

**AP - 111**

**LANDFARMS**

**2019**



**Michelle Lujan Grisham**  
Governor

**Howie C. Morales**  
Lt. Governor

**NEW MEXICO  
ENVIRONMENT DEPARTMENT**

**Hazardous Waste Bureau**  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6313  
Phone (505) 476-6000 Fax (505) 476-6030  
[www.env.nm.gov](http://www.env.nm.gov)



**James C. Kenney**  
Cabinet Secretary

**Jennifer J. Pruett**  
Deputy Secretary

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

May 16, 2019

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

**RE: APPROVAL  
RESPONSE TO COMMENTS NMED APPROVAL WITH MODIFICATIONS  
LETTER DATED MARCH 17, 2017 [CHLORIDE EXCEEDANCE  
EXCAVATION REPORT]  
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY  
EPA ID # NMD000333211  
HWB-WRG-17-003**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *Response to Comments NMED Approval with Modifications Letter dated March 17, 2017 [Chloride Exceedance Excavation Report]* (Response), dated April 11, 2019, submitted on behalf of Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee). NMED hereby issues this Approval. The Permittee must address the following comments provided by both NMED and the New Mexico Energy Minerals and Natural Resources Department Oil Conservation Division (OCD).

**Comment 1**

NMED's Approval with Modifications Comment 1 states, "[t]he OCD regulates the Central OCD Landfarm under 19.15.36 NMAC (also known as Part 36) and required the Permittee to address chloride exceedances discovered in the landfarm." With the exception of sample identified as CentralOCD-03-6/16/2016, the chloride concentrations did not exceed the screening level of 500 mg/kg in the rest of samples collected from the landfarm. Although the chloride

concentrations in the excavation confirmation samples collected from depths of approximately six feet below ground surface exceed the screening level in multiple locations, these soil samples were likely collected within the footprint of former Evaporation Pond (EP)-10 or native soils below the pond, rather than shallow soils within the OCD Landfarm. Therefore, the landfarm is likely not the source of chloride in groundwater. Since the landfarm is not closed, current and future use of the landfarm must be clarified in a response letter to OCD.

**Comment 2**

The response to NMED's Approval with Modifications Comment 2 states, "[w]hile Marathon Petroleum Company (MPC) is unaware of any design drawings for Pond 10, the surface expression of the pond currently appears to be approximately 325 feet by 200 feet." Since the OCD Landfarm overlies former pond EP-10 and pond EP-10 may be the source of the chloride contamination in groundwater, the depth of pond EP-10 must be identified and the soils below the landfarm must be investigated. Submit a work plan to install soil borings to collect soil samples of the underlying native soils, pond sediments, and the upper zone waste treated within the landfarm. If the interface between the native soils, pond sediments, and landfarm waste can be distinguished, collect the samples within six inches of each interface.

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 505-476-6059.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: K. Van Horn, NMED HWB  
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 2019 File  
HWB-WRG-17-003

**Chavez, Carl J, EMNRD**

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**From:** Martinez, Cynthia, NMENV  
**Sent:** Monday, April 8, 2019 10:47 AM  
**To:** John.Moore@andeavor.com  
**Cc:** Kieling, John, NMENV; Cobrain, Dave, NMENV; VanHorn, Kristen, NMENV; Suzuki, Michiya, NMENV; Chavez, Carl J, EMNRD; 'king.laurie@epa.gov'; Brian.Moore@andeavor.com  
**Subject:** Letter to Mr. Moore  
**Attachments:** Western Refining- HWB-WRG-18-016.pdf

**Good Morning,**  
**Please open attachment.**

**Cynthia Martinez**  
**New Mexico Environment Department**  
**Hazardous Waste Bureau**  
**2905 Rodeo Park Drive East, Bldg.1**  
**Santa Fe, New Mexico 87505**  
**Phone 505-476-6000**



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**James C. Kenney**  
Cabinet Secretary

**Jennifer J. Pruett**  
Deputy Secretary

**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

April 5, 2019

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

**RE: DISAPPROVAL  
INVESTIGATION WORK PLAN SWMU NO. 9 – DRAINAGE DITCH AND  
INACTIVE LANDFARM  
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY  
EPA ID # NMD000333211  
HWB-WRG-18-016**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *Investigation Work Plan SWMU No. 9 – Drainage Ditch and Inactive Landfarm* (Work Plan), dated December 2018, submitted on behalf of Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee). NMED hereby issues this Disapproval. The Permittee must address the following comments.

**Comment 1**

In Section 2, *Background*, page 2-2, the Permittee states, “[o]nly chromium was detected at a concentration above the residential soil screening level. This occurred in one soil sample collected at boring RFI 0907 in the surface interval collected from 0 – 0.5 feet with a concentration of 102 mg/kg vs. the screening level of 96.6 mg/kg.” Discuss historic use of chromium at the site in the revised Work Plan.

**Comment 2**

In Section 2, *Background*, page 2-3, the Permittee states, “[i]n the 2001 No Further Action Request, the drainage ditch was described as being on the west side of the Inactive Landfarm; however, further review of the survey plat and other early RFI documents and field reconnaissance confirms the drainage ditch is actually on the east side of the Inactive Landfarm and is a much smaller feature. The ditch is two to three feet wide and up to two feet deep, running north to south along the east side of the Inactive Landfarm (Figures 2 and 5).”

According to Figure 5, *Proposed Sample Locations*, the ditch is depicted along the east side of the Inactive Landfarm; however, the figure titled as *Inactive Land Treatment and Associated Drainage Ditch*, included in Appendix B, *Historical Documentation*, indicates that the ditch is located along the west side of the Inactive Landfarm. Clarify if the north arrow on the figure included in Appendix B is correct and whether previous samples were collected along the correct ditch. In addition, the topographic survey map included in Appendix B shows that the surface elevation is higher at the south side of the Inactive Landfarm; however, the statement describes the ditch runs north to south. Resolve the discrepancy in the revised Work Plan and provide clarification in a response letter.

**Comment 3**

In Section 2, *Background*, page 2-4, the Permittee states, “[t]he eastern most soil borings/temporary wells (NDD-4, NDD-5 and NDD-6) are shown on Figure 2. The analytical results for soil samples collected at NDD-4, NDD-5 and NDD-6 are summarized in Table 2 and the groundwater analyses from samples collected at NDD-4, NDD-6, OW-14, OW-54, OW-55, and OW-56 are provided in Tables 3-1 and 3-2. Both the soil and groundwater analyses from these locations along the Drainage Ditch show increasing concentrations of constituents to the west, away from the up-gradient direction of surface water flow along the Drainage Ditch and the location of the Inactive Landfarm.” The statement is not clear regarding the reference to the “Drainage Ditch”. The ditch next to the Inactive Landfarm does not extend west; however, the North Drainage Ditch does. According to Table 2, *NDD-4, NDD-5, and NDD-6 Soil Analytical Results Summary*, the organic constituents concentrations in the soil samples collected from borings NDD-5 and NDD-6, located at the west side of the North Drainage Ditch are generally higher compared to those from boring NDD-4, located at the east side of the North Drainage Ditch, closer to the Inactive Landfarm. However, the discussion does not appear to be relevant to the Drainage Ditch (the ditch next to the Inactive Landfarm) and the Inactive Landfarm. Similarly, according to Table 3-1, *2016 Groundwater Analytical Results Summary*, the benzene concentrations in the groundwater samples collected from wells OW-14 and OW-55, located on the south and north sides of the Inactive Landfarm, are recorded as 8,100 ug/L and 18,000 ug/L (average of two values), respectively. The benzene concentrations increase to the north along the Drainage Ditch, rather than to the west. However, the benzene concentrations in the groundwater samples collected from wells NDD-4, NDD-6 and OW-56, located west of the Inactive Landfarm along the North Drainage Ditch, downgradient of the Inactive Landfarm, are recorded as < 0.195 ug/L, 5,300 ug/L and 1.5 ug/L (average of two values), respectively. The benzene concentrations do increase to the west of the North Drainage Ditch; however, the discussion does not appear to be relevant to the Drainage Ditch and the Inactive Landfarm. Clarify the statement regarding the reference to the Drainage Ditch and revise the Work Plan, as needed.

**Comment 4**

In Section 3.1, *Surface Conditions*, page 3-1, the Permittee states, “[a] topographic map of the area near SWMU 9 is included as Figure 3.” Well OW-14 is the only well identified in Figure 3, *Topographic Map*. Since other wells (e.g., RW-5, OW-55) are also present in the area covered by Figure 3, these wells must also be included on the figure; otherwise, remove well OW-14 from the revised figure. In addition, Figure 3 does not provide detailed elevation data in the vicinity of SWMU 9. Provide another topographic map with larger image of SWMU 9, similar to that included in Appendix B. Provide the revised figures in the revised Work Plan.

**Comment 5**

In Section 3.1, *Surface Conditions*, page 3-1, the Permittee states, “[t]he area of the site near SWMU 11 is at an approximate elevation of 6,896 feet above mean sea level (msl).” SWMU 11 is not pertinent to the discussion in the Work Plan. Revise the statement to include information pertaining to SWMU 9.

**Comment 6**

In Section 4.1, *Investigation*, page 4-1, the Permittee states, “[a]ll soil borings will be drilled to a minimum depth of 6 feet, five feet below the reported depth of tilling. If there is field evidence of impacts at depths greater than 6 feet, then soil borings will be drilled deeper to achieve full vertical delineation.” Provide a more specific explanation for what field evidence will prompt advancement of deeper borings in the revised Work Plan (e.g., criteria for the PID readings). Similarly, the Permittee states, “[i]f there are indications of lateral migration of constituents, then additional borings will be completed within approximately 30 feet of the original boring location.” Provide a more specific explanation for what indications of lateral migration of constituents will prompt advancement of additional borings in the revised Work Plan (e.g., laboratory analytical and/or field screening results). Additionally, the location of additional borings 30 feet from the original boring location will not likely delineate the contamination associated with the ditch and the Inactive Landfarm since the distribution of the contaminated soils may be limited to the areas where refinery waste was previously placed. Propose to advance additional borings ten feet from the original boring location in the revised Work Plan. Furthermore, clarify whether additional borings will be advanced in all directions (e.g., north, south, east and west) from the original boring location; otherwise, include a provision for the Permittee to consult the NMED to determine the location of additional borings when the advancement of additional borings is warranted.

**Comment 7**

In Section 4.1.1, *Soil Sample Field Screening and Logging*, page 4-2, the Permittee states, “[d]iscrete soil samples will be retained for laboratory analysis from within the following intervals: [f]rom the upper 0.5-foot interval of the ground surface...” The proposed sampling method may not capture potential contamination from the upper one-foot interval. The constituents in the soils from the upper 0.5-foot interval may not be representative of the site conditions. Propose to collect soil samples from depths of 0.5 to 1.5 foot to capture the upper one-foot interval of potential contamination in the revised Work Plan.

**Comment 8**

In Section 4.1.1, *Soil Sample Field Screening and Logging*, page 4-2, the Permittee states, “[d]iscrete soil samples will be retained for laboratory analysis from within the following intervals: [f]rom the upper 0.5 foot interval of native soils (i.e., below any fill material).” Explain whether a part of SWMU 9 was previously excavated and backfilled with fill material and how the fill material and native soils are distinguished in the revised Work Plan. The Permittee also states that additional intervals will be sampled as determined based on field screening results. Provide a more specific explanation for what field screening results will prompt collection of samples from additional intervals in the revised Work Plan (e.g., criteria for the PID readings).

**Comment 9**

In Section 4.1.2, *Drilling Activities*, page 4-3, the Permittee states, “[a]fter groundwater samples are collected from the temporary well completion, the well screen will be pulled and all borings will be grouted to the ground surface.” If separate-phase hydrocarbon (SPH) is present in any temporary wells after purging, the wells must be converted to permanent groundwater monitoring or recovery wells or the Permittee must contact NMED to discuss the circumstances. While most likely not related to the SWMU, the opportunity to delineate SPH plumes during an investigation may save time in the future.

**Comment 10**

In Section 4.1.7, *Chemical Analyses*, page 4-7, the Permittee states, “[g]roundwater and soil samples will also be analyzed for the following Skinner List metals and iron and manganese using the indicated analytical methods shown.” Elevated total chromium concentrations were previously detected at the site (see Comment 1). Hexavalent chromium may potentially be present at the site. Include hexavalent and total chromium analyses for soil and groundwater samples collected at the site. Add the analysis to the revised Work Plan.

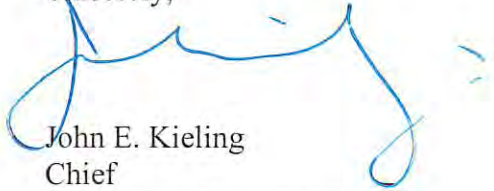
The Permittee must address all comments in this Disapproval and submit a revised Work Plan. Two bound hard copies and two electronic versions must be submitted to NMED. In addition, include a red-line strikeout version in electronic format showing where all revisions to the Work Plan have been made. The revised Work Plan must be accompanied with a response letter that details where revisions have been made, cross-referencing NMED's numbered comments. The revised Work Plan must be submitted to NMED no later than **August 30, 2019**.



Mr. Moore  
April 5, 2019  
Page 5

If you have questions regarding this Disapproval, please contact Michiya Suzuki of my staff at 505-476-6059.

Sincerely,



John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: K. Van Horn, NMED HWB  
D. Cobrain, NMED HWB  
M. Suzuki, NMED HWB  
C. Chavez, OCD  
L. King, EPA Region 6  
B. Moore, WRG

File: Reading File and WRG 2019 File  
HWB-WRG-18-016