



Certified Mail - Return Receipt Requested



November 23, 2021

John Moore
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

**RE: DISAPPROVAL
SOUR NAPHTHA RELEASE INVESTIGATION WORK PLAN
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
MCKINLEY COUNTY, GALLUP, NEW MEXICO
EPA ID # NMD000333211
HWB-WRG-21-014**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has completed its review of the Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee) *Sour Naphtha Release Investigation Work Plan (Work Plan)*, dated September 28, 2021 and received September 29, 2021. NMED has reviewed the Work Plan, and hereby issues this Disapproval with the following comments.

Comment 1

In the Scope of Activities Section, page 7 of 11, bullet 1, the Permittee states, “[t]he first soil boring is approximately 15 ft west of sample location #4 from the original investigation (Figure 5). This is the minimum distance to the west of the release where a direct push sample may be collected without intercepting the underground pipelines in the area.” Comment 5 of NMED’s February 21, 2020 *Disapproval Response Action Report Sour Naphtha Release* required the Permittee to “propose to submit a work plan to install two borings five feet west of sample location #4 and five feet east of sample location #2 to the corresponding sampling depths and collect soil samples for TPH-GRO analysis.” Although Comment 5 requires the Permittee to install a boring five feet west of the sample location #4, the proposed boring 15 feet west of the sample location #4 is acceptable because the accessibility is limited. No revision required.

Comment 2

In the Scope of Activities Section, page 7 of 11, bullet 3, the Permittee states, "11 surface samples collected at 1 ft bgs as indicated in Figure 6." According to Appendix A (Laser Induced Fluorescence (LIF) Results), Separate Phase Hydrocarbon (SPH) was not detected at a depth of one foot below ground surface (bgs) in LIF borings MKTF-LIF-85, and MKTF-LIF-86; however, SPH was detected at deeper depth intervals (e.g., 8 to 12 feet bgs). Since the naphtha release occurred in March 2017, it appears that the SPH released at the time may have migrated to deeper depths below the ground surface. Therefore, soil samples must be collected from deeper depth intervals at the proposed 11 surface sampling locations to delineate the vertical extent of contamination. Revise the Work Plan accordingly.

Comment 3

In the Scope of Activities Section, page 7 of 11, paragraph 5, the Permittee states, "[b]ased on results from the May 2021 LIF investigation, the Refinery proposes three additional soil borings, collecting samples at depths of 8 to 12 ft bgs along the road to the west of the sour naphtha release (Figure 5). LIF logs for MKTF-LIF-85 and MKTF-LIF-86 (provided in Appendix A) indicated the potential presence of naphtha and the additional borings will further delineate the release." Comment 2 above requires the Permittee to install 11 additional soil borings to collect soil samples to delineate the vertical extent of contamination. It is NMED's opinion that the Permittee should reevaluate the necessity of installing the three additional proposed borings in the revised the Work Plan. NMED considers the installation of the 11 additional borings from Comment 2 above to be sufficient enough to delineate the release. In addition, the proposed depth of the borings (8 to 12 feet bgs) may not be adequate to delineate the vertical extent of contamination because the LIF logs included in Appendix A indicate that SPH may be present below 12 feet bgs. The Permittee must extend the termination depth of each proposed boring to delineate the vertical extent of contamination. Include the provision in the revised Work Plan.

Comment 4

In the Scope of Activities Section, page 7 of 11, paragraph 6, the Permittee states, "NMED requested a separate investigation into the Heat Exchanger Bundle Pad area due to benzene exceedances in nearby monitoring well MKTF-16. MKTF-16 is south of the sour naphtha release area and lies along an underground sewer corridor. MKTF-16 has routinely exceeded the benzene standard and increased following the 2017 sour naphtha release. Based on the proximity to the sour naphtha release, the Refinery plans to collect additional soil samples from borings to the south of the sour naphtha release to evaluate the potential for impacts from the release south toward MKTF-16 as shown on Figure 5." The benzene concentrations detected in the samples collected from well MKTF-16 prior to the naphtha release (March 2017) are recorded as generally higher than those after the release and a notable spike of benzene concentrations after the release was not identified in well MKTF-16. There does not appear to be a correlation with the presence of the elevated benzene levels in well MKTF-16 and the 2017 naphtha release. NMED received the September 24, 2021 *Heat Exchanger Bundle Pad*

Investigation Work Plan which proposed to investigate the same observation regarding the elevated benzene concentrations in well MKTF-16. Since the naphtha release may not be the cause of elevated benzene concentrations in well MKTF-16, it would be more appropriate to include this evaluation in the Heat Exchanger Bundle Pad Investigation rather than the Sour Naphtha Release Investigation. Remove the discussion/proposed investigation associated with the elevated benzene concentrations for well MKTF-16 from the Work Plan.

Comment 5

In the Field Screening Section, page 8 of 11, bullets 1 and 2, the Permittee states, “[d]iscrete soil samples will be retained for laboratory analysis from within the following intervals:

- Every 2.5 ft bgs to a depth of 10 ft bgs for the 8 soil borings near the sour naphtha release and to the south toward MKTF-16 (Figure 5).
- Every 2 ft bgs between depths of 8 and 12 ft bgs for the 3 soil borings near the road to the west of the sour naphtha release (Figure 5).”

Based on the previous investigation, the proposed sampling intervals may have missed the contamination present in the soils. Since a photoionization detector (PID) or a combustible gas indicator will be used for VOC screening, include a provision to collect additional soil samples at depths where elevated PID readings are recorded (e.g., by adjusting the sample collection intervals) in the revised Work Plan. In addition, the proposed depths of the borings may not be adequate to delineate the vertical extent of contamination because SPH appears to be present below 12 ft bgs (see Comment 3). The sampling intervals for each depth of the borings in the Work Plan must include intervals deep enough to demonstrate the absence of contamination. Furthermore, in order to confirm presence/absence of contamination near ground surface, propose to collect a soil sample from a depth of six to 12 inches bgs at each boring location in the revised Work Plan.

Comment 6

In the Field Screening Section, page 8 of 11, bullet 3, the Permittee states, “[d]iscrete soil samples will be retained for laboratory analysis from within the following intervals:

- 1 ft bgs for the 11 soil surface samples (Figure 6).”

The soil samples must be collected from deeper depth intervals at the proposed 11 surface soil sampling locations to delineate the vertical extent of contamination (see Comment 2). Revise the Work Plan accordingly.

Comment 7

In the Field Screening Section, page 9 of 11, paragraph 1, the Permittee states, “[a]dditional information, such as the presence of water-bearing zones and any unusual or noticeable conditions encountered during drilling, will be recorded on the logs.” If water bearing zones are

encountered during the investigation, the Permittee must document the zones in detail with respect to future well installation. No revision is necessary.

Comment 8

In the Laboratory Analysis Section, page 9 of 11, bullets 1 and 2, the Permittee states that “[c]ollected samples will be analyzed for hydrocarbon impacts with the following methods:

- Method 8015M/D – total petroleum hydrocarbons-gasoline range organics (TPH-GRO)
- Method 8260B – benzene, ethylbenzene, toluene, and total xylenes (BETX)”

Comment 7 of NMED’s October 13, 2021 *Approval with Modifications Response to Disapproval Response Action Report Sour Naphtha Release* states that “the concentrations of several [volatile organic compounds (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.” Revise the Work Plan to include the analysis and reporting of all constituents listed in EPA Method 8260B. In addition, the released naphtha may also consist of total petroleum hydrocarbons diesel (TPH-DRO) and motor oil range organics (TPH-MRO). Include TPH-DRO and TPH-MRO or TPH-DRO extended analyses in the revised Work Plan, as well.

Comment 9

In the Laboratory Analysis Section, pages 9 and 10, bullets 3 through 6, the Permittee states, “the confirmation sample collected from the previous excavation backfill will also be analyzed for:

- Method 8270 SIMs - polycyclic aromatic hydrocarbons (PAH)
- Method 8015M/D – total petroleum hydrocarbons-diesel range organics (TPH-DRO)
- Method 8015M/D – total petroleum hydrocarbons-motor oil range organics (TPH-MRO)
- EPA Method 6010B/7471 - Resource Conservation and Recovery Act (RCRA) 8 Metals.”

Comment 4 of NMED’s October 13, 2021 *Approval with Modifications Response to Disapproval Response Action Report Sour Naphtha Release* states that “[i]n order to confirm that the backfill was not contaminated, collect one backfill sample and analyze for VOCs, PAHs, TPH, and metals.” Since the origin of the backfill is not known, VOCs may be present in the backfill material. Include VOC analysis, as directed by Comment 4, for the backfill samples in the revised Work Plan to demonstrate that VOCs are not present in the backfill material.

Comment 10

In the Data Evaluation Section, page 10 of 11, paragraph 3, the Permittee states, “[t]he soil confirmation sampling results will be compared to NMED Construction Worker SSLs to determine if further excavation and/or investigation is necessary.” The soil confirmation

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sampling results must also be compared with residential and commercial/industrial worker soil screening levels. Revise the Work Plan accordingly. In addition, if the Permittee wishes to petition for corrective action complete (CAC) without control status at the site in the future, it will be appropriate to select residential soil screening levels as criteria to determine whether further excavation and/or investigation is necessary.

The Permittee must submit a revised Work Plan that addresses all of the comments contained in this Disapproval. Two hard copies and an electronic version on CD/DVD of the revised Work Plan must be submitted to the NMED. The Permittee must also include a redline-strikeout version in electronic format showing where all revisions to the Work Plan have been made. The revised Work Plan must be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. The revised Work Plan must be submitted to NMED no later than **April 4, 2022**.

If you have questions regarding this letter, please contact Michiya Suzuki of my staff at 505-690-6930.

Sincerely,



Dave Cobrain
Program Manager
Hazardous Waste Bureau

cc: L. Tsinnajinnie, NMED HWB
M. Suzuki, NMED HWB
L. Barr, EMNRD OCD
L. King, EPA Region 6 (GLCRRC)
H. Jones, Trihydro

File: Reading File and WRG 2021 file