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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

June 1, 2005

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

**SUBJECT: APPROVAL WITH MODIFICATIONS
GIANT CINIZA REFINERY 2003 OCD ANNUAL REPORTS GW-32
AUGUST 2004
GIANT REFINING COMPANY, CINIZA REFINERY
EPA ID NO. NMD000333211
HWB-GRCC-04-001**

Dear Mr. Riege:

The New Mexico Environment Department (NMED) has completed its review of the *Giant Ciniza Refinery 2003 OCD Annual Reports GW-32* (Annual Report), dated August 2004, submitted on behalf of Giant Refining Company Ciniza (the Permittee). Also referenced in this document are *OCD Discharge Plan Renewal Application* (Renewal Application), dated April 28, 2004, *Attachment To The Discharge Permit GW-032, Discharge Permit Approval Conditions* (Discharge Attachment), dated June 23, 2004, and the *GW-032 Plan Amendments* (Amendments) to the Renewal Application, dated November 29, 2004. The Permittee must adhere to the requirements established in this Approval with Modifications for future groundwater reports and submit a response for all requested information, revised documentation and electronic submittals within 120 days of receipt of this Approval with Modifications or this approval will be rescinded. The requested information, revised documentation and electronic submittals must include a response letter that details where the information was revised cross-referencing NMED's

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numbered comments. The Permittee must make the following modifications and submissions as a condition for this approval.

1. In addition to NMED, all requested information must be submitted to the Oil Conservation Division (OCD) Santa Fe office and also to the OCD Aztec District Office to the attention of Mr. Denny Foust.
2. Future groundwater reports submitted to NMED must only report on groundwater monitoring activities that occurred during the year and not report on other OCD requirements as included in this Annual Report.
3. The Renewal Application – Volumes I & II were submitted on compact disks (CDs). The Permittee must revise these CD's to include the November 2004 Amendments and any changes required by this Approval with Modifications and submit the revised version to NMED. The Permittee must also submit a revised hard copy.
4. The Site Plan "*Ciniza Well & Boring Locations*" (Map) submitted, as Appendix A of the Amendments must be revised to identify all current wells, historic monitoring locations, and land treatment areas. Abandoned wells shall be denoted. This map should not include exploratory borings that were not completed as wells. To limit confusion and provide consistency, the well names and land treatment areas/units referenced in the Amendments and the Renewal Application must be the same as the well names identified on the Map. (All maps and documents must be updated prior to submittal when name changes occur to wells or other units). (See Comment #7)
5. The Annual Report is divided into "Permit Condition" Sections. Future reports must identify the Permit Condition being addressed.
6. The Permittee is encouraged to follow NMED's position paper *General Reporting Requirements For Routine Groundwater Monitoring at RCRA Sites* (www.nmenv.state.nm.us/hwb/guidance.html) when preparing the Annual Groundwater Report.
7. **Amendments, Attachment 1, Section 9.0, #7, p. 9-4:** "Well #4 used for industrial purposes was sampled August 12, 2004 and will be sampled every three years (next in 2007) according to the table in item 4. Industrial Well #2 will be sampled in 2004 and will be sampled every three years beginning in 2008. Well #2, a potable well, is scheduled for sampling in 2006 to meet SDWS, and every three years thereafter."

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The well names identified in #7 are not the same well names identified in the table in item 4 (the Table). The Table only identifies one Well #2 and does not identify any well as "industrial" or "potable." The Permittee must define industrial and potable wells and provide the construction details of these wells. The Permittee must also clarify #7 and revise the Table to reflect the well names notated in #7. The wells listed in the Amendments must also be depicted and consistently labeled on the Map, (e.g., the previously provided Map does not identify two "#2" Wells and the "color code" does not identify any wells as industrial or potable). Well names must be consistent and refer to the same well in all documents and maps; the Permittee must revise the Map accordingly. (See Comments #3 and #4)

8. Boundary well information was provided in the Amendments. The Permittee must provide the following additional information:
 - a. Provide well development information to include: the methods used for well development (e.g. pumping, surging, bailing), well development procedures, removal rate and volume of ground water removed, identify any water quality parameters (e.g. pH, electrical conductance, temperature) measured and the frequency at which measurements were recorded and identify the criteria used to determine when well development was complete.
 - b. "Log of Test Borings," (boring logs) Boring No. BW1C identifies "T.D. at 65 feet set well in boring, see well diagram." The boring log later states "T.D. at 157 feet set well in boring see well diagram." The Permittee must clarify if this well was nested or has two sampling zones and must provide the well construction diagram. (see comment 8.c below)
 - c. The Boundary Well boring logs provided by the Permittee are inconsistent. A few borings state, "see well diagram" but no well construction diagrams were provided. Some boring logs identify slotted PVC screen size and the depth at which the screen was set while others do not include this information. The Permittee must provide well construction diagrams for all boundary wells. The diagrams shall include the screen slot size, depth at which the screens were set, the details of the filter pack and seal placement and the hydrostratigraphy.
9. **Annual Report, Permit Condition 8b. API Separator, requirement in the Discharge Attachment:** "A closure plan for OCD approval shall be filed by September 01, 2004 for the Old API separator."

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Upon the start of operation of the new API Separator and closure of the old API Separator, the Permittee must submit to NMED a closure report documenting all closure activities that occurred to include but is not limited to:

- a. Identify the date the old API Separator was removed from service and the start date of operation of the new API Separator.
 - b. Identify the volume of sludge (K051, F037, and F038 waste) removed, any contaminated soil surrounding the separator and "spent sand."
 - c. Identify the final disposal location of the "spent sand" and contaminated soil.
 - d. List all instruments or machinery operated during closure activities.
 - e. Identify and describe any repairs performed on the old API Separator.
 - f. Provide photographs of the API Separator both before and after the cleaning.
 - g. Describe all sampling activities that occurred during closure, provide all laboratory results, and waste characterization data/profile forms.
 - h. Describe all cleaning and removal activities used to remove residual wastes from the API Separator.
 - i. Provide a description of the unit's future use.
 - j. All closure activities must be documented in detail.
10. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.i, requirement in the Discharge Attachment:** "A description of the monitoring and remediation activities, which occurred during the year including conclusions and recommendations."

Future groundwater reports must expand this section to provide detailed descriptions of the "monitoring and remediation activities." This section shall include, but is not limited to, the dates of the groundwater sampling events (e.g. October, 2004), identification of dry wells, wells that exceed cleanup standards, wells that could not be sampled due to the presence of separate phase-hydrocarbon (SPH) or other circumstances. This section shall

describe sample collection procedures and field methods and include any remediation activities that occurred during the year. (See Comment # 14)

11. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.i, (Summary of wells) requirement in the Discharge Attachment:** "OW wells 11, 12, 13, 14, 29, & 30 were analyzed for BTEX and MTBE."

This section appears to have a mistake in the text since OW-11 was also analyzed for general chemistry, VOC's, SVOC's, and metals. Future reports must identify wells requiring additional analysis separately. (The above statement should address OW-11 separately listing all the analysis to be performed because the statement leads the reader to believe the only analysis performed on OW-11 was benzene, toluene, ethylbenzene, xylenes (BTEX) and MTBE).

12. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.i, (Summary of Wells, Conclusions & recommendations), requirement in the Discharge Attachment:** "OW-14 continues to show low levels of contamination."

The only recommendation provided in this section is to continue sampling "OCD 12, 13, 14, 29, and 30 on an annual basis." The Permittee neglects to address that OW-14 benzene levels have exceeded the Water Quality Control Commission Regulations (WQCC) and EPA National Primary Drinking Water Standards maximum contaminant level (MCL) since Fall 2001 according to the summary tables listing the laboratory analytical results. Therefore, the Permittee must delete the term "low" in the statement above. The Permittee must also sample OW-14 on a semi-annual basis.

This section appears to have a mistake in the text "the recommendation is to continue to sample OCD 12, 13, 14, 29, and 30 on an" The Permittee must clarify if these wells should be identified as OW-11, 12, 13, 14, 29, and 30. If the OCD wells exist the Permittee must provide the locations of these wells and summary tables listing the laboratory analytical results and water measurements, etc.

13. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.i., (Summary of surface water sampling; Conclusions & recommendations), addressed in the Discharge Attachment and a requirement in the Amendments:** This section states "On an annual basis, a grab sample of the inlet water to Pond # 2 shall be collected and analyzed for BOD, COD, TDS, BTEX, MTBE, and total RCRA metals. On an annual basis, a grab sample of evaporation pond water shall be collected and analyzed for general chemistry parameters. This sampling will be conducted the fourth quarter of this year."

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The Permittee must submit to NMED the grab sample laboratory results conducted in the fourth quarter of this year.

To monitor the effectiveness of the aeration lagoons, the Permittee must sample the effluent from aeration lagoon 2 to the inlet to evaporation pond 1 "(EP-1 IN)" on a semi-annual basis and analyze the sample for BTEX using EPA Method 8021B, Semi Volatile Organics (SVOC's) using EPA Method 8270, and RCRA Metals. This requirement must be added to the Amendments, Section 9.0, #5, p.9-3. (See Comment #3)

14. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.ii, requirement and stated in the Discharge Attachment:** "Summary tables listing laboratory analytic results, of all water quality sampling for each monitoring point and plots of concentration vs. time for contaminants of concern from each monitoring point. Any WQCC constituent found to exceed the groundwater standard shall be highlighted and noted in the annual report. Copies of the most recent years laboratory analytical data sheets will also be submitted."

Future reports must contain the following:

- a. The summary tables listing laboratory analytical results must present the required analyses identified in the Table found in Attachment 1 Section 9.0, #4 of the Amendments. For example, OW-11 "Tabulated Analytical Results" in the Annual Report Permit Condition 16.A.ii does not present analytical results for MTBE and SVOC's which are included in the Table and also presented in the analytical sampling results found in Permit Condition 21.B.
- b. The summary tables listing laboratory analytical results must include all ground water quality sampling results obtained during the past calendar year and should compare detected contaminant concentrations to applicable cleanup standards (WQCC's and MCL's) or screening levels (EPA Region VI Tap Water Screening Levels). Any data exceeding the cleanup standards or screening levels must be highlighted. The tables must indicate the detection limits and units pertaining to the laboratory results (e.g., <math><10 \mu\text{g/L}</math>), and not denote the detection limit as non detect (ND).
- c. The report should include a section that describes field sample collection and handling procedures, equipment calibrations, decontamination procedures, collection and management of investigation derived wastes, cleanup standard

exceedances, and address any laboratory data quality exceptions or elevated detection limits.

- d. The Permittee shall measure facility well depths to water/product levels from the well casing rims in accordance with the schedule presented in the Amendments, Attachment 1, Section 9.0 Modifications, (Groundwater Monitoring Plan). The water/product levels must be measured to an accuracy of 0.01 foot. The Permittee shall calculate water table elevations by subtracting the depth to water from the surveyed well casing rim elevations. The Permittee shall provide a corrected water table elevation in wells containing phase-separated hydrocarbons by adding 0.8 times the measured product thickness to the calculated water table elevation (if applicable). This information must be compiled and included on a table, see 14.e below.
 - e. The Permittee shall provide a water elevation table for each well. The column headings shall include: measurement date, well identification, well casing elevation, total well depth, depth to SPH, depth to water, groundwater elevation, and corrected water table elevation (if SPH are present). From the data presented in the water elevation table, the Permittee shall prepare annual water table potentiometric elevation and product thickness maps for each ground water monitoring event. The maps must include all well locations, calculated water table elevations and phase-separated hydrocarbon thicknesses (where present) for each well.
 - f. All future maps and figures must contain facility features including above ground storage tanks (AST) and process units, as well as a north arrow, scale, and an explanation for all abbreviations, symbols, and acronyms.
15. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.ii, requirement in the Discharge Attachment:**

The tables labeled "Fall 2002" and "Fall 2003" illustrate analytical results for OW-12, OW-13, OW-14, OW-29, and OW-30. The units identified in the tables are mg/l however; the laboratory results provided in Annual Report, Permit Condition 21.B illustrate the same concentrations in $\mu\text{g/l}$. The Permittee must clarify if the data presented in the "Fall 2002" and "Fall 2003" tables represent concentrations in mg/l or $\mu\text{g/l}$ and provide NMED with corrected tables.

16. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.ii, requirement in the Discharge Attachment:**

The "Tabulated Analytical Results," column "Fall 03" for MW-1, MW-2, MW-4, MW-5, and OW-11 are blank for certain analytes. Future reports must provide an explanation or notation to identify what the blank spaces represent or insert the appropriate data into the column.

17. **Amendments, Attachment 1, Section 9.0 Modification, (Groundwater Monitoring Plan,) # 4 Table, p. 9-2 & 9-3:**

The Table requires OW-1 to be visually checked for artesian flow conditions and collect "level measurements of the Sonsela Aquifer water table" from OW-10 on a quarterly basis. The Table also requires sampling SMW-2 and SMW-4 on an annual basis for "general chemistry" and "RCRA list constituents." This information was not presented in the Annual Report. The Permittee must submit the above information and provide an explanation why the information was not addressed in the Annual Report.

18. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.iii, requirement and stated in the Discharge Attachment:** "An annual water table potentiometric elevation map using the water table elevation of the ground water in all refinery monitor wells. A corrected water table elevation shall be determined for all wells containing phase-separated hydrocarbons. The map shall show well locations, pertinent site features, and the direction and magnitude of the hydraulic gradient."

The map provided in this section does not present the correct data because it does not identify all the wells and their ground water elevations. All future water table potentiometric elevation maps must contain a title, accurately and consistently labeled well locations identifying the ground water elevations. A key/explanation for all abbreviations, symbols, and acronyms must be provided. (See comment No. 14. d, e, and f).

19. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.iv as stated in the Discharge Attachment:** "Plots of water table elevation vs. time for each ground water monitoring point."

This section contains a map titled *Sonsela Piezometric Surface 2003* that does not provide the required information. However, the Annual Report Permit, Condition 16.A.ii provides plots of water table elevation vs. time for MW-1, MW-2, MW-4, MW-5, and

OW-11. Future reports shall provide plots of water table elevations vs. time for each ground water monitoring point as provided in Permit Condition 16.A.ii.

20. **Annual Report, (Annual Groundwater Report) Permit Condition 16.A.v., requirement and stated in the Discharge Attachment:** "An annual product thickness map based on the thickness of free phase product on ground water in all refinery recovery wells. This map shall include isopleth lines for products and contaminants of concern."

NMED does not understand the provided response "No well product thickness measurements were taken in 2003. Only volume was measured."

The Permittee must identify the volume measured, how the volume was measured, and what instruments or calculations were used to measure the volume. The Permittee must justify how their response relates to the required annual product thickness map. Future reports shall provide a product thickness map if product is measured in more than one well. The product thickness maps shall identify well locations labeled with the thickness of product found in each well. (See comment No. 14.d, e, and f)

21. **The Annual Report, (Annual Groundwater Report) Permit Condition 16.A.vi, requirement in the Discharge Attachment:** "The volume of product recovered in the recovery wells during each quarter and the total recovered to date."

The Permittee shall provide the following information:

- a. Discuss and provide rationale why product recovery measurements for the second quarter were not listed for RW-5 and RW-6.
 - b. Provide an explanation why product recovery volumes are not presented for RW-2.
 - c. Provide an explanation why data was not provided for the third and fourth quarters for recovery wells RW-1, RW-2, RW-5 and RW-6.
 - d. Provide the calculations that were utilized in determining the volumes of "Total Recovered to Date Through 2003."
22. **Annual Report, Permit Condition 17.B, requirement and states in the Discharge Attachment:** "Northeast OCD Land Treatment Area (Old Railroad Rack Lagoon Temporary Land farm: Giant Refining Company will abide by all commitments

submitted in the application dated 04/27/04 Section 9.0 (Temporary Landfarm). Analytical results from the treatment zone monitoring will be submitted to the OCD in the annual report required on the 1st day of September of each year. Giant shall report any significant changes in the monitoring results.” The Amendments, Attachment 1, #11, p. 9-6, (Temporary Landfarm) states “Periodic soil sampling and analysis shall be performed in order to ascertain potential impact to native subsurface soil beneath the landfarm. On a quarterly basis, a soil grab sample shall be collected from a random location within the central zone of the landfarm at a depth of 2 to 3 feet below ground surface. The sample shall be analyzed for TPH and BTEX. In addition, on an annual basis, this sample shall also be analyzed for general chemistry parameters and total metals.”

This is an OCD requirement. NMED did not observe any 2003 sampling results in the Annual Report. The Permittee must provide the sampling results to NMED and OCD. If sampling did not occur, the Permittee must provide explanation why samples were not obtained.

23. **Railroad Rack Lagoon, Permit Condition 18, requirement in the Discharge Attachment:** “A closure plan shall be submitted for OCD approval by September 1, 2004. and the Permittee response: “Giant believes this condition has been met. The plan was included in the May 24, 2004 letter to Wayne Price followed by notice of approval from Hope Monzeglio on June 2, 2004.”

This is an OCD requirement per the Discharge Attachment of which NMED approved the use of soil as “backfill at SWMU 8 (Railroad Rack Lagoon).” The approval of soil use does not constitute a closure plan. As addressed in the Amendments letter, the Permittee is working with NMED to excavate contaminated soil from this SWMU 8 that is regulated under the Post Closure Care Permit. The Permittee must be aware these closure activities may not meet OCD closure requirements.

24. **Annual Report, (Evaporation Ponds) Permit Condition 19.D, requirement in Discharge Attachment:** “Temporary storage ponds, which were previously approved, shall be identified and Giant shall submit a closure plan for OCD approval by September 01, 2004.”

This is an OCD requirement of which NMED approved the use of soil. This condition has not been met. The Permittee must submit a summary report of all activities that occurred during closure of the temporary storage ponds (TSP). This report must document, but is not limited to: the amount of soil removed from the TSP, the amount of

removed soil used as dike material between ponds 5 & 6, provide the amount of soil removed from the Central OCD Landfarm to cover the TSP, and provide all applicable analytical results. The Permittee must provide a summary of all activities that occurred during the closure of the temporary storage ponds. The Permittee must consult OCD for additional closure requirements.

25. **Annual Report, (Waste Water Pilot) Permit Condition 20.3, requirement and stated in the Discharge Attachment:** "Giant shall design, implement and maintain a sampling and metering station on the incoming line. Grab samples shall be collected quarterly and analyzed for Hazardous Characteristics (TCLP) by EPA method 1311 and B.O.D. All emergency up-sets or an exceedance of RCRA standards shall be reported to OCD within 24 hours and immediate corrective actions taken."

This is an OCD requirement. NMED noted the analytical results for the quarterly grab samples were not in our copy. The Permittee must submit the analytical results to the quarterly grab samples to NMED and OCD. An explanation must be provided if grab samples were not collected.

26. **Annual Report, (Annual Report) Permit Condition 21.A, requirement in the Discharge Attachment:** "Summary Of All Major Refinery Activities Or Events." The "April" summary states "The proposal for the refinery boundary wells installation was sent to OCD and NMED for their approval. A copy is attached." "A progress report on the Discharge Plan renewal was sent to OCD. A copy is attached."

The copies were not provided in the Annual Report. The Permittee must submit the proposal for the refinery boundary wells installation and the progress report on the Discharge Plan renewal to NMED.

27. **Annual Report, (Annual Report) Permit Condition 21.F, requirement in Discharge Attachment:** "Summary of discovery of new groundwater contamination."

The August 2004 sampling results for well BW-2-B slightly exceed the WQCC Standard for selenium. Any exceedance of the WQCC Standards, MCL, or EPA Region VI Tap Water Screening Levels must be provided in future reports.

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If you have questions regarding this approval please contact me at 505-428-2545.

Sincerely,



Hope Monzeglio
Project Leader
Permits Management Program

HCM:hcm

cc: David Cobrain, NMED HWB
John Kieling, NMED HWB
Wayne Price, NMEMNRD OCD
Denny Foust, NMEMNRD OCD, Aztec Office

file: Reading File and GRCC ~~2005~~ File