

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

A983149399

FACILITY: MARATHON PETROLEUM COMPANY LP		SRN / ID: A9831
LOCATION: 1001 S Oakwood, DETROIT		DISTRICT: Detroit
CITY: DETROIT		COUNTY: WAYNE
CONTACT: Victor Brzeg , HES Professional		ACTIVITY DATE: 07/08/2019
STAFF: Jorge Acevedo	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MEGASITE
SUBJECT:		
RESOLVED COMPLAINTS:		

**COMPANY NAME** :Marathon Petroleum Company-  
**FACILITY ADDRESS** :301 S. Fort Street, Detroit, MI 48217  
**STATE REGISTRAT. NUMBER** :A9831  
**SIC CODE** :2911  
**EPA SOURCE CLASS** : Mega Site  
**LEVEL OF INSPECTION :** :PCE  
**DATE OF REPORT** : 07/24/19  
**REASON FOR INSPECTION** : Annual Compliance Inspection.  
**INSPECTED BY** : Jorge Acevedo  
**PERSONNEL PRESENT** : Victor Brzeg and Sam Awad  
**FACILITY PHONE NUMBER** :  
**FACILITY FAX NUMBER** :

**INSPECTION NARRATIVE:**

On July 8, 2019, I conducted a partial compliance evaluation of the Marathon Petroleum Company Asphalt Truck Loading Facility. I arrived at 10:30 AM and met with Victor Brzeg, Environmental Professional, and Sam Awad, Terminal Manager.

The facility consists of an 8 lane Asphalt Truck Loading rack. We discussed the operation of the carbon adsorption system and capture hoods, which were installed in November 2012 on the loading arms at the facility. Mr. Awad explained that the carbon was due for replacement. Mr. Awad explained that approximately 40 trucks a day are loaded and this amount increases during the winter months as wholesalers load asphalt and store it for the upcoming construction season. Mr. Awad explained that most of the maintenance for the carbon adsorption system is recorded through their PI system. Mr. Brzeg and Mr. Awad accompanied me for the inspection. Our first stop was the hot oil heater, which is used to keep the asphalt warm prior to loading. The heater is an exempt piece of equipment because it meets the Rule 282(b) because its heat input capacity is approximately 3.7 mmBTU/hr which is less than the 50 mmBTU/hr threshold in the rule. However, several exempt fuel burning equipment fall into the applicability of the Boiler MACT. Next, we observed the carbon adsorption system. Mr. Brzeg and Mr. Awad described the process and important parts of the carbon adsorption system. At the time of the inspection, there was one truck loading asphalt, so there was some draw to the carbon adsorption system. The polymer tanks are vented to the carbon adsorption system as well. Mr. Brzeg showed me the two stacks for the carbon adsorption system and showed how there were tubes in the outlet of the stack which ran down the stack to a point where a Mx6 meter could be tied in to measure the H2S emissions from the stack. Readings ranged from 0.5 ppm and peaked at 15ppm for a brief moment.

I observed the two polymer tanks next to carbon adsorption system. Next we observed the loading racks. Four of the Eight loading racks are able to blend polymer into the truck. The hoods are attached to the loading arm, with a slight pie pieced shaped opening for the drives to observe the loading. When loading commences, the vacuum is initiated and vapors are sucked through the hoods and conveyed through piping to the carbon adsorption system. When loading ends, the vacuum stays on for an additional five minutes suck up any remaining fumes. There were two trucks loading at the time we were observing the loading racks. Odors near the truck were minimal and capture appeared to be working properly. The hood was on. There appeared to be good capture of the fumes.

I observed Lane 1 was switched out and there was a 2000 gallon tank storing polyphosphoric acid (PPA) and labeled Tank 6-3. The tank was installed in the Fall of 2017. PPA is an additive used to make a cheaper mixture of asphalt without sacrificing asphalt properties.

I completed my inspection and left the facility at 12PM.

**FACILITY BACKGROUND**

Marathon Petroleum Company, Asphalt Terminal loads asphalt through an eight lane loading rack. Asphalt Polymer is stored as well to mix with different grades of asphalt. Three grades of asphalt are stored in storage tanks at the Detroit Refinery and piped to the Terminal. Emissions from asphalt loading are controlled with capture hoods attached to the loading arms and a carbon adsorption system.

**COMPLAINT/COMPLIANCE HISTORY**

The Asphalt Terminal has not had a Violation Notice issued in the last couple of years.

**OUTSTANDING CONSENT ORDERS**

None

**OUTSTANDING LOVs**

None

**OPERATING SCHEDULE/PRODUCTION RATE**

The Asphalt Terminal runs two shifts 7 days a week.

**PROCESS DESCRIPTION**

Asphalt is loaded at an eight lane loading rack. Polymer can be added in four of the eight lanes and blended in. Emissions are controlled through a carbon adsorption system. Lane 1 was switched over to storage of PPA.

**EQUIPMENT AND PROCESS CONTROLS**

Eight lane loading rack controlled with capture hoods and carbon adsorption sytem.

3.7 mmBTU hot oil heater fired with natural gas. The emission unit is exempt under Rule 282.

Two Asphalt Polymer storage tanks. Permit conditions are in the ROP.

Tank 6-3 is exempt under Rule 284

2000 gallon tank storing polyphosphoric acid (PPA). This unit is exempt under R336.1284(i)

**APPLICABLE RULES/PERMIT CONDITIONS:**

Marathon Petroleum Company is subject to the ROP because they are major for NSR and Title V. They are a major source for Hazardous Pollutants. ROP-MI-A9831-2012 was issued on September 27, 2012.

The Asphalt Terminal is covered under PTI 197-10B and the ROP

Permit Conditions are evaluated in Appendix A:

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
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Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EU_Aspphalt	Eight-bay truck loading rack for asphalt cement, located in a partial enclosure. A carbon adsorption system reduces emissions from truck loading.	1978 1/2012	NA
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

The following conditions apply to: EU Asphalt

**DESCRIPTION:** Eight-bay truck loading rack for asphalt cement, located in a partial enclosure. A carbon adsorption system reduces emissions from truck loading.

Flexible Group ID: NA

**POLLUTION CONTROL EQUIPMENT:** Carbon adsorption system

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Compliance Determination
SC I.2 applies on and after the date that the improved capture system is installed on all eight lanes.			
1. VOC	5.0 tons per year	Rolling 12-month time period as determined at the end of each calendar month	1. Compliance. Records were provided and showed that VOC emissions did not exceed more than 5.0 TPY.
SC I.3 applies on and after the date that the AQD approves the demonstration of satisfactory performance required by SC V.1.			
2. Hydrogen sulfide	15 ppmv	Test protocol*	2. Compliance. Test was performed on February 25, 2013 and results were below 15 ppm of H2S.
* Test protocol shall specify averaging time.			

**II. MATERIAL LIMITS**

Material	Limit	Time Period / Operating Scenario	Compliance Determination
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Material	Limit	Time Period / Operating Scenario	Compliance Determination
1. Asphalt cement loaded	400,000,000 gallons per year	Rolling 12-month time period as determined at the end of each calendar month	1. Compliance- Records were provided which showed that for the past year, rolling totals were less than throughput limit.

2. The permittee shall not load more than 20,000,000 gallons of asphalt per year, based on a 12-month rolling period, at EU\_Aspphalt without the improved capture system and carbon adsorption system operating consistent with the MAP. The 20,000,000 gallons per year dispensed shall include times of malfunction of the improved capture system or the carbon adsorption system and general maintenance performed on the improved capture system or the carbon adsorption system as allowed by the MAP. The gallon per year limit is based on a 12-month rolling time period as determined at the end of each calendar month.

Compliance- Records were provided which showed that the loading rack were not operated without the improved capture system and carbon adsorption system.

### III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall implement and maintain the approved Malfunction Abatement Plan (MAP) for the truck loading rack and carbon adsorption system. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. (R 336.1225, R 336.1702(a), R 336.1901, R 336.1910, R 336.1911)

Compliance- Carbon adsorption system appeared to be working properly. I observed the maintenance database which tracks maintenance activities performed on the carbon adsorption system. Records were received regarding maintenance on the carbon adsorption system.

2. The permittee shall implement and maintain the approved Malfunction Abatement Plan (MAP) for the truck loading rack and carbon adsorption system. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.<sup>2</sup> (R 336.1225, R 336.1702(a), R 336.1901, R 336.1910, R 336.1911)

Compliance- Malfunction Abatement Plan is onsite and records were received to show facility is complying with MAP.

3. This condition takes effect 75 days after commencement of trial operation of the improved capture system on at least three load lanes. The permittee shall not operate EU\_Aspphalt unless an operating plan for the improved capture system and carbon adsorption system has been submitted, and the plan is implemented and maintained. The operating plan shall include operating procedures and address other factors needed to ensure satisfactory operation of the improved capture system. The permittee shall also amend the operating plan within 45 days if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the operating plan and any amendments to the operating plan to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the operating plan or amended operating plan shall be considered approved. Until an amended plan is approved, the permittee shall implement

corrective procedures or operational changes to ensure satisfactory operation of the improved capture system. (R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)

Compliance- Operating plan was submitted in 2012.

4. Before conducting the demonstration required by SC V.1, and no later than 90 days after issuance of Permit to Install No. 197-10B, the permittee shall submit amendments to the MAP to the AQD District Supervisor to address the points listed below. (R 336.1225, R 336.1702(a), R 336.1911)
  - a. Monitoring the carbon adsorption system to maintain satisfactory operation with respect to H<sub>2</sub>S emission control.
  - b. Timely replacing the carbon in the carbon adsorption system to maintain satisfactory operation with respect to H<sub>2</sub>S emission control.

Compliance- MAP was submitted with operating parameters and maintenance activities. I observed the maintenance activities database. Carbon is replaced on set schedule.

#### IV. DESIGN/EQUIPMENT PARAMETERS

1. Except as provided by SC II.2, the permittee shall not operate EU\_Aspphalt unless the carbon adsorption system is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the carbon adsorption system includes maintaining and operating the system according to the approved MAP. (R 336.1225, R 336.1910)

Compliance- During the inspection, it appeared that the carbon adsorption system was working properly. Readings for H<sub>2</sub>S were taken while trucks were being loaded and recorded on a weekly basis.

2. On and after the date that the AQD approves the demonstration of satisfactory performance required by SC V.1, except as provided by SC II.2, the permittee shall not operate EU\_Aspphalt unless the improved capture system is installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the improved capture system includes maintaining and operating the system according to the approved operating plan and achieving an estimated annual average capture effectiveness of at least 45% under all operating conditions. (R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)

Compliance- Capture system appeared to be working properly. I observed trucks loaded with hood on top of the trucks. Fumes appeared to be sufficiently captured.

#### V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. No later than 105 days after commencement of trial operation of asphalt cement loading operations using the improved capture system, which consists of the installation of the improved capture system on at least three lanes, or on and after February 1, 2013, whichever comes first, the permittee shall verify the capture effectiveness of the improved capture system by testing at owner's expense, in accordance with Department requirements. For purposes of this condition, testing shall consist of an audit and assessment by a party independent from the permittee and independent from the vendor of the equipment involved in the improved capture system. The audit and assessment shall consider equipment, procedures, implementation of procedures, and all other factors appropriate to verifying the capture effectiveness. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of capture effectiveness includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.1910)

Compliance- Capture effectiveness was tested on January 29, 2013.

2. Within 120 days after commencement of trial operation of asphalt cement loading operations using the improved capture system, the permittee shall verify H<sub>2</sub>S emissions by testing at owner's expense, in accordance with Department requirements. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emissions includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. (R 336.1224, R 336.1225, R 336.1702(a), R 336.1901, R 336.2001, R 336.2003, R 336.2004)

Compliance- Testing was conducted on February 25, 2013. H2S emissions were below the 15 ppm limit.

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1225, R 336.1702(a))

Compliance- Calculations were performed and presented at time of the inspection.

2. The permittee shall calculate the VOC emission rate from EU\_Aspphalt monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1702(a), R 336.1910)

Compliance- VOC emissions were calculated each month and 12 month rolling period.

3. The permittee shall record the amount of asphalt cement loaded for EU\_Aspphalt monthly, for the preceding 12-month rolling time period, in a satisfactory manner. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1225, R 336.1702(a))

Compliance- Records of Asphalt Cement loaded are kept and were presented at the time of the inspection.

4. The permittee shall keep, in a satisfactory manner, a record of the approximate maximum nominal hourly transfer rate for material at EU\_Aspphalt and an analysis documenting the basis for the recorded transfer rate. The permittee shall keep the record on file at the facility and make it available to the Department upon request.<sup>1</sup> (R 336.1225)

Compliance- Record was provided showing the transfer rate for material. The maximum nominal hourly transfer rate was shown to be 288,000 gallons/hour. This would be the max loading rate if all 8 lanes were loaded at the same time, which is rare. Also one lane was taken out of service for storage of PPA.

#### **VII. REPORTING**

1. Within 30 days after completion of the installation of the improved capture system on three lanes, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of asphalt cement loading operations using the improved capture system on at least three lanes. (R 336.1201(7)(a))

Compliance- Reporting was done on November 28, 2012. The improved vapor capture system was installed on November 5, 2012.

2. Within 30 days after completion of the installation of the improved capture system on eight lanes, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of asphalt cement loading operations using the improved capture system on all eight lanes. (R 336.1201(7)(a))

Compliance- Reporting was done on November 28, 2012. The improved vapor capture system was installed on November 9, 2012.

#### **VIII. STACK/VENT RESTRICTIONS**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID +	Maximum Exhaust Diameter/Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-VRU1	8 <sup>1</sup>	14 <sup>1</sup>	R 336.1225
2. SV-VRU2	8 <sup>1</sup>	14 <sup>1</sup>	R 336.1225
+ Emissions from these stacks may be discharged at an angle other than vertical.			

Compliance- I did not measure stack height or diameter but based on visual observation, it looked accurate.

#### IX. OTHER REQUIREMENTS

The permittee shall complete installation of the improved capture system on eight lanes no later than July 1, 2013. Completion of the installation is considered to occur not later than commencement of trial operation of asphalt cement loading operations using the improved capture system on all eight lanes.<sup>1</sup> (R 336.1225)

Compliance- The capture system was installed on all eight lanes on November 9, 2012.

#### FGASHPOLYTANKS-S2 FLEXIBLE GROUP CONDITIONS

#### DESCRIPTION Asphalt Polymer Mix Storage Tanks

Emission Unit: EUTANK6-1-S2 (TANK 201), EUTANK6-2-S2 (TANK 202)

#### POLLUTION CONTROL EQUIPMENT

NA

#### I. EMISSION LIMIT(S)

NA

#### II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Compliance Determination
1. Asphalt and polymer mixture	37,296,000 Gallons per Year <sup>2</sup>	Based upon a 12 month rolling time period as determined at the end of each calendar month.	1. Compliance. Records were received and highest 12 month rolling total was 2.3 million gallons.

#### III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

#### IV. DESIGN/EQUIPMENT PARAMETER(S)

Each tank in FGASHPOLYTANKS-S2 shall have nominal capacity of 6000 barrels (252,000 gallons).<sup>2</sup>

(R 336.1201(1))

Compliance- Each tank is the same capacity (6000 barrels)

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii))

1. The permittee shall keep records of the FGASHPOLYTANKS-S2 throughput of the asphalt and polymer mixture material each calendar month and 12-month rolling time period.<sup>2</sup> (R 336.1201)

Compliance- Records are kept and were presented at the time of the inspection.

**VII. REPORTING**

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))

Compliance- Prompt reporting is done.

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (R 336.1213(3)(c)(i))

Compliance- Semiannual reports are submitted.

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))

Compliance- Annual Compliance Reports are submitted.

See Appendix 8-S2

**VIII. STACK/VENT RESTRICTION(S)**

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. NA	NA	NA	NA

**IX. OTHER REQUIREMENT(S)**

1. Permittee shall keep readily accessible records showing the dimension of the storage vessel and analysis showing the capacity of the storage vessel for the life of the storage vessel. (40 CFR 60.116b(b))

Compliance- Records are kept.

2. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63 Subparts A and CC, as they apply to FGASHPOLYTANKS-S2. (40 CFR Part 63 Subparts A & CC)

Compliance- Facility complies with 40 CFR Part 63, Subpart CC by complying with 40 CFR Part 60, Subpart Kb.

3. Permittee shall identify each storage tank subject to 40 CFR 63, Subpart CC requirements. (40 CFR 63.655(f)(1)(i)(A))



Compliance- Vapor pressure of asphalt polymer is less than 1.5 psia as specified in Subpart CC requirements.

4. For reporting and recordkeeping purposes, compliance with 40 CFR 63, Subpart A, General and 40 CFR 63, subpart R, National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations) shall be considered compliance with the requirements for 40 CFR 63, Subpart CC which has been subsumed by this streamlined requirement. (R 336.1213(3))

Undetermined- Light Products Terminal was not inspected during this inspection.

**APPLICABLE FUGITIVE DUST CONTROL PLAN CONDITIONS:**

The Single Source does have a Fugitive Dust Control Plan. During the Asphalt Terminal inspection, Fugitive Dust was not evaluated.

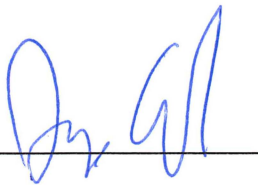
**MAERS REPORT REVIEW:**

Pollutant	2018 Emissions(TPY)
CO	127
NOx	351
PM	92
Sox	168
VOC	321

**FINAL COMPLIANCE DETERMINATION:**

Based on the inspection and review of the records, it appears that the Asphalt Terminal is compliance with ROP- MI-ROP-A9831-2012 .

NAME



DATE

8-15-19

SUPERVISOR

W.M