NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 31, 2020

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

RE: DISAPPROVAL
SWMU-1 INVESTIGATION REPORT
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-20-010

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *SWMU-1 Investigation Report* (Report), dated March 31, 2020, submitted on behalf of Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee). NMED hereby issues this Disapproval with the attached comments.

The Permittee must submit a revised Report that addresses all comments contained in the Attachment. Two hard copies and an electronic version 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, 2020**.

If you have questions regarding this Disapproval, please contact Michiya Suzuki of my staff at 505-476-6046.

Sincerely,

Dave Cobrain
Program Manager
Hazardous Waste Bureau

cc: 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-20-010

Attachment

Comment 1

In the *Planned Sampling Activities* Section, page 8 of 14, the Permittee states, "[a]nalysis of samples using field screening with a flame ionization detector (FID), and submission of laboratory samples for analysis of VOCs by Method 8260, SVOCs by Method 8270, metals by Method 6010, mercury by Method 7471, and TCLP analysis for lead, mercury, and benzene [were planned]." *SWMU-1 Soil Sampling Investigation Work Plan* (Work Plan), dated September 23, 2019, states that laboratory sampling analyses of the sediments consist of total petroleum hydrocarbons (TPH), diesel range organics (DRO), and gasoline range organics (GRO). Similarly, the *Executive Summary,* page 3 of 14, states that the samples were analyzed for TPH-GRO, DRO and ORO. TPH analysis is not included in the statement. Correct the statement for accuracy in the revised Report.

Comment 2

In the *Planned Sampling Activities, Deviation from Approved Plan* Section, page 9 of 14, the Permittee states, "[d]espite dewatering with a vac truck throughout the week, AP-1 and AP-2 pond surfaces remained too unstable to collect samples from some of the planned locations. One sample location from AP-1 and all three sample locations from AP-2 had to be moved closer to shore than previously planned. In addition, due to these safety concerns, the native clay liner samples were taken only to a depth of 6 to 12 inches into the native clay rather than to the planned 8-foot depth." According to Tables 2A, 2B, and 2C, the concentrations of organic contaminants exceeded the applicable screening levels at the bottom of all soil borings in the native clay intervals. Since the boring depths were compromised due to the safety concerns, vertical extent of contamination was not evaluated. Consequently, the extent of excavation necessary to remediate soil contamination is not determined. Although the volume of excavation was estimated (e.g., AL-1 for 2,700 cubic yards), the estimation was not justified in the Report. In the revised Report, propose to resolve the safety concerns and recollect soil samples to delineate vertical extent of contamination or propose to excavate to a depth below the depressed water table for maximum soil removal.

Comment 3

In the *Planned Sampling Activities, Deviation from Approved Plan* Section, page 9 of 14, the Permittee states, "[t]he sampling plan specified equipment blank collection at a frequency of 10% of samples collected. These samples were not collected. The hand auger was decontaminated prior to each sample depth by brushing off soil and by cleaning off any sludge until the surface of the hand auger was visibly clean. The hand auger and spade were decontaminated using Simple Green™ between each sample location." Even if equipment was visibly clean, residual contaminants may have been present. Unless equipment blank is collected and tested, it is impossible to verify that the sampling equipment was clean and the analytical results were not affected by cross-contamination. Demonstrate that the acquired data is defensible without equipment blank in the revised Report.

Comment 4

In the *Planned Sampling Activities, Deviation from Approved Plan* Section, page 9 of 14, the Permittee states, "[t]he laboratory had enough remaining sample left to analyze for total mercury, but it was completed outside the holding time of 28 days. Samples of mercury that were reported as not detected are considered unusable due to the length of time between sampling and analysis." The *Laboratory Analytical Results, QA/QC Samples* Section, page 13 of 14, states that the laboratory determined that the precision, accuracy, validity, and usability of the data were not compromised; however, a justification for the usability of analytical data acquired outside the holding time is not discussed in the Report. Whether or not mercury is detected, all mercury concentrations analyzed outside the holding time are not usable for risk evaluation. In the revised Report, propose to recollect soil samples for mercury analysis or propose to excavate to a depth below the historic water table for maximum soil removal (e.g., more than ten feet bgs) to address potential risk associated with mercury.

Comment 5

In the *Field Investigation Results* Section, page 10 of 14, the Permittee states, "[p]ond sample depths ranged from surface collection to 6.5 ft below ground surface (bgs)." According to Table 1, none of the pond soil samples were collected at a depth of 6.5 feet bgs. Correct the statement for accuracy in the revised Report.

Comment 6

In the *Field Investigation Results, Summary of Field Sampling Activities* Section, page 10 of 14, the Permittee states, "[h]eadspace sampling of the samples was conducted using an FID. Only samples collected on Monday, January 13, 2020 were sampled with the FID, as the FID and its replacement would not operate properly; specifically, the flame would not stay lit." It is not clear why only flame ionization detector (FID) was used during the investigation. Photo ionization detector (PID) was also proposed in the Work Plan (page 9) and could have been used as well. Explain why a PID was not used during the investigation in the revised Report.

Comment 7

In the *Laboratory Analytical Results, VOCs* Section, page 12 of 14, the Permittee states, "[e]xceedances were observed in DRO, GRO, and Oil Range Organics (ORO) across the pond and lagoons." The concentrations of organic contaminants exceeded the applicable screening levels in all berm samples. Soils outside of the berms are potentially contaminated due to the activities associated with SWMU 1. In the revised Report, propose to submit a work plan to advance soil borings outside the berms to investigate the lateral extent of potential soil contamination or commit to expanding the remedial excavation as necessary to remove all contaminated soils to meet risk-based cleanup levels. The investigation is necessary to determine lateral extent of excavation unless all affected soils are removed.

Comment 8
In the *Laboratory Analytical Results, Metals* Section, page 12 of 14, the Permittee states, "[e]xceedances were observed for arsenic, antimony, and mercury compared to the USEPA RSL and the NMED Residential SSL." Since the mercury analysis was conducted outside the holding time, the discussion regarding the detection of mercury must be qualified in the Report. Revise the Report accordingly.

Comment 9
In the *Laboratory Analytical Results, General Chemistry* Section, page 12 of 14, the Permittee states, "[f]ree liquids were analyzed and resulted in a positive or negative result (paint filter test). Of the 97 sample locations only six resulted in a positive paint filter test resulting in the sample having free liquid." All sampling locations were too shallow. Excavation will likely be necessary below the water table. If soils are excavated below the water table, the results of the paint filter test may be different. No response required.

Comment 10
In the *Laboratory Analytical Results, Correlation of Analytical Results with FID Field Screening* Section, page 13 of 14, the Permittee states, "[t]he FID will be used during excavation to confirm that hydrocarbon contaminated soil has been excavated from the lagoons and pond along with visual indicators and laboratory confirmation sampling." Since FID failed during this investigation, PID or other appropriate instrument must be proposed for future investigations in SWMU 1. Revise the Report accordingly.

Comment 11
In the *Conclusion* Section, page 13 of 14, the Permittee states, "[t]his investigation was conducted to characterize soils and sediments in EP-1, AL-1, and AL-2 for future excavation and closure of SWMU-1." The investigation failed to characterize lateral and vertical extent of contamination necessary for the planned excavation (see Comments 2 and 7). Clarify that the investigation did not achieve the intended purpose in the revised Report.

Comment 12
In the *Conclusion* Section, page 13 of 14, the Permittee states, "volumes for excavation and disposal [are estimated] for EP-1 (non-hazardous) 11,500 yd^3, AL-1 1,700 yds^3 (listed hazardous) and AL-2 3,800 yds^3 (listed hazardous)." According to the *Executive Summary,* page 4 of 14, the estimated volumes for excavation for EP-1, AL-1, and AL-2 are listed as 11,500, 2,700, and 4,500 cubic yards (yds^3), respectively. There is a discrepancy in the estimated volumes. Regardless, the estimated volume of excavation will increase once the extent of soil contamination is delineated appropriately. Revise the Report accordingly.

Comment 13
In the *Conclusion* Section, page 13 of 14, the Permittee states, "[g]enerally, the oily sludge in the ponds had a specific gravity of 1.92, and a pH of 8.66. Of the 106 samples of sludge, only 6

had free liquids in the sample. This shows that the water accumulating in the ponds is likely from outside SWMU 1 and not coming from groundwater." Sludge is defined as a mixture of solids and liquids. All sludge samples should contain liquids. Provide a clarification in the revised Report. In addition, discuss the origin of the water accumulated in the ponds in the revised Report.

Comment 14

In the *Conclusion* Section, page 14 of 14, the Permittee states, "[f]ollowing NMED's review of these results and approval of the characterization of SWMU 1, MPC plans to proceed with the remedy implementation for the excavation and closure of the SWMU." A separate work plan is required for future remedial excavation. NMED will establish a due date for the work plan upon approval of this Report. Revise the Report accordingly.