automation system to prevent gasoline cargo tanks that do not have valid cargo tank vapor tightness documentation from loading (via card lock-out system), where a copy of the documentation is made available for inspection, or the vapor collection system/vapor processing system and loading rack are checked for vapor tightness on a monthly basis consisting of the following data:

1. The date of inspection
2. Findings (no leaks, location nature and severity of each leak)
3. Leak determination method
4. Corrective action (date leak repaired, reasons for repair interval greater than 15 days)
5. Inspector name/signature

MPLX has chosen to use the terminal automation system to prevent uncertified cargo tanks for entering their property, as previously discussed under Rule 627.

Monitoring/Recordkeeping

MPLX is required to keep logs of all VRU outages. I requested these logs for calendar year 2021, see attached. F. Taylor said no loading occurred during any of the 2021 outages. Two of the 4 VRU outages were attributed to semi-annual preventative maintenance on the unit. MPLX is in compliance with this recordkeeping requirement.

Stack/Vent Restrictions

The VRU stack is required to be unobstructed and aligned vertically upwards.

MPLX is currently in compliance with PTI requirements, Rule 609, 627, and NSPS Subpart XX requirements for EURACK at this time.

EUORTANK

The EUORTANK (MPLX's tank 1-17) is a fixed roof storage tank used for overfill/overpressure pipeline relief. One to two inches of diesel is kept at the bottom of the tank – just enough to cover the pipe receipt line.

There are no Emission Limits, Testing/Sampling, Monitoring/Recordkeeping, or Reporting requirements for EUORTANK at this time.

Material Limits

MPLX is limited to 100,000 gallons of throughput through EUORTANK. During the 2014 inspection, Kim Crame said that this tank would contain diesel but that it hasn't had any throughput since 2011. F. Taylor provided me with 12-month rolling throughput records (attached) for EUORTANK, which shows that there was no throughput through the tanks between the requested time period of January 2020 through December 2021, therefore the Material Limits are being met for EUORTANK.

Process/Operational Restrictions

While there are Rule 604 requirements in the permit, the Rule 604 conditions do not apply to EUORTANK because its capacity is less than 40,000 gallons (i.e. 19,000 gallons).

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Design/Equipment Parameters

The conservation vent/thief hatch on this tank is required to be installed and operating properly. B. Keller said that this tank is equipped with a pressure vacuum vent with a rain cap. He said that they inspect this vent for general deterioration, birds/bird nests, debris, and the seals. At this time these inspections appear sufficient for ensuring proper operation.

Stack/Vent Restrictions

The permit requires a minimum stack height of 32 feet above ground level. The height of the tank itself is 31'5". The open vent stack at the center of the tank is at least a foot above the roof, and therefore, at least 32 feet above ground level.

MPLX is in compliance with the PTI requirements for EUORTANK at this time.

EUTANK8-11

EUTANK8-11 is a fixed roof storage tank for denatured ethanol. During the inspection, B. Keller stated that they plan to install a floating roof on this tank in the future.

There are no Emission Limits, Material Limits, Testing/Sampling, Monitoring/Recordkeeping, Reporting, or Stack Vent Restrictions requirements for EUTANK8-11 at this time.

Process/Operational Restrictions

EUTANK8-11 contains denatured ethanol. Rule 604 requirements are applicable to this emission unit, however, because ethanol has true vapor pressure of less than 1.5 psia, the conditions in the rule do not apply to this tank. The true vapor pressure of ethanol is around 0.09 psia.

Design/Equipment Parameters

Conservation vents or thief hatches are required to be installed and operating properly. EUTANK8-11 has a vent for tank breathing. B. Keller said the vent is located at the top the top of the tank, in the center, and is open to atmosphere. He said they conduct visual inspections of this vent, including the screen, which prevents wildlife and debris from entering the tank. This will ensure proper operation of the vent.

MPLX is in compliance with the PTI requirements for EUTANK8-11 at this time.

EUSUMP

This is a 935-gallon in-ground steel sump that was permitted under PTI 302-05D. It is used to collect transmix and transfer to the transmix tanks.

There are no Emission Limits, Material Limits, Design/Equipment Parameters, Testing/Sampling, Monitoring/Recordkeeping, Reporting, or Stack/Vent Restrictions requirements for EUSUMP at this time.

Process/Operational Restrictions

The hatch on the sump is required to be closed at all times that the hatch is not in use. During the 2018 inspection, V. Brzeg, T. Haan and myself verified that the hatch was closed, but noted that the seal surrounding the hatch is bad. During this inspection B. Keller verified that the seal on this hatch was replaced in the summer of 2020 to ensure introduction of air contaminants to the air is minimized.

MPLX is in compliance with the PTI requirements for EUSUMP at this time.

FGGASOLINETANKS

FGGASOLINETANKS is composed of tanks 25-1, 25-3, 25-4, 25-8; AA-14, AA-16; and 8-11, which are generally used for gasoline storage (although 8-11 does not contain gasoline). B. Keller confirmed that tanks 25-6 and 5-5, permitted under 302-05D, have been demolished and removed from the site.

There are no Emission Limits, Material Limits, Process/Operational Restrictions, Testing/Sampling, Monitoring/Recordkeeping, Reporting, or Stack/Vent Restrictions requirements for FGGASOLINETANKS at this time.

Design/Equipment Parameters

MPLX is required to ensure that any internal floating roof controls on these tanks in FGGASOLINETANKS are installed and operating properly. All tanks in this flexible group, except for tanks AA-14,16, and 8-11, have internal floating roofs. These tanks are equipped with mechanical shoes. B. Keller said that they conduct quarterly hatch inspections on these tanks to make sure the roof is floating, there is no liquid on the top of the floating roof, and use sight, sound, and smell to evaluate issues also. This inspection routine is currently acceptable for ensuring proper operation of the tanks.

The tanks in this flexible group are also required to be in compliance with Rule 604. Rule 604 requires that those fixed roof tanks greater than 40,000 gallons containing organic compounds with a true vapor pressure greater than 1.5 psia must comply with Rule 604. Tanks AA-14 and AA-16 (fixed roof tanks) are below that 40,000-gallon capacity (they are 6,000 and 15,000, respectively) and therefore Rule 604 does not apply to these tanks.

Tank 8-11 is a 316,000-gallon tank, therefore, Rule 604 applies. Rule 604 requires that materials with a true vapor pressure between 1.5 psia and 11 psia at actual storage conditions stored in fixed roof tanks meet one of the requirements in Rule 604. Tank 8-11 stores ethanol which has a true vapor pressure of less than 1.5 psi, for most of the year. True vapor pressure of ethanol does not reach 1.5 psi unless temperatures are above 90F, which is not representative of actual storage conditions for the bulk of a Michigan calendar year. At this time it is my professional judgment that evaluation of tank 8-11 under Rule 604 is not necessary.

MPLX is in compliance with all requirements for FGGASOLINETANKS at this time.

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FGNSPSTANKS

FGNSPSTANKS applies to all tanks subject to the NSPS Subpart Kb. This includes tanks 25-1, 25-3, and 25-4. Tanks 25-6 and 5-5, named in the PTI as subject to the NSPS Subpart KB, have been removed from the site.

There are no Emission Limits, Material Limits, Process/Operational Restrictions, Design/Equipment Parameters, Testing/Sampling, Reporting, or Stack/Vent Restrictions requirements for FGNSPSTANKS at this time.

Monitoring/Recordkeeping

MPLX is required to keep records of emissions and operating information to comply with NSPS Subparts A and Kb.

The 3 tanks meet the capacity and true vapor pressure (at daily average surface temperature) that allow them to fall under the requirements of 60.112b(a). The 3 tanks are equipped with internal floating roofs inside storage vessels that have fixed roofs. These types of tanks are required to meet one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof (60.112b(a)(1)(ii)):

- Foam or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal)

- 2 seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof
- A mechanical shoe seal (metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof)

B. Keller verified that all 3 tanks are equipped with mechanical shoe seals.

Inspections for internal floating roof tanks with mechanical shoe primary seals are required per the following (60.113b(a)) and records for each are required under 60.115b(a)(1)-(4):

- Visually inspect the internal floating roof and the primary seal prior to filling the storage vessel – inspect for tears, holes, other openings in the primary seal and repair before filling. Any damages need to be fixed before filling **(60.113b(a)(1))**
- Visually inspect the floating roof and primary seal through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill.
 - Checks should be done to ensure that the internal floating roof is resting on the surface of the liquid and that there is not liquid accumulated on the roof, and that the seal is not detached.
 - If there are issues with the seal or roof, they are to be repaired or the tanks emptied within 45 days. **(60.113b(a)(2))**
- Visually inspect the internal floating roof, the primary seal, gaskets, slotted membranes each time the storage vessel is emptied and degassed. If there are defects in the floating roof, holes, tears or openings in the seal, the gaskets no longer close off the liquid surfaces from the atmosphere, these items should be repaired before refilling the storage vessel.
 - These inspections should not occur at intervals greater than 10 years **(60.113b(a)(4))**
- Notify AQD 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) and 60.113b(a)(4), to afford AQD the opportunity to have an observer present. **(60.113b(a)(5))**

Table 3 contains a summary of the tank inspections conducted required under 60.113b(a)(1), 60.113b(a)(2) and 60.113b(a)(4).

Table 3. NSPS Subpart Kb Tank Inspections

Tank	Most recent "emptied/degassed" tank status [60.113b(a)(1)]	Inspection date on "emptied/degassed" tanks [60.113b(a)(1)]	Last "Annual" (quarterly) Inspection [60.113b(a)(2)]	Due date for next 10-year in-service tank inspection (NESHAP Subpart WW)

25-1	May 2018	7/27/2018	12/10/2021	August 2028
25-3	May 2020	6/30/2020	12/29/2021	July 2030
25-4	January 2021	3/6/2021	12/17/2021	March 2031

60.113b(a)(1) – Degassed/empty Tank Inspections

MPLX provided inspection records for the inspections outlined in Table 3. As required by 60.113b(a)(1), MPLX is required to inspect the internal floating roof and primary seal, and make necessary repairs, prior to refilling an empty/degassed tank. Inspection records were provided (attached), which indicate that all items required to be inspected by NSPS Subpart Kb have been inspected. No issues were documented for any of the tanks. The primary seal was replaced on tanks 25-1 and 25-3 during these inspections.

MPLX conducts inspections on emptied/degassed tanks, but these inspections occur at intervals greater than 10 years (can be stretched out to every 20-years if they adopt preventative measures; see discussion under “60.113b (a)(4) – 10-year inspections”). These routine inspections on empty/degassed tanks are required under API 653.

60.113b(a)(2) – Annual “through-hatch” inspections

MPLX records (attached) indicate that the inspections required by 60.113(a)(2) are conducted on a quarterly basis. Quarterly inspection records on tanks 25-1, 25-3, and 25-4 were provided for calendar years 2020 and 2021. In some cases the quarterly inspections were not conducted due to the tank being out of service; however, the records also indicate that at least one inspection of the tank was conducted annually.

The annual (quarterly) inspections include the required check for free liquid product on the top of the roof and inspection of the seal, in addition to other inspection items: fabric covers and fittings and hatch hinge condition.

60.113b(a)(4) – 10-year Inspections

The NSPS Subpart Kb requires out-of-service tank inspections every 10 years. During the 2018 inspection, AQD and MPLX staff discussed differing interpretations of this requirement. MPLX believed that the 10-year inspections were not required to be conducted when the tank was out of service, but rather, in-service tank inspections were acceptable. MPLX has generally been conducting in-service 10-year tank inspections. In January 2021, EPA revised the NSPS Subpart Kb to include clarification on this topic: Facilities would be allowed to conduct in-service 10-year tank inspections if the decided to comply with the NESHAP Subpart WW in lieu of portions of the NSPS Subpart Kb. MPLX plans to do this during their next 10-year tank inspections. See Table 3 for the 10-year tank inspection due dates.

FGDISTILLATETANKS

FGDISTILLATETANKS includes EUTANK25-2, -7, EUTANK15-9, EUTANKAA1-18 and EUTANKAA1-19. These tanks are used for storing distillates and distillate additives.

There are no Emission Limits, Material Limits, Process/Operational Restrictions, Testing/Sampling, Monitoring/Recordkeeping, Reporting, or Stack/Vent Restrictions requirements for FGDISTILLATETANKS at this time.

Design/Equipment Parameters

The only requirement for these tanks is that the conservation vents/thief hatches be installed and operating properly. B. Keller said that tanks 25-2, 25-7, and 15-9 have vents located at the center of the tank roof, equipped with a screen and a raincap. He said that tank AA1-18 has a horizontal vent with a screen, and tank AA1-19 is a 550-gallon steel tote located at ground-level with a small vertical vent with screen. He said all vents are inspected monthly to ensure the screens are clean of debris in order to ensure proper operation. These methods for proper maintenance to ensure proper operation are sufficient for meeting the Design/Equipment Parameters at this time.

FGTRANSMIXTANKS

“Transmix” is a mixture of diesel and gas, where one replaces the other in the pipeline when bringing in product. FGTRANSMIXTANKS consists of EUTANK1-12 and EUTANK1-13.

There are no Emission Limits, Material Limits, Process/Operational Restrictions, Testing/Sampling, Monitoring/Recordkeeping, or Reporting requirements for FGTRANSMIXTANKS at this time.

Design/Equipment Parameters

MPLX is required to ensure conservation vent/thief hatches are installed and operating properly on these tanks. B. Keller said these tanks are equipped with rain caps, and visual inspections are conducted on these stacks to ensure the vents are free of debris.

Brian Leahy, MPLX’s consultant from Horizon Environmental, sent an email to Permit Engineer Terry Wright (cc’ing me) dated June 24, 2014 explaining MPLX’s stance on EUORTANK and FGTRANSMIXTANKS condition for having a conservation vent/thief hatch (condition IV.1):

“...MPC has historically installed and operated conservation vent/thief hatches on its fixed-roof storage tanks, including EUORTANK and FGTRANSMIXTANKS. The primary purpose of these devices is to ensure that the tanks are not exposed to either too much vacuum or pressure. That is, these are primarily safety devices and not emissions control devices since they’re designed to vent to atmosphere during product loading and to allow the tank to breath as pressure in the tank increases. MPC has determined that a malfunction of these devices could result in damage to the structural integrity of the tank during periods of high vacuum or pressure. Therefore, MPC intends to remove these devices from its lower volatility fixed-roof storage tanks, likely when the tank goes through its required 653 inspection. Accordingly, conditions requiring the installation and operation of a conservation vent/thief hatch on these tanks should be removed from the PTI. Note that in support of the PTI, emissions were estimated and dispersion modeling analyses were conducted assuming that these tanks were operating without emissions control. Therefore, the removal of the devices would not result in emissions or air quality impacts above what has already been determined for these tanks.

As of 3/3/22 these proposed changes have not been incorporated into the PTI. I will forward this email to F. Taylor and ask that MPLX consider the items B. Leahy outlined.

FGFACILITY

FGFACILITY encompasses both exempt and permitted equipment located source-wide at this facility. The limits contained within this flexible group ensure MPLX stays below major source thresholds as an opt-out facility.

There are no Material Limits, Process/Operational Restrictions, Design/Equipment Parameters, Testing/Sampling, or Stack/Vent Restrictions requirements for FGFACILITY at this time.

Emissions Limits & Monitoring/Recordkeeping

MPLX is limited to 90 tpy VOC, 9 tpy individual HAPs and 22.5 tpy combined HAPs.

F. Taylor provided me with 12- month rolling emissions data for each of these emission limits from January 2020 through December 2021. The 12-month rolling VOC emissions during this specified 2-year period do not exceed 30 tons per 12-month period (see attached records).

HAP emissions are calculated using EPA's tanks program. The 12-month rolling aggregate HAPs emissions throughout the January 2020 – December 2021 time period does not exceed 1.5 tons per 12-month period (see attached records).

MPLX keeps records for each individual HAP (benzene, ethylbenzene, hexane, toluene, trimethylpentane (2,2,4), trimethylbenzene (1,2,4), xylene, naphthalene, and cumene), on a monthly and calendar year total for each HAP (records attached). The individual HAP with the highest emission rate during January 2020 – December 2021 period was hexane, where emissions did not exceed 0.40 tons for a 12-month rolling period.

MPLX is also required to keep monthly and 12-month rolling throughput records (as determined at the end of each calendar month) on a tank-specific and petroleum product-specific products for all tanks except EUORTANK. MPLX has these records within their "12-month Rolling Emissions and Throughput Summary" as well as the throughput for EUORTANK.

MPLX is in compliance with all conditions in FGFACILITY at this time.

Safety/PPE: MPLX Terminals require hard hats, safety glasses, steel-toed shoes, and flame protective clothing.

Compliance statement: MPLX Lansing Terminal is in compliance with PTI 302-05D; Michigan Air Pollution Control Rules 604, 609 and 627; the NSPS Subpart XX; and the NSPS Subpart Kb at this time.



Image 1(VRU stack) : Stack for VOC emissions from VRU carbon bed system.



Image 2(VRU carbon beds) : Vertical structures house the carbon adsorption beds for VRU

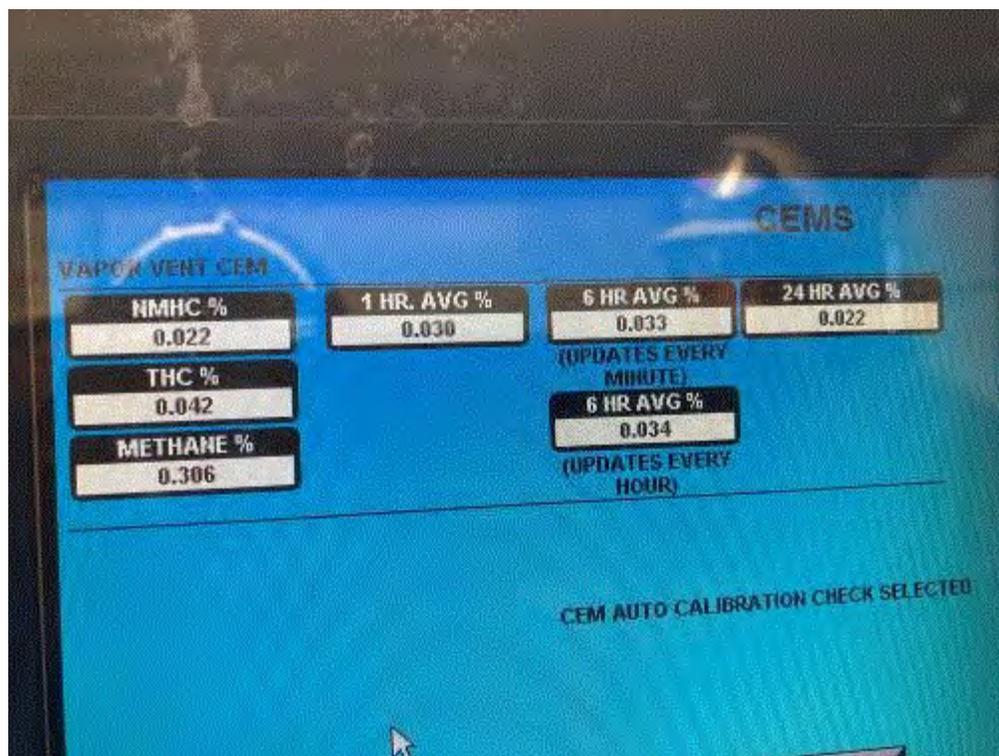


Image 3(CEM Data) : Instantaneous CEM data monitor readout for NMHC, THC, and Methane.



Image 4(LEL Meter) : Meter used to check for leaks. Reading was "0" during inspection.

NAME Michelle Luplow

DATE 4/6/22

SUPERVISOR BM



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

JUN 25 2015

Allison S. LeBrun, Technician
Environmental Compliance Group
Marathon Petroleum Company LP
539 South Main Street
Findlay, Ohio 45840

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

Dear Ms. LeBrun,

We are writing in response to your letter of May 11, 2015, and associated emails and conference calls requesting a modification to our alternative test method approvals dated July 23, 2013, and April 28, 2014, addressed to Mr. Thomas Leigh of your company for use of the Infrared Industries, Inc. Model IR 208DC non-dispersive infrared light absorption (NDIR) gas analyzer with methane compensation as an alternative to the combination of Method 25B and Method 18 (40 CFR part 60, Appendix A) to measure total nonmethane organic compounds at specified Marathon Petroleum Company LP (Marathon) gasoline distribution facilities. The alternative test method approval letters in 2013 and 2014 are applicable to gasoline loading racks at Marathon facilities subject to 40 CFR part 63, Subpart BBBBBB for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities; 40 CFR part 63, Subpart R for Gasoline Distribution Facilities; and 40 CFR part 60, Subpart XX for Bulk Gasoline Terminals. These subparts all require emissions testing using either Method 25A or Method 25B (40 CFR part 60, Appendix A) for measurement of total organic compound emissions from the subject units. When Method 25A or 25B is used, the facility has the option to exclude the methane and ethane content from the total organic compound emissions measured using Method 18 (40 CFR part 60, Appendix A).

You have proposed a modification to the second condition of the prior approval letters which addresses the calibration procedures used to confirm separation of the methane and hydrocarbon measurements by the Infrared Industries IR 208DC instrument approved in lieu of the combination of Methods 25B and 18. Rather than using multiple gases containing both methane and propane for calibration as we specified in our prior approvals, you have proposed the following modified approach:

- The calibration error and drift requirements of sections 7.0, 8.0 and 13.0 of Method 25A would be met separately for both propane and methane for the IR 208DC NDIR instrument using single rather than mixed gas calibration standards.
- Separation of the methane and hydrocarbon measurement bands would be confirmed during each test program by challenging the IR 208DC NDIR instrument with one mixed gas standard containing both methane and propane – referred to as a “bump test” – to verify appropriate nonmethane hydrocarbon (NMHC) and methane channel readings as compared to the propane and methane tag values, respectively, of the gas

standard. This bump test would be conducted at both the beginning and end of each test program.

We also understand that you are requesting that this modified approach be applicable to all the facilities covered in our approvals dated July 23, 2013, and April 28, 2014, as well as 44 additional Marathon gasoline bulk terminals listed in the attachment to your letter of May 11, 2015. These Marathon terminals either currently have Infrared Industries methane compensating CEMSs (e.g., Model IR 8400DC) installed or are planning to install this type of methane compensating CEMS in the near future.

As stated in our previous letters, the rationale for approval of use of the Infrared Industries Model IR 208DC NDIR with methane compensation as an alternative to the combination of Methods 25B and 18 for this application is as follows. Method 25B involves the use of NDIR technology for quantitative measurement of total hydrocarbons, primarily alkanes. Method 25B is also applicable to measurement of other organic materials as noted in section 1.2 of Method 25B when the general NDIR procedure is used with appropriate absorption bands and calibration gas. Our review of documentation from Infrared Industries confirmed that NDIR technology is used by both the IR 208DC and the IR 8400D for quantitative measurement of total hydrocarbons. We also noted that both the IR 208DC and the IR 8400D are equipped to measure methane using a block of characteristic wavelengths that is unique for methane compared to hydrocarbons in general. Our review of the technical specifications for the Model IR 208DC NDIR instrument indicated that it uses optical filters that measure methane in the 3.2 μm region independently of total hydrocarbons in the at 3.4 μm region with separation of the absorption bands that should be sufficient to mitigate crosstalk between the two measurement channels.

We have now reviewed new data provided by you and Infrared Industries detailing numerous factory "bump test" measurements conducted on the Infrared Industries NDIR instrument covering a range of concentrations and ratios between mixed methane and propane certified gas standards which demonstrated adequate resolution of the methane and propane concentrations. Finally, we recognize that the methane levels measured may be orders of magnitude higher than the nonmethane hydrocarbons, meaning that the error of the methane measurement could be significant in relation to the nonmethane hydrocarbon measurement; however, we have contemplated your proposed approach for application on a specific basis in view of the fact that the combination of Method 25B and Method 18 would experience the same issue.

We have considered your proposed modification to our prior approved alternative test method and the new data provided. We are approving your request for the modification to the use of the Infrared Industries IR 208DC NDIR technology at the specified facilities as a testing alternative to the combination of Method 25B and Method 18 to measure total nonmethane gaseous organic compound emissions from gasoline loading racks with the following caveats:

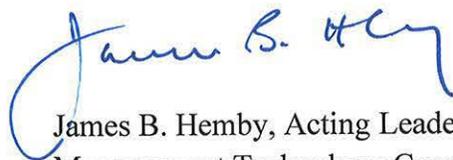
- This approval is specific to use of the Infrared Industries Model IR 208DC NDIR instrument for performance testing and relative accuracy test audits of CEMS. A copy of this approval letter must be included in each test report where the Infrared Industries Model IR 208DC instrument is used as an alternative to the combination of Method 25B

and Method 18 to measure nonmethane organic compounds under the referenced subparts.

- The Model IR 208DC instrument must separately meet the calibration error and drift requirements of sections 7.0, 8.0, 9.0 and 13.0 of Method 25A for both propane and methane using single gas calibration standards. The levels of propane in the propane calibration gases must meet the requirements of section 7.1 of Method 25A, while the level of methane in at least one of the three methane calibration gases must be greater than the average methane concentration measured over the test period.
- You must confirm separation of the methane and hydrocarbon measurement bands for each test program by challenging the Model 208DC instrument with one mixed gas standard containing both methane and propane – “bump test” – to verify appropriate nonmethane hydrocarbon (NMHC) and methane channel readings as compared to the propane and methane tag values, respectively, of the gas standard. The mixed gas standard must be certified by the manufacturer to $\pm 3\%$ uncertainty and have a propane concentration between 0.27% and 0.33% and a methane concentration between 13.5% and 16.5%. The bump test must be conducted at the beginning and end of each test run (within one hour). The difference between the measured value and the reference gas tag value shall be less than 5% of the tag value for both methane and propane.
- You must report total hydrocarbons, methane and total nonmethane organic compound results from the Model IR 208DC instrument.
- This alternative is applicable to Marathon Gasoline Bulk Terminals with Infrared Industries methane compensating CEMS (e.g., Model IR 8400D) currently installed or Marathon Gasoline Bulk Terminals planning to install Infrared Industries methane compensating CEMS once the CEMS is installed.

If you have any questions regarding this approval or need further assistance, please contact Ray Merrill at (919) 541-5225 or Merrill.raymond@epa.gov or Robin Segall at (919) 541-0893 or Segall.robin@epa.gov.

Sincerely,



James B. Hemby, Acting Leader
Measurement Technology Group

cc: Sean Alteri, Kentucky Department of Air Quality
David Arnold, EPA Region 3
Jonathan Barker, Kentucky Department of Air Quality

Don Barron, Alabama Department of Environmental Management
Beverly Banister, EPA Region 4
Todd Brown, Ohio EPA
George Czerniak, EPA Region 5
Art Diem, EPA/OAQPS/SPPD/RCG
Terry Dzienis, Canton City Board of Health
Richard Garrity, Hillsborough County Environmental Protection Commission
Mark Gorog, Pennsylvania Department of Environmental Protection
Justin Green, Florida Department of Environmental Protection
Vinson Hellwig, Michigan Department of Environmental Quality
Bob Hodanbosi, Ohio EPA
Sheila Holman, North Carolina Department of Environmental & Natural Resources
Laura Jennings, West Virginia Department of Environmental Protection
Rebecca Johnson, West Virginia Department of Environmental Protection
Steffan Johnson, EPA/OAQPS/SPPD/MPG
Karen Kajiya-Mills, Michigan Department of Environmental Quality
Lynne Liddington, Knox County Air Quality Management Division
Donald McQuigg, Indiana Department of Environmental Management
Brad Miller, Ohio EPA
Chitradon Narathip, Louisville/Jefferson County
Kay Parker, Jefferson County
Hetal Patel, South Carolina Department of Health & Environmental Control
William Paul, Nashville Metro Public Health Department
Michael Pjetraj, North Carolina Department of Environment and Natural Resources
David Read, Florida Department of Environmental Protection
Ron Robeen, Illinois EPA
Leslie Rhodes, Mecklenburg County Air Quality
Joanne Smiddie-Brush, Indiana Department of Environmental Management
Shannon Snyder, EPA Region 6
Craig Stemler, Wisconsin Department of Natural Resources
Barry Stephens, Tennessee Department of Environment & Conservation
Tegan Treadaway, Louisiana Department of Environmental Quality
Jason Waters, Hillsborough County Environmental Protection Commission
Ross Winne, Georgia Department of Natural Resources
Robert Wong, Broward County Environmental Protection & Growth Management

ATTACHMENT 2
Marathon Petroleum Company LP
Terminal, Transport & Rail
(MPC)

Gasoline Bulk Terminals: Use of IR 208DC as a Testing Alternative Method for Methods 25B & 18

MPC terminal locations where the IR 208DC is or will be installed and that were not included in the July 23 2013 or April 28 2014 U.S. EPA Office of Air Quality Planning and Standards – Measurement Technology Group’s approval notices. These sites will use the IR 208DC for Performance Testing and RATAs.

1. MPCLP - Bay City, MI Terminal
1806 Marquette Avenue
Bay City, MI 48706

Permit Number: 80-97
2. MPCLP - Belton, SC Terminal
P.O. Box 488
Belton, SC 29627

Permit Number: GCM-0200-0052
3. MPCLP - Birmingham, AL
2704 - 28th Street SW
Birmingham, AL 35211

Permit Number: 4-07-0213-06
4. MPCLP - Bordeaux, TN Terminal
2920 Old Hydes Ferry Road
Nashville, TN 37218

Permit Number: 69-10
5. MPCLP - Brecksville, OH
10439 Brecksville Road
Brecksville, OH 44141

Permit Number: P0095168
6. MPCLP - Champaign, IL Terminal
511 South Staley Road
Champaign, IL 61822

Permit Number: 81010049

7. MPCLP - Charleston, WV
204 Ferry Street
Charleston, WV 25314-1105

Permit Number: R13-1999E

8. MPCLP - Charlotte East, NC Terminal
7401 Old Mount Holly Rd
Charlotte, NC 28208

Permit Number: 14-005-629

9. MPCLP - Cincinnati, OH
4015 River Road
Cincinnati, OH 45204

Permit Number: P0112045

10. MPCLP - Clermont, IN Terminal
10833 E County Road 300 N
Indianapolis, IN 46234

Permit Number: F063-22468-00007

11. MPCLP - Columbus-East, OH
3855 Fisher Road
Columbus, OH 43228

Permit Number: 0125040426 T001

12. MPCLP - Columbus-West, OH
4125 Fisher Road
Columbus, OH 43228

Permit Number: P0108443

13. MPCLP - Covington, KY
230 East 33rd Street
Covington, KY 41015

Permit Number: F-11-032

14. MPCLP - Evansville, IN Terminal
2500 Broadway
Evansville, IN 47712

Permit Number: F163-24035-00025

15. MPCLP - Flint, MI Terminal
G-6065 North Dort Highway
Mount Morris, MI 48458

Permit Number: 223-06

16. MPCLP - Green Bay, WI Terminal
1031 Hurlbut Street
Green Bay, WI 54303

Permit Number: 223-06

17. MPCLP - Hammond, IN Terminal
4206 Columbia Avenue
Hammond, IN 46327

Permit Number: T089-26705-00231

18. MPCLP - Huntington, IN
4648 N. Meridian Road
Huntington, IN 46750

Permit Number: F069-23317-00002

19. MPCLP - Indianapolis, IN
4955 Robison Road
Indianapolis, IN 46268

Permit Number: T097-33420-00159

20. MPCLP - Jackson, MI Terminal
2090 Morrill Road
Jackson, MI 49201

Permit Number: 157-08B

21. MPCLP - Lansing, MI Terminal
6300 West Grand River Avenue
Lansing, MI 48906

Permit Number: 302-05C

22. MPCLP - Lebanon, OH Terminal
999 West State Route 122
Lebanon, OH 45036

Permit Number: P0111095

23. MPCLP - Lexington, KY Terminal
1770 Old Frankfort Pike
Lexington, KY 40504

Permit Number: F-11-071

24. MPCLP - Lima, OH Terminal
2990 South Dixie Highway
Lima, OH 45804

Permit Number: P0086645

25. MPCLP - Louisville-Algonquin
4510 Algonquin Parkway
Louisville, KY 40211

Permit Number: 87-97-TV (R1)

26. MPCLP - Louisville-Kramers
3920 Kramers Lane
Louisville, KY 40216

Permit Number: 0076-97-F

27. MPCLP - Marietta, OH Terminal
655 River Lane
Marietta, OH 45750

Permit Number: 06-2862

28. MPCLP - Midland, PA Terminal
P.O. Box 308
Midland, PA 15059

Permit Number: 04-00471

29. MPCLP - Montgomery, AL
320 Hunter Loop Road
Montgomery, AL 36108

Permit Number: 209-0012-X012

30. MPCLP - Mt. Prospect, IL
3231 Busse Road
Arlington Heights, IL 60005

Permit Number: 95060013

31. MPCLP - Mt. Vernon, IN Terminal
129 S. Barter Street
Mt. Vernon, IN 47620

Permit Number: T129-27007-00005

32. MPCLP - Muncie, IN Terminal
2100 East State Road 28
Muncie, IN 47303

Permit Number: F035-23174-00019

33. MPCLP - Nashville, TN Terminal
5 Main Street
Nashville, TN 37213

Permit Number: 79-9

34. MPCLP - Niles, MI Terminal
2216 South Third Street
Niles, MI 49120

Permit Number: MI-ROP-B9073-2009

35. MPCLP - Oregon, OH Terminal
4131 Seaman Road
Oregon, OH 43616

Permit Number: P0115377

36. MPCLP - Paducah, KY Terminal
201 Ashland Road
Paducah, KY 42003

Permit Number: F-11-079

37. MPCLP - Robinson, IL Terminal
12345 East 1050th Avenue
Robinson, IL 62454

Permit Number: 95060014

38. MPCLP - Rockford, IL Terminal
7312 Cunningham Road
Rockford, IL 61102

Permit Number: 74120180

39. MPCLP - Romulus, MI Terminal
28001 Citrin Drive
Romulus, MI 48174

Permit Number: 11580-11590

40. MPCLP - Selma Buffalo, NC Terminal
3707 Buffalo Rd
Selma, NC 27576

Permit Number: 04262R16

41. MPCLP - Speedway, IN Terminal
1304 Olin Avenue
Indianapolis, IN 46222

Permit Number: F097-25095-00078

42. MPCLP - Steubenville, OH
436 Kingsdale Road
Steubenville, OH 43952

Permit Number: 3745-35-J002

43. MPCLP - Viney Branch, KY Terminal
US 23 Catlettsburg
Catlettsburg, KY 41129

Permit Number: V-05-089 Refinery

44. MPCLP - Youngstown, OH
1140 Bear's Den Road
Youngstown, OH 44511

Permit Number: P0085768

ATTACHMENT

Marathon Petroleum Company LP Terminal, Transport & Rail (MPC)

Gasoline Bulk Terminals: Use of IR208 as a Testing Alternative Method for Methods 25B & 18

MPC terminal locations where the IR208 will be installed and that were not included in the July 23, 2013, U.S. EPA Office of Air Quality Planning and Standards – Measurement Technology Groups' approval notice. These sites will use the IR208 for Performance Testing and RATAs.

1. MPC Kenova Terminal

23rd Street at River
Kenova, West Virginia 25530

Permit Number: R30-09900100-2010

Mailing Address:

P.O. box 476
Kenova, West Virginia 25530-0476

2. MPC Canton Terminal

2419 Gambinus Avenue SW
Canton, Ohio 44706

Permit Number: P01014953

3. MPC Macon Terminal

2445 Allen Road
Macon, Georgia 31216

Permit Number: 5171-021-0090-S-01-0

4. MPC Columbus Terminal

5030 Miller Road
Columbus, Georgia 31909

Permit Number: 5171-215-0080-S-01-1

Mailing Address:

P.O. Box 7276
Columbus, Georgia 31908-7276

- 5. MPC Nashville Terminal**
1409 51st Avenue North
Nashville, Tennessee 37209

Permit Number: 64-10 (Rack & VRU)

- 6. MPC Knoxville Terminal**
2601 Knott RD
Knoxville, Tennessee 37921

Permit Number: S-0501

Attachment 1

Marathon Petroleum Company LP
Terminal, Transport and Rail
Gasoline Bulk Terminals: Use of IR208 as a Testing Alternative Method for Methods 25B & 18

Terminal Locations where the IR208 is used for Performance Testing and RATAs

1. MPC Spangler Terminal (FL)
909 SE 24th Street
Ft. Lauderdale, FL 33316

Permit Number: 0110048-011-AV

Mailing Address:
P.O. Box 13121
Ft. Lauderdale, FL 33316-3121
2. MPC Garyville Terminal (LA)
Hwy 61 at Marathon Avenue
Garyville, LA 70051

Permit Number: 2580-00005-V5

Mailing Address:
P.O. Box S
Garyville, LA 70051
3. MPC Charlotte Terminal (NC)
8035 Mt. Holly Road
Paw Creek, NC 28214

Permit Number: 10-259-586

Mailing Address:
P.O. Box 75
Paw Creek, NC 2813-00075
4. MCP Powder Springs Terminal (GA)
3895 Anderson Farm Road NW
Austell, GA 30106

Attachment 2

Marathon Petroleum Company LP
Terminal, Transport and Rail
Gasoline Bulk Terminals: Use of IR208 as a Testing Alternative Method for Methods 25B & 18

Terminal Locations where the IR208 may be used in the future for Performance Testing & RATAs

1. MPC Eisenhower Terminal (FL)
1601 SE 20th Street
Ft. Lauderdale, FL 33316

Permit Number: 0110055-009-AF

Mailing Address:
P.O. Box 13121
Ft. Lauderdale, FL 3316-3121
2. MPC Tampa Terminal (FL)
425 South 20th Street
Tampa, FL 33605

Permit Number: 0570080-030-AV
3. Blanchard Terminal Company LLC – MPC Jacksonville Terminal (FL)
2101 Zoo Parkway
Jacksonville, FL 32226-2709

Permit Number: 0310179-019-AV

Mailing Address:
P.O. Box 26038
Jacksonville, FL 32226-6038
4. MPC Selma Terminal (NC)
2555 West Oak Street
Selma, NC 27576

Permit Number: 03930R17
5. MPC Doraville Terminal (GA)
6293 New Peachtree Road
Doraville, GA 30340

Permit Number: 5171-089-0120-V-02-0

6. MPC Bay City Terminal (MI)
1806 Marquette Street
Bay City, MI 48706

Permit Number: 223-96C

7. MPC Detroit Terminal (MI)
12700 Toronto Street
Detroit, MI 48217

Permit Number: MI-ROP-A9831-29012

8. MPC North Muskegon Terminal (MI)
3005 Holton Road
North Muskegon, MI 49445

Lansing Mg/L to % Hydrocarbon Equivalency for CEMS

31 mg/L is equivalent to 1.30% 6-Hour Average

Formula

% HC Equivalency = ((Applicable Subpart mg/L * Avg Outlet VOC Concentration ppm)/Emission Rate of VOC mg/L)/10000

% HC Equivalency = ((31*826.1)/(1,939,052/982,673))/10000

% HC Equivalency = ((31*826.1)/1.97)/10000

% HC Equivalency = 1.30%

Performance Test

SUMMARY OF EMISSIONS TEST RESULTS

TABLE:	IV-1
COMPANY:	Marathon Petroleum Company LLC, Lansing Terminal
SOURCE:	Zink Vapor Recovery Unit
TEST DATE:	August 8, 2008
TEST TIME:	0559-1159 Hrs
Total volume of fuel loaded.....	259,623
(gasoline and non-gasoline), gallons	
Total volume of fuel loaded.....	.982,673
(gasoline and non-gasoline), liters	
Total volume of gasoline loaded, gallons.....	216,657
Total volume of accountable gasoline loaded, gallons.216,657
Total volume of accountable gasoline loaded, liters.....	.820,047
Average VOC concentration (propane equivalent), ppmv.....	.826.1
Total mass of emissions (as propane), mg.....	.1,939,052
Emissions rate of VOC's, accountable gasoline loaded, mg/l.....	.2.36
Stack gas volumetric flow rate, scfm.....	.97.75
Displacement volume, (scf).....	.35,191
Emission rate of VOC's (as propane), lb/hr.....	.0.71
Total test period, minutes.....	.360

CEM - mg/l TO PERCENT EQUIVALENCY CALCULATION

Applicable Subpart (10, 35 or 80 mg/L permitted limit)

31 mg/l

Emission rate of VOC

1.97 mg/l*

Average Outlet VOC Concentration (propane equivalent)

826.1 ppm* OR

%* =

0 ppm

Equivalency Concentration for Applicable Subpart terminal

1.30 %

Using ppm for avg concentration

0.00 %

Using % for avg concentration

*Note: This information comes from the compliance test summary sheet
For Outlet Concentration some tests report in ppm while others in %

Rolling 12 Month Emissions & Throughput Summary

Loading VOCs & Throughput

014224

Ethanol sold as part of a gas recipe are included in the gasoline totals since loading gasoline limits typically include the ethanol portion of the recipe. Emissions are calculated correctly, stack test for gasoline & AP-42 Ch 5.2 for ethanol, and summarized for the gasoline section of the report. Denatured Ethanol is broken out separately only if it's sold by itself.

		Totals	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12	
Truck Loading	Distillate	Stack Lbs	1.08	.04	.04	.04	.05	.10	.13	.17	.16	.13	.09	.07	.06
		Fugitive Lbs	6.01	.25	.24	.25	.30	.56	.72	.92	.87	.70	.51	.37	.33
		Total Lbs	7.09	.30	.28	.29	.35	.66	.84	1.09	1.03	.83	.60	.43	.38
		US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
		Gallons	27,833,124	1,857,995	1,777,205	1,901,924	1,829,090	2,367,761	2,247,034	2,555,721	2,570,655	2,630,322	2,834,290	2,822,461	2,438,666
	Gasoline	Stack Lbs	2,468.29	239.80	228.55	206.04	94.33	182.65	201.77	217.29	232.14	226.15	228.69	211.91	198.98
		Fugitive Lbs	13,597.58	1,320.94	1,259.00	1,135.00	519.67	1,006.19	1,111.60	1,197.11	1,278.90	1,245.88	1,259.80	1,167.34	1,096.13
		Total Lbs	16,065.87	1,560.73	1,487.56	1,341.04	614.00	1,188.84	1,313.37	1,414.40	1,511.04	1,472.03	1,488.49	1,379.24	1,295.12
		US Tons	8.03	.78	.74	.67	.31	.59	.66	.71	.76	.74	.74	.69	.65
		Gallons	138,476,227	13,524,346	12,890,478	11,597,271	5,289,106	10,228,601	11,262,395	12,104,937	12,945,259	12,654,693	12,840,272	11,922,131	11,216,738
	Transmix	Stack Lbs	10.02	.71	.87	1.16	1.18	2.84	1.18	.47	.29	.14	.24	.24	.71
		Fugitive Lbs	55.21	3.91	4.80	6.38	6.51	15.63	6.51	2.60	1.58	.78	1.30	1.30	3.91
		Total Lbs	65.23	4.61	5.67	7.54	7.69	18.46	7.69	3.08	1.87	.92	1.54	1.54	4.61
		US Tons	.03	-	-	-	-	.01	-	-	-	-	-	-	-
		Gallons	508,872	36,000	44,200	58,809	60,000	144,036	60,018	24,000	14,609	7,200	12,000	12,000	36,000
	Control:	Stack Lbs	2,479.39	240.55	229.46	207.24	95.57	185.58	203.08	217.93	232.58	226.42	229.01	212.21	199.75
		Fugitive Lbs	13,658.80	1,325.09	1,264.04	1,141.63	526.48	1,022.38	1,118.83	1,200.64	1,281.36	1,247.36	1,261.62	1,169.00	1,100.36
		Total VOC Lbs	16,138.19	1,565.64	1,493.50	1,348.87	622.05	1,207.97	1,321.91	1,418.57	1,513.94	1,473.78	1,490.63	1,381.21	1,300.11
		US Tons	8.07	.78	.75	.67	.31	.60	.66	.71	.76	.74	.75	.69	.65
		Gallons	166,818,223	15,418,341	14,711,883	13,558,004	7,178,196	12,740,398	13,569,447	14,684,658	15,530,523	15,292,215	15,686,562	14,756,592	13,691,404
Transport Mode:	Stack Lbs	2,479.39	240.55	229.46	207.24	95.57	185.58	203.08	217.93	232.58	226.42	229.01	212.21	199.75	
	Fugitive Lbs	13,658.80	1,325.09	1,264.04	1,141.63	526.48	1,022.38	1,118.83	1,200.64	1,281.36	1,247.36	1,261.62	1,169.00	1,100.36	
	Total VOC Lbs	16,138.19	1,565.64	1,493.50	1,348.87	622.05	1,207.97	1,321.91	1,418.57	1,513.94	1,473.78	1,490.63	1,381.21	1,300.11	
	US Tons	8.07	.78	.75	.67	.31	.60	.66	.71	.76	.74	.75	.69	.65	
	Gallons	166,818,223	15,418,341	14,711,883	13,558,004	7,178,196	12,740,398	13,569,447	14,684,658	15,530,523	15,292,215	15,686,562	14,756,592	13,691,404	
Loading:	Stack Lbs	2,479.39	240.55	229.46	207.24	95.57	185.58	203.08	217.93	232.58	226.42	229.01	212.21	199.75	
	Fugitive Lbs	13,658.80	1,325.09	1,264.04	1,141.63	526.48	1,022.38	1,118.83	1,200.64	1,281.36	1,247.36	1,261.62	1,169.00	1,100.36	
	Total VOC Lbs	16,138.19	1,565.64	1,493.50	1,348.87	622.05	1,207.97	1,321.91	1,418.57	1,513.94	1,473.78	1,490.63	1,381.21	1,300.11	
	US Tons	8.07	.78	.75	.67	.31	.60	.66	.71	.76	.74	.75	.69	.65	
	Gallons	166,818,223	15,418,341	14,711,883	13,558,004	7,178,196	12,740,398	13,569,447	14,684,658	15,530,523	15,292,215	15,686,562	14,756,592	13,691,404	

Rolling 12 Month Emissions & Throughput Summary

Tank VOCs & Throughput - by Tank Type

		Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Cone/Flat Roof/Geodome no pan	VOC Lbs	12,773.57	391.65	327.26	598.27	732.04	1,410.75	2,198.37	2,059.25	1,868.15	1,251.53	908.50	571.75	456.05
	US Tons	6.39	0.20	0.16	0.30	0.37	0.71	1.10	1.03	0.93	0.63	0.45	0.29	0.23
	Gallons.	42,427,117	3,298,905	3,135,532	3,137,864	2,391,029	3,458,770	3,454,556	3,836,782	3,909,781	4,031,709	4,098,439	4,042,719	3,631,031
Horizontal Aboveground	VOC Lbs	0.53	0.02	0.02	0.02	0.03	0.07	0.08	0.09	0.08	0.06	0.04	0.01	0.01
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gallons.	4,034	230	317	256	214	568	290	337	343	338	433	382	326
Horizontal Underground	VOC Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gallons.	-	-	-	-	-	-	-	-	-	-	-	-	-
Internal Floater - Cone/Flat Roof	VOC Lbs	22,256.76	1,246.82	1,235.68	1,724.75	2,010.44	1,694.70	2,062.82	2,329.57	2,200.44	2,336.14	2,207.27	1,815.99	1,392.14
	US Tons	11.13	0.62	0.62	0.86	1.01	0.85	1.03	1.16	1.10	1.17	1.10	0.91	0.70
	Gallons.	127,761,946	12,232,160	11,731,825	10,403,596	4,508,578	9,245,226	10,568,929	12,843,847	11,514,683	11,707,360	11,757,087	11,220,772	10,027,883
Rectangular	VOC Lbs	114.33	5.90	6.31	8.64	12.26	7.15	10.35	12.97	10.95	12.09	12.46	8.69	6.56
	US Tons	0.06	-	-	-	0.01	-	0.01	0.01	0.01	0.01	0.01	-	-
	Gallons.	41,040	5,472	5,472	5,472	5,472	-	-	-	-	2,736	5,472	5,472	5,472
Total	VOC Lbs	35,145.19	1,644.39	1,569.27	2,331.68	2,754.77	3,112.67	4,271.62	4,401.88	4,079.62	3,599.82	3,128.27	2,396.44	1,854.76
	VOC US Tons	17.57	0.82	0.78	1.17	1.38	1.56	2.14	2.20	2.04	1.80	1.56	1.20	0.93
	Gallons	170,234,137	15,536,767	14,873,146	13,547,188	6,905,293	12,704,564	14,023,775	16,680,966	15,424,807	15,742,143	15,861,431	15,269,345	13,664,712

Tank VOCs & Throughput - by Product Stored

		Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Denatured Ethanol	VOC Lbs	7,311.52	180.03	192.80	315.01	342.47	788.34	1,065.69	1,276.56	1,178.22	855.16	566.66	337.82	212.76
	US Tons	3.66	0.09	0.10	0.16	0.17	0.39	0.53	0.64	0.59	0.43	0.28	0.17	0.11
	Gallons.	14,168,462	1,380,653	1,331,299	1,189,354	528,929	1,053,737	1,138,852	1,243,282	1,309,204	1,291,911	1,335,806	1,210,244	1,155,191
Diesel Additive	VOC Lbs	0.53	0.02	0.02	0.02	0.03	0.07	0.08	0.09	0.08	0.06	0.04	0.01	0.01
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gallons.	4,034	230	317	256	214	568	290	337	343	338	433	382	326
Distillate	VOC Lbs	871.26	30.61	31.77	35.21	50.26	92.01	118.18	145.81	132.16	100.28	62.56	38.02	34.39
	US Tons	0.44	0.02	0.02	0.02	0.03	0.05	0.06	0.07	0.07	0.05	0.03	0.02	0.02
	Gallons.	27,907,776	1,884,202	1,795,664	1,919,357	1,835,081	2,369,964	2,241,801	2,565,498	2,575,206	2,730,070	2,742,422	2,809,753	2,438,758
Gas Additive	VOC Lbs	290.90	8.99	10.53	15.69	21.94	33.70	40.69	44.99	41.24	30.38	21.51	12.31	8.93
	US Tons	0.15	-	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01	-
	Gallons.	23,123	2,138	1,989	1,991	993	1,716	2,152	2,176	2,245	1,979	1,973	1,954	1,817

Rolling 12 Month Emissions & Throughput Summary

		Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Gasoline	VOC Lbs	26,670.98	1,424.74	1,334.15	1,965.75	2,340.07	2,198.55	3,046.98	2,934.43	2,727.92	2,613.94	2,477.50	2,008.28	1,598.67
	US Tons	13.34	0.71	0.67	0.98	1.17	1.10	1.52	1.47	1.36	1.31	1.24	1.00	0.80
	Gallons.	128,130,742	12,269,544	11,743,877	10,436,230	4,540,076	9,278,579	10,640,680	12,869,673	11,537,809	11,717,845	11,780,797	11,247,012	10,068,620
Total	VOC Lbs	35,145.19	1,644.39	1,569.27	2,331.68	2,754.77	3,112.67	4,271.62	4,401.88	4,079.62	3,599.82	3,128.27	2,396.44	1,854.76
	VOC US Tons	17.57	0.82	0.78	1.17	1.38	1.56	2.14	2.20	2.04	1.80	1.56	1.20	0.93
	Gallons	170,234,137	15,536,767	14,873,146	13,547,188	6,905,293	12,704,564	14,023,775	16,680,966	15,424,807	15,742,143	15,861,431	15,269,345	13,664,712

Tank VOCs & Throughput Detail - by Tank

		Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12	
1-12 Tank - Cone / Flat / Dome-No Pan	Gasoline	Standing Lbs	973.02	27.78	33.39	49.50	75.28	113.94	139.83	160.29	142.30	99.58	67.28	36.39	27.46
		Working Lbs	1,339.78	58.20	12.66	66.64	83.35	134.34	461.95	149.41	115.89	33.22	61.56	58.31	104.25
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	2,312.80	85.98	46.05	116.14	158.63	248.28	601.78	309.70	258.19	132.80	128.84	94.70	131.71
		Total VOC/8760	0.26	0.01	0.01	0.01	0.02	0.03	0.07	0.04	0.03	0.02	0.01	0.01	0.01
		Gallons.	185,357	15,957	3,291	13,582	13,013	16,676	47,760	14,231	11,563	3,875	9,119	10,934	25,356
1-13 Tank - Cone / Flat / Dome-No Pan	Gasoline	Standing Lbs	974.29	27.84	33.46	49.59	75.39	114.08	139.98	160.45	142.45	99.70	67.37	36.46	27.52
		Working Lbs	1,012.80	58.20	12.65	66.63	83.35	134.34	232.05	121.74	115.89	33.21	61.56	52.44	40.74
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	1,987.09	86.04	46.11	116.22	158.74	248.42	372.03	282.19	258.34	132.91	128.93	88.90	68.26
		Total VOC/8760	0.23	0.01	0.01	0.01	0.02	0.03	0.04	0.03	0.03	0.02	0.01	0.01	0.01
		Gallons.	142,399	15,955	3,289	13,580	13,013	16,677	23,991	11,595	11,563	3,874	9,119	9,834	9,909
1-17 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	3.09	0.10	0.11	0.13	0.21	0.36	0.47	0.54	0.48	0.32	0.19	0.09	0.09
		Working Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	3.09	0.10	0.11	0.13	0.21	0.36	0.47	0.54	0.48	0.32	0.19	0.09	0.09
		Total VOC/8760	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Gallons.	-	-	-	-	-	-	-	-	-	-	-	-	-
15-9 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	105.83	3.53	4.08	4.77	7.44	12.75	15.54	17.95	15.74	11.10	6.74	3.12	3.07
		Working Lbs	6.84	0.63	0.94	0.27	1.79	0.77	0.21	0.25	0.10	0.04	0.52	0.41	0.91
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	112.67	4.16	5.02	5.04	9.23	13.52	15.75	18.20	15.84	11.14	7.26	3.53	3.98
		Total VOC/8760	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Gallons.	426,653	49,637	73,760	20,907	103,750	29,693	6,211	6,427	2,980	1,365	27,735	32,667	71,521

Lansing; MI

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Rolling 12 Month
Emissions & Throughput Summary

Marathon Petroleum Company
Terminal, Transport & Rail
opsEnvironmental

			Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12	
25-1 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	6,238.16	341.99	339.28	478.77	564.72	471.28	574.25	660.76	621.48	660.26	623.23	511.38	390.76	
		Working Lbs	23.07	1.59	1.40	2.14	0.71	2.00	2.40	2.75	2.69	2.28	1.97	1.82	1.32	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	6,261.23	343.58	340.68	480.91	565.43	473.28	576.65	663.51	624.17	662.54	625.20	513.20	513.20	392.08
		Total VOC/8760 Gallons.	0.71	0.04	0.04	0.05	0.06	0.05	0.07	0.08	0.07	0.08	0.07	0.07	0.06	0.04
25-2 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	139.63	4.47	5.17	6.04	9.38	16.36	21.24	24.46	21.58	14.58	8.50	3.96	3.89	
		Working Lbs	240.77	10.42	7.38	12.02	9.93	23.72	19.22	27.73	51.27	38.21	18.66	9.37	12.84	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	380.40	14.89	12.55	18.06	19.31	40.08	40.46	52.19	72.85	52.79	27.16	13.33	16.73	
		Total VOC/8760 Gallons.	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00
25-3 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	5,019.16	285.69	283.41	399.94	471.73	393.68	479.70	505.88	486.88	517.26	488.24	400.62	306.13	
		Working Lbs	123.48	12.01	11.56	9.85	4.69	9.97	8.85	9.29	10.89	12.29	12.04	12.14	9.90	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	5,142.64	297.70	294.97	409.79	476.42	403.65	488.55	515.17	497.77	529.55	500.28	412.76	412.76	316.03
		Total VOC/8760 Gallons.	0.59	0.03	0.03	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.04
25-4 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	4,889.81	268.07	265.94	375.29	442.66	369.42	450.13	517.94	487.15	517.55	488.52	400.84	306.30	
		Working Lbs	119.61	12.06	11.65	10.09	4.26	8.28	9.62	10.53	11.00	10.76	11.15	10.37	9.84	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	5,009.42	280.13	277.59	385.38	446.92	377.70	459.75	528.47	498.15	528.31	499.67	411.21	411.21	316.14
		Total VOC/8760 Gallons.	0.57	0.03	0.03	0.04	0.05	0.04	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.04
25-7 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	133.66	4.28	4.95	5.78	8.98	15.66	20.33	23.42	20.66	13.96	8.13	3.79	3.72	
		Working Lbs	241.44	7.18	9.14	6.20	12.53	22.39	41.17	51.46	22.33	22.07	19.82	17.28	9.87	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	375.10	11.46	14.09	11.98	21.51	38.05	61.50	74.88	42.99	36.03	27.95	21.07	21.07	13.59
		Total VOC/8760 Gallons.	0.04	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00

Lansing; MI

01/01/2020 to 12/31/2020

Rolling 12 Month
Emissions & Throughput Summary

Marathon Petroleum Company
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opsEnvironmental

			Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12	
25-8 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	5,715.80	313.36	310.87	438.68	517.43	431.82	526.17	605.43	569.44	604.97	571.04	468.55	358.04	
		Working Lbs	127.67	12.05	11.57	9.99	4.24	8.25	11.70	16.99	10.91	10.77	11.08	10.27	9.85	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	5,843.47	325.41	322.44	448.67	521.67	440.07	537.87	622.42	580.35	615.74	582.12	478.82	367.89	
		Total VOC/8760 Gallons.	0.67	0.04	0.04	0.05	0.06	0.05	0.06	0.07	0.07	0.07	0.07	0.07	0.05	0.04
8-11 Tank - Cone / Flat / Dome-No Pan	Denatured Ethanol	Standing Lbs	1,355.75	24.69	31.30	55.75	100.00	166.66	211.79	242.99	215.48	147.14	90.89	42.45	26.61	
		Working Lbs	5,955.77	155.34	161.50	259.26	242.47	621.68	853.90	1,033.57	962.74	708.02	475.77	295.37	186.15	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	7,311.52	180.03	192.80	315.01	342.47	788.34	1,065.69	1,276.56	1,178.22	855.16	566.66	337.82	212.76	
		Total VOC/8760 Gallons.	0.83	0.02	0.02	0.04	0.04	0.09	0.12	0.15	0.13	0.10	0.06	0.04	0.02	
AA-1-14 Tank - Cone / Flat / Dome-No Pan	Gas Additive	Standing Lbs	62.79	1.69	2.07	3.21	5.05	7.61	9.00	10.02	9.04	6.56	4.49	2.35	1.70	
		Working Lbs	10.06	0.43	0.44	0.67	0.45	0.95	1.24	1.72	1.65	0.94	0.77	0.46	0.34	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	72.85	2.12	2.51	3.88	5.50	8.56	10.24	11.74	10.69	7.50	5.26	2.81	2.04	
		Total VOC/8760 Gallons.	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
AA-1-16 Tank - Cone / Flat / Dome-No Pan	Gas Additive	Standing Lbs	183.88	5.40	6.58	9.97	15.17	22.21	25.65	28.25	25.64	19.00	13.40	7.24	5.37	
		Working Lbs	34.17	1.47	1.44	1.84	1.27	2.93	4.80	5.00	4.91	3.88	2.85	2.26	1.52	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	218.05	6.87	8.02	11.81	16.44	25.14	30.45	33.25	30.55	22.88	16.25	9.50	6.89	
		Total VOC/8760 Gallons.	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
AA-1-18 Tank - Horiz Above Grnd	Diesel Additive	Standing Lbs	0.48	0.02	0.02	0.02	0.03	0.06	0.07	0.08	0.07	0.06	0.03	0.01	0.01	
		Working Lbs	0.05	-	-	-	-	0.01	0.01	0.01	0.01	-	0.01	-	-	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	0.53	0.02	0.02	0.02	0.03	0.07	0.08	0.09	0.08	0.06	0.04	0.01	0.01	
		Total VOC/8760 Gallons.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
			3,633	212	302	231	185	526	259	305	305	294	382	335	297	

Rolling 12 Month Emissions & Throughput Summary

			Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12	
AA-1-19 Tank - Horiz Above Grnd	Diesel Additive	Standing Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Working Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC/8760 Gallons.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			401	18	15	25	29	42	31	32	38	44	51	47	29	
S-1-21 Tank - Rectangular	Gasoline	Standing Lbs	63.28	1.08	1.27	2.23	4.00	7.15	10.35	12.97	10.95	6.62	3.74	1.77	1.15	
		Working Lbs	51.05	4.82	5.04	6.41	8.26	-	-	-	-	5.47	8.72	6.92	5.41	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	114.33	5.90	6.31	8.64	12.26	7.15	10.35	12.97	10.95	12.09	12.46	8.69	6.56	
		Total VOC/8760 Gallons.	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			41,040	5,472	5,472	5,472	5,472	-	-	-	2,736	5,472	5,472	5,472	5,472	
Total	Standing Lbs	25,858.63	1,309.99	1,321.90	1,879.67	2,297.47	2,143.04	2,624.50	2,971.43	2,769.34	2,718.66	2,441.79	1,919.02	1,461.82		
	Working Lbs	9,286.56	334.40	247.37	452.01	457.30	969.63	1,647.12	1,430.45	1,310.28	881.16	686.48	477.42	392.94		
	Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-		
	Total VOC Lbs	35,145.19	1,644.39	1,569.27	2,331.68	2,754.77	3,112.67	4,271.62	4,401.88	4,079.62	3,599.82	3,128.27	2,396.44	1,854.76		
	VOC Lbs / 8760 Gallons	4.01	0.19	0.18	0.27	0.31	0.36	0.49	0.50	0.47	0.41	0.36	0.27	0.21		
			170,234,137	15,536,767	14,873,146	13,547,188	6,905,293	12,704,564	14,023,775	16,680,966	15,424,807	15,742,143	15,861,431	15,269,345	13,664,712	

Water Systems VOCs & Throughput

Note (1) Total Throughput Gallons isn't shown because the same gallon could be processed in multiple places, like the OWS and the WAT tank.

			Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Sump	VOC Lbs	7.62	1.49	1.56	-	-	1.50	1.57	-	-	-	1.50	-	-	
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Gallons.	38,095	7,441	7,790	-	-	7,524	7,850	-	-	-	7,490	-	-	
Total	VOC Lbs	7.62	1.49	1.56	-	-	1.50	1.57	-	-	-	1.50	-	-	
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Note (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	

Rolling 12 Month Emissions & Throughput Summary

Facility Fugitive VOCs - excludes trucks, includes valves, couplings, fittings, etc.

		Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Terminal Fugitives	VOC Lbs	2,925.02	247.75	231.76	247.75	239.76	247.75	239.76	247.75	247.75	239.76	247.75	239.76	247.75
	VOC US Tons	1.46	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Total	VOC LBS	2,925.02	247.75	231.76	247.75	239.76	247.75	239.76	247.75	247.75	239.76	247.75	239.76	247.75
	VOC U.S. Tons	1.46	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Facility Wide - VOCs only

Facility VOC Lbs	Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Loading	16,138.19	1,565.64	1,493.50	1,348.87	622.05	1,207.97	1,321.91	1,418.57	1,513.94	1,473.78	1,490.63	1,381.21	1,300.11
Tanks	35,145.19	1,644.39	1,569.27	2,331.68	2,754.77	3,112.67	4,271.62	4,401.88	4,079.62	3,599.82	3,128.27	2,396.44	1,854.76
Water Systems	7.62	1.49	1.56	-	-	1.50	1.57	-	-	-	1.50	-	-
Terminal Fugitives	2,925.02	247.75	231.76	247.75	239.76	247.75	239.76	247.75	247.75	239.76	247.75	239.76	247.75
Total VOC Lbs	54,216.02	3,459.27	3,296.10	3,928.30	3,616.57	4,569.88	5,834.86	6,068.19	5,841.31	5,313.36	4,868.15	4,017.41	3,402.62

Facility VOC US Tons	Total Tons	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Loading	8.07	0.78	0.75	0.67	0.31	0.60	0.66	0.71	0.76	0.74	0.75	0.69	0.65
Tanks	17.57	0.82	0.78	1.17	1.38	1.56	2.14	2.20	2.04	1.80	1.56	1.20	0.93
Water Systems	-	-	-	-	-	-	-	-	-	-	-	-	-
Terminal Fugitives	1.46	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Total VOC U.S. Tons	27.11	1.73	1.65	1.96	1.81	2.28	2.92	3.03	2.92	2.66	2.43	2.01	1.70

Facility Wide Pollutants - excluding VOCs

Facility Total	Total Lbs	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
CO Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
NOx Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
Aldehyde Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
SO2 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
SOx Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
PM Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
PM2.5 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
PM10 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
CH4 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
N2O Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
CO2e Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-

Rolling 12 Month Emissions & Throughput Summary

		Total	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Facility Total	CO US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	NOx US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldehyde US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	SO2 US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	SOx US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM 2.5 US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM 10 US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2 Metric Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	CH4 Metric Tons.	-	-	-	-	-	-	-	-	-	-	-	-	-
	N2O Metric Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2e Metric Tons	-	-	-	-	-	-	-	-	-	-	-	-	-

Rolling 12 Month Emissions & Throughput Summary

Facility Wide Hazardous Air Pollutants

Source Product	Total LBS	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
From Distillates	Benzene Lbs	0.18	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.02	0.01	0.01
	Ethylbenzene Lbs	0.35	0.01	0.01	0.01	0.02	0.04	0.05	0.06	0.05	0.04	0.03	0.02
	Hexane Lbs	0.09	-	-	-	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-
	Toluene Lbs	2.29	0.08	0.08	0.09	0.13	0.24	0.31	0.38	0.35	0.26	0.16	0.10
	Trimethylbenzen (1,2,4) Lbs	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane (2,2,4) Lbs	-	-	-	-	-	-	-	-	-	-	-	-
	Xylene Lbs	6.06	0.21	0.22	0.25	0.35	0.64	0.82	1.01	0.92	0.70	0.44	0.27
	Naphthalene Lbs	2.24	0.08	0.08	0.09	0.13	0.24	0.30	0.37	0.34	0.26	0.16	0.10
	Cumene Lbs	0.09	-	-	-	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-
	Total HAP Lbs.	11.29	0.40	0.41	0.46	0.65	1.19	1.53	1.89	1.71	1.30	0.81	0.49
From Gasolines	Benzene Lbs	416.56	29.29	27.70	32.30	29.14	33.47	42.20	42.22	41.14	39.48	38.32	32.87
	Ethylbenzene Lbs	46.28	3.25	3.08	3.59	3.24	3.72	4.69	4.69	4.57	4.39	4.26	3.65
	Hexane Lbs	740.56	52.06	49.24	57.42	51.80	59.50	75.03	75.05	73.14	70.18	68.12	58.43
	Toluene Lbs	601.70	42.30	40.01	46.65	42.08	48.34	60.96	60.98	59.42	57.02	55.35	47.48
	Trimethylbenzen (1,2,4) Lbs	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane (2,2,4) Lbs	370.28	26.03	24.62	28.71	25.90	29.75	37.51	37.53	36.57	35.09	34.06	29.22
	Xylene Lbs	231.42	16.27	15.39	17.94	16.19	18.59	23.45	23.45	22.86	21.93	21.29	18.26
	Naphthalene Lbs	-	-	-	-	-	-	-	-	-	-	-	-
	Cumene Lbs	4.63	0.33	0.31	0.36	0.32	0.37	0.47	0.47	0.46	0.44	0.43	0.37
	Total HAP Lbs.	2,411.45	169.53	160.33	186.97	168.66	193.74	244.30	244.40	238.16	228.52	221.81	190.28
Totals	Benzene	416.74	29.29	27.70	32.31	29.15	33.49	42.23	42.25	41.17	39.50	38.33	32.88
	Ethylbenzene	46.64	3.27	3.09	3.60	3.26	3.76	4.74	4.75	4.62	4.43	4.28	3.67
	Hexane	740.65	52.07	49.24	57.42	51.80	59.51	75.04	75.07	73.15	70.19	68.12	58.44
	Toluene	603.99	42.38	40.09	46.75	42.22	48.58	61.27	61.36	59.77	57.28	55.51	47.58
	Trimethylbenzene(1,2,4)	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane(2,2,4)	370.28	26.03	24.62	28.71	25.90	29.75	37.51	37.53	36.57	35.09	34.06	29.22
	Xylene	237.49	16.48	15.61	18.19	16.54	19.23	24.27	24.47	23.78	22.63	21.72	18.53
	Naphthalene	2.24	0.08	0.08	0.09	0.13	0.24	0.30	0.37	0.34	0.26	0.16	0.10
	Cumene	4.72	0.33	0.31	0.36	0.33	0.38	0.48	0.48	0.47	0.45	0.43	0.37
	Total HAP Lbs	2,422.74	169.93	160.74	187.43	169.31	194.93	245.83	246.28	239.87	229.82	222.62	190.77

Rolling 12 Month Emissions & Throughput Summary

Total - HAP Tons		Total TONS	2020 / 01	2020 / 02	2020 / 03	2020 / 04	2020 / 05	2020 / 06	2020 / 07	2020 / 08	2020 / 09	2020 / 10	2020 / 11	2020 / 12
Totals	Benzene	0.208	0.015	0.014	0.016	0.015	0.017	0.021	0.021	0.021	0.020	0.019	0.016	0.014
	Ethylbenzene	0.023	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	Hexane	0.370	0.026	0.025	0.029	0.026	0.030	0.038	0.038	0.037	0.035	0.034	0.029	0.025
	Toluene	0.302	0.021	0.020	0.023	0.021	0.024	0.031	0.031	0.030	0.029	0.028	0.024	0.021
	Trimethylbenzene(1,2,4)	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane(2,2,4)	0.185	0.013	0.012	0.014	0.013	0.015	0.019	0.019	0.018	0.018	0.017	0.015	0.013
	Xylene	0.119	0.008	0.008	0.009	0.008	0.010	0.012	0.012	0.012	0.011	0.011	0.009	0.008
	Napthalene	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Cumene	0.002	-	-	-	-	-	-	-	-	-	-	-	-
	Total HAP Tons	1.211	0.085	0.080	0.094	0.085	0.097	0.123	0.123	0.120	0.115	0.111	0.095	0.083

Rolling 12 Month Emissions & Throughput Summary

NOTES FOR FACTORS & CALCULATIONS:

- » **VOCs from controlled loading of Gasoline (truck / barge / rail)** uses the stack test mg/L in effect during loading. $[\text{ControlEfficiency}_{\text{mg/L}} * 3.7854 * 2.2046 / 1000 * \text{Thruput-Gas} / 1000]$
- » **Temperatures and windspeeds** in tank calculations are from the TANKS4 Meteorological tables, using the 30 Year U. S. Monthly Climate Normals 1961-1990, National Climatic Data Center, Asheville, NC.
- » **VOCs from uncontrolled loading of Gasoline & all truck, barge, and rail loading of Distillate, Ethanol, Other Organics** uses AP-42, Ch 5, Jun 2008, Pg 5.2-4 reduced by capture & control efficiency on Pg 5.2-6:
 $[(12.46 * \text{Vap.Mol.Wt} * \text{SaturationFactor} * \text{TVP} / \text{BulkLiquidTemp}^{\circ}\text{R}) * (\text{Thruput} / 1000) * ((100 - \text{ControlEff}\%) / 100) * (\text{CaptureEff}\% / 100)]$ where where Capture_Eff% relates to the truck fugitive rate.
 8 mg/l = 99.21%, 9 mg/l = 99.11%(being phased out), 13 mg/l = 98.72%. Derived from $((1 - (\text{mg/l} / 1014)) / 100)$, where 1014 is the density of 1 litre of saturated gasoline vapors from EPA-453/R-94-002b U.S. EPA RTP, NC Nov 1994 "Gasoline Distribution Industry (Stage I) - Background Information for Promulgated Standards", Pg A-4. **Uncontrolled barge loading** uses the factors from AP-42, Ch 5.2, Jun 2008, tables 5.2-2 and 5.2-6.
- » **Truck Fugitives from loading Gasoline** uses fixed rate determined by permit or MACT status. The formula is:
 $[\text{FugitiveRate mg/L} * 3.785 / 453.600 * \text{Thruput-Gas} / 1000]$ where the Fugitive Rate is 8 mg/l for MACT facilities and those where the trailers must pass a 1" pressure decay test, 13 mg/l for all other facilities where the trailers must pass a 3" pressure decay test. Some states and permits call for 9 mg/l (rather than 13) based on a study from Radian Corp but the API does not recognize the value.
- » **Truck Fugitives from loading Distillate, Ethanol, and Other Organics** uses AP-42, Ch 5, Jun 2008, Pg 5.2-4 reduced by the capture efficiency.
 $[(12.46 * \text{Mol.Wt} * \text{SaturationFactor} * \text{TVP} / \text{BulkLiquidTemp}^{\circ}\text{R}) * (\text{Thruput-NonGas} / 1000) * ((100 - \text{CaptureEff}\%) / 100)]$ where Capture_Eff% relates to the truck fugitive rate.
 8 mg/l = 99.21%, 9 mg/l = 99.11%(being phased out), 13 mg/l = 98.72%. Derived from $((1 - (\text{mg/l} / 1014)) / 100)$ where 1014 is the density of 1 litre of saturated gasoline vapors from EPA-453/R-94-002b U.S. EPA RTP, NC Nov 1994 "Gasoline Distribution Industry (Stage I) - Background Information for Promulgated Standards", Pg A-4.
- » **By-products of combustion from Combustors, Boilers, Heaters, and Engines.** Reference AP-42 Ch 1.3 Fuel Oil Combustion, May 2010; AP-42 Ch 1.4 Natural Gas Combustion, July 1998; 40 CFR 98 Mandatory Reporting of GHGs; Final Rule, where applicable.
- » **Tank Emissions** are calculated using AP-42 Chapter 7.1, Nov. 2006
- » **Oil / Water Separator emissions:** $[(\text{Factor in lb/Gal} * \text{Thruput-Water} / 1000)]$ Factors from AP-42, Ch 5.1, Apr 2015, Pg 5.1-16, Tbl 5.1-3, Fugitive Emission Factors for Petroleum Refineries. Oil / Water Separators.
- » **WAT tank emission factors:** The petroleum is stripped out in the OWS and the contact water is in equilibrium by the time it hits the WAT tanks. This is based on sampling where approximately 50 ppm hydrocarbon was found. (So low that there would be no emissions if left alone.)
 - >> WAT tanks if not sparged use 0 lb/1,000 gal thruput. (equilibrium)
 - >> WAT tanks if sparged and vented to the atmosphere, use 0.42 lb VOC / 1,000 gal water thruput.
 (Sparging removes the remaining hydrocarbons) $(50 \text{ ppm} = (50 \text{ lb}/1,000,000 \text{ lb water}) * (8.3454 \text{ lbs water} * 1000 \text{ gal}))$.
 - >> WAT tanks if sparged and vented to VRU use 0.021 lb VOC / 1,000 gal water (95% collection efficiency of the remaining hydrocarbons is assumed).

NOTES FOR FACTORS & CALCULATIONS - Continued

Speciation Notes:

POLLUTANT	Vapor Weight Percent			
	Ethanol *	Gasolines	Distillates	Crude
BENZENE	0.0450 %	0.9000 %	0.0200%	1.1400 %
ETHYLBENZENE	0.0050 %	0.1000 %	0.0400%	0.0750 %
HEXANE	0.0800 %	1.6000 %	0.0100%	1.2100 %
TOLUENE	0.0650 %	1.3000 %	0.2600%	0.5700 %
TRIMETHYLBENZNE(1,2,4)	0.0000 %	0.0000 %	0.0000%	0.0130 %
TRIMETHYLPENTANE(2,2,4)	0.0400 %	0.8000 %	0.0000%	0.1000 %
XYLENE	0.0250 %	0.5000 %	0.6900%	0.3300 %
NAPHTHALENE	0.0000 %	0.0000 %	0.2550%	0.0000 %
CUMENE	0.0005 %	0.0100 %	0.0100%	0.0100 %

* Ethanol assumed to be denatured with 5% gasoline.

Butane Calculations:

>>Disconnect Loss: {TruckCount} * {LossVolPerConnector} *
{ConnectorsPerEvent} * {MaterialDensity}
>>Injection Loss: {TkThroughputMeas}/1000000.0000 * {TOC_EF}
TOC_EF is 4900lb/MM Gallons
>>TOC: IF(ISERROR({DisconnectLoss}), 0, {DisconnectLoss}) + IF
(ISERROR({AdditionalEmissions}), 0, {AdditionalEmissions})

- » **Gasoline speciation data** taken from [Gasoline Distribution Industry \(Stage 1\) - Background Information for Proposed Standards for the MACT regulation Table C-5 \(EPA-435/R-94-002a\)](#)
- » **Distillate speciation data** taken from [Karin Ritter \(American Petroleum Institute\) memo to the Gasoline Distribution MACT Workgroup dated Feb. 8, 1995](#) containing speciation data submitted by various API member companies.
- » **Asphalt speciation data** - As industry accepted HAPs speciation is unavailable, MPC has chosen to reflect HAPs from Asphalt VOCs as the same as for distillates.

Rolling 12 Month Emissions & Throughput Summary

Loading VOCs & Throughput

014224

Ethanol sold as part of a gas recipe are included in the gasoline totals since loading gasoline limits typically include the ethanol portion of the recipe. Emissions are calculated correctly, stack test for gasoline & AP-42 Ch 5.2 for ethanol and summarized for the gasoline section of the report. Denatured Ethanol is broken out separately only if it's sold by itself

		Totals	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12		
Truck Loading	VCS 1 CARBON	Distillate	Stack Lbs	1.30	.05	.05	.04	.06	.12	.19	.20	.18	.16	.10	.07	.07
			Fugitive Lbs	7.27	.26	.30	.25	.36	.69	1.03	1.11	.98	.91	.58	.40	.40
			Total Lbs	8.57	.31	.35	.29	.42	.81	1.22	1.31	1.15	1.08	.69	.47	.47
			US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
			Gallons	33,115,026	1,944,265	2,213,904	1,877,116	2,210,093	2,915,887	3,247,689	3,091,545	2,880,627	3,418,435	3,240,544	3,060,952	3,013,969
	Gasoline	Stack Lbs	2,396.07	184.34	162.91	181.74	192.35	187.88	232.00	175.24	187.48	210.15	249.76	211.97	220.25	
		Fugitive Lbs	13,199.71	1,015.47	897.42	1,001.14	1,059.62	1,035.02	1,278.12	965.46	1,032.89	1,157.74	1,375.88	1,167.70	1,213.26	
		Total Lbs	15,595.78	1,199.82	1,060.34	1,182.88	1,251.97	1,222.90	1,510.12	1,140.70	1,220.37	1,367.89	1,625.63	1,379.67	1,433.50	
		US Tons	7.80	.60	.53	.59	.63	.61	.76	.57	.61	.68	.81	.69	.72	
		Gallons	134,432,292	10,393,087	9,186,678	10,232,716	10,806,341	10,521,143	12,951,996	9,761,259	10,455,076	11,760,328	14,024,547	11,927,904	12,411,217	
	Transmix	Stack Lbs	4.87	1.18	.44	.24	.24	.45	.43	.24	.24	.24	.24	.47	.47	
		Fugitive Lbs	26.83	6.51	2.44	1.30	1.30	2.47	2.39	1.30	1.30	1.30	1.30	2.60	2.60	
		Total Lbs	31.70	7.69	2.89	1.54	1.54	2.92	2.82	1.54	1.54	1.54	1.54	3.08	3.08	
		US Tons	.02	-	-	-	-	-	-	-	-	-	-	-	-	
		Gallons	247,315	60,009	22,506	12,000	12,000	22,800	22,000	12,000	12,000	12,000	12,000	24,000	24,000	
	Control:	Stack Lbs	2,402.24	185.57	163.41	182.02	192.65	188.45	232.62	175.68	187.89	210.55	250.10	212.51	220.79	
		Fugitive Lbs	13,233.81	1,022.25	900.16	1,002.69	1,061.28	1,038.18	1,281.54	967.88	1,035.17	1,159.96	1,377.76	1,170.70	1,216.26	
		Total VOC Lbs	15,636.06	1,207.82	1,063.57	1,184.71	1,253.93	1,226.63	1,514.15	1,143.55	1,223.06	1,370.51	1,627.86	1,383.21	1,437.05	
		US Tons	7.82	.60	.53	.59	.63	.61	.76	.57	.61	.69	.81	.69	.72	
		Gallons	167,794,633	12,397,361	11,423,088	12,121,832	13,028,434	13,459,830	16,221,685	12,864,804	13,347,703	15,190,763	17,277,091	15,012,856	15,449,186	
Transport Mode:	Stack Lbs	2,402.24	185.57	163.41	182.02	192.65	188.45	232.62	175.68	187.89	210.55	250.10	212.51	220.79		
	Fugitive Lbs	13,233.81	1,022.25	900.16	1,002.69	1,061.28	1,038.18	1,281.54	967.88	1,035.17	1,159.96	1,377.76	1,170.70	1,216.26		
	Total VOC Lbs	15,636.06	1,207.82	1,063.57	1,184.71	1,253.93	1,226.63	1,514.15	1,143.55	1,223.06	1,370.51	1,627.86	1,383.21	1,437.05		
	US Tons	7.82	.60	.53	.59	.63	.61	.76	.57	.61	.69	.81	.69	.72		
	Gallons	167,794,633	12,397,361	11,423,088	12,121,832	13,028,434	13,459,830	16,221,685	12,864,804	13,347,703	15,190,763	17,277,091	15,012,856	15,449,186		

Lansing; MI

01/01/2021 to 12/31/2021

**Rolling 12 Month
Emissions & Throughput Summary**

Marathon Petroleum Company
Terminal, Transport & Rail
opsEnvironmental

		Totals	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
	Stack Lbs	2,402.24	185.57	163.41	182.02	192.65	188.45	232.62	175.68	187.89	210.55	250.10	212.51	220.79
	Fugitive Lbs	13,233.81	1,022.25	900.16	1,002.69	1,061.28	1,038.18	1,281.54	967.88	1,035.17	1,159.96	1,377.76	1,170.70	1,216.26
Loading:	Total VOC Lbs	15,636.06	1,207.82	1,063.57	1,184.71	1,253.93	1,226.63	1,514.15	1,143.55	1,223.06	1,370.51	1,627.86	1,383.21	1,437.05
	US Tons	7.82	.60	.53	.59	.63	.61	.76	.57	.61	.69	.81	.69	.72
	Gallons	167,794,633	12,397,361	11,423,088	12,121,832	13,028,434	13,459,830	16,221,685	12,864,804	13,347,703	15,190,763	17,277,091	15,012,856	15,449,186

Rolling 12 Month Emissions & Throughput Summary

Tank VOCs & Throughput - by Tank Type

		Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Cone/Flat Roof/Geodome no pan	VOC Lbs	12,207.68	524.03	371.47	542.84	829.37	1,341.17	1,749.43	1,915.97	1,742.97	1,292.27	891.08	586.95	420.13
	US Tons	6.10	0.26	0.19	0.27	0.41	0.67	0.87	0.96	0.87	0.65	0.45	0.29	0.21
	Gallons.	47,439,863	3,153,799	3,172,081	3,818,566	3,287,642	4,037,114	4,562,294	4,126,942	4,059,903	4,790,553	4,836,050	3,300,212	4,294,707
Horizontal Aboveground	VOC Lbs	0.55	0.02	0.02	0.02	0.03	0.07	0.08	0.09	0.08	0.08	0.04	0.01	0.01
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gallons.	4,260	202	321	240	250	366	410	378	385	484	428	411	385
Horizontal Underground	VOC Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gallons.	-	-	-	-	-	-	-	-	-	-	-	-	-
Internal Floater - Cone/Flat Roof	VOC Lbs	21,610.86	1,580.65	1,167.00	1,537.81	2,017.85	1,688.44	2,057.38	2,495.11	1,638.61	2,154.58	2,150.14	1,765.20	1,358.09
	US Tons	10.81	0.79	0.58	0.77	1.01	0.84	1.03	1.25	0.82	1.08	1.08	0.88	0.68
	Gallons.	114,134,351	9,288,532	8,425,900	8,397,296	9,547,692	9,409,292	11,484,995	7,933,410	6,350,803	9,166,632	12,495,327	10,557,313	11,077,159
Rectangular	VOC Lbs	114.31	5.90	6.29	8.64	12.26	7.15	10.35	12.97	10.95	12.09	12.46	8.69	6.56
	US Tons	0.06	-	-	-	0.01	-	0.01	0.01	0.01	0.01	0.01	-	-
	Gallons.	41,040	5,472	5,472	5,472	5,472	-	-	-	-	2,736	5,472	5,472	5,472
Total	VOC Lbs	33,933.40	2,110.60	1,544.78	2,089.31	2,859.51	3,036.83	3,817.24	4,424.14	3,392.61	3,459.02	3,053.72	2,360.85	1,784.79
	VOC US Tons	16.97	1.06	0.77	1.04	1.43	1.52	1.91	2.21	1.70	1.73	1.53	1.18	0.89
	Gallons	161,619,514	12,448,005	11,603,774	12,221,574	12,841,056	13,446,772	16,047,699	12,060,730	10,411,091	13,960,405	17,337,277	13,863,408	15,377,723

Tank VOCs & Throughput - by Product Stored

		Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Denatured Ethanol	VOC Lbs	7,391.65	171.37	175.96	309.16	504.42	792.11	1,093.52	1,233.48	1,135.10	843.62	577.13	338.90	216.88
	US Tons	3.70	0.09	0.09	0.15	0.25	0.40	0.55	0.62	0.57	0.42	0.29	0.17	0.11
	Gallons.	13,817,451	1,062,506	946,067	1,064,813	1,107,662	1,086,442	1,312,383	1,011,200	1,056,828	1,202,687	1,460,482	1,229,934	1,276,447
Diesel Additive	VOC Lbs	0.55	0.02	0.02	0.02	0.03	0.07	0.08	0.09	0.08	0.08	0.04	0.01	0.01
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gallons.	4,260	202	321	240	250	366	410	378	385	484	428	411	385
Distillate	VOC Lbs	970.86	31.98	35.11	39.11	54.08	102.83	144.75	162.27	143.93	115.31	71.24	30.66	39.59
	US Tons	0.49	0.02	0.02	0.02	0.03	0.05	0.07	0.08	0.07	0.06	0.04	0.02	0.02
	Gallons.	33,330,231	2,019,441	2,201,315	2,735,811	2,163,235	2,926,154	3,228,084	3,099,201	2,987,340	3,573,792	3,360,643	2,043,025	2,992,190
Gas Additive	VOC Lbs	289.16	8.41	10.79	15.17	22.90	33.39	40.54	43.46	40.12	30.38	21.84	13.24	8.92
	US Tons	0.14	-	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.01	0.01	-
	Gallons.	22,987	1,489	2,583	1,575	1,553	1,575	2,100	1,681	1,860	1,982	2,154	2,630	1,805

Rolling 12 Month Emissions & Throughput Summary

		Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Gasoline	VOC Lbs	25,281.18	1,898.82	1,322.90	1,725.85	2,278.08	2,108.43	2,538.35	2,984.84	2,073.38	2,469.63	2,383.47	1,978.04	1,519.39
	US Tons	12.64	0.95	0.66	0.86	1.14	1.05	1.27	1.49	1.04	1.23	1.19	0.99	0.76
	Gallons	114,444,585	9,364,367	8,453,488	8,419,135	9,568,356	9,432,235	11,504,722	7,948,270	6,364,678	9,181,460	12,513,570	10,587,408	11,106,896
Total	VOC Lbs	33,933.40	2,110.60	1,544.78	2,089.31	2,859.51	3,036.83	3,817.24	4,424.14	3,392.61	3,459.02	3,053.72	2,360.85	1,784.79
	VOC US Tons	16.97	1.06	0.77	1.04	1.43	1.52	1.91	2.21	1.70	1.73	1.53	1.18	0.89
	Gallons	161,619,514	12,448,005	11,603,774	12,221,574	12,841,056	13,446,772	16,047,699	12,060,730	10,411,091	13,960,405	17,337,277	13,863,408	15,377,723

Tank VOCs & Throughput Detail - by Tank

			Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12	
1-12 Tank - Cone / Flat / Dome-No Pan	Gasoline	Standing Lbs	971.87	27.78	32.24	49.50	75.28	113.94	139.83	160.29	142.30	99.58	67.28	36.39	27.46	
		Working Lbs	837.04	130.90	51.35	45.96	52.46	92.41	95.40	85.81	69.52	51.85	43.11	68.39	49.88	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	1,808.91	158.68	83.59	95.46	127.74	206.35	235.23	246.10	211.82	151.43	110.39	104.78	77.34	
		Total VOC/8760	0.21	0.02	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.01	0.01	0.01	
		Gallons	140,629	35,887	13,351	9,366	8,191	11,471	9,863	8,173	6,936	6,047	6,385	12,826	12,133	
1-13 Tank - Cone / Flat / Dome-No Pan	Gasoline	Standing Lbs	973.14	27.84	32.31	49.59	75.39	114.08	139.98	160.45	142.45	99.70	67.37	36.46	27.52	
		Working Lbs	773.96	125.75	33.71	34.35	44.84	92.41	95.41	70.21	69.55	51.83	43.11	62.91	49.88	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	1,747.10	153.59	66.02	83.94	120.23	206.49	235.39	230.66	212.00	151.53	110.48	99.37	77.40	
		Total VOC/8760	0.20	0.02	0.01	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.01	0.01	0.01	
		Gallons	128,565	34,476	8,765	7,001	7,001	11,472	9,864	6,687	6,939	6,045	6,386	11,797	12,132	
1-17 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	3.09	0.10	0.11	0.13	0.21	0.36	0.47	0.54	0.48	0.32	0.19	0.09	0.09	
		Working Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	3.09	0.10	0.11	0.13	0.21	0.36	0.47	0.54	0.48	0.32	0.19	0.09	0.09	
		Total VOC/8760	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Gallons	-	-	-	-	-	-	-	-	-	-	-	-	-	

Lansing; MI

01/01/2021 to 12/31/2021

Rolling 12 Month
Emissions & Throughput Summary

Marathon Petroleum Company
Terminal, Transport & Rail
opsEnvironmental

			Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12	
15-9 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	105.69	3.53	3.94	4.77	7.44	12.75	15.54	17.95	15.74	11.10	6.74	3.12	3.07	
		Working Lbs	4.51	0.94	0.75	0.25	0.11	0.35	0.04	0.20	0.23	0.46	0.25	0.42	0.51	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	110.20	4.47	4.69	5.02	7.55	13.10	15.58	18.15	15.97	11.56	6.99	3.54	3.58	
		Total VOC/8760	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Gallons	287,772	73,820	59,223	20,021	6,103	13,455	1,325	5,219	6,691	16,176	13,080	32,748	39,911	
25-1 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	6,226.46	341.99	327.58	478.77	564.72	471.28	574.25	660.76	621.48	660.26	623.23	511.38	390.76	
		Working Lbs	20.20	1.33	1.11	1.39	1.39	1.97	2.35	1.86	1.94	1.92	1.89	1.48	1.57	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	6,246.66	343.32	328.69	480.16	566.11	473.25	576.60	662.62	623.42	662.18	625.12	512.86	392.33	
		Total VOC/8760	0.71	0.04	0.04	0.05	0.06	0.05	0.07	0.08	0.07	0.08	0.07	0.06	0.04	
		Gallons	6,590,981	434,339	362,527	453,094	454,018	643,280	766,105	607,999	631,308	625,167	617,614	482,336	513,194	
25-2 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	139.45	4.47	4.99	6.04	9.38	16.36	21.24	24.46	21.58	14.58	8.50	3.96	3.89	
		Working Lbs	394.25	17.54	20.55	26.06	27.98	30.53	51.74	80.78	78.00	15.88	14.77	17.63	12.79	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	533.70	22.01	25.54	32.10	37.36	46.89	72.98	105.24	99.58	30.46	23.27	21.59	16.68	
		Total VOC/8760	0.06	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	
		Gallons	22,575,604	1,828,200	2,142,092	2,715,790	2,157,132	1,549,676	1,915,439	2,610,493	2,726,126	718,443	1,042,004	1,836,901	1,333,308	
25-3 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	4,877.91	267.92	256.63	375.08	442.41	369.21	449.88	517.65	486.88	517.26	488.24	400.62	306.13	
		Working Lbs	116.52	8.60	8.48	9.32	8.62	9.46	10.76	8.69	8.84	10.32	12.24	10.33	10.86	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	4,994.43	276.52	265.11	384.40	451.03	378.67	460.64	526.34	495.72	527.58	500.48	410.95	316.99	
		Total VOC/8760	0.57	0.03	0.03	0.04	0.05	0.04	0.05	0.06	0.06	0.06	0.06	0.05	0.04	
		Gallons	37,683,674	2,781,620	2,742,029	3,012,493	2,788,825	3,059,426	3,479,276	2,809,523	2,859,374	3,339,816	3,958,885	3,341,126	3,511,281	
25-4 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	4,824.07	268.07	256.77	126.90	463.99	387.22	471.82	542.90	510.63	542.49	512.06	420.16	321.06	
		Working Lbs	110.90	10.13	7.92	1.80	9.42	9.45	10.71	8.74	8.84	10.38	12.19	10.42	10.90	
		Additional Lbs	453.48	360.78	-	92.70	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	5,388.45	638.98	264.69	221.40	473.41	396.67	482.53	551.64	519.47	552.87	524.25	430.58	331.96	
		Total VOC/8760	0.62	0.07	0.03	0.03	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.05	0.04	
		Gallons	35,868,851	3,276,986	2,561,719	583,293	3,047,317	3,055,693	3,463,091	2,826,685	2,860,121	3,357,410	3,941,775	3,369,306	3,525,455	

Lansing; MI

01/01/2021 to 12/31/2021

Rolling 12 Month
Emissions & Throughput Summary

Marathon Petroleum Company
Terminal, Transport & Rail
opsEnvironmental

			Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12	
25-7 Tank - Cone / Flat / Dome-No Pan	Distillate	Standing Lbs	129.32	4.27	4.77	1.86	8.96	15.63	20.30	23.38	20.62	13.92	8.12	3.78	3.71	
		Working Lbs	194.55	1.13	-	-	-	26.85	35.42	14.96	7.28	59.05	32.67	1.66	15.53	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	323.87	5.40	4.77	1.86	8.96	42.48	55.72	38.34	27.90	72.97	40.79	5.44	19.24	
		Total VOC/8760 Gallons	0.04 10,466,855	0.00 117,421	0.00 -	0.00 -	0.00 -	0.00 -	0.00 1,363,023	0.01 1,311,320	0.00 483,489	0.00 254,523	0.01 2,839,173	0.00 2,305,559	0.00 173,376	0.00 1,618,971
25-8 Tank - Covered/Internal Floating	Gasoline	Standing Lbs	4,320.28	313.36	300.15	438.68	517.43	431.82	526.17	273.42	-	324.26	488.24	400.62	306.13	
		Working Lbs	102.97	8.47	8.36	13.17	9.87	8.03	11.44	5.12	-	5.59	12.05	10.19	10.68	
		Additional Lbs	558.07	-	-	-	-	-	-	-	475.97	-	82.10	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	4,981.32	321.83	308.51	451.85	527.30	439.85	537.61	754.51	-	411.95	500.29	410.81	316.81	
		Total VOC/8760 Gallons	0.57 33,990,845	0.04 2,795,587	0.04 2,759,625	0.05 4,348,416	0.06 3,257,532	0.05 2,650,893	0.06 3,776,523	0.09 1,689,203	0.00 -	0.05 1,844,239	0.06 3,977,053	0.05 3,364,545	0.05 3,527,229	
8-11 Tank - Cone / Flat / Dome-No Pan	Denatured Ethanol	Standing Lbs	1,354.67	24.69	30.22	55.75	100.00	166.66	211.79	242.99	215.48	147.14	90.89	42.45	26.61	
		Working Lbs	6,036.98	146.68	145.74	253.41	404.42	625.45	881.73	990.49	919.62	696.48	486.24	296.45	190.27	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	7,391.65	171.37	175.96	309.16	504.42	792.11	1,093.52	1,233.48	1,135.10	843.62	577.13	338.90	216.88	
		Total VOC/8760 Gallons	0.84 13,817,451	0.02 1,062,506	0.02 946,067	0.04 1,064,813	0.06 1,107,662	0.09 1,086,442	0.12 1,312,383	0.14 1,011,200	0.13 1,056,828	0.10 1,202,687	0.07 1,460,482	0.04 1,229,934	0.02 1,276,447	
AA-1-14 Tank - Cone / Flat / Dome-No Pan	Gas Additive	Standing Lbs	62.72	1.69	2.00	3.21	5.05	7.61	9.00	10.02	9.04	6.56	4.49	2.35	1.70	
		Working Lbs	8.67	0.28	1.24	0.26	0.30	0.57	0.98	1.11	1.14	0.91	0.90	0.63	0.35	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	71.39	1.97	3.24	3.47	5.35	8.18	9.98	11.13	10.18	7.47	5.39	2.98	2.05	
		Total VOC/8760 Gallons	0.01 5,008	0.00 314	0.00 1,310	0.00 203	0.00 173	0.00 250	0.00 348	0.00 361	0.00 389	0.00 372	0.00 492	0.00 456	0.00 340	
AA-1-16 Tank - Cone / Flat / Dome-No Pan	Gas Additive	Standing Lbs	183.65	5.40	6.35	9.97	15.17	22.21	25.65	28.25	25.64	19.00	13.40	7.24	5.37	
		Working Lbs	34.12	1.04	1.20	1.73	2.38	3.00	4.91	4.08	4.30	3.91	3.05	3.02	1.50	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	217.77	6.44	7.55	11.70	17.55	25.21	30.56	32.33	29.94	22.91	16.45	10.26	6.87	
		Total VOC/8760 Gallons	0.02 17,979	0.00 1,175	0.00 1,273	0.00 1,372	0.00 1,380	0.00 1,325	0.00 1,752	0.00 1,320	0.00 1,471	0.00 1,610	0.00 1,662	0.00 2,174	0.00 1,465	

Lansing; MI

01/01/2021 to 12/31/2021

Rolling 12 Month
Emissions & Throughput Summary

Marathon Petroleum Company
Terminal, Transport & Rail
opsEnvironmental

			Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12	
AA-1-18 Tank - Horiz Above Grnd	Diesel Additive	Standing Lbs	0.48	0.02	0.02	0.02	0.03	0.06	0.07	0.08	0.07	0.06	0.03	0.01	0.01	
		Working Lbs	0.07	-	-	-	-	0.01	0.01	0.01	0.01	0.01	0.02	0.01	-	-
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Total VOC Lbs	0.55	0.02	0.02	0.02	0.03	0.07	0.08	0.09	0.08	0.08	0.08	0.04	0.01	0.01
		Total VOC/8760	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Gallons	3,865	186	304	223	225	326	376	356	341	429	386	371	342	
AA-1-19 Tank - Horiz Above Grnd	Diesel Additive	Standing Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Working Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC/8760	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Gallons	395	16	17	17	25	40	34	22	44	55	42	40	43	
S-1-21 Tank - Rectangular	Gasoline	Standing Lbs	63.28	1.08	1.27	2.23	4.00	7.15	10.35	12.97	10.95	6.62	3.74	1.77	1.15	
		Working Lbs	51.03	4.82	5.02	6.41	8.26	-	-	-	-	5.47	8.72	6.92	5.41	
		Additional Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	114.31	5.90	6.29	8.64	12.26	7.15	10.35	12.97	10.95	12.09	12.46	8.69	6.56	
		Total VOC/8760	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
		Gallons	41,040	5,472	5,472	5,472	5,472	-	-	-	-	2,736	5,472	5,472	5,472	
Total		Standing Lbs	24,236.08	1,292.21	1,259.35	1,602.50	2,289.46	2,136.34	2,616.34	2,676.11	2,223.34	2,462.85	2,382.52	1,870.40	1,424.66	
		Working Lbs	8,685.77	457.61	285.43	394.11	570.05	900.49	1,200.90	1,272.06	1,169.27	914.07	671.20	490.45	360.13	
		Additional Lbs	1,011.55	360.78	-	92.70	-	-	-	475.97	-	82.10	-	-	-	
		Injection Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-	
		Total VOC Lbs	33,933.40	2,110.60	1,544.78	2,089.31	2,859.51	3,036.83	3,817.24	4,424.14	3,392.61	3,459.02	3,053.72	2,360.85	1,784.79	
		VOC Lbs / 8760	3.87	0.24	0.18	0.24	0.33	0.35	0.44	0.51	0.39	0.39	0.35	0.27	0.20	
		Gallons	161,619,514	12,448,005	11,603,774	12,221,574	12,841,056	13,446,772	16,047,699	12,060,730	10,411,091	13,960,405	17,337,277	13,863,408	15,377,723	

Rolling 12 Month Emissions & Throughput Summary

Water Systems VOCs & Throughput

Note (1) Total Throughput Gallons isn't shown because the same gallon could be processed in multiple places, like the OWS and the WAT tank.

		Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Sump	VOC Lbs	6.90	2.87	-	-	-	0.67	0.88	1.48	-	-	-	-	1.00
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gallons	34,484	14,345	-	-	-	3,339	4,400	7,400	-	-	-	-	5,000
Total	VOC Lbs	6.90	2.87	-	-	-	0.67	0.88	1.48	-	-	-	-	1.00
	US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Note (1)													

Facility Fugitive VOCs - excludes trucks, includes valves, couplings, fittings, etc.

		Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Terminal Fugitives	VOC Lbs	2,917.03	247.75	223.77	247.75	239.76	247.75	239.76	247.75	247.75	239.76	247.75	239.76	247.75
	VOC US Tons	1.46	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Total	VOC LBS	2,917.03	247.75	223.77	247.75	239.76	247.75	239.76	247.75	247.75	239.76	247.75	239.76	247.75
	VOC U.S. Tons	1.46	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12

Facility Wide - VOCs only

Facility VOC Lbs		Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Loading		15,636.06	1,207.82	1,063.57	1,184.71	1,253.93	1,226.63	1,514.15	1,143.55	1,223.06	1,370.51	1,627.86	1,383.21	1,437.05
Tanks		33,933.40	2,110.60	1,544.78	2,089.31	2,859.51	3,036.83	3,817.24	4,424.14	3,392.61	3,459.02	3,053.72	2,360.85	1,784.79
Water Systems		6.90	2.87	-	-	-	0.67	0.88	1.48	-	-	-	-	1.00
Terminal Fugitives		2,917.03	247.75	223.77	247.75	239.76	247.75	239.76	247.75	247.75	239.76	247.75	239.76	247.75
Total VOC Lbs		52,493.39	3,569.04	2,832.13	3,521.76	4,353.19	4,511.88	5,572.03	5,816.92	4,863.42	5,069.29	4,929.33	3,983.82	3,470.59

Facility VOC US Tons		Total Tons	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Loading		7.82	0.60	0.53	0.59	0.63	0.61	0.76	0.57	0.61	0.69	0.81	0.69	0.72
Tanks		16.97	1.06	0.77	1.04	1.43	1.52	1.91	2.21	1.70	1.73	1.53	1.18	0.89
Water Systems		-	-	-	-	-	-	-	-	-	-	-	-	-
Terminal Fugitives		1.46	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Total VOC U.S. Tons		26.25	1.78	1.42	1.76	2.18	2.26	2.79	2.91	2.43	2.53	2.46	1.99	1.74

Rolling 12 Month Emissions & Throughput Summary

Facility Wide Pollutants - excluding VOCs

		Total Lbs	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Facility Total	CO Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	NOx Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldehyde Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	SO2 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	SOx Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM2.5 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM10 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	CH4 Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	N2O Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2e Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-

		Total	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Facility Total	CO US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	NOx US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	Aldehyde US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	SO2 US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	SOx US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM 2.5 US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	PM 10 US Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2 Metric Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	CH4 Metric Tons.	-	-	-	-	-	-	-	-	-	-	-	-	-
	N2O Metric Tons	-	-	-	-	-	-	-	-	-	-	-	-	-
	CO2e Metric Tons	-	-	-	-	-	-	-	-	-	-	-	-	-

Rolling 12 Month Emissions & Throughput Summary

Facility Wide Hazardous Air Pollutants

Source Product		Total LBS	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
From Distillates	Benzene Lbs	0.20	0.01	0.01	0.01	0.01	0.02	0.03	0.03	0.03	0.02	0.01	0.01	0.01
	Ethylbenzene Lbs	0.39	0.01	0.01	0.02	0.02	0.04	0.06	0.07	0.06	0.05	0.03	0.01	0.02
	Hexane Lbs	0.10	-	-	-	0.01	0.01	0.01	0.02	0.01	0.01	0.01	-	-
	Toluene Lbs	2.55	0.08	0.09	0.10	0.14	0.27	0.38	0.43	0.38	0.30	0.19	0.08	0.10
	Trimethylbenzen (1,2,4) Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane (2,2,4) Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	Xylene Lbs	6.76	0.22	0.24	0.27	0.38	0.72	1.01	1.13	1.00	0.80	0.50	0.21	0.28
	Naphthalene Lbs	2.50	0.08	0.09	0.10	0.14	0.26	0.37	0.42	0.37	0.30	0.18	0.08	0.10
	Cumene Lbs	0.10	-	-	-	0.01	0.01	0.01	0.02	0.01	0.01	0.01	-	-
	Total HAP Lbs.	12.59	0.42	0.46	0.51	0.70	1.33	1.88	2.10	1.87	1.50	0.92	0.40	0.51
From Gasolines	Benzene Lbs	399.49	30.34	23.64	28.66	34.31	32.81	39.34	40.21	32.63	37.25	38.69	32.62	28.99
	Ethylbenzene Lbs	44.39	3.37	2.63	3.18	3.81	3.65	4.37	4.47	3.63	4.14	4.30	3.62	3.22
	Hexane Lbs	710.21	53.94	42.03	50.95	61.00	58.33	69.93	71.48	58.01	66.22	68.78	58.00	51.53
	Toluene Lbs	577.04	43.83	34.15	41.40	49.56	47.40	56.82	58.07	47.13	53.80	55.89	47.12	41.87
	Trimethylbenzen (1,2,4) Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane (2,2,4) Lbs	355.10	26.97	21.02	25.48	30.50	29.17	34.97	35.74	29.01	33.11	34.39	29.00	25.76
	Xylene Lbs	221.94	16.86	13.13	15.92	19.06	18.23	21.85	22.34	18.13	20.69	21.49	18.12	16.10
	Naphthalene Lbs	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cumene Lbs	4.44	0.34	0.26	0.32	0.38	0.36	0.44	0.45	0.36	0.41	0.43	0.36	0.32
	Total HAP Lbs.	2,312.61	175.65	136.87	165.91	198.63	189.95	227.71	232.75	188.90	215.63	223.97	188.86	167.79
Totals	Benzene	399.69	30.35	23.65	28.67	34.32	32.83	39.37	40.24	32.66	37.27	38.70	32.63	28.99
	Ethylbenzene	44.78	3.38	2.64	3.20	3.83	3.69	4.43	4.53	3.68	4.19	4.33	3.64	3.24
	Hexane	710.31	53.94	42.04	50.95	61.01	58.34	69.95	71.49	58.03	66.23	68.79	58.00	51.53
	Toluene	579.59	43.91	34.24	41.50	49.70	47.67	57.20	58.50	47.51	54.11	56.07	47.20	41.97
	Trimethylbenzene(1,2,4)	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane(2,2,4)	355.10	26.97	21.02	25.48	30.50	29.17	34.97	35.74	29.01	33.11	34.39	29.00	25.76
	Xylene	228.70	17.08	13.38	16.19	19.44	18.94	22.86	23.47	19.13	21.50	21.99	18.34	16.38
	Naphthalene	2.50	0.08	0.09	0.10	0.14	0.26	0.37	0.42	0.37	0.30	0.18	0.08	0.10
	Cumene	4.54	0.34	0.27	0.32	0.39	0.37	0.45	0.46	0.38	0.43	0.44	0.37	0.33
	Total HAP Lbs	2,325.21	176.06	137.32	166.42	199.33	191.28	229.59	234.85	190.76	217.13	224.90	189.26	168.31

Rolling 12 Month Emissions & Throughput Summary

Total - HAP Tons		Total TONS	2021 / 01	2021 / 02	2021 / 03	2021 / 04	2021 / 05	2021 / 06	2021 / 07	2021 / 08	2021 / 09	2021 / 10	2021 / 11	2021 / 12
Totals	Benzene	0.200	0.015	0.012	0.014	0.017	0.016	0.020	0.020	0.016	0.019	0.019	0.016	0.014
	Ethylbenzene	0.022	0.002	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	Hexane	0.355	0.027	0.021	0.025	0.031	0.029	0.035	0.036	0.029	0.033	0.034	0.029	0.026
	Toluene	0.290	0.022	0.017	0.021	0.025	0.024	0.029	0.029	0.024	0.027	0.028	0.024	0.021
	Trimethylbenzene(1,2,4)	-	-	-	-	-	-	-	-	-	-	-	-	-
	Trimethylpentane(2,2,4)	0.178	0.013	0.011	0.013	0.015	0.015	0.017	0.018	0.015	0.017	0.017	0.014	0.013
	Xylene	0.114	0.009	0.007	0.008	0.010	0.009	0.011	0.012	0.010	0.011	0.011	0.009	0.008
	Napthalene	0.001	-	-	-	-	-	-	-	-	-	-	-	-
	Cumene	0.002	-	-	-	-	-	-	-	-	-	-	-	-
	Total HAP Tons	1.163	0.088	0.069	0.083	0.100	0.096	0.115	0.117	0.095	0.109	0.112	0.095	0.084

Rolling 12 Month Emissions & Throughput Summary

NOTES FOR FACTORS & CALCULATIONS:

- » **VOCs from controlled loading of Gasoline (truck / barge / rail)** uses the stack test mg/L in effect during loading. $[\text{ControlEfficiency}_{\text{mg/L}} * 3.7854 * 2.2046 / 1000 * \text{Thruput-Gas} / 1000]$
- » **Temperatures and windspeeds** in tank calculations are from the TANKS4 Meteorological tables, using the 30 Year U. S. Monthly Climate Normals 1961-1990, National Climatic Data Center, Asheville, NC.
- » **VOCs from uncontrolled loading of Gasoline & all truck, barge, and rail loading of Distillate, Ethanol, Other Organics** uses AP-42, Ch 5, Jun 2008, Pg 5.2-4 reduced by capture & control efficiency on Pg 5.2-6:
 $[(12.46 * \text{Vap.Mol.Wt} * \text{SaturationFactor} * \text{TVP} / \text{BulkLiquidTemp}^{\circ}\text{R}) * (\text{Thruput} / 1000) * ((100 - \text{ControlEff}\%) / 100) * (\text{CaptureEff}\% / 100)]$ where where Capture_Eff% relates to the truck fugitive rate.
 8 mg/l = 99.21%, 9 mg/l = 99.11%(being phased out), 13 mg/l = 98.72%. Derived from $((1 - (\text{mg/l} / 1014)) / 100)$, where 1014 is the density of 1 litre of saturated gasoline vapors from EPA-453/R-94-002b U.S. EPA RTP, NC Nov 1994 "Gasoline Distribution Industry (Stage I) - Background Information for Promulgated Standards", Pg A-4. **Uncontrolled barge loading** uses the factors from AP-42, Ch 5.2, Jun 2008, tables 5.2-2 and 5.2-6.
- » **Truck Fugitives from loading Gasoline** uses fixed rate determined by permit or MACT status. The formula is:
 $[\text{FugitiveRate mg/L} * 3.785 / 453.600 * \text{Thruput-Gas} / 1000]$ where the Fugitive Rate is 8 mg/l for MACT facilities and those where the trailers must pass a 1" pressure decay test, 13 mg/l for all other facilities where the trailers must pass a 3" pressure decay test. Some states and permits call for 9 mg/l (rather than 13) based on a study from Radian Corp but the API does not recognize the value.
- » **Truck Fugitives from loading Distillate, Ethanol, and Other Organics** uses AP-42, Ch 5, Jun 2008, Pg 5.2-4 reduced by the capture efficiency.
 $[(12.46 * \text{Mol.Wt} * \text{SaturationFactor} * \text{TVP} / \text{BulkLiquidTemp}^{\circ}\text{R}) * (\text{Thruput-NonGas} / 1000) * ((100 - \text{CaptureEff}\%) / 100)]$ where Capture_Eff% relates to the truck fugitive rate.
 8 mg/l = 99.21%, 9 mg/l = 99.11%(being phased out), 13 mg/l = 98.72%. Derived from $((1 - (\text{mg/l} / 1014)) / 100)$ where 1014 is the density of 1 litre of saturated gasoline vapors from EPA-453/R-94-002b U.S. EPA RTP, NC Nov 1994 "Gasoline Distribution Industry (Stage I) - Background Information for Promulgated Standards", Pg A-4.
- » **By-products of combustion from Combustors, Boilers, Heaters, and Engines.** Reference AP-42 Ch 1.3 Fuel Oil Combustion, May 2010; AP-42 Ch 1.4 Natural Gas Combustion, July 1998; 40 CFR 98 Mandatory Reporting of GHGs; Final Rule, where applicable.
- » **Tank Emissions** are calculated using AP-42 Chapter 7.1, Nov. 2006
- » **Oil / Water Separator emissions:** $[(\text{Factor in lb/Gal} * \text{Thruput-Water} / 1000)]$ Factors from AP-42, Ch 5.1, Apr 2015, Pg 5.1-16, Tbl 5.1-3, Fugitive Emission Factors for Petroleum Refineries. Oil / Water Separators.
- » **WAT tank emission factors:** The petroleum is stripped out in the OWS and the contact water is in equilibrium by the time it hits the WAT tanks. This is based on sampling where approximately 50 ppm hydrocarbon was found. (So low that there would be no emissions if left alone.)
 - >> WAT tanks if not sparged use 0 lb/1,000 gal thruput. (equilibrium)
 - >> WAT tanks if sparged and vented to the atmosphere, use 0.42 lb VOC / 1,000 gal water thruput.
 (Sparging removes the remaining hydrocarbons) $(50 \text{ ppm} = (50 \text{ lb}/1,000,000 \text{ lb water}) * (8.3454 \text{ lbs water} * 1000 \text{ gal}))$.
 - >> WAT tanks if sparged and vented to VRU use 0.021 lb VOC / 1,000 gal water (95% collection efficiency of the remaining hydrocarbons is assumed).

NOTES FOR FACTORS & CALCULATIONS - Continued

Speciation Notes:

POLLUTANT	Vapor Weight Percent			
	Ethanol *	Gasolines	Distillates	Crude
BENZENE	0.0450 %	0.9000 %	0.0200%	1.1400 %
ETHYLBENZENE	0.0050 %	0.1000 %	0.0400%	0.0750 %
HEXANE	0.0800 %	1.6000 %	0.0100%	1.2100 %
TOLUENE	0.0650 %	1.3000 %	0.2600%	0.5700 %
TRIMETHYLBENZNE(1,2,4)	0.0000 %	0.0000 %	0.0000%	0.0130 %
TRIMETHYLPENTANE(2,2,4)	0.0400 %	0.8000 %	0.0000%	0.1000 %
XYLENE	0.0250 %	0.5000 %	0.6900%	0.3300 %
NAPHTHALENE	0.0000 %	0.0000 %	0.2550%	0.0000 %
CUMENE	0.0005 %	0.0100 %	0.0100%	0.0100 %

* Ethanol assumed to be denatured with 5% gasoline.

Butane Calculations:

>>Disconnect Loss: {TruckCount} * {LossVolPerConnector} *
{ConnectorsPerEvent} * {MaterialDensity}
>>Injection Loss: {TkThroughputMeas}/1000000.0000 * {TOC_EF}
TOC_EF is 4900lb/MM Gallons
>>TOC: IF(ISERROR({DisconnectLoss}), 0, {DisconnectLoss}) + IF
(ISERROR({AdditionalEmissions}), 0, {AdditionalEmissions})

The Gasoline Benzene percentage for Louisville, KY (Algonquin, Kramers, and Cane Run) is based on headspace analysis of BLISS sample # 242215 performed by RAD Analytical Labs and reported to Benjamin Hoene March 12, 2005.

The Gasoline Naphthalene percentage for Louisville, KY (Algonquin, Kramers, and Cane Run) is based on headspace analysis of BLISS sample # 121520 performed by RAD Analytical Labs and reported to

- » **Gasoline speciation data** taken from Gasoline Distribution Industry (Stage 1) - Background Information for Proposed Standards for the MACT regulation Table C-5 (EPA-435/R-94-002a)
- » **Distillate speciation data** taken from Karin Ritter (American Petroleum Institute) memo to the Gasoline Distribution MACT Workgroup dated Feb. 8, 1995 containing speciation data submitted by various API member companies.
- » **Asphalt speciation data** - As industry accepted HAPs speciation is unavailable, MPC has chosen to reflect HAPs from Asphalt VOCs as the same as for distillates.

FTMSProcTaskListing

Office	Procedure Desc	Item Desc	Due Date	Status Name	Status	Completed DT	Sched ID	Task ID	Task Seq No	Task Instructions	Date Result	User Name	History Date	Full History Date	Iteration	History Detail ID	History Detail Sched Task ID
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	03/18/2020 13:51:55 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:51:55	1	25231225	26728754
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	03/18/2020 13:51:58 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:51:58	1	25231226	26728755
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	03/18/2020 13:52:01 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:52:01	1	25231227	26728756
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	03/18/2020 13:52:04 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:52:04	1	25231228	26728757
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	03/18/2020 13:52:08 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:52:08	1	25231230	26728758
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536471	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	06/10/2020 12:47:03 - Pass	Schafer, Troy	06/10/2020	2020-06-10 12:47:03	1	25589955	27229957
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536471	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	06/10/2020 12:47:08 - Pass	Schafer, Troy	06/10/2020	2020-06-10 12:47:08	1	25589956	27229958
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536471	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	06/10/2020 12:47:10 - Pass	Schafer, Troy	06/10/2020	2020-06-10 12:47:10	1	25589957	27229959
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536471	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	06/10/2020 12:47:14 - Pass	Schafer, Troy	06/10/2020	2020-06-10 12:47:14	1	25589958	27229960
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536471	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	06/10/2020 12:47:17 - Pass	Schafer, Troy	06/10/2020	2020-06-10 12:47:17	1	25589959	27229961
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536471	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2020	Schafer, Troy	Completed	09/11/2020	3594258	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	09/11/2020 10:36:47 - Pass	Schafer, Troy	09/11/2020	2020-09-11 10:36:47	1	25963658	27703202
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2020	Schafer, Troy	Completed	09/11/2020	3594258	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	09/11/2020 10:36:50 - Pass	Schafer, Troy	09/11/2020	2020-09-11 10:36:50	1	25963660	27703203
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2020	Schafer, Troy	Completed	09/11/2020	3594258	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	09/11/2020 10:36:53 - Pass	Schafer, Troy	09/11/2020	2020-09-11 10:36:53	1	25963662	27703204
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2020	Schafer, Troy	Completed	09/11/2020	3594258	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	09/11/2020 10:36:56 - Pass	Schafer, Troy	09/11/2020	2020-09-11 10:36:56	1	25963666	27703205
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2020	Schafer, Troy	Completed	09/11/2020	3594258	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	09/11/2020 10:36:59 - Pass	Schafer, Troy	09/11/2020	2020-09-11 10:36:59	1	25963668	27703206
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2020	Schafer, Troy	Completed	09/11/2020	3594258	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2020	Schafer, Troy	Completed	12/09/2020	3649177	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	12/09/2020 13:33:44 - Pass	Schafer, Troy	12/09/2020	2020-12-09 13:33:44	1	26332177	28170531
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2020	Schafer, Troy	Completed	12/09/2020	3649177	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	12/09/2020 13:33:47 - Pass	Schafer, Troy	12/09/2020	2020-12-09 13:33:47	1	26332178	28170532
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2020	Schafer, Troy	Completed	12/09/2020	3649177	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	12/09/2020 13:33:50 - Pass	Schafer, Troy	12/09/2020	2020-12-09 13:33:50	1	26332179	28170533
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2020	Schafer, Troy	Completed	12/09/2020	3649177	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	12/09/2020 13:33:53 - Pass	Schafer, Troy	12/09/2020	2020-12-09 13:33:53	1	26332180	28170534
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2020	Schafer, Troy	Completed	12/09/2020	3649177	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	12/09/2020 13:33:56 - Pass	Schafer, Troy	12/09/2020	2020-12-09 13:33:56	1	26332182	28170535
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2020	Schafer, Troy	Completed	12/09/2020	3649177	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2021	Keller, William	Completed	03/09/2021	3705768	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	03/09/2021 13:29:12 - Pass	Keller, William	03/09/2021	2021-03-09 13:29:12	1	26681944	28630482
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2021	Keller, William	Completed	03/09/2021	3705768	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	03/09/2021 13:29:16 - Pass	Keller, William	03/09/2021	2021-03-09 13:29:16	1	26681945	28630483
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2021	Keller, William	Completed	03/09/2021	3705768	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	03/09/2021 13:29:18 - Pass	Keller, William	03/09/2021	2021-03-09 13:29:18	1	26681946	28630484
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2021	Keller, William	Completed	03/09/2021	3705768	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	03/09/2021 13:29:21 - Pass	Keller, William	03/09/2021	2021-03-09 13:29:21	1	26681947	28630485
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2021	Keller, William	Completed	03/09/2021	3705768	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	03/09/2021 13:29:28 - Pass	Keller, William	03/09/2021	2021-03-09 13:29:28	1	26681948	28630486
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	03/31/2021	Keller, William	Completed	03/09/2021	3705768	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2021	Schafer, Troy	Completed	06/16/2021	3758603	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	06/16/2021 10:24:18 - Pass	Schafer, Troy	06/16/2021	2021-06-16 10:24:18	1	27062794	29089730
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2021	Schafer, Troy	Completed	06/16/2021	3758603	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	06/16/2021 10:24:21 - Pass	Schafer, Troy	06/16/2021	2021-06-16 10:24:21	1	27062795	29089731
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2021	Schafer, Troy	Completed	06/16/2021	3758603	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	06/16/2021 10:24:25 - Pass	Schafer, Troy	06/16/2021	2021-06-16 10:24:25	1	27062796	29089732
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2021	Schafer, Troy	Completed	06/16/2021	3758603	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	06/16/2021 10:24:28 - Pass	Schafer, Troy	06/16/2021	2021-06-16 10:24:28	1	27062797	29089733
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2021	Schafer, Troy	Completed	06/16/2021	3758603	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	06/16/2021 10:24:31 - Pass	Schafer, Troy	06/16/2021	2021-06-16 10:24:31	1	27062798	29089734
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	06/30/2021	Schafer, Troy	Completed	06/16/2021	3758603	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2021	Schafer, Troy	Completed	09/10/2021	3811371	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	09/10/2021 14:28:57 - Pass	Schafer, Troy	09/10/2021	2021-09-10 14:28:57	1	27388634	29536064
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2021	Schafer, Troy	Completed	09/10/2021	3811371	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	09/10/2021 14:28:59 - Pass	Schafer, Troy	09/10/2021	2021-09-10 14:28:59	1	27388635	29536065
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2021	Schafer, Troy	Completed	09/10/2021	3811371	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	09/10/2021 14:29:03 - Pass	Schafer, Troy	09/10/2021	2021-09-10 14:29:03	1	27388636	29536066
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2021	Schafer, Troy	Completed	09/10/2021	3811371	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	09/10/2021 14:29:06 - Pass	Schafer, Troy	09/10/2021	2021-09-10 14:29:06	1	27388637	29536067
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2021	Schafer, Troy	Completed	09/10/2021	3811371	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	09/10/2021 14:29:09 - Pass	Schafer, Troy	09/10/2021	2021-09-10 14:29:09	1	27388638	29536068
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	09/30/2021	Schafer, Troy	Completed	09/10/2021	3811371	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2021	Schafer, Troy	Completed	12/10/2021	3863409	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	12/10/2021 12:21:42 - Pass	Schafer, Troy	12/10/2021	2021-12-10 12:21:42	1	27760016	29985971
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2021	Schafer, Troy	Completed	12/10/2021	3863409	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	12/10/2021 12:21:45 - Pass	Schafer, Troy	12/10/2021	2021-12-10 12:21:45	1	27760017	29985972
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2021	Schafer, Troy	Completed	12/10/2021	3863409	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	12/10/2021 12:21:48 - Pass	Schafer, Troy	12/10/2021	2021-12-10 12:21:48	1	27760018	29985973
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2021	Schafer, Troy	Completed	12/10/2021	3863409	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	12/10/2021 12:21:51 - Pass	Schafer, Troy	12/10/2021	2021-12-10 12:21:51	1	27760019	29985974
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2021	Schafer, Troy	Completed	12/10/2021	3863409	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	12/10/2021 12:21:54 - Pass	Schafer, Troy	12/10/2021	2021-12-10 12:21:54	1	27760020	29985975
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-1	12/31/2021	Schafer, Troy	Completed	12/10/2021	3863409	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475871	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	03/23/2020 10:41:21 - Pass	Schafer, Troy	03/23/2020	2020-03-23 10:41:21	1	25248334	26728761
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475871	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	03/23/2020 10:41:27 - Pass	Schafer, Troy	03/23/2020	2020-03-23 10:41:27	1	25248336	26728762
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475871	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	03/23/2020 10:41:30 - Pass	Schafer, Troy	03/23/2020	2020-03-23 10:41:30	1	25248337	26728763
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475871	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	03/23/2020 10:41:33 - Pass	Schafer, Troy	03/23/2020	2020-03-23 10:41:33	1	25248339	26728764
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475871	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	03/23/2020 10:41:36 - Pass	Schafer, Troy	03/23/2020	2020-03-23 10:41:36	1	25248340	26728765
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475871	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536472	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	06/10/2020 14:08:17 - Pass	Schafer, Troy	06/10/2020	2020-06-10 14:08:17	1	25591154	27229964
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536472	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	06/10/2020 14:08:25 - Pass	Schafer, Troy	06/10/2020	2020-06-10 14:08:25	1	25591155	27229965
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536472	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	06/10/2020 14:08:30 - Out of Service	Schafer, Troy	06/10/2020	2020-06-10 14:08:30	1	25591157	27229966
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536472	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	06/10/2020 14:08:39 - Out of service	Schafer, Troy	06/10/2020	2020-06-10 14:08:39	1	25591161	27229967
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536472	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	06/10/2020 14:08:47 - Out of Service	Schafer, Troy	06/10/2020	2020-06-10 14:08:47	1	25591163	27229968
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536472	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594259	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	09/18/2020 10:52:50 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:52:50	1	25994378	27703209
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594259	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	09/18/2020 10:52:53 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:52:53	1	25994379	27703210
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594259	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	09/18/2020 10:52:55 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:52:55	1	25994380	27703211
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594259	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	09/18/2020 10:52:58 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:52:58	1	25994381	27703212
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594259	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	09/18/2020 10:53:01 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:53:01	1	25994382	27703213
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594259	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649178	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	12/16/2020 13:10:42 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:10:42	1	26368972	28170538
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649178	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	12/16/2020 13:10:44 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:10:44	1	26368975	28170539
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649178	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	12/16/2020 13:10:47 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:10:47	1	26368977	28170540
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649178	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	12/16/2020 13:10:51 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:10:51	1	26368979	28170541
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649178	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	12/16/2020 13:10:54 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:10:54	1	26368981	28170542
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649178	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2021	Keller, William	Completed	03/09/2021	3705769	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	03/09/2021 13:41:25 - Pass	Keller, William	03/09/2021	2021-03-09 13:41:25	1	26682357	28630489
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2021	Keller, William	Completed	03/09/2021	3705769	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	03/09/2021 13:41:30 - Pass	Keller, William	03/09/2021	2021-03-09 13:41:30	1	26682358	28630490
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2021	Keller, William	Completed	03/09/2021	3705769	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	03/09/2021 13:41:34 - Pass	Keller, William	03/09/2021	2021-03-09 13:41:34	1	26682362	28630491
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2021	Keller, William	Completed	03/09/2021	3705769	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	03/09/2021 13:41:36 - Pass	Keller, William	03/09/2021	2021-03-09 13:41:36	1	26682367	28630492
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2021	Keller, William	Completed	03/09/2021	3705769	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	03/09/2021 13:41:40 - Pass	Keller, William	03/09/2021	2021-03-09 13:41:40	1	26682373	28630493
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	03/31/2021	Keller, William	Completed	03/09/2021	3705769	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758604	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	06/22/2021 10:43:25 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:43:25	1	27089107	29089737
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758604	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	06/22/2021 10:43:28 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:43:28	1	27089111	29089738
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758604	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	06/22/2021 10:43:31 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:43:31	1	27089113	29089739
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758604	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	06/22/2021 10:43:34 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:43:34	1	27089115	29089740
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758604	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	06/22/2021 10:43:40 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:43:40	1	27089120	29089741
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758604	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2021	Keller, William	Completed	09/22/2021	3811372	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	09/22/2021 09:00:55 - Pass	Keller, William	09/22/2021	2021-09-22 09:00:55	1	27432737	29536071
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2021	Keller, William	Completed	09/22/2021	3811372	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	09/22/2021 09:00:59 - Pass	Keller, William	09/22/2021	2021-09-22 09:00:59	1	27432739	29536072
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2021	Keller, William	Completed	09/22/2021	3811372	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	09/22/2021 09:01:02 - Pass	Keller, William	09/22/2021	2021-09-22 09:01:02	1	27432740	29536073
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2021	Keller, William	Completed	09/22/2021	3811372	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	09/22/2021 09:01:04 - Pass	Keller, William	09/22/2021	2021-09-22 09:01:04	1	27432741	29536074
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2021	Keller, William	Completed	09/22/2021	3811372	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	09/22/2021 09:01:08 - Pass	Keller, William	09/22/2021	2021-09-22 09:01:08	1	27432743	29536075
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	09/30/2021	Keller, William	Completed	09/22/2021	3811372	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2021	Schafer, Troy	Completed	12/29/2021	3863410	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	12/29/2021 13:21:05 - Pass	Schafer, Troy	12/29/2021	2021-12-29 13:21:05	1	27831165	29985978
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2021	Schafer, Troy	Completed	12/29/2021	3863410	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	12/29/2021 13:21:08 - Pass	Schafer, Troy	12/29/2021	2021-12-29 13:21:08	1	27831166	29985979
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2021	Schafer, Troy	Completed	12/29/2021	3863410	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	12/29/2021 13:21:11 - Pass	Schafer, Troy	12/29/2021	2021-12-29 13:21:11	1	27831167	29985980
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2021	Schafer, Troy	Completed	12/29/2021	3863410	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	12/29/2021 13:21:13 - Pass	Schafer, Troy	12/29/2021	2021-12-29 13:21:13	1	27831168	29985981
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2021	Schafer, Troy	Completed	12/29/2021	3863410	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	12/29/2021 13:21:15 - Pass	Schafer, Troy	12/29/2021	2021-12-29 13:21:15	1	27831169	29985982
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-3	12/31/2021	Schafer, Troy	Completed	12/29/2021	3863410	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475872	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	03/23/2020 10:50:48 - Pass	Schafer, Troy	03/23/2020	2020-03-23 10:50:48	1	25248640	26728768
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475872	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	03/23/2020 10:50:51 - Pass	Schafer, Troy	03/23/2020	2020-03-23 10:50:51	1	25248641	26728769
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2020	Schafer, Troy	Completed	03/23/2020	3475872	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	03/23/2020 10:50:45 - OK	Schafer, Troy	03/23/2020	2020-03-23 10:50:45	1	25248637	26728770
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	03/18/2020 13:51:58 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:51:58	1	25231226	26728755
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	03/18/2020 13:52:01 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:52:01	1	25231227	26728756
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker.	03/18/2020 13:52:04 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:52:04	1	25231228	26728757

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536473	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	06/10/2020 14:11:25 - Pass	Schafer, Troy	06/10/2020	2020-06-10 14:11:25	1	25591247	27229971
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536473	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	06/10/2020 14:11:27 - Pass	Schafer, Troy	06/10/2020	2020-06-10 14:11:27	1	25591249	27229972
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536473	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	06/10/2020 14:11:22 - OK	Schafer, Troy	06/10/2020	2020-06-10 14:11:22	1	25591241	27229973
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536473	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	06/10/2020 14:11:32 - Pass	Schafer, Troy	06/10/2020	2020-06-10 14:11:32	1	25591255	27229974
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536473	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	06/10/2020 14:11:34 - Pass	Schafer, Troy	06/10/2020	2020-06-10 14:11:34	1	25591258	27229975
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2020	Schafer, Troy	Completed	06/10/2020	3536473	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594260	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	09/18/2020 10:56:14 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:56:14	1	25994464	27703216
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594260	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	09/18/2020 10:56:17 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:56:17	1	25994465	27703217
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594260	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	09/18/2020 10:56:11 - OK	Schafer, Troy	09/18/2020	2020-09-18 10:56:11	1	25994462	27703218
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594260	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	09/18/2020 10:56:23 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:56:23	1	25994467	27703219
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594260	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	09/18/2020 10:56:26 - Pass	Schafer, Troy	09/18/2020	2020-09-18 10:56:26	1	25994469	27703220
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2020	Schafer, Troy	Completed	09/18/2020	3594260	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649179	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	12/16/2020 13:16:10 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:16:10	1	26369051	28170545
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649179	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	12/16/2020 13:16:52 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:16:52	1	26369052	28170546
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649179	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	12/16/2020 13:16:07 - OK	Schafer, Troy	12/16/2020	2020-12-16 13:16:07	1	26369050	28170547
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649179	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	12/16/2020 13:16:58 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:16:58	1	26369053	28170548
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649179	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	12/16/2020 13:17:01 - Pass	Schafer, Troy	12/16/2020	2020-12-16 13:17:01	1	26369054	28170549
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2020	Schafer, Troy	Completed	12/16/2020	3649179	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2021	Schafer, Troy	Completed	03/02/2021	3705770	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	03/02/2021 10:50:24 - Out of Service	Schafer, Troy	03/02/2021	2021-03-02 10:50:24	1	26645312	28630496
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2021	Schafer, Troy	Completed	03/02/2021	3705770	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	03/02/2021 10:50:37 - Out of service	Schafer, Troy	03/02/2021	2021-03-02 10:50:37	1	26645314	28630497
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2021	Schafer, Troy	Completed	03/02/2021	3705770	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	03/02/2021 10:50:20 - OK	Schafer, Troy	03/02/2021	2021-03-02 10:50:20	1	26645311	28630498
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2021	Schafer, Troy	Completed	03/02/2021	3705770	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	03/02/2021 10:50:53 - Out of service	Schafer, Troy	03/02/2021	2021-03-02 10:50:53	1	26645327	28630499
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2021	Schafer, Troy	Completed	03/02/2021	3705770	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	03/02/2021 10:50:59 - Out of Service	Schafer, Troy	03/02/2021	2021-03-02 10:50:59	1	26645328	28630500
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	03/31/2020	Schafer, Troy	Completed	03/18/2020	3475870	97422	2	Inspect the visible portions of the floating roof. It should be	03/18/2020 13:51:58 - Pass	Schafer, Troy	03/18/2020	2020-03-18 13:51:58	1	25231226	26728755

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758605	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	06/22/2021 10:46:53 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:46:53	1	27089254	29089744
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758605	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	06/22/2021 10:46:56 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:46:56	1	27089256	29089745
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758605	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	06/22/2021 10:46:49 - OK	Schafer, Troy	06/22/2021	2021-06-22 10:46:49	1	27089224	29089746
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758605	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	06/22/2021 10:47:02 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:47:02	1	27089261	29089747
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758605	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	06/22/2021 10:47:05 - Pass	Schafer, Troy	06/22/2021	2021-06-22 10:47:05	1	27089262	29089748
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	06/30/2021	Schafer, Troy	Completed	06/22/2021	3758605	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2021	Keller, William	Completed	09/22/2021	3811373	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	09/22/2021 09:04:44 - Pass	Keller, William	09/22/2021	2021-09-22 09:04:44	1	27432826	29536078
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2021	Keller, William	Completed	09/22/2021	3811373	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	09/22/2021 09:04:47 - Pass	Keller, William	09/22/2021	2021-09-22 09:04:47	1	27432828	29536079
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2021	Keller, William	Completed	09/22/2021	3811373	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	09/22/2021 09:04:39 - OK	Keller, William	09/22/2021	2021-09-22 09:04:39	1	27432823	29536080
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2021	Keller, William	Completed	09/22/2021	3811373	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	09/22/2021 09:04:53 - Pass	Keller, William	09/22/2021	2021-09-22 09:04:53	1	27432833	29536081
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2021	Keller, William	Completed	09/22/2021	3811373	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	09/22/2021 09:05:00 - Pass	Keller, William	09/22/2021	2021-09-22 09:05:00	1	27432837	29536082
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	09/30/2021	Keller, William	Completed	09/22/2021	3811373	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							

Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2021	Schafer, Troy	Completed	12/17/2021	3863411	97421	1	Check hatch and hinge condition for proper operation, cracked or broke knuckles, and loose or missing pins.	12/17/2021 11:35:56 - Pass	Schafer, Troy	12/17/2021	2021-12-17 11:35:56	1	27791740	29985985
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2021	Schafer, Troy	Completed	12/17/2021	3863411	97422	2	Inspect the visible portions of the floating roof. It should be free of liquid product and roof should appear level and free of defects.	12/17/2021 11:35:59 - Pass	Schafer, Troy	12/17/2021	2021-12-17 11:35:59	1	27791741	29985986
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2021	Schafer, Troy	Completed	12/17/2021	3863411	97423	3	Inspect the IFR seal. The seal fabric should be fully attached, and free of gaps, tears, and openings to the product below	12/17/2021 11:35:52 - OK	Schafer, Troy	12/17/2021	2021-12-17 11:35:52	1	27791739	29985987
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2021	Schafer, Troy	Completed	12/17/2021	3863411	97424	4	Inspect the fabric covers and fittings on/around column supports, ladder, wells, hatch covers, roof manway, and vacuum breaker. Covers and fabrics should not be displaced, missing or torn.	12/17/2021 11:36:06 - Pass	Schafer, Troy	12/17/2021	2021-12-17 11:36:06	1	27791742	29985988
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2021	Schafer, Troy	Completed	12/17/2021	3863411	97425	5	Inspect the IFR legs. The legs should be in the appropriate position (high setting for maintenance, low setting for normal operation).	12/17/2021 11:36:09 - Pass	Schafer, Troy	12/17/2021	2021-12-17 11:36:09	1	27791743	29985989
Lansing, MI	Tank Inspection - Internal Floating Roof Visual Inspection	Tank 25-4	12/31/2021	Schafer, Troy	Completed	12/17/2021	3863411	97426	6	Add comment and contact Terminal Manager for any "Not OK" answers.							



MARATHON PETROLEUM COMPANY LLC
Terminal, Transport and Rail (TT&R)

TTR - Tank Roof, Deck, Seal Information and Comprehensive Inspection Form
TTR-HES-00860-FRM

Terminal Name: Lansing, MI LP Terminal **Tank Number:** 25-1

Tank Type (*IFR/EFR/Geodome): IFR **Date:** 7/27/2018
*Internal floating roof (IFR)/external floating roof (EFR)

Terminal Mgr. Name: Tyler Haan **Project Mgr. Name:** Tim Franks

For in-service seal inspections, please complete Section A, B, C, E & F only. Please be as descriptive as possible when making comments or describing the condition or location (clockwise from stairs) of the seals/fittings. Avoid phrases such as: “The seal needs replaced”; or “The pan is in need of repair”. For 653 inspections, new floating roof installations or new tank construction, please complete all applicable items on this form. Marathon Petroleum Company (MPC) TT&M commonly used fittings are in bold. Fittings marked with an asterisk (*) are considered compliant with NSPS Subpart Kb. If a fitting does not clearly fit into one of the categories below, please refer to the diagrams in Appendix A or contact the Terminal Environmental Professional.

Section A - Roof and Fitting Inspection

Roof Condition: Good Liquid on Roof Sunk Other

Roof Hatches OK? Yes No N/A

Fixed Roof Column Support OK? Yes No N/A

Automatic Gauge OK? Yes No N/A

Ladder Well OK? Yes No N/A

Monitoring and Inspection (Environmental)-
Air 11 yrs
TTR-HES-00860-FRM
Obsolete when printed

Originator: TTR Environ. Compliance
Custodian – PSM/PSS Inspection File/R.E.D.

Rev. 2: 12/14/2017
This copy was printed on
7/26/2018 at 2:43:25 PM

Roof Legs OK? Yes No N/A

Sample Well OK? Yes No N/A

Vacuum Breaker OK? Yes No N/A

Emergency Roof Drain OK? Yes No N/A

Rim Space Vents OK? Yes No N/A

Gaskets OK (must close off liquid from atmosphere)? Yes No N/A

Slotted Membrane (less than 10% open area) OK? Yes No N/A

Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid that is to be in closed position at all times except when in actual use for tank gauging or sampling? Yes No N/A

Section B - Primary Seal Inspection

*** For All EFRT's the Attached Seal Gap Measurement Form Must Also Be Completed**

General Condition: Good Average Poor

Holes, Tears, or Other Defects? Yes No

Other Openings or Visible Gaps in Seal? Yes No

Section C - Secondary Seal Inspection

*** For All EFRT's the Attached Seal Gap Measurement Form Must Also Be Completed**

General Condition: Good Average Poor

Holes, Tears, or Other Defects? Yes No

Other Openings or Visible Gaps in Seal? Yes No

Section D - Tanks, Roof, Deck Fitting & Seal Information

Tank Info.	Quantity	Notes/Comments
Shell Height (ft)	40.25	
Shell Diameter (ft)	67	
Roof Height (ft) - slope	40.6	
Breather Vent Vacuum Setting (psig)	N/A	
Breather Vent Pressure Setting (psig)	N/A	

IFR Deck Type

Deck Type	Present	Notes/Comments
Welded (Steel)	X	
Bolted (Aluminum)		

If deck is bolted, complete the Deck Seam Type below:

Deck Seam Type	Present	Notes/Comments
Sheet: 5 Ft. Wide		
Sheet: 6 Ft. Wide		
Sheet: 7 Ft. Wide		
Panel: 5 x 7.5 Ft.		
Panel: 5 x 12 Ft.		

Type of Fixed Roof

Fixed Roof Type	Present	Notes/Comments
Self Supporting		
Column Supported	X	

Roof and Deck Fittings Information

Fitting Type / Cover Type	Quantity	Notes/Comments
Access Hatch Bolted Cover, Gasketed*	2	30" diameter
Access Hatch Unbolted Cover, Gasketed	N/A	
Access Hatch Unbolted Cover, Ungasketed	N/A	
Access Hatch with Vacuum Breaker Unbolted Cover, Gasketed*	N/A	
Automatic Gauge Float Well Bolted Cover, Gasketed*	N/A	
Automatic Gauge Float Well Unbolted Cover, Gasketed*	N/A	
Automatic Gauge Float Well Unbolted Cover, Ungasketed	N/A	
Fixed Roof Column Well Built-Up Col.-Sliding Cover, Gask.*	6	24" diameter each
Fixed Roof Column Well Built-Up Col.-Sliding Cover, Ungask.	N/A	
Fixed Roof Column Well Pipe Col.-Flex. Fabric Sleeve Seal	N/A	
Fixed Roof Column Well Pipe Col.-Slidin Cover, Gask.*	N/A	
Fixed Roof Column Well Pipe Col.-Sliding Cover, Ungask.	N/A	
Ladder Well Sliding Cover, Gasketed*	1	14" x 33" w/vaporless sleeve
Ladder Well Sliding Cover, Ungasketed	N/A	
Sample Pipe or Well Slotted Pipe-Sliding Cover, Gask.*	N/A	
Sample Pipe or Well Slotted Pipe-Sliding Cover, Ungask.	N/A	
Sample Pipe or Well Slit Fabric Seal 10% Open* (tanks will typically contain 2 of these for sample/gauge & 1 for temp. probe)	2	(1) - 6" diameter (temp probe) (1) - 8" diameter (Enraf/Auto Gauge)
Stub Drain*	2	4" diameter (plugged)
Vacuum Breaker Spring Bolted Plate (MPC Defined)*	N/A	
Vacuum Breaker Weighted Mech. Actuation, Gask,*	2	10" diameter
Vacuum Breaker Weighted Mech. Actuation, Ungask.	N/A	

Fitting Type / Cover Type	Quantity	Notes/Comments
Gauge-Hatch/Sample Well Weighted Mech. Actuation, Gask.*	N/A	
Gauge-Hatch/Sample Well Weighted Mech. Actuation, Ungask.	N/A	
Roof Drain Open	N/A	
Roof Drain 90% Closed*	N/A	
Floating Roof Pan Leg / Hanger Well Adjustable, Ungasketed*	N/A	
Floating Roof Pan Leg or Hanger Well Fixed*	N/A	
Floating Roof Pan Leg Adjustable, Pontoon Area, Ungasketed*	N/A	
Floating Roof Pan Leg Adjustable, Pontoon Area, Gasketed*	N/A	
Floating Roof Pan Leg Adjustable, Pontoon Area, Sock*	N/A	
Floating Roof Pan Leg Adjustable, Center Area, Ungasketed*	N/A	
Floating Roof Pan Leg Adjustable, Center Area, Gasketed*	18	2 1/2" diameter legs w/ 3" diameter leg sleeves
Floating Roof Pan Leg Adjustable, Center Area, Sock*	N/A	
Floating Roof Pan Leg Adjustable, Double-Deck Roofs*	N/A	
Floating Roof Pan Leg Fixed*	N/A	
RimVent Weighted Mech. Actuation, Gask.*	N/A	
Rim Vent Weighted Mech. Actuation, Ungask	N/A	
Unslotted Guide Pole / Pole Well Ungasketed Sliding Cover	N/A	
Unslotted Guide Pole / Pole Well Gasketed Sliding Cover*	N/A	
Unslotted Guide-Pole Well Ungasketed Sliding Cover, w. Sleeve	N/A	
Unslotted Guide-Pole Well Gasketed Sliding Cover, w. Sleeve*	N/A	
Unslotted Guide-Pole Well Gasketed sliding Cover, w. Wiper*	N/A	
Slotted Guide-Pole/Sample Well Ungask. Sliding Cover, w/o Float	N/A	
Slotted Guide-Pole/Sample Well Ungask. Sliding Cover, w. Float	N/A	

Fitting Type / Cover Type	Quantity	Notes/Comments
Slotted Guide-Pole/Sample Well Gask. Sliding Cover, w/o Float	N/A	
Slotted Guide-Pole/Sample Well Gask. Sliding Cover, w. Float	N/A	
Slotted Guide-Pole/Sample Well Gask. Sliding Cover, w. Pole Wiper	N/A	
Slotted Guide-Pole/Sample Well Gask. Sliding Cover, w. Pole Sleeve	N/A	
Slotted Guide-Pole/Sample Well Gask. Sliding Cover, w. Float, Wiper*	N/A	
Slotted Guide-Pole/Sample Well Gask Sliding Cover, w. Float ,Sleeve, Wiper*	N/A	
Slotted Guide-Pole/Sample Well Gask. Sliding Cover, w. Pole Sleeve, Wiper*	1	20" diameter well with 8" diameter gauge pole
Combo Ladder Well / Slotted Guide Pole-Sample Well Vaporless Sleeve W/O Float	N/A	
Combo Ladder Well / Slotted Guide Pole-Sample Well W/Float & Vaporless Sleeve*	N/A	

Primary Seal Information

Primary Seal Type	Present	Notes/Comments
Mechanical Shoe*	X	
Liquid-mounted, ie. foam log		
Vapor-mounted, ie. foam log		

Mechanical Shoe - Additional Information

Vertical length of shoe 24 (inches)

Vertical length of shoe above liquid surface 21 (inches)

Manufacturer: Matrix

Make or Model: Flexaspan

Secondary Seal Information (if applicable)

Secondary Seal Type	Present	Notes/Comments
Rim Mounted Wiper		
Shoe Mounted Wiper		
None		

Secondary Seal - Additional Information

Manufacturer: _____

Make or Model: _____

Secondary seal material: _____

Section E - Summary Comments/Findings/Recommendations

NEW Primary melt. THE SEAL INSTALLED.
 NO ISSUES FOUND DURING INSPECTION

Inspector's Name: EMIL HOEFFT Inspection Date: 7/27/18
 Signature: [Signature] Company Name: TCL

7 ✓ BY: E. HOEFFT
 7/27/18

TTR - AST Comprehensive Seal and Roof Inspection Form

Terminal Name: Lansing Date: 6/30/2020
 Tank Number: Tk- 25-3 Inspector/Company: TCI / Excel
 Tank Type: AST with IFR Terminal Manager: T. HAAN
 Product/Level: Tank Drained Project Manager: D. PASQUALI
 Inspection Type: 20 year Compliance Internal/External Insp.

Internal Floating Roof Inspection

Roof Type: Bulkheaded Pan

Roof Support Type (check): Legs Number: 21 Cable Suspended Number: _____

Criteria	Yes	No	NA	Notes/Comments
Any portions of the topside IFR submerged?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Tank out of service
Any liquid on the top of the IFR?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	No evidence of staining noted. No liquid noted when hi-leg pinning
Any covers, lids, or seals that are not closed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any gaps in the closure of deck fittings covers? (A gap is defined as a separation of 1/8" between a gasket, cover, or lid and the surface it is intended to seal.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any wells or openings, other than for vents, that do not project below the liquid surface? (For steel full-contact roofs, answer "No" and comment "Full contact roof".)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any covers or lids that are not gasketed? (Does not include deck legs, drains, or IFR sample wells.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any access hatches/gauge float wells not bolted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any drains and/or sample wells that do not have a seal that covers at least 90% of the opening? (Including temperature probe seals)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ENRAF funnel @ IFR not gasketed per operations

ENRAF floats need to float on product, thus no seal can be mounted to the floating roof. Instead, a seal sets on the gauge well funnel that rides on the ENRAF wire to complete the seal of 100% of the opening.

Primary Seal Inspection

Primary Seal Type: Mechanical Shoe (Post Installation)

Criteria	Yes	No	NA	Notes/Comments
Is the primary seal free of holes, tears, and defects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New seal installed this outage
Is the primary seal continuous?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Any other issues, visible gaps, or openings in the primary seal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

TTR - AST Comprehensive Seal and Roof Inspection Form

Primary Seal - Additional Information

Make or Model: Mechanical Shoe

Manufacturer: HMT

Secondary Seal Inspection

Secondary Seal Type: N/A No secondary seal installed

If no secondary seal, write N/A

Criteria	Yes	No	NA	Notes/Comments
If installed, is the secondary seal free of holes, tears, and defects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If installed, is the secondary seal continuous?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Any other issues, visible gaps, or openings in the secondary seal?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Secondary Seal - Additional Information

Make or Model: _____

Manufacturer: _____

Secondary Seal Material: _____

Guidepole Inspection

Guidepole Type: Slotted

Guidepoles are considered slotted if there are slots or holes through the wall of the pole within the operating range of the liquid level.

Criteria	Yes	No	NA	Notes/Comments
Is the opening through the floating roof equipped with a gasket between the sliding cover and the rim?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vaporless Sleeve installed new this outage.
Is the opening through the floating roof equipped with a wiper gasket between the sliding cover and the pole?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New gaskets installed this outage
Unslotted Guidepole	Yes	No	NA	Notes/Comments
Is the unslotted guidepole equipped with a gasketed cover or a cap?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

TTR - AST Comprehensive Seal and Roof Inspection Form

Slotted Guidepole with Float, No Sleeve	Yes	No	NA	Notes/Comments
Is the float properly inside the guidepole?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is there a wiper gasket/seal around the float rim?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the wiper around the rim of the float at or above the height of the pole wiper? (Does not apply if guidepole is equipped with a pole sleeve with the pole float)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Slotted Guidepole with Sleeve, No Float	Yes	No	NA	Notes/Comments
Is the sleeve attached to the cover or rim of the guidepole well (the opening through the floating roof)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vaporless sleeve installed new this outage
Does the sleeve extend down into the liquid, around the guidepole?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Slotted Guidepole No Float/Sleeve If the configuration is none of the above, is it one of the approved alternatives?	Yes	No	NA	Notes/Comments
Does the slotted guidepole have a sleeve inside the pole, extending from the lowest operating level up to the top of the pole - and with a cover on the top of the pole?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A slotted guidepole is installed with a vaporless sleeve barrier within the ladder well. This provides the seal for emissions control at the ladder well and no pole sleeve is needed.
Does the slotted guidepole have a flexible enclosure around the outside of the pole, extending from the floating roof to the top of the pole - and with a gasketed cover or cap on top of the pole?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	A slotted guidepole is installed with a vaporless sleeve barrier within the ladder well. This provides the seal for emissions control at the ladder well and no pole sleeve is needed.

Miscellaneous Inspection Items

Column Seal with Sliding Deck Cover	Yes	No	NA	Notes/Comments
Is the opening in the sliding deck equipped with a wiper gasket between the sliding deck cover and the column?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installed new this outage
Is the opening through the floating roof equipped with a gasket between the sliding cover and the roof deck?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installed new this outage

Column Seal with Flexible Fabric Seal	Yes	No	NA	Notes/Comments
Is the flexible fabric in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installed new this outage
Does the seal extend from the rim of the opening to the outside of the column?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

TTR - AST Comprehensive Seal and Roof Inspection Form

Ladder Seal	Yes	No	NA	Notes/Comments
Is the opening through the floating roof equipped with a gasket between the sliding cover and the roof deck?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vaporless sleeve installed new this outage
Is the opening in the sliding deck equipped with a wiper gasket between the sliding deck cover and the ladder?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Installed new this outage
Any other issues, visible gaps, or openings in ladder seals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Summary Comments, Findings, and Recommendations

The primary seal (no secondary seal installed) was replaced new this outage. All component parts were properly assembled and installed per detailed drawing.

CRA

Inspector's Name: Chuck Sheeley
 Signature: CR Sheeley
 API-653 29223

Inspection Date: 6/30/2020
 Company Name: Excel Inspection

Corrective Actions and Repairs (if any)

There were 2 weep areas from original construction one at the rim seal and the other was at a leg repad. Both areas were repaired and accepted by visual inspection and oil test.

Project Manager Name: DEAN A. PASQUALI
 Signature: Dean A Pasqali

Date: 7-2-20
 Company Name: MPC

TTR - IFR Comprehensive Emissions Inventory Form

Terminal Name: Lansing, MI Tank Number: 25-3 (Blendgrade)

Project Mgr. Name: Dean A. Pasquali Date: Jul 24, 2020

Purpose: This form is used to document design conformance with Logistics and Storage (LS) standards, compliance with environmental regulations covering internal floating roofs (IFRs), and to identify floating roof tank seal and fitting information necessary for calculating air emissions. It is required to be used during new tank construction, new floating roof installations, during API-653 Inspections, and/or whenever requested by the Terminal, Transport and Rail (TTR) Environmental Group. **The TTR - AST Comprehensive Seal and Roof Inspection Form - TTR-HES-01283-FRM shall always be completed in conjunction with this form.**

Section A - Roof Type

Instructions: Select the appropriate type of roof by placing an **X** in the Present column and add notes/comments on anything unusual about the design or current configurations that are noticed. (Example: missing wind shield)

Roof Type	Present	Notes/Comments
Fixed Roof with Internal Floating Roof	X	IFR found in good condition, new in 2001. Steel pan, no coating.
Domed Roof with Internal Floating Roof		
External Floating Roof (Do not use this form)		

Section B - Deck Type

Instructions: Select the appropriate type of internal floating roof deck by placing an **X** in the Present column and add notes/comments on anything unusual about the design or current configurations that are noticed.

Roof Type	Present	Notes/Comments
Skin-Pontoon (Vapor Space)		
Pan-Types (Full Contact)		
Bulkheaded-Pan (Full Contact)	X	July 2020 - Diesel test found 2 weeps, repaired. More noted he
Pontoon (Full Contact)		
Steel Pontoon High Deck (Vapor Space)		
Double-Deck (Full Contact)		
Other (Describe in Comments section)		

TTR - IFR Comprehensive Emissions Inventory Form

Section C - Deck Construction

Instructions: Select the appropriate type of deck construction by placing an **X** in the Present column and add notes/comments on anything unusual about the design or current configurations that are noticed.

Roof Type	Present	Notes/Comments
Welded (Steel)	X	
Bolted (Aluminum) Sheet: 5 ft. wide		
Bolted (Aluminum) Sheet: 6 ft. wide		
Bolted (Aluminum) Sheet: 7 ft. wide		
Bolted (Aluminum) Sheet: 5 x 7.5 ft. wide		
Bolted (Aluminum) Sheet: 5 x 12 ft. wide		
Other (Describe in Comments section)		

Section D - Rim Seals

Instructions: Select the appropriate type of deck construction by placing an **X** in the Present column and specific seal materials that are installed (Example: galvanized or stainless-steel shoe with urethane or PTFE vapor barrier). Add any notes/comments on anything unusual about the design or current configurations that are noticed at the end of report.

Primary Rim Seals	Present	Manufacturer and Materials
Mechanical-shoe	X	Replaced in July 2020, new fabric as well
Foam-core, Liquid-mounted		
Foam-core, Vapor-mounted		
Flexible Wiper, Vapor-mounted		
Other (Describe)		
Secondary Rim Seals	Present	Manufacturer and Materials
None	X	
Flexible-wiper, Vapor-mounted		
Shoe-mounted Secondary on Mechanical-shoe		
Other (Describe)		

TTR - IFR Comprehensive Emissions Inventory Form

Section E - Fitting/Cover Types & Counts

Instructions: The tables below each represent the different types of roof fittings that may be present on an internal floating roof. Within each table describes only those configurations that conform to L&S installation standards (Example: compliant with both GDGACT and NSPS Subpart Kb regulations). Consult with the Environmental Professional prior to putting a tank into service if any fittings are not compliant. Put the quantity of each specific type of fitting in the Quantity column. The following information explains the generic configuration of fittings and their requirements:

Automatic Gauge Float Well	Quantity	Cover Dimensions/Comments
Bolted Deck Cover with Gasket		
Sliding Cover with Gasket		
Other (Describe in Comments column)	N/A	See ENRAF

Anti-Rotation Device (Cable Suspended)	Quantity	Dimensions (OD of wire & ID of sleeve)/Comments
Cables for Suspended Roof		
Other (Describe in Comments column)	N/A	See Columns and ladder/guide pole sections.

Access to hatch (Also see automatic bleeder vents)	Quantity	Hatch Dimensions/Comments
Bolted Deck Cover with Gasket	1	24-inch manway; must be unbolted from the top
Other (Describe in Comments column)		

TTR - IFR Comprehensive Emissions Inventory Form

Enraf Funnel	Quantity	Cover Dimensions/Comments
Fixed Funnel with Closed Top Hat	1	
Funnel with Bolted Deck Cover, Gasketed, and Closed Top Hat		
Other (Describe in Comments column)		
Gauge/Sample - Funnel	Quantity	Cover Dimensions/Comments
Funnel with Slit Fabric Seal <10% Open		
Other (Describe in Comments column)	N/A	See combo ladder well / guide pole.
Ladder Well	Quantity	Cover Dimensions/Comments
Ladder Well with Sliding Cover and Gasket		
Combo Ladder Well/Slotted Guide Pole-Sample Well with Sliding Cover (Gasketed) and Float and Vaporless Sleeve		
Combo Ladder Well/Slotted Guide Pole-Sample Well with Sliding Cover (Gasketed) and a Vaporless Sleeve without Float	1	July 2020 - Ladder well replaced; new vaporless sleeve assembly installed
Other (Describe in Comments column)		
Fixed Roof Column Well	Quantity	Cover Dimensions/Comments
Built-Up Column with Sliding Cover and Gasket	6	July 2020 - All new seals installed at each of the six (6) column wells
Pipe Column with Sliding Cover and Gasket		
Pipe Column with Flexible Fabric Sleeve Seal		
Pipe column with Wiper Gasket		
Other (Describe in Comments column)		

TTR - IFR Comprehensive Emissions Inventory Form

Slotted Guide-Pole/Sample Well	Quantity	Dimensions (Pole & Well)/Comments
Gasketed Sliding Cover Float, Sleeve, and Wiper		
Gasketed Sliding Cover with Accordion Sleeve		
Gasketed Sliding Cover with Float and Wiper		
Gasketed Sliding Cover with Pole Sleeve and Wiper (Vaporless Sleeve)		
Other (Describe in Comments column)	N/A	Part of combo ladder well/guide pole assembly.

Unslotted Guide Pole/Pole Well	Quantity	Dimensions (Pole & Well)/Comments
Gasketed Sliding Cover		
Gasketed Sliding Cover with Sleeve		
Gasketed Sliding Cover with Wiper		
Other (Describe in Comments column)	N/A	Part of combo ladder well/guide pole assembly.

Automatic Bleeder Vent/Vacuum Breaker	Quantity	Cover Dimensions/Comments
Spring Bolted Plate with Gasket		
Leg-Actuated with Gasket Deck Cover	2	Low leg sleeve operated with high leg insert left on IFR deck when in low leg setting. New seal fabric installed.
Weighted Mechanical Actuation with Gasket		
Other (Describe in Comments column)		

TTR - IFR Comprehensive Emissions Inventory Form

Floating Roof Leg	Quantity	Dimensions (Cover & Sleeve Length) /Comments
Fixed		
Adjustable, Pontoon Area with Gasket		
Adjustable, Pontoon Area with Sock		
Adjustable, Pontoon Area without Gasket		
Adjustable, Center Area with Gasket		
Adjustable, Center Area with Sock		
Adjustable, Center Area without Gasketed		
Adjustable, Double-Deck Roofs		
Hanger Well with Adjustable Cover & without Gasket		
Hanger Well with Fixed Cover		
Other (Describe in Comments column)	2021	HIGH LEG INSERTS w/ PIN HOLE (2 EA) LOW LEG SLEEVES WELDED
Miscellaneous Fittings		
Miscellaneous Fittings	Quantity	Cover Dimensions/Comments
Temperature Probe Well with Slit Fabric Seal <10% Open	1	New seal fabric installed, cut into quadrants for probe entry
Stub Drain with Float	N/A	
Stub Drain without Float	N/A	
Overflow Drain with Screened Cover	N/A	
Overflow Drain with Float	N/A	
Overflow Drain without Float or Screen Cover	N/A	
Rim Space Vent	N/A	
Other (Describe in Comments column)	N/A	
Other (Describe in Comments column)	N/A	

TTR - IFR Comprehensive Emissions Inventory Form

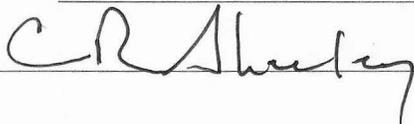
Section F - Summary Comments/Findings/Recommendations

Tank 25-3 had an API 653 inspection and recommended repairs completed in July 2020. IFR repairs are noted throughout this report and listed below.

- New primary shoe seal w/ new seal fabric installed
- New ladder well and vaporless sleeve assembly/seals
- New column well seals, temp probe seal fabric (crosscut), and bleeder vent gaskets installed.
- ENRAF nozzle left open
- Diesel test completed on the roof and found two (x2) weeps, these were repaired.

Inspector's Name: CHUCK SHEELEY

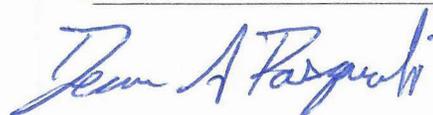
Company Name: EXCEL

Signature: 

Inspection Date: 7/28/2020

Project Engineer Name: DEAN A PASQUALI

OIS Update Date: _____



TTR - IFR Comprehensive Emissions Inventory Form

Rev. #	Revision Data	Change Description	Owner Title	Approver Title
1	08/15/2018	New form, replaces TTR-HES-00860-FRM	TTR HESS Professional	TTR HESS Environmental Supervisor

Terminals - AST Seal and Roof Inspection Form

Terminal Name: Lansing, MI Date: Mar 6, 2021
 Tank Number: 25-4 Inspector/Company: Barry Tubbs / CATSI
 Tank Type: Covered Floater / Steel Bulkheaded Pan Terminal Manager: Tyler Haan
 Product/Level: Empty Project Manager: Dean A. Pasquali
 Inspection Type: Out of Service Seal Inspection (New Primary Seal Installed)

Internal Floating Roof Inspection

Roof Type: Steel Bulk-headed Pan / Tank OOS at time of inspection

Roof Support Type (check): Legs Number: _____ Cable Suspended Number: _____

Criteria	Yes	No	NA	Notes/Comments
Any portions of the topside IFR submerged?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any liquid on the top of the IFR?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any covers, lids, or seals that are not closed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manway bolted shut during recommissioning.
Any gaps in the closure of deck fittings covers? (A gap is defined as a separation of 1/8" between a gasket, cover, or lid and the surface it is intended to seal.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any wells or openings, other than for vents, that do not project below the liquid surface? (For steel full-contact roofs, answer "No" and comment "Full contact roof".)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Any covers or lids that are not gasketed? (Does not include deck legs, drains, or IFR sample wells.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Manway bolted shut during recommissioning.
Any access hatches/gauge float wells not bolted?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Manway bolted shut during recommissioning.
Any drains and/or sample wells that do not have a seal that covers at least 90% of the opening? (Including temperature probe seals)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Primary Seal Inspection

Primary Seal Type: Matrix Mechanical Shoe - "Flex-A-Span"; Bolted for a horizontal rim

Criteria	Yes	No	NA	Notes/Comments
Is the primary seal free of holes, tears, and defects?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the primary seal continuous?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Any other issues, visible gaps, or openings in the primary seal?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Terminals - AST Seal and Roof Inspection Form

Primary Seal - Additional Information

Make or Model: "Flex-A-Span" mechanical Shoe; Bolted for a horizontal rim

Manufacturer: Matrix

Secondary Seal Inspection

Secondary Seal Type: N/A

If no secondary seal, write N/A

Criteria	Yes	No	NA	Notes/Comments
If installed, is the secondary seal free of holes, tears, and defects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If installed, is the secondary seal continuous?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Any other issues, visible gaps, or openings in the secondary seal?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Secondary Seal - Additional Information

Make or Model: _____

Manufacturer: _____

Secondary Seal Material: _____

Guidepole Inspection

Guidepole Type: Slotted 8" gauge pole w/ vaporless sleeve (new 2021)

Guidepoles are considered slotted if there are slots or holes through the wall of the pole within the operating range of the liquid level.

Criteria	Yes	No	NA	Notes/Comments
Is the opening through the floating roof equipped with a gasket between the sliding cover and the rim?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the opening through the floating roof equipped with a wiper gasket between the sliding cover and the pole?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Unslotted Guidepole				
Unslotted Guidepole	Yes	No	NA	Notes/Comments
Is the unslotted guidepole equipped with a gasketed cover or a cap?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Terminals - AST Seal and Roof Inspection Form

Slotted Guidepole with Float, No Sleeve	Yes	No	NA	Notes/Comments
Is the float properly inside the guidepole?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is there a wiper gasket/seal around the float rim?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the wiper around the rim of the float at or above the height of the pole wiper? (Does not apply if guidepole is equipped with a pole sleeve with the pole float)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Slotted Guidepole with Sleeve, No Float	Yes	No	NA	Notes/Comments
Is the sleeve attached to the cover or rim of the guidepole well (the opening through the floating roof)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	New vaporless sleeve in 2021 w/ roller guides
Does the sleeve extend down into the liquid, around the guidepole?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sleeve/well extend 5" below IFR deck Total submerged depth of 14.5" @ top of product

Slotted Guidepole No Float/Sleeve If the configuration is none of the above, is it one of the approved alternatives?	Yes	No	NA	Notes/Comments
Does the slotted guidepole have a sleeve inside the pole, extending from the lowest operating level up to the top of the pole - and with a cover on the top of the pole?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Does the slotted guidepole have a flexible enclosure around the outside of the pole, extending from the floating roof to the top of the pole - and with a gasketed cover or cap on top of the pole?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Miscellaneous Inspection Items

Column Seal with Sliding Deck Cover	Yes	No	NA	Notes/Comments
Is the opening in the sliding deck equipped with a wiper gasket between the sliding deck cover and the column?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the opening through the floating roof equipped with a gasket between the sliding cover and the roof deck?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Column Seal with Flexible Fabric Seal	Yes	No	NA	Notes/Comments
Is the flexible fabric in good condition?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the seal extend from the rim of the opening to the outside of the column?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Terminals - AST Seal and Roof Inspection Form

Ladder Seal	Yes	No	NA	Notes/Comments
Is the opening through the floating roof equipped with a gasket between the sliding cover and the roof deck?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the opening in the sliding deck equipped with a wiper gasket between the sliding deck cover and the ladder?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Any other issues, visible gaps, or openings in ladder seals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Bleeder Vents	Yes	No	NA	Notes/Comments
Have the bleeder vents been inspected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the bleeder vents in the correct position?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Breaker engages 6" above both high and low leg heights

Summary Comments, Findings, and Recommendations

Repairs in 2021:

- New primary seal installed, Matrix "Flex-A-Span". All new fabric. All new stainless steel structure and hardware
- All gaskets replaced in 2021 (ladder well, column wells, manway, bleeder vents).
- New slotted fabric at temperature probe penetration
- New vaporless sleeve w/ roller guides installed on slotted gauge pole.
- Two (x2) threaded, plugged roof drains were removed and replaced with welded roof patch plates.

Inspector's Name: Jonathon Leftwich

Signature: See following page

Company Name: Matrix NAC

Inspection Date: Mar 6, 2021

Corrective Actions and Repairs (if any)

Marathon project leader verified. (Dean A. Pasquali)
 CATSI site facilitator verified. (Barry Tubbs)

Company Name: _____

Signature: _____

Project Manager Name: _____

Date: _____

Terminals - AST Seal and Roof Inspection Form

Ladder Seal	Yes	No	NA	Notes/Comments
Is the opening through the floating roof equipped with a gasket between the sliding cover and the roof deck?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the opening in the sliding deck equipped with a wiper gasket between the sliding deck cover and the ladder?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Any other issues, visible gaps, or openings in ladder seals?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Bleeder Vents	Yes	No	NA	Notes/Comments
Have the bleeder vents been inspected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are the bleeder vents in the correct position?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Summary Comments, Findings, and Recommendations

Inspector's Name: Jonathan Ladner
 Signature: 
 Company Name: Marathon
 Inspection Date: 3/6/21

Corrective Actions and Repairs (if any)

Company Name: _____
 Signature: _____
 Project Manager Name: _____
 Date: _____

Terminals - IFR Comprehensive Emissions Inventory Form

Terminal Name: Lansing, MI

Tank Number: 25-4

Project Mgr. Name: Dean A. Pasquali

Date: Mar 6, 2021

Purpose: This form is used to document design conformance with Logistics and Storage (LS) standards, compliance with environmental regulations covering internal floating roofs (IFRs), and to identify floating roof tank seal and fitting information necessary for calculating air emissions. It is required to be used during new tank construction, new floating roof installations, during API-653 Inspections, and/or whenever requested by the Terminals Environmental Group. **The Terminals - AST Comprehensive Seal and Roof Inspection Form - TRM-HES-01283-FRM shall always be completed in conjunction with this form.**

Section A - Roof Type

Instructions: Select the appropriate type of roof by placing an **X** in the Present column and add notes/comments on anything unusual about the design or current configurations that are noticed. (Example: missing wind shield)

Roof Type	Present	Notes/Comments
Fixed Roof with Internal Floating Roof	X	Steel bulk-headed pan
Domed Roof with Internal Floating Roof		
External Floating Roof (Do not use this form)		

Section B - Deck Type

Instructions: Select the appropriate type of internal floating roof deck by placing an **X** in the Present column and add notes/comments on anything unusual about the design or current configurations that are noticed.

Roof Type	Present	Notes/Comments
Skin-Pontoon (Vapor Space)		
Pan-Types (Full Contact)		
Bulkheaded-Pan (Full Contact)	X	Rim height of 33", product height on rim of 9.5"
Pontoon (Full Contact)		
Steel Pontoon High Deck (Vapor Space)		
Double-Deck (Full Contact)		
Other (Describe in Comments section)		

Terminals - IFR Comprehensive Emissions Inventory Form

Section C - Deck Construction

Instructions: Select the appropriate type of deck construction by placing an **X** in the Present column and add notes/comments on anything unusual about the design or current configurations that are noticed.

Roof Type	Present	Notes/Comments
Welded (Steel)	X	Full seam welds on top of roof, stitch welded on bottom
Bolted (Aluminum) Sheet: 5 ft. wide		
Bolted (Aluminum) Sheet: 6 ft. wide		
Bolted (Aluminum) Sheet: 7 ft. wide		
Bolted (Aluminum) Sheet: 5 x 7.5 ft. wide		
Bolted (Aluminum) Sheet: 5 x 12 ft. wide		
Other (Describe in Comments section)		

Section D - Rim Seals

Instructions: Select the appropriate type of deck construction by placing an **X** in the Present column and specific seal materials that are installed (Example: galvanized or stainless-steel shoe with urethane or PTFE vapor barrier). Add any notes/comments on anything unusual about the design or current configurations that are noticed at the end of report.

Primary Rim Seals	Present	Manufacturer and Materials
Mechanical-shoe	X	Matrix Flex-A-Span new in 2021 w/ SS hardware for horiz. rim
Foam-core, Liquid-mounted		
Foam-core, Vapor-mounted		
Flexible Wiper, Vapor-mounted		
Other (Describe)		
Secondary Rim Seals	Present	Manufacturer and Materials
None	X	
Flexible-wiper, Vapor-mounted		
Shoe-mounted Secondary on Mechanical-shoe		
Other (Describe)		

Terminals - IFR Comprehensive Emissions Inventory Form

Section E - Fitting/Cover Types & Counts

Instructions: The tables below each represent the different types of roof fittings that may be present on an internal floating roof. Within each table describes only those configurations that conform to L&S installation standards (Example: compliant with both GDGACT and NSPS Subpart Kb regulations). Consult with the Environmental Professional prior to putting a tank into service if any fittings are not compliant. Put the quantity of each specific type of fitting in the Quantity column. The following information explains the generic configuration of fittings and their requirements:

Automatic Gauge Float Well	Quantity	Cover Dimensions/Comments
Bolted Deck Cover with Gasket	0	
Sliding Cover with Gasket	0	ENRAF covered later in this document
Other (Describe in Comments column)	0	
Anti-Rotation Device (Cable Suspended)	Quantity	Dimensions (OD of wire & ID of sleeve)/Comments
Cables for Suspended Roof	0	
Other (Describe in Comments column)	0	N/A for steel roof, columns and other items covered later in this document
Access to hatch (Also see automatic bleeder vents)	Quantity	Hatch Dimensions/Comments
Bolted Deck Cover with Gasket	1	30" manway - bolted
Other (Describe in Comments column)		

Terminals - IFR Comprehensive Emissions Inventory Form

Enraf Funnel	Quantity	Cover Dimensions/Comments
Fixed Funnel with Closed Top Hat	1	8" nozzle penetration
Funnel with Bolted Deck Cover, Gasketed, and Closed Top Hat	0	
Other (Describe in Comments column)	0	
Gauge/Sample - Funnel	Quantity	Cover Dimensions/Comments
Funnel with Slit Fabric Seal <10% Open	0	
Other (Describe in Comments column)	0	Gauge pole covered later in this document
Ladder Well	Quantity	Cover Dimensions/Comments
Ladder Well with Sliding Cover and Gasket	1	Cover plate is 2'-0" x 3'-8"; Gasket replaced in 2021
Combo Ladder Well/Slotted Guide Pole-Sample Well with Sliding Cover (Gasketed) and Float and Vaporless Sleeve	0	
Combo Ladder Well/Slotted Guide Pole-Sample Well with Sliding Cover (Gasketed) and a Vaporless Sleeve without Float	0	
Other (Describe in Comments column)	0	
Fixed Roof Column Well	Quantity	Cover Dimensions/Comments
Built-Up Column with Sliding Cover and Gasket	6	Cover pate is 3'-0" x 3'-0"; Gasket replaced in 2021 Columns are 10" web beam w/ 8" web channel
Pipe Column with Sliding Cover and Gasket	0	
Pipe Column with Flexible Fabric Sleeve Seal	0	
Pipe column with Wiper Gasket	0	
Other (Describe in Comments column)	0	

Terminals - IFR Comprehensive Emissions Inventory Form

Slotted Guide-Pole/Sample Well	Quantity	Dimensions (Pole & Well)/Comments
Gasketed Sliding Cover Float, Sleeve, and Wiper	0	
Gasketed Sliding Cover with Accordion Sleeve	0	
Gasketed Sliding Cover with Float and Wiper	0	
Gasketed Sliding Cover with Pole Sleeve and Wiper (Vaporless Sleeve)	1	8" slotted gauge pole, well height is 3'-2" high with 2'-9" above the IFR; New vaporless sleeve installed 2021
Other (Describe in Comments column)	0	

Unslotted Guide Pole/Pole Well	Quantity	Dimensions (Pole & Well)/Comments
Gasketed Sliding Cover	0	
Gasketed Sliding Cover with Sleeve	0	
Gasketed Sliding Cover with Wiper	0	
Other (Describe in Comments column)	0	

Automatic Bleeder Vent/Vacuum Breaker	Quantity	Cover Dimensions/Comments
Spring Bolted Plate with Gasket	0	
Leg-Actuated with Gasket Deck Cover	2	8" nozzle w/ 16" diameter cover plate Gaskets replaced n 2021
Weighted Mechanical Actuation with Gasket	0	
Other (Describe in Comments column)	0	

Terminals - IFR Comprehensive Emissions Inventory Form

Floating Roof Leg	Quantity	Dimensions (Cover & Sleeve Length) /Comments
Fixed	0	
Adjustable, Pontoon Area with Gasket	0	
Adjustable, Pontoon Area with Sock	0	
Adjustable, Pontoon Area without Gasket	12	
Adjustable, Center Area with Gasket	0	
Adjustable, Center Area with Sock	0	
Adjustable, Center Area without Gasketed	6	
Adjustable, Double-Deck Roofs	0	
Hanger Well with Adjustable Cover & without Gasket	0	
Hanger Well with Fixed Cover	0	
Other (Describe in Comments column)	0	
Miscellaneous Fittings	Quantity	Cover Dimensions/Comments
Temperature Probe Well with Slit Fabric Seal <10% Open	1	6" nozzle; Slotted fabric replaced in 2021
Stub Drain with Float	0	
Stub Drain without Float	0	
Overflow Drain with Screened Cover	0	
Overflow Drain with Float	0	
Overflow Drain without Float or Screen Cover	0	
Rim Space Vent	0	
Other (Describe in Comments column)	0	
Other (Describe in Comments column)	0	

Terminals - IFR Comprehensive Emissions Inventory Form

Section F - Summary Comments/Findings/Recommendations

2021 Repairs:

- Vaporless sleeve installed @ slotted gauge pole (internal float will no longer be used)
- New gaskets installed @ ladder well (x1), column wells (x6), bleeder vents (x2)
- New slotted fabric installed @ temperature probe penetration (x1)
- New primary seal installed, Matrix Flex-A-Span; All new stainless steel structure, hardware and teflon fabric
- Removed two (x2) threaded plugged roof drains, replaced with welded patch plates

Inspector's Name: Barry Tubbs / Jonathon Leftwich

Company Name: CATSI / Matrix NAC

Signature: See following pages

Inspection Date: Feb 25, 2021

Project Engineer Name: Dean A. Pasquali

OIS Update Date: Feb 25, 2021

Terminals - IFR Comprehensive Emissions Inventory Form

Section F - Summary Comments/Findings/Recommendations

2021 REPAIRS

- VAPORLESS SLEEVE INSTALLED @ GAUGE POLE WELL
- NEW GASKETS @ LADDER WELL, COLUMN WELLS, BLEEDER VENTS
- NEW SEALS @ ENRAF (OPEN w/ TOPHAT), TEMP PROBE, MANWAY
- NEW PRIMARY SEAL... MATRIX FLEX-A-SEAL SHOE SEAL
- REMOVED TWO (2) IFR DRAINS AND PATCHES WELDED IN PLACE

Inspector's Name: Barry Tubbs

Company Name: CATSI

Signature: _____

Inspection Date: 2/25/2021

Barry Tubbs

Project Engineer Name: Dean A. Pasquali

OIS Update Date: _____

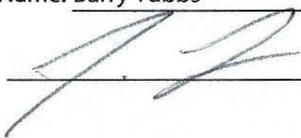
Dean Pasquali

Terminals - IFR Comprehensive Emissions Inventory Form

Section F - Summary Comments/Findings/Recommendations

Inspector's Name: Barry Tubbs

Company Name: CATSI

Signature: 

Inspection Date: 3/6/21

Project Engineer Name: Dean A. Pasquali

OIS Update Date: _____

VCS Outage Report by Terminal

Terminal Name	VCS_ID	Affected_Unit	Start Date and Time	End Date and Time	Reason	Downtime Description	Replaceme..
Lansing, MI	11072	VCS1 / A (Primary Unit)	11/23/2021 12:22:00	11/23/2021 13:23:00	Maintenance	VRU PMs	None
	10957	VCS1 / A (Primary Unit)	8/11/2021 22:36:00	8/12/2021 00:57:00	Power Loss to Entire Ter..	Storm caused power outage	None
	10949	VCS1 / A (Primary Unit)	8/12/2021 01:12:00	8/12/2021 04:00:00	Power Loss to Entire Ter..	Comment Required and do not use special characters	None
	10883	VCS1 / A (Primary Unit)	5/25/2021 09:57:00	6/25/2021 13:12:00	Maintenance	spring vru PM	None

GASOLINE TANK TRUCK PRESSURE/VACUUM TEST RESULTS

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

TANK OWNER: <u>FIXER OIL CO</u>	TANK SERIAL #: <u>1407</u>
ADDRESS: <u>15714 S OS-27</u> <u>LANSING, MI 48906</u>	UNIT #: <u>8</u>
CONTACT: <u>Gail</u>	MAKE/YEAR OF MFG: <u>Tank Truck / 2005</u> AREA CODE & TELEPHONE #: <u>517-482-1132</u>

PRESSURE TEST RESULTS

Pressure cannot change by more than 1 inch

RUN	INITIAL READING (INCHES OF WATER)	STARTING TIME	FINAL READING (INCHES OF WATER)	FINISHING TIME	REPAIRS MADE
1	18"	819	18"	820	
2	18"	823	18"	828	
3					

VACUUM TEST RESULTS

Pressure cannot change by more than 1 inch

RUN	INITIAL READING (INCHES OF WATER)	STARTING TIME	FINAL READING (INCHES OF WATER)	FINISHING TIME	REPAIRS MADE
1	6"	857	5 3/4"	852	
2	6"	855	5 3/4"	900	
3					

INTERNAL VAPOR VALVE TEST

Pressure cannot change by more than 5 inches

RUN	INITIAL READING (INCHES OF WATER)	STARTING TIME	FINAL READING (INCHES OF WATER)	FINISHING TIME	REPAIRS MADE
1	0"	831	0"	836	
2	0"	839	0"	844	
3					

I certify that this gasoline delivery vessel tank has been tested in accordance with U. S. EPA Method 27 and found to be in compliance with the pressure, vacuum and internal vapor valve test requirements of Michigan Air Pollution Control Rule 627, Public Act 451 of 1994, As Amended.

Name of Testing Firm: Walker's Truck & Trailer Service	Individual Conducting Test: <u>PAUL MONDRIJ</u>
Address: 4135 Vondell Parkway	Signature: <u>Paul Mondrij</u>
City: Lansing	Area Code & Telephone #: 517-322-3110
State: Michigan Zip Code: 48917	Date of Test: <u>11/17/2021</u>

MAIL COMPLETED FORM TO:

LARA, Storage Tank Division, ATTN: 627 Program, P.O. Box 30033, Lansing, MI 48909

Or

FAX TO: 517-332-1428

Driver Signature Date: