DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B907443415

FACILITY: MPLX Terminals LLC - Jackson Terminal		**SRN / ID:** B9074
LOCATION: 2090 MORRILL RD, JACKSON		**DISTRICT:** Jackson
CITY: JACKSON		**COUNTY:** JACKSON
CONTACT: Sonja Wellman , Terminal Operator		**ACTIVITY DATE:** 02/22/2018
STAFF: Mike Kovalchick	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** SM OPT OUT
SUBJECT: FCE/PCE inspection of an opt-out source for HAPs/VOC's.		
RESOLVED COMPLAINTS:		

Synthetic Minor / Opt-Out Source. Full Compliance Evaluation (FCE) and Inspection (PCE) of Marathon Petroleum (MPLX Terminals LLC), located at 2090 Morrill Road, Jackson, Michigan.

Facility Contact

Sonja Wellman-Terminal Operator

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Eric Hahn-Plant Manager

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Company website: http://marathonpetroleum.com/

Purpose

On February 22, 2018, I conducted an unannounced inspection of Marathon Petroleum Company formally known as MPLX Terminals LLC (Company) located at 2090 Morrill Road in Jackson. The purpose of the inspection was to determine the facility's compliance status with the applicable federal and state air pollution regulations, particularly Michigan Act 451, Part 55, Air Pollution Control Act and administrative rules and PTI 157-08B.

Facility Location

The facility is located just North of the city of Jackson. It is in a rural setting with a residential area about 700 feet to the south and another bulk terminal facility located just South on the other side of Morrill road. See attached aerial image. Attachment (1) is a diagram of the facility.

Facility Background

The facility was last inspected on July 10, 2014 with no violations found.

An opt-out permit for VOC's/HAPs was issued on 9/18/2009. (PTI 157-08.) A variety of permits were combined and incorporated into this permit. This permit had a couple minor revisions and became PTI 157-08B on September 19, 2011.

The permit application for PTI 157-08 consisted in a large part of attached PTI permits that were existing at the time.

The VRU is actually for the combined loading racks from the two owned by Marathon and from a 3 bay loading rack (8 gasoline loading arms and 5 diesel loading arms) owned by Citgo Petroleum. (SRN B9041) 2 gasoline vapor lines from the adjacent Citgo facility pass under the street and are controlled by a carbon bed vapor recovery system located on Marathon's property. The condensed gasoline vapors from both faculties go into Tank 55-7.

Regulatory Applicability

PTI 157-08B covers the entire facility.

Federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and K (40 CFR Part 60 Subparts A & K) apply to internal floating roof tanks EUTANK25-5 and EUTANK55-9.

Federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subparts A and Kb (40 CFR Part 60 Subparts A and Kb) apply to internal floating roof tanks EUTANK55-7 and EUTANK55-8.

40 CFR Part 60, Subpart XX - Standards of Performance for Bulk Gasoline Terminals has historically not been applicable. (Note: The adjacent Citgo Petroleum facility that sends loading rack emissions to Marathon is subject to Subpart XX.)

National Emission Standards for Hazardous Air Pollutants, as specified 40 CFR Part 63, Subpart A and Subpart BBBBBB for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities apply to the entire facility. (40 CFR Part 63, Subpart A and Subpart BBBBBB)

Arrival & Facility Contact

Visible emissions or odors were not observed upon my approach to the facility. I arrived at approximately 9:15 am, proceeded to the enter the facility going through an intercom controlled gate where I requested access for an inspection. I provided my identification and met with Sonja Wellman (SW) who is the terminal operator. (Eric Han-plant manager was out of the office on travel.) I informed SW of my intent to conduct a facility inspection and to review the various records as necessary. SW extended her full cooperation during the inspection, accompanied me during the full duration of the inspection, and fully addressed my questions.

Pre-Inspection Meeting

SW outlined that the Company is currently operates the office from 7:30 am to 4 pm 5 days a week. The loading racks are operated 24 hours a day, 7 days a week. There are currently 7 employees.

SW indicated that gasoline and Fuel Oil #1 & #2 arrive via Wolverine Pipeline and are stored in the bulk storage tanks. Ethanol, transmix, and various additives arrive by truck. Currently about 10 trucks per day are loading with product for offset deliver. The trucks are generally either 13,400 gallon capacity (gasoline) or 12,500 gallon capacity (oil). On a busy day, they may see as many as 30 trucks pass through the 2 loading racks. It takes about 20 minutes to load a truck. All the truck drivers go through training prior to be allowed to load tanker trucks with product.

SW noted that there have not been any significant changes at the facility since the last inspection. She indicated that the hasn't been a need to bring in a portable vapor combustion unit for the loading rack for a number of years at least. Use of a portable vapor combustion unit is permitted under PTI 157-08B.

Onsite Inspection

SW gave me a brief tour of the facility. No odors were noted anywhere on the property. The tops of the tanks were not inspected due to safety concerns and the lack of any odors that might suggest a problem. Overall, the facility appeared to be well maintained.

EULOADRACK: Two lane loading rack for loading petroleum product into tank trucks. The displaced vapors are controlled by vapor recovery unit (VRU) (primary) or a vapor combustion unit (VCU) (backup is trailer ready). See attached photos of loading racks and VRU. No odors were noted in the vicinity of EULOADRACK despite two trucks that were present loading fuel during my visit. Both trucks were properly connected with hoses to direct captured displaced gasoline vapors to the VRU.

The loading rack has two different material throughput limits: 1) for gasoline, gasoline additives, Transmix and ethanol; 2) for distillate fuel and distillate additives.

The loading rack has restrictions on the physical equipment design and its operation during truck loading to ensure proper capture of volatile organic compound vapors and leak prevention. Procedures are posted, truck drivers are trained, and trucks must be certified as having been vapor tested prior to loading product. Rule 627 addresses the requirements for delivery vessels with vapor collection systems. The equipment requirements of the loading rack are verified by daily inspections and lock out procedures for each truck to be loaded. The company must maintain a malfunction abatement plan (MAP) for the loading rack and update it as

necessary. The date of the current MAP on file is June 23, 2013. Rule 706 addresses the requirements for the loading of delivery vessels with volatile organic compounds having a true vapor pressure of more than 1.5 psia at new loading facilities handling 5,000,000 or more gallons of such compounds per year.

The permit has a special condition citing that the vapor recovery unit may be required to be tested. The last time the VRU was tested was on November 17, 2010. The results met the requirements. The company is required to log all VRU outages and not allow loading of any organic compounds having a true vapor pressure of more than 1.5 psia during outages. The company must also monitor and record the VRU outlet VOC concentration on a monthly basis. The VRU is equipped with a high temperature alarm which when triggered will shut down all loading from the rack. SW indicated that the VRU also controls vapors for the adjacent Citgo facility. I indicated that I wasn't aware of this and noted the fact there is no mention of this in their PTI permit emission unit description for EULOADRACK. SW indicated that they do some MACT monthly testing of the carbon beds but it wasn't clear if the testing that they do meets the permit requirement for monthly VOC emission tests from the combined outlet vent from the two beds or not.

The loading rack is equipped with meters for measuring the amount of gallons of each fuel loaded into trucks. The meters are calibrated four times per year.

EUTRANSMIXTANK: Internal floating roof storage tank, T-1

The only requirement for this storage tank is a throughput limit and to keep records of the throughput on a monthly and 12-month rolling time period.

Transmix is the only pre-blended product available from the loading rack. The other grades of gasoline are blended at the gas station. Transmix does not come through the distribution system as Transmix. Transmix is a mixture of gasoline and diesel fuels that result from the various sources at the terminal. It also includes ethanol since it is received by truck and distributed by truck.

EUGASOLINEADDTK: Gasoline additive storage tank, identified as AA-10-2

The only requirement for this storage tank is a throughput limit and to keep records of the throughput on a monthly and 12-month rolling time period. Another additive tank identified as AA3-5 was installed under the Rule 284 exemption. It has a capacity of 3,000 gallons.

FGIFRTANKS: All storage tanks with internal floating roofs. EUTANK25-5, EUTANK40-6, EUTANK55-7, EUTANK55-8 and EUTANK55-9

These tanks have a single throughput limit and process and operational requirements identified in the New Source Performance Standards (NSPS) Subpart A and K for EUTANK25-5, EUTANK55-9 and Subpart Kb for EUTANK55-7 and EUTANK55-8, respectively. Both of these regulations require the keeping of records of tank inspections and operating information on file.

Note that EU-TANK15-4 is the ethanol storage tank. The ethanol vapors from the tank had created significant mold growth on the sides of the tank. See attached photo.

FGWASTEWATERTKS: Two wastewater tanks identified as EUTANKWA-10-1 and EUTANKWA-10-2

The source of the petroleum contact water in the waste water tanks comes primarily from storm water that enters their trench drains under the loading rack. The loading rack has a canopy but rain and snow can still enter into this area and would be directed into the trench drains. The Jackson Terminal ships contact water off-site about quarterly, depending on precipitation. The permit required that the collected waste water be tested to evaluate the hazardous air pollutants and volatile organic compound concentrations so that the emissions could be included in the facility wide emission calculations. The size of both tanks are 10,474 gallons which are exempt under Rule 284(i) – Storage or transfer operations of volatile organic compounds or non-carcinogenic liquids in a vessel that has a capacity of not more than 40,000 gallons where the contents have a true vapor pressure of not more than 1.5 psia at the actual storage conditions. The waste water in the tanks was tested and showed results of the Reid vapor pressure being less than 1.5 psia.

FGFACILITY: The pollution control equipment for this flexible group is a vapor recovery unit or a vapor combustion unit for the loading rack.

There are emission limits for VOC, each individual HAP and aggregate HAPs at levels that provide the facility

with opt-out limits to avoid Title V requirements.

The facility is subject to 40 CFR 63 Subpart A and Subpart BBBBBB for Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities. What makes them subject is having a design throughput of more than 20,000 gallons of gasoline per day.

Post-Inspection Meeting:

I held a brief post-inspection meeting with SW. I requested that she provide me with some records which she did the following day. I indicated that I would review the requested records and get back to her if I had any concerns. I thanked SW for her time and cooperation and departed the facility at approximately 10:00 am.

Recordkeeping Review

The required MAP for the VRU was reviewed and found to be satisfactory was last updated in 2013 and found as in attachment in previous inspection report.

Attachment (2) is a diagram of the absorption gasoline recovery system. (VRU) It appears to be same VRU diagram that was submitted back in 1982 suggesting that there has been no significant changes to this system since then. The diagram doesn't note where the inlet vapor comes from. The diagram suggests that water is used but SW indicated that they use glycol.

Attachment (3) shows 12 month rolling averages of emissions/throughput for 2017. Total volume throughput was 76 million gallons combined (about 10 million of that is distillate) which is well below the 180 million gallon limit per 12 month rolling timeframe of gasoline, gasoline additives, transmix and ethanol and the 60 million gallon per 12-moth rolling timeframe of distillate fuel and distillate additives.

Attachment (4) lists calculated VOC and HAP emissions for 2017. Combined HAP emissions was calculated to be about 1 ton and total VOC emissions were 18 tons which is below 22.5 tpy HAP limit and 90 tpy VOC limit.

Attachment (5) outlines VRU control unit downtime in 2017. The outages were for brief periods of times.

Attachment (6) is the latest report for compliance with 40 CFR Part 63 Subpart BBBBBB. It shows compliance.

Attachment (7) is PTI 103-06A and Permit review sheet for PTI 103-06 for Citgo Petroleum.

Attachment (8) contain results from monthly testing of the carbon beds in the VRU expressed in terms of percent of Lower Explosive Limit (LEL) of gasoline. The LEL of gasoline is roughly 13,500 ppm. The highest reading in 2017 was 37% which translates to about 5000 ppm Gasoline. Since the vapor stream contains basically all gasoline, this translates roughly to 5000 ppm VOC's in the exhaust air stream.

Sent the following new to Andy Drury in Permits Section to determine if the facility is subject to Subpart XX and if AQD has been properly handling permitting of the two adjacent gasoline bulk terminal facilities that share a common control device which condenses gasoline vapors into a internal floating roof tank owned by the Marathon.

A few specific details/corrections to add to our discussion yesterday after I reviewed both Citgo/Marathon's files :

PTI 286-82 issued on August 18, 1982 was only for Marathon's loading rack with VRU.

1. *PTI 348-82 issued on October 20, 1982 was for Citgo to modify their loading rack so vapors could be directed to Marathon's VRU.*
2. *The main condition of both permits: VOC from the gasoline loading islands shall not exceed 0.7 pounds per 1000 gallons of organic compounds loaded.*
3. *Rule 609 compliance deadline of 12-31-82 was why the VRU was installed to begin with*
4. *The vapor recovery system has an incoming gasoline line from Tank #55-7 which is used to condense the vapors and a return line back to #55-7*
5. *Tank 55-7 is an internal floating roof storage tank in FGIFRTANKS subject to NSPS Kb*

6. *So both companies actually share a common control device and a tank. Staff at Marathon mention that they account for this and give credits to Citgo.*

7. *2 underground vapors lines come from Citgo to the VRU.*

8. *Two-top submerged-fill loading islands, each with two loading racks were converted to bottom loading racks in connection with the construction of the VRU in late 1982. (NSPS XX?)*

9. *VRU replaced in 1990/1991. In 1992 loading racks had 7 arms on one and 5 on the other.*

10. *June 2, 2000 letter says that Company will vent distillate vapors to improve VRU efficiency at collecting gasoline.*

11. *In 1998 time frame, Marathon added a shutoff valve and a discharge stack on the CITGO influent line to the vapor recovery system so that Marathon has the ability to shut out CITGO during maintenance.*

12. *May 2006 opt-out permit 103-06 issued to Citgo plus included additional loading arm which appeared to trigger NSPS XX.*

13. *2010 test showed 0.62 milligrams /liter of gasoline loaded.*

14. *So Citgo limit for the VRU is 35 mg/liter vs Marathon's limit of 0.7 pounds per gallon or roughly 80 mg/liter since they are not listed as being subject to XX.*

It helps that the original permits were at least separate. Should Marathon be subject to Subpart XX? Nothing discussed in permit file that Marathon/Citgo actually share a common gasoline storage tank. How does that affec things? How AQD has separated the permits historically, is that consistent with EPA policy? In particular because both companies operate under an opt-out permit? Your thoughts/conclusions on all of this are welcome. Thanks!

This was the response:

Mike,

Permit Section discussed this situation briefly during our meeting this morning. Without doing research, we are aware of one other situation of a shared control device. There may be shared control with some companies in Midland, but I have not looked into that. The District Office would likely know more about this than Permits would.

We did not see any obvious problems with the way the facilities are permitted, especially considering they've been permitted to have this shared control device since 1982. There does not appear to be any regulatory reason for the Marathon permit to mention Citgo. In the other shared control situation, the permits do not reference the other facility.

The only question that came up was who should claim the emissions from the shared control device. Some staff thought each facility should claim their share of the emissions while others thought all emissions should be claimed by the facility with the control device. We did not discuss this at length or look for any guidance and did not attempt to resolve the question. For Marathon and Citgo, I don't think it really matters who claims the emissions since I think the total emissions are less than the opt-out permit limit. In the other instance I'm aware of (Marysville Hydrocarbons and Flint Hills Resources), I believe each company took responsibility for the emissions they generated, even though the control was located at one facility.

Here is an email I received from the Company:

1. "During the times the VRU was shut down in 2017, is there an automatic lockout of the loading rack or some other means to prevent load out from occurring while the VRU is down? "

Answer - During a shutdown of the VRU, the programmable logic controller initiates the loss of permissive. The loss of permissive locks out all loading activities automatically at the Marathon Petroleum and Citgo loading

racks.

2. "Secondly, is there an automatic lock out of the Citgo's load out rack when the VRU is shut down?"

Answer - Please refer to answer #1

3. "When was the last time the Marathon loading rack/bays were modified?"

Answer - The loading rack has not been modified since the effective date of Part 60, Subpart XX (December 17, 1980). Accordingly, the Jackson Terminal is not regulated under the NSPS, though it is regulated under and is in compliance with the area source MACT for bulk gasoline terminals (Part 63, Subpart BBBBBB).

4. "When was the VRU last replaced or is it still the original unit?"

Answer - The VRU is the original VRU installed in 1982.

5. "Is there is a single stack from the VRU or two separate stacks; one from each carbon column."

Answer - Each carbon vessel has its own independent stack.

Compliance Summary

Based upon the facility inspection, review of the records, email response inquiries, and review of applicable requirements, the Company appears to be in compliance.

Image 1(Aerial Photo) : Aerial photo of both Marathon and Citgo.

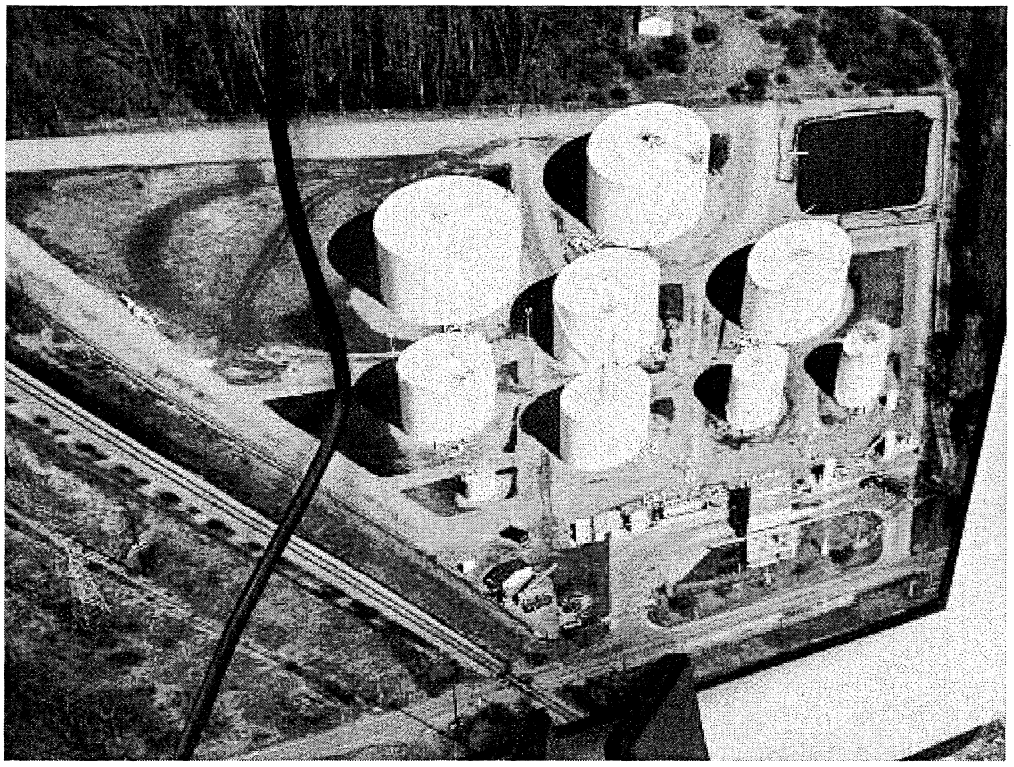

Image 2(Another Aerial) : Another aerial photo of facility.

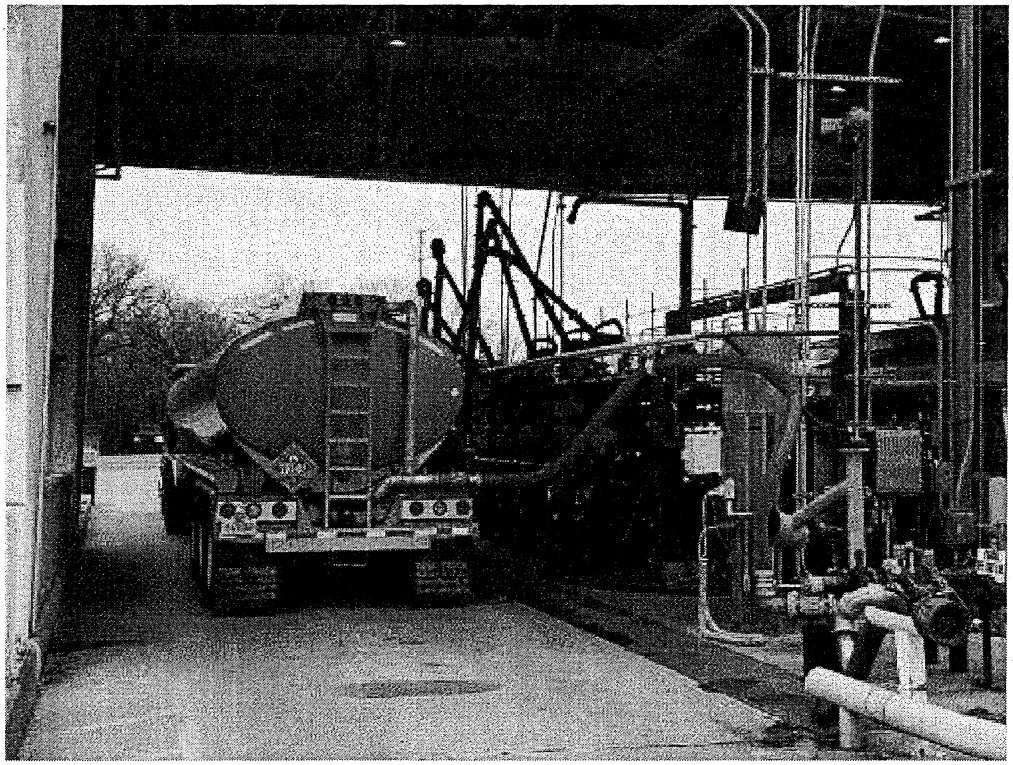

Image 3(Gasoline loading) : Gasoline loading rack

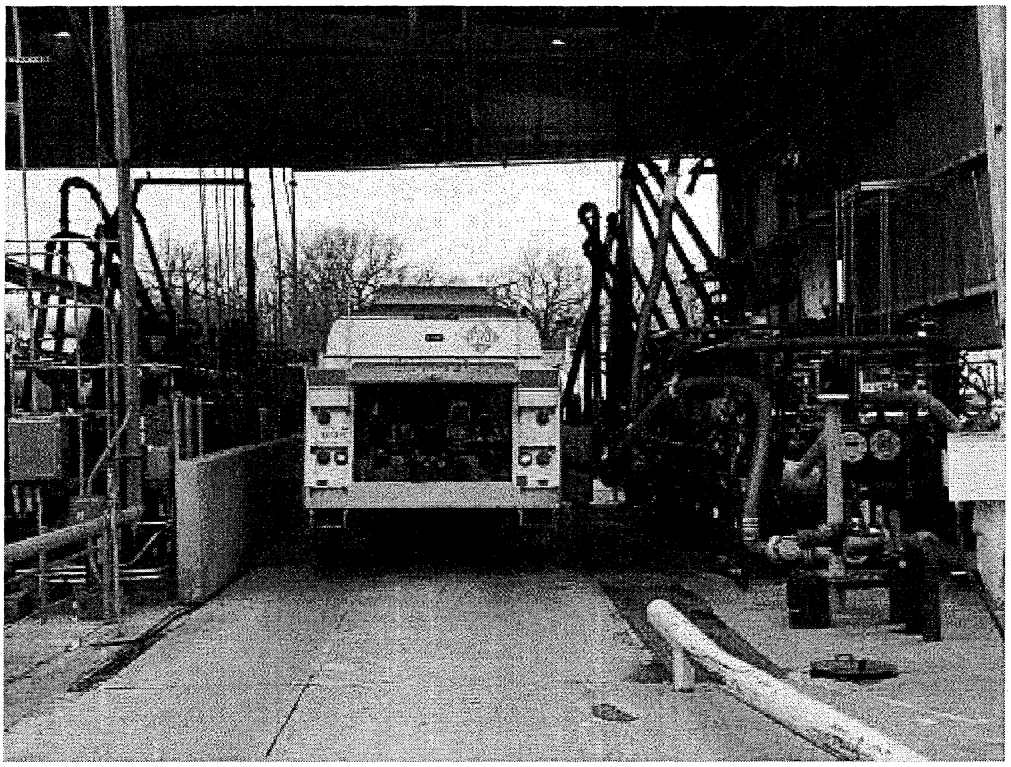

Image 4(Oil loading rack) : Distillate oil loading rack

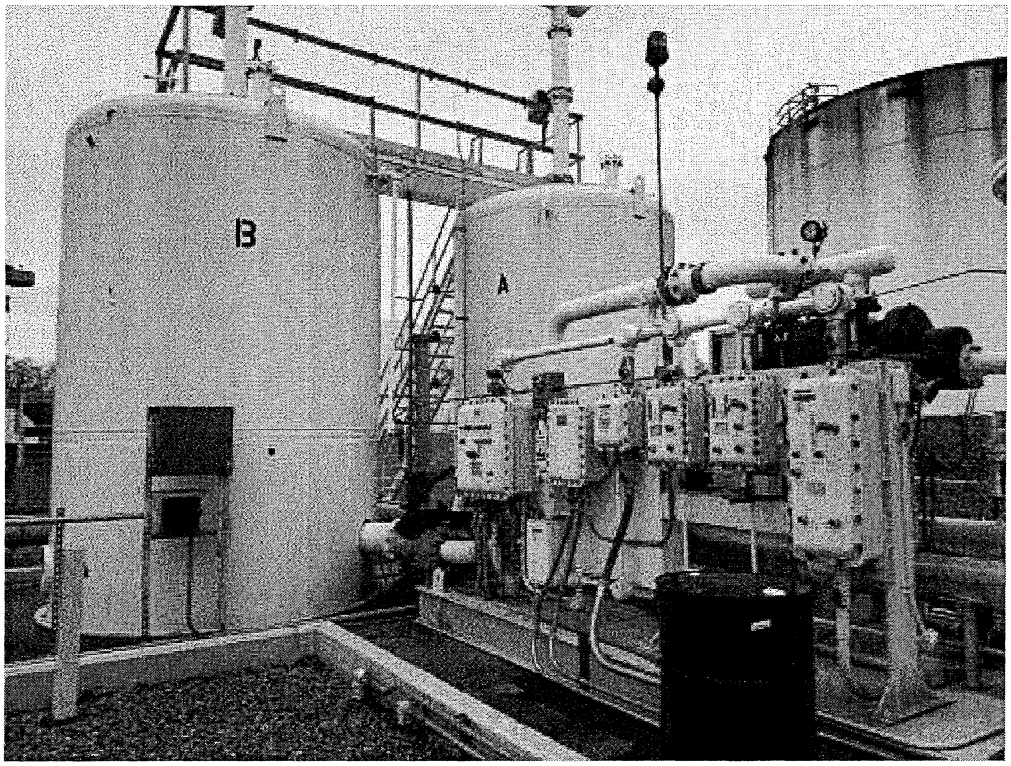

Image 5(Vapor Recovery Unit) : Vapor recovery unit. Note carbon bed tanks B and A.

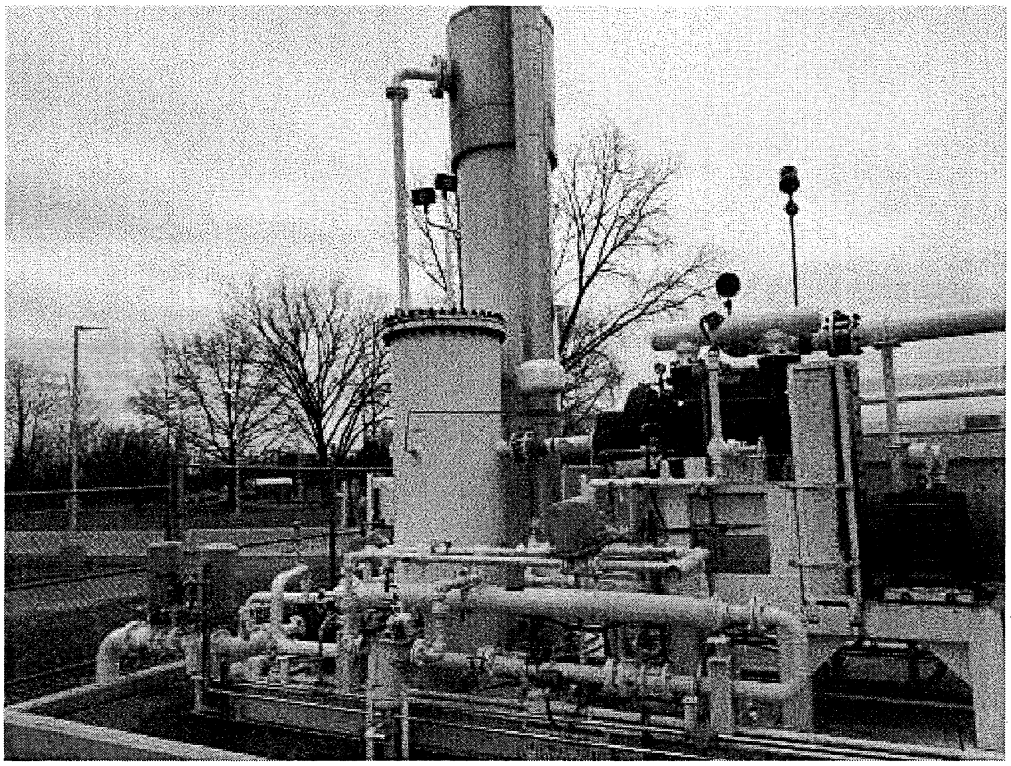

Image 6(VRU) : Vapor recovery unit. Tall column is the condenser. The smaller column contains glycol.

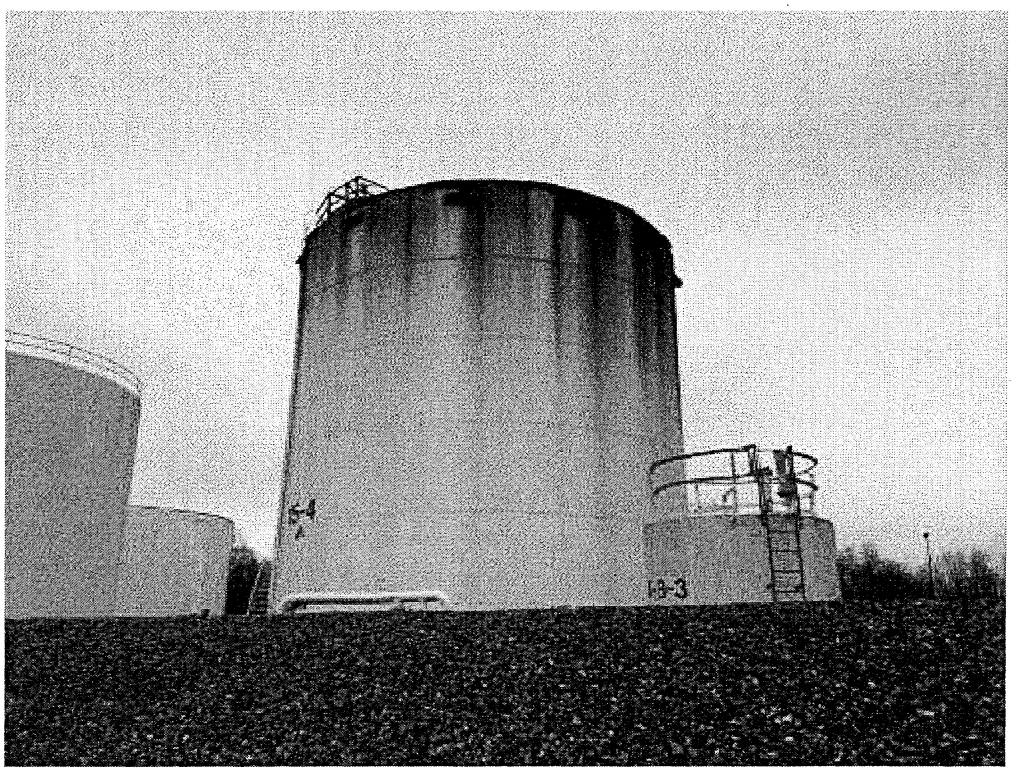

Image 7(Ethanol tank) : Ethanol storage tank. Note black mold on sides of tank.

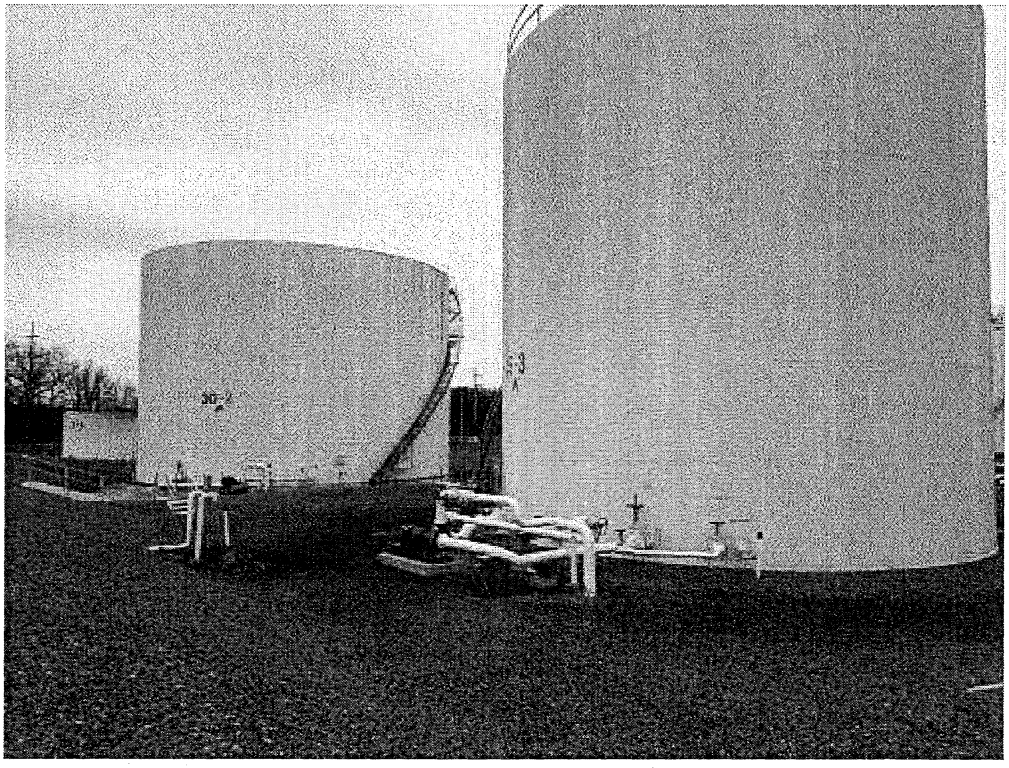

Image 8(Misc Storage Tanks) : Misc. storage tank photos

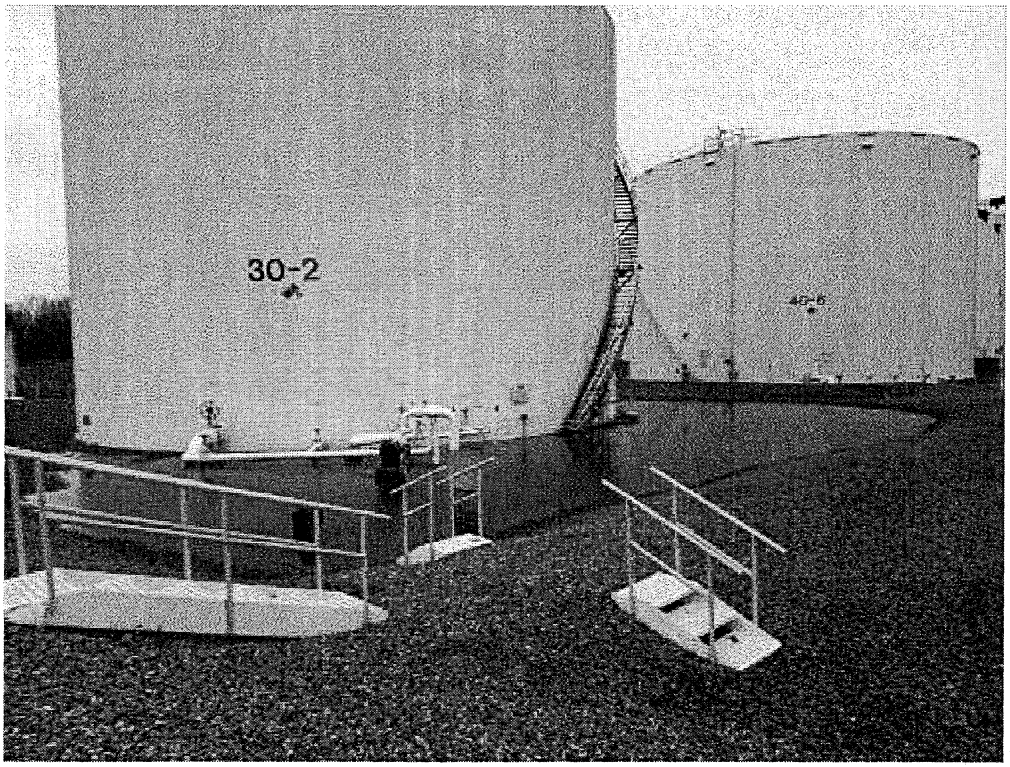

Image 9(Misc tanks) : Misc. storage tank photos. The water was left over from recent very heavy rains.

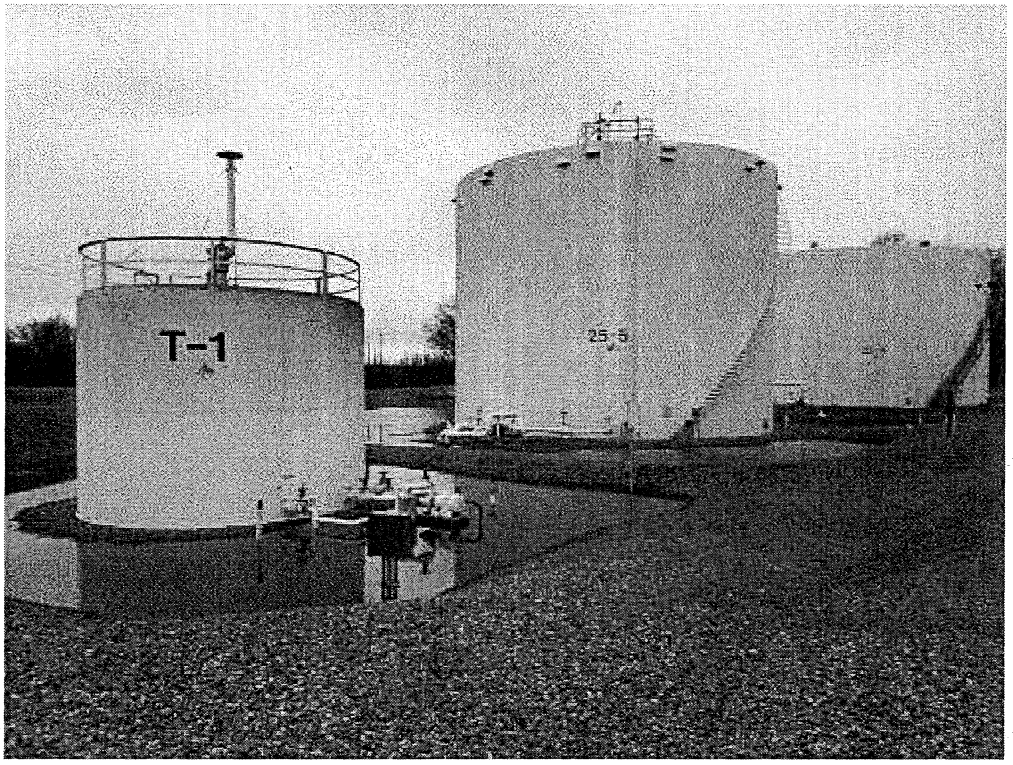

Image 10(Misc tanks) : Misc. tank photos.

NAME M. Kovalchick DATE 3/12/18 SUPERVISOR