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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

May 12, 2014

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc.,
Gallup Refinery
92 Giant Crossing Road
Jamestown, New Mexico 87347

**RE: DISAPPROVAL
2011 FACILITY-WIDE GROUNDWATER MONITORING REPORT
AND
2012 FACILITY-WIDE GROUNDWATER MONITORING REPORT
WESTERN REFINING, SOUTHWEST INC., GALLUP REFINERY
EPA ID# NM000333211
WRG-12-003
WRG-13-003**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has reviewed Western Refining, Southwest Inc., Gallup Refinery's (the Permittee) *2011 Facility-Wide Groundwater Monitoring Report* (2011 Report), dated August 2012 and the *2012 Facility-Wide Groundwater Monitoring Report* (2012 Report), dated April 2012. The Permittee's Post-Closure Care RCRA Permit, Section IV.C.3, requires the Permittee to submit a Facility-Wide Groundwater Monitoring Report describing all groundwater monitoring activities by September 1st of each year. NMED hereby issues this Disapproval for both Reports.

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Many of the comments in this Disapproval have been the subject of NMED comments in past Reports. NMED acknowledges that the turnaround time from submittal to response to the Reports has caused some issues regarding response to comments. The Disapproval and then the Approval with Modifications for the 2010 Facility-Wide Groundwater Monitoring Report (2010 Report) were not sent until December 2012; thus, the 2011 and 2012 Report submittals did not address NMED comments.

Therefore, the Permittee is required to re-submit only the 2012 Report. The analytical data and summary tables for the 2011 Report must be included as an appendix on the disc submitted with the revised 2012 Report. The comments in this Disapproval focus primarily on the 2012 Report; however, the 2011 Report was reviewed concurrently and many, if not all, of the comments regarding the 2012 Report are relevant to the 2011 Report as well. The Permittee must incorporate and address the following comments in the revised 2012 Report and in all future Reports.

Comment 1

Ensure that the data presented in the Report tables are consistent with the results presented in the text of the Report. There are inconsistencies regarding the discussion of data results and the accurate reporting of information.

Comment 2

In the Executive Summary, page 1, under the Groundwater Monitoring heading, the Permittee states, “[t]here are forty monitoring wells distributed within the boundaries of the refinery of which, seventeen monitoring wells are located along the perimeter of the aeration lagoons and evaporation ponds.” The Permittee does not describe the location(s) of the other groundwater monitoring wells. In the revised Report provide a full description of the groundwater monitoring network at the refinery.

Comment 3

In the Executive Summary, page 3, under the West Side Ground Water heading, paragraph 4, the Permittee states, “[l]ocated down gradient of the NAPIS on the west side, are three wells (NAPIS-2, NAPIS-3, KA-3). Of the three wells, NAPIS-2 and KA-3 had detectable concentration levels of organic constituents (benzene, ethyl benzene, MTBE, 1-Methylnaphthalene, naphthalene, and phenol). Five metal constituents were also detected in this well, (arsenic, barium, iron, manganese, and uranium).” It is not clear in which well the metals were detected. Revise the description to include the groundwater monitoring well designation.

Comment 4

In Section 2 (Scope of Activities 2012) revise the language to reflect that the work has been conducted rather than using present perfect tense such as “is collected,” “will be,” “is gauged,” and “are obtained.” Revise the Report to use the proper tense to indicate that the work was completed.

Comment 5

NMED's Approval with Modifications for the 2010 Report, dated December 12, 2012, Comment 10, stated, "[i]n Section 6.0 (Ground Water Monitoring Results), pages 29 through 48, the Permittee discusses the analytical results from the 2012 [note: this was a typo] groundwater monitoring events in three sections, Sections 6.1 (Wells with Constituent Levels Above Standards), 6.2 (Wells with Constituent Levels below Standards), and 6.3 (Evaporation Ponds, Influent, Effluent, Boiler Water to EP-2 and Leak Detection Units – Constituent Levels). However, the Permittee does not consistently discuss exceedences of and detections below, the screening levels in their appropriate sections." This is also an issue in the 2011 and 2012 Reports, making the analytical results discussion difficult to interpret.

Be clear and consistent regarding descriptions of analytical results. The Report divides analytical results into two sections: analytes detected above screening levels and analytes detected below screening levels; however, the Permittee is not consistent in reporting results in the correct section. For example, in Section 6.1.10 (SWM-2, SMW-4), page 38, paragraph 3, the Permittee states, "SMW-2 annual sampling analytical results indicated the detection of chloride (2400 mg/L) and sulfate (1600 mg/L) at concentration levels above the WQCC standard. Fluoride and bromide were also detected at concentration levels below the applicable standards. Gasoline Range Organics (GRO) was also detected at concentrations level of 0.28 mg/L. Total metals analysis indicated detectable concentration levels of the following metals: Arsenic at 0.005 mg/L, chromium at 0.17 mg/L, iron at 1.5 mg/L, manganese at 0.25 mg/L and uranium at 0.11 mg/L. Barium, selenium and zinc were also detected at concentration levels below the applicable standards." The language in this paragraph is confusing and it is difficult to parse which analytes were above or below standards. Modify the text to clarify which analytes were detected and which were above or below standards. To avoid repetition and avoid omission of groundwater monitoring wells (see Comment 10), revise the Report to organize the discussion of the analytical results by monitoring well collection (i.e., group together the discussion of the analytical results for the boundary wells (BW), the recovery wells (RW), the observation wells (OW), the NAPIS wells, the aeration basin wells, etc.). Then, discuss the analytical results and provide separate paragraphs for discussion of analytes detected above and below cleanup levels. For each constituent, present the applicable screening level (see Comment 6) for comparison to the results. In addition, revise the Report to provide references to the data tables in Section 8 so that the discussion can be cross-referenced with the data provided in the summary tables.

Comment 6

In Section 6.1.1, the Permittee states, "[a]nalytical results indicated concentration levels of fluoride were above the current WQCC and Environmental Protection Agency Regional Screening Level (EPA RSL) standards of 1.6 mg/L and 0.93 mg/L in all of the above listed BW wells for the annual sampling conducted in 2012." Further in the section, the Permittee states, "[t]otal metals detected above the WQCC and/or EPA RSL standards included the following metals; chromium at 0.22 mg/L in BW1-C." The Permittee must follow the groundwater cleanup requirements in Permit Section IV.D.1 which requires:

“The cleanup levels for all contaminants in groundwater shall be the WQCC groundwater quality standards, 20.6.2.3103 NMAC, the cleanup levels for toxic pollutants calculated in accordance with 20.6.2.7.WW NMAC, and the drinking water maximum contaminant levels (MCLs) adopted by EPA under the federal Safe Drinking Water Act (42 U.S.C. §§ 300f to 300j-26) or the New Mexico Environmental Improvement Board (EIB), 20.7.10 NMAC. If both a WQCC water quality standard and an MCL have been established for an individual substance, then the lower of the levels shall be the cleanup level for that substance.

The most recent version of NMED’s Tap Water Screening Levels listed in Table A-1 of *Technical Background Document for Development of Soil Screening Levels* (as updated) shall be used to establish the cleanup level if either a WQCC standard or an MCL has not been established for a specific substance. In the absence of an NMED tap water screening level then the EPA *Regional Screening Levels for Chemical Contaminants at Superfund Sites* (RSLs) for tap water shall be used.”

Throughout the Report, the Permittee uses incorrect standards for comparison. Revise the Report to reflect the appropriate groundwater standards. For example, for fluoride the WQCC standard is 1.6 mg/L and the EPA MCL is 4.0 mg/L; therefore, the cleanup level for fluoride will be based on the most conservative of the standards, the WQCC standard. If neither the WQCC nor the EPA MCL had provided a standard for fluoride, then the Permittee would be required to use the NMED “Tap Water Screening Levels” or the EPA RSLs. Revise the Report to present the appropriate screening levels based on the guidance in Permit Section IV.D.1 for all of the constituents in groundwater.

Comment 7

In the analytical results tables, the Permittee provides three groundwater screening levels for comparison. Revise the table to indicate which screening level is used for each analyte based on the guidance in Permit Section IV.D.1 (Groundwater Cleanup Levels) (see also Comment 6 and Comment 13).

Comment 8

Comment 12 of NMED’s December 12, 2012 Approval with Modifications required that the Permittee “sample wells up gradient from NAPIS-1, NAPIS-2, NAPIS-3, KA-3, OW-1, OW-10, and OW-11 and review the groundwater analytical results to determine if uranium detections are similar to concentrations in unaffected wells. The Permittee must discuss the results in either the 2011 Annual Groundwater Monitoring Report.” There is no discussion of uranium results in the 2011 or 2012 Reports. Revise the 2012 Report to discuss the presence of uranium in groundwater at the facility.

Comment 9

In Section 6.1.5 (NAPIS-1, NAPIS-2, NAPIS-3, KA-3), page 32, paragraph 5, the Permittee states, “[i]n NAPIS-3, BTEX and MTBE were at non-detectable levels from 2008 through 2009 and fourth quarter 2010 through 2012.” This statement is not clear. Clarify whether BTEX and MTBE were not detected from 2008 through 2012 or if the constituents were detected in the first three quarters of 2010, 2011, and 2012 and not the fourth quarter.

Comment 10

In Section 6.1.8 (OW-13, OW-14, OW-29, OW-30) the Permittee does not discuss OW-13 nor is it discussed in Section 6.2 (Wells with Constituent Levels Below Standards). Revise the Report to ensure that analytical results from OW-13 are discussed.

Comment 11

In Section 6.2.7 (OW-11, OW-12), page 48, the Permittee states, “BTEX plus MTBE concentration levels indicated non-detect for all four quarters for both wells.” The sampling frequency for OW-11 and OW-12 is annual. The sample date listed in this section and Table 1 in Section 10 is 8/22/12. Revise the Report to state the proper sampling frequency.

Comment 12

In Section 7.1 (East Side Ground Water), page 62, third paragraph, the Permittee states, “[u]p-gradient of the OW wells, directly north of OW-14, are four shallow recovery wells (RW-1, RW-2, RW-5, and RW-6) from which SPH has been recovered and continues to be recovered.” Revise the Report to present the correct cardinal direction of the RW wells from well OW-14 which are located south/south-east of well OW-14.

Comment 13

Table 8.4.4 (Volatile Organic Compound Analytical Result Summary) lists the volatile organic compound (VOC) results for well OW-10. In addition to listing too many screening levels (see also Comments 6 and 7), the Permittee lists the wrong values for the constituents. The screening levels listed in the table for 1,1-Dichloroethane (mg/L) for WQCC is 0.025 mg/L, 40 CFR 141.62 is NE [not established], and EPA RSL Tapwater is 2.4E-03 mg/L. The WQCC standard for 1,1-dichloroethane is 0.025 mg/L, a EPA MCL has not been established; therefore, the Permittee must use the WQCC standard. Additionally, use the same units for reporting the analytical results as the screening levels. Using the same unit makes the review easier, and fewer conversion factor errors may be made. For example even though using the EPA RSL was inappropriate in this case, the EPA RSL for 1,2-Dichloroethane is listed as 1.5E-01 ug/L in the EPA RSL table; however, the Permittee lists it as 1.5E-03 mg/L, which is off by a factor of 10. Revise the tables to present the proper screening level units for each constituent.

Comment 14

Section 6.3.4 (Leak Detection Units (LDU): East LDU, West LDU, Oil Sump LDU). In Section 7.2 (West Side Ground Water Monitoring) the Permittee states, “[a]lso located at the NAPIS are

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three leak detection units which are inspected and if fluids are detected, samples are collected on a quarterly basis. All three leak detection units continue to have a fluid level.” The paragraph goes on, “[q]uarterly analyses of fluid collected from these units and the continued presence of fluid indicate the potential that the fluid may be coming from the NAPIS.” The Permittee addressed this issue in a letter to NMED dated August 5, 2013 and are using a vacuum truck to remove water which is still present in the LDUs. The Permittee must repair the leaks in the NAPIS unit within 90 days of receipt of this letter.

Comment 15

Section 6.4 (OCD Groundwater Discharge Permit GW-032AP-111) contains more than just the discussion of the change in permitting from OCD. Revise the section title to reflect the actual contents of the section.

Comment 16

In Section 7.1 (East Side Ground Water), page 61, the Permittee states, “[t]he stratigraphic units in which these wells exist are in what is known as the Chinle/Alluvium Interface.” Well OW-13 is screened in the Sonsela aquifer. Revise the Report to present the correct information regarding well OW-13. See also Comment 27.

Comment 17

In Section 7.1, the Permittee states that “2007 results indicated 1.3E-03 mg/L was detected and fourth quarter 2012 analytical results were detected at 0.011 mg/L indicating that the MTBE plume is slowly migrating in a north-west direction downgradient from OW-14. The stratigraphic units in which these wells exist are in what is known as the Chinle/Alluvium Interface.” The Permittee may be required to install additional groundwater monitoring wells to define the extent of the MTBE plume.

Comment 18

In Section 7.4 (Recommendations) the second bulleted item reads, “[s]ubmit the 2012 Annual Ground Water Monitoring Report on or before September 1, 2012.” The next submittal will be the 2013 groundwater monitoring report. Revise the Report to reflect the proper dates.

Comment 19

Table 8.2 (Influents (Infl to AL-1, Infl to AL-2, Infl to EP-1) BTEX Analytical Results Summary) lists benzene results for the Influent to AL-1. The analytical result for the sample collected on 6/14/2012 indicate that benzene was present at 0.67 mg/L. However, the analytical laboratory report from the June 2012 sample collected indicates that the sample collection date was 6/12/12 and that the benzene was non-detect with a RL <1.0 ug/L. Revise the summary table to state the correct analytical results with dates of collection. Review all of the analytical summary tables to verify that they report the correct dates for sample collection, the correct analytical results, and the correct screening level comparisons.

Comment 20

In Table 8.2 (Influent (Infl to AL-1, Infl to AL-2, Infl to EP-1) BTEX Analytical Result Summary), the footnote for the “Infl to AL-1(5)” cell reads “[b]eginning third quarter 2012 no samples were collected. Influent going to new WWTP.” In Section 6.3.2 (Influent: Infl to AL-1; Infl to AL-2; Infl to EP-1), the Permittee states, “[b]eginning the third quarter of 2012, Influent to AL-1 was no longer in operation due to the start up of the new WWTP. All waste water is now routed to the WWTP via Tank 35 and the NAPIS. Samples are no longer collected from the location known as Infl to AL-1.” However, this statement is incorrect, because the benzene strippers were still in operation through November 10, 2012. The analytical reports in Appendix K include data collected from 8/21/2012 and 12/5/2012 (with only SVOC analysis performed). Revise the Report to reflect the correct information or explain why samples were collected beyond the third quarter of 2012.

Comment 21

In Table 8.7.3 (GWM-1, GWM-2, GWM-3 Dissolved Metals Analysis Result Summary) the footnote numbers do not correlate to the footnote. Revise the table to present the corrected footnotes. Throughout the tables, ensure that the footnotes correspond correctly to the numbers in all tables.

Comment 22

In Table 8.8 (NAPIS-1, NAPIS-2, NAPIS-3, KA-3 BTEX Analytical Result Summary), groundwater monitoring well NAPIS-3 has a footnote from the 10/2/2012 sampling date which states that it “[w]as not sampled in September due to low recharge rate.” However, analytical results are presented with a September sampling date. Table 8.8.1 and the other tables which depict the analytical data results for the NAPIS groundwater monitoring wells also present analytical results from the September sampling date. Revise the table to present the correct information. In Section 10, Table 1 (Monitoring Schedule 2012), the footnote for the NAPIS-3 sampling date states “[o]n 8/21/12 well purged dry – slow recharge rate. Samples taken on 10/2/12.” Low-flow sampling methods may need to be employed if NAPIS-3 continues to have a low recharge rate. The Permittee and NMED may discuss this issue and revise the Facility-Wide Groundwater Monitoring Work Plan if needed. Revise the Report to discuss the groundwater sampling issues at NAPIS-3. Revise the text of the Report to correct the above – the Report presents groundwater analytical data for the third quarter (September) in the text. If groundwater samples were not collected, explain why groundwater samples were not collected from well NAPIS-3 in September. Ensure that the summary tables correlate to the laboratory analytical reports and that the text presents the same information as displayed in the summary tables and vice versa.

Comment 23

In Section 9 (Well Data Summary Table) there are still artifacts from previously submitted tables that include errors. The table must be based on the most recent survey data. The column “Stick-up Length (ft)” does not present the most current 2011 survey datums.

Comment 24

In Section 10, Table 1, ensure that the correct information is presented. Table 1 is based on Work Plan Table 1. Ensure that all analytes sampled are listed in the table. If changes are made to the analytical parameters for any groundwater monitoring well, the Permittee must discuss the change in the text of the Report and propose to change Table 1 in the next update of the Facility-Wide Groundwater Monitoring Work Plan.

Comment 25

In Section 12, graphs are presented which show trend lines for various contaminants in groundwater monitoring wells. Include an additional line graph for the relevant groundwater standard or criteria for comparison. For example: on the Graph 1 (GWM-1 Benzene (2006-2012)) add a line at 0.0039 mg/L to show the benzene water quality standard. Additionally, in the text of the Report explain the reasons only certain groundwater monitoring wells and contaminants were chosen to be represented in the graphs.

Comment 26

In the revised Report include isoconcentration maps of the contaminants of concern (superimposed onto a potentiometric surface map).

Comment 27

Figure 10 (Chinle GP/Alluvium Interface Water Elev.) includes well OW-11, which is now considered to be screened in the Sonsela aquifer (the re-evaluation of the stratigraphic zones). Remove well OW-11 from Figure 10 and include it on the Sonsela figure. Ensure that all of the figures with associated monitor wells have been revised to show the most recent stratigraphic interpretation.

Comment 28

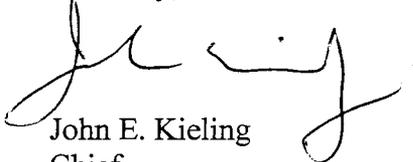
In Appendix C (Well and Field Logs) logs from the 3/20/2012 sampling date indicate that “[p]urge water disposed of in EP-1.” The groundwater wells which have this note include: NAPIS-1, NAPIS-2, NAPIS-3, KA-3, GWM-1, GWM-2, and GWM-3. It is the Permittee’s responsibility to make sure that any workers collecting environmental samples are aware of the requirements in the Work Plan and are aware of the facility’s investigation derived waste disposal practices. Another note in the field notes for Infl to EP-1 indicates that the discharge to EP-1 was under water for the 3/20/2012 and 6/12/12 sample collection dates and that a grab sample was collected from the sluiceway between AL-2 and EP-1. Discuss this in the text of the Report. The note for the 12/5/2012 sampling event for the Pilot Effluent indicates that the effluent was not sampled during the original sampling date of 11/28/2012, because there was no flow; thus, the effluent was diverted directly to Pond 9. Discuss this deviation in the text of the Report. The Report must include discussion of all deviations from the Facility-Wide Groundwater Monitoring Work Plan.

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The revised 2012 Report must be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. A red-line strikeout version of the Report also must be submitted in electronic format that shows where all changes have been made. Include the environmental laboratory analytical data results on a disc with the electronic copy of the revised Report rather than submitting another paper copy of the analytical data results. Ensure that the files are organized either by sampling frequency/date or monitoring well. In addition, include corrected analytical and data summary tables from the 2011 Report in a separate appendix on the disc. The Permittee must submit two paper copies and an electronic version of the revised 2012 Report to NMED no later than **August 28, 2014**.

If you have any questions regarding this letter, please contact Kristen Van Horn at (505) 476-6046.

Sincerely,



John E. Kielling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
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WSMR 12-003
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