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Certified Mail - Return Receipt Requested



April 25, 2022

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

**RE: DISAPPROVAL  
RAIL CAR LOADING AREA RELEASE SOIL SAMPLING INVESTIGATION REPORT  
WESTERN REFINING SOUTHWEST LLC, GALLUP REFINERY  
MCKINLEY COUNTY, GALLUP, NEW MEXICO  
EPA ID # NMD000333211  
HWB-WRG-21-026**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has completed its review of the Marathon Petroleum Company dba Western Refining Southwest LLC, Gallup Refinery (Permittee) *Rail Car Loading Area Release Soil Sampling Investigation Report* (Report), dated December 12, 2021 and received on December 21, 2021. NMED has reviewed the Report, and hereby issues this Disapproval with the following comments.

**Comment 1**

In the *Executive Summary*, page 2 of 15, paragraph 4, the Permittee states, “[t]he results were compared with NMED Industrial Soil Screening Levels (SSLs) dated June 2019.” Comment 4 of the NMED’s March 4, 2021 *Disapproval Rail Car Loading Area Release Soil Sampling Investigation Work Plan* (Disapproval) states, “[s]ince some soil samples will be collected below one foot bgs, analytical results must also be screened by comparison to NMED Residential and Construction Worker Soil Screening Levels (SSLs).” The Permittee did not follow this direction or provide an explanation for not comparing the results to NMED’s Residential (Res) and Construction Worker (CW) SSLs. For perspective, the Permittee must list residential screening levels in addition to industrial and construction worker screening levels for comparison regardless of the site cleanup objectives. According to Table 1 (Sampling Locations, Depths, and PID Readings), multiple soil samples were collected at depths below one foot below ground surface (bgs). Note that Commercial/Industrial Worker (Ind) SSLs evaluate risks for soils collected from ground surface to one foot bgs. Since Res and CW SSLs are relevant to soil

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samples collected within ten feet bgs, compare soil analytical results with Res and CW SSLs as well as Ind SSLs in the revised Report. Furthermore, since dilution attenuation factor (DAF) SSLs are also relevant to the vadose zone soil samples, evaluate soil analytical results with DAF SSLs in the revised Report, as appropriate, or explain why the results are not compared with DAF SSLs in the revised Report. Revise the Report accordingly.

### **Comment 2**

In the *Executive Summary*, page 2 of 15, paragraph 4, the Permittee states, “[t]here were no [volatile organic compound] VOC or metal exceedances. Toxicity Characteristic Leaching Procedure [TCLP] was deemed not necessary, based on the total metals results. It should be noted that none of the [semi-volatile organic compound] SVOC exceedances were detected results. However, several sample locations had elevated reporting limits for SVOCs and those reporting limits exceeded their respective NMED Industrial SSLs for the constituents noted below.” Although SVOC and total petroleum hydrocarbon (TPH) analytes whose reporting limits exceed the respective Ind SSLs were discussed as a data gap, analytes with reporting limits that exceed the Res SSLs were not included in the discussion. According to Table 2 (Volatile Organic Compounds), the vinyl chloride and 1,2,3-trichloropropane concentrations in multiple soil samples exceeded the applicable Res SSLs of 7.42E-01 mg/kg and 5.10E-02 mg/kg, respectively. The detection limits of analytes must be lower than the applicable screening levels; otherwise, address the concentrations of all analytes where the detection limits are higher than the screening levels as data quality exceptions and include the discussion in the revised Report. These data quality exceptions must be identified in the text, tables, and figures.

### **Comment 3**

In the *Executive Summary*, page 3 of 15, paragraph 2, the Permittee states, “[t]he excavation can be reliably guided by visual and olfactory observations and PID field screenings. Excavation depth will be determined by using a PID during the excavation. Excavation will continue vertically until the PID readings are below 100 parts per million or until refusal, whichever occurs first. Floor and wall confirmation samples will be collected and analyzed for TPH-DRO and TPH-GRO. Wall confirmation samples will be collected every 250 feet along the excavation perimeter and six floor samples will be collected.” The laboratory analytical results obtained from confirmation sampling must ultimately be used to guide the extent of the excavation. Furthermore, the discussion regarding the excavation plan and procedure is premature based on the results of this investigation because the Report indicates that the vertical and lateral extents of contamination in the vicinity of the Rail Car Loading area were not delineated (see Comment 10). Remove the discussion regarding the excavation plan and procedure from this section of the revised Report or revise the statement so that excavation activities will be deferred until the Permittee determines the full extent of contamination at the site.

### **Comment 4**

In Section 2.1 (Summary of Field Sampling Activities), page 9 of 15, paragraph 5, the Permittee states, “[t]he samples were placed in laboratory provided sample containers, labeled, and

placed in a cooler, iced, and delivered to Hall Environmental Laboratories for analysis for TPH-DRO by Method 8015M/D, TPH-GRO by Method 8015D, VOCs by Methods 8260B and 1311, SVOCs by Methods 8270 and 8270SIM, total metals by Method 6020, and mercury by Method 7471." Section 1.3 (Sampling Activities Per the Approved Work Plan), page 8 of 15, bullet 1 states that the soil samples were also analyzed for TPH oil range organics (ORO) by Method 8015. Table 5 (General Chemistry) includes the results of TPH-ORO analysis. Revise the statement to include TPH-ORO analysis in the appropriate section(s) of the revised Report.

#### **Comment 5**

In Section 2.3 (Deviations from Approved Plan), page 10 of 15, white bullet 2, the Permittee states, "[t]he Refinery will install this soil boring and collect samples in accordance with the approved Work Plan during the next drilling event, if feasible. An addendum to this Report, summarizing field observations and analytical results of this soil boring, will be provided to NMED 90 days after receipt of analytical data." NMED recommends that the soil boring be installed before or after monsoon season when heavy rain events are expected to occur due to the potential issue associated with stormwater runoff in the area. Provide an anticipated installation date for the soil boring in the revised Report and notify NMED prior to beginning installation activities.

#### **Comment 6**

In Section 3.1 (VOCs), page 12 of 15, paragraph 3, the Permittee states, "[n]o Industrial SSL exceedances were identified for VOCs." Include a discussion of the comparison with Res and CW SSLs in the revised Report. In addition, according to Table 2, the vinyl chloride and 1,2,3-trichloropropane concentrations in multiple soil samples exceed the applicable Res SSLs. The detection limits of analytes must be lower than the applicable screening levels; otherwise, address the concentrations of all analytes where the detection limits are higher as data quality exceptions and include the discussion in the revised Report (see Comment 2). These data quality exceptions must be identified in the text, tables, and figures.

#### **Comment 7**

Although Section 3.2 (SVOCs), page 12 of 15 provides a discussion regarding ten SVOC constituents with reporting limits that exceed their respective In SSL. Section 3.2 does not provide a discussion about whether there were SVOC analytes with detected concentrations that exceed Ind, Res and/or CW SSLs. Provide the discussion in the revised Report.

#### **Comment 8**

In Section 3.3 (Metals), page 13 of 15, paragraph 1, the Permittee states, "[t]he sample results of metals compared to their respective NMED Residential and Industrial SSLs are provided in Table 4. No Industrial SSL exceedances were identified for metals. Because no exceedances were identified for metals, TCLP analysis was deemed not necessary and was therefore not conducted." It is not clear why the Permittee did not include TCLP analysis when soil concentrations did not exceed Ind SSLs; however, since TCLP analysis is related to hazardous

waste determinations, the analysis wouldn't apply until waste characterization is necessary. Provide an additional explanation in the revised Report. In addition, all soil sample results must be compared with the respective Ind, Res, and CW SSLs. Revise the Report accordingly.

**Comment 9**

In Section 3.6 (Correlation of Analytical Results with PID Field Screening), page 13 of 15, paragraph 5, the Permittee states, “[r]esults indicate a potential positive correlation between elevated PID readings (i.e., greater than or equal to 100 parts per million[ppm]) and Industrial SSL exceedances identified for TPH-DRO, TPH-GRO, and TPH-ORO. There is also potential positive correlation between the PID readings, analytical results, and soil characteristics observed in the field. Therefore, PID readings will be collected during excavation to confirm that hydrocarbon-impacted soil has been excavated from the rail car loading area, along with visual indicators and laboratory confirmation sampling.” Although elevated PID readings correlate with TPH concentrations based on the data provided in Tables 1 and 5 (General Chemistry), PID readings alone are not a useful indicator of DRO or ORO concentrations and must not be solely used to determine the extent of the excavation. The laboratory analytical results obtained from confirmation sampling must be used to guide the extent of excavation. If Res SSLs cannot be met during confirmation sampling, Ind and/or CW SSLs may be used to guide removal; however, the Permittee will be required to implement institutional controls, if residential risk levels are not achieved.

**Comment 10**

In Section 3.7 (Analytical Results Summary), page 13 of 15, paragraph 6, and Section 4.0 (Conclusions), page 14 of 15, paragraph 3, the Permittee states, “[t]he data presented in Section 3.0 will be used to determine proposed excavation extents [ and f]ollowing NMED’s review of these results and approval of this report, the Refinery plans to proceed with excavation. The general excavation area is shown on Figure 4.” Address the following issues associated with the proposed extent of excavation in the first and second areas, as defined by Section 2.2 (Field Observation), page 10 of 15:

- a. According to Table 5, the TPH-DRO concentrations in the soil samples collected from boring RCR-SB-4 at the ground surface and a depth of 2 feet bgs are recorded as 4,000 and 3,300 mg/kg, respectively, exceeding Ind/CW SSL of 3,000 mg/kg and Res SSL of 1,000 mg/kg. Since soil borings west of RCR-SB-4 were not advanced to delineate the lateral extent of the TPH-DRO contamination beyond the first area, it is not possible to determine the extent of the western boundary of the excavation. Therefore, the lateral extent of TPH-DRO contamination in the first area has not been defined.
- b. According to Table 5, the TPH-DRO concentrations in the soil sample collected from boring RCR-SB-5 at a depth of 5 feet bgs is recorded as 1,200 J mg/kg, exceeding Res SSL of 1,000 mg/kg. Since soil borings north of RCR-SB-5 were not advanced to delineate the lateral extent of the TPH-DRO contamination in the first area, it is not possible to

determine the extent of the northern boundary of the excavation. Therefore, the lateral extent of TPH-DRO contamination in the first area has not been defined.

- c. According to Table 5, the TPH-DRO concentrations in the soil samples collected from boring RCR-SB-6 at depths of 2.5 and 3 feet bgs are recorded as 11,000 and 16,000 mg/kg, exceeding Ind/CW SSL of 3,000 mg/kg and Res SSL of 1,000 mg/kg. The rail tracks are located adjacent to boring RCR-SB-6; therefore, soil borings east of RCR-SB-6 could not be advanced. As a result, the lateral and vertical extents of TPH-DRO contamination in the vicinity of RCR-SB-6 could not be delineated. It is possible that the lateral extent of the TPH-DRO contamination in the vicinity of RCR-SB-6 may potentially extend east toward the second area across the rail tracks based on the sampling results presented in Figure 3. State whether the rail tracks are currently operational or if there are plans to become operational in the revised Report. It is important to determine the eastward extent of the area east near RCR-SB-6. Propose to investigate the extent of potential contamination along the rail tracks in a separate investigation work plan, as appropriate, or propose to defer the investigation along the rail tracks until they are no longer in use.
- d. According to Table 5, the TPH-DRO concentrations in the soil samples collected from boring RCR-SB-1 at depths of 2.5 and 8 feet bgs are recorded as 3,300 and 1,200 mg/kg, respectively, exceeding Ind/CW SSL of 3,000 mg/kg and Res SSL of 1,000 mg/kg. Since boring RCR-SB-1 was terminated at 8 feet bgs, the vertical extent of TPH-DRO contamination was not delineated at boring RCR-SB-1. The Laser-Induced Fluorescence (LIF) log for boring EB-LIF-13 installed approximately 20 feet south of RCR-SB-1 indicates the presence of diesel contamination between 30 and 35 feet bgs; however, it does not indicate the presence of contamination above 25 feet bgs. Soil samples were not collected from boring EB-LIF-13; therefore, it is unknown whether the TPH-DRO contamination in the vicinity of RCR-SB-1 extends deeper than 8 feet bgs toward EB-LIF-13. In addition, the TPH-DRO concentrations in the soil samples collected from boring RCR-SB-2 at a depth of 2 feet bgs are recorded as 24,000 J and 46,000 J mg/kg. Boring RCR-SB-2 is located approximately 60 feet north of boring RCR-SB-1 and the TPH-DRO contamination identified at the depth interval of 2 to 2.5 feet bgs may be contiguous between borings RCR-SB-1 and RCR-SB-2. The LIF log for boring EB-LIF-14 advanced approximately 180 feet north of RCR-SB-2 indicates the presence of diesel contamination between the ground surface and 6 feet bgs. It is possible that the shallow soil contamination may also be contiguous between borings RCR-SB-2 and EB-LIF-14. Since soil borings north of RCR-SB-2, south of RCR-SB-1, and east and west of RCR-SB-1 and RCR-SB-2 were not advanced to delineate the extent of TPH-DRO contamination.

Based on Comments 10a, 10b, and 10d, proposing an excavation with the current investigation results may not address the extent of contamination. The Permittee must propose a second phase investigation work plan to delineate the extent of contamination in the second area if the

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full extent of contamination is not addressed. If there are unresolved issues related to the extent of contamination, the second phase investigation work plan must be submitted to NMED no later than **April 28, 2023**.

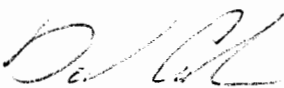
**Comment 11**

In Section 4.0 (Conclusions), page 14 of 15, paragraph 1, the Permittee states, “[o]ne soil boring will be installed at a later date, and applicable information will be submitted to NMED as an addendum to this report 90 days after the receipt of analytical data.” If appropriate, the results of this investigation must be incorporated in the second phase investigation work plan, required by Comments 10a, 10b, and 10d. The Permittee may be required to remove contaminated soils contingent on the results of the investigation; however, the possibility is not discussed in the Report. Include a discussion in the revised Report.

The Permittee must submit a revised Report that addresses all of the comments contained in this Disapproval. Two hard copies and an electronic version on CD/DVD of the revised Report must be submitted to the NMED. The Permittee must also include a redline-strikeout version in electronic format showing where all revisions to the Report have been made. The revised Report must be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED’s numbered comments. The revised Report must be submitted to NMED no later than **December 31, 2022**. Submit the second phase investigation work plan required by Comments 10a, 10b, and 10d no later than **April 28, 2023**, as necessary.

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  
H. Jones, Trihydro  
L. Barr, EMNRD OCD  
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