AP - 111

SWMU-13
DRAINAGE DITCH
(3)

2020

NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

APR 0 3 2020

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

RE: APPROVAL WITH MODIFICATIONS
INVESTIGATION REPORT SWMU 13 – DRAINAGE DITCH BETWEEN API EVAPORATION PONDS AND NEUTRALIZATION TANK EVAPORATION PONDS
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-20-006

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *Investigation Report SWMU 13 – Drainage Ditch between API Evaporation Ponds and Neutralization Tank Evaporation Ponds* (Report), dated January 2020, submitted on behalf of Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee). The Report is generally acceptable; however, several technical deficiencies are identified in the Report. NMED hereby issues this Approval with Modifications with the attached comments.

The Permittee must address all comments in the attachment to this letter and submit a response letter and replacement pages no later than **August 31, 2020**.

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 Approval with Modifications, please contact Michiya Suzuki of my staff at 505-476-6046.

Sincerely,

Kevin Pierard
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
M. Suzuki, NMED HWB
C. Chavez, OCD
L. King, EPA Region 6 (6LCRRC)
B. Moore, WRG

File: Reading File and WRG 2020 File
HWB-WRG-20-006

Attachment

Comment 1

In Section 5, *Regulatory Criteria,* page 5-1, the Permittee states, "Table 3 has soil screening levels for the soil-to-groundwater pathway that are based on a dilution/attenuation factor (DAF) of 1.0, which is NMED's most conservative screening level for this pathway." However, Table 5, *Analytical Results Summary,* lists DAF of 20 values as screening criteria for site's soil concentrations. Revise the Report for consistency and provide replacement pages.

Comment 2

In Section 5, *Regulatory Criteria,* page 5-2, the Permittee states, "[a]s there could have been a variety of petroleum types (e.g., various refined products) in contact with the refinery wastewater water that flowed through SWMU No. 13, the screening level for "unknown oil" was selected for comparison to the gasoline range, diesel range and motor oil range soil analytical results." According to NMED's *Risk Assessment Guidance for Investigations and Remediation* (Guidance), dated February 2019, the residential and industrial/construction worker soil screening levels for gasoline are listed as 100 mg/kg and 500 mg/kg, respectively. Although it is appropriate to use soil screening levels for unknown oil to compare the site concentrations of diesel and oil range organics, much lower soil screening levels for gasoline were established in the 2019 Guidance. The site's total petroleum hydrocarbons gasoline range organics (TPH-GRO) concentrations must be compared with the screening levels for gasoline indicated in the 2019 Guidance. According to Table 5, the TPH-GRO concentrations did not exceed the soil screening levels for gasoline in any soil samples; therefore, the evaluation of potential impacts and recommendations for future actions are not affected by the lower screening levels. However, since the Report requires other revisions, revise all applicable parts of the Report and provide replacement pages.

Comment 3

In Section 6.1, *Soil Analytical Results,* page 6-2, the Permittee states, "[t]he concentrations shown on figures [Figures 8 through 11] that exceed the screening levels in Table 5 are underlined. According to Table 5, most DAF of 20 soil screening levels are lower than residential and non-residential soil screening levels. Many of site's soil concentrations exceeded the DAF of 20 soil screening levels. However, none of these exceedances is discussed in the Report. For example, DAF of 20 soil screening level for cobalt is indicated as 5.4 mg/kg and the cobalt concentrations in sample SWMU13-1 (5-6 feet bgs) is recorded as 5.5 mg/kg in Table 5. Revise the Report to include the discussion regarding the exceedance or provide an explanation for why the DAF exceedances are not discussed in a response letter.

Comment 4

In Section 6.2, *Groundwater Analytical Results,* pages 6-5 and 6-6, the Permittee states, "[n]itrate exceeded the screening level of 10,000 ug/l in samples SWMU 13-5 and SWMU 13-7 at concentrations of 14,000 ug/l and 12,000 ug/l, respectively, based on the field analyses using a field test kit as described in Appendix E. However, the same samples were analyzed by the off-site laboratory and had reported concentrations of 170 ug/l for SWMU 13-5 and <30 ug/l for

SWMU 13-7." The results of field nitrate analysis are not consistent with those of the laboratory nitrate analysis. According to Appendix E, *Field Methods,* the nitrate method requires colorimetric analysis. The well sampling worksheets indicate that turbidity readings for wells SWMU 13-5 and SWMU 13-7 are higher than those for other wells. Presumably, the higher readings were caused by the interference of excess suspended solids in the groundwater samples. Explain whether the groundwater samples were filtered prior to the nitrate analysis in the response letter. Evaluate the accuracy of the field nitrate analysis and provide a discussion.

The results of field nitrite analysis are consistent with those of the laboratory nitrite analysis according to Table 6, *Groundwater Analytical Results Summary.* The Permittee previously stated that laboratory nitrite analysis could not be carried out due to its short holding time (i.e., 48 hours). Subsequently, NMED suggested the use of a field test kit to report separate nitrite concentrations. If laboratory nitrite analysis can be conducted, conduct laboratory nitrite analysis rather than field nitrite analysis as laboratory analysis is more accurate. In the response letter, explain why laboratory nitrite analysis was successfully carried out during this sampling event and clarify whether future nitrite analysis will be conducted using a field test kit or off-site laboratory analysis or both.

Comment 5
In Section 6.2, *Groundwater Analytical Results,* page 6-6, the Permittee states, "Gasoline Range Organics were detected above the screening level (39.8 ug/l) in five groundwater samples (SWMU 13-2, SWMU 13-3, SWMU 13-4, SWMU 13-5, and SWMU13-7)." According to Table 6, the groundwater screening level for TPH-GRO is appropriately listed as 10.1 µg/L. Revise the Report using the groundwater screening level for TPH-GRO (10.1 µg/L) and provide replacement pages.

Comment 6
In Section 6.2, *Groundwater Analytical Results,* page 6-6, the Permittee states, "Diesel Range Organics were detected above the screening level (39.8 ug/l) in four groundwater samples (SWMU 13-2, SWMU 13-3, SWMU 13-5, and SWMU13-7)." The 2019 Guidance lists groundwater screening level for unknown oil as 85.8 µg/L. According to Table 6, the groundwater screening levels for TPH diesel range organics (DRO) and TPH motor oil range organics (MRO) are appropriately listed as 85.8 µg/L. Revise the Report to present appropriate groundwater screening levels for TPH-DRO and TPH-MRO (85.8 µg/L) and provide replacement pages.

Comment 7
In Section 7.2, *Recommendations,* page 7-2, the Permittee states, "[t]wo permanent monitoring wells that are to be located near SWMU No. 13 are included in the Work Plan SMW-2 and GWM-1 Areas (DiSorbo, 2019b). These two wells will be installed upon NMED approval of the Work Plan and will provide additional information on groundwater and soil conditions near SWMU No. 13." NMED's *Response to Approval with Modifications [Revised] SMW-2 Area and*

Boundary Well Installation Report, dated January 29, 2020, states, "[t]he Permittee's response to NMED's Comment 9 states, "[o]ur records indicate the revised work plan was delivered to NMED on October 1, 2019. The referenced submittal cannot be located. Regardless, the Permittee is not required to submit the revised work plan because the report associated with the work plan [SMW-2 and GWM-1 Areas] is hereby approved." Accordingly, the Permittee may proceed with the investigation in accordance with the approved work plan.

Comment 8

According to Table 6, *Groundwater Analytical Results Summary*, the TPH-MRO concentrations in the groundwater samples collected from temporary wells SWMU 13-2-GW through SWMU 13-7-GW are recorded as < 2,500 µg/L. The screening level for TPH-MRO is 85.8 µg/L; therefore, it is not known whether or not the concentrations exceed the screening level. Since the TPH-MRO concentrations in soil samples collected from borings SWMU 13-4, 13-9, 13-10, 13-11, and 13-13 exceeded applicable soil screening level, TPH-MRO is likely present in the groundwater. The detection limit of TPH-MRO must be lower than the screening level. Similarly, the TPH-DRO concentrations in the groundwater samples collected from temporary wells SWMU 13-4-GW and SWMU 13-7-GW are recorded as < 132 µg/L. The screening level for TPH-DRO is 85.8 µg/L; therefore, it is not known whether the concentrations exceed the screening level. The detection limit of TPH-DRO must be lower than the screening level. If collection of groundwater is impracticable at this time, address the concentrations where the detection limits are higher as a data gap and include the discussion in the revised Report. Provide replacement pages.