



**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**

July 12, 2019

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

**RE: DISAPPROVAL  
FACILITY WIDE GROUND WATER MONITORING WORK PLAN – UPDATES  
FOR 2019  
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY  
EPA ID # NMD000333211  
HWB-WRG-19-012**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *Facility Wide Ground Water Monitoring Work Plan – Updates for 2019* (Work Plan), dated May 9, 2019, 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**

The Permittee included a red-line strikeout version with the Work Plan. A red-line strikeout version is only required to be submitted with a *revised* document and the Work Plan is a first-time submittal. It is expected that if the Permittee submits an updated Work Plan, that changes were made or the Work Plan was updated in accordance with RCRA Permit Section IV.C.2. A section in the Work Plan that outlines what changes or updates were made is sufficient. When the revised Work Plan is submitted, the Permittee must submit a red-line strikeout of the revisions along with the revised Work Plan.

**Comment 2**

A cover letter was not included with the Work Plan submittal. The Permittee must provide a cover letter briefly stating the purpose of the submission of the Work Plan in compliance with the Permit Section IV.C.2. The cover letter can also be an opportunity to highlight changes to the Work Plan. The cover letter must be included with the submittal and not as a separate document. Include a cover letter with the submission of the revised Work Plan and with all future work plans and reports.

**Comment 3**

Table of Contents, page vi, contains editorial errors. Sections 5.1.1, 5.2 and 5.2.1 in Table of Contents are not included in the Work Plan. Revise the Work Plan to include the missing sections and correct the errors in the Table of Contents.

**Comment 4**

Section 1.1, *Scope of Activities*, page 1, lists the boiler water (reverse osmosis (RO) reject water) inlet to Pond EP-2 as a sampling location in the monitoring group F. However, according to the *Hydrocarbon Seep Interim Measures 2019 1<sup>st</sup> Quarter Status Report*, dated April 30, 2019, approximately 45 gallons per minutes (gpm) of the RO reject water is discharged to Pond EP-9. Clarify whether the boiler water/RO reject water is discharged to Pond EP-2, EP-9, or both in the revised Work Plan. New Mexico Oil Conservation Division (OCD) requires all wastewater generated from the facility be routed to Pond STP-1; the water must not be discharged to any evaporation ponds directly. NMED's *Approval Hydrocarbon Seep Interim Measures 2019 1<sup>st</sup> Quarter Status Report*, dated May 29, 2019, requires the Permittee to provide information regarding the discharge of the water into Pond EP-9 by **July 18, 2019**.

**Comment 5**

In Section 2.1, *Background Information*, page 6, the Permittee states, “[t]he replaced [diesel] line runs above ground from the marketing area of the refinery for approximately 150 feet and continues underground to the Travel Center.” During the June 5, 2019 facility visit, the Permittee stated that the line was no longer in use; however, the fact that the line is no longer in use is not stated in the Work Plan. Clarify whether or not the diesel line is currently in use in the revised Work Plan.

**Comment 6**

In Section 2.1, *Background Information*, page 6, the Permittee states, “[a] firefighting training facility is used to conduct employee firefighting training. Waste water from the facility, when training is conducted, is pumped into a tank which is then pumped out by a vacuum truck.” Indicate whether the firefighting training involves the use of firefighting foams in the response letter.

**Comment 7**

In Section 2.1, *Background Information*, page 6, the Permittee states, “[s]pecifically, results from benzene analysis of the waste water samples sent to the Gallup Refinery’s internal lab are monitored to manage the breakthrough from the GAC canisters.” The Permittee is also required

to collect confirmation samples to be analyzed by an independent analytical laboratory. Clarify whether the samples are collected for the analysis by an independent analytical laboratory.

**Comment 8**

In Section 2.2, *Potential Receptors*, page 8, the Permittee states, “[a]nnual sampling results from 2009 through 2016 have indicated concentrations above screening levels in a single detection of sulfate in a sample collected at PW-3, a single detection of iron in a sample collected at PW-4, a single detection of Tetrachloroethene in a sample collected from PW-2 and a single detection of phenol in a sample collected at PW-3.” According to the *2017 Annual Groundwater Monitoring Report*, dated January 24, 2019, the bis(2-ethylhexyl) phthalate concentration in the groundwater sample collected from well PW-4 exceeded the applicable screening level in 2017. Two organic constituents were detected in wells PW-2, PW-3 and PW-4 at concentrations below applicable standards in 2017. Five organic constituents were detected in well PW-3 and ten in well PW-4 at concentrations below the applicable standards in 2016. Since the groundwater extracted from these wells contains organic constituents and is used as a drinking water source, the Permittee must ensure that organic constituent concentrations do not exceed applicable standards in the water prior to use. Also, refer to Comment 20 in the *Disapproval 2016 Annual Groundwater Monitoring Report*, dated June 4, 2018. If the Permittee has already addressed the issue, provide the information in the revised Work Plan.

**Comment 9**

In Section 2.2, *Potential Receptors*, page 9, the Permittee states, “[b]oundary monitoring wells along the southwest to northwest perimeter of the facility have not shown any evidence of contaminants except for low concentrations of bis (2-ethylhexyl) phthalate detected in the following wells: BW-3B in 2009, BW-3C in 2011 and BW-1C in 2013. The contaminant detected is suspected to be a laboratory contaminant or possibly from the PVC pipe materials used as casing for these wells. No detection of bis (2-ethylhexyl) phthalate was detected in any of the boundary wells in 2018.” Comment 3 in *Disapproval SMW-2 Area and Boundary Well Installation Report*, dated May 21, 2019 states that diesel range organics (DRO) were detected at low concentrations of 0.47 mg/L and 0.74 mg/L in groundwater samples collected at wells BW-4B and BW-5B and other organic constituents (e.g., MTBE, EDC) were detected in the groundwater sample collected from well BW-5C. These monitoring wells are located along the southwest to northwest perimeter of the facility. The Permittee’s statement regarding the boundary wells contains discrepancies; resolve the discrepancies in the revised Work Plan.

**Comment 10**

In Section 2.4.1.2, *Hydrocarbon Seep*, page 12, the Permittee states, “[t]hrough 20187 [sic] a total of 1,500,231 gallons of liquid (hydrocarbon and ground water) have been recovered from these sumps.” Correct the typographical error in the revised Work Plan.

**Comment 11**

In Section 2.4.1.3, *Aeration Basin*, page 13, the Permittee states, “[a] measurable level of SPH was identified in GWM-1 during the fourth quarter sampling event in 2015.” The statement is misleading. A measurable level of SPH has been identified in GWM-1 from 2015 to the present. Clarify the statement in the revised Work Plan.

**Comment 12**

In Section 2.4.1.4, *French Drain Release*, page 14, the Permittee states, “[b]oring logs for the five new wells [OW-61 through 65] are provided in Appendix D.” According to Appendix C-2, *Well Information – Survey Data, Screened Interval, Stratigraphic Unit*, the wells are screened across the Chinle/Alluvium Interface. Boring OW-63 was drilled several feet below the sandstone unit at 28 feet bgs which penetrates the Sonsela formation. Evaluate whether the well was screened within the Sonsela formation and provide a discussion for whether the groundwater elevation in the well is consistent with that of surrounding wells in the revised Work Plan. In addition, the screened interval of well OW-63 was installed above the sandstone unit; however, the filter pack extends from the bottom of the boring to above the top of the screen. The filter pack may serve as a conduit for groundwater migration between the Chinle/Alluvium interface and the Sonsela. In this case, the well must be replaced. The replacement well must be constructed to prevent correspondence between aquifers. Additionally, the boring logs do not include the ground surface elevations for the wells. Revise the logs to include the data; otherwise, survey the ground elevations at the well locations.

**Comment 13**

In Section 2.4.4, *Aeration Basin*, page 15, the Permittee states, “[i]n the third quarter of 2015, quarterly inspection of GWM-1 indicated the presence of an oily substance during gauging activities.” In Section 2.4.1.3, *Aeration Basin*, page 13, the Permittee states, “[a] measurable level of SPH was identified in GWM-1 during the fourth quarter sampling event in 2015.” The statement is contradictory. Revise the statement for accuracy in the revised Work Plan.

**Comment 14**

In Section 3.2, *Drainages*, pages 19-20, the Permittee states, “[storm water] [o]utfall 001 is located directly south of evaporation pond 8 on the western edge of the refinery’s property boundary and equipped with four separate small diameter overflow pipelines, each with a manual flow valve for independent control. Outfall 002 is located north of the rail road loading rack on the eastern section of the facility,” and “[a]t the new waste water treatment plant, there are three storm drains located on the south, southwest and west side of the waste water treatment plant which is connected to an underground storm culvert that exits on the northwest section of STP-1 into a conveyance ditch along the northern edge of pond 2 into a holding pond equipped with manual flow valves, located north of evaporation pond 3. The discharge from this holding pond then flows north-northwest towards the Outfall 001 area.” The Permittee provides a good description of the storm water drainage system in the section. Provide figure that depicts the drainage system in the revised Work Plan.

**Comment 15**

In Section 3.3, *Vegetation Types*, page 20, the Permittee states, “[o]n alluvial fans on valley sides and drainage ways, the existing vegetation is usually alkali sacaton, western wheatgrass, Indian rice grass, blue grama, bottlebrush squirreltail, broom snakeweed, fourwing saltbush, threeawn, winterfat, mat muhly and spike muhly.” During the site visit conducted in June 5, 2019, cattails were also observed along the drainage ways. Cattails are associated with wetlands. The presence of the plants indicates that the soils in the vicinity exhibit wetland characteristics. List cattails in the statement in the revised Work Plan, as appropriate.

**Comment 16**

In Section 4.1, *Ground Water Sampling Methodology*, page 23, the Permittee states, “Appendices C-2 and C-2.1 include well information for the non-MKTF wells and MKTF wells, respectively,” and “Table C-2.1 is revised to include new monitoring wells installed in 2018.” Appendix C-2.1 was not included in the Work Plan. Include Appendix C-2.1 in the revised Work Plan.

**Comment 17**

In Section 4.2, *Ground Water Sample Collection*, page 25, the Permittee states, “[a]ll purged ground water and decontamination water from monitoring wells will be drained into the refinery waste water treatment system upstream of the NAPIS.” Comment 6 in the *Disapproval 2017 Annual Groundwater Monitoring Report*, dated March 21, 2019 states, “[a]lthough some parts of the NAPIS were repaired in 2018, the NAPIS must be re-inspected for potential leaks and repaired as necessary. A report that summarizes the results of the inspection and repair of the NAPIS must be submitted to NMED no later than **June 7, 2019**.” The required report has not been submitted to NMED. Submit the report summarizing the results of the inspection and repair of the NAPIS or submit an extension request.

**Comment 18**

In Section 4.2.1, *Sample Handling*, page 25, the Permittee states, “[c]ollection of containerized ground water samples are in the order of most volatile to least volatile, such as: VOCs, SVOCs, metals, phenols, cyanide, sulfate, chloride, nitrate and nitrite.” Comment 7 in the *Approval with Modifications [Revised] Investigation Report North Drainage Ditch and OW-29 & OW-30 Areas*, dated June 24, 2019 states, “[o]n-site nitrite analysis is acceptable with an appropriate field method to accommodate the short holding time. Propose to collect groundwater samples for nitrate and nitrite separately from all groundwater monitoring wells at the site and discuss the method for on-site nitrite analysis in the upcoming Facility-Wide Groundwater Monitoring Work Plan.” In the revised Work Plan, propose to collect groundwater samples for nitrate and nitrite separately and discuss the method for on-site nitrite analysis, as necessary.

**Comment 19**

In Section 4.4.6.3, *Method Reporting Limits*, page 30, the Permittee states, “[d]etection limits that exceed established standards or screening levels and are reported as “not detected” will be considered data quality exceptions and an explanation for its acceptability for use will be provided.” The Permittee is required to use the appropriate analytical labs and methods capable of achieving detection limits below the respective screening levels. Unless a reasonable explanation is provided, NMED cannot defend that the constituents are not present at the facility based on laboratory analyses that cannot achieve the appropriate detection limits. If the Permittee cannot provide data that meets the screening levels, it will not be possible to demonstrate that releases related to the site operations have not occurred. Provide a table that presents applicable screening levels and detection limits for the constituents of concern.

**Comment 20**

Section 6.1, *Requests for Modifications to Sampling Plan*, page 35 does not provide a sufficient discussion regarding the requested change to the Work Plan. For example, Comment 28 in the

*Disapproval 2016, 2017 and 2018 Facility-Wide Ground Water Monitoring Work Plans*, dated June 5, 2018 states, “[c]ollect water samples from ponds EP-3, EP-12A and EP-12B for pesticides analysis using EPA Method 8081A during the 2018 sampling events. Unless pesticide constituents are detected, the pesticides analysis may be discontinued in 2019.” Appendix B, Table 1, *Groundwater Monitoring Schedule* was appropriately updated to collect the water samples from ponds EP-3, EP-12A and EP-12B for pesticides analysis. However, Appendix B, Table 2, *Requested/Approved Changes to the Groundwater Monitoring Schedule* indicates that pesticides analysis for the water samples is proposed to be continued in 2019. A discussion for why the pesticide analysis is proposed to be continued in 2019 must be included in Section 6.1 and Table 2. Review NMED’s comments issued since June 2018 that require modifications to the Work Plan and provide the rationale for changes to the requested modifications in Section 6.1 and Table 2 of the Work Plan.

**Comment 21**

In Section 6.1, *Requests for Modifications to Sampling Plan*, page 35, the Permittee states, “[n]ew monitoring wells OW-61 through OW-65 have been added to the Sampling Plan. The proposed analytical suite for these five new wells includes the following: Volatile Organic Compounds; Semi-Volatile Organic Compounds; WQCC Metals – Total and Dissolved; GRO/DRO Extended; and Major Cations/Anions.” NMED hereby approves the addition of the new wells to the monitoring schedule and the proposed analytical suite.

**Comment 22**

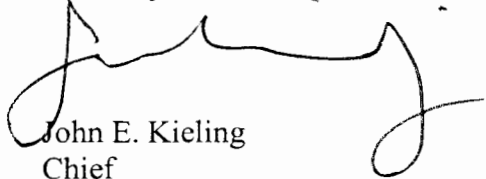
Chlorinated solvents have been detected in the groundwater samples collected at the Facility. The Permittee must prepare to analyze for 1,4-dioxane using EPA Method 8270 SIM for the groundwater samples collected from all monitoring wells where chlorinated solvents have been detected within the past ten years. Propose to analyze for 1,4-dioxane for two consecutive events in the revised Work Plan.

The Permittee must address all comments in this Disapproval and submit a revised Work Plan. Two bound hard copies and an electronic version of the revised Work Plan 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 **September 13, 2019.**

Mr. Moore  
July 12, 2019  
Page 7

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

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 (6LCRRC)  
B. Moore, WRG

File: Reading File and WRG 2019 File  
HWB-WRG-19-012