



Certified Mail - Return Receipt Requested



December 27, 2021

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

**RE: APPROVAL WITH MODIFICATIONS
INVESTIGATION REPORT, SMW-2 AND GWM-1 AREAS
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
MCKINLEY COUNTY, GALLUP, NEW MEXICO
EPA ID # NMD000333211
HWB-WRG-21-015**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has received the Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee) *Investigation Report, SMW-2 and GWM-1 Areas* (Report), dated September 2021 and received on October 1, 2021. NMED has reviewed the Report, and hereby issues this Approval with Modifications with the following comments.

Comment 1

In Section 2.1 (SMW-2 Area – Monitoring Wells OW-67 and OW-68), page 8 of 15, paragraph 3, the Permittee states, “[e]levated concentrations of chloride and sulfate at [SMW-2] were previously evaluated with the installation of monitoring wells OW-59 and OW-60 in September 2016 [and m]onitoring wells OW-67 and OW-68 were proposed to be screened in the upper-most saturated interval and at a depth that corresponds to the base of EP-2, estimated to be at a depth of 8 to 13 feet below ground surface (ft-bgs).” Wells SMW-2, OW-59, and OW-60 were installed with screened intervals with depths of 34.31 - 54.31, 20 – 35, and 25 – 45 feet bgs, respectively, which were designed to monitor groundwater quality at the Chinle/Alluvial Interface. Wells OW-67 and OW-68 were installed with screened intervals with depths of 10 – 25, and 5 – 25 feet bgs, respectively, which were designed to monitor shallow groundwater quality at the upper-most saturated interval. The screened intervals of wells OW-67 and OW-68 are not comparable with well SMW-2; therefore, the conclusions regarding the elevated chloride and sulfate concentrations in the groundwater samples collected from wells OW-67

and OW-68 will not be representative of the samples collected from well SMW-2. If the Permittee would like to continue to use the locations of wells OW-67 and OW-68 to evaluate the chloride and sulfate concentrations in the Chinle/Alluvial interface, propose to install nested wells adjacent to OW-67 and OW-68 that are screened to monitor the groundwater quality at the Chinle/Alluvial Interface; otherwise, explain why wells OW-67 and OW-68 are sufficient for the evaluation in a response letter.

Comment 2

In Section 2.2 (GWM-1 Area – Monitoring Well OW-69), page 9 of 15, paragraph 3, the Permittee states, “[i]n boring OW-69, clay and silty clay (CL) were observed from 0 to approximately 10 ft-bgs. Bedrock (mudstone, sandstone, and siltstone) was observed from 10 to 25 ft-bgs, the boring terminus. No indication of water was detected during drilling.” Since boring log OW-69 included in Appendix A (Boring Logs) does not provide information regarding the ground surface elevation, NMED is unable to evaluate whether boring OW-69 was advanced to a sufficient depth to intercept the saturated zone. The groundwater elevations at well GWM-1 are recorded as approximately 6,891 feet. Based on Figure 2 (SMW-2 and GWM-1 Area Features), boring OW-69 is depicted approximately 75 feet downgradient of well GWM-1 along a relatively flat hydraulic gradient in the pertinent area. Boring OW-69 should have been advanced to the comparable depth of groundwater detected in well GWM-1 (i.e., 6,891 feet), at a minimum. Provide accurate surface elevation survey data for boring OW-69 to confirm that the depth of boring OW-69 was completed to a depth comparable to groundwater levels detected in well GWM-1 in the response letter.

Comment 3

In Section 3.0 (Soil Sample Results), page 10 of 15, paragraph 2, the Permittee states, “[a] summary of the soil sampling results is presented in Tables 1 through 3. Detected concentrations were compared to the NMED residential and industrial soil screening levels (SSL) (NMED 2019).” Tables 1 through 3 were not evaluated with all of the appropriate SSLs. Address the following comments:

- a. Tables 1 through 3 only present the industrial SSLs and do not include the residential SSLs. If the Permittee wishes to petition for a corrective action complete (CAC) without controls status at the site in the future, it is appropriate to select residential soil screening levels as criteria to determine whether further remediation and/or investigation is necessary. Revise the tables accordingly and provide replacement tables.
- b. The commercial/industrial SSLs are only applicable to soils at depths between 0 to 1 foot below ground surface (bgs). Since all soil samples presented in Tables 1 through 3 were collected from depths deeper than 1 foot bgs, the commercial/industrial SSLs are not applicable for the soil samples based on the collection depths. Construction worker SSLs are applicable to soils at depths between 0 to 10 feet bgs and must be used as non-residential SSLs; therefore, replace the industrial SSLs with the construction worker SSLs.

Revise the tables accordingly and provide replacement tables.

- c. Based on the historic data collected from wells SMW-2, OW-59, and OW-60, the groundwater in the vicinity of the OCD Land Farm has been relatively unaffected by volatile organic compounds (VOCs) and must be monitored to determine if the constituents of concern (COCs) reach the groundwater underneath the OCD Land Farm. Therefore, the Permittee must compare the soil sample concentrations with Dilution Attenuation Factor (DAF) SSLs to evaluate the OCD Land Farm for potential breakthrough for COCs. Revise Tables 1 through 3 and all sections of the Report, where applicable, to include the appropriate SSLs. Revise the tables accordingly and provide replacement tables.

Comment 4

In Section 3.1 (Volatile Organic Compounds), page 10 of 15, bullet 3, the Permittee states, "MTBE was compared to the United States Environmental Protection Agency (USEPA) Regional Soil Screening Levels (RSLs) because there are no NMED SSLs for MTBE." The NMED SSLs for MTBE are available in the NMED's November 2021 *Risk Assessment Guidance for Site Investigations and Remediation* (NMED Guidance). The residential, construction worker, and DAF SSLs for MTBE are listed as 9.75E+02, 2.42E+04, and 5.53E-01 mg/kg, respectively, in the NMED Guidance. Revise Table 1 and any applicable sections of the Report to incorporate the applicable SSLs listed in the NMED Guidance.

Comment 5

In Section 3.1 (Volatile Organic Compounds), page 10 of 15, bullets 2 and 3, and Section 3.2 (Semivolatile Organic Compounds), page 11 of 15, bullet 2, the Permittee states, "MTBE was detected in OW-68 due to blank contamination [and d]iethyl phthalate [and 2-Butanone were] detected in all six samples due to blank contamination." It is not clear whether the constituents were detected in a trip, equipment, and/or instrument blank samples. Provide details regarding the detections of the constituents in blank samples.

Comment 6

In Section 3.5 (Deviations from Work Plan), page 12 of 15, paragraph 2, the Permittee states, "[t]he Work Plan (DiSorbo 2019) stated that soil samples would be analyzed for iron and manganese. These compounds were inadvertently left off of the analyte list. The laboratory was contacted, and the soil samples are being analyzed. Note, samples are within holding times. These soil data will be included in the groundwater report, which will be submitted 60 days after data are received from the laboratory." Include the missing information in the revised Report rather than submit the data separately.

The Permittee must submit a response letter, replacement pages, tables and an electronic version of revised Report that addresses and incorporates all of the comments contained in this letter to NMED no later than **March 4, 2022**.

Mr. Moore
December 22, 2021
Page 4

This approval is based on the information presented in the document as it relates to the objectives of the work identified by NMED at the time of review. Approval of this document does not constitute agreement with all information or every statement presented in the document.

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 (6LCRRC)
H. Jones, Trihydro

File: Reading File and WRG 2021 file