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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

May 11, 2015

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

**RE: REQUIREMENT TO SUBMIT WORK PLANS
REGARDING GROUNDWATER MONITORING
OW SERIES WELLS AND CONTAMINANT PLUME MIGRATION
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-WRG-MISC**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) received Western Refining Southwest, Inc., Gallup Refinery's (Permittee) First Quarter 2015 groundwater monitoring results via email on April 16, 2015. NMED is also in the process of reviewing the Facility-Wide Groundwater Monitoring Work Plans and the Facility-Wide Groundwater Monitoring Reports submitted by the Permittee. During review of these documents, it became apparent that there are contaminant plumes affecting groundwater in the northeast part of the refinery property. The OW-series wells on the northeast side of the property have exhibited increasing concentrations of methyl tert-butyl ether (MTBE), benzene and other petroleum-related compounds over the last several years. Additionally, based on the data, there appear to be two separate contaminant plumes in the area. The Permittee must submit two work plans to: 1) further investigate the known MTBE plume at the Facility and, 2) investigate a suspected plume north of the Tank Farm (SWMU 6).

Background

The OW-series monitoring wells (OW-13, OW-14, OW-29, OW-30, OW-50, and OW-52) were installed to monitor separate phase hydrocarbons (SPH) and MTBE contaminant plumes from historical contamination from a leaking MTBE tank. The tank was removed from service and MTBE has not been used at the refinery since April 2006. A series of recovery wells (RW-1, RW-2, RW-5, and RW-6) were installed to remove SPH from groundwater. Over time, less product has been recovered from the RW-wells. In the 2013 Annual Groundwater Monitoring Report (not yet approved by NMED), Section 7.3, the Permittee states,

“[p]roduct recovery continues in RW-1 as there is measurable hydrocarbon column thickness level. Field notes indicate that product recovery from RW-1 has decreased in quantity over the years with two gallon[s] of product recovered in 2013. RW-5 and RW-6 product recovery has also been steadily declining. From 2010 through 2013, no product has been recovered from RW-5 and no product was recovered from RW-6 in 2013. Although there is no measureable product level in RW-5 and RW-6 both wells will continue to be bailed as there is evidence of hydrocarbons in the wells from observing the bailed water (slight odor with visible sheen).”

In the same section, the Permittee states, “[i]t is possible that the MTBE plume may be migrating in a north-northwest direction from OW-29 following the natural formation of the Chinle-Alluvium interface. Analytical data indicates that MTBE concentrations have been slowly increasing from year to year in OW-29 as well as OW-30.” Based on this information it appears that the plume continues to migrate. The groundwater monitoring wells OW-50 and OW-52, which were installed to monitor contaminant migration to the north have had no detections of MTBE as yet; however, these wells must continue to be monitored. Groundwater monitoring wells OW-29 and OW-30 are within the contaminant plume and OW-30 is located at the eastern edge of the refinery property. The Permittee must propose to install additional groundwater monitoring wells to completely define the extent of the contaminant plume.

There is a possibility that SPHs are present in other OW-series wells; however, most of the monitoring wells are screened below the water table, which prohibits this determination because, the wells are not screened across the water table to detect the presence of the SPH. Historically, the OW-13, OW-14, OW-29, and OW-30 wells have only been analyzed for VOCs and WQCC metals. The Permittee analyzed samples from groundwater monitoring wells OW-13, OW-14, OW-29, and OW-30 for diesel-range organics, gasoline-range organics and motor-oil range organics (DRO, GRO, and MRO) in September 2013. In the 2013 Annual Groundwater Monitoring Report, the Permittee notes in Table 8.8.1 that “[q]uarterly combined with 2013 Annual sampling event which required addition of these analyses.” The concentrations of DRO and GRO for groundwater monitoring wells OW-14, OW-29, and OW-30 are OW-14: 7.7 mg/L DRO, 7.6 mg/L GRO; OW-29: 0.88 mg/L GRO; and OW-30: 1.4 mg/L GRO. The Permittee must analyze for GRO/DRO at all of the OW-series wells during the next sampling event (this summer) and update the Facility-Wide Groundwater Monitoring Work Plan to reflect the additional analyses.

Comments

The Permittee must submit a Work Plan to propose installation of additional groundwater monitoring wells to determine the extent of the contaminant plume and determine if the plume is migrating off-site. The new groundwater monitoring wells must be located down-gradient and to the north-northwest of groundwater monitoring wells OW-29 and OW-30. The Permittee must propose to install the wells in accordance with Permit Section IV.K (Monitoring Well Construction Requirements). The Permittee must include a figure that depicts the proposed locations of the groundwater monitoring wells. The groundwater monitoring wells must be screened across the water table.

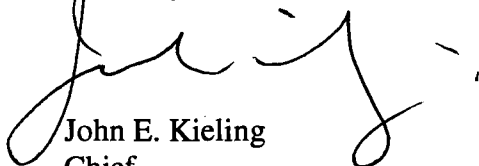
In addition, there may be a second plume north of the Tank Farm. This is indicated by an increase in benzene in well OW-14, which is located just north of the Tank Farm. Analytical results for benzene in OW-14 have increased from 0.25 mg/L in March 2010 to 3.9 mg/L in March 2015, respectively. Benzene typically moves through soil and groundwater at a faster rate and is found on the leading edge of plumes. Ethylbenzene has also been increasing in OW-14; increasing from 0.018 mg/L in February 2011 to 0.13 mg/L in November 2013. Additionally, as stated in above, DRO and GRO were present in analytical results from sampling conducted in September 2013. The Permittee must submit a separate work plan proposing to investigate the source of the contamination detected in groundwater monitoring well OW-14.

A work plan proposing to install additional monitoring wells to define the extent of MTBE and other hydrocarbons down-gradient and to the north-northwest of existing groundwater monitoring wells OW-29 and OW-30 must be submitted no later than **August 17, 2015**. The Permittee must also submit a work plan to investigate the source of contaminants present in groundwater monitoring well OW-14. This work plan must be submitted no later than **September 8, 2015**.

Ed Riege
Gallup Refinery
May 11, 2015
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If you have questions regarding this Requirement, 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
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File: Reading File and WRG 2015 File
WRG-MISC