NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

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Deputy Secretary

FEB 2 1 2020

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

RE: APPROVAL WITH MODIFICATIONS
RESPONSE ACTION REPORT FLARE KOD PUMP SODIUM HYROXIDE RELEASE
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-20-003

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *Response Action Report Flare KOD Pump Sodium Hydroxide Release* (Report), dated January 6, 2020, submitted on behalf of Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee). NMED hereby issues this Approval with Modifications with the following comments. NMED's comments are attached.

The Permittee must address all comments in the attachment and submit a response letter, the required figure, and replacement pages no later than **April 30, 2020**. The investigation work plan required by Comments 5 and 8 must be submitted no later than **July 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-20-003

Attachment 1

NMED Comments

Comment 1
The Table of Contents does not contain a list of figures and appendices although they are included in the Report. Ensure that the Table of Contents presents all content in future submittals. No response or revision required.

Comment 2
In the Executive Summary, page 3 of 6, the Permittee states, "[a]pproximately 20-30 gallons of caustic were pumped from the area into a vacuum truck, which had been diluted with approximately 100 gallons of water, and pumped into the refinery sewer system at a pH of 8.0." Approximately 80 barrels [3,360 gallons] of caustic was released to the area. It is not clear why only 20-30 gallons were recovered. Explain whether the remaining amount was adsorbed in soils in a response letter.

Comment 3
In the Introduction Section, *Discussion of the Release,* page 3 of 6, the Permittee states, "[m]aintenance personnel used a vacuum truck with approximately 100 gallons of water in the tank, to collect approximately 20-30 gallons of caustic. The collected water/caustic mixture, with a pH value of 8, was discharged to a sewer drain to tank T-35." Caustic solution contains 20-30% sodium hydroxide according to Appendix C, *Safety Data Sheets (SDS)*. Theoretical pH values in the dilute solution would easily exceed 13. Unless a neutralizing agent (e.g., acid) was used, the dilute solution could still be too caustic and could damage parts of the truck, tank, or piping. Additionally, excessive heat may have been generated during mixing. The attempt to recover caustic via vacuum truck may present a safety hazard. In-situ neutralization may be more effective and appropriate in such circumstances. No response required.

Comment 4
In the Introduction Section, *Discussion of the Process Area,* page 4 of 6, the Permittee states, "[t]he flare KOD removes liquids and the caustic is used to remove H_2S and other impurities from the gas stream." The statement indicates that the caustic solution may be in contact with hydrocarbons and hydrogen sulfide. It is not clear whether the released caustic solution contained hydrocarbons and hydrogen sulfide. Provide an explanation regarding potential contaminants in the released caustic in the response letter.

Comment 5
In the Remediation Activities Section, *Assessment – Soil Confirmation* and *Subsurface Soil Conditions,* page 5 of 6, the Permittee states, "[t]here was no soils remediation conducted therefore no confirmation sampling was conducted," and "[n]o soil borings or monitor wells were installed during the investigation because of the small amount of material released." The volume released was 80 barrels, which is not a small amount, and only 20-30 gallons of caustic were recovered. The contamination likely remains and may potentially pose risks to various

receptors and could affect groundwater. The Permittee must propose to submit a work plan to investigate the lateral and vertical extent of the soil contamination associated with the release no later than **July 31, 2020** (see Comment 8).

Comment 6

In the Remediation Activities Section, *Groundwater Conditions,* page 5 of 6, the Permittee states, "[t]hese [nearest] monitoring wells [OAPIS-1 and NAPIS-2] have not been analyzed for pH." The Permittee must analyze groundwater samples collected from these wells for pH. Propose to include the analyses in the updates for the *2020 Facility Wide Ground Water Monitoring Plan*.

Comment 7

In the Regulatory Criteria Comparisons Section, pages 5 and 6, the Permittee states, "[t]he cleanup criteria for caustic (20-30% sodium hydroxide) are not available in either the NMED Risk Assessment Guidance or the EPA's Regional Screening Levels." The value of pH above 12.5 defines the soils as corrosive hazardous wastes. If the soil pH is found to exceed 12.5 in the vicinity of the release, soil remediation is warranted. Additionally, the Permittee proposes to establish a background pH for soils. Discuss situations where the pH values in soil samples could exceed a background pH and, if so, whether any remedial actions would be implemented in the response letter.

Comment 8

In the Conclusions and Recommendations Section, *Recommended Additional Excavation and Assessment,* page 6 of 6, the Permittee states, "several soil samples in the release footprint should be collected to a depth of one foot below ground surface and analyzed for pH (Figure 4). An additional soil sample collected from the same depth should also be collected outside the footprint of the release to establish a background pH for near surface soils." A work plan must be submitted no later than **July 31, 2020** as specified by Comment 5. Each sample location depicted in Figure 4 must target topographically low areas where the released caustic would likely have accumulated. Revise the figure, as appropriate, and provide a revised figure with the response letter. In addition, since the caustic could have contained hydrocarbons, soil samples must be collected for the analysis of total petroleum hydrocarbons (TPH) as well as pH. Furthermore, soil pH may qualitatively be determined during field investigation. If pH values at a depth of one foot below ground surface (bgs) exceed 12.5, further investigation is warranted of deeper soils (e.g., at two feet bgs) to evaluate the vertical extent of contamination. Revise the statement and provide a replacement page.