

# Western Refining Southwest LLC

A subsidiary of Marathon Petroleum Corporation I-40 Exit 39 Jamestown, NM 87347

September 24, 2021

Mr. Kevin Pierard, Chief New Mexico Environment Department 2905 Rodeo Park Drive East, Bldg. 1 Santa Fe, NM 87505-6303

RE: Response to Approval with Modifications Response Action Report Sour Naphtha Release Marathon Gallup Refinery (dba Western Refining Southwest LLC) EPA ID# NMD000333211 HWB-WRG-20-002

Dear Mr. Pierard:

Attached please find the response to comments contained in the New Mexico Environment Department (NMED) Approval with Modifications letter dated October 13, 2020. A timeline of the reports for the sour naphtha release is provided below.

- Response Action Report, submitted December 12, 2019
- Disapproval, Response Action Report, received February 21, 2020
- Response to Disapproval, submitted September 15, 2020
- Approval with Modifications, received October 13, 2020

If you have any questions or comments regarding the information contained herein, please do not hesitate to contact Mr. John Moore at 505-879-7643.



# Western Refining Southwest LLC

A subsidiary of Marathon Petroleum Corporation I-40 Exit 39 Jamestown, NM 87347

### **Certification**

I certify under penalty of law that this document and all attachments were prepared under my direction of supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

Western Refining Southwest LLC, Marathon Gallup Refinery

Ruth A. Cade

Ruth Cade Vice-President

Enclosure

cc: D. Cobrain, NMED HWB
 L. Barr, NMOCD
 K. Luka, Marathon Petroleum Company
 H. Jones, Trihydro Corporation
 M. Suzuki, NMED HWB
 G. McCartney, Marathon Petroleum Company
 J. Moore, Marathon Gallup Refinery

TABLE

New Mexico Environment Department to Western Refining Southwest LLC Comment Letter "Approval with Modifications, Response
Action Report Sour Naphtha Release" (October 13, 2020)

New Mexico Environment Department (NMED) Comment	Western Refining Southwest LLC Response	
Comment 1:	Response 1:	
The Permittee's response to NMED's Comment 3 states, "[t]he environmentally-mindful THUNDERSTORM W813A 1x3 AR-AFFF Concentrate formulation contains short-chain, C-6 fluorochemicals manufactured using a telomer-based process. The telomer process produces no [perfluorooctanesulfonic acid] PFOS, and these C-6 materials do not breakdown to yield [perfluorooctanoic acid] PFOA." It is not clear whether the aqueous film foaming foam (AFFF) used to minimize vapor release yields any per- and polyfluoroalkyl substances (PFAS). Clarify whether or not the product yields any PFAS in a response letter. PFAS compounds are known to cause adverse human health effects and EPA considers PFAS to be an emerging contaminant. Requirements for the evaluation of PFAS are included in NMED's Risk Assessment Guidance for Site Investigation and Remediation (2019). Submit a work plan to investigate potential PFAS groundwater contamination downgradient of the release location that addresses the PFAS listed in NMED's Risk Assessment Guidance, if deemed	The Environmental Protection Agency's (EPA) Office of Pollution Prevention and Toxics (OPPT), which implements the Toxic Substance Control Act (TSCA), was contacted to determine how to best proceed in regard to potential polyfluoroalkyl substance (PFAS) sampling after using THUNDERSTORM W813A 1x3 AR-AFFF Concentrate. The EPA representative for issues relating to PFAS, Tyler Lloyd (Illoyd.tyler@epa.gov), confirmed that, while PFAS may be present in the foam that was used, there are no regulatory requirements under TSCA requiring users of the product to sample the short-chain, C-6 fluorochemicals, used in this product. Furthermore, he stated, that if the lab was able to test for the specific PFAS used in this product, there are currently no Federal requirements for clean-up or monitoring of the PFAS chemical product in the foam. Until requirements are adopted under federal or state law a workplan is premature.	

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New Mexico Environment Department (NMED) Comment	Western Refining Southwest LLC Response	
Comment 2:	Response 2:	
The Permittee's response to NMED's Comment 5 states, "MPC has added a statement indicating that they will collect samples from 11 surficial locations and from two soil borings, as described above, to fully delineate the horizontal and vertical extent of contamination and will propose to submit an Investigation Work Plan outlining this approach." The pertinent revisions were made in the Conclusion and Recommendations Section, Figures 6 and 7; however, the response does not state where the revisions were made. Indicate all section(s) where pertinent revisions were made to the documents in all future responses. In addition, Figure 7, Proposed Surface Sampling Locations, depicts only 9 proposed locations where surface samples are proposed to be collected rather than 11 proposed locations. Resolve the discrepancy and provide replacement pages.	The comment is acknowledged. All sections where pertinent revisions are made to documents in all future responses will be indicated in the response. In addition, a revised Figure 7 that includes the additional two sampling locations has been attached.	
Comment 3:	Response 3:	
The Permittee's response to NMED's Comment 6 states, "[t]herefore, additional sampling is required and following the additional sampling an investigation summary report and remediation plan for these surficial soils will be submitted to NMED." The results of the additional sampling must be summarized in a letter report and submitted to NMED no later than June 1, 2021. No revision required.	This comment is acknowledged. To clarify, the additional sampling that was referred to is sampling that was proposed in the report to be included in the Sour Naphtha Investigation Workplan. This sampling has not yet occurred and will take place after the Workplan has been submitted and approved by NMED. The Workplan will be submitted no later than September 15, 2021. The report summarizing the investigation results will be submitted by December 31, 2021.	

New Mexico Environment Department (NMED) Comment	Western Refining Southwest LLC Response	
Comment 4:	Response 4:	
The Permittee's response to NMED's Comment 7 states, "[t]he backfill source was not documented in the release documentation. However, refinery maintenance personnel indicated that the backfill source likely originated from an off-site sand and gravel company." In order to confirm that the backfill was not contaminated, collect one backfill sample and analyze for VOCs, PAHs, TPH, and metals. Include the analytical results in the letter report required by Comment 3. No revision required.	The comment is acknowledged. One backfill sample will be included in the Sour Naphtha Investigation Workplan. The sample will be analyzed for volatile organic compounds (VOC), polycyclic aromatic hydrocarbons (PAH), total petroleum hydrocarbons (TPH), and metals.	
Comment 5:	Response 5:	
The Permittee's response to NMED's Comment 8 states, "the statement has been revised to say [that a] description of each sample location (Figure 4) is provided below" The typographical error was not corrected in the Report. The text still states, "[a] description of each sample location (Figure 5) is provided below" Correct the error and provide replacement pages.	The error in the Remediation Activities Section, Assessment – Soil Confirmation Sampling, page 8 of 10 has been corrected in the attached replacement page to state that a "description of each sample location (Figure 4) is provided below"	
Comment 6:	Response 6:	
The Permittee's response to NMED's Comment 9 states, "the statement has been revised to say [that] Sample Location #2 —excavation floor [is located] northeast of the pipeline hole." The statement was not corrected in the Report. The text still states, "[s]ample Location #2 excavation floor [is located] southeast of the pipeline hole." Correct the error and provide replacement pages.	The error has been corrected on the attached replacement page. The error in the Remediation Activities Section, Assessment – Soil Confirmation Sampling, page 8 of 10 has been corrected in the attached replacement page to state "Sample Location #2 excavation floor, northeast of the pipeline hole."	

New Mexico Environment Department (NMED) Comment	Western Refining Southwest LLC Response	
Comment 7:	Response 7:	
The Permittee's response to NMED's Comment 10 states, "[s]ample location #4 contained the highest concentration for Toxicity Characteristic Leaching Procedure (TCLP) benzene, and Total VOCs (8260B soils) were analyzed in the sample for use in Benzene Waste Operations NESHAP (BWON) calculations." Explain the purpose of BWON calculations in the response letter. In addition, according to Table 1, Soil Analytical Results — March 30, 2017, page 1 of 2, the concentrations of several VOCs (e.g., 1,2-dibromo-3-chloropropane) in the soil sample collected from sample location #4 exceed applicable screening levels. Conduct VOC analysis for all additional confirmation samples that are proposed to be collected in order to delineate the extent of contamination. Provide the analytical results in the letter report required by Comment 3. No revision required.	<ul> <li>Western maintains compliance under the benzene waste operations National Emission Standards for Benzene Waste Operation (BWON) federal regulation (40 CFR Subpart FF). Sampling takes place to quantify benzene waste on an annual basis.</li> <li>VOC analysis will be conducted for all additional confirmation samples that will be proposed in the Sour Naphtha Investigation Workplan to delineate the extent of contamination</li> <li>The Workplan will be submitted no later than September 15, 2021. The report summarizing the investigation results will be submitted by December 31, 2021.</li> </ul>	
Comment 8:	Response 8:	
The Permittee's response to NMED's Comment 12 states, "[t]he sampling procedure for waste characterization will be discussed in the investigation work plan." NMED's Comment 12 states, "the sampling procedure for waste characterization is not discussed in the Report. Include the discussion in the revised Report." The Permittee is directed to discuss the sampling procedure for waste characterization in the revised Report rather than the investigation work plan. Revise the Report accordingly and provide replacement pages.	To address the NMED's comment regarding waste characterization, the section titled "Soil Sampling Analytical Results", on page 8 of the repot, has been revised to state, "On April 5, 2017, the samples collected for soil confirmation and waste determination were delivered to Hall Environmental Analysis Laboratory (Hall) and analyzed for the following constituents". In addition, the final paragraph of this section was revised, adding the statement "The toxicity characteristic leaching procedure (TCLP), metals, and VOC results were used to determine waste characterization for soil disposal."	

New Mexico Environment Department (NMED) Comment	Western Refining Southwest LLC Response
Comment 9:	Response 9:
The Permittee's response to NMED's Comment 13 states, "[t]hese statements have been removed in the revised Report." The statements were appropriately removed from the Regulatory Criteria Comparisons Section, page 10 of 11; however, Attachment B, Redline, does not show the deletions in the pertinent section. The redline strikeout (RLSO) version must show all changes made to the original documents. No revision required.	The comment is acknowledged. Western will ensure that all changes are included in the redline strikeout versions of future reports.
Comment 10:	Response 10:
The Permittee's response to NMED's Comment 14 states, "if further excavation is warranted, the excavation area and excavated soils will be monitored for VOCs during excavation." The confirmation samples must be analyzed for VOCs, PAHs, TPH, and metals at a minimum if excavation is warranted. Acknowledge the provision in the response letter.	The comment is acknowledged. If additional excavation is warranted, confirmation samples will be analyzed, at a minimum, for VOCs, PAHs, TPH, and metals.

FIGURE





			FIGURE	7
D		PROPOSED SI	JRFACE SA	AMPLE LOCATIONS
0 7729	GALLUP REFINERY GALLUP, NEW MEXICO			
ked l	By: PH	Scale: AS SHOWN	Date: 4/5/21	File: 697-SOURNAPHTHARELEASE-202103

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ATTACHMENT



**RESPONSE TO DISAPPROVAL** 

#### **RESPONSE ACTION REPORT SOUR NAPHTHA RELEASE**

### **Executive Summary**

The Marathon Petroleum Company Gallup Refinery is located 17 miles east of Gallup, New Mexico. This Response Action Report provides the March 26, 2017 sour naphtha release response action details and related data.

Approximately 16 tons of soil was excavated from the spill area. Soil confirmation samples were collected and analyzed for total petroleum hydrocarbons (TPH), polynuclear aromatic hydrocarbons (PAHs), volatile organic compounds (VOC), chloride, and sulfate. The samples were also analyzed for toxicity characteristic leaching procedure (TCLP) volatiles, TCLP Resource Conservation and Recovery Act (RCRA) metals, reactive cyanide, reactive sulfide, corrosivity, and ignitability for waste characterization.

Because the site is an industrial facility, residential screening levels were not considered. The release occurred over an area with known light non-aqueous phase liquid (LNAPL) impacts in the groundwater. Because of this, the residual soil concentrations that exceed the risk-based DAF 20 screening levels are not considered a significant groundwater threat and no additional excavation is recommended. Non-residential screening levels were considered in this report.

Four sample location TPH-gasoline range organics (GRO) results exceed the industrial/occupational screening levels. These confirmation samples were collected either from the excavation side walls or floor. The reported exceedances are from depths greater than one foot (ft) where exposure to industrial workers is not likely but exposure to construction workers may be possible as the exceedances are in the one to ten ft below ground surface (bgs) range.

# Introduction

The Marathon Petroleum Company Gallup Refinery (Refinery) is located approximately 17 miles east of Gallup, McKinley County, New Mexico along the north side of Interstate Highway I-40. The physical address is I-40, Exit #39 Jamestown, New Mexico 87347. The Refinery property covers approximately 810 acres. The sour naphtha release was located on the Refinery's western side (Figure 1).

# **General Information**

The Refinery processes crude oil transported by pipeline or tanker truck from the Four Corners region. Various process units operated at the Refinery include: crude distillation, reformer, fluidized catalytic cracker, alkylation, sulfur recovery, merox treater, and hydrotreater. Current and past operations have produced gasoline, diesel fuels, jet fuels, kerosene, propane, butane, and residual fuel.

Printed on Aug 23, 2021

# **Description Of The Release**

At approximately 10:00 AM on March 26, 2017, a naphtha release was detected as an operator was making his rounds. The operator found a naphtha saturated soil seep, approximately 4 feet (ft) by 4 ft, in a service road. The sour naphtha flowed approximately 332 ft westerly down the middle and sides of the service road. Two separate areas of sour naphtha pooled at the sloping road base. The operator immediately isolated the leaking line by blocking valves. The operator notified the Environmental Department and Kurtz Fire Department. Williams Thunderstorm foam was applied to the release area to minimize vapors (Appendix G). The release area was barricaded with barricade tape. The Maintenance Department was notified, and earthen berms were installed to control the release flow.

The release occurred from a corrosion hole found in a 3-inch diameter carbon steel pipeline located 4 ft bgs. The estimated sour naphtha volume released was less than 5 barrels (210 gallons). Photographs of the release are presented in Appendix A.

The New Mexico Environment Department (NMED) Hazardous Waste Bureau and the New Mexico Oil Conservation Division (NMOCD) were notified of the spill at 10:00 AM, March 27, 2017. An initial written report (Form C-141) was completed on August 30, 2017 (Appendix B). No personnel injuries or fires were reported in relation to the release.

# **Characterization Of The Release Material**

The product released was sour naphtha. The sour naphtha Safety Data Sheet is presented in Appendix C. Based on TPH GRO, TPH-diesel range organics (DRO), and TPH- oil range organics (ORO) analyses of five soil samples, the sour naphtha averaged 96.7% TPH-GRO, 3.0% TPH-DRO, and 0.3 % TPH-ORO. These results suggest that the sour naphtha consisted of predominantly TPH-GRO compounds.

# **Description Of Release Area**

The release occurred from a 3-inch diameter carbon steel pipeline located 4 ft bgs. The pipeline transported sour naphtha to Tank T-567. The release occurred where several pipelines cross beneath a service road west of the intersection near the bundle cleaning slab. The pipelines have not been relocated to an aboveground crossing.

# **Site Conditions That Affect The Release**

Local topographic features include high ground in the southeast gradually decreasing to a lowland fluvial plain in the northwest. Refinery elevations range from 6,860 ft to 7,040 ft above mean sea level (amsl). The release area service road elevation is approximately 6,951 ft amsl. The release flowed downhill (west) along the middle and sides of the service road and collected in two separate areas at the slope base. The slope base elevation is approximately 6,932 feet amsl. The maintenance department built several berms to contain the release.

# **Remediation Activities**

# Remediation

The sour naphtha was observed to be seeping from beneath the service road and moving westward down the service road (Figure 2). The soil excavation area dimensions are 20 ft long (parallel to the pipeline) by 4 ft wide by 4 ft deep (Figure 3). Following excavation of soil covering the pipe, maintenance replaced the damaged pipeline section. Visibly impacted soil in and surrounding the release area was excavated and placed in 20 cubic

yard (cy) bins for off-site disposal. A photograph taken during the excavation process is presented in Appendix D. Additional documentation that soils along the release pathway to the west of the release area was not available at this time, therefore additional sampling is proposed to verify impacted soils have been remediated.

Six soil confirmation samples were collected after excavation was completed (Figure 4). Based on the analytical results (Appendix E), the 16 tons of soil were treated as hazardous waste (D018 – soil with benzene) and transported offsite for disposal. Copies of the waste manifests are presented in Appendix F. The excavated area was backfilled with clean soil and the service road was reopened. The backfill source was not documented in the release documentation. However, refinery maintenance personnel indicated that the backfill source likely originated from an off site sand and gravel company. Most backfill work is done by subcontractors who provide their own source of materials.

#### **Assessment - Soil Confirmation Sampling**

Soil samples were collected to confirm that the release area extent had been properly remediated.

#### Soil Sampling

On March 30, 2017, six discrete soil samples, Sample Locations #1 through #6, were collected from the completed excavation using a trowel that was decontaminated between samples. A description of each sample location (Figure 4) is provided below:

- Sample Location #1 excavation floor, southeast of the pipeline hole
- Sample Location #2 excavation floor, northeast of the pipeline hole
- Sample Location #3 eastern excavation sidewall near the pipeline hole
- Sample Location #4 western excavation sidewall near the pipeline hole
- Sample Location #5 western excavation sidewall approximately 8 to 10 ft south of the pipeline hole
- Sample Location #6 outside of the excavation extent, approximately 8 to 10 ft north of the pipeline hole

#### **Confirmation Sample Location Selection**

The confirmation soil samples were collected based on field screening (e.g., olfactory, staining) and their location relative to the pipeline hole. These locations are the most representative soil conditions after visually impacted soil excavation was completed.

#### Soil Sampling Analytical Results

On April 5, 2017, the samples collected for soil confirmation and waste determination were delivered to Hall Environmental Analysis Laboratory (Hall) and analyzed for the following constituents:

- TPH Environmental Protection Agency (EPA) Method 8015D
- Polycyclic Aromatic Hydrocarbons (PAH) EPA Method 8310
- Anions (chloride and sulfate) EPA Method 300.0
- TCLP Mercury EPA Method 7470

- TCLP RCRA Metals EPA Method 6010B
- TCLP Volatiles EPA Method 8260B
- Reactivity (cyanide and sulfide)
- Corrosivity
- Ignitability

In addition, Sample Location #4, was also analyzed for total volatiles – EPA Method 8260B. Sample location #4 had the highest concentration for Toxicity Characteristic Leaching Procedure (TCLP) benzene, and Total VOCs (8260B soils) and was analyzed in that sample for use in Benzene Waste Operation NESHAP (BWON) calculations.

On April 21, 2017, Hall issued Analytical Report No. 1704176. The report is presented in Appendix E. An analytical results summary for TPH, PAHs, volatiles, chloride, and sulfate is presented in Table 1. The TCLP, metals, and VOC results were used to determine waste characterization for soil disposal.

#### Subsurface Soil Conditions

No soil borings or monitoring wells were installed during the investigation.

### **Groundwater Conditions**

A groundwater investigation was not conducted. However, the nearest monitoring well to the release area is MKTF-15 (Figure 5), which is approximately 120 ft northwest (downgradient) of the release area. The MKTF-15 depth to groundwater is approximately 12 ft bgs. LNAPL has been detected in this monitoring well during previous gauging events including September 26, 2017. MKTF-15 was sampled during the first, second, and fourth quarterly groundwater sampling events. The next closest monitoring well MKTF-10 is located along the release flow pathway. Monitoring well MKTF-11 is located at the far end where the sour naphtha pooled at the service road's base. MKTF-10 and MKTF-11 were sampled during quarterly groundwater sampling events in 2017. The groundwater analytical results are presented in the annual groundwater report. The well locations with respect to the release area are shown on Figure 5. The 2017 quarterly gauging events conducted at these three wells are presented in Table 2.

### **Surface Water Conditions**

The release did not reach surface water.

# Surface Air And Subsurface Vapor Conditions

Foam was applied to minimize any sour naphtha release vapors. . Williams Thunderstorm was the foam applied to the release area to minimize the vapors. The Safety Data Sheet for Williams Thunderstorm W813A-FP 1x3 AR-AFFFF, 5G E (Appendix G). According to the Data Sheet for the foam, "The environmentally-mindful THUNDERSTORM W813A 1x3 AR-AFFF Concentrate formulation contains short-chain, C-6 fluorochemicals manufactured using a telomer-based process. The telomer process produces no PFOS, and these C-6 materials do not breakdown to yield PFOA. The fluorochemicals used in the concentrate meet the goals of the U.S. Environmental Protection Agency 2010/15 PFOA Stewardship Program and the current ECHA Directive (EU) 2017/1000".

# **Regulatory Criteria Comparisons**

The potential cleanup levels (i.e., screening levels) are specified in NMED's *Risk Assessment Guidance for Site Investigations and Remediation* dated March 2017 and EPA's Regional Screening Levels dated June 2017 if NMED values are not available.

For non-residential properties (e.g., the Refinery), the soil screening levels (SSLs) must be protective of commercial/industrial workers throughout the upper 1 ft of surface soils and construction workers throughout the upper 10 ft based on NMED criteria. NMED residential soil screening levels are applied to the upper 10 ft and soil screening levels for protection of groundwater apply throughout the vadose zone. EPA soil screening levels for direct contact exposure apply to the upper 2 ft of the vadose zone. The cleanup criteria are presented in the analytical data summary tables.

A review of the TPH analytical results indicates exceedances of the Residential Soil Screening Level (1,000 milligrams per kilogram [mg/kg]) and/or the industrial/occupational screening level (3,800 mg/kg), assuming unknown oil. TPH-GRO results from sample locations #1 through #5 exceed the screening levels (Table 1).

## **Conclusions and Recommendations**

On March 26, 2017, a sour naphtha release was detected in the middle of a service road in the western portion of the Refinery. The sour naphtha flowed approximately 332 ft downhill in a westerly direction along the middle and sides of the service road. The release occurred from a corrosion hole in a 3-inch diameter carbon steel pipeline located 4 ft bgs. The estimated release volume was less than 5 barrels (210 gallons).

### **Soil Confirmation Sampling Results**

An analytical result review indicates that some VOC, SVOC, and TPH-GRO concentrations exceeded NMED screening levels. The confirmation samples were collected either from the excavation side walls or floor. The reported exceedances are from depths greater than one ft where exposure to industrial workers is not likely but exposure to construction workers may be possible as the exceedances are in the one to ten ft bgs range.

### Recommendations

An investigation work plan will be submitted proposing that a minimum of two soil borings (Figure 6) will be advanced to a minimum depth of 10 ft bgs for delineation of the vertical and horizontal extent of hydrocarbon contamination in the release area. A minimum of one boring will be installed five feet west of sample location #4 and one boring will be installed five feet east of sample location #2. These locations will be sampled for TPH-GRO analysis at the depths corresponding to the sample depths in locations #2 and #4. If the TPH-GRO concentrations exceed the screening level, additional borings will be installed to fully delineate the concentration extent exceeding screening levels. Additionally, if further excavation is warranted, the excavation area and excavated soils will be monitored for VOCs during excavation.

In the investigation work plan an additional 11 locations (Figure 7) will be proposed to be sampled at the surface and at a depth of one ft bgs. These samples will be analyzed for TPH-GRO. Following the investigation, the results will be summarized in an investigation report as well as recommendations for additional soils remediation.

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**State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

Page 17 of 17 CONDITIONS

Action 51837

CONDITIONS

Operator:	OGRID:
Western Refining Southwest LLC	267595
539 South Main Street	Action Number:
Findlay, OH 45840	51837
	Action Type:
	[UF-DP] Discharge Permit (DISCHARGE PERMIT)
	[UF-DP] Discharge Permit (DISCHARGE PERMIT)

#### CONDITIONS

Created By	Condition	Condition Date
scwells	Accepted for Record Retention Purposes-Only	11/22/2022