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**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

April 13, 2015

Ms. Leslie Ann Allen  
Senior Vice President  
Environment and Regulatory Affairs  
Western Refining, Southwest Inc., Gallup Refinery  
123 W. Mills Avenue, Suite 200  
El Paso, TX 79901

**RE: DISAPPROVAL  
NO FURTHER ACTION REPORT  
AND SUPPLEMENTAL INFORMATION  
WESTERN REFINING SOUTHWEST INC., GALLUP REFINERY  
EPA ID # NMD000333211  
HWB-WRG-15-MISC**

Dear Ms. Allen:

The New Mexico Environment Department (NMED) is in receipt of Western Refining Southwest Inc., Gallup Refinery's (Permittee) letter titled *Request to Proceed with Review of the "Petition for No Further Action" dated August 10, 2001 and "Supplementary Information" submitted on October 2, 2002 (Letter)*, dated June 24, 2013. In the June 24, 2013 correspondence, the Permittee requested review of seven (7) solid waste management units (SWMU): SWMU 3, SWMU 4, SWMU 5, SWMU 7, SWMU 9, SWMU 10, and SWMU 13 in order to remove these SWMUs from the Permit. Western's request could result in a change in status of these units from Corrective Action Required to Corrective Action Complete rather than a removal from the Permit. Two of the above-referenced SWMUs are currently in use. SWMU 3 (Empty Storage Container Unit) is now the Heat Exchanger Bundle Cleaning Pad and SWMU 7 (Fire Training Area) continues to be used as a fire training area. These two SWMUs will not be reviewed at this time.

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NMED has reviewed the information provided in the August 10, 2001 *SWMU Assessment Report / No Further Action Report* (NFA Report) and the *Supplemental Information* provided in the October 2, 2002 letter and attachments regarding five SWMUs (SWMU 4 (Old Burn Pit), SWMU 5 (Landfill Areas), SWMU 9 (Drainage Ditch and Inactive Landfarm), SWMU 10 (Sludge Pits), and SWMU 13 (Drainage Ditch between API Evaporation Pond and Neutralization Tank Evaporation Ponds)). Based upon its review, NMED requires additional information regarding SWMUs 4, 5, 9, 10 and 13 and therefore provides the following comments.

### **General Comments**

#### **Comment 1**

A "Generic Sampling Plan" is referenced in both documents; NMED does not have a copy of the "Generic Sampling Plan" or any correspondence indicating approval of such plan in its administrative record. Please provide a copy of the "Generic Sampling Plan" for NMED review. If an associated approval letter exists, provide the approval letter.

#### **Comment 2**

NMED's administrative record does not contain an approval letter for the additional sampling conducted in 1994. The Environmental Protection Agency (EPA) issued a Notice of Deficiency on December 19, 1994, requiring additional information and the Permittee responded on January 6, 1995. Please provide the EPA's response to the Permittee's January 1995 response to comments.

#### **Comment 3**

The arsenic levels reported for some of the SWMUs in the analytical reports in the Phase I and Phase III Investigation Reports (specifically, samples from SWMU 10, SWMU 5 with results ranging from 4.3 mg/kg to 27.9 mg/kg) for the soil investigations are higher than the current residential soil screening level (4.25 mg/kg). According to the USGS, McKinley County arsenic levels generally range from 5.6 to 11 ppm. Because the concentrations of arsenic are significantly higher than the maximum concentration of the background range (11 ppm), the Permittee must conduct a soil background study to account for the higher levels of arsenic in order to reach corrective action complete status.

#### **Comment 4**

Provide data tables which list the SWMUs, the constituents of concern, the analytical results (and the chemical analytical methods and detection limits utilized by the laboratory), and the soil screening levels for the historic site investigations. Also, please provide the references to the documents where the data were obtained. NMED may use information from the data tables as part of the statement of basis and public notice for sites that meet corrective action complete criteria. If further investigation is required, and the arsenic levels are below applicable soil

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screening levels, then the Permittee may use the new data in addition to the existing data to achieve corrective action complete status rather than solely rely on the historic data.

**Comment 5**

The Permittee must discuss the levels of chromium found at several of the SWMUs (RFI10V6.0 398 mg/kg, RFI1005V6.0 4020 mg/kg, RFI0503V0.0 110 mg/kg, RFI0504V3.0 270 mg/kg). Discuss whether or not chromium VI was used at the refinery at any point, and whether or not speciation for chromium was ever performed in order to determine whether the chromium levels should be compared to chromium III or VI.

**Comment 6**

In 1997 or 1998, both the Old Burn Pit (SWMU 4) and the Landfill Areas (SWMU 5) were covered by a soil cap and required periodic inspections. Provide documentation demonstrating that inspections of the caps were conducted, as required, as well as documentation of the inspections to confirm that maintenance activities and repair of the caps and drainage systems (when necessary) were implemented.

**Comment 7**

The description of sample collection provided in the Additional RFI Sampling (dated October 1994) indicates that the method used to collect volatile organic compounds (VOC) samples likely caused a loss of volatiles. The methods used to collect soil samples were described as, “[t]he soil samples were collected in a clean steel pan and were then placed into laboratory supplied containers...” Based on this description, the samples collected and analyzed during the 1994 investigation cannot be used to characterize VOCs at the SWMUs, because the analytical results do not accurately represent site conditions. Additional sampling is required to fully characterize the SWMUs (see individual SWMU comments for NMED’s sampling requirements). The Permittee must ensure that proper sampling methods are employed.

**Comment 8**

According to the EPA’s letter *Approval with Modifications RFI Phase I Supplementary Report, RFI Phase II Report and the Voluntary Corrective Actions Plans*, dated January 1994 and another EPA letter titled *RCRA Facility Investigation (RFI) Phase III Report and Voluntary Corrective Action Plan*, also dated January 1994 voluntary corrective action (VCA) plans were submitted to the EPA regarding the landfills and the sludge pits in December 1992 and March 1993. The documents are not in NMED’s administrative record. Please provide copies of the VCA plans.

**Old Burn Pit (SWMU 4)**

**Comment 9**

Provide any and all existing information regarding the disposition of acid soluble oil from the alkylation unit after use of the burn pit was terminated.

**Comment 10**

In the NFA Report, a section titled "Unit Area Characteristics" under the heading "Operating Practices (Past and Present)" states, "[a]n old metal box uphill from the pit was used in the past to feet [sic] oil through a metal pipe in the burn pit. The area was then covered with soil." Discuss whether or not the metal box and pipe were removed from the site and whether or not soil samples were collected to determine if there were spills or leaks from the box or pipe. If the metal box and pipe were not removed or soil samples have not been collected for appropriate chemical analyses, the Permittee must submit a work plan to propose to collect soil samples from the location of the metal box and along the pipeline to the burn pit.

**Comment 11**

The NFA Report and Supplemental Information do not provide information on the presence (e.g., depth to groundwater) of groundwater beneath SWMU 4. Provide information regarding groundwater at SWMU 4.

**Comment 12**

During investigations in 1992 and 1994 a "black layer" or "asphalt burn residue" layer was encountered, but never sampled. The soil boring logs for the 1992 investigation include descriptions of a "black layer" encountered in soil boring RFI0402 at 20 inches below ground surface (bgs) and at RFI0403 from 2.5-3.5 feet bgs. The black layer was described as a "black layer w/some tar like material" and "the black layer required steaming, solvent, steaming, and then regular washing to get augers and equipment clean." It does not appear that samples were collected directly from the black layer – samples were collected from RFI0402 at the ground surface and from depths of, 3, and 4.5 feet bgs, respectively, and from the same intervals in soil boring RFI0403. The black layer was not encountered in soil boring RFI0401. The soil sample collected from RFI0403 that was within the black layer contained high levels of lead, ethyl benzene, total xylenes, and dimethyl phthalate compared to the other soil boring samples. The black layer was encountered again during the 1994 investigation and described as "asphalt burn residue" at 3.8 feet bgs (RFI0405) and 5 feet bgs (RFI0406); no samples were collected for laboratory analysis from that layer. The Permittee must propose to install a soil boring within the Burn Pit in accordance with RCRA Permit Section IV.J.2.d (Drilling and Soil, Rock, and Sediment Sampling). Ensure that if the "black layer" or "asphalt burn residue" are encountered that samples of the black material are collected and analyzed. The "black layer" / "asphalt burn residue" presents a potential risk to construction workers and if the cap was not properly maintained over the years, a potential leaching concern. Soil sample analysis must include RCRA 8 (total) metals, total petroleum hydrocarbons (as gasoline, diesel and oil range organics), methyl tertiary-butyl ether (MTBE), VOCs, semi-volatile organic compounds (SVOCs), and dioxins and furans. Additionally, the soil boring must be advanced to a depth of two feet into the native soil. Soil samples must be collected from the waste/native soil interface and from the bottom of the boring. In order to protect the integrity of the soil cap, the Permittee must propose

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to properly abandon the borehole and include a description of proposed abandonment procedures in the Work Plan.

**Comment 13**

The soil boring logs from the 1994 investigation for SWMU 4 state that “spent FCC catalyst had blown into the low-lying area and was scraped back to reveal original surface for sampling.”

Discuss whether or not the spent FCC catalyst may have adversely affected the underlying soils.

**Landfill Areas (SWMU 5)**

**Comment 14**

Discuss groundwater elevations at SWMU 5. The EPA’s Approval with Modifications required that the Permittee install deeper borings at the landfill area to: “1) verify that saturated zones found in 3 of the 12 deepest soil boring intervals are isolated and are not connected to the groundwater; 2) ensure that the vertical delineation of waste emplacement has been identified (soil boring logs indicate waste at the 8-9’ zone, the deepest samples were at 9.5’); and, 3) ensure that the vertical extent of metal contamination has been identified (some of the 9.5’ samples had elevated metals.” In the Additional Sampling Report (1994), the boring logs do not indicate whether or not the soils encountered were moist and contain only very general descriptions of the lithology encountered; therefore, it is difficult to determine whether or not the saturated intervals encountered in the Phase III investigation were present and the EPA’s inquiry cannot be addressed.

**Comment 15**

The Permittee must propose to advance one soil boring through the center of each landfill cell (for a total of four soil borings). The borings must be advanced to a minimum of two feet into native soil. Samples must be collected based on field observations of the waste and soils, from the native soil directly below the waste, and from the bottom of the boring. To address the data gap discussed in Comment 14, the Permittee must propose (in the Work Plan) to install additional soil borings at SWMU 5 and properly log the soil borings to identify soil types and saturated intervals. If saturated intervals are encountered, the Permittee must propose to collect groundwater samples for chemical analysis, if sufficient water is present. The soil samples must be analyzed for RCRA 8 (total) metals, total petroleum hydrocarbons (as gasoline-, diesel- and oil-range organics), MTBE, VOCs, and SVOCs. The boreholes must be properly logged in accordance with Permit Section IV.J.2.d.v and describe any waste encountered. The boreholes must also be properly abandoned.

**Drainage Ditch and Inactive Landfarm (SWMU 9)**

**Comment 16**

Please provide a detailed description of the drainage ditch. The Permittee must describe the dimensions of the ditch, the direction of flow, the origin and termination of the flow, the type of

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material the ditch conveyed, and whether or not soil or sludge samples were collected from within the ditch.

**Comment 17**

Provide a more detailed description of activities conducted at the landfarm. Specifically, discuss whether or not the soil was tilled, the depth of tilling, and the frequency of tilling.

**Comment 18**

The description of soil sample collection during the Phase I investigation does not include a description of the field methods used to collect soil samples. The sampling methods are described in the Phase I Report as follows: “[t]he first sample was taken with an open end auger. The backhoe dug down 3’ where we took the next sample with the closed end auger. Then the backhoe dug to 5’ where we sampled with an open end auger. Again the backhoe dug down to 7’ where we took a sample with open end auger.” SWMU 9 was not investigated further after the Phase I investigation. The Permittee must provide a description demonstrating that the samples were collected appropriately in accordance with RCRA Permit Section IV.J.2.d.ii (Soil and Rock Sampling); otherwise, additional sampling may be required.

**Comment 19**

Discuss whether or not the landfarm area is demarcated (i.e., with signs or fencing) and whether or not the area was or is currently used for any other activities since its closure.

**Sludge Pits (SWMU 10)**

**Comment 20**

The Permittee does not present any information regarding the presence of groundwater beneath the SWMU. The Permittee must discuss the groundwater table depth and groundwater conditions at SWMU 10.

**Comment 21**

It appears that when the sludge pits were excavated, only a portion of the sludge was removed from the pit. The Permittee must provide the depths of the pits. The pits contained listed hazardous waste: API Separator Sludge (K051) and Slop Oil Emulsified Solids (K049). Additionally, a SVOC, Di-n-butyl phthalate, was detected at concentrations of 11 ug/kg at a depth 20-25’ below ground surface (bgs) during the additional investigation; however, no VOCs were detected. In an Approval with Modifications letter dated January 1994, the EPA expressed concern regarding the presence of the SVOC at depth. In addition to the presence of a SVOC at depth, it appears that VOC sampling was conducted improperly during the Additional Investigation (1994) (see Comment 7). VOCs are a component of K051 and K049 wastes, which were disposed of in the pits. Submit a Work Plan proposing to conduct additional soil sampling to complete characterization (specifically, VOC and SVOC contamination) of the SWMU and to determine whether there is potential for contaminant migration.

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**Comment 22**

Discuss the amount of sludge removed from the pit and where the sludge was disposed, if known. Discuss whether or not the overflow pipe from the pit was removed and identify the pipe location and outfall.

**Drainage Ditch Between API Evaporation Ponds and Neutralization Tank Evaporation Ponds (SWMU 13)**

**Comment 23**

Discuss whether or not the drainage ditch is still in use. If it is not in use, please provide the dates of operation. If it is still in use, describe the influent source. Provide a figure depicting the location of the ditch with the API Evaporation Ponds and Neutralization Tank Evaporation Ponds labeled and any other identifying features marked (e.g., roads, above ground and below ground pipelines, buildings, tanks).

**Comment 24**

Discuss whether or not the five-year sampling required by the EPA (Approval with Modifications dated January 7, 1994) was conducted. If so, reference the documents where the results were reported. If the sampling was discontinued, provide documentation demonstrating that termination of the sampling was approved by either EPA or NMED. Also, please provide additional information as to whether or not samples of the sludge or sediments that accumulated in the ditch were ever collected for laboratory analysis to allow the NMED to evaluate the adequacy of the previous analytical suites.

**Comment 25**

The Supplemental Information that is the subject of this Disapproval was supposed to contain an Appendix L, addressing SWMU 13. The submittal did not include the Appendix L. Please provide the information that was supposed to be Appendix L.

The work proposed in the Work Plans approved by NMED will provide much of the information required in this Disapproval. Following the schedule in the RCRA Post-Closure Permit, the Permittee has submitted an *Investigation Work Plan SWMU No. 10 Sludge Pits*, dated September 2014. NMED reviewed this document and the Permittee is in receipt of an Approval with Modifications dated March 2, 2015. The Permittee also submitted an *Investigation Work Plan SWMU No. 4 Old Burn Pit and SWMU No.5 Landfill Areas*, dated June 2014. NMED is reviewing the document and will respond to that Work Plan in separate correspondence.

The Permittee must provide responses to the above comments and submit additional information to NMED on or before **June 16, 2015**.

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

Sincerely,

A handwritten signature in black ink, appearing to read "John E. Kieling". The signature is fluid and cursive, with a large initial "J" and a long, sweeping underline.

John E. Kieling  
Chief  
Hazardous Waste Bureau

cc: D. Cobrain NMED HWB  
N. Dhawan, NMED HWB  
K. Van Horn NMED HWB  
A. Haines WRG  
E. Riege, WRG

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