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DAVE MARTIN  
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**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

June 21, 2011

Mr. Randy Schmaltz  
Environmental Manager  
Western Refining, Southwest, Inc.  
Bloomfield Refinery  
P.O. Box 159  
Bloomfield, New Mexico 87413

**RE: APPROVAL WITH MODIFICATIONS  
INVESTIGATION REPORT GROUP 4  
WESTERN REFINING SOUTHWEST INC., BLOOMFIELD REFINERY  
EPA ID# NMD089416416  
HWB-WRB-11-002**

Dear Mr. Schmaltz:

The New Mexico Environment Department (NMED) has received Western Refining Southwest, Inc., Bloomfield Refinery's (Western) *Investigation Report Group 4 (SWMU No. 7 Raw Water Ponds, SWMU No. 10 Fire Training Area, and SWMU No. 16 Active Landfill)* (Report) dated February 2011. NMED has reviewed the Report and hereby issues this Approval with the following modifications.

**1. Section 1 (Introduction), pages 1:**

**Western's Statement:** "[p]roducts produced at the refinery included gasoline, diesel fuels, jet fuels, kerosene, propane, butane, naphtha, residual fuel, fuel oils, and LPG."

**NMED's Comment:** In future documents provide a list of acronyms for all acronyms included in the document. In addition, spell out the acronym when it first appears in the document. No revision is necessary.

R. Schmaltz  
June 21, 2011  
Page 2 of 7

**2. Sections 2.1 (SWMU No. 7 Raw Water Ponds), 7.1 (SWMU No. 7 Raw Water Ponds), and 7.4 (Recommendations), SWMU No. 7, pages 3-5, 39-40, and 43:**

**NMED's Comment:** Western discusses the background and history of SWMU No. 7 and includes information about a Closure Report approved by the New Mexico Oil Conservation Division (OCD). However, Western did not indicate that the investigation of the Raw Water Ponds has been deferred.

Section 7.1 discusses the conclusions from the investigation and Section 7.4 describes the recommendations from the investigation. These Sections do not mention that the Raw Water Ponds were not investigated. Western must submit replacement pages that revise the last paragraph of Section 7.1 and the first paragraph of Section 7.4 to include a statement that the Raw Water Ponds were not investigated but will be addressed after use of the ponds is discontinued.

**3. Section 2.2 (SWMU No. 10 Fire Training Area), page 6:**

**Western's Statement:** "[t]he Fire Training Area, which has been identified as SWMU No. 10, is located immediately east of the Raw Water Ponds (Figure 2). It covers a small area approximately 160 wide by 250 long, with a surface drainage ditch along the west side that appears to catch any runoff from the area. The ditch flows into a small depression at the northern end of the Fire Training Area."

**NMED's Comment:** In future reports indicate the units of measure for all dimensions reported (i.e., 160 feet wide by 250 feet long). No revision is necessary.

**4. Section 2.2 (SWMU No. 10 Fire Training Area), page 6:**

**Western's Statement:** "[t]he pipelines and training props are shown on Figure 4. Some of the props included above ground open top metal tanks where the liquid fuels (gas and diesel) were allowed to pool to support the training fire."

**NMED's Comment:** In the response letter, provide the dimensions for the props described in the statement above. In future reports, provide dimensions for site features, where appropriate. No revision is necessary.

**5. Section 2.2 (SWMU No. 10 Fire Training Area), page 6:**

**Western's Statement:** "[t]wo borings (B-7 and B-9) were placed along the west side in the drainage ditch and the other two borings (B-8 and B-10) were located along the center of the area (Figure 4)."

R. Schmaltz  
June 21, 2011  
Page 3 of 7

**NMED's Comment:** In future reports, describe the sampling methods used when discussing past sampling. No revision is necessary.

**6. Section 2.2 (SWMU No. 10 Fire Training Area), page 7:**

**Western's Statement:** "[t]he spent catalyst, fines, and elemental sulfur was placed in lifts and covered with clean soil."

**NMED's Comment:** Provide the source of the clean soil in the response letter. No revision is necessary.

**7. Section 3.3 (Collection and Management of Investigation Derived Waste), page 10 and Appendix B (Field Methods), Management of Investigation Derived Waste, page B-3-4:**

**NMED's Comment:** Section 3.3 and Appendix B do not discuss the disposal location for the remediation related soils stored in the 55-gallon drums. In the response letter, identify where these soils were disposed. Western also does not report soil and purge/decontamination water volumes. In the response letter, provide the waste volumes. This information must be included in future documents. No revision is required.

**8. Section 4.3 (Exploratory Drilling Investigations, Soil Sampling and Boring Abandonment), SWMU No. 10 – Fire Training Area, pages 17-18:**

**NMED's Comment:** There is a typographical error in Section 4.3 under SWMU 10-5, 10-6, and 10-7 where "gravelly" is misspelled. No revision is necessary.

**9. Section 4.3 (Exploratory Drilling Investigations, Soil Sampling and Boring Abandonment), SWMU No. 16 – Active Landfill, page 22:**

**NMED's Comment:** Western discusses the collection of extra samples (SWMU 16-1-N, SWMU 16-1-E, SWMU 16-1-W, and SWMU 16-1-S) in Section 4.3 but do not provide an explanation for the collection of the samples. In addition, sample SWMU 16-1-W (1.5-2 feet) detected elemental sulfur and odor below a depth of one foot, but the boring was not advanced to greater depths. In the response letter, explain the reason for the collection of the extra samples and why soil boring SWMU 16-1-W was not advanced below a depth of two feet. No revision is required.

**10. Section 5 (Regulatory Criteria), pages 27-29:**

**NMED's Comment:** Refer to the regulatory criteria comments in NMED's Approval with Modifications to the Group 2 and Group 3 Investigation Reports. Comments on Section 5 were

R. Schmaltz  
June 21, 2011  
Page 4 of 7

not included in this approval unless deemed necessary. Apply the regulatory criteria changes to future submittals. No response is necessary.

**11. Section 6.1 (Soil Sampling Chemical Analytical Results), SWMU No. 10 and 16, Section 7.2 (SWMU No. 10 Fire Training Area), and Section 7.3 (SWMU No. 16 Active Landfill):**

**NMED's Comment:** Throughout the Report, Western indicates that chloromethane was detected and that the detections are a result of laboratory contamination. Tables 5 and 6 contain bolded acetone results, indicating concentrations above screening levels; however, the text does not discuss the possible source of acetone (e.g., possible laboratory contaminant). NMED notes that Appendix F (Quality Assurance/Quality Control), Section 2.4.1 (Method Blank), bullet 3 states, "Acetone, Methylene Chloride, and Chloromethane were detected in numerous analytical field samples at low concentrations. The associated field sample detections were most likely the result of laboratory contamination." Discuss all possible laboratory contaminants in future documents, if detected, and discuss the reported concentrations relative to those detected in the laboratory or field blank samples.

**12. Section 6.2 (Groundwater Sampling Chemical Analytical Results), SWMU No. 10, page 36:**

**Western's Statement:** "[t]he screening level used for TPH in Table 9 is based on a petroleum product type of diesel #2/crankcase oil because the only sample that had a detected result for DRO or MRO was at SWMU No. 10, where primarily diesel fuel was used."

**NMED's Comment:** The statement above contradicts Section 5, page 29, paragraph 1, where Western states, "[t]hese soil TPH screening levels for 'unknown oil' have conservatively been applied to all soil analytical results for all three SWMUs even though the hydrocarbon source at SWMU No. 10 is known to be predominantly diesel, which could potentially support a higher screening level." Table 9 applies the screening level for the diesel #2/crankcase oil. Explain this discrepancy in the response letter. Correct this discrepancy and provide a replacement page for page 29, Section 5.

**13. Section 7.3 (SWMU No. 16 Active Landfill), page 41:**

**Western's Statement:** Five soil borings (SWMU 16-1, SWMU 16-2, SWMU 16-3, SWMU 16-4, and SWMU 16-5) were completed within the footprint of the former "Active Landfill" as described in the investigation work plan. The detection of petroleum hydrocarbons in the upper two feet in boring SWMU 16-1 led to the installation of four additional borings (SWMU 16-1 N, SWMU 16-1-E, SWMU 16-1-S, and SWMU 16-1-W) surrounding SWMU 16-1 in an effort to define the petroleum hydrocarbons (Figure 14)."

**NMED's Comment:** The above paragraph indicates that four additional borings (SWMU 16-1 N, SWMU 16-1-E, SWMU 16-1-S, and SWMU 16-1-W) were installed in an effort to define the extent of petroleum hydrocarbon contamination. The discussion provided in Section 3.1 (Soil Boring, Monitoring Well installation, and Sample Collection), page 9 and Section 4.3 (Exploratory Drilling Investigations, Soil Sampling and Boring Abandonment), page 22, under Active Landfill (SWMU No. 16) does not mention the detection of petroleum contamination, rather both sections discuss the detection of elemental sulfur. Western must explain this discrepancy in the response letter and submit corrected replacement pages accordingly (e.g., replacement page for Section 7.3).

**14. Section 7.4 (Recommendations), SWMU No. 7, page 43:**

**Western's Statement:** "[t]he investigation at SWMU No. 7 appears to have identified historical impacts from the operation of the Former South Evaporation Pond in the area of boring SWMU 7-1. This is demonstrated by the detection of mercury and benzo(a)pyrene above the residential screening levels in a single sample [SWMU 7-1 (4-5')]. A risk assessment should be performed for these two constituents to determine what, if any, additional actions are necessary. Cobalt was similarly detected in a single sample and should also be evaluated in the risk assessment. Site specific soil background concentrations should be established for arsenic and other naturally occurring constituents of interest."

**NMED's Comment:** Upon completion of the background study, Western must evaluate cumulative risk and conduct a risk assessment that includes all contaminants, defined in Section III.B of the July 27, 2007 Order, detected at concentrations greater than background levels. No revision is necessary.

**15. Table 5 (SWMU 7 Soil Analytical Results Summary), Table 6 (SWMU No. 10 Soil Analytical Results Summary), Table 7 (SWMU 16 Soil Analytical Results Summary), and Table 9 (Groundwater Analytical Results Summary):**

**NMED's Comment:** The tables contain bolded text, bolded text highlighted in yellow, and text highlighted in green. The footnotes define the bolded text highlighted in yellow but do not define the bolded text or text with green highlight. Define the bolded text and text with green highlight in the response letter. The bolded text as well as text with other highlighting must be defined in future documents. No revision is necessary.

R. Schmaltz  
June 21, 2011  
Page 6 of 7

**16. Table 5 (SWMU 7 Soil Analytical Results Summary), Table 6 (SWMU No. 10 Soil Analytical Results Summary), and Table 7 (SWMU 16 Soil Analytical Results Summary):**

**NMED's Comment:** NMED's Approvals with Modifications for the Group 2 and Group 3 Investigation Reports discuss applying the chromium III Residential and Industrial value rather than chromium VI value. Western must apply the chromium VI standard unless an explanation is provided for using the chromium III value. This applies to all future documents.

**17. Table 8 (Groundwater Screening Levels):**

**NMED's Comment:** See Comments 2 and 7 of NMED's June 21, 2011 Approval with Modifications Group 3 Investigation Report, which address the changes that must be applied to Table 8.

**18. Figures 6 (Cross Section A-A', West to East) and 7 (Cross Section B-B', North to South):**

**NMED's Comment:** Figures 6 and 7 contain the cross sections utilizing the logs of selected monitoring and recovery wells at the facility, but the figures do not show all information for all the wells (e.g., screened intervals). Figure 6 does not depict the screened intervals for wells MW-3, MW-40, MW-41, and RW-42. Figure 7 does not include the screened intervals for MW-1, MW-3, and MW-5. Revise the figures to include the screened intervals for all wells in future reports. No revision is necessary.

**19. Figures 9 through 22 (Detected Contaminant Soil Maps):**

**NMED's Comment:** Figures 9 through 22 depict the results of the detected contaminants for SWMUs 7, 10, and 16. According to the legend, the red underlined values depict the concentrations that exceed the screening levels. On Figures 9, and 13 through 21 there are several concentrations that exceed the screening levels but are not underlined in red. Explain why the detections were not underlined in the response letter. If SSLs exceedences are highlighted this way in future figures, replace the example value with the screening level.

**20. Appendix D (Site-Specific Dilution/Attenuation Factor Calculations), page 2:**

**NMED's Comment:** Western incorrectly references the source of the climate data. The data was obtained from the National Oceanic and Atmospheric Administration (NOAA). Correct the reference in future documents. No revision is necessary.

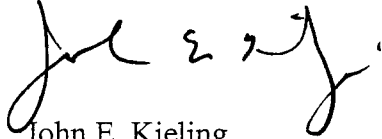
R. Schmaltz  
June 21, 2011  
Page 7 of 7

Additional investigation activities may be required for the SWMUs within Group 4. However, the need for further work cannot be determined until the background study has been completed. Western must evaluate each SWMU to determine whether additional corrective action is necessary once the background study is completed. Upon completion of the background study, Western must submit a work plan providing the necessary additional investigation for Group 4. NMED is aware that SWMUs within other groups may also require additional investigation; Western may choose to provide a work plan that incorporates the investigation of SWMUs from other groups. If additional investigation activities are not necessary, Western may submit requests for certificates of completion.

Western must address all comments contained in this Approval with Modifications and submit a response letter to NMED on or before **November 7, 2011**. Western must submit a work plan to install a monitoring well at SWMU No. 16 to NMED on or before **August 22, 2011**.

If you have any questions regarding this letter, please contact Leona Tsinnajinnie of my staff at (505) 476-6057.

Sincerely,



John E. Kieling  
Acting Chief  
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB  
L. Tsinnajinnie, NMED HWB  
C. Chavez, OCD  
A. Hains, Western Refining Company, El Paso, Texas

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