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NEW MEXICO
ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 6, 2009

Mr. Ed Riege
Environmental Superintendent
Western Refining, Southwest Inc., Gallup Refinery
Route 3, Box 7
Gallup, New Mexico 87301

RE: NOTICE OF DISAPROVAL
CLOSURE PLAN AERATION LAGOONS
WESTERN REFINING COMPANY, SOUTHWEST, INC., GALLUP REFINERY
EPA ID # NMD000333211
HWB-GRCC-09-003

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Closure Plan Aeration Lagoons* (Plan), dated February, 2009, submitted on behalf of Western Refining Company, Southwest Inc., Gallup Refinery (Permittee). The Permittee has not provided sufficient information for NMED to complete a technical review. NMED hereby issues this Notice of Disapproval (NOD) and provides comments below.

Comment 1
The Permittee titled this document a closure plan; this term applies to permitted units or interim status units as referenced in NMED's fee regulations (20.4.2 NMAC). NMED does not consider Aeration Lagoon 1 and Aeration Lagoon 2 (AL-1 and AL-2) to be interim status units. NMED has determined this document to be a Corrective Measures Implementation Work Plan for a Solid Waste Management Unit (SWMU) listed in Appendix A of the Post-Closure Care Permit.

Comment 2
This Plan is missing significant information and pertinent details. The Permittee must include in the revised Plan not only cleanup activities at AL-1 and AL-2 but also investigation of the extent of contamination. NMED encourages the Permittee to refer to the template found in Section X.B (Investigation Work Plan) of Western Bloomfield's Order dated July 27, 2007 when revising this Plan. In addition, the Permittee must ensure that all sections (e.g., appendices) referenced in the text are actually included in the revisions to the Plan.

Comment 3
In Section 1 (Introduction), page 1, paragraph 5, the Permittee states "[m]onitoring data of the effluent from the air strippers, which discharges into the inlet aeration lagoon, and flows into Aeration Lagoon #2 has indicated that concentrations of benzene suspected to be above the toxicity characteristic (TC) regulatory threshold of 0.5 milligrams per liter (mg/l) have entered these impoundments."

Since January 2008, wastewater above 0.5 mg/l benzene has been entering AL-1 and AL-2; this is confirmed by analytical results from weekly sampling. The Permittee must revise this statement in the revision to the Plan to remove the term "suspected," clearly stating that benzene has been detected at concentrations that exceed the toxicity characteristic maximum concentration for benzene listed in 40 CFR 261.24.

Comment 4
In Section 1 (Introduction), page 2, paragraph 2, the Permittee states "[t]his Closure Plan is submitted pursuant to the requirements of Provision IV.B.9 of the Post Closure Care Order issued by the NMED on August 17, 2000 and the requirements of the OCD Discharge Permit issued August 23, 2007. The closure standard for Aeration Lagoon #1 and Aeration Lagoon #2 is based on 40 CFR § 265.111 (Closure Performance Standard) which requires that the owner or operator must close the facility in a manner that…"

Provision IV.B.9 is found in the Post Closure Care Permit (Permit) and not in an Order; AL-1 and AL-2 are not interim status units but solid waste management units (SWMUs) under going corrective action. Therefore, the Permittee must remediate AL-1 and AL-2 in accordance with Section IV.B (Corrective Action for SWMU's) of the Permit and 20.4.1.500 NMAC

(incorporating 40 CFR 264.101) of the Hazardous Waste Management Regulations. In the revision to the Plan, the Permittee must revise the above paragraph to reference the Permit and the correct regulations. See also Comment 1.

Comment 5

In Section 2.2 (Surface Impoundment Operations), page 4, paragraph 1, the Permittee states "[t]he refinery process wastewater generated (approximately 100 gallons per minute (gpm)) as measured in March 2006) at the Gallup Refinery is managed first by physical treatment in an API separator..."

The refinery's wastewater flow rates at times likely exceed 100 gallons per minute. Therefore, the Permittee must revise the Plan to provide an average flow rate of the process wastewater produced over the last year (2008) and include details pertaining to how the average was derived.

Comment 6

In Section 2.2 (Surface Impoundment Operations), page 4, paragraph 2, the Permittee states "[a]n investigation of the aeration lagoons was conducted in April 2008 to characterize the volume and nature of sediments in each basin. A copy of the report of the investigation prepared by Trihydro Corporation is included in Appendix A." (Appendix A was also referenced on page 5)

Appendix A was not included in the Plan, nor was it identified in the Table of Contents. The Permittee's revision to the Plan must include Trihydro's investigation report, and any other investigation information related to AL-1 and AL-2.

Comment 7

In Section 2.3 (Assessment Activities), page 5, paragraph 1, the Permittee states "[c]opies of EPA's letter dated January 7, 1994 and a subsequent facsimile dated March 15, 1996, which notes the changed monitoring frequency to five years, are included in Appendix B."

Appendix B was not included in the Plan nor was it identified in the Table of Contents. EPA's letter, fax, and the sampling that was conducted in 1990's (paragraph 1 and 2 of Section 2.3) will not affect the investigation or remediation activities for AL-1 and AL-2 because these units have received and treated hazardous waste characteristic for benzene and also likely generated F037 and F038 listed wastes since 1996. The Permittee must re-evaluate the information provided in Section 2.3 (Assessment Activities) and determine if the information is relevant to the cleanup activities for AL-1 and AL-2 and revise the Plan accordingly. The Permittee must also revise the text as it addresses Appendix B where appropriate.

Comment 8
In Section 2.3 (Assessment Activities), page 5, paragraph 4, the Permittee states that "[t]he volumes of sediment were estimated based on multiple borings in each impoundment. Aeration Lagoon #1 has approximately 1,464 cubic yards of soft sediment and 229 cubic yards of hard pack sediment. Aeration Lagoon #2 was estimated to contain 3,404 cubic yards of soft sediment and 430 cubic yards of hard pack sediment."

The Permittee must revise the Plan to include the dimensions of AL-1 and AL-2 as well as the estimated thicknesses of the soft and harder sediments. The Permittee must explain how the volumes of soft and hard sediments were estimated for each aeration lagoon.

Comment 9
In Section 4 (Proposed Closure Procedures), page 7, paragraph 3, the Permittee states "[f]ollowing removal of the wastewater, the sludges present above the natural liner and any impacted underlying soils will be excavated from the impoundments. The excavated materials will then be sampled for hazardous characteristics in accordance with 40 CFR Part 261, Subpart C – Characterization of Hazardous Waste. Samples of the sludge and soils will be collected for waste characterization at a minimum of one sample per each 100 cubic yards in accordance with the requirements of the receiving waste disposal facility. If the sludges do not exhibit any hazardous characteristics, they will be removed by a vacuum truck for appropriate disposal. Additional wastes not amenable to vacuum removal may be removed using excavation equipment."

The Permittee states that the sludges will be excavated and tested in accordance with 40 CFR 261 Subpart C, and that if the sludges do not exhibit any hazardous characteristics they will be removed by a vacuum truck. In the revised Plan, the Permittee must clarify if the sludges and soils will be tested for hazardous characteristics before or after excavation. The Permittee must explain how the excavation will be completed, include the order of operations, explain how the sludges and soil will be removed, and include the location where the soils and sludges will be stockpiled or otherwise temporarily stored.

Comment 10
In Section 4 (Proposed Closure Procedures), page 7, paragraph 3, the Permittee states "[i]t is anticipated that excavation will extend into the upper portion of the natural clay liner with a goal to remove all waste materials and impacted soil with concentrations of constituents exceeding the applicable industrial/occupational NMED Soil Screening Levels, which satisfies any "contained-in" concerns."

The Permittee should consider the following when choosing the cleanup standards for AL-1 and AL-2. If the Permittee chooses to clean up AL-1 and AL-2 using the industrial/occupational NMED Soil Screening Levels (SSLs), then AL-1 and AL-2 will be closed as corrective action complete with controls (CACWC) (i.e., no additional remedial activity is required but the unit requires continued operation and maintenance, monitoring actions for engineering controls, or institutional controls; the unit will stay on the Permit and annual fees will continue to be incurred) or AL-1 and AL-2 can be cleaned to meet the residential NMED SSLs and AL-1 and AL-2 will be closed as corrective action complete without controls (CACWOC) (no additional remedial activity is required at the unit and the Permittee can petition for a corrective action complete determination). In light of this, the Permittee may wish to revise the target cleanup levels referenced in the Plan. (The definitions for CACWC and CACWOC can be found at NMAC 20.4.2.7 (Definitions) J and K)

If NMED determines the Permittee is unable to achieve residential cleanup standards, the Permittee will be directed to submit a Corrective Measures Study to evaluate remedial alternatives. NMED will select a remedy based on the information provided in the CMS. The remedy selection is subject to public participation in accordance with 20.4.1.901 NMAC. Upon selection of a remedy, NMED will establish a due date for submittal of a Corrective Measures Implementation Work Plan that shall include the details for implementation of the selected remedy and a schedule for completion of such implementation.

Comment 11

In Section 4 (Proposed Closure Procedures), page 7, paragraph 3, the Permittee states "[i]t is anticipated that excavation will extend into the upper portion of the natural clay liner with a goal to remove all waste materials and impacted soil with concentrations of constituents exceeding the applicable industrial/occupational NMED Soil Screening Levels, which satisfies any "contained-in" concerns."

Cleaning up to the industrial/occupational NMED SSLs does not satisfy "contained-in concerns." If the Permittee seeks a "no longer contained in" determination for a listed hazardous waste, it must request it in writing and obtain approval by NMED. The Permittee must revise the last sentence of this paragraph to remove reference to "contained-in concerns" because this term and reference to the NM SSLs are used incorrectly. The Permittee must also address how it will determine that all waste materials and contaminated soils have been removed. The Plan must be revised accordingly.

Comment 12

In Section 4 (Proposed Closure Procedures), page 7, paragraph 3, the Permittee states "[t]he excavated materials will be sampled for hazardous characteristics in accordance with 40 CFR 261, Subpart C – Characteristics of Hazardous Waste. Samples of the sludge and soil will be

collected for waste characterization at a minimum of one sample per each 100 cubic yards and in accordance with the disposal facility receiving the waste."
The Permittee must revise this Section of the Plan to include the analyses for diesel range organics (DRO) extended, gasoline range organics (GRO), volatile organic compounds (VOCs), semi-volatile organics (SVOCs), iron, manganese, and the Skinner List for organics and inorganics; see Attachment 1 Skinner List.

Comment 13
In Section 4 (Proposed Closure Procedures), page 8, paragraph 1, the Permittee states "[a]ll hazardous waste and waste residues will be removed and properly disposed by conducting the modified closure process and there will be no potential for any post-closure escape of such wastes, thus meeting the modified closure performance standards in §§265.111(a) and (b) as specified by §265.110(c)(2). Alternatively, materials that meet the exclusion at 40 CFR 261.4(a)(12)(i) for oil-bearing hazardous secondary materials may be recycled at a petroleum refinery."

AL-1 and AL-2 must be closed in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.101); see Comment 4. If the Permittee is considering recycling the sludges removed from AL-1 and AL-2 in accordance with 40 CFR 261.4(a)(12)(i), the Permittee must explain how the sludge will be recycled and describe in detail how the process will be completed. All details of the recycling process must be included. NMED views the sludges removed from AL-1 and AL-2 to be remediation waste. The Permittee must revise the Plan accordingly.

Comment 14
In Section 4 (Proposed Closure Procedures), page 8, paragraph 2, the Permittee states "[t]he confirmation samples from the underlying environmental media (e.g., natural clay liner-native soils) will be collected and analyzed for volatile and semi-volatile organics and RCRA metals to determine if concentrations of constituents exceed the applicable industrial/occupational NMED Soil Screening Levels. Samples will be collected from all faces of the excavations with an approximate spacing of 50 feet between sample grid locations." The Permittee must revise the Plan to incorporate the items below.

a. The Permittee may choose to revise the above paragraph to apply the residential NMED SSLs; see Comment 10.

b. In addition to the analytical methods listed above, the Permittee must analyze the confirmation samples for DRO extended, GRO, the skinner list for inorganics and organics, iron, and manganese.

c. The results of the confirmation samples must also be compared to NMED's Total

Petroleum Hydrocarbon Screening Guidelines (October 2006) (this applies to all analytical data collected).

d. The Permittee must collect the samples from the base and sidewalls of the excavations of AL-1 and AL-2 every 20 feet instead of every 50 feet.

Comment 15

In Section 4 (Proposed Closure Procedures), page 8, paragraph 3, the Permittee states "[t]he dikes surrounding the aeration lagoon will be leveled and clean fill material imported, as necessary, to bring the land surface to final grade."

Because the dikes will be used to fill in the aeration lagoons, the Permittee must revise the Plan to include the collection of dike samples. In addition, the surface soil samples must be collected at 25 foot intervals from the center of the dike. At each sample location, a sample must be collected from the surface and at the one to two foot interval. All samples collected must be analyzed for VOCs, SVOCs, DRO extended, GRO, iron, manganese and the Skinner List (organics and inorganics). The Permittee must include a figure showing the proposed dike sample locations. If the dike material is to be used as backfill in AL-1 and AL-2, any residual contaminant concentrations must meet NMED's residential SSLs. The Permittee must obtain NMED and OCD permission before backfilling AL-1 and AL-2 with the dike material.

Comment 16

As part of the wastewater treatment system upgrade, the Permittee will be removing from service benzene strippers one and two at the aeration lagoons. Since the benzene strippers discharged to AL-1 as part of the aeration lagoon closure process, the benzene strippers must be dismantled and this area investigated and remediated in accordance with 20.4.1.500 NMAC (incorporating 40 CFR 264.101). The Permittee must revise the Plan to include the process to remove the benzene strippers and proposed sampling and remediation of this area as necessary.

Comment 17

The Permittee must revise the Plan to include and address the items listed below:

a. Provide a scope of services.

b. Discuss site conditions.

c. Discuss the history of operation of AL-1 and AL-2.

d. Discuss if AL-1 and AL-2 have ever been dredged in the past and, if so, the volumes of sediment removed.

e. Include a site plan and figures that identify the location of AL-1 and AL-2 and where the proposed samples will be collected.

f. Include the sampling methods and procedures (e.g., describe how samples will be collected and logged, indicate if field screening will be conducted). Indicate if any groundwater or process water sampling will be conducted and, if so, include all details.

g. Where applicable, address laboratory quality assurance and quality control procedures laboratory deliverables, and indicate if blanks, field duplicates, and other similar samples, will be collected.

h. Describe excavation activities to include how the excavation will be completed and what equipment will be used. Explain how the integrity of the bank separating Evaporation Pond 1 (EP-1) and AL-1 and AL-2 will be maintained to prevent bank failure. Explain how the excavated material(s) will be managed.

i. The Permittee must ensure that the bank separating EP-1, AL-1, and AL-2 do not contain contaminants exceeding the residential NM SSLs and explain how this will be determined.

j. Indicate if GWM-1 and GWM-2 are anticipated to be destroyed during the excavations or left undamaged. If they will be destroyed, explain where the proposed replacement wells will be installed. All details must be included in the revised Plan.

k. Explain how the limits of excavation will be determined.

l. Address Investigation Derived Waste Management.

The Permittee must address all comments contained in this NOD and submit a revised Plan (see Comment 1) to NMED on or before July 31, 2009. The revised Plan must be submitted with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. In addition, an electronic version of the revised Plan must be submitted that identifies where all changes have been made in red-line strikeout format. If you have questions regarding this letter please contact Hope Monzeglio of my staff at 505-476-6045.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

cc: J. Kieling, NMED HWB
D. Cobrain NMED HWB
H. Monzeglio, NMED HWB
B. Jones, OCD
C. Chavez, OCD
G. Rajen, Gallup
J. Dougherty, EPA Region 6
A. Allen, Western El Paso
File: Reading File and GRCC 2009 File
HWB-GRCC-09-003

Attachment 7

Exhibit 3

CONSTITUENTS OF CONCERN FOR WASTES FROM PETROLEUM REFINING

Inorganics

Antimony	Lead
Arsenic	Mercury
Barium	Nickel
Beryllium	Selenium
Cadmium	Silver
Chromium	Vanadium
Cyanide	Zinc

Organics

Acenaphthene
Benzene
Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(a)pyrene
Bis(2-ethylhexyl)phthalate
Butyl benzyl phthalate
Carbon disulfide
Chlorobenzene
Chloroform
Chrysene
Cresols
Dibenz(a,h)anthracene
Di-n-butyl phthalate
1,2-Dichlorobenzene
1,4-Dichlorobenzene
1,2-Dichloroethane
1,1-Dichloroethylene
7,12-Dimethylbenz(a)anthracene
2,4-Dimethylphenol
1,4-Dinitrotoluene
Di-n-octyl phthalate
1,4-Dioxane
Ethylbenzene
Ethylene dibromide
Fluoranthene
Fluorene
Indeno(1,2,3-cd)pyrene
Methyl ethyl ketone
Naphthalene
Nitrobenzene
Phenol
Pyrene
Pyridine
Styrene
Tetrachloroethylene
Toluene
1,1,1-Trichloroethane
Trichloroethylene
Xylenes (total)