



Certified Mail - Return Receipt Requested

October 20, 2021

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

**RE: DISAPPROVAL
REVISED INVESTIGATION WORK PLAN NO. 2 AREA OF CONCERN 35
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
MCKINLEY COUNTY, GALLUP, NEW MEXICO
EPA ID # NMD000333211
HWB-WRG-20-009**

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) *Revised Investigation Work Plan No. 2 Area of Concern 35 (Work Plan)*, dated August 2021 and received September 1, 2021. NMED has reviewed the Work Plan, and hereby issues this Disapproval with the following comments.

Comment 1

In Section 2.3 (Additive Tank Farm Loading Rack), page 8 of 18, paragraph 1, the Permittee states, “[o]nly products (i.e., fuel additives), no wastes, were managed in this area; methyl tert butyl ether (MTBE) is not, and has not been, stored in these tanks.” In the revised Work Plan, provide the following information: (1) the current status of the additive tanks, (2) the products currently stored in the tanks, if any, (3) the products historically stored in the tanks that are currently detected as contaminants of concern (e.g., 1,2-dichloroethane?), and (4) the products known to have previously been released from the tanks, if any.

Comment 2

In Section 2.5 (Historical AOC 35 Investigations), page 9 of 18, paragraph 2, the Permittee states, “[t]he distribution of these constituents, as shown on Figures 4a, 4b, 5a, and 5b, likely indicate a source of groundwater contamination from within AOC 35 (“a” and “b” in figure titles

indicate before and after discovery of the leaking transfer line, respectively).” Since the isoconcentration contour lines for the constituents (benzene and MTBE) are not presented on the figures, the distribution of the constituents before and after the October 2019 gasoline release is not clearly depicted on the figures. Revise the figures to include the estimated isoconcentration contour lines for the constituents. In addition, the distribution of total petroleum hydrocarbons (TPH) before and after the release may also help demonstrate how the plumes have migrated and expanded. Include figures that present the distribution of TPH in the revised Work Plan.

Comment 3

In Section 2.5 (Historical AOC 35 Investigations), page 10 of 18, paragraph 1, the Permittee states, “[t]he Refinery is indefinitely idled at this time and the sewer is currently not in operation and blocked off.” Since the sewer line is known to be leaking, the Permittee must repair or replace the sewer lines, where applicable, prior to resuming the refining operations. No revisions are required.

Comment 4

In Section 2.6 (October 2019 Underground Transfer Line Release and Laser-Induced Fluorescence Investigation), page 10 of 18, paragraph 3, the Permittee states, “[a] report regarding LIF/HP results sitewide (i.e., including the May 2021 data) is currently in development and due to be submitted to NMED by October 31, 2021.” NMED’s June 2, 2021 *Disapproval Marketing Tank Farm Laser-induced Fluorescence/Hydraulic Profiling Investigation Report* states that “[t]he revised Report must be submitted to NMED no later than **September 14, 2021**. In addition, a work plan proposing to investigate the Process Area required by Comment 9 above must be submitted no later than **November 30, 2021** and an interim measures report that summarizes the effectiveness of the remediation system required by Comment 37 above must be submitted no later than **December 31, 2021**.” NMED received the revised LIF/HP Investigation Report on September 24, 2021. NMED is not aware of an additional sitewide investigation report that the Permittee is submitting by October 31, 2021. A work plan that proposes investigation of the Process Area must be submitted and approved prior to initiating the sitewide investigation, as directed by the NMED’s June 2, 2021 Disapproval. If the sitewide investigation of the Process Area was already conducted, NMED will consider the work to have been conducted at-risk and may require the Permittee to conduct additional work, if any deficiency is found. Clarify which report is to be submitted by October 31, 2021. Also, state when NMED will be receiving a work plan for the investigation of the Process Area.

Comment 5

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 1, white bullet 1, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [g]asoline signatures [-] MKTF-LIF-47 - (31.20 ft-bgs).” According to the MKTF-LIF-47 UVOST boring log included in Appendix D, elevated %RE signals are observed at a final depth

of 31.20 feet bgs. However, the vertical extent of potential soil contamination at boring MKTF-LIF-47 was not delineated at the time of the LIF investigation. The proposed depth of the soil boring in the Work Plan must be deeper than the final depth of 31.2 feet bgs to identify the maximum depth of contamination. Headspace sampling may also be conducted using a PID/FID, as proposed, to determine the final depth of the boring and a confirmation sample must be collected from the bottom of the boring. Revise the Work Plan accordingly.

Comment 6

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 1, white bullet 2, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [g]asoline signatures [-] MKTF-LIF-66 - (18.58 ft-bgs).” According to the MKTF-LIF-66 UVOST boring log included in Appendix D, %RE signals do not indicate gasoline signatures; the results appear to be diesel signatures. Figure 7 (LIF/HP Investigation Locations) also indicates that diesel signatures are observed at boring MKTF-LIF-66. Select an alternate sampling location where gasoline signatures are observed on a UVOST boring log, as appropriate. Revise the Work Plan accordingly.

Comment 7

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 2, white bullet 1, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [d]iesel signatures [-] MKTF-LIF-37 - (29.24 ft-bgs).” According to the MKTF-LIF-37 UVOST boring log included in Appendix D, elevated %RE signals are observed at the final depth of 29.24 feet bgs. The vertical extent of potential soil contamination at boring MKTF-LIF-37 was not delineated at the time of the LIF investigation. The depth of the boring in the Work Plan at the proposed location must be deeper than the final depth of 29.24 feet bgs to identify the maximum depth of contamination (see also Comment 5). In addition, according to the boring log included in Appendix D, %RE signals do not indicate diesel signatures; the results appear to be gasoline signatures. Figure 7 also indicates that gasoline signatures are observed at boring MKTF-LIF-37. Select an alternate sampling location where diesel signatures are observed on a UVOST boring log, as appropriate (see also Comment 6).

Comment 8

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 2, white bullet 2, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [d]iesel signatures [-] MKTF-LIF-42 - (31.51 ft-bgs).” According to the MKTF-LIF-42 UVOST boring log included in Appendix D, %RE signals indicate gasoline, naphtha or gasoline/naphtha mixture signatures depending on the depth intervals; the results do not appear to be representative of the diesel signatures that are indicated by orange or red waveforms. Figure 7 indicates that gasoline signatures are observed at boring MKTF-LIF-42.

Select an alternate sampling location where diesel signatures are observed on a UVOST boring log, as appropriate. Revise the Work Plan accordingly.

Comment 9

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 3, white bullet 1, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [g]asoline/diesel mixture signatures [-] MKTF-LIF-36 - (27.04 ft-bgs).” According to the MKTF-LIF-36 UVOST boring log included in Appendix D, %RE signals mostly indicate diesel signatures; the results do not appear to be representative of gasoline/diesel mixture signatures. Select an alternate sampling location where gasoline/diesel mixture signatures are observed on a UVOST boring log, as appropriate. Revise the Work Plan accordingly.

Comment 10

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 3, white bullet 2, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [g]asoline/diesel signatures [-] MKTF-LIF-46 - (34.66 ft-bgs).” According to the MKTF-LIF-46 UVOST boring log included in Appendix D, elevated %RE signals are observed at the final depth of 34.66 feet bgs. The vertical extent of potential soil contamination at boring MKTF-LIF-46 was not delineated at the time of the LIF investigation. The depth of the boring in the Work Plan at the proposed location must be deeper than the final depth of 34.66 feet bgs to identify the maximum depth of contamination (see also Comment 5).

Comment 11

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 4, white bullets 1 and 2, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [w]estern edge of identified impacts [-] MKTF-LIF-62 - (34.76 ft-bgs) [-] MKTF-LIF-74 (21.33 ft-bgs).” According to Figure 7, gasoline signatures were observed from boring MKTF-LIF-90 and advanced farther southwest of the borings MKTF-LIF-62 and MKTF-LIF-74. The gasoline signatures observed at boring MKTF-LIF-90 may be indicative of the leading edge of the gasoline plume; therefore, soil samples must also be collected from the location near MKTF-LIF-90 to investigate the lateral extent of the soil contamination. Revise the Work Plan accordingly.

Comment 12

In Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, black bullet 5, white bullets 1 and 2, the Permittee states, “[t]he locations listed below were selected for screening and sampling based on the UVOST waveform results, the total depth of the borings are provided in parentheses: [r]esidual/no UVOST response [-] MKTF-LIF-71 - (25.29 ft-bgs) [-] MKTF-LIF-78 (29.29 ft-bgs).” According to Figure 7, gasoline signatures were observed from the borings

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located farther west of boring MKTF-LIF-78 (e.g., MKTF-LIF-77, and -90). However, no UVOST response was observed from boring MKTF-LIF-135 located west of borings MKTF-LIF-77, and -90. In order to investigate the lateral extent of the soil contamination and confirm the limits of contamination downgradient of MKTF-LIF-77 and -90, soil samples must also be collected from the location near MKTF-LIF-135. Revise the Work Plan accordingly.

Comment 13

Section 4.1 (AOC 35 Investigation), page 12 of 18, paragraph 2, does not propose to investigate the presence/absence of SPH north of sump S-1, as required by Comment 2 in the NMED's August 17, 2021 *Approval with Modifications Borrow Pit Interceptor Sumps Installation Summary Letter*. Since Comment 2 is pertinent to the AOC 35 investigation, the provision must be included in the revised Work Plan. Furthermore, if Comment 2 is not addressed in the revised Work Plan, the Permittee will likely be required to submit a separate work plan to address Comment 2 to NMED.

Comment 14

In Section 4.2 (Soil Sample Field Screening, Sampling, and Logging), page 13 of 18, paragraphs 6 and 7, the Permittee states, "[p]hotoionization detector equipped with a 10.6 or higher electron volt (eV) lamp or a combustible gas indicator may be used for VOC field screening [and f]or locations with observed impacts on the UVOST boring log, discrete soil samples will be collected from each boring for laboratory analyses every 3 feet until reaching the final depth of the corresponding LIF/HP borehole. For locations with residual/no UVOST response, soil samples will be collected every 6 feet until reaching final depth of the corresponding LIF/HP borehole." Based on the previous investigation, it is NMED's observation that the proposed sampling intervals may miss the contamination potentially present in the soils. Since a photoionization detector (PID) 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.

Comment 15

In Section 4.2 (Soil Sample Field Screening, Sampling, and Logging), page 14 of 18, 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 also be recorded on the logs." If water bearing zones are encountered during the investigation, the Permittee must collect groundwater samples at those intervals for laboratory analyses. The analytical suite for the additional groundwater samples must be consistent with those of the soil samples proposed in Section 4.5 (Chemical Analyses). Include these provisions in the revised Work Plan.

Comment 16

In Section 4.5 (Chemical Analyses), page 16 of 18, bullet 4, the Permittee states, "[s]oil samples will be analyzed for the following: [-] 1,2-dichloroethane (EDB) (EPA Method 8011 or similar)." There is a typographical error in the statement. 1,2-dichloroethane is abbreviated as DCA rather

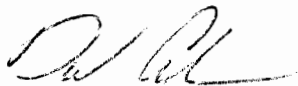
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than EDB. EDB refers to 1,2-dibromoethane. Correct the typographical error in the revised Work Plan.

The Permittee must submit a revised Work Plan that addresses all comments contained in this letter. The Permittee is also reminded about the upcoming submittal dates in Comment 4 for the investigation work plan (**November 30, 2021**) and the interim measures report (**December 31, 2021**). Two hard copies and an electronic version 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 **March 31, 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
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