



**Michelle Lujan Grisham**  
Governor

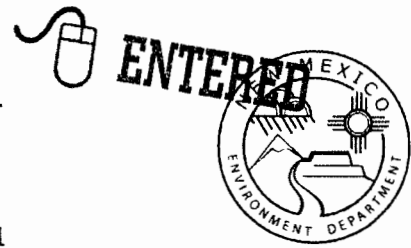
**Howie C. Morales**  
Lt. Governor

**NEW MEXICO  
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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**



**James C. Kenney**  
Cabinet Secretary

**Jennifer J. Pruett**  
Deputy Secretary

August 23, 2019

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

**RE: APPROVAL WITH MODIFICATIONS  
RESPONSE TO DISAPPROVAL ANNUAL GROUNDWATER MONITORING REPORT  
GALLUP REFINERY – 2017  
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY  
EPA ID # NMD000333211  
HWB-WRG-18-014**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *Response to Disapproval Annual Groundwater Monitoring Report: Gallup Refinery - 2017* (Response), dated July 5, 2019 and submitted on behalf of Marathon Petroleum Company dba Western Refining Southwest Inc., Gallup Refinery (the Permittee). NMED hereby issues this Approval with Modifications. The Permittee must address the following comments.

**Comment 1**

The Permittee's response to NMED's Disapproval Comment 1 states, "MPC does not concur with NMED's recommendation that three sets of nested wells should be installed in locations 1,500 feet, 2,000 feet and 2,500 feet west of pond EP-9..." To clarify, the Permittee is responsible for delineating the extent of groundwater contamination even if constituent concentrations do not exceed applicable standards, if constituents are detected above detection limits. The contaminant concentrations have been detected below the applicable standards in groundwater samples collected from well OW-1. Since there are no groundwater

monitoring wells west of well OW-1, the extent of the plumes is not currently delineated and must be investigated. The Permittee must evaluate whether the plume is expanding further west and potentially off-site. Propose to submit a work plan to investigate the extent of the contaminant migration in the Sonsela west of well OW-1 in a response letter. Also, refer to Comment 6 in NMED's *Approval with Modifications Response to Disapproval Work Plan 2015 Annual Groundwater Report Comments*.

**Comment 2**

The Permittee's response to NMED's Disapproval Comment 3 states, "[t]he revised work plan will address Comment 8 in NMED's Disapproval Investigation Work Plan [SMW-2] and [GWM-1] Areas, dated February 20, 2019. At the time of this letter sent out, the document was not yet submitted. Submit the revised work plan or submit an extension request in accordance with Permit Section I.J.12.

**Comment 3**

The Permittee's response to NMED's Disapproval Comment 4 states, "Tables 8.1.1, 8.2.1, 8.3.1, 8.4.1, 8.5.1, 8.6, 8.7.1, 8.8.1, 8.9.1, 8.10, 8.11.1, 8.12.1, 8.13.1, 8.14, 8.16, and 8.17.1 were revised with the screening level of 0.0398 mg/L for DRO and GRO." The NMED's *Screening Guidance for Human Health Risk Assessments* (Guidance) was updated on February 2019 and the groundwater screening level for unknown oil was revised as 85.8 µg/L. Accordingly, use the updated screening level for DRO and GRO for future reports and work plans. No revision is necessary.

**Comment 4**

The Permittee's response to NMED's Disapproval Comment 5 states, "[o]n May 13, 2019, MPC submitted an email to NMED discussing the collection of field measurements, SPH samples, and groundwater samples." Resolve the following issues regarding the May 13, 2019 email:

- a. The email states, "[p]ursuant to recent requests from NMED and OCD, which are provided in the attached file, NMED Comments Requesting SPH Analyses, with the relevant sections underlined, Marathon recently collected samples of separate phase hydrocarbon (SPH) that was present in monitoring wells located in the tank farm or to the west near the former Aeration Basin. This included GMW-1, NAPIS-1, RW-1, RW-5, RW-6, OW-61, and OW-65 and a sample of SPH was collected from the discharge from the French drain at the STP-1." Figure 6 (Facilities and Well Groups – 2017) does not depict well OW-61 or OW-65; provide a figure showing the location of the wells. If these wells were installed prior to 2018, revise the Report to include all data collected from the wells. In addition, provide a reference to the information regarding the installation of these wells, if previously submitted. Otherwise, submit a report that presents information regarding the well installations to NMED no later than **November 8, 2019**.

- b. The email states, “[n]ew pumps have been installed in recovery wells RW-1, RW-5 and RW-6 and Marathon plans to use these pumps to conduct the requested yield tests upon approval by NMED and OCD to initiate recovery with the new pumps.” NMED’s Disapproval Comment 5 states, “[i]f SPH is present in 2018, purge the well completely, and check the well [NAPIS-1] regularly and report to NMED and OCD by email whether SPH returns to the well and if SPH is present, then report the length of time it takes for the SPH to return.” The *Response to Disapproval (Response to Approval with Modifications May 1, 2019) Interim Groundwater Recovery System Work Plan* was approved on August 6, 2019. Accordingly, the Permittee may initiate the test on recovery wells RW-1, RW-5 and RW-6. Submit a report summarizing the test results no later than **December 6, 2019**.
- c. The email states, “[a] similar product (gasoline, which appears pretty fresh) is shown to be present at NAPIS-1, the French drain sample, RW-5, RW-6, and RW-1. A slightly different material (gasoline with some diesel) is represented by the samples collected at OW-61 and OW-65, which were both installed in the central portion of the Tank Farm when the SPH was first detected in the discharge from the French drain. A notably different material (diesel to motor oil range) was found to be present in GWM-1.” According to the chromatograms included in the email, the SPH collected from OW-61 is also similar to SPH collected from NAPIS-1, French Drain, RW-5, RW-6 and RW-1. The SPH collected from OW-65 and GWM-1 predominantly contain diesel range organics; however, each SPH appears to originate from a different source.
- d. The email includes the results of NAPIS-1 and GWM-1 bail down test conducted April 2019. A small amount of SPH returned to the wells after the test was completed. Conduct the bail down test again if SPH is still present in the wells and submit a report summarizing the test results no later than **December 13, 2019**.

**Comment 5**

The Permittee’s response to NMED’s Disapproval Comment 14 states, “Figure 18 has been added to the report and depicts the flow path of wastewater from evaporation pond EP-2 through the last evaporation ponds.” Figure 18 is not included in the Report. Provide the figure with the response letter.

**Comment 6**

The Permittee’s response to NMED’s Disapproval Comment 17 states, “[t]he only line that is underground is a portion of the line that feeds to tanks T-27, T-28 and T-35.” NMED’s Disapproval Comment 17 states, “[explain] how deep the pipe is buried in the revised Report.” The Permittee did not provide the information, provide the pipe depth in the response letter.

**Comment 7**

The Permittee's response to NMED's Disapproval Comment 19 states, "[i]ncluded in the revised Report is Table 2.1 which summarizes the final water quality readings collected in 2017." According to Table 2.1, dissolved oxygen (DO) is still reported as a percent (%). The Permittee's September 30, 2018 *Response to Comments Disapproval 2015 Annual Ground Water Monitoring Report* explained that the DO reporting unit (%) was intended to be milligrams per liter (mg/L). In the response letter, provide a clarification on the unit of the DO readings. If the unit of DO is in mg/L, the measurement is not reliable because several values of DO exceeded the solubility limit of oxygen at the given temperature.

**Comment 8**

The Permittee's response to NMED's Disapproval Comment 20 states, "Figure 18 has been added to the report and depicts sampling locations for the evaporation ponds." Figure 18 is not included in the Report. Provide the figure with the response letter.

**Comment 9**

The Permittee's response to NMED's Disapproval Comment 22 states, "[t]herefore, it is generally only possible to perform nitrate/nitrite analysis which has a longer holding time (28 days). So, the type of analysis is dependent upon the ability of the lab to meet the holding time requirements. It has nothing to do with MPC requesting alternate analytical methods." The Permittee must propose to conduct separate nitrate and nitrite analyses in the response letter. Nitrate samples may be submitted to the analytical laboratory; however, nitrite must be analyzed on site using appropriate field test kits.

**Comment 10**

The Permittee's response to NMED's Disapproval Comment 27 states, "[i]f it appears that the capture zone does not adequately prevent the migration of impacted groundwater, a new well [north of OW-52] will be proposed at that time." Since the proposed groundwater recovery system is not designed to depress the water table in contiguous areas and is expected to influence only localized areas around the extraction wells, the extent of MTBE plume will not likely be affected by the system. As stated by NMED in Disapproval Comment 27, groundwater samples collected from OW-52 are consistently demonstrating an increase in MTBE concentrations and there are no wells located downgradient. This comment also applies to the response to NMED's Disapproval Comment 28. If the Permittee cannot demonstrate control of contaminant migration, a work plan must be submitted to install additional monitoring wells.

**Comment 11**

The Permittee's response to NMED's Disapproval Comment 32 states, "[a] discussion on the analyses for EDB has been added to Section 6.4.2." The referenced revision in Section 6.4.2 was not identified in the RLSO version of the revised Report and it appears Section 6.4.2 was not revised. Provide a replacement page that includes the revision. In addition, the Permittee's response further states, "the 2019 *Facility-wide Groundwater Work Plan* was submitted to

NMED on May 10, 2019 and it includes the analysis for samples collected at OW-1 and OW-10.” NMED’s Disapproval Comment 32 states, “if EDC was newly detected in groundwater samples collected from wells during 2017 and EDB analysis was not yet proposed for the wells in the *2018 Facility-wide Groundwater Work Plan*, propose to conduct EDB analysis using EPA Method 8011 in the *2019 Facility-wide Groundwater Work Plan*.” The Permittee’s response does not sufficiently address NMED’s comment. Explain whether or not EDC was newly detected in groundwater monitoring well(s) where EDB analysis using EPA Method 8011 has not been conducted in the response letter.

**Comment 12**

The Permittee’s response to NMED’s Disapproval Comment 36 states, “[t]he wells where the exceedances were detected are identified in Section 6.5 of the revised Report.” Section 6.5 (Constituent Levels in Group E Monitoring Wells) identifies many wells where chlorinated solvents were detected. The Permittee must analyze groundwater samples collected from all monitoring wells where chlorinated solvents have been detected within the past ten years for 1,4-dioxane using EPA Method 8270 Selective Ion Monitoring (SIM). Propose to analyze for 1,4-dioxane for two consecutive events in the upcoming revision of the Interim Facility-Wide Groundwater Monitoring Plan.

**Comment 13**

The Permittee’s response to NMED’s Disapproval Comment 37 states, “[t]he Report has been revised to include the discussion regarding the exceedance of e-coli concentration in the samples collected from ponds EP-2, EP-3, EP-4, and EP-12B.” The referenced revision was not identified in the Report. Provide a replacement page that includes the discussion regarding the exceedance of e-coli concentrations.

**Comment 14**

The Permittee’s response to NMED’s Disapproval Comment 40 states, “[a]dditional explanation needs to be added to Section 7.3.” The referenced additional explanation was not identified in the Report. Provide a replacement page that includes the additional explanation.

**Comment 15**

NMED’s Disapproval Comment 41 required the Permittee add discussion regarding chlorinated solvents and daughter products. The Permittee’s response states, “[a]s OW-10 is downgradient of the larger Hydrocarbon Seep area, this will be part of the evaluation of natural attenuation throughout this area.” The response needs clarification. NMED’s comment was not meant to focus solely on OW-10, but all wells containing chlorinated solvents. Groundwater monitoring wells where chlorinated solvents and their degradation products were detected must be included as part of an evaluation of natural attenuation. Since the discussion was not provided in the revised Report, provide the discussion and existing data to support the discussion in the response letter. Alternatively, the Permittee may provide the discussion in a separate submittal.

**Comment 16**

The Permittee's response to NMED's Disapproval Comment 46 states, "[t]he revised figures are included in the report." As required, most groundwater elevation figures depicted in Figures 11A through 11J are correctly revised to include ground surface, groundwater and SPH elevations. However, some figures (e.g., for MKTF-09, MKTF-10) do not include ground surface elevations. Correct these figures and provide revised figures or explain why ground surface elevations are not included in these figures.

**Comment 17**

The Permittee's response to NMED's Disapproval Comment 48 states, "[w]e are not aware of previous comments on this monitoring report addressing the units for dissolved oxygen." The Permittee's *Response to Comments Disapproval 2015 Annual Ground Water Monitoring Report*, dated September 30, 2018 states, "[a]lthough the sampling form indicates that the units of dissolved oxygen are \"%", it is actually recorded in mg/L. Gallup Refinery will request that the form be modified to reflect the units as mg/L." Accordingly, insert a note for the corrected DO unit in the field forms in Appendix B and provide a replacement Appendix B. Additionally, refer to Comment 7 above.

The Permittee must address all comments in this Approval with Modifications and submit a response letter no later than **November 8, 2019**. The Permittee must submit the other documents required by this letter as specified in Comment 4 above.

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.

Mr. Moore  
August 23, 2019  
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If you have questions regarding this letter, please contact Kristen Van Horn of my staff at 505-476-6046.

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Kieling". The signature is fluid and cursive, with a large initial "J" and "K".

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-18-014