



Michelle Lujan Grisham
Governor

Howie C. Morales
Lt. Governor

NEW MEXICO
ENVIRONMENT DEPARTMENT



ENTERED



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

James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

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
INVESTIGATION WORK PLAN NO. 2 AREA OF CONCERN 35
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-20-009**

Dear Mr. Moore:

The New Mexico Environment Department (NMED) has reviewed the *Investigation Work Plan No. 2 Area of Concern 35* (Work Plan), dated February 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 Work Plan that addresses all comments contained in the Attachment. Two hard copies and an electronic version of the revised Work Plan must be submitted to the NMED. The Permittee must also include a redline-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 all revisions have been made, cross-referencing NMED's numbered comments. The Revised Work Plan must be submitted to NMED no later than **December 31, 2020**.

Mr. Moore
August 31, 2020
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If you have questions regarding this Disapproval, please contact Michiya Suzuki of my staff at 505-476-6046.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Cobrain". The signature is fluid and cursive, with the first name "Dave" being more prominent than the last name "Cobrain".

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-20-009

Attachment

Comment 1

In Section 2.1, *Main Truck Loading Rack Area*, page 2-1, the Permittee states, “[t]he well [MKTF-45] is measured as being 30.24 feet deep and has contained SPH since it was first gauged in 2014.” The thickness of the separate phase hydrocarbon (SPH) column in well MKTF-45 is consistently greater than other wells in the vicinity. The screened interval of well MKTF-45 is unknown. It is not clear whether well MKTF-45 is screened differently than other nearby wells or an isolated hot spot is present near well MKTF-45. Propose to determine the screened interval of well MKTF-45 in the revised Work Plan.

In addition, well MKTF-17 is located approximately 50 feet downgradient from, and closest to, well MKTF-45. SPH thickness in well MKTF-17 is consistently less than that of well MKTF-45. The screened interval of well MKTF-17 is submerged below the water table and underestimates the SPH thickness. In order to evaluate SPH thickness more accurately, propose to install a well at the location of well MKTF-17 to intercept the water table in the revised Work Plan.

Furthermore, Figure 6, *Proposed Sampling Locations*, depicts a proposed well approximately 200 feet west of well MKTF-17. Section 4.1, *AOC 35 Investigation*, page 4-2, states, “[t]he well is proposed to be located approximately midway between MTKF-17, which now contains SPH as a result of the gasoline release, and MKTF-33 that does not contain measurable SPH.” The proposed well location is likely too far downgradient to evaluate the extent of SPH. Well MKTF-33 is referenced to determine the location of the proposed well. However, well MKTF-33 is located approximately 550 feet west of well MKTF-17 and concentrations of benzene, toluene, ethylbenzene, and xylenes have not been detected from the groundwater samples collected from the well. Therefore, well MKTF-33 must not be used to determine the proposed well location. Revise the location of the proposed well to be approximately 100 feet west of well MKTF-17.

Comment 2

In Section 2.1, *Main Truck Loading Rack Area*, page 2-2, the Permittee states, “[t]he sumps collect small spills that may occur on the loading rack concrete apron and de minimis volumes of product that drained from loading hoses.” The locations of the sumps are not identified in Figure 6. Identify the locations of the sumps in the revised figure.

Comment 3

In Section 2.1, *Main Truck Loading Rack Area*, page 2-2, the Permittee states, “[t]he concrete pads are cracked, particularly in the areas near the sumps.” The referenced area is close to the loading rack and future releases may occur in the general vicinity. Cracked concrete pads will not prevent released fuels from seeping into the soils. Propose to investigate beneath the cracked concrete pads in the revised Work Plan or to repair the damaged concrete.

Comment 4

In Section 2.6, *Prior Investigation*, page 2-5, the Permittee states, “one pint of a yellow/green dye (Spectroline Oil-Glo 44G Fluorescent yellow/green) [was] introduced into the sewer at the Crude Slop and Ethanol Unloading area (a short distance northwest of the main truck loading racks)... [and] [t]he green/yellow dye appeared to be present in nine wells [SB04, SB05, SB06 (MKTF-05), SB08 (MKTF-06), SB10 (MKTF-07), SB11 (MKTF-08), SB19 (MKTF-12), SB20 (MKTF-13), and SB21]...” and “one pint of a red dye (FWT red dye) [was] introduced at the lab sinks... [and] [t]he red dye was identified in five of the temporary wells [SB01 (MKTF-03), SB02, SB16 (MKTF-10), SB17 (MKTF-11), and SB22 (MKTF-14)]...” The sewer line was leaking according to the result of the test. Provide an explanation on the current status of the sewer line in the revised Work Plan. If the sewer line has not been repaired, propose to repair it in the revised Work Plan.

Comment 5

In Section 4.1, *AOC 35 Investigation*, page 4-1, the Permittee states, “[i]t is anticipated that the gasoline is likely pooled on top of this clay interval and to avoid providing a direct vertical conduit to lower permeable layers the soil borings will be terminated in the clay.” Section 2.5 discusses that SPH was detected or increased in several downgradient wells after the release was identified. The clay interval may have slowed the rate of SPH migration to the water bearing zone; however, it did not prevent it. Accordingly, the soils in the clay interval are likely contaminated by the released gasoline. SPH is likely pooled on top of the water table and also possibly on the clay interval. Propose to extend the soil borings to beneath the soil/groundwater interface in the revised Work Plan.

Comment 6

In Section 4.1, *AOC 35 Investigation*, page 4-1, the Permittee states, “[i]n addition to collection of soil samples, groundwater samples will also be collected from these locations if groundwater is encountered and SPH is not present.” The area where the borings are proposed to be advanced may be contaminated with multiple historic hydrocarbon releases. Accordingly, if SPH is present, collect SPH samples for fingerprint analysis to identify the nature of the contamination. Include the provision in the revised Work Plan.

Comment 7

Section 4.2, *Soil Sample Field Screening and Logging*, pages 4-1 and 4-2, provides details on soil screening and laboratory sample collection methods, which is appropriate for the proposed soil borings. The proposed method must also apply to the soil boring to be converted to the groundwater monitoring well west of well MKTF-17. Clarify that the method also applies to the installation of the monitoring well in the revised Work Plan.

Comment 8

In Section 4.2, *Soil Sample Field Screening and Logging*, page 4-2, the Permittee states, “[f]ield duplicates will be collected at a rate of 10 percent.” Even if the total number of samples is less

than 10, at least one field duplicate sample must be collected. Include the provision in the revised Work Plan.

Comment 9

In Section 4.3, *Groundwater Sample Collection*, page 4-4, the Permittee states, “[s]ample handling and chain-of-custody procedures will be in accordance with the procedures presented below in Section 4.4.1.” The Work Plan does not include a Section 4.4.1. The referenced section is Section 4.3.1. Correct the typographical error in the revised Work Plan.

Comment 10

In Section 4.6, *Chemical Analyses*, page 4-7, the Permittee states, “[g]roundwater and soil samples will be analyzed by the following methods: • SW-846 Method 8260 for volatile organic compounds; • SW-846 Method 8270 for semi-volatile organic compounds; and • SW-846 Method 8015B gasoline range (C5-C10), diesel range (>C10-C28), and motor oil range (>C28-C36) organics.”

According to the 2018 *Annual Groundwater Monitoring Report*, dated September 2019, 1,2-dichloroethane (EDC) was detected from the groundwater samples collected from well MKTF-36 located approximately 50 feet downgradient of the Main Truck Loading Rack. Since EDC is a lead scavenger, 1,2-dibromoethane (EDB) may also be present at the pertinent area. Propose EDB analysis for the groundwater samples using an analytical method capable of detecting EDB at concentrations less than 0.004 micrograms per liter (e.g., EPA Method 8011) in the revised Work Plan.

In addition, chlorinated solvents have been detected in the groundwater samples collected from the pertinent wells. The New Mexico Water Quality Commission adopted revised regulations that listed 1,4-dioxane as a toxic pollutant on December 21, 2018. Propose to analyze for 1,4-dioxane for the groundwater samples using EPA Method 8270 Selected Ion Monitoring (SIM) in the revised Work Plan.

Comment 11

In Section 4.6, *Chemical Analyses*, page 4-8, the Permittee states, “[g]roundwater samples will also be analyzed for major anions (e.g., carbonate, bicarbonate, sulfate, fluoride and chloride).” Nitrate and nitrite analyses were also included in the subsequent table titled as *Inorganic Analytical Method*, which is appropriate. The Permittee previously stated that laboratory nitrite analysis could not be carried out due to its short holding time (i.e., 48 hours). Subsequently, NMED suggested the use of a field test kit to report separate nitrite concentrations. If laboratory nitrite analysis can be conducted, conduct laboratory nitrite analysis rather than field nitrite analysis as laboratory analysis is more accurate. Clarify whether nitrite analysis will be conducted using a field test kit or off-site laboratory analysis or both in the revised Work Plan.

Comment 12

In Section 4.7, *Data Quality Objectives*, page 4-9, the Permittee states, “[m]ethod detection limits should be 20% or less of the applicable background levels, cleanup standards and screening levels.” The screening levels for total petroleum hydrocarbon diesel range organics (TPH-DRO) and oil range organics (TPH-MRO) are 85.8 µg/L. Previously, the detection limits were reported higher than the screening levels. The detection limits must be lower than the screening levels. Solicit analytical laboratories capable of achieving the detection limits lower than the screening levels and resolve this recurring issue. Otherwise, address the concentrations where the detection limits are higher as a data gap and include the discussion in the investigation report. Include the provision in the revised Work Plan.

Comment 13

Figure 3, *Potentiometric Map*, Figure 4, *Benzene Concentration Map*, and Figure 5, *MTBE Concentration Map* use the data collected during the third quarter of 2017. The data collected in 2017 is not relevant to the investigation. In the revised Work Plan, provide the figures that present the data collected before and after the October 27, 2019 release. In addition, provide diagrams that present SPH thickness in pertinent wells before and after the October 27, 2019 release in the revised Work Plan.