

GRCC

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

October 31, 2006

Mr. Ed Riege
Environmental Superintendent
Giant Refining Company
Route 3, Box 7
Gallup, New Mexico 87301

**RE: NOTICE OF DEFICIENCY
OIL CONSERVATION DIVISION (OCD) 2005 ANNUAL GROUNDWATER
REPORT (AND OCD ADDENDUM)
GIANT REFINING COMPANY, CINIZA REFINERY; HWB-GRCC-06-003
EPA ID # NMD000333211**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Oil Conservation Division 2005 Annual Groundwater Report (and OCD Addendum)* (Report), dated August 31, 2006, submitted on behalf of Giant Refining Company, Ciniza Refinery (the Permittee). NMED hereby issues this Notice of Deficiency (NOD). The Permittee must make the following revisions before NMED will approve the Report.

Comments 1-19 Apply to Binder 1: Annual Groundwater Report

Comment 1

The Permittee states in the Executive Summary of the Report that elevated levels of fluoride, total dissolved solids (TDS), and chlorides are likely due to naturally occurring conditions in some wells.

To assert that fluoride, TDS, and chloride concentrations are naturally occurring, the Permittee must demonstrate that anion concentrations detected at the facility are present at background

concentrations. To date, NMED has not approved background concentrations of naturally-occurring constituents in groundwater at the facility because a background study has not been performed. Background concentrations for inorganic constituents in groundwater must be determined from upgradient wells representative of natural conditions that are unaffected by releases from the facility. The Permittee must use NMED's guidance document *Determination of Background*, provided below to determine background values at the facility.

DETERMINATION OF BACKGROUND

The Permittee shall determine an appropriate background data set for inorganic constituents at the Facility. The Permittee shall determine whether one or more background data sets are appropriate based on variations in soil type and geology at the site. Background concentrations for groundwater shall be collected from upgradient wells. The background data sets shall be representative of natural conditions unaffected by site activities and shall be statistically defensible. Sufficient number of background samples shall be collected for use in the risk assessment, including conducting site attribution analyses and comparison of data sets.

The Respondents shall provide summary statistics for background metals concentrations in each medium of concern and include the following information:

1. Number of detects,
2. Total number of samples,
3. Frequency of detection,
4. Minimum detected concentration,
5. Maximum detected concentration,
6. Minimum sample quantitation limit (SQL),
7. Maximum SQL,
8. Arithmetic mean,
9. Median,
10. Standard deviation, and
11. Coefficient of variation.

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The Permittee shall determine the 95% upper tolerance limit (UTL) for each metal using statistical methods that are distribution based.

Comparing Site Data to Background

The 95% UTL for each metal shall be used as the background reference value for use in screening assessments and determining whether metals are present in soil, groundwater, surface water, or sediment due to Facility activities. The site maximum detected concentration shall be compared to the 95% UTL for each metal. If the site maximum detected concentration is greater than the background reference value, then additional site attribution analyses shall be conducted.

Site attribution analyses shall be conducted in accordance with current EPA or Department-accepted guidance. The site attribution analyses shall consist of a statistical comparison of the background data set to the site data set, using distribution based tests such as the Wilcoxon Rank Sum Test.

If the results of the site attribution analyses indicate that the metal is present at the site above naturally occurring levels, then the Permittee shall include metal as a site contaminant.

Comment 2

In Section 2 (Scope of Activities) of the Report, the Permittee discusses sampling of the boundary wells (BW) and identifies the BW's not sampled because they were dry. Boundary Well BW-3-A was not included in the Section 2 (Scope of Activities) or in Section 4 (Groundwater Monitoring Results) of the Report, but was addressed in Section 6 (Summary of Groundwater Testing) as being dry and not sampled. No change is required in the revised report; however, in future reports the Permittee should identify all dry wells in the same section of the Report.

Comment 3

Section 2 (Scope of Activities) appears to be missing text between pages three and four. The last sentence of page three states "Samples were taken in November 2004 and indicated that further" and page four begins with "by both parties".

The Permittee must provide the apparent missing information between page three and four in the revised report.

Comment 4

The table and subsequent text presented in Section 2 (Scope of Activities) is incomplete. This table originates from the OCD Discharge Plan Renewal Application (OCD DPRA). The OCD DPRA was revised in 2005 with the letter regarding "Response Letter, HWB-04-001" from the

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Permittee to NMED dated September 26, 2005. The table in the Report does not address the requirement for sampling of wastewater discharged from the Pilot Travel Center and Truck Stop Facility that "grab samples shall be collected quarterly from the sampling and metering station (triangular notch weir) on the Pilot incoming line. The samples will be analyzed for hazardous characteristics [toxicity characteristic leaching procedure] (TCLP) by [Environmental Protection Agency] EPA Method 1311 and [biological oxygen demand] B.O.D." However, a Table containing BOD data is provided in the Report.

The Permittee must revise the Table in Section 2.0 to contain the most current information. The Permittee must refer to Comment 3 of the letter from NMED to the Permittee, dated February 21, 2006 entitled "Response to Approval with Modification to the 2003 OCD Annual Report GW-23 Response letter" and Comment 4 of the March 13, 2006 letter from NMED to the Permittee titled "Approval with Modifications 2004 Annual Groundwater Report." These changes must be made in the revised report.

Comment 5

The Permittee states in Section 2.0 (Scope of Activities) of the Report "[a]ll facility monitoring wells and recovery wells were gauged in February, June, September, and December 2005."

The Report does not appear to provide all the well measurements for the months listed above except for June 2005, which is provided in the Well Data Summary Table found in Section 7 (List of Tables). The annual groundwater monitoring event was conducted in September and October 2005 and the associated water level data was not provided in the Well Data Summary Table. The Permittee must provide all water level measurements for all monitoring and recovery wells for the months of February, June, September, and December 2005 in table format. The Permittee also must provide a Well Data Summary Table containing the data collected during annual groundwater monitoring event (September/October).

Comment 6

Field sample collection and handling procedures were included in Section 2 (Scope of Activities) under Field Data Collection and in Appendix B (Ciniza Field Sampling Collection and Handling Procedures) of the Report.

If the Permittee chooses to include this information in two areas of the Report, both sections must be complete and contain the same information. The field sample collection and handling information in Section 2 was overly brief, and pertinent information was not included in Appendix B. The Permittee must combine these sections into one section or revise both sections to be more comprehensive and complete.

Comment 7

The Permittee states in Section 2 (Scope of Activities) (Field Data Collection) of the Report "All water/product levels were measured to an accuracy of nearest inch using an electrical conductance based meter."

The depth to product (DTP) and depth to water (DTW) measurements must be determined to the nearest 0.01 of a foot. The Permittee must also provide the conversion factors used to determine the purge volumes removed from each well. The Permittee may choose to include this information in Appendix B. The Permittee must make the appropriate changes in the revised report.

Comment 8

The table found in Section 2 (Scope of Activities) of the Report includes the groundwater monitoring requirements, and indicates Pond 1 inlet (EP-1-IN) will be sampled semi-annually and analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), semi-volatile organics compounds (SVOCs), and Resource Conservation and Recovery Act (RCRA) metals.

The laboratory results for the semi-annual sampling events for EP-1-IN were not provided in Section 5.0, nor were they presented in the tables containing the monitoring results. The Permittee must provide the analytical results in the revised report or provide an explanation as to why the location EP-1-IN was not sampled.

Comment 9

The Table (Volatiles 8021B) located in Section 4 (Groundwater Monitoring Results) of the Report has an asterisk notation that states "Unless otherwise specified." The Permittee must provide an explanation of what "unless otherwise specified" means (e.g., the GWM 1 column for benzene on September 27, 2005 is notated as 0.081*). This must be clarified in the revised report.

Comment 10

The tables found in Section 4 (Groundwater Monitoring Results) of the Report do not provide groundwater monitoring data for SVOCs. If SVOCs were not detected, this must be stated (this was not addressed in Section 6 [Summary of Groundwater Testing] either). The tables containing data collected from monitoring well MW-1 do not include all the analytical results (e.g., general chemistry, DRO, and GRO results are not included).

The table titled *Volatiles 8021B* that lists data for observation wells OW-29 and OW-30, reports a detection of methyl tertiary-butyl ether (MTBE) at 0.0025 mg/L during the December 8, 2004 groundwater monitoring event. This is a typographical error and should be notated as <0.0025 mg/L, indicating that the laboratory did not detect the compound.

The Permittee must make the above changes to the revised report.

Comment 11

Section 6 (Summary of Groundwater Testing) of the Report lists all the wells sampled and identifies concentrations detected both above and below the Water Quality Control Commission (WQCC) standards and EPA's Maximum Contaminant Levels (MCL). In the summary for OW-14, the Permittee did not mention benzene was detected at 0.017 mg/L, which is above both the WQCC standard and the MCL for benzene. This must be included in the revised report.

Comment 12

The Permittee states in Section 6 (Summary of Groundwater Testing) that a sample from Pond #2 was supposed to have been collected in 2005 but was not due to an oversight.

It is not clear which sampling requirement the Permittee is referencing to. The Permittee states in the monitoring schedule found in Section 2 (Scope of Activities) "[o]n an annual basis, a grab sample of the inlet water to Pond #2 shall be collected and analyzed for BOD, COD, TDS, BTEX, and MTBE". Another requirement reads "[o]n an annual basis, a grab sample of evaporation pond water shall be collected and analyzed for general chemistry parameters. The evaporation pond selected for sampling shall be the pond, considered by refinery personnel, to most likely contain the highest salinity or TDS. In addition, the selected pond shall be alternated from year-to-year in order to provide a broader indication of analysis."

The Permittee must clarify which requirement Section 6 is referring to for Pond #2 in the revised report.

Comment 13

Section 7 (List of Tables) contains a table entitled *RW-1 Hydrocarbon Recovery 2/22 to 12/29 2005*. The table contains three columns entitled "Depth to Product (feet)", "Depth to Water (Feet)" and "Product Level Thickness (feet)." The values presented in these columns are listed in both feet and inches and appear to be rounded numbers. Groundwater elevation and flow directions cannot be determined accurately from estimated measurements.

The Permittee must provide a description of the methods and instrument(s) used to collect depth to water and depth to product measurements which allows measurements in feet and inches (e.g. RW-1 measured a product level at 31 feet, 11 inches). All future measurements must be measured to an accuracy of 0.01 foot. NMED recommends using a water/product interface probe. (See comment 7 of the March 13, 2006 letter from NMED to the Permittee titled "Approval with Modifications 2004 Annual Groundwater Report").

Comment 14

The *Well Data Summary* Table found in Section 7 (List of Tables) of the Report must be revised to define "na" in the footnotes of the table. The Permittee must also provide a page containing the calculations used to determine the corrected groundwater elevations. This information must be provided in the revised report.

Comment 15

In Section 8 (Figures) of the Report, Figure 4 (Alluvium/Chinle Group Interface Water Piezometric Surface) and Figure 5 (Separate Phase Hydrocarbon Thickness) are dated June 2005, which indicates that the data depicted on the map was collected in June 2005. The data generated on these maps should be data collected during the annual groundwater monitoring event (October/September). The Permittee must explain why Figures 4 and 5 were generated with June 2005 data. The Permittee must provide maps that present the data from the September/October annual groundwater monitoring event in the revised report.

Comment 16

Appendix B (Ciniza Field Sampling Collection and Handling Procedures) of the Report must be revised to include the information listed below.

- a. Identify the names of the instruments utilized during the groundwater sampling events to measure water and product levels and water quality parameters (e.g., Geotech Interface Meter).
- b. Describe calibration procedures for the instruments used to measure water quality parameters.
- c. Identify the type of filter used to filter dissolved metals in the field (e.g. 5-micron filter).
- d. Describe how the water samples were collected. Appendix B only explains how water was purged from the well and does not describe how samples were collected. (e.g., disposable bailers, dedicated bailers, or pumps).
- e. Decontamination procedures were briefly described for the "well depth instrument" in which the probe was washed with distilled water. NMED recommends washing the probe of the "well depth instrument" with a non-phosphate soap, a tap water rinse followed by a distilled water rinse. This will help prevent cross contamination between wells.

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Comment 17

The Report references the remediation of Railroad Rack Lagoon (RR Lagoon). The Permittee must remove all references to the RR Lagoon as the remediation of this area is separate from groundwater monitoring activities at the site.

Comment 18

The Executive Summary and Section 1 (Introduction) of the Report reference HWB-GRCC-04-001 as a permit number. The correct permit number is EPA ID # NMD000333211.

Comments 19 and 20 Apply to Binder 2: OCD Addendum to Annual Groundwater Report

Comment 19

Binder 2, Section 3a (Summary of all Major Refinery Activities or Events). In the future, this Section must provide a year next to the months. No revision is required in the revised report.

Comment 20

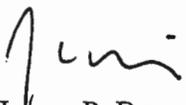
In future reports, if the Permittee is going to provide all the laboratory analytical results for all activities that occurred at the facility during the year as provided in Section 3b (Results of all Sampling and Monitoring Events) of Binder 2, the Permittee must insert some type of section break between the different groups of laboratory analysis (e.g., colored paper or letter ring book indexes to distinguish between the different sampling events such as the groundwater sampling events, RR Lagoon sampling, aeration lagoon and evaporation pond sampling). No revision is required in the revised report.

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The Permittee must address all comments contained in this NOD and submit a revised Binder 1: Annual Groundwater Report. The revised report must include a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. All requirements must be incorporated in future groundwater monitoring reports. The revised report must be submitted to NMED no later than January 15, 2006.

If you have questions regarding this Notice of Deficiency please contact Hope Monzeglio of my staff at 505-428-2545.

Sincerely,



James P. Bearzi
Chief

Hazardous Waste Bureau

JPB:hm

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file: Reading File and GRCC 2006 File
HWB-GRCC-06-003