ENTERED

NEW MEXICO ENVIRONMENT DEPARTMENT

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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

October 28, 2015

Mr. Ed Riege
Environmental Manager
Western Refining, Southwest Inc., Gallup Refinery
92 Giant Crossing Road
Gallup, New Mexico 87301

**RE: REQUIREMENT
TO REMOVE SEPARATE PHASE HYDROCARBONS
AND MONITOR GROUNDWATER MONITORING WELL GWM-1
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-MISC**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) received notice from Western Refining Southwest, Inc. Gallup Refinery (Western) by email on August 12, 2015 that during quarterly monitoring well inspections an "oily substance" was found in groundwater monitoring well GWM-1. This is the first time that an oily substance (referred to in this letter as Phase Separated Hydrocarbons (PSH)) of significant thickness was detected in GWM-1.

In a subsequent email dated August 25, 2015, Western indicated that when measured using an oil/water interface probe the depth to product (DTP) in GWM-1 was 21.0 feet, the depth to water (DTW) was 21.21 feet. The depth to the bottom of the well was measured at 26.20 feet. The well was bailed, but there was insufficient PSH remaining to collect a sample to run a distillation; however, groundwater samples were collected for analyses. NMED responded to Western's email on the same day requesting that Western check recharge or recovery of groundwater and PSH in the well after bailing, and requested that a sample of the PSH be collected and sent for fuel fingerprint analysis. According to an email from Western, sent September 24, 2015, GWM-1 was measured again on September 18, 2015 with DTP 21.0 feet

and DTW 21.45 feet. A sample of the PSH was collected and sent to a contract analytical laboratory for analysis using modified Environmental Protection Agency (EPA) Method 8015. The results indicated that the PSH consisted of 68% (by weight) diesel range organics (DRO), and 18% (by weight) motor oil range organics (MRO).

GWM-1 is screened across the Chinle/Alluvium Interface with a screened interval from 17.5 – 23.5 feet. During the 2013 monitoring event, groundwater levels were measured between 16.87 and 18.41 feet. The groundwater level has steadily decreased after use of the Aeration Basin ceased; thus, groundwater recharge to the saturated zone in GWM-1 has decreased. Historical groundwater monitoring reports indicate that the presence of DRO in analytical results from GWM-1 groundwater samples increased over time. In 2008, DRO was not detected in groundwater samples obtained from well GWM-1 but by 2013, a concentration of 7.1 mg/L DRO was detected. DRO is present in the Aeration Basin sludge: a study completed in 2008 demonstrated that sludge/soil samples collected from within the Aeration Basin contained DRO ranging from 50,000 mg/kg to 370,000 mg/kg (5 to 37%). The study results also indicate the presence of MRO. The sludge from the Aeration Basin appears to be a source of PSH discovered in GWM-1.

Western must investigate and attempt to determine the source of the PSH discovered in the groundwater at GWM-1. Please provide NMED and the Oil Conservation Division (OCD) with the laboratory chromatographs generated from the EPA Method 8015 analysis of the PSH samples by **December 14, 2015**. If groundwater and PSH continue to be present in GWM-1, Western must bail PSH from GWM-1 once a week and report the groundwater and PSH levels (thickness), collected immediately prior to each water/PSH removal action, to NMED and OCD on a monthly basis with a summary of conditions observed. Based on the results of the water/PSH removal presented in monthly summary reports, NMED and OCD will determine whether ongoing weekly removal is necessary. Additionally, all water and PSH removed from the well must be disposed properly.

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

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB
N. Dhawan NMED HWB
K. Van Horn NMED HWB
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File: Reading File and WRG 2015 File
HWB-WRG-MISC